**Conference Proceedings 12-02** 

# **2011 KIEP VISITING SCHOLARS' PAPER SERIES**

Edited by Chang Kyu Lee



KEP Korea Institute for International Economic Policy

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Wook Chae, President

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KOREA INSTITUTE FOR INTERNATIONAL ECONOMIC POLICY (KIEP) 246 Yangjaedaero, Seocho-Gu, Seoul 137-747, Korea Tel: (822) 3460-1042 Fax: (822) 3460-1043 URL: http://www.kiep.go.kr

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## Acknowledgement

Korea Institute for International Policy (KIEP) has expanded its cooperative relations with the world since it took the role of the hub of regional studies in public research areas of Korea. The Center for Emerging Economies Research (CEER), the largest part of KIEP stands at the forefront of Korea's regional economic research field, and has played a pivotal role of regional studies of the world in Korea.

As a part of our systematic efforts to foster international exchanges and build the knowledge based through interdisciplinary collaboration, CEER initiated a researcher-exchange program called the Visiting Fellows Program in 2008. The program brings together influential professionals from academia and the public sector to advance individual, institutional and national understanding of regional economic matters and to improve international cooperation on related research.

This volume is a part of our achievements through the program. It is comprised of twelve papers written by visiting scholars participated in the Visiting Fellows Program in 2011. I hope this proceeding would work as another channel to deepen the understanding of regional economies in Korea.

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## Practices of Korea's Development Cooperation and Their References to China<sup>1)</sup>

Mao Xiaojing

#### 1. Introduction

On January 1, 2010, Korea joined the Development Assistance Committee (DAC) of the OECD and became the second Asian member of DAC besides Japan. Korea successfully transformed itself from an aid recipient to a donor. Korea had received assistance from the international community since the 1950s, and the aid received totaled US\$12.69 billion by the early 1990s. The effective use of foreign aid was crucial to Korea's sustained economic growth. In December 1996, Korea became the 29<sup>th</sup> full member of OECD when it had grown into the world's 11<sup>th</sup> largest economy. After successfully overcoming the 1997-98 financial crisis and the following economic recession, Korea graduated from the DAC list of aid recipient countries in 2000. On the other hand, Korea started to provide assistance to developing countries with training programs in

<sup>1)</sup> The paper only represents views of the author.

the mid-1960s. And the scale of its aid expanded rapidly beginning in the late 1980s. With the foundation of the Economic Development Cooperation Fund (EDCF) in 1987 and the Korea International Cooperation Agency (KOICA) in 1991, the Korean government established a regular assistance system for a more efficient and effective operation of its ODA. Now as a new DAC member, Korea is eager to play a more active role in the international donor community.

China has some similarities in aid history as Korea. China began providing foreign aid in 1950, just after its foundation in 1949. Meanwhile, China also received aid from the former Soviet Union till the mid-1960s. After the reform and opening up policy was initiated in the late 1970s, China began opening up to aid from developed countries and international organizations, which also contributed greatly to China's rapid economic growth. According to OECD statistics. China has received a total aid of US\$ 50.7 billion from the international community by the end of 2009. With its growing economic strength, China is able to increase its aid volume steadily and becomes an important so-called "emerging donor". But as stressed by the Chinese government, China is still a developing country and its foreign aid is a type of South-South Cooperation. During over 60 years, China has developed the 'way' for foreign aid road with its own characteristics, marked by non-interference policy, equality and mutual benefit. Meanwhile, however, China is also open to share experiences with other donors and learn their good practices so as to improve its aid effectiveness. Both being Asian countries with similar histories, it would be easier for China to learn from Korea's experiences.

This paper will focus on three topics on aid: concessional loans, training programs and aid evaluation. In recent years, concessional loans and training courses have seen rapid growth in China and become important parts of China's foreign aid. However, the scale of expansion will also lead to more challenges in management. Improvement of aid evaluation will be one of the effective solutions. Similar to China, Korea also has a large proportion of concessional loans and training programs in its official development assistance (ODA), and

Korea is also in the mist of improving its aid evaluation. The paper will analyze Korea's practices in these three fields and find out what China can learn from Korea's experiences.

#### 2. An Overview of Korea's ODA

#### 2.1 ODA Policies

In December 2005, Korea prepared a general ODA improvement plan that presents Korea's vision for next ten -years of ODA vision and a blueprint for management system reform. According to the plan, the objectives of Korea's ODA are: to contribute to poverty eradication; to support the sustainable development of developing countries; and to improve conditions for Korea's advancements to developing countries. The plan is specifically focused on establishing Korea's own development cooperation model based on its development experience and comparative advantages. It also elaborates Korea's aid priority sectors, including knowledge transfer, poverty eradication, human resource development, social and economic infrastructure and IT. The government also prepares mid-term ODA plans as well as country programs for the core recipients to reinforce cooperation and coordination among the related agencies.<sup>2</sup>)

In practices, however, the two main pillars of Korea's ODA;, the Ministry of Foreign Affairs and Trade (MOFAT) / KOICA and the Ministry of Strategy and Finance (MOSF) / EDCF;, introduce their policies and countries country assistance strategies separately. This is mainly due to the lack of over-arching legal basis. Since Korea becomes a new member, DAC has strongly recommended the Korean government to introduce an overall legislation to govern its ODA,

<sup>2)</sup> Kwon, Yul, "Korean Assistance to Southeast Asia," *Korea's Changing Roles in Southeast Asia*, p. 160.

including overall ODA objectives, policies and strategies.

In response to DAC recommendations, the Framework Act on International Development Cooperation of Korea became effective in 2010, which lays out the principles, objectives and coordination mechanism of Korea's ODA. In October the Committee for International Development Cooperation (CIDC) adopted the Strategic Plan for International Development Cooperation. The plan outlined key strategies and plans to strengthen Korea's capacity as a genuine development partner. Three core pillars of strategies included systematically documenting the development contents of successes and failures derived from Korea's development experience, strengthening the ODA implementing capacities, and taking proactive roles in addressing global issues.<sup>3</sup>

#### 2.2 Administration System

There are two main pillars upon which Korea's ODA administration system is based on is based on two main pillars, but there are also includes a number of other much smaller actorscomponents. Its Korean ODA can be divided into bilateral and multilateral assistance. The bilateral assistance consists of grants and concessional loans. Grants are implemented by KOICA under the policy guidelines of the Ministry of Foreign Affairs and Trade (MOFAT). And concessional loans are managed by EDCF programmed F with details of its programs set up by the Export-Import Bank of Korea (Korea EXIM Bank) under the supervision of the Ministry of Strategy and Finance (MOSF). With regard to multilateral assistance, contributions to multilateral institutions are made by the MOFAT, and financial subscriptions to international financial institutions are managed by the MOSF. In addition, as many as 30 other ministries, agencies and municipalities execute some small development assistance projects and programs using their own budget lines and that are generally detached from MOFAT and MOSF.<sup>4</sup>) For better coordination,

<sup>3)</sup> http://www.mofat.go.kr/english/political/issues/development/index.jsp

the Committee for International Development Cooperation (CIDC) and the Working Committee were founded in January 2006, with the Prime Minister as the chairman.



Chart 1. Korea's ODA System

<sup>4)</sup> Special Review of Korea, OECD/DAC, p. 10.

#### 2.3 Aid Volume and Allocation

Korea's foreign aid started in 1963, but remainedd a small volume till the 1 mid-1980s. After the Asian Games opened in 1986 and the Seoul Olympics in 1988, Korea was more widely recognized by the international world and was also asked to meet responsibility corresponding to its expanded economic capacity. Since then, Korea's development assistance increased steadily. In 2009, Korea's ODA reached US\$815.8 million, accounting for 0.10% of its gross national income (GNI). Though an increase of 16.82% over the previous year and 3.85 times over 2000 in volume, Korea's ODA was still listed the last place among DAC members in by terms of the proportion of ODA toODA/ GNI proportion in DAC members. To further expand the scale of its aid scale, the Korean government has committed to increase ODA to 0.118% of its GNI by 2010 and 0.25% by 2015 (about US\$3 billion). According to the latest news by from MOSF<sup>5</sup>), the Korean government decided to spend 1.7 trillion won (about US\$1.5 billion) on ODA in 2011, with 600 billion won as multilateral cooperation funds.

									,	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
ODA Total	212.1 212.1	264.7	278.8	365.9	423.3	752.3	455.3	699.1	802.3	815.8
Bilateral	131.2	174.5	206.8	245.2	330.8	463.3	376.1	493.5	539.2	580.2
- Grants	47.8 47.8	53.0	66.7	145.5	212.1	317.0	259.0	361.3	368.7	366.1 366.1
- Loans	83.4 83.4	118.6	140.1	99.7	118.7	145.3	117.1	132.2	170.6	214.1 214.1
Multilateral	80.9	93.1	72.0	120.7	92.6	289.0	79.2	205.6	263.1	235.6
ODA/GNI (%)	0.05	0.06	0.05	0.06	0.06	0.10	0.05	0.07	0.09	0.10

ıe

Net disbursement, US\$ millions

Source: OECD.

<sup>5)</sup> http://english.mosf.go.kr/news/pressrelease view.php?sect=news press&sn=7279

Korea's bilateral aid focuses on Asian countries, especially Southeast Asia. In 2009, 53.99% of Korea's bilateral ODA was channeled to Asian countries, followed by Africa (16.27%) and the Americas (9.62%). Africa's share of ODA grew dramatically in recent years, from 2.55% in 2001 to 8.45% in 2005 and 16.27% in 2009. The top five recipients of Korea's bilateral ODA during 2008--2009 were Viet Nam, Indonesia, Angola, Cambodia and Philippines.



Figure 1. Korea's Bilateral ODA by Region

Source: OECD.

Figure 2. Korea's Bilateral ODA by Income Groups



Source: OECD.

By income groups of recipient countries, the largest proportion of Korea's bilateral ODA is channeled to lower middle-income countries, but the proportion is decreasing. In 2009, 35.14% of Korea's bilateral ODA was allocated to lower middle-income countries, a decrease of 22.52 percentages from 57.66% in 2005. Meanwhile, aid to the least-developed countries increased from 16.20% in 2000 to 24.58% in 2005 and 27.76% in 2009.

#### 3. Management of Concessional Loans

#### 3.1 An Overview of Korea's Concessional Loans

As mentioned above, concessional loans are managed by EDCF with the purpose to of promotinge economic cooperation between Korea and developing countries. Concessional loans account for 30-40% of Korea's bilateral aid, or about the same high proportion as Japan, but much higher than other DAC members. In 2009, the Korean concessional loans from Korea amounted to US\$214.1 million





Source: Author based on OECD data.

(by disbursement), increasing by 25.5% over the previous year and accounting for 38.06% of Korea'sn total bilateral aid. By the end of 2009, Korea had provided 47 countries with a total loan of US\$5.57 billion billion in loans by commitment and US\$1.75 billion by disbursement.

Korea's concessional loans also focusare concentrated in on Asian countries. By the end of 2009, 66.88% of Korea's total concessional loans were provided to Asian countries, followed by Africa (11.98%) and Europe (7.17%). In 2009, the proportion of its loans to Asia was 62.61%, compared with 53.99% of Asia in its total bilateral ODA that year. And the shares of loans to Africa, the Americas and Europe were 11.36%, 10.26% and 15.77% respectively. According to the data by EDCF, Viet Nam, China, Sri Lanka, Indonesia and Bangladesh are the top five borrowers of Korea concessional loans from Korea, altogether accounting for 43.4% of the total.

By sector, Korea's concessional loans emphasize are concentrated inon transportation, telecommunication and water supply, with a percentages of 28.8%, 15.5% and 11.9% respectively. But in the future, EDCF plans to allocate a substantial portion of these financial resources to sectors related to the environment and agriculture in response to increased demand in partner countries and global



#### Figure 4. Geographical Distribution of Korea's Concessional Loans (Disbursement by the end of 2009)

Source: Author based on EDCF data.



## Figure 5. Sector Distribution of Korea's Concessional Loans (Disbursement by the end of 2009)

concerns on with climate warming and environmental degradation.<sup>6</sup>)

#### 3.2 Experiences of Korea in Loan Management

#### 3.2.1 Focusing on Project Loan and Equipment Loan

To meet different needs of partner countries, EDCF provides five different types of loans, including Development Project Loan, Equipment Loan, Public-Private Partnership Loan, Two-step Loan and Commodity Loan.

Though with five different types of loans, the major types of EDCF are the Development Project Loan and the Equipment Loan, accounting for an estimation estimated share of over 90% based on the financial report of EDCF and operation results in recent years. Compared with the other three types, project and equipment loans are easier to manage and monitor, and targets on the fields where that Korea has comparative advantages.

Source: EDCF.

<sup>6)</sup> EDCF, Annual Report 2009, p. 15.

Table 2. Five Types of Concessional Loans of E
--

Development Project Loan	Provides funds for infrastructure projects such as those involving the construction of roads, railways, hospitals, vocational training centers, and water supply and sanitation systems under the economic development plan of the partner country.
Equipment Loan	Provides funds to procure equipment and other materials needed for projects under the national development plan in specific sectors or specific regions of the partner country.
Public-Private Partnership Loan	Provides funds for governments or corporations of partner countries to conduct Public-Private Partnership projects.
Two-Step Loan	Provides funds to make sub-loans to end-users through the financial institutions of the partner country for the implementation of designated policies, such as the promotion of small and medium sized enterprises (SMEs) in manufacturing, agriculture, and other specified industries.
Commodity Loan	Provides funds to import commodities, bilaterally agreed upon, to contribute to the economic stabilization of the partner country.

3.2.2 Different terms and conditions for different categories of recipients

EDCF currently classifies all developing countries into five categories with consideration to of the phase of economic development, per capita income levels, and other relevant factors. For each group of recipient countries, EDCF has a fixed interest rate, repayment period and grace period, and more preferential conditions are provided to poorer countries. For example, for group one, the least developed countries, the repayment period is 40 years with a 10- years grace period. The terms and conditions can be adjusted but not in excess of the concessionality levels of its standard.

In recent years, the Korean government is has been making efforts to improve the grant element of EDCF loans. In 2009, the average grant element of EDCF commitments reached 87.7%, or 14.6 percentages higher than in 2005, and higher than the other major loan providers of among DAC members.<sup>7</sup>)

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<sup>7)</sup> The major loan providers include Japan (an average grant element of 72.0% in 2009), Germany (44.8%), France (52.4%).

#### Table 3. Terms and Conditions of EDCF Loans

Loan Amount	Up to the total project cost (excluding general management expenses, taxes and utility costs, land acquisition costs, compensation costs, and other indirect costs) .The coverage ceiling ratio will be 85% of the total project cost for untied loans provided to countries other than Least Developed Countries
Interest Rate	$0.01\sim2.5\%$ per annum (Interest will not be charged for consulting services provided by Korean firms)
Repayment Period	Up to 40 years (including a grace period of up to 15 years)
Loan Currency	Korean Won (In special cases, such as untied loans, US Dollars or Euros are acceptable)
Repayment Frequency	Semi-annual

#### Table 4. Terms of EDCF Commitments (2005-2009)

	2005	2006	2007	2008	2009
Grant Element (%)	73.1	72.7	75.4	78.1	87.7
Average Maturity (years)	28.8	29.1	30.5	32.0	38.5
Average Grace Period (years)	9.3	9.3	9.8	10.3	12.0
Average Interest Rate (%)	1.1	1.1	0.9	0.8	0.1

Source: EDCF (2009), Annual Report.

#### 3.2.3 Strict loan repayment rules

As the major funding sources of EDCF are contributions from the government's general budget account and money borrowedings from the government's special budget account,<sup>8</sup>) EDCF has made strict rules on repayment for the borrowing countries to repay loans. The arrangements for EDCF loans

<sup>8)</sup> As of the end of 2009, the accumulated total of the EDCF fund had stood atreached 2,470 billion Won. Total contributions from the government amounted to 1,380 billion accounting for about 55.9% of the total fund. The net borrowings from the government reached 96.0 billion Won, about 4% of the total fund, while total reserves were 994.0 billion Won (about 40.2%).

will clearly state that the borrowing countries need to pay charges for overdue loans. EDCF could only arrange loan rescheduling according to the national law and the international practice such as the Paris club.

#### 3.3 References to China

China began to provide concessional loans since 1995 and the Export-Import Bank of China is the authorized agency authorized to manage to manage the loans. Concessional loans are used to mainly support mid- or large-scale infrastructure, public facilities and manufacturing industries, as well as provide equipments, machinery or other commodities. By the end of 2009, China had provided concessional loans to 76 developing countries for supporting 325 projects.

Loan Amount	Up to the total project cost and no less than RMB20 million
Interest Rate	2~3% per annum
Repayment Period	Generally 15 to 20 years (including a grace period of 5 to 7 years)
Loan Currency	RMB
Repayment Frequency	Semi-annual

Table 5. Terms and Conditions of China's Concessional Loans

The recent years have seen rapid growth of China's concessional loans, especially to African countries. The Chinese government promised to provide US\$3 billion inof concessional loans to African countries at the Beijing Summit of China-Africa Cooperation Forum (FOCAC) in 2006, and another US\$10 billion concessional and preferential export loans at the Fourth Ministerial-level Conference of FOCAC. With the fast rapid growth of concessional loans, it is important for the Chinese government to control the risks of loans. Practices of EDCF loans can provide some references to China.

First, it is important to carefully select borrowing countries with repayment capacities. Different from grants, loans require repayment and thus, when selecting the borrowing borrowerscountries, repayment capacity should be taken into careful consideration. It would rationalizes the aid budgets and reduces the risks to provide more grants to low income countries while more loans to countries with comparatively higher income. It is also practical to provide different terms and conditions to different groups of countries, not necessarily with fixed terms, but different ranges of interest rates and repayment periods for different groups.

Second, concessional loans should focus more on sectors that China has comparative advantages. At the early period, China's concessional loans were mainly used to support manufacturing industries to promote the cooperation between Chinese enterprises and enterprises of borrowing countries. However, most Chinese enterprises at that time lacked experiences in operating overseas, especially in developing countries with less favorable investment environment. This has led to difficulties in sustainable development of many manufacturing enterprises supported by the concessional loans. It is always a risk to invest in a country with poor infrastructure and unstable local economic or political situation, and it would be even worse if the investment investing enterprise knows little about the local market, laws, rules, and customs. Learning from the previous lessons, the Chinese government has been shifting the priority on from manufacturing industries to infrastructure, public facilities and providing provision of equipmentsequipment, fields that arewhere risks are easier to control risks and where China has more experiences/ and comparative advantages. For the manufacturing sector, it would be more practical to support by commercial loans or funds like China-Africa Development Fund.

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#### 4. Training Program

#### 4.1 An Overview of Training Program in Korea

Korea's foreign aid started from a training program sponsored by USAID in 1963 and began funding the its own training program on its own in 1965. In 1991, KOICA was founded as a government agency to implement the grant aid and technical cooperation programs, including training programs. KOICA's training program aims to share development experiences and, knowledge and technical skills with developing countries and to build their capacity for sustainable development.

The budget to support training programs has been growing grown steadily since 1991. Especially after 2004, the budget grew quickly at an average rate of almost 30% for four years and reached a historical highest level of US\$ 29.77 million in 2008. In 2009, however, the amount of training program dropped 20% to US\$ 23.82 million. The number of trainees has also maintained a steady growth. The number of trainees invited surpassed 1,000 a year since 1996 (1,029) and 3,000 since 2007 (3,340). By 2009, KOICA has offered 2,517 courses to 35,755 participants from 177 countries and with the total amount reachinged US\$197.97 million.

Figure 6. Growth of KOICA Training Program (1991-2009)



Source: KOICA Statistics.

By regions, Asia is still the main targeted region for the training program. However, the proportion of amounts channeled to Asian countries dropped dramatically in 2008(47.05%) and 2009 (41.02%) from over 60% in the previous years (66.55% in 2007). Meanwhile, the proportion allocated to Africa and the Americas increased from 11.06% and 7.40% in 2007 respectively to 26.77% and 14.76% in 2008 and 32.16% and 16.51% in 2009 respectively. By number of trainees, 38.4% of trainees came from 22 Asian countries and 28.5% from 37African countries.

By sector, KOICA's training programs are centered on areas such as public governance and administrative capacity (38.7% of the courses), industry & energy (20.9% of the courses), and Environment & Gender (18.6% of the courses) along with courses on education, rural development, health, disaster relief, and the Information& Communication Technology.<sup>9</sup>) In 2009, the largest proportion of amount was allocated to government and civil society (27.30%), followed by education (16.1%) and agriculture (11.52%). In the future, KOICA will try to expand training programs in energy resources, rural development, and environment and gender equality.<sup>10</sup>)





Source: KOICA Statistics.

<sup>9)</sup> http://training.koica.go.kr.

<sup>10)</sup> KOICA (2009), Annual Report, p. 123.



Figure 8. Sector Distribution of Training Programs in 2009 (by amount)

#### 4.2 Korea's Experiences in Improving Training Programs

4.2.1 More country-focused courses tailored to the needs of specific developing countries

Training courses are classified into country-specific courses (in-depth course suitable for the needs of the participating country), regular courses (designed as an introductory course for the initial exploration of cooperation area), joint courses (courses conducted in partnership with international organizations and other donor agencies), and special courses (to meet the specific needs of regional organizations or region).

In recent years, KOICA considered the needs and demands of individual partner countries and expanded the number of country-specific courses in order to help them achieve their development policy targets and mid-term assistance plans. As a result, the number of participants of the country-specific courses increased from 41% of the total trainees in 2009 to 45% in 2010. Furthermore, KOICA established a draft plan for individual countries for multiple years, which would create courses matching morethat dovetails to a greater degree with Korea's country assistance strategies as well as the conditions of each recipient country. KOICA is also piloting setting up pilot programs to dispatch specialists for local

Source: KOICA Statistics.

training, and local training would first be provided to Cambodia, Indonesia and Egypt in 2010.<sup>11</sup>)

4.2.2 Strengthening Partnership among Training Institutes

There are more than 100 institutes undertaking training programs in Korea, including government agencies, universities and corporations. In 2008, KOICA International Cooperation Center (ICC) opened and became a major training facility.

To improve the effectiveness of training, KOICA will select some training agencies in consideration of training results and training assessments, and discuss possible improvements in the future. Seminars may be held irregularly from time to time to share the experiences of excellent outstanding agencies.

4.2.3 Improving Follow-up Management of Trainees

Feedback and follow-up management is important for evaluation of training programs and improvingove the effectiveness and efficiency of training. Each partner country is actively encouraged and given supported to establish a KOICA Alumni Associations for trainees that return back to their countries. Newsletters and emails will be distributed regularly to maintain networking with KOICA trainees. In addition, networking with recipient countries is further enhanced by holding meetings of the presidents of KOICA Alumni Associations and in-country seminars to share training results.

4.2.4 Encouraging the Public to Participate in the Training Program

KOICA encourages the public to participate in the training program, especially in intern coordinator program for high school, university and graduate school students to participate in intern coordinator program. The public participation can

<sup>11)</sup> KOICA (2009), Annual Report, p. 127.

increase the awareness about and support to concerning Korea's ODA, and meanwhile, can also provide students opportunities to gain experiences for career development.

#### 4.3 References to China

China started to providinge training courses to interns from friendly developing countries in the 1950s. Since 1981, the Chinese government, in collaboration with UNDP, has organized various types of technical training courses (TCDC) in China for developing countries. In 1998, the first workshop for economic officials opened and since then the training program (or "human resource development cooperation") of China began to expand quickly. Since 2009, the number of trainees has surpassed 10,000 a year. By the end of 2009, China had opened 4000 training courses for 120,000 trainees from developing countries. The courses covered over 20 fields as economy, diplomacy, agriculture, health, environment and so on. In addition, more than 70,000 students from 119 developing countries received the government scholarships.

At the United Nations High-level Plenary Meeting on the Millennium Development Goals (MDG summit) held in September 2010, Premier Wen Jiabao announced that in the next five years, China would train another 80,000 professionals in various fields and increase the number of scholarships and mid-career master's degree programs for people from developing countries. Training program has become an important aid modality of for China. While increasing the number of trainees, it is also important to increase the effectiveness of training. Referring to Korea's experiences, China could improve the training programs as follow: 4.3.1 China could pilot local training programs for specific countries.

China's training courses are divided into two categories, seminars for economic officials and technical training courses. Most training courses are designed for regions instead of specific countries. But it would not be infeasible to invite over 20 officials or technicians (the general scale of China's training program) from one country for around one month. There are at least three aspects of advantages for local training programs. First, the courses could be designed to the meet specific needs of the recipient country; second, more trainees of the recipient country could participate in the training courses; thirdly, local training could also save costs. The local training model is especially suitable for technical training. The Chinese government could start from piloting in a few countries that has put forward the local training demands.

4.3.2 The Chinese government should strengthen management of training institutes.

With the continuous increase of in training courses, more and more agencies and institutes joined in and undertook training programs. So far, there are more than 100 training institutes. The Training Center of Ministry of Commerce, the major main training facility, took over management and coordination of training programs in 2008. It is important for the government to formulate rules for management of training institutes and guidelines for training programs. Assessment of training institutes and seminars for sharing experiences should also be carried out regularly.

4.3.3 The Chinese government should improve follow-up management of trainees.

Besides helping the capacity building of the developing countries, training programs offer chances for more foreign people to get to know more about China. After they go back to their countries, the trainees can act as friendship bridges between China and their countries. Thus it is important to networking with the trainees. But the training institutes have done little in this regard. Practices of Thus they can use KOICA's activities; can be learned, including sending newsletters, establishing alumni associations, holding seminars for trainees to get more feedbacks and suggestions; as benchmarks

#### 5. Aid Evaluation

#### 5.1 Practices of Korea's Aid Evaluation

With the scaling-up of aid, Korean agencies are placing more importance on aid evaluation as a means to improve aid effectiveness. Evaluation has been broadened from project-oriented to include more types, including such as policy evaluation, country program evaluation, sector evaluation, thematic evaluation and so on. Since there are no overarching guidelines and principles for KOICA and EDCF, the paper mainly introduces practices of KOICA in aid evaluation.

In 2008, KOICA published KOICA's Development Cooperation Evaluation Guidelines (hereinafter as "Evaluation Guidelines"), which states KOICA's evaluation system, criteria and methods.

#### 5.1.1 Evaluation System

KOICA's evaluation system is operated on the basis of annual evaluation plans. The Research Office establishes an overall evaluation plan by December every year and implements individual evaluations in accordance with the annual plan. When selecting the objects for the annual evaluation plan, KOICA generally considers the following standards:
- **Connectedness to policies**: Relevance of the object of evaluation to KOICA's strategies, policies, and project goals.
- **Innovativeness**: Whether the object of evaluation has an innovative value that can change KOICA's current project implementation methods.
- Expanded applicability: Possibility of the object of evaluation being expanded in terms of application toapplied in an expanded sense in a different environments.
- Usefulness: Relevance of the object of evaluation to the areas of interest, policies, plans, and priorities of KOICA or recipients. Existence of users who may be able to utilize the evaluation results and recommendations.
- Evaluation possibility: Whether there are necessary indicators or data for evaluation (preliminary investigation to be carried out when it is difficult to assess)
- **Relevance against costs**: Possibility that evaluation results will derive value that is greater for KOICA than evaluation costs.

Evaluation by KOICA undergoes the a three-step process of design, implementation and completion. The Evaluation Guidelines specify the ways and requirements for each step.

1. Design of evaluation	Preparation for evaluation Establishment of evaluation plan Selection of evaluation team
2. Implementation of evaluation	Conduct preliminary investigation Establishment of execution plan for evaluation execution plan Conduct Field Study Report of Field study results
3. Completion of evaluation	Draft evaluation report (draft) Appraisal of evaluation report (draft) Finalization and distribution of report Follow-up and Feedback

Table 6.	KOICA's	Evaluation	S	/stem
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#### 5.1.2 Evaluation Principles

In order to assure objectivity and transparency, KOICA carries out evaluations based on the five principles listed below:

Table	7.	KOICA's	Evaluation	Principles
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Partnership	KOICA encourages participation by development cooperation partners' participation in evaluation; and confirms the feasibility and appropriateness of joint evaluation with its development cooperation partners
Impartiality	KOICA carries out evaluation in consideration of the different perspectives of the various interested parties.
Objectivity	Objectivity of evaluation starts from separating value judgments from facts. Facts should be based on the results of objective and credible observation and deduction. KOICA conducts evaluation based on objective and credible observations and deductions
Transparency	KOICA clearly states the techniques of evaluation research and analysis in the report. The evaluation report definitely distinguishes between value judgment and recommendations, and confirmation of facts and conclusions.
Credibility	KOICA encourages participants in evaluation to carry out evaluation in accordance with the principles of good faith to ensure the credibility of evaluation, and maintain transparency in the evaluation process.

#### 5.1.3 Evaluation Criteria

KOICA adopts the five evaluation standards of development projects recommended by the DAC, which are relevance, effectiveness, efficiency, sustainability and impact. Besides, KOICA uses another two evaluation criteria, gender mainstreaming and considerations for the environment.

Table 8. KOIC	A Criteria	for	Evaluation
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Relevance	The dDegree e ofto which the objectives of development projects satisfying satisfies the needs and priorities of beneficiaries and policies of donors and recipients
Effectiveness	The degreeDegree of achievement of the objectives of projects. achieved

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#### Table 8. Continued

Efficiency	Degree to which the costs of development projects can be rationalized against alternatives. In other words, the degree level of economy of use of several inputs economically used and thus turned into outputs and results
Sustainability	Possibility of a positive long-lasting effect after implementing an evaluation object policy or completing an evaluation object project
Impact	Overall results of the positive, negative, intended or unintended effects of development projects
Gender Mainstreaming	Reflecting gender mainstreaming approach in development projects
Considerations for the environment	Compatibility of environmental issues and development projects in recipient countries

#### 5.2 References to China

China's aid evaluations are mainly conducted on project bases so far. There is still a long way to go for the Chinese government to establish a comprehensive aid evaluation system. But improvements can be made step by step with a general plan including the following points.

The first step is to establish evaluation guidelines to specify aid evaluation principles, criteria and methods. As a Chinese saying goes, nothing can be accomplished without norms and standards. Since China has fewlittle experiences in aid evaluation, internationally adopted principles and criteria can be referred to. Actually the five evaluation standards recommended by DAC have been applied in projects evaluation by China, but more understanding about the meaning of the standards should be achieved, which require more addition exchange of experience exchanges with other donors. Meanwhile, as a developing country, China has its own ways in of delivering aid, which are different from DAC members. The evaluation guidelines should also adapt to China's national contexts.

Second, China can make create an annual evaluation plan and first expand its aid evaluation from project evaluation to evaluation of country programs **evaluation and aid forms evaluation first.** The standards of KOICA in selecting evaluation objects for annual plan can be used for reference. One or two priority partner countries could be selected first, especially those closely related to the new aid policies. Aid form<sup>12</sup>) evaluation could start from a relatively simple one, for example, commodity aid or dispatch ofing medical teams. With When experiences accumulated, more evaluations could be conducted each year asaccording to necessities.ary.

Thirdly, China should encourage external evaluation by bidding to ensure the impartiality and independence of evaluation. At present, most aid evaluations are done by government officials together with invited experts. To increase their effectiveness of evaluation, the Chinese government can alsoould invite experienced professors, research fellows, evaluation companies and technical experts to make bids for aid evaluations and gradually establish rules to guarantee the independence of the evaluation. More importantly, a mechanism should be set up to ensure the evaluation results could be reported to the high level decision-makers and contribute to future improvements.

#### 6. Conclusions

• It is helpful for the Chinese government to exchange experiences with other donors. China has a historybeen of providing foreign aid for more than 60 years. But the aid activities have long been confidential to the public for some due to political considerations. This hindered China sharing its's experience exchanges with other donors. In recent years, however, China's expanding aid

<sup>12)</sup> China engages in eight types of's foreign aid includingconsists of eight forms: complete plant projects (turn-key projects), commodity aid, technical cooperation, human resource development cooperation, dispatching medical teams, humanitarian aid, dispatching overseas volunteers and debt forgiveness.

scale has raised wide attention from the traditional donors and more and more requirements for exchanges and cooperation have been put forward. Facing with thean entirely new situation, the Chinese government has taken steps to increase transparency of foreign aid and become more open to international exchanges and cooperation. The exchange of experience exchanges with other donors also helps the Chinese government to improve its aid activities through references to other donors' good practices.

- There are opportunities for China-Korea cooperation in development aid. China and Korea are good trade partners and cooperate economically cooperators, but have shared little in terms offew exchanges in experience in development aid. When As China and Korea are both increasing aid volumes and improving aid practices, they could sharesharing their experiences with each other and can allow them greaterfind more opportunities for cooperation, for example, in training courses.
- The Chinese government should get be prepared to for challenges that the rapid growth of aid budget may bring. The challenges include management of expanding concessional loans and training programs, especially when there are only a quite limited number of officials in charge of such a large aid budget.
- There are also some aspects that Korea's ODA needs to improve in, such as coordination among two pillar main actors, allocation to low-income countries, and aid evaluations.

# References

- OECD/DAC. 2008. Development Cooperation of the Republic of Korea: DAC Special Review.
- Ministry of Strategy and Finance and the Export-Import Bank of Korea. 2009. *EDCF* Annual Report 2009. Seoul.
- Korean International Cooperation Agency. 2008. Development Cooperation Evaluation Guideline. Seoul.
  - \_\_\_\_. 2009. KOICA Annual Report.
- Kwon, Yul. "Korean Assistance to Southeast Asia." *Korea's Changing Roles in Southeast Asia*, pp.155-175. Singapore: ISEAS Publishing.
- Kim, Sang-Tae. 2003. "ODA Policy of the Republic of Korea: In the Context of its Involving Diplomatic and Economic Policies." Seoul: Korean International Cooperation Agency.

# Beyond the Miracle of the Han River: Some Pro-Growth Philosophy in Korea's Rural Development

The Saemaul Movement and Africa's search for Agricultural Stimulation

Ivor Agyeman-Duah

# 1. Introduction

Development is a tortuous journey for all societies in their efforts to grow out of poverty, and especially economic development, which looks at such diverse areas as private and informal sectors, industrial development, urban development, agricultural production and more. The strategies or models adopted by societies in achieving development (especially after the second World War in 1945 when global financial and governance institutions are constantly emerging); in the 1980s when the Cold War ended with multiple effects on Africa and Asia; around the same period when information & communication technology and widespread migration; became forces in human development powerful beyond anything that came before. But other previously less examined factors such as geographic location of societies, environmental conditions or what Sachs (2005) has popularized as economic geography; the role of freedom in development as described by Sen (2007); cultures-social systems, attitudes and practices as cultural economists such as Harrison (2000), Huntington (2000), Landes (2000) have argued had all become contributory factors and have continuously been examined when economists and economic historians including Madison (1995) wonder why societies grow differently.

This has itself been an improvement on economic thought for over half a century. As Moyo (2011) explains, the evolution of economic growth started with the Harrod-Dormar idea which saw capital as the only factor involved. This has been improved with Robert Solow's (who later won the Nobel Prize) contribution and demonstration in 1956 that labour was crucial in growth as well. Today, all the other elements in growth including technology and what I have just mentioned above constitute what economists call Total Factor Productivity.

In our comparative analysis of the growth trajectory of Asia and Africa, especially South Korea, a victim of Japanese colonialism and a brutal civil war and countries such as Ghana, Nigeria and Kenya- all victims of British colonial rule, the evidence is paradoxical. As Huntington (2000) first argued in the 1960s, South Korea and Ghana had roughly comparable levels of per capita GNP; similar divisions of the economy-primary products, manufacturing and services, with overwhelming primary product exports. But what happened since led to South Korea becoming the world's 15<sup>th</sup> largest economy (by nominal GDP and 12<sup>th</sup> by Purchasing Power Parity) with a GDP per capita of \$20,000; while Ghana still lags behind. Recently however (in 2010 after re-basing of its economy into a middle income status), Ghana's per capita GDP has increased to a level slightly over \$1,000.

This research paper is interested in examining the informal economic factorthe role that philosophical thought as a cultural product plays in an economy such as South Korea's and in a sector which virtually every economy has - agriculture. In the first part of this paper, I will briefly conduct an overview of Korea's transition from aid dependence from the 1960s to its membership in the G20 and the OECD.

In the second part, I will look into some theoretical reviews of philosophies and cultural factors involved growth and define clearly what I mean by philosophical and cultural dimensions of growth. This is to help our understanding of later arguments.

Thirdly I will look briefly into development of agriculture in Korea from the 1960s through the history of the Saemaul or New Community Movement a literature review of research other scholars have done on the subject and facts they have found, followed by an analysis in the context of my objectives of this paper which are:

What defines the Korean ethos of civil responsibility in terms of agriculture and national development? What are the aspects of Korean education that produced this ethos in the past and the present? Confucianism and Confucian cultural heritage is one of the most important and fundamental sources of Korean culture and character, which includes a tradition referred to as Neo-Confucianism, organized by Zheng Yi and especially Zhu Xi. My analysis includes clarifying the extent Neo-Confucianism affected state-craft, principles of social organization, human relations and behavioral norms in agricultural development when the Saemaul Undong Movement started.

Since the paper is interested in looking at what agricultural lessons West Africa can learn from this, I will look at agriculture and its local government structures in the region; structures which are similar to the Movement's in Korea and find out why they did not work. Finally I will offer some recommendations from the perspective of cultural promotion in development.

The paper's methodology uses primary and secondary data collection as it is essential to present patterns of the results and also analyses these in relation to the research objectives or questions posed above. For primary data, I will be using some interview notes with some leading politicians and policy makers in Korea, as well as intellectuals, farmers, traders; and more importantly, information acquired from visits to museums and temples where I was offered a glimpse of development in pre-modern Korea and its transition to the contemporary age.

## 2. Korea: A Brief Historical Transition.

Korea had the misfortune of been the first victim in Asia of the Cold War when it experienced a hot war with the invasion of the South by the North in 1950. The War saw support to both North and South from the protagonists (the Chinese and Russians principally on the side of the North and the US and its Western allies on the side of the South) of the Cold War, and lasted till 1953. The political system collapsed and human, agriculture and industrial infrastructure for development were destroyed and the South became dependent on aid from capitalist USA and its Western allies. By 1960, Korea's GDP per capita was \$800.00.

The military government of Park Chung - Hee that assumed power in 1961 encouraged Koreans abroad to return home for reconstruction. The philosophy of President Park according to Shin (2009)<sup>13</sup>) was that without science and technology there would be no development. Park believed that technocrats had to be trained domestically instead of being 'imported' and so in 1965 the Korea Institute of Science and Technology and the Korea Advanced Institute of Science and Technology were set up which brought Korean intellectuals back home from overseas, with concomitant huge investments by government towards the training of future scientists as well.

With these establishments, the next priority was industrialization of the

<sup>13)</sup> Shin, Dong-Shik is President and Chairman of Korea Maritime Consultants. He was also the founder the Korea Institute of Science and Technology in 1965 has been described as the builder of the shipping industry of Korea. He was appointed to the office by former President Park. In 2009, I interviewed him in Seoul.

country. The shipping industry which would open up widespread employment opportunities, is today (Dong-Shik 2009)<sup>14</sup>) a huge industry accounting for 300,000 jobs and 30% of Korea's manufacturing base - with the remaining 70% represented by output from other industries (cars, electric goods, fertilizer plants, Liquefied Natural Plants, rector building, turbines road and housing construction) among others). Shipbuilding would stimulate production of a thousand other manufacturing items, as steel, plates, building of engines were needed to build the industry. Over the next 25 years, Korea (Shin 2009)<sup>15</sup>) would become a global leader and to produce 50% of global demand for ships and to transform itself from a developing country without any natural resource base to a developed country (instead of the 125 years that was expected initially.)

Park Chung-hee ruled for 18 years with a solid vision brewed in dictatorship. As Park (2009) recounts, after his military take-over of power in May 1961 as Chairman of the Supreme Council for National Construction and later as civilian leader of the Democratic Republican Party in 1963, Park's inability to open the political space as he had done with respect to the economy would eventually lead to his assassination in 1979. One of his legacies to development discourse would be whether nondemocratic or dictatorial rule is suitable in certain stages of state and economic development. But as it would be revealed shortly, Park's vision was not only about industrial development, but also an increase in agricultural productivity and growth of that sector. He also initiated side by side with industrialization a model of agricultural revolution called the Saemaul Movement.

Today, Korea is not only the 12<sup>th</sup> largest economy in the world, it is an aid donor to countries not only within Asia but Africa and other parts of the world, and also a member of the OCED and by 2010, the first non G8 member nation to hold a G20 summit.

<sup>14)</sup> Ibid.

<sup>15)</sup> Ibid.

#### 3. Cultural Definition and Review Arguments.

The definition of 'culture' in this paper is based on Huntington (2000), and all subjective - namely values, attitudes, beliefs, orientations and underlying assumptions prevalent among people in a society. Among these values, I am particularly interested in the role of philosophical underpinnings in Korea's growth. By philosophy in economic growth or philosophy as a product of culture in development, I am not looking at Korean endogenous culture as something unique to it but what it has acquired from the region-East Asia, as well as those elements that it has improved or perfected to suit its own growth trajectory. This approach of cultural influence on growth was first used by Max Weber (1905, 1951) in The Protestant Ethic and the Spirit of Capitalism and The Religion of China: Confucianism and Taoism respectively to address the role of culture and social development in western civilization and especially protestant countries in Europe over a century ago, and for China and East Asia. Joseph Needham (1982, 1986) one of the pioneers in culture's role in development in Asia in Science and Traditional China: A Comparative Perspective and The Genius of China, has also approached the explanation of the contemporary growth of East Asia in technological terms and then Eric Jones in Cultures Merging (2006) which looked at human development, from birth to language development, and all aspects of 'culture' in Asia.

Again Anthony Appiah (2010) has consolidated our understanding of how some philosophical and cultural values influence public policy and affect the the capacity of people contribute to development in his book, *The Honor Code-How Moral Revolutions Happen*. He is not only telling us about cultural practices like foot-binding which centuries ago restricted economic potentials of Chinese women. But there was 'honor' involved which means entitlement to respect, respect which comes from fulfilling certain societal obligations, with concomitant values and other cultural expectations influencing growth.

These philosophical or cultural values for good or bad affect societies as they

did in Korea and its economy. As Lee argues, "In the history of Korea, Confucianism had a great effect on the whole gamut of Korean culture and society, including education. In particular, Confucianism, as the Golden Rule or a national cult, affected state politics, economics, society, culture, and education during the Choson Dynasty (1392-1910)" (p. 1). In supporting such logic as important to understanding Korea's economy and the cultural dimensions to it, Kwon (2008) cites Williams as writing, "tradition should not be viewed as a vestige of the past, but rather as cultural power acting on the present. Traditions are selected with the intent of the present society; thus we should focus on the "selective tradition" which influences the definitions and identities of current society" (p. 66).

It is these same beliefs and attitudes that go a long way towards determining how agricultural programmes or financial systems work. Fear of failure or loss of entitlement to respect (as Appiah argues) because of one's inability to do the expected could have serious consequence. It is part of the social capital. In Korea some people have been driven to suicide because of it. In a recent study for example on Risk Factors for Suicide Attempts among Korean Adolescents, Kim and Kim (2008) write, "In recent years there has been a growing concern regarding the increasing rate of suicidal behaviors, including suicidal tendencies and attempted suicide among Korean adolescents. The National Statistical Office reported that suicide among members for ages 10-29 years in South Korea (1,255) comprised 22.2% of the total number of suicides (5,663) for the year 2002, thus representing a higher percentage of total suicide victims..." (p. 221) In a similar qualitative content analysis of suicidal ideation in Korean college students led in 2010 by Jo, the researchers concluded that, "this study identifies as facilitators of suicidal ideation physical, psychological, and societal concerns and suggests that the factors inhibiting suicidal tendencies are influenced by religious and cultural forces such as Buddhism and Confucianism."(p. 1). Thus the human capacities which are critical for development of sectors of the economy can most cerntainly be impacted by beliefs and ideas.

In fact the role of philosophy and cultural beliefs in an economy is not only

domestic but has become a factor in development analysis and poverty reduction programmes of multilateral institutions including the World Bank, IMF, the Asian Development Bank, the African Development Bank and the Caribbean Development Bank among others. For refusal or inability to decipher the beliefs of illiterate populations in many places where they are the majority in the local society, as well as those of their literate brethren had led to the failure of otherwise useful public policy. It is in this light that the UN through the UNDP, UNESCO and the UNCTAD, for example, has identified cultural and creative sectors of economies and gives them support. These programmes whether in cottage industries in Africa or Asia, beads exports, pottery and other traditional art works have a philosophical and cultural significance which are not lost on both the exporters and the importers.

# 4. Agriculture in Korea, the Saemaul Movement and Cultural Philosophy

Agriculture has been one of the oldest human occupations. Agriculture came about with creation stories centered on the fact that man must eat. So all societies, even where conditions- climate and environmental hazards are not conducive to agriculture, people still engage in it – either crop farming or raising of livestock. In many countries of the world, between 60-70% of people are engaged in agriculture for either subsistence or commercial – cash crop for export – reasons. Ironically the bigger the labour force in agriculture in many places the smaller its contribution to the Gross Domestic Product. So in many developing countries there are more farmers then other professionals yet there are problems with inadequate food security, not to mention lack of export to generate the needed foreign exchange. In advanced economies, the opposite is the case - few workers are involved in agriculture but they have sufficient food and even export some

or give surplus as Aid. The difference is that the advanced economies have developed financial, technological systems that facilitate efficient farming; and sufficient incentives for farmers to generate agricultural growth.

To get out of the agrarian trap convert to industrial economies, many of these countries have adopted and continue to try new agricultural models to curtail food import bills. One example in East Asia which has caused some fascination is the Saemaul Movement or the New Community Movement.

Much has been written about the Saemaul Movement by Korean scholars and policy analysts as well as academics and agricultural economists outside of Korea and multilateral institutions including the World Bank and the International Monetary Fund. Over 100 countries, we are told, are taking a look and contemplating how best to incorporate it into their own rural and local government institutions and practices. Some reviewers (Goh 2010) have praised the concept for its successes in agricultural growth of Korea; others (Moore 1984) have criticized it saying it was only a political gimmick of a policy of the Park government to get rural votes as it attempted to perpetuate itself in power and yet others (Park 2009) say that it was partly the over-production of cement and its improvisation of distribution of the surplus to the rural community that brought about the Movement.

Many literature have thus have looked at the movement from an economic perspective and its rural growth trajectory. Few have looked at the philosophical or cultural mind-set that led rural folks into eagerly pursuing the concept and driving its successes.

Established in 1970 by the late President Park Chung-hee, the Saemaul Undong, also called the New Community Movement, was an agricultural policy or "Korean model of an integrated rural development" that Goh (2010) described as a self-help rural development campaign and a determined effort to eradicate rural poverty in Korea. It was not the first of its kind. However, others who have tried more often than not had met failure.

#### 5. Objectives of the Movement.

As for the objective of the movement, it involved a process as outlined below, according to Goh (2010): incentives from government to motivate rural villages to improve their infrastructure, inducing farmers' participation and cooperation, visible results and tangible benefits from improved infrastructure, building up the spirit of self-help and cooperation; and finally, expanded reproduction.

This process was to be pursued through a local or rural structure of the Village Assembly by which the community and the leadership decided on what the priority areas concerning the community's development in consultation with administrative chiefs. Every village had its own Assembly, its own planning committee and votes were conducted.

For me however the important underlining of all this was *Hyangyak* which can be translated as a 'village charter,' and *Dure* – a farmers fraternity of community help. From these traditional beliefs, Olusegun and Odularu (2009) state that in the Saemaul Movement ; diligence, self-help and cooperation were critical philosophical factors in its success.

#### 6. Successes of the Movement

All over the developing societies of Asia and much of Africa, land tenure is a big issue. Arbitrary land demarcations during colonial rule caused difficulties in farming and related infrastructure. In some parts of Africa where chieftaincy is strong as in Ghana, 80% of land is vested in chieftaincy, meaning any commercial or government infrastructure development is dependent on chieftaincy cooperation. One of the successes of the Movement was its ability to take advantage of what happened during Korea's Land Reform. As Olusegun and Odularu (2009) have rightly argued, the "Land reform programme implemented by the Korean Government during the period 1950-1952 saw 800,000 ha or about 41.4% of land distributed to small farmers; approximately 1.5 million farmers -70% received land to become owner-tillers." (p. 155).

The government supplied each of the 33,000 villages with 335 bags of cement and iron rods. It was within their purview to decide what they wanted to do with these materials in a bid to change their rural infrastructure- from physical environment such as rural trails, village roads, sanitary water systems, electrification, village halls, small bridges and small-scale irrigation systems to income generation projects that included hybridization of crops, livestock and even marketing of produce.

Writing on the 40<sup>th</sup> anniversary of the Movement, Park's (2009) strong defense of its achievements include fulfillment of stated objectives: new agricultural technologies and improved crop varieties were introduced and the usage of chemical fertilizer became more widespread; improved physical infrastructure, helped to increase productivity and incomes by opening a new window of opportunity for villages to venture into new activities and by providing efficient access to markets, resources and assets necessary for their work. The absolute poverty rate, Park argues, and this is important for all economies, decreased in the 1970s and especially 1978, when the proportion of rural people in total poverty was less than that of those in urban places. Others like Han (2005) have lauded the achievement of the Movement, repeating some of the praise from above and more. Of course even among critics including Moore (1985), it is admitted that there were successes, attributed to Korea's strong sense of national identity which he argues had been cultivated because of its history of colonial rule and suffering, and a hostile international environment surrounded by the Chinese, Japanese and the former Soviet Union. The values and beliefs that came of such experiences helped to build the philosophical foundation for the successes of the Movement.

#### 7. Cultural or Philosophical Factors to Success

Cultural or philosophical values act as intangibles in all forms economic growth. One cannot measure the role of 'belief in life after death" or a mindset such as "it is better to be dead because of economic failure or non-achievement of respect." Communal institutions like *Dure* and *Hyangyak*<sup>16</sup>) prevailed among Koreans because they believed that success should be shared communally and that those who succeed first should help those behind. These intangibles also include respect for the elderly; work ethics such as punctuality, ability to work with little supervision, 12 hours of daily labour in both professional and non-professional fields; self-reliance, love of neighbor and endurance – which are cultivated and socially inculcated, beginning from infancy. They are also part and parcel of education at home and school curriculums, as well as in religious settings.<sup>17</sup>)

These values were influenced both by the teachings of Confucius (which had spread from China to Japan and Korea) and Korea's own indigenous traditions. As Han argued excellently, "the predominant ideology of the traditional society used to be what is known as Neo-Confucianism of Zheng Yi and Zhu Xi. As it was adopted and practiced in Korea, it became a very rigid ideology governing statecraft, principles of social organization and human relations, and behavioral norms on the one hand, and a very abstract system of metaphysical ideas on the other." Confucianism was the major ideological underlining but there were other religious beliefs of equal importance to peasants and farmers in Korea - Shamanism, Buddhism (which was for thousands of years the dominant religion in Korea), and Taoism serving as ideational vehicles. Today other such acquired religious beliefs and values such as Christianity have reinforced this trend and the Christian population now represents 20% of Korean population.

<sup>16)</sup> Dure and Hyangyak are cultural terms in Korea use to describe community cooperation.

<sup>17)</sup> In previous visits to Korea, I visited Buddhist temples and interviewed Buddhist monks as well as worshippers and even sat through some of their rituals. Their views reflect such community values and beliefs.

These are still reflected not only in the religious and social settings but sometimes contemporary media-, in art such as paintings and sculpture, and literature -theatre arts and poetry. One such lesson of endurance in history was recently depicted in the popular play, Yakiniku Dragon<sup>18</sup> which was written and directed by the Korean-Japanese playwright, Chong Wishing. Narrating the joys and sorrows of Korean family living in Japan in the late 1960s as refugees of the Korean War, they suffered abuses of all kind yet remained nostalgic about Korea. When they are finally dispossessed of their home in Japan because of public construction by government, this results in the disintegration of the family - one of the children returns to South Korea, the other to the North and one marries a Japanese man. The dispirited father tells his Japanese son-in-law, "Home is near; but it is far...very far." The son, who suffers from aphasia after years of getting beaten up in a Japanese school, commits suicide. Again a social belief among Koreans is that being deprived of respect due from society, as Appiah earlier in this paper explains as, constitutes lack of honor. It is a belief rooted in the colonial history of Korea. The poetry of Shin Seok Jeong(1907-1947)<sup>19</sup> described as the first pastoral poet in Korea; those of Ko Un<sup>20</sup> described as the national poet and potential Nobel laureate, reflect in equal measure the pastoral and rural values of Korea.

Other critics who do not subscribe to Confucius as the dominant cultural

<sup>18)</sup> A review of this play was published as "Home is near; but it is far.very far-Co-production looks at the lives of Koreans living in Japan in the 1960s" in *The Korea Herald* of March 11, 2011, p. 16.

<sup>19)</sup> In 2007, I visited the former house, now museum of the late Korean poet, Shin Seok Jeong in Jeonju. It was as part of the Asia Africa Literature Festival. Described as the first pastoral poet in Korea he reflected on the values of nature in this farm village now a saintly literary museum.

<sup>20)</sup> Ko Un works reflects many transitions of personal and generational lives of Koreans as a former Buddhist monk and a drunkard. The works of reflection include among others: *Ten Thousand Lives, Songs for Tomorrow: A Collection of Poems*, 1961-2001 and *Abiding Places, Korea North and South.* There was a small biographical brief on him in The Korea Herald of March 30, 2011, p. 11.

vehicle for rural and agricultural development still cite other endogenous cultural beliefs from a pre-Confucian era to explain the Saemaul Movement. We have seen some of such beliefs work successful in other sectors of the economy during crisis. During the 1997 financial crisis for instance, the individual belief in the necessity of sacrifice to save Korea from international embarrassment were very apparent as we saw women donate gold and other jewelry, personal investments and insurances which became manifest in the campaign, Give Gold for the Love of Korea. The philosophical intangibles led to formation of consensus of national togetherness, by the givers who thought Korean sovereignty was in their hands and the state or government was merely a care-taker. This was the first time that the world had seen such grassroots mobilization of non-compulsory capital to defray deficits in the management of a modern economy, and bringing the world prize of a major commodity down.

#### 8. Is the Movement Adoptable to Africa?

The tendency among scholars and academics has been to recommend too hastily models to other developing economies because they have worked elsewhere. It is understandable to the extent that Africa is seen as the last frontier of development. If it has worked in Korea that was not long ago, why can't it work just as well in Ghana or Nigeria?

First, there is no common agricultural policy for Africa. The African Union, the continental body for Africa, has yet to identify policy options for addressing the commonalities of agricultural difficulties. For instance, North Africa which is mostly desert and thus environmentally different (because of climate profile) is also very disparate in terms of cultural and religious beliefs, the role of women in economic and community development, as well as governance institutions and local government structures. The differences in colonial legacies have led to development of different ethics and attitudes toward governance. East Africa- a region that includes the rural landscape of Kenya and Ethiopia with the rift valley landscape and extends to Botswana and Namibia, has experienced the worst of of the drought and the greatest difficulties in agricultural work.

Secondly, the issue of land tenure- the most critical element of rural lifewhether for public infrastructure or farms has never been settled in many parts in post-colonial Africa, unlike in Korea where this is not an issue. In Ghana it is an issue because, as already mentioned, chieftaincy is a strong institution; in Nigeria and Benin, but not much so in Tanzania and Madagascar, where land is 'entrusted' by the people to the state. In other parts of the Continent, controversy over land ownership had led to civil wars or contributed to it, such as in Central Africa- between Eritrea and Ethiopia; or even in Southern Africa where the once prosperous economy of Zimbabwe is in tatters because of its policy of forced land re-distribution. Conflict involving land is also occurring in West Africa, where border disputes between Cameroun and Nigeria in the Ogden region has created tensions and disruption of village life even as the International Court is in the midst of deliberations.

Korea is a homogenous society speaking one language (compared to the over 8,000 dialects or languages in Africa) and having a common ancestry. It is for these and other reasons that a wholesale adoption of the Movement to Africa is unlikely to succeed.<sup>21</sup>) This homogeneity in Korea is very visible in the sociology of the people themselves. For example, people get married based more on the trust, testimony and recommendation of friends, family members and the elderly, more than from chance meetings. People share food in communally, lend to others

<sup>21)</sup> Conversation with Dr. Youngho Park, Head of the Middle East and Africa Department of the Centre for Regional Economic Studies at the Korea Institute for International Economic Policy in Seoul, March 30, 2011. Also my understanding of Korea society has been deepened by conversations I have had with Sooman Park and Joseph Wang of Parkington Corporation. Two Korean businessmen with some international exposure and liberal disposition, they were able to interpret some intangible values to me especially in the third week of March 2011 when I was a Visiting Scholar with the KIEP.

when they are hard pressed; and whilst in most societies many leave their families and homes to seek or start new lives after 18 years, among Koreans the practice is often to stay with parents until one gets married or is ready to do so. Again, this is reflected in business and farming practices as well as in inheritance of fortunes.

The problems that the Movement sought to address in Korea are the same as in Africa: poor governing institutions at the local or rural level, ignorance that lead to diseases, poor educational infrastructure and standards, lack of other forms of employment, environmental pollution and short life spans. There has been, however , since 1960s when many African countries became independent from colonial rule, measures and policies to assuage some of these situations. But the question is, why have they not succeeded?

There are Ministries of Agriculture in many government bureaucracies in Africa; there are local governments - municipal, district assemblies that at lower levels are supposed to ensure that larger government policies are not also debated and legislated upon centrally but also implemented through decentralized policies and channels. Banks, like Agricultural development banks, investment banks for private sector, are devoted to opening credit access to farmers who produce for domestic consumption and those who farm commercially or on a plantation scale - such as those who grow cash crops like coffee, cocoa, shea-nuts, cotton, rice, maize and others. These, whether as individuals or cooperative farmers are supported and also given advisory services and technical suggestions by state bureaucracies or non-government development agencies such as UNDP, USAID, World Bank and other development institutions. Some models - traditional (including community insurance against risks - poor harvests, drought, bush farming and communal fund from monthly dues that rotate and ensure that the money collected is given to one needy farmer to increase capital on rotational basis- Susu) and non-traditional models like the Japanese One Village Movement, the Millennium Village Project have been tried. These were preceded by state farms in the 1960s in which the state supported and employed farmers; other schemes

in which the state or government gave incentives include such activities as spraying cocoa and plantation farms free of charge to increase yield and making available to farms latest research findings from the state research institutions.

Some of these programmes, whether country specific, regional or even continental, such as those of the regional bodies- Economic Community of West Africa States, South Africa Development Community, East Africa Common Market; have all been tried and the results have not been different in terms of expected outcomes.

Some of these models and the institutions had not worked in Africa because apart from the difficulties stated above that are incompatible with the ethos of the Movement; the attitudes, cultural disposition of Africans may not be on the same level. For I believe that values of piety, love of neighbor, community leadership, mutual success, ethnic rivalry, respect to the rural population and their life-styles and agriculture in particular need to be placed on a higher pedestal. Micro-finance for farmers had existed in Ghana and other parts of West Africa for decades, scholarships to be given to deprived children of cocoa farmers had existed for decades but the chain of upward mobility was broken because ① early borrowers refused to pay back and ② scholarships are given to sons and daughters of middle-class families who are not cocoa farmers. The agricultural and rural banks that exist across many societies in Africa were supposed to give credit to farmers and rural entrepreneurs but most of the money ended up back in the cities where they are given to people in other businesses for higher interest rates whilst the rural economy falters.

Personal politics, of giving favors to people not based on merit and hard work, is frowned upon in Confucian teaching but practiced previously in Korean society, has never been helpful when they manifested in Africa. It had in the past and in the present resulted in social disruption of societies as we witnessed in the post -election violence in Kenya in 2007, where violence perpetuated itself along ethnic lines.

Thus, it is not that Africa does not have the institutions, cultural values and

community spirit which in the case of Korea have been used to greater advantage. Creation of improvement in society should involve more use and greater absorption - apart from the mere possession - of these values to reflect in the lives of the people - from infancy to adulthood.

It must be noted however that, the Saemaul Movement has not been able to solve ALL the agricultural and rural difficulties in Korea. As Korea strives for agricultural security in the beginning of the second decade of the twenty-first century, we are told that: "Without actions taken, there is possibility that Korea will face a serious supply crunch within two or three years. •••Korea imports a majority of key grains except rice. As of 2009, its self-sufficiency rates for wheat, corn and soybeans were 0.5 percent, 1 percent and 8.4 percent, respectively•••\*<sup>22</sup>) And this is in stark contrast to what obtains in countries where Korea wants to catch up-US, China and Germany.

Again Korea is worried about food storage and distribution as the leaders-Cargill and ADM account for nearly half of Korea's imports. "We don't have a large import company like the US which already took over the grain futures markets, and our middle agents are mostly Japanese. We can't even buy our food by ourselves."<sup>23</sup>

Thus whilst the Saemaul Movement have proved very beneficial to rural development during the four decades of its existence in Korea, like all models, it was not a panacea for all agricultural problems in Korea. Like every other existing model, therefore, its adoption should be preceded by careful consideration of its potential benefits to the borrowers.

<sup>22)</sup> This is the view expressed by Lee Cherl-ho, a Korea University food bioscience professor who chairs the Korea Food Security Research Foundation. It appeared in the article, "Korea Strives for agricultural security," *The Korea Herald*, March 25 2011, p. 7.

<sup>23)</sup> Ibid.

## 9. Conclusion

This paper has looked into the issue of Total Factor Productivity in economic growth – especially the role of philosophical or cultural systems in Korea, manifested through the Saemaul or the New Community Movement. I have argued to the effect that all economic growth (or lack thereof) and subsequent development is the result of human actions (and inaction) in the environment and the society they live in. And that these actions and inactions are the product of attitudes, beliefs and values which vary from one society to the other.

I began by looking at how other scholars had previously used such intangible measures to assess growth in Europe and Asia close to a century ago. It continued with a brief history of Korea from its days of aid dependency to its transformation to an aid donor. I then used cultural definitions and reviewed arguments about the importance of such assessments in trying to understand the role of agriculture role in the last four decades of rural development of Korea. I have looked at the Saemaul Movement as a vehicle for this growth, and its underlying philosophical or cultural dimensions in particular.

At the end, I asked the rhetorical questions of whether the Movement would be adaptable to Africa? I explained the differences in Korea and Africa's agricultural contours from multiple angles and came to the conclusion that whilst the objectives of building rural infrastructure and creating growth in Korea are the same as other measures adopted in many parts of Africa, philosophical elements and values in Korea which underline its successes are stronger than those in Africa. There is much that Africa can learn from Korea's Saemaul Movement, but the bulk of that 'learning' should occur with respect to cultural attitudes and values rather than its tangible achievements. This is because tangible factors for success exist in parts of Africa. Again there is absolutely nothing wrong with borrowing from other cultures to develop different communities. In the 1860s, Japan did the same with the Meiji Restoration, as people travelled to Europe and America and studied all aspects of their development. They brought the knowledge back to Japan but used Japanese cultural and traditional values to achieve eventual success.

#### References

- Anthony Appiah, Kwame. 2010. The Honor Code-How Moral Revolutions Happens. New York.
- Chang, Ha-Joon. 2006. The East Asian Development Experience: The Miracle, the Crisis and Future. London.
- Goh, Kun. 2010. Saemaul (New Village) Undong in Korea-Factors of the Success and Their Transferability. Seoul.
- Han, Sang-Bok. 2005. The Role of Endogenous Culture in Socio-Economic Development of Korea. Seoul.
- Harrison, Lawrence, Huntington, Samuel. 2000. *Culture Matters-How Values Shape Human Progress*. New York.
- Jones, Eric. 2006. Cultures Merging: A Historical and Economic Critique. London.
- Jo, Kae-Hwa etc. 2010. "Qualitative Content analysis of suicidal ideation in Korean college students." *Collegian*. Seoul.
- Kwon, Hee-jung. 2008. *Making a Confucian Country: Cultural Discourses and Representation of Confucian Tradition in South Korea.* Seoul.
- Kim, Hun Soo, Kim, Hyun Sil. 2008. "Risk Factors for Suicide Attempts Among Korean Adolescents." *Child Psychiatry Human Development*. Seoul.
- Landes, David. 1998. The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor. New York.
- Madison, Angus. 1995. Monitoring the World Economy. 1820-1992. Paris.
- Moore, Mick. 1984. "Mobilization and Disillusion in Rural Korea: The Saemaul Movement in Retrospect." *Pacific Affairs*, Vol. 57, No. 4, pp. 577-598.
- Moyo, Dambisa. 2011. How The West Was Lost-Fifty Years of Economic Folly-And The Stark Choices Ahead. London.
- Needham, Joseph. 1982. Science and Traditional China: A Comparative Perspective.

London.

Park, Sooyoung. 2009. "Analysis of Saemaul Undong: A Korean Rural Development Programme in the 1970s." *Asian-Pacific Development Journal*, Vol. 16, No. 2.

Sen, Amartya. 1999. Development as Freedom. Oxford.

- Sachs, Jeffrey. 2005. The End of Poverty: Economic Possibilities for Our Time. New York.
- Temple, Robert. 1986. The Genius of China-3,000 Years of Science, Discovery, and Invention. London.
- Olusegun, Gbadebo, Odularu, Abidemi. 2009. "Enhancing the Rural Development Policy Space: Will the Saemanul Movement be Adaptable to Africa." *CRES Visiting Scholars Paper Series.* Seoul. *Korea Institute for International Economic Policy.*
- Weber, Max. 1905. The Protestant Ethnic and the Spirit of Capitalism. London.

# Building Trans-Pacific Economic Partnerships<sup>24)</sup>

The Case for a Mexico-South Korea Free Trade Agreement

Juan J. Palacios

# 1. Introduction

All the organisations that have been created to promote economic cooperation in the Western Pacific have embraced the instauration of free trade in this region as their ultimate goal and have accordingly pledged to attain it as their central mission. Likewise, the larger trans-Pacific bodies such as the Pacific Basin Economic Council (PBEC), the Pacific Economic Cooperation Council (PECC), and the Asia Pacific Economic Cooperation Forum (APEC) have also committed themselves to achieving that goal, in this case in the Pacific Rim at large<sup>25</sup>).

<sup>24)</sup> The research for this paper was carried out with the support of the Korea Institute for International Economic Policy (KIEP)

<sup>25)</sup> PBEC was established in 1967 by private sector representatives from countries on both sides of the Pacific and is the longest standing cooperation scheme in the region. PECC was created in 1980 as a tripartite organisation with representatives from government, academia and business from 25 countries around the Pacific. APEC was set up in 1989 as an inter-governmental coordination mechanism with representatives from 21 economies on both the Western and the Eastern the Pacific. The term Pacific Rim refers to the trans-continental

Given its executive capacities stemming from the direct involvement and participation of its member countries' top leaders, APEC is the most developed and capable of those trans-Pacific schemes. A few years after it was established, APEC's members adopted free and open trade and investment as its central, long-term goal in their summit meeting of November 1994 held in Bogor, Indonesia. This goal was to be achieved no later than 2010 and 2020 in the region's developed and developing economies, respectively, "in a GATT-consistent manner" (http://www.apec.org) and in line with the concept of open regionalism.

APEC thus formally endeavoured to promote and facilitate trade liberalisation through the use of non-binding instruments in the form of open multilateral cooperation agreements consistent with those principles. In practice, however, most of its members followed a different path and soon started to resort to binding bilateral free trade agreements (FTAs) and plurilateral regional trade arrangements (RTAs) instead. As a result, this kind of preferential arrangements proliferated over the 1990s giving rise to a messy, intricate network of overlapping trade links among APEC —and non-APEC— economies, which came to be known as a "spaghetti bowl" as Baldwin's (2006, 2008) dubbed this phenomenon. In the 2000s, the bowl extended across the Pacific with the signing of FTAs between Asian and American countries.

FTAs and RTAs have been preferred over non-binding, multilateral schemes in view that, even though they may have discriminatory and trade-diverting implications, they constitute the most effective policy instrument at the disposal of national governments for achieving free trade. Indeed, experience has shown that most of the actual progress in this direction has been made via binding bilateral or plurilateral agreements. Therefore, since they entail formal, long lasting bonds, the subscription of FTAs between countries on opposite sides of the Pacific is directly contributing to the construction not only of trans-Pacific commercial networks but ultimately of what can properly be called trans-Pacific economic

region formed by all the countries and territories with shores around the Great Ocean.

partnerships. The one that is currently under negotiation between Mexico and South Korea is therefore a typical, major instance of this kind of partnerships.

The project of signing an FTA between these two trading partners has been the object of a number of studies in government and academic circles in both countries over the last years. Those studies have consisted basically of discursive analyses of the economic and diplomatic ties between the two nations on the basis of which the potential for further trade has been inferred and the agreement's likely benefits conjectured or forecast (e.g. Romero 2011; 21<sup>st</sup> Century Commission 2005).

The study reported in this paper seeks to take a step further by including a more formal assessment of the potential for enhancing trade between the two economies by means of established econometric tools, specifically a gravity model of trade fitted on a panel dataset for the 21 APEC member economies. This assessment is intended to contribute to the development of a more objective, solid rationale for judging the feasibility and desirability of the accord in question.

First, the various approaches on trade liberalisation adopted by Pacific countries and organisations are discussed. Then, the contours of Mexico's and South Korea's trade policies are reviewed focusing on the accords the two governments have signed or have under negotiation. Next, some of the <u>key</u> economic links between the two countries are analysed. Then, a cursory review of the process of talks, meetings, and negotiations toward this agreement is presented, including a chronology of the bilateral trade accords between the two partners signed so far. Subsequently, the potential for increased trade between the two economies is assessed in the context of APEC by means of the gravity model referred to above, including a brief discussion of the suitability of this kind of models for this purpose. Finally, the case for the Mexico-South Korea FTA proper is made on the basis of the previous analyses. The exposition closes with some brief concluding remarks.

# 2. Trans-Pacific Trade Liberalisation: The Thrust of Binding Agreements

The ways and means to attain free trade in the Pacific Rim have varied over the last decades. The approaches adopted by all cooperation schemes in this region, however, have revolved around the concept of open regionalism. Although this concept has been accorded different meanings since it was put forward in the late 1960s, the policy options it calls for focus on three basic objectives: trade facilitation to reduce transaction costs; non-discriminatory unilateral or concerted trade liberalisation; and early voluntary sectorial liberalisation.

In the last analysis, the difference among those options lies in whether a policy and its related instruments are discriminatory or not and/or whether they are consistent with the most favoured nation principle (MFN), the cornerstone of the global multilateral trade system (Garnaut 2004). In any case, the strategies most governments have actually adopted have boiled down to unilateral, bilateral, plurilateral (regional), or multilateral liberalisation; the related policy instruments have thus been bilateral, plurilateral, and multilateral trade accords.

No discrimination and consistency with GATT-WTO rules, especially the MFN clause, were adopted by APEC as its guiding principles right from the outset. Nowadays, these principles continue to be firmly advocated by economists like Garnaut (2004) who still argue for a WTO-consistent, non-discriminatory, open multilateral approach to trade liberalisation. He questions FTAs and discourages their use pointing to their discriminatory nature and warns about the "costs and dangers in the contemporary proliferation of preferential trading arrangements" (Garnaut 2004, 31). He proposes a new figure instead: Open Trading Arrangements (OTA) as a preferred alternative. OTAs are a sort of FTAs but open to any country that accepts their rules which are based on the principle of "conditional most favoured nation treatment". In this way, Garnaut argues for a renewed open regionalism anchored on the subscription of OTAs and the resuscitation of the idea of a Trans Pacific Business Agenda he holds was proposed by the APEC

Business Advisory Council (ABAC) in 2004.

What Garnaut did not mention is that the ABAC's main proposal that year was a Free Trade Area of the Asia Pacific (FTAAP) which he actually questions (Garnaut, 2004). The FTAAP has been regarded "as the only means by which APEC could achieve its signature Bogor goals" and, if it gets to be concretised, would be "the largest single act of trade liberalization in history" (Bergsten 2007, 1). This proposal was formally adopted by the APEC leaders at their summit in Vietnam in November 2006, who subsequently launched the process that is expected to eventually lead to the establishment of the FTAAP.

Although the FTAAP advocates a multilateral approach to trade liberalisation in the Pacific, it differs from other schemes like the Trans Pacific Business Agenda in that it takes the "proliferation of bilateral and subregional preferential trade pacts, which is likely to accelerate if Doha indeed fails" as a fact and proposes to subsume them "under a single umbrella" (Bergsten 2007, 2). In this way, the proposal for the FTAAP implicitly acknowledges APEC's failure to achieve its central goal, which, as the present paper argues, is what explains the surge of FTAs and RTAs in the vast Pacific region. In fact, APEC itself tacitly admits to that failure for it not only acknowledges the existence of preferential trade arrangements but even praises their usefulness as effective vehicles for advancing trade liberalisation. Witness the following passage on its website:

"APEC recognises the important role Regional Trading Agreements (RTAs) and Free Trade Agreements (FTAs) can play in trade liberalisation in the APEC region. In 2005 APEC Leaders included the promotion of high-quality RTAs and FTAs as an element of the Busan Roadmap towards the Bogor Goals and committed APEC to developing model measures for commonly accepted FTA chapters" (http://www.apec.org/en/Groups/Other-Groups/FTA\_RTA.aspx).

<sup>26)</sup> On its current website, APEC states that its Committee on Trade and Investment held two Trade Policy Dialogues on the FTAAP initiative in 2009 "to help members better understand the economic benefits and technical and policy implications of the establishment of an FTAAP" (http://www.apec.org/).

In this way, APEC implicitly endorses Bergsten's and Baldwin's views and so the argument put forward in this paper that, in practice, the road to free trade has to be travelled riding on FTAs and RTAs.

Echoing that reality, a new regional scheme named the Trans-Pacific Strategic Economic Partnership (P4) was established by Brunei Darussalam, Chile, New Zealand, and Singapore in 2006, as a flexible arrangement open to any other state in the region or elsewhere (http://www.mfat.govt.nz). This concept was endorsed by the United States when the Obama administration proposed, in 2009, the enlargement and renewal of the P4 through the creation of a Trans-Pacific Partnership (TPP). The TPP is a larger regional trade agreement observant of both APEC and WTO principles and is intended as a concrete step towards the materialisation of the FTAAP (Capling 2009, Ravenhill 2009, Tienhaara 2011). To the extent that it would include countries from East Asia, Oceania, Latin America, and North America, the TPP is intended as an effective means for the multilateralisation of regionalism in the Pacific Rim.

As Baldwin (2006) and Kawai and Wignaraja (2008) hold, the multilateralisation of FTAs and of RTAs is the best strategy to deal with the facts that "regionalism is here to stay" and that the "motley assortment of unilateral, bilateral, plurilateral and multilateral deals is a poor way of running the world trade system" (Baldwin 2006, 1508). Stressing that it "…has been little more than an 'innocent bystander' in the massive spread of regionalism" and that it cannot continue in such a stance, Baldwin sees the WTO as the only international organisation with the capacity to "tame the tangle of free trade deals at the global level...[and] probably the only [one] that has a clear incentive to do so".<sup>27</sup>)

<sup>27)</sup> Baldwin refers two European experiences as examples of the viability and effectiveness of his proposal: 1) the Pan-European Cumulation System (PECS) formed in 1997 by the EU15, the EFTA4 (Iceland, Liechtenstein, Norway and Switzerland), ten Central European nations and Turkey, which jointly "account for about 40 percent of world trade." The other is the Information Technology Agreement (ITA) established in 1996 to tame "the tangle of preferences and rules of origin governing trade in information technology goods" (Baldwin 2006, 1484, 1498).

Indeed, as the WTO reports, as many as 297 free trade accords were in force by May 2011 (http://www.wto.org). In addition, 2,750 bilateral investment treaties, 2,894 double taxation agreements, and 295 international investment accords were also in operation by the end of 2009 (UNCTAD 2010, 81).

Concurring with Baldwin's views, Kawai and Wignaraja (2008) urged to tackle head on the proliferation of FTAs in East Asia by consolidating them into a single East Asian FTA to "mitigate the harmful noodle bowl effects of different ROOs [rules of origin] and standards" Kawai and Wignaraja (2008, 17). They assessed the economic impact of various FTAs and RTAs by means of a computable general equilibrium model finding that consolidation "at the ASEAN+6 level would yield the largest gains to East Asia among plausible regional trade arrangements" (Kawai and Wignaraja 2008, 1).

In sum, experience shows that in spite of their discriminatory and tradediverting nature, FTAs and RTAs have proven to be the most effective instruments for advancing trade liberalisation in the Pacific. This is why these instruments have been widely used by governments around the world to pursue this goal, which explains their proliferation in all continents as they are also substantive steps toward the construction of larger multilateral free trade arrangements. Thus, given their ubiquitous presence and the fact that they are here to stay, discussing their pros and cons has become increasingly pointless. Therefore, it becomes apparent that the most sensible course of action today is to deal with this reality by harnessing FTAs and RTAs through their consolidation into larger, more comprehensive arrangements at a regional or sub-regional scale. In this sense, a sound strategy is to manage them by means of schemes like the New East Asian Regional Management Effort proposed by Baldwin (2006), which would be based on a reinforced ASEAN+3.

Those strategies are all the more pertinent in view that, as noted, APEC is proving incapable of attaining its central goals. For one thing, that of achieving free and open trade by 2010 among the region's developed economies set at Bogor was simply not attained and the prospects for reaching it in the remaining years

of the present decade are not encouraging. For another, the goal of attaining free trade in the region's developing economies by 2020 is therefore all the more uncertain.

On the other hand, the only actual progress in that direction has been made via the use of FTAs and RTAs which were not among the instruments called for by the multilateral, open-regionalism approach adopted by APEC at the outset. Moreover, FTAs and RTAs also happen to be the most effective agents for advancing toward a deeper integration of the economies involved in each case given the certainty this kind of accords provide for cross-investment deals over the long run. Therefore, it can be stated that more than mere trade agreements, FTAs and RTAs represent solid, long-term economic partnerships.

That was precisely the rationale that led Mexico and South Korea to consider signing an FTA. An agreement like this not only will serve the purpose of increasing economic exchange between the two economies but, at the same time, will contribute to advancing toward their full integration and thus toward the realisation of APEC's Bogor goals. Therefore, a Mexico-South Korea FTA will be a significant step in the construction of a network of trans-Pacific partnerships which can conjure up U.S. Secretary of State James Baker's fear in the early 1990s about the risk that, if let to mature, Western Pacific regionalism could "draw a line down the middle of the Pacific" (Bergsten 2007, 1).

The first step in that direction, i.e. toward "bridging the Pacific" using Shouhua Qi's book title (Qi 2000), was taken over four centuries ago with the establishment of the Manila Galleon route —which operated from 1565 to 1815— between the New Spain (Mexico's former name) and The Philippines. Today, the Pacific Ocean is crisscrossed by innumerable trade routes that operate under the overall, normative framework of the WTO but also increasingly according to the rules and reciprocity codes stipulated in FTAs and RTAs, and thus under the portmanteau of long-term economic partnerships that abide by the principles heralded by the major Asia-based trans-Pacific cooperation bodies and also by others like the Latin America – East Asia Cooperation Forum (FOCALAE).

### 3. Mexico's and South Korea's Trade Policies

Mexico and South Korea have been active members of both the GATT and the WTO as well as of all the trans-Pacific multilateral organisations that have been established to foster economic cooperation in this trans-continental region. Their governments have therefore systematically expressed their adherence to open regionalism and their commitment to the ideal of achieving free and open trade heralded by those organisations, especially APEC. In actuality, however, the two governments have ended up resorting to instruments that are not in tune with open regionalism nor with a multilateral, non-binding approach to trade liberalisation, but which have nonetheless been integral parts of their respective trade policies.

#### 3.1. Mexico's FTA Policy and Strategy

Mexico moved in the early 1990s from a strongly nationalistic, inward-looking development strategy to an outward-oriented, export-based one. Thus, from being closed and domestic-market driven, the Mexican economy became one of the most open, export-led economies in the world in the wake of a few years.

Such a drastic reorientation was originally induced by U. S. president George H. W. Bush's call, in the late 1980s, for the creation of a free trade area in North America. Retracting himself from his declared opposition to subscribing free trade accords, then Mexican president Carlos Salinas de Gortari ended up responding to Bush's call and so led Mexico to join the United States and Canada to form "the world's largest market", as Bush praised.

The North American Free Trade Agreement (NAFTA) was signed in December 1992 by the heads of the three governments and entered into force on January 1<sup>st</sup>, 1994. This marked the beginning of a new era in Mexico's foreign policy in which this Latin American, developing country was to become a champion of free trade and open-market economic policies. In little more than a decade,
the Mexican government negotiated, signed, and implemented a dozen FTAs with more than 40 trading partners, plus a couple of economic complementation agreements (ECAs), as enlisted in Table 1.

On the other hand, Table A3 on the Appendix lists the Agreements for the Promotion and Reciprocal Protection of Investments (APPRIs) signed by Mexico up to the present. APPRIs and ECAs are a kind of "light FTAs", as they are regarded in Mexico, given that they only cover selected aspects of the trading partners' economic exchange. For example, the so called Economic Complementation Agreement No. 8 signed with Peru in 2000 only covered about 20 per cent of the trade flows between the latter and Mexico, whereas the FTA with which it is being replaced will cover virtually all of the relevant items that can be traded between the two economies (Diaz 2010).

The accord signed by Mexico and South Korea in November 2000, in force since August 2002, is an APPRI. The limited scope of this agreement has been, precisely, one of the arguments that have been used by the South Korean government to push for the negotiations for a full FTA with Mexico.

The Mexican government is currently revising all the FTAs and ECAs it has signed with the purpose of updating and improving their contents and provisions and, in addition, make those agreements that have not yielded the expected results work. For instance, the FTA with the European Union is being widened in scope so as to include more food and agricultural products; something similar is being done in the case of the agreement signed with Japan. In turn, the ones with Nicaragua, Costa Rica and the Northern Triangle —El Salvador, Guatemala, Honduras— are being consolidated into one single Mexico-Central America FTA set to enter into force in 2012 (Diaz 2010).

Such a thorough revision was undertaken largely in view of the fact that some of the accords have come of age and others are not performing as expected, which gave rise to growing opposition on the part the private sector to any attempt at signing new agreements by the Mexican government.

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Agreement	Partner countries	In force since / Status	
NAFTA	United States, Canada	1 January 1994	
FTA Mexico - Costa Rica	Costa Rica	1 January 1995	
FTA Mexico - Bolivia <sup>1</sup>	Bolivia	1 January 1995	
FTA Mexico - Nicaragua	Nicaragua	1 July 1998	
FTA Mexico - Chile	Chile	1 August 1999	
FTA Mexico- European Union	European Union	1 July 2000	
FTA Mexico - Israel	Israel	1 July 2000	
FTA Mexico - Northern Triangle	El Salvador, Guatemala, Honduras	15 March & 1 June 2001	
FTA Mexico - EFTA	Iceland, Norway, Liechtenstein, Switzerland	1 July 2001	
FTA Mexico - Uruguay	Uruguay	15 July 2004	
FTA Mexico - Japan	Japan	1 April 2005	
TIA Mexico - Peru <sup>2</sup>	Peru	Signed in early April 2011	
FTA Mexico - Colombia <sup>3</sup>	Colombia	Approved by the Mexican Senate on 5 April 2011	
ECA Mexico - Argentina	Argentina	13 October 1993	
ECA Mexico - Brazil	Brazil	02 May 2003	

Table 1	. Mexico:	Trade	and	Economic	Complementation	Agreements	signed	by	May	2011
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Note: 1. Terminated by the Bolivian Government in December 2009.

2. It was originally signed in 1994, entered into force in 29 January 1995, was revised and renamed as Economic Complementation Agreement No. 8 in 2000, and finally turned into a Trade Integration Agreement (TIA).

3. It was originally signed as the Group of Three FTA by Mexico, Venezuela and Colombia and entered into force on 1 January 1995. Venezuela opted out in late 2006 and afterwards Mexico and Colombia started negotiations to turn the former tripartite accord into a bilateral FTA.

Source: Assembled by the author with data from the Under Ministry of International Trade Negotiations, Mexico's Ministry of the Economy and the General Secretariat of the Latin American Integration Association.

In any event, Mexico's current official trade policy, as implemented and operated through the Ministry of the Economy (http://www.economia.gob.mx), focuses on three points: 1) attract foreign investment; 2) increase the volume of Mexican products in global markets; and 3) consolidate Mexico's presence in

international bodies for trade and investment promotion. Accordingly, the strategy for conducting trade negotiations considers four lines of action: 1) optimise all the trade agreements in force; 2) procure the convergence among those agreements; 3) strengthen the multilateral trade system; 4) legally defend Mexico's commercial interests; and 5) negotiate new agreements.

Even though it runs counter to the private sector's stance on the signing of new FTAs, the last point is being pursued actively by the Mexican government. This has become evident with the recent completion and signing of the agreements with Peru and Colombia and the declared intention to continue to work on those already under negotiation of which the one with South Korea is by far the most important.

## 4. South Korea's FTA Policy

Economic liberalisation in South Korea began in the mid-1980s after nearly two decades of pursuing an aggressive export-led growth strategy backed with a tight imports protection policy. As imports and foreign investment were liberalised over the following years, capital markets were opened to foreign capitals and so South Korean companies began to borrow heavily from overseas. This tendency coupled with a slowing down of exports and an increase in imports leading to the severe crisis that exploded in South Korea and the other major economies of East Asia in 1997 (Hwang 2001).

In the early 2000s, the South Korean government launched a new trade strategy that prioritised the diversification of South Korea's export markets and investment destinations. This strategy was motivated by the observation that trade and investment flows had been concentrating in the Asia Pacific region and so that it was time for South Korea to reach out across the Pacific (Cheong 2003). It was not by chance then that a Latin American country, Chile, was the first trading

partner with which South Korea signed its first bilateral trade accord in 2004.

As the Mexican government did, the South Korean government ended up making use of the instruments that had been questioned by the advocates of a multilateral approach to trade liberalisation. Its rationale rested on the belief that FTAs reduce import tariffs of the countries involved, have lock-in effects for the consolidation and continuation of economic reforms, and can lead to trade creation rather than to trade diversion. In the last analysis, "••••fear of isolation is a major reason why countries pursue FTAs, and this trend has been expanding into a domino effect. The effect is common in East Asia and Korea is no exception" (Cheong 2003, 5).

In addition, FTAs were viewed as "an effective and expeditious trade policy tool for achieving trade liberalization in areas of a country's choice, with trading partners of a country's choice, and in a manner tailored to a country's economic needs" (Kim 2005, 2). In consequence, in September 2003 the South Korean government formulated an FTA Roadmap on the basis of which it launched an aggressive policy aimed at signing FTAs with numerous trading partners adopting a multi-track, rather than a one-by-one, approach.

The above notwithstanding, South Korea continued its active participation in regional cooperation schemes like APEC and ASEAN+3. That participation began in the 1970s when South Korea joined the Asia Pacific Trade Agreement (APTA).

In any case, the South Korean government also started to seek bilateral investment treaties with the United States and Japan as well as FTAs with Chile and other trading partners. This policy continues to be applied up to the present.

According to the WTO, South Korea has signed eight bilateral FTAs plus the agreement by means of which it joined the Asia Pacific Trade Agreement (APTA) and the one it subscribed for the accession of China (see Table 2). In addition, South Korea is currently negotiating three more FTAs, although the Korean Ministry of Foreign Affairs and Trade (MOFAT) reports that there are seven under negotiation and a dozen more under consideration including the one with Japan that the WTO also reports as under negotiation (see Table 3).

#### Table 2. Free Trade Agreements signed by Korea by mid-2011

Agreement	In force since / Status
Asia Pacific Trade Agreement (APTA)	17 June 1976
APTA (accession of China)	01 January 2002
Republic of Korea - Chile	01 April 2004
EFTA - Republic of Korea	01 September 2006
Republic of Korea - Singapore	02 March 2006
ASEAN - Republic of Korea	01 May 2009
Republic of Korea - India	01 January 2010
Republic of Korea - European Union	01 July 2011
Republic of Korea - United States of America	Ratification in progress
Republic of Korea - Peru	Ratification in progress
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Source: World Trade Organization RTA Database and the Korea Herald.

Table 3	3.	South	Korea:	FTAs	under	negotiation	and/or	consideration
	•••							

Reported to the WTO as	Registered by MOFAT			
under negotiation	Under negotiation	Under consideration		
Japan <sup>1</sup>	Canada	Japan		
Mexico <sup>2</sup>	Mexico	China		
Australia <sup>3</sup>	Gulf Cooperation Council <sup>4</sup>	China-Japan		
	Australia	MERCOSUR		
	New Zealand	Russia		
	Colombia	Israel		
	Turkey	Vietnam		
		Mongolia		
		South Africa		
		Central America		
		Indonesia		
		Malaysia		

Note: 1. Negotiations started in December 2003.

2. Negotiations started in August 2007 (Reported to the WTO on 07 February 2006).

Negotiations started in March 2009.
 Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates.

Source: Korean Ministry of Foreign Affairs and Trade (MOFAT).

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Be that as it may, among the FTAs under negotiation the one with Mexico has been given special importance by the South Korean government). This has been evidenced first by its proactive, and in cases insistent, initiatives to begin talks and set underway the negotiations, and lately by its reiterated calls on its Mexican counterpart to complete those negotiations as it will be discussed later on.

## 5. Economic Intercourse between Mexico and South Korea

## 5.1 Trade

Commercial transactions between Mexico and South Korea have been increasing since the two countries established formal diplomatic relations in 1962 and, particularly, since their governments signed their first formal trade accord in 1966.

As Chart 1shows, Mexican exports to and imports from South Korea expanded





Source: Table A1, Appendix.

and contracted in a similar pattern up to 1988. From that year on Mexico started to post negative trade balances.

Indeed, Mexican exports to South Korea stagnated up to the late 1970s but exploded in the early 1980s. Thus, except for 1980, Mexico registered a positive trade balance in the last two years of the 1970s and most of the 1980s, posting large surpluses around the middle of the latter decade. At this time, though, Mexican exports started to decline and imports started to surge so that the balance turned negative in 1988.

The latter trends continued into the 1990s and 2000s. As Chart 2 illustrates, Mexican exports stagnated again throughout these two decades like in the 1960s and 1970s. Conversely, Mexico's imports from South Korea kept increasing consistently up to 2008 and although they contracted slightly the following year, started to expand again in 2010. In any case, Mexico's trade balance with this Asian partner has been consistently and increasingly negative during that time span as a result. Conversely, of course, South Korea's trade balance with Mexico has been consistently and increasingly positive throughout that period.







Source: Table A2, Appendix.

Nevertheless, South Korea was México's overall sixth largest trading partner (and its 26<sup>th</sup> buyer and 4<sup>th</sup> supplier) in 2009. In the context of Asia Pacific, South Korea was México's third largest trading partner (and its 5<sup>th</sup> buyer and 3<sup>rd</sup> supplier) in that same year (http://economia.gob.mx).

In spite of those imbalances, it is significant that the actual trade between the two countries is not of the kind found between an industrialised and an industrialising economy. As Box 1 shows, except for salt and beer, all the major products exported from Mexico to South Korea are industrial goods.

- Zinc ores	- Aluminium scrap	- Mono blocks
- Lead ores	- Refined lead	- Alternators
- Copper ores	- Copper mattes	- Acrylonitrile
- Silver ores	- Cement coppers	- Pre-tanned bovine hides
- Remote control units	- Galvanized steel sheets	- Strontium carbonate
- Memory sets	- Pistons and cylinder liners	- Alloys
- Modular circuits	- Rings and valves	- Salt
- Cell phones	- Cylindrical gear	- Malt beer

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Source: Under Ministry of International Trade Negotiations, Ministry of the Economy, Mexican Government.

All Mexican imports from South Korea are, as can be expected, of an industrial nature, as Box 2 details. In this case, the most striking and unlikely item is gasoline given that Mexico is a major producer of crude oil and petrochemical products and that South Korea is a net importer of petroleum-related goods.

Indeed, as Table 4 presents, crude oil is Mexico's top export staple which accounts for over 11 per cent of the country's total exports. Conversely, gasoline is its top import although it accounts for only three and a half per cent of total imports. This further illustrates the paradoxical case of this latter item in the commercial exchange between Mexico and South Korea, which adds to the quantitative imbalances referred to above.

#### Box 2. Mexico's top imports from Korea

<ul> <li>Flat-screen set sub-assemblies</li> <li>Modular circuits</li> <li>Hybrid integrated circuits</li> <li>Cell phones</li> </ul>	<ul> <li>Washing machines</li> <li>Filters</li> <li>Electrical wires and harnesses</li> <li>Moto compressors</li> </ul>
- Memory sets	- Styrene copolymers
- Semiconductors	- Epoxy-glass
- Remote control sets	- Components for starters and alternators
- Parts for fixed-line telephone sets	- Gasoline

Source: Under Ministry of International Trade Negotiations, Ministry of the Economy, Mexican Government.

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Exports			Imports			
Product	Value	%	Product	Value	%	
Crude oil (petroleum)	25.9	11.3	Gasoline	8.3	3.5	
Flat screen TV appliances	15.7	6.8	Parts for TV sets	6.6	2.8	
Automobiles	11.3	4.9	Electronics parts	3.9	1.7	
Mobile Telephones	9.4	4.1	Mobile phones	3.3	1.4	
Gold products	3.6	1.6	Automobiles	2.4	1.0	
Other	163.7	71.3	Other	209.9	89.6	
Total	229.6	100.0	Total	234.4	100.0	

### Table 4. Mexico's Top Five Exports and Imports, 2009

(Unit: Billion US dollars)

Source: Prepared by the author with data from the Under Ministry of International Trade Negotiations, Ministry of the Economy, Mexican Government.

# 6. Investment

Imbalances are wider in the case of investment flows, as they reflect the differences in the degree of development and industrial maturity that have existed

between the Mexican and South Korean economies. Thus, productive capitals have flowed in just one direction: from the latter to the former, i.e. from West to East across the Pacific.

South Korean investments started to land in Mexico in the late 1980s when Goldstar — now LG — and Samsung started to build plants for the assembly of colour TV sets in Tijuana in 1987 and 1988, respectively. Hyundai did so in 1991, Daewoo in 1993, and POSCO in 2006 (http://www.maquilareference.com). Up to the late 1990s, the amounts invested were rather small, except for two years when the figures increased significantly, as Table 5 shows.

		(U	nit: Million US dollars)
Year	Annual	Cumulative	% of Total
1989-1990	1.5	-	0.0
1991	2.5	4	0.1
1992	0.04	4.04	0.0
1993	8.4	12.44	0.2
1994	15.1	27.54	0.1
1995	103.7	131.24	1.2
1996	85.8	217.04	1.1
1997	199.2	416.24	1.6
1998	52.6	468.84	0.6
1999	46.2	515.04	0.3

Table 5. South Korean Direct Investment in Mexico, 1989-1999

Source: 21st Century Commission (2005), Tables 4 and 5.

Things improved slightly in the 2000s. As Table 6 presents, annual flows in this period were larger and more consistent, surging up to 350 million in 2008 and totalling nearly 900 million dollars in this period vis-à-vis a little more than 500 million registered in the 1990s. Most of the 2008 inflow corresponded to

POSCO's investment in a galvanised steel sheets plant in Tamaulipas whose construction began that year.

			(Unit: Million US dollars)
Year	Annual	Cumulative	% of Total
2000	30.2	-	0.2
2001	50.5	80.7	0.2
2002	31.8	112.5	0.1
2003	57.1	169.6	0.3
2004	47.6	217.2	0.2
2005	96.8	314.0	0.4
2006	72.1	386.1	0.4
2007	45.2	431.3	0.2
2008	367.6	798.9	1.5
2009	75.5	874.4	0.5
2010	-3.6	870.8	0.0

Table 6. South Korean Direct Investment in Mexico, 2000-2010

Source: Foreign Investment National Registry, Ministry of the Economy.

In any event, South Korean investments have been landing in Mexico consistently for all those years. As a result, as Mexico's Ministry of the Economy reported, as many as 1,434 companies with South Korean capital were operating in Mexico by 2010, including LG, Samsung, Daewoo, and POSCO. Only LG and Samsung are said to have jointly exported US\$7 billion dollars in 2009 from their subsidiaries emplaced in Mexico (Velazco 2010).

However, those investments have not been as significant vis-à-vis total inflows. As Tables 6 and 7 indicate, South Korean capitals have accounted for only 0.5 and 0.4 per cent in average, respectively, of total yearly inflows over the last two decades. Nonetheless, between 1999 and 2006 South Korean investment accounted for 7.8 per cent of investments coming from Asia Pacific countries so

that it ranked third among these countries (DGIE 2006, 2).

In any case, the fact is that there is lots of room for South Korean companies to invest in Mexico and tap into the myriad market niches and business opportunities this Latin American partner offers to them.

In contrast, according to the Mexico-South Korea 21<sup>st</sup> Century Commission, Mexican investments in South Korea barely reached 200 million US dollars by mid-2005 (21<sup>st</sup> Century Commission 2005, 59). According to the Korean Ministry of Knowledge Economy inflows from countries of all the Americas, except the United States and Canada, amounted to US\$7.2 billion from 2001 to 2010 out of a total of US\$173.6 billion, i.e. only four per cent of this total (http://www.mke.go.kr). Although the ministry does not make it explicit, it can be inferred that the proportion of those inflows corresponding to investments by Mexican companies is much smaller than four per cent.

Significantly enough, this has occurred in the context of unprecedented increases in the outflow of Mexican capitals to other countries. The Bank of Mexico reported that Mexican direct investment abroad topped 5.4 billion dollars only in the first quarter of 2010 (Rojas 2010). That figure was as high as 8 billion in the first half of that year, which amounts to two thirds of the whole of foreign capitals invested in Mexico that year (http://www.elfinancieroenlinea.com.mx).

The point is then that the room for Mexican companies to invest in South Korea is much larger than that South Korean concerns have to invest in Mexico.

# 7. The Long Road toward a Mexico-South Korea FTA

Economic and political interaction between Mexico and South Korea began with the establishment of full diplomatic relations in 1962. A few years later, the two governments decided to foster commercial exchange between their countries and signed the Trade Agreement between the Republic of Korea and the United Mexican States in December 1966. This was the first trade accord ever signed by Mexico with an Asian country.

Bilateral ties were strengthened in 1989 with the subscription of an agreement to promote economic, scientific and technical cooperation along with the creation of the Mexico-South Korea Mixed Commission. In September 1991 President Roh Tae Woo was in México and became the first South Korean head of state to visit a Latin American country.

The ties continued to be strengthened over the following years with a series of initiatives toward this end. The first of these initiatives was the signing of an Agreement for the Promotion and Reciprocal Protection of Investments (APPRI) in 2000 which entered into force in 2002 and was the first agreement of this sort signed by Mexico with an Asian country as well.

In 2005 the two governments agreed to upgrade the APPRI and decided to start negotiations for the establishment of a Strategic Economic Complementation Agreement (SECA) which was intended to encompass a wider range of areas of the exchange between the two economies. The negotiations continued for several months but collapsed in late 2006.

Building on that experience and in view of the APPRI's limited scope, in late 2007 the Mexican and South Korean governments agreed to begin talks and negotiations for the establishment of a full FTA. These negotiations continue to date. Table 7 summarises the main moments in this protracted process.

The initiative for signing an FTA met with opposition in both countries from the outset, as it occurs in most cases. The opposition has come, naturally, from the sectors and industries that can result most adversely affected by the lowering, and eventually the elimination, of tariffs on goods imported from the other trading partner. The other major concern is the entry of competitors from the other partner into each country's domestic markets an FTA would inevitably entail.

The opposition in Mexico has come mainly from the automobile, metallurgical, steel and chemical industries, as well as from the Foreign Trade Mexican Council (COMCE). COMCE's members demand a thorough, sector-by-sector assessment

December 1966	The first trade agreement between the Republic of Korea and the United Mexican States is signed
November 2000	An Agreement for the Promotion and Reciprocal Protection of Investments (APPRI) is signed (first with an Asian country)
September 2005	The Mexican and South Korean governments agree to launch negotiations for a Strategic Economic Complementation Agreement (SECA)
February 2006	Negotiations for the SECA start
April 2006	Second round of negotiations for a SECA take place
June 2006	Third round of negotiations for a SECA take place
December 2007	First round of negotiations toward a full FTA take place upon failure of the SECA initiative
February 2008	The 2000 APPRI is revised
June 2008	Second round of negotiations toward a full FTA takes place
July 2010	President Lee Myung-Bak visits Mexico; he and president Calderón reiterate their pledge to continue working to complete negotiations and sign that FTA

Table 7. Major Steps toward Trade Liberalisation between Mexico and South Korea

Source: Prepared by the author with information from the Ministry of Foreign Relations and various newspapers.

of the potential costs and benefits the proposed FTA with South Korea could bring about (Hernández 2010). Their main concern is that, with this accord, the Mexican market would be flooded with cars, chemical products and steel items from South Korean companies thus introducing a strong and perhaps unbearable competition for their Mexican counterparts.

Underlying those concerns is the view that the initiative has been politically driven with no proper consideration of the interests of the private sector, coupled with the fear that South Korean exporters would put additional pressure on Mexico's already tough markets. Also underlying those concerns and, in general, the declared opposition of the Mexican business community to this FTA has been South Korea's refusal to open up its agricultural and food markets to Mexican exports.

Compounding those reservations, Mexico's private sector believes that the dozen FTAs already signed are enough and that before signing more, the Mexican

government has first to make them work so that they get to yield the expected results.

One more factor that underpins those fears and reservations is the lack of knowledge about Asia, and South Korea in particular, that has traditionally characterised Mexican businesspeople. This has resulted in a heavy "US bias" that was fuelled by NAFTA and is clearly reflected in the fact that over four fifths of total Mexican exports are still shipped to the United States.

Given that opposition and, at the same time, considering that Mexico actually has a rather large number of FTAs in force, the Mexican government has been much more reluctant to complete the negotiations that started in 2007 than its South Korean counterpart. Thus, it is the latter that has insisted and pushed more for completing the negotiations and signing the agreement. Another reason for such reluctance has been the bias towards North and South American trading partners the Mexican government has displayed lately. This was made particularly evident with President Calderon's decision to sign the FTAs with Peru and Colombia last April before the one with South Korea, even though the latter has been under negotiation for four years.

Nevertheless, as noted above, both governments continue to commit themselves to move forward with the negotiations and to finally sign the deal. This commitment is motivated by the large potential for expanding trade and investment flows both governments perceive to exist between the two economies as the analyses of the previous section show in principle.

After all, the creation of the Mexico-Korea 21<sup>st</sup> Century Commission in 2001 was motivated, first of all, by the mutual conviction about "the necessity to tap the huge potential the relation between Mexico and the Republic of Korea holds" (21<sup>st</sup> Century Commission 2005, 9).

However, what is needed in addition to the analysis and interpretation of trade and investment statistics is a more formal, deeper assessment of the size of that potential.

# 8. Assessing the Trade Potential between Mexico and South Korea

# 8.1 The Pertinence of Gravity Models

A formal assessment of the potential for further trade between the two countries or regions can be performed in different ways. In the case of Mexico and South Korea, the task requires the analyst to produce insights that can lead to an objective, convincing rationale for the subscription of a full FTA between these two trading partners. Hence, the assessment in this case is carried out by performing a statistical analysis of their cross trade flows by means of established econometric methods that have proved to be adequate and efficient for this task.

Specifically, the assessment is performed by means of a gravity model of trade. As it is known, this kind of models enable one to determine the pattern of trade flows between two countries over a relevant timeframe and compare it with another pattern that could have been displayed by those flows during that period if certain conditions were met. Thus, these models are able to capture the size of the potential for expanding those trade flows.

Gravity models were originally derived from Newton's gravity equation:

$$F_g = G \frac{m_1 m_2}{r^2}$$

Where  $F_g$  stands for the gravitational force between masses  $m_1$  and  $m_2$ ,  $r^2$  for the square of the distance between these masses, and G for a gravitational constant whose value depends on the units of measurement used for mass and force

One of the earliest references on the use of this equation in social sciences can be traced back to the writings of Walter Isard who devoted a whole chapter of his most celebrated book (Isard 1960) to gravity models in regional analysis. It was Jan Tinbergen (1962), though, who first used a gravity model to study international trade flows (Head 2003, Nello 2009) and Linnemann (1966) who put forward the first elaborate formulation of the use of this kind of models in this field. Thereafter, gravity models became an effective tool widely used for analysing the structure and behaviour of trade interactions between regions and national economies. As Baldwin put it: "....[the gravity model] has come back into fashion. One problem that lowered its respectability was its oft-asserted lack of theoretical foundations. Contrary to popular belief, it does have theoretical foundations" (Baldwin 1994, 70). These foundations were first identified a decade and a half earlier by Anderson (1979).

Gravity models can be specified in a number of ways depending on the nature and structure of the data used: time series, cross sectional, or panel. The model specified in the study reported in this paper is a gravity model of trade based on a panel dataset that encompasses the 21 APEC member economies.

Panel datasets have been questioned by economists that prefer cross-sectional data on grounds that, in the presence of heteroscedasticity, the log-linear models fitted on panel data are unable to estimate the parameters of the model in a consistent way (e.g. Fontoura *et al.* 2006; Santos Silva and Tenreyro 2005). However, as Brüderl (2005) observes, the estimates obtained with cross-sectional models are misleading and biased because of unobserved heterogeneity stemming from the fact that the error term becomes correlated with the explanatory variables. Therefore, "the results of many cross-sectional studies are highly disputable" (Brüderl 2005, 5).

Moreover, models fitted on cross-sectional datasets can be "affected by a severe problem of misspecification" (Egger 2002, 298). Furthermore, as Egger and Pfaffermayr (2003, 572) pointed out, "…one important advantage of the panel econometric framework is the reduction of the 'risk of obtaining biased results".

In general, the main advantages of panel datasets vis-à-vis cross-sectional and time-series ones include the following (Brüderl 2005, Frees 2004, Hsiao 1995, 2000, 2003):

- · Contain a much larger number of observations
- · Allow more variability and more degrees of freedom
- Decrease collinearity among explanatory variables and so produce more efficient estimators
- · Standard errors become smaller and so efficiency increases
- Allow to control for unobserved heterogeneity, the fundamental problem of non-experimental research
- Provide means for resolving, or at least reducing, the problem of omitted or unobserved variables that are correlated with the explanatory variables

Based on the above considerations, the gravity model specified here to estimate the trade potential between the Mexican and South Korean economies was fitted on a panel dataset. Gravity models have been used for this purpose by a long spate of authors. These include: Wang and Winters (1991), Hamilton and Winters (1992), Egger (2000, 2002, 2003), Baldwin (1994), McCallum (1995), Brülhart and Kelly (1999), Fontoura *et al.* (2006), Rahman *et al.* (2006), Armstrong and Drysdale (2009); and, Ozdeser and Ertac (2010). The present study draws on this tradition.

#### 8.2 Data

As pointed out from the outset, the assessment of the potential for further trade between Mexico and South Korea was undertaken here from a trans-Pacific perspective. Hence, a statistical framework that suggested itself in this case was that formed by APEC's 21 member economies. As pointed out earlier too, APEC has been the most effective and operational of the trans-Pacific economic cooperation arrangements in place and so is the natural institutional and geographic framework under which a Mexico-South Korea FTA would operate. A similar approach was adopted by Egger and Pfaffermayr (2003) who studied bilateral trade

among 11 APEC countries for the period 1982-1998.

In consequence, the dataset on which the gravity model reported here was fitted considers 21 panel units with yearly observations for a 20-year period spanning from 1990 to 2009. A detailed description of the sources, limitations and features of the data comprising that set is presented in the Appendix.

As explained there, the dataset's size and extent were ultimately determined by the availability of data on the dependent variable — i. e bilateral imports — in the UN Comtrade database which was the main source for this variable. Thus, the data on the explanatory variables included in the model were compiled only for the years for which data on imports were available on that database.

#### 8.3 Specification of the Model

The model fitted for the study reported in this paper corresponds to what is known as an augmented gravity model of trade. It is augmented to the extent that it includes two variables — GDP per capita and adjacency — in addition to the core explanatory variables originally considered in this kind of models, i.e. GDP and distance.

Although there is no general consensus about the inclusion of population variables in gravity models, some economists (e.g. Harris and Mátyás 1998) use total population as an independent variable. GDP per capita has also been regarded as a relevant explanatory variable and so has been included by many authors including Wang and Winters (1991), Baldwin (1994), Egger (2002), Martínez Zarzoz and Nowak Lehmann (2003), Egger and Pfaffermayr (2003), and Tang and Wang (2006). GDP per capita was thus included here on that basis as a measure of each APEC economy's relative size as weighted by the size of its population.<sup>28)</sup> Moreover, since it also reflects the level of income, as Head (2003) notes, GDP per capita is a measure of the propensity to trade of the trading countries or regions

<sup>28)</sup> GDP per capita is also used as a proxy of a country's capital-labour ratio (Egger 2002).

involved as well as of their tariff levels.

Adjacency was included to account, along with distance, for the barriers to trade between each country pair. Distance was represented with data on great circle distances between capitals which, as Baldwin (1994, 73) put it, is a strategy that "is at least extremely transparent".

The explanatory variables included are, therefore, GDP, GDP per capita, distance, and adjacency or lack thereof. Although exports are widely used, the magnitude that was selected in this case as the dependent variable was bilateral import flows between each pair of APEC countries. This choice was based on the observation that governments tend to record imports with more care and accuracy than exports, so that import statistics are more reliable. As Baldwin (1994, 72) noted, "The most common choice is to rely on import data on the assumption that most countries watch their imports more carefully than their exports".

In general, the choice of all the variables included is in line with the basic rationale underlying gravity models. As Egger (2002, 297) stated, "According to the traditional concept of the gravity equation, bilateral trade can be explained by GDP and GDP per capita figures and both trade impediment (distance) and preference factors (common border, common language, etc.)". Besides, the choice is consistent with the views of economists like McCallum (1995) whose celebrated "border puzzle" about trade among Canadian provinces and between the latter and US states was based on a model that included provincial GDP and distance as its core explanatory variables. McCallum's model was endorsed by Anderson and van Wincoop (2003) who complemented it by adding other variables meant to account for what they termed as "multilateral resistances" thus making a significant contribution to strengthening the theoretical foundations of gravity models.

Other studies include additional variables such as FDI flows, exchange rates, and membership in FTAs or RTAs. However, the inclusion of particular variables in addition to the core predictors of gravity models has to be expressly dictated by the theoretical framework within which each model is specified. Otherwise, there is no proper way to know how many and which variables to include or exclude (Armstrong and Drysdale 2009).

#### Fixed effects or random effects?

As it is commonplace, when a gravity model is fitted on panel data its parameters can be estimated using either fixed-effects (FE) or random-effects (RE) estimators. Each of these has its own merits and limitations, so their suitability depends on the nature of the data used and the objectives of the model in question.

In symbols, the basic structure of gravity models fitted with FE estimators is as follows:

$$Y_{it} = ai + \beta X_{it} + e_{it}$$

 $\alpha_i$  (*i*=1...n) is the unknown intercept for each entity or panel and  $e_{it}$  is the error term.

In turn, the typical structure of models fitted with RE estimators is:

$$Y_{it} = a + \beta X_{it} + u_{it} + e_{it}$$

where  $u_{it}$  is the between-entity error and  $e_{it}$  the within-entity error term.

A fixed-effects estimator is always consistent but not always efficient, while a random-effects estimator tends to be more efficient but not always consistent. The main issue, though, is whether endogeneity is present or not in the model or, in formal terms, whether:

Cov 
$$(x_{it}, e_{it}) \neq 0$$
 or Cov  $(x_{it}, e_{it}) = 0$ 

This issue can be resolved by means of a Hausman test (Hausman 1978) which basically determines whether endogeneity is present and whether the model is consistent with the data used. If endogeneity exists then the FE estimator would

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be biased and so not suitable for estimating the parameters of the model. Conversely, if endogeneity is not present the RE estimator would be biased and so would not be efficient for that estimation.

The model specified here to assess the trade potential between Mexico and South Korea was estimated using both methods in order to have the elements to run a Hausman test. On the other hand, since all gravity models are derived from Newton's original equation, all the variables are expressed in natural logarithms, except for adjacency which is represented by a dummy. On these bases, the model estimated was the following:

$$\ln y_{ij} = \beta_1 \ln GDP i_{it} + \beta_2 \ln GDP x_{jt} + \beta_3 \ln GDP cap i_{it} + \beta_4 \ln GDP cap x_{jt} + \beta_5 \ln dist_{ij} + \beta_6 \text{border}_{ij} + \alpha_i + \varepsilon_{ijt}$$

W	here	
••	11010	•

lny <sub>ij</sub>	stands for imports from country $j$ to country $i$
ln <i>GDPi</i> it	for the importing country i's GDP
lnGDPx <sub>it</sub>	for the exporting country j's GDP
ln <i>GDPcapi</i> i	for the importing country i's GDP per capita
ln <i>GDPcapx</i> j	for the exporting country j's GDP per capita
ln <i>dist</i> <sub>ij</sub>	for the great circle distance between country i's and j's
·	capital cities
border <sub>ij</sub>	for whether a common border exists in each country pair
a <sub>i</sub>	for the unknown intercept for each panel entity (country)
£ijt	for the error term

Table 9 summarises the results of the regressions performed as well as some basic references on the dataset on which they were run.

As can be observed, all the coefficients are different from zero (Prob > F = 0.0000) and all the signs are in the expected direction so that the specification of the model can be said to be consistent with the rationale of gravity models. This consistency is also reflected in the rather large size of all the correlation coefficients ( $R^2s$ ). This means that bilateral import flows between APEC countries

	-		
Independent variables	Fixed effects	Random Effects GLS	
Log of importing country GDP	<b>0.0767</b> (0.1206)	<b>0.5881</b> (0.0684)	
Log of exporting country GDP	<b>0.9622</b> (0.0104)	<b>0.9605</b> (0.0104)	
Log of importing country GDP per capita	<b>0.6442</b> (0.1416)	<b>0.1144</b> (0.0822)	
Log of exporting country GDP per capita	<b>0.0096</b> (0.0133)	<b>0.0077</b> (0.0133)	
Log of distance	<b>-1.1828</b> (0.0233)	<b>-1.1824</b> (0.0233)	
Border	<b>0.1233</b> (0.1074)	<b>0.1300</b> (0.1076)	
Constant	<b>-2.4259</b> (2.0459)	<b>-11.2394</b> (1.2638)	
R <sup>2</sup> within	0.6557	0.6548	
R <sup>2</sup> between	0.2319	0.8870	
R <sup>2</sup> overall	0.5319	0.6903	
Hausman statistic	-	0.0001	
No. of observations	7149	7149	
No. of country pairs	398	398	

Table 9. Panel Regression Results for Bilateral Imports among APEC Economies 1990-2009

Note: Coefficients significant at 1%; standard errors are in parentheses.

were largely determined by their absolute and relative economic size as measured by total GDP and per capita GDP; by how distant of each other are; and by whether they are or not adjacent to each other.

Given that the Hausman test returned a p-value of 0.0001 it can be inferred that the differences among estimators are systematic. Likewise, since this value is below the 0.01 significance level adopted in the regressions the results can be said to be statistically significant and the presence of endogeneity can be established, i.e. *Cov* ( $x_{it}$ ,  $e_{it}$ )  $\neq 0$ .

Therefore, FE was confirmed as the proper estimator in this case, as it is the one that can produce unbiased estimates vis-à-vis RE. In fact, since endogeneity is present in most panel data models, FE tends to be more commonly used than RE (Brüderl 2005).

Based on the above, the potential for further trade among APEC economies was estimated following the usual procedure of plugging in the estimated coefficients into the model and fitting a linear projection of the trade flows that actually took place in the period under study<sup>29</sup>). This projection constitutes the counterfactual, i.e. the trade that could have existed between each APEC country pair during that period if their respective production and export capacities had been fully utilised.

Next, the ratios of potential — as represented by the projected figures — to actual bilateral imports were calculated in order to determine the size of the potential for further trade that could have existed between each country pair during the study period. A ratio higher than one indicates that yearly exports from the exporting to the importing country were below their potential levels, so that they can increase beyond that period. In turn, a ratio smaller than unity means the opposite, i.e. that exports were above potential and so that there is no room for them to expand.

Tables A4 and A5 in the Appendix present the resulting trade potential ratios for the 389 pairs of APEC economies for the terminal year of the study period: 2009. The overly large ratios for Brunei, Peru and Russia owe to the overly small figures the U. N. Comtrade database records for their respective import flows for several years of that period.

It is significant that the highest average ratios are posted by APEC's Latin American economies: Mexico and Chile (Peru is put aside because of the said problem with the data on its import figures). The next highest averages correspond

<sup>29)</sup> These procedures can be performed easily and most efficiently by any major econometrics software package, especially Stata.

to Taiwan and New Zealand, on the Western Pacific. These are the APEC members that have more room for expanding their imports from other fellow members. Overall, more than two thirds of the average ratios are positive, which indicates that bilateral exports among most — 14 of 21 - APEC economies were below their potential levels during the 1990s and the 2000s and so that they can increase in the future.

The picture is mixed when it comes to bilateral trade flows between Mexico and South Korea. In this case, the respective trade potential ratios were calculated for each of the 20 years of the period of the study in order to highlight the fluctuations in the size of that potential during this period. Table 10 presents the results.

In a notable instance of asymmetrical trade, all the ratios of potential to actual imports turned out to be negative for Mexico — except for 1990 and 1991 — and positive for South Korea over the two decades. This means that Mexican exports to South Korea were above the level they could have reached in those years and so that there is no scope for them to grow hereafter. This in turn can indicate that South Korea's trade barriers to Mexican exports have been lower than Mexico's to South Korean exports. Therefore, an FTA would be a suitable instrument to widen the access to Mexican markets for South Korean exports. Conversely, South Korean exports to Mexico were quite below their potential, so that the room for them to grow has been large and can be larger if barriers to trade are reduced, let alone eliminated, which can also be accomplished by means of an FTA between these two otherwise economically similar trading partners.

In sum, the above results substantiate the argument in favour of the subscription of this agreement which has been under negotiation since 2007. At the same time, to the extent that they were obtained by means of a formal analytical method, these results can be said to provide a more objective rationale for identifying its merits and potential benefits.

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Year	Importer	Exporter	Ratio	Importer	Exporter	Ratio
1990	Mexico	Korea	1.020	Korea	Mexico	1.085
1991	Mexico	Korea	2.907	Korea	Mexico	1.693
1992	Mexico	Korea	0.622	Korea	Mexico	2.648
1993	Mexico	Korea	0.707	Korea	Mexico	3.402
1994	Mexico	Korea	0.426	Korea	Mexico	2.726
1995	Mexico	Korea	0.472	Korea	Mexico	1.598
1996	Mexico	Korea	0.407	Korea	Mexico	1.456
1997	Mexico	Korea	0.276	Korea	Mexico	1.949
1998	Mexico	Korea	0.173	Korea	Mexico	3.021
1999	Mexico	Korea	0.158	Korea	Mexico	2.441
2000	Mexico	Korea	0.161	Korea	Mexico	2.564
2001	Mexico	Korea	0.167	Korea	Mexico	3.711
2002	Mexico	Korea	0.175	Korea	Mexico	3.827
2003	Mexico	Korea	0.195	Korea	Mexico	3.938
2004	Mexico	Korea	0.180	Korea	Mexico	3.747
2005	Mexico	Korea	0.182	Korea	Mexico	4.176
2006	Mexico	Korea	0.135	Korea	Mexico	2.927
2007	Mexico	Korea	0.131	Korea	Mexico	2.652
2008	Mexico	Korea	0.113	Korea	Mexico	2.486
2009	Mexico	Korea	0.106	Korea	Mexico	1.995
Average		0.436	Ave	erage	2.702	

Table 10. Mexico and Korea: Bilateral Trade Potential Ratios (Imports)

Some caveats are in order, however. For the fact is that trade does not expand mechanically between two economies just because a given potential for that trade to increase exists. In other words, the mere existence of a given potential is not sufficient for trade between those economies to grow. As Fontoura *et al.* (2006) pointed out, in order for that potential to be realised and be mutually beneficial, the trading partners involved should be willing and able to do what is required

to expand and fully use their respective production and export capacities. Only in this way will those partners be able to take the advantages and reap the benefits an FTA can bring about.

The above has to be observed particularly by the Mexican government in view that South Korea has a more industrialised, more technologically advanced, and more productive economy than Mexico. For once tariffs and non-tariff trade barriers are reduced and eventually eliminated both the volume of goods and services each partner is able to trade with the other and the benefits it can get from the accord in question will depend on their respective production and export capacities.

# 9. The case for a Mexico-South Korea FTA

As it became gradually evident, the results of the various analyses presented in the foregoing sections point to the conclusion that a full FTA between Mexico and South Korea can be a sound strategy for both countries and so support the argument that this initiative should be taken to completion.

The assessment performed with the gravity model showed that there is ample room for South Korean exports to Mexico to increase. In turn, Mexico's consistent trade deficits with South Korea over the last two decades are indicative of a large potential for the latter's exports to expand. In both cases an FTA would create the conditions for reducing those deficits thus levelling off Mexico's trade balance and secure a wider mutual access to their respective markets.

The analysis of direct investment flows pointed in the same direction. The room for those flows to increase is huge for both countries, especially for Mexico whose investments in South Korea have been negligible. This can be possible given the recent surge of Mexican investments in other countries, including some in Asia Pacific, if South Korea's remaining barriers for FDI are abated. Here too, an FTA appears as the most effective instrument for fostering investment flows in both directions.

Also supporting the case for a Mexico-South Korea FTA is the need for Mexico to diversify its foreign trade markets and its sources of FDI. More than 80 per cent of its exports still go to just one of its trading partners, the United States, which led the Mexican government to undertake the comprehensive revision of trade agreements already referred to (Colin 2010). On the other hand, over nine tenths of the FDI received in Mexico in 2008 came from North America (USA 52.2 and Canada 8.2 per cent) and one third (33 per cent) from Europe (Tagle 2008).

South Korea has a more balanced foreign market structure. The main destinations for its exports in 2007 were China with 22.1 per cent, the European Union 14.8 per cent, the United States 12.4 per cent, and Japan 7.1 per cent (WTO 2008, 11). As for FDI, of the total stock accumulated from 1962 to 2010, 34.4 per cent came from Europe (20 per cent from the Netherlands alone), 25 per cent from the United States, and 15 per cent from Japan (http://www.mke.go.kr/).

In any case, the fact is that the exchange between the Mexican and South Korean economies has been below the level it can potentially reach and has been quite meagre in absolute terms. This occurs despite the fact that both countries have participated actively in trans-Pacific organisations, especially APEC, and so have been officially committed to the goal of achieving free and open trade across the Pacific. However, the progress made in this direction through multilateral channels has been exiguous vis-à-vis that made via FTAs.

As for the imbalances in the exchange between the two economies, it is worth considering that Mexico posted a deficit of US\$2.4 billion with the United States in 1993 and that by 2009 it had turned into a surplus topping US\$72 billion under NAFTA (Villarreal 2010, 13-14). On the other hand, Asia Pacific has been a priority region for Mexico since the late 1980s, before entering into the negotiations for NAFTA. Moreover, Latin American markets are considered as a major target in the FTA Roadmap drawn by the South Korean government in 2003.

Today, in the early 2010s, it is time for both governments to live up to those commitments and tap into the myriad opportunities for increasing the economic exchange between their countries an FTA can bring about. After all, an FTA not only opens the way and sets the bases for the economic integration between of the trading partners involved but also cements cooperation in diplomatic and geopolitical matters between them. As (Villarreal 2010, 1) put it, "Economic motivations are generally the major driving force for the formation of [FTAs] among countries, but there are other reasons countries enter into FTAs, including political and security factors". Accordingly, Cheong (2003, 6) observed that "In selecting prospective FTA partners, Korea carefully takes into account all key factors such as economic benefits, political and diplomatic considerations, and domestic constraints, including the vulnerability of the agricultural sector". Since the one Mexico and South Korea have been negotiating for years will not be an exception, it should be viewed as the multi-purpose foreign policy tool it actually is.

Such an agreement could not only permit Mexico to improve its trade balance and diversify its trade with South Korea but also to increase confidence among South Korean investors to invest in Mexico by providing legal and institutional certainty for potential deals over the long run. Likewise, potential benefits would include the possibility for South Korean companies to increase their exports to and their investments in Mexico, especially in the automobile, mining, and steel industries, as well as to participate in public biddings with Pemex, Mexico's state-owned oil company, and thus to invest in its large petrochemical industry.

But in order for the negotiations to move forward South Korea has to ease on its resistance to open up its primary sector markets to Mexican agricultural and agro-industrial products, especially avocado, vegetables, pork, beef, fruit juices, tequila, and processed foods, and, in general, to remove the tariff and non-tariff barriers it still has in place. As for Mexico, it will take a firm political decision on the part of President Calderón to induce the opposing sectors to overcome their fears and reservations and make them willing to face competition from South Korean companies. This is the only way to break with the stalemate where the process has been for as long as four years.

In other words, the probability for this accord to be finalised and signed depends first on the political will the Mexican and South Korean governments are able and willing to display for this purpose. However, the final decision on both sides will ultimately rest on economic considerations about the benefits each government perceives the agreement can potentially generate for its respective country. The study presented in this paper provides information and an objective rationale that can contribute to this latter end.

#### 9.1 Concluding Remarks

As strong advocates of free trade and trans-Pacific integration, Mexico and South Korea share the conviction that an FTA will be mutually beneficial and so have officially pledged to move forward with the negotiations and finally sign the deal. The foregoing section showed that there is sufficient ground for the two governments to do so.

In 2005 the Mexico-Korea 21st Century Commission called for the construction of a comprehensive strategic partnership on the basis that:

"Our two countries are similar to each other in terms of the size of their economy as well their weight in international trade. Both are emergent middle powers internationally, located in the most dynamic region of the world, the Asia-Pacific region. Both aspire to continue to pursue trade-led economic development. Both face several common challenges. And now in broadly comparable stages of development, both economically and politically, the two share the same ultimate goal of achieving national advancement as fully developed democratic countries...But the benefit from cooperation can be reaped to its full potential only when the two countries enter into a long term and comprehensive strategic partnership with each other (21<sup>st</sup> Century Commission 2005, 17-18).

Since, as it was shown in the first section of this paper, FTAs are the most

effective instruments for making free trade a reality, it can properly be asserted that the establishment of a full FTA will be the first substantive step toward the construction of such comprehensive partnership. Nearly five years is too long for the negotiations toward that end to be stalled; it is time to move forward and take them to conclusion.

In 2012 Mexico and South Korea will jointly celebrate the 50<sup>th</sup> anniversary of the establishment of formal diplomatic relations. Therefore this year offers a most propitious context for the two governments to culminate such a long process and finally sign the agreement and thus open a new era of stronger ties and closer cooperation between the two nations. After all, and even though they lie on opposite sides of the Pacific, Mexico and South Korea are said to be destined to become economic twins in the 21<sup>st</sup> century, as Jun Sook Lee Kim and Salvador Ruiz de Chávez (2005) sentenced in the mid-1990s.

# References

- 21<sup>st</sup> Century Commission. 2005. Building a Strategic Partnership between Mexico and Korea for the 21st Century: Vision and Agenda for Cooperation. Report of the Mexico-Korea 21<sup>st</sup> Century Commission, Ministry of Foreign Affairs, Mexican Government.
- Anderson, James E. and van Wincoop, Eric. 2003. "Gravity with gravitas: a solution to the border puzzle." *American Economic Review*, 93(1), 170-92.
- Anderson, James E. 1979. "A theoretical foundation for the gravity equation". *American Economic Review*, 69(1), 106-116.
- Armstrong, Shiro and Peter Drysdale. 2009. "The influence of economics and politics on the structure of world trade and investment flows." EABER Working Paper *Series*, Paper No. 61. Crawford School of Economics and Government, Australian

National University.

- Baldwin, Richard and Phil Thornton. 2008. *Multilateralising Regionalism: Ideas for a WTO Action Plan on Regionalism*. London: Centre for Economic Policy Research.
- Baldwin, Richard E. 1994. *Towards an Integrated Europe*. London: Centre for Economic Policy Research.
- \_\_\_\_\_. 2006. "Multilateralising regionalism: Spaghetti bowls as building blocs on the path to global free trade." *The World Economy*, Journal compilation, 1451-1518. Blackwell Publishing Ltd.
- Bergsten, C. Fred 2007. "Toward a Free Trade Area of the Asia Pacific." Peter G. Peterson. *Policy Briefs in International Economics*, Number PB07 2. *Institute for International Economics*.
- Brüderl, Josef. 2005. "Panel data analysis." University of Mannheim (March). Available at: www2.sowi.uni-mannheim.de/lsssm/veranst/Panelanalyse.pdf.
- Brülhart, Marius and Mary J. Kelly .1999. "Ireland's trading potential with Central and Eastern European countries: A gravity study." *The Economic and Social Review*, 30(2), 159-174.
- Capling, Ann. 2009. "The Trans-Pacific Partnership." *East Asia Forum*, November 23<sup>rd</sup>. Available at: http://www.eastasiaforum.org/2009/11/23/the-trans- pacific-partnership/ print.
- Cheong, Inkyo. 2003. "Korea's FTA policy." Paper presented at the *PECC Trade Forum*. Phuket, Thailand. (May 25).
- Díaz, Ulises. 2010. "Arranca este año revisión de pactos." Mural, 01 June. Available at: http://busquedas.gruporeforma.com/mural/Documentos/printImpresa.aspx? DocId= 721205-2025&strr=Arrancaesteañorevisióndepactos.
- DGIE. 2006. "Inversión de Corea del Sur en México." Directorate General for Foreign Investment, Ministry of the Economy.

- Egger, Peter H. 2002. "An econometric view on the estimation of gravity models and the calculation of trade potentials." *The World Economy*, Vol. 25, Issue 2, 297-312.
- Egger, Peter H. and Michael Pfaffermayr. 2003. "The proper panel econometric specification of the gravity equation: A three-way model with bilateral interaction effects." *Empirical Economics*, 28, 571-580.
- Fontoura, Maria Paula, Enrique Martínez-Galán, and Isabel Proença. 2006. "Trade potential in an enlarged European Union: A recent approach." Department of Economics, School of Economics and Management (ISEG), Technical University of Lisbon. Working Papers Series No. 2006/08. Available at: <a href="http://129.3.20.41/eps/it/papers/0508/0508011.pdf">http://129.3.20.41/eps/it/papers/0508/0508011.pdf</a>.
- Frees, Edward H. 2004. Longitudinal and Panel Data: Analysis and Applications in the Social Sciences. New York: Cambridge University Press.
- Garnaut, Ross. 2004. "A new open regionalism in the Asia Pacific." Paper presented at the *International Conference on World Economy*, Colima, Mexico, November 25. Available at: http://www.rossgarnaut.com.au/Documents/A%20New%20 Open%20Regionalism%20in%20the%20Asia%20Pacific%202004.pdf.
- Harris, Mark N. and Lázló Mátyás. 1998. "The econometrics of gravity models." Melbourne Institute Working Paper No. 5/98, University of Melbourne. Available at: http://melbourneinstitute.com/wp/wp1998n05.pdf.
- Hausman, Jerry A. 1978. "Specification tests in econometrics." *Econometrica*, Vol. 46, No. 6, 1251-1271.
- Head, Keith. 2003. "Gravity for beginners." Faculty of Commerce, University of British Columbia. Available at: http://faculty.arts.ubc.ca/nmalhotra/490/ Articles/KHead %20on%20gravity.pdf.
- Hernández, Antonio. 2010. "Corea del Sur pide TLC con México; empresarios se oponen." *Milenio*, 01 July. Available at: http://www.milenio.com/node/477622.
- Hsiao, Cheng. 2003. Analysis of Panel Data. Cambridge: Cambridge University Press.

- Hwang, Doo-yun. 2001. "Korea's international trade policy in the global age." *East Asian* Review, Vol. 13, No. 3, 3-20.
- Kawai, Masahiro and Ganeshan Wignarajav. 2008. "Regionalism as an engine of multilateralism: A case for a single East Asian FTA." *Working Paper Series* on Regional Economic Integration No. 14. Asian Development Bank.
- Kim, Han-soo. 2005. "Korea's FTA policy: present situation and future prospects." Paper presented at the 2005 Korea-U.S. Policy Forum, December 12, Seoul, South Korea.
- Kim, Jun Sook Lee and Salvador Ruiz de Chávez. 1995. México-Corea ¿Gemelos Económicos para el Siglo XXI? (Mexico-Korea: Economic Twins for the 21st Century?) México: Grupo Editorial Iberoamérica.
- Linnemann, Hans. 1966. An Econometric Study of International Trade Flows. Amsterdam: North Holland.
- Martínez Zarzoz, Inmaculada and Felicitas Nowak Lehmann. 2003. "Augmented gravity model: an empirical application to MERCOSUR-European Union trade flows." *Journal of Applied Economics*, VI(2), 291-316.
- McCallum, John. 1995. "National Borders Matter: Canada-U.S. Regional Trade Patterns." *American Economic Review*, 85(3), 615-623.
- Nello, Susan Senior. 2008. *The European Union: Economics, Policies and History.* Maidenhead, England: McGraw Hill Education.
- Ozdeser, Huseyin and Dizem Ertac. 2010. "Turkey's trade potential with Euro Zone countries: A gravity study." *European Journal of Scientific Research*, 43(1), 15-23. Available at: http://www. eurojournals.com/ejsr\_43\_1\_02.pdf.
- Qi, Shouhua, 2000. Bridging the Pacific: Searching for Cross-Cultural Understanding between the United States and China. San Francisco: China Books and Periodicals, Inc.
- Rahman, Mustafizur, Wasel Bin Shadat, and Narayan Chandra Das. 2006. "Trade potential in SAFTA: An application of augmented gravity model." Centre for

Policy Dialogue, Paper 61. Available at: http://www.cpd-bangladesh.org.

- Ravenhill, John. 2009. "Can the TPP resolve the 'Noodle Bowl' problem?" East Asia Forum, 26 November. Available at: http://www.eastasiaforum. org/2009/11/26/ can-the-tpp-resolve-the-noodle-bowl-problem/print/
- Rojas, Esteban. 2010. "Invierten mexicanos cinco mil mdd en el exterior de abril a junio." *El Financiero*, August 26. Available at: http://impreso.elfinanciero. com.mx/pages/Ejemplar.aspx?IdNota=293527.
- Romero, María Elena. 2011. "El acercamiento de México a Asia Pacífico. Hacia la firma de un acuerdo con la República de Corea y un balance del Acuerdo de Asociación Económica con Japón." *Asian Journal of Latin American Studies*, 24(1), 29-52.
- Santos Silva, J. M. C. and Silvana Tenreyro. 2005. "The log of gravity." CEPR Discussion Paper No. 5311. (October) Available at SSRN: http://ssrn.com/ abstract=872865.
- Tagle, Alejandro. 2008. "Inversión extranjera directa en México". Foreign Investment National Registry, Mexican Ministry of the Economy.
- Tang, Yihon and Weiwei Wang. 2006. "An analysis of the trade potential between China and ASEAN within China-ASEAN FTA." University of International Business and Economics, Beijing, China. Available at: http://faculty .washington. edu/karyiu/confer/beijing06/papers/ tang.pdf.
- Tienhaara, Kyla. 2011. "Preserving the right to regulate in the Trans-Pacific Partnership agreement and beyond." *East Asia Forum*, April 25<sup>th</sup>. Available at: http://www.ea stasiaforum. org/2011/04/25/preserving-the-right-to-regulate-in-the-trans-pacific-partnership-agreement-and-beyond/print/
- Tinbergen, Jan. 1962. Shaping the World Economy: Suggestions for an International Economic Policy. New York: The Twentieth Century Fund.
- Velazco, Jorge. 2010. "Solicita Corea concretar TLC." Mural, August 11. Available at: http://busquedas.gruporeforma.com/mural/Documentos/DocumentoImpresa.as px.

- Villarreal, M. Angeles. 2010. "Mexico's free trade agreements." U. S. Congressional Research Service, Report No. R40784. Available at: http://www.fas.org/ sgp/crs/row/R40784.pdf.
- Wang, Zhen Kun and L. Alan Winters. 1991. "The trading potential of Eastern Europe." Centre for Economic Policy Research, Discussion Paper No. 610. (November).
- WTO. 2008. "Trade Policy Review: Republic of Korea." World Trade Organisation, Report WT/TPR/S/204/Rev.1.
# Appendix

# Table A1. Mexico's Trade Balance with Korea, 1965-1989

			(Unit: Thousand US dollars)
Year	Exports	Imports	Balance
1965	390.118	18.703	371.415
1966	375.018	5.754	369.264
1967	409.944	43.241	366.703
1968	305.442	89.881	215.561
1969	908.423	32.427	875.996
1970	241.216	719.656	-478.44
1971	194.498	1348.019	-1153.521
1972	130.685	1267.089	-1136.404
1973	168.901	1432.348	-1263.447
1974	946.193	5764.069	-4817.876
1975	119.51	811.288	-691.778
1976	455.761	1863.742	-1407.981
1977	2363.804	10066.21	-7702.407
1978	5035.86	4174.903	860.957
1979	8784.154	1937.559	6846.595
1980	15899.04	33468.92	-17569.885
1981	68051.71	26312.15	41739.56
1982	152799.1	25434.69	127364.416
1983	136621.6	23186.06	113435.51
1984	157701.7	18915.72	138786.004
1985	102887	14601.44	88285.573
1986	90761	19653	71108
1987	95645.87	27804.09	67841.784
1988	98092.42	113897.9	-15805.48
1989	51331.01	161052.4	-109721.392

Source: United Nations Commodity Trade Statistics Database (UN Comtrade).

		(	Unit: Thousand US dollars)
Year	Exports	Imports	Balance
1990	101961	184560	-82599
1991	33781	84718	-50937
1992	43753	463983	-420230
1993	26947	475764	-448817
1994	37850	937989	-900139
1995	88337	770560	-682223
1996	337711	1059374	-721663
1997	212998	1641173	-1428174
1998	136287	1822402	-1686115
1999	150258	2780215	-2629957
2000	293972	3689619	-3395647
2001	208509	3531353	-3322844
2002	161846	3909340	-3747494
2003	181410	4112549	-3931139
2004	110780	5227476	-5116695
2005	241842	6495910	-6254068
2006	457495	10621409	-10163914
2007	680568	12613700	-11933132
2008	537605	13527288	-12989684
2009	498752	10946194	-10447442

#### Table A2. Mexico's Trade Balance with Korea, 1990-2010

Source: United Nations Commodity Trade Statistics Database (UN Comtrade).

# Table A3. Agreements for the Promotion and Reciprocal Protection of Investments signed by Mexico

Partner	Signed	Senate approval	Published in Official Gazette	Entered into force
		Asia and O	ceania	
Australia	23 August 2005	21 February 2006	12 June 2007	18 July 2007
China	11 July 2008	31 March 2009	05 June 2009	06 June 2009
South Korea	14 November 2000	16 April 2002	28 June 2002	09 August 2002
India	21 May 2007	11 December 2007	05 March 2008	23 February 2008
		Latin America and	the Caribbean	
Argentina	13 November 1996	24 April 1997	28 August 1998	22 July 1998
Cuba	30 May 2001	11 December 2001	3 May 2002	29 March 2002
Panama	11 October 2005	04 April 2006	19 December 2006	14 December 2006
Trinidad & Tobago	3 October 2006	6 March 2007	12 September 2007	16 September 2007
Uruguay	n. a.	n. a.	n. a.	1 July 2002
		Europ	2	
Germany	25 August 1998	14 December 1998	20 March 2001	23 February 2001
Austria	29 June 1998	14 December 1998	23 March 2001	26 March 2001
Belarus	04 September 2008	28 April 2009	Pending	Pending
Denmark	13 April 2000	28 April 2000	30 November 2000	23 September 2000
Spain	22 June 1995	16 November 1995	5 16 March 1997	18 December 1996
opani	10 October 2006	26 April 2007	19 May 2008	04 April 2008
Slovakia	26 October 2007	02 December 2008	03 April 2009	08 April 2009
Finland	22 February 1999	17 April 2000	30 November 2000	21 August 2000
France	12 November 1998	17 April 2000	30 November 2000	11 October 2000
Greece	30 November 2000	26 April 2001	11 October 2002	17 September 2002
Iceland	24 June 2005	06 December 2005	06 June 2006	28 April 2006
Italy	24 November 1999	17 April 2000	17 January 2003	04 December 2002
Netherlands	13 May 1998	14 December 1998	10 July 2000	01 October 1999
Portugal	11 November 1999	17 April 2000	08 January 2001	04 September 2002
United Kingdom	12 May 2006	26 April 2007	25 July 2007	25 July 2007
Czech Republic	04 April 2002	29 October 2002	25 March 2004	14 March 2004
Sweden	03 October 2000	03 April 2001	27 July 2001	01 July 2001
Switzerland	10 July 1995	16 November 1995	5 20 August 1998	11 March 1996
Belgium-Lux	27 August 1998	14 December 1998	19 March 2003	20 March 2003
Union				

Source: The author's with data from the Under Ministry of International Trade Negotiations, Ministry of the Economy, Mexican Government.

Importer \ Exporter	AUS	BRN	CAN	CHL	CHN	HKG	IDN	JPN	KOR	MYS	Average
Australia	0.000	0.211	2.569	1.555	0.924	1.677	1.557	2.388	0.981	0.282	1.214
Canada	1.841	23.976	0.000	0.659	0.622	2.689	1.779	2.106	0.748	0.316	3.474
Chile	6.238	0.000	3.656	0.000	0.730	8.769	2.705	3.248	0.323	1.394	2.706
China	0.032	0.162	0.126	0.008	0.000	0.238	0.103	0.279	0.157	0.020	0.112
Hong Kong	2.480	35.705	2.804	0.000	0.789	2.648	0.000	2.300	1.104	0.342	4.817
Indonesia	0.421	0.134	0.591	0.000	0.533	0.372	0.000	0.696	0.281	0.337	0.336
Japan	0.194	0.056	0.766	0.095	1.313	4.851	0.260	0.000	2.684	0.141	1.036
Korea	0.216	0.112	0.984	0.076	3.800	2.661	0.345	3.459	0.000	0.186	1.184
Malaysia	0.804	2.805	1.840	0.841	1.003	0.523	1.461	0.918	0.514	0.000	1.071
Mexico	1.480	103.854	1.052	0.297	0.189	0.870	0.592	0.630	0.106	0.048	10.912
New Zealand	3.667	0.172	8.480	23.885	3.630	7.945	5.415	9.085	3.197	1.149	6.663
Peru	10.279	2208.581	5.579	0.927	0.784	6.377	4.243	3.120	0.713	0.790	224.139
Philippines	1.162	3.611	2.100	0.616	2.835	1.098	0.723	1.954	0.731	0.336	1.517
Russia	1.906	9365.353	3.005	0.829	0.807	16.400	1.705	1.725	0.519	0.423	939.267
Singapore	1.652	6.041	3.484	2.031	1.855	1.667	2.696	2.179	0.592	1.941	2.414
Taiwan	0.576	341.441	2.379	0.159	3.863	9.867	0.829	2.132	1.949	0.432	36.363
Thailand	0.341	0.818	1.367	0.546	0.986	1.015	0.789	0.470	0.487	0.327	0.715
United States	0.427	1.183	0.944	0.221	0.086	0.288	0.145	0.287	0.118	0.033	0.373
Viet Nam	0.464	0.000	1.643	0.305	0.644	0.732	0.590	0.882	0.222	0.200	0.568

Table A4. Trade potential ratios among APEC economies 2009 (I) (Imports)

Importer / Exporter	MEX	NZL	PNG	PER	PHL	RUS	SGP	THA	USA	VNM	Average
Australia	3.318	0.719	0.087	4.711	3.940	13.770	0.195	0.210	2.066	0.263	2.928
Canada	0.992	1.085	16.730	0.460	0.934	6.199	0.602	0.472	9.598	0.388	3.746
Chile	2.039	7.699	61.856	1.786	3.134	42.026	2.957	1.234	3.951	0.618	12.730
China	0.207	0.059	0.053	0.021	0.075	0.147	0.034	0.049	0.174	0.136	0.096
Hong Kong	2.025	1.288	6.724	4.310	1.649	7.073	0.291	0.863	1.963	5.268	3.145
Indonesia	2.518	0.248	0.445	1.425	1.050	2.156	0.165	0.250	0.759	0.452	0.947
Japan	1.480	0.375	0.165	0.273	0.601	1.061	0.370	0.234	1.053	0.248	0.586
Korea	1.995	0.420	0.237	0.235	0.863	0.949	0.169	0.753	1.074	0.520	0.722
Malaysia	2.028	0.471	0.252	7.834	1.085	8.285	1.199	0.636	0.786	0.427	2.300
Mexico	0.000	0.635	67.466	1.852	0.180	4.115	0.135	0.139	0.915	0.171	7.561
New Zealand	21.888	0.000	3.698	26.487	7.909	19.067	0.769	1.400	10.483	3.328	9.503
Peru	3.301	5.580	193366.710	0.000	5.966	5.045	2.897	0.651	5.895	1.066	19339.711
Philippines	6.547	0.295	0.062	0.370	0.000	3.264	0.152	0.354	0.906	0.304	1.225
Russia	5.719	1.150	2.793	6.628	2.357	0.000	0.639	0.818	3.458	0.409	2.397
Singapore	3.216	1.151	1.328	13.071	0.715	2.494	0.000	1.334	1.054	1.015	2.538
Taiwan	4.570	0.817	7.419	0.558	3.378	2.024	0.389	1.312	1.366	2.208	2.404
Thailand	2.351	0.440	0.191	1.682	0.554	1.060	0.333	0.000	0.991	1.046	0.865
United States	0.148	0.218	0.360	0.402	0.107	0.557	0.048	0.059	0.000	0.034	0.193
Viet Nam	1.898	0.252	0.686	0.353	1.130	0.577	0.064	0.361	1.292	0.000	0.661

Table A5. Trade potential ratios among APEC economies 2009 (II) (Imports)

# Dataset sources and rationale

# Countries

The 21 APEC member economies which thus became the panel units in the model

#### Period

The period chosen for the study encompasses 20 years, from 1990 to 2009, on the basis that it is long enough for a gravity model fitted on panel data and covers virtually all of APEC's lifespan. Another reason was because it is a period for which more data were available in the relevant databases for all the countries and all the variables considered in the model.

#### Sources

Most bilateral trade flows data (imports) were taken from the United Nations Commodity Trade Statistics Database (UN Comtrade), where data were available for all APEC countries for that period, except for Taiwan. In the case of the latter, imports data were gotten from the Taiwanese Ministry of Finance's statistical database. UN Comtrade data were available from the SITC Revision 2 product nomenclature.

The countries with incomplete entries presented data for the following years: Brunei Darussalam: 1990-1994, 1997-1998, 2001-2004, and 2006; Papua New Guinea: 1990, 1998, and 2000-2004; Russia: 1996-2009; and Viet Nam: 1997-2009. Data on all the other explanatory variables included in the model were restricted to the years for which data on imports were available. In other words, the size and extent of the dataset were determined by the availability of data on imports.

Data on gross domestic product (GDP) - both total and per capita - were

taken from the World Bank's National Accounts Database; the figures are in current US dollars and were determined through the World Bank's Atlas method. The missing entries for Brunei's GDP (2007-2009) were obtained by converting the GDP figures for those years (in Brunei current dollars) into current US dollars using a mid-year exchange rate taken from the Oanda.com website. The missing entry for Hong Kong (2009) was taken from the IMF statistics at the Trading Economics.com website.

Data on GDP and GDP per capita for Taiwan were taken from the World Economic Outlook Database (October 2010) of the International Monetary Fund.

#### Size

Given that the Comtrade database contains numerous missing entries, the total number of observations (7149) fell short of the total possible (8400), i.e., n (n-1) \* t. Accordingly, the number of country pairs (398) also fell short of the total possible (420).

In those cases, the criterion was to drop the missing observations from the sample. Other, more desirable options would have been to enter zeros in those entries or to use techniques such as Tobit procedures which take account of truncated data. However, these procedures are more complicated and, besides, as Baldwin (1994, 72) noted, "most studies show that the resulting estimates are not substantially affected by the choice of approach."

# Trade and Investment Potential among BCIM Countries

Prospects for a Dynamic Growth Quadrangle

Mohammad Masudur Rahman

# 1. Introduction

Most of the trade theories address a qualitative question of identifying the trade pattern, with the other important question being and how much trade in goods and services are taking place. The understanding of the determining factors of trade is an important task in policy formulation. The thriving empirical study can estimate the volume of unrealized trade flows and suggest desirable trade partners and markets.

The BCIM forum, which is a Track-II initiative<sup>30)</sup> floated in 1999 comprising Bangladesh, China, India and Myanmar, is an effort primarily from the non-government sector of the countries involved, intending to influence policymakers, business people and government representatives to boost regional cooperation by transferring it into growth quadrangle or regional economic

<sup>30) &</sup>quot;Track-II" initiatives are initiatives taken by the non-government sector, whereas initiative taken by the governments are known as "Track-I" Initiatives.

development area (REDA). Recently, during the visit of the Bangladeshi Prime Minister in Beijing, the summits issued a joint communiqué and agreed to actively participate in and promote the BCIM regional economic cooperation process (March 19, 2010 Financial Express). The ongoing pace of worldwide formation of sub-regional forums or Growth Zones could play an important role from strengthened global integration of the member countries in the Growth Zones. Deeper integration among the member countries could help create broader possibilities of business opportunities in many diversified areas. Available studies indicate several advantages emanating from regional or sub-regional forums or growth zones. These advantages include, among others (i) easy market access; (ii) widened scope for achieving complementarities among countries in the grouping; (iii) economic development within and outside the zone utilizing efficient use of resources; and (iv); transfer of technology.

The idea of Growth Zones in the literature of Development Economics and the success of existing growth zones- Mekong Sub-region (GMS) Growth Triangle, Southern China Growth Triangle and the Growth Triangle comprising the Johor state of Malaysia, Singapore and the Riau islands of Indonesia- strongly encouraged the non-government sectors of these countries to engage in debates on forming a growth zone comprising these four countries. It is argued that formation of growth zones will initiate faster economic growth by increasing efficiency in the use of the region's untapped resources, ESACP (2002). Resource endowments in the BCIM region are different from one another, which also supports the pre-condition for this type of regional integration. China and India have comparatively better technology, more efficient labor force, and improved physical and commercial infrastructure. On the other hand Bangladesh and Myanmar have large pools of unskilled and semi-skilled labor, and basic and intermediate technology. The sectoral composition of GDP of these countries also confirms the complementarities of economic activities among these countries, which shows the industrial sector dominant in China (52 per cent of total GDP in FY 2009), agriculture sector in Myanmar (50 per cent of total GDP in FY 2009) and services sector in India

and Bangladesh (56 per cent and 49 per cent of total GDP in FY 2009). Along with strong cultural connections, geographical proximity and the presence of huge informal border trade among the countries all give cause for optimism in forming a regional trading block comprising these four countries.

The gravity model has become a powerful force in trade research in recent years because of the model's empirical success. There are plenty of empirical studies explicitly focused on trade flows and trade barriers in a gravity model framework (Tinbergen 1962; Poyhonen 1963; Wilson and Otsuki 2005; Baldwin and Taglioni 2006; Helble, Shepherd and Wilson 2007; Hoekman and Nicita 2008; Duval and Utoktham 2009). Gravity model has also been used to estimate bilateral trade potential (Batra 2004; Chan Sohn 2005; Kalirajan and Bhattacharya 2007; Christos Papazoglou 2007; De 2009). One of the advantages of the gravity model is that it can provide a convincing analytical framework for various trade policy options.

# 2. Rationale of the Study

The BCIM sub-regional economic cooperation is considered to have the potential to generate enormous benefits for the region in general and the weaker parts of the region in particular. The share of intra-regional trade within BCIM countries increasing overtime (e.g. in year 1990) was 1.1 per cent of total world trade, and reaching 4.5 per cent by year 2009. However, in case of intra-regional trade it trails far behind its neighboring economic blocs, e.g. ASEAN (35 per cent of total trade in 2009) and other very attractive growth zones. Against the backdrop of this tendency toward low trading activity, non-government sectors of these countries have put forward a proposal to form a growth quadrangle comprising these four countries.

A comprehensive market access to the larger economies such as India and

China could open up opportunities for diversifying and expanding export capacity of the less developed economies of the regional grouping, such as Myanmar and Bangladesh. Cooperation arrangements among these geographically contiguous areas could provide opportunities for expanded legal trade with positive welfare implications for the local economies and the local population. Deeper integration among members of the BCIM could create opportunities for technology transfer to poor countries like Myanmar and Bangladesh. These countries could reap the benefits of the relatively advanced technological endowments of India and China which, in time, could help these countries to develop at a faster pace.

In addition, the region has a very significant resource in the form of a huge reserve of natural gas in Bangladesh and NEIs. Also, there is a very large reserve of coal in West Bengal and Assam. Proper implementation of this sub-regional cooperation could combine the resources of the constituent members to gain competitive edge in attracting both domestic and foreign investments and promoting export for the mutual benefit of the members involved. (Rahman *et al.* 2007).

Together with the economic factors, strong cultural affinity, the geographical proximity and the presence of a huge informal border trade among the countries also provide strong optimism for forming a regional trading bloc comprising the BCIM. Again, BCIM cooperation is expected to help revive the centuries-old Silk Road running from Chittagong to Yunnan through Myanmar, a fact that will help facilitate transit and thus trade among these countries. The potential benefit of utilizing the two ports in Bangladesh, i.e., Chittagong and Mongla, is a vast increase in trade and investment in this region and will be particularly beneficial to India in communicating with its "Seven Sisters" provinces, i.e., Arunacha, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. For the above reasons, this cooperation is expected to bring about a process that reveals growth potential for the region as a whole, and for northeast India, southwest China and the two least developed country members, Bangladesh and Myanmar, in particular. In this context, to foster BCIM cooperation and make policy-makers more proactive, an in-depth analysis of the potential outcome of closer integration among the four

countries should be carried out.

### 2.1 Review of Literature

Since the BCIM initiative is still a work in progress, to date there have been very few studies that have attempted to quantify the potential gains and losses that would be generated as a result of implementing this initiative, especially ex-ante analyses; rather, almost all the papers are based on theoretical foundations of regional trading blocs.

A gravity analysis of the Andean Community (AC) and MERCOSUR by Carrillo and Li (2002) concluded that the presence of common borders and availability of land transportation would create 5.7 times and 3.1 times more trade between the countries, respectively, compared with countries that did not have those features. The similarities in culture and closer proximity among the countries can increase the potentiality of economic integration among South Asian countries (De and Bhattacharyay 2007). The increase over time of trade complementarity indices (TCI) in the South Asian Association for Regional Cooperation (SAARC) gives grounds for strong optimism that greater opportunity will arise for intra-regional trade.

A study on BCIM economic cooperation by Rahman *et al.* (2007) concluded that depending on the market size and the different stages of economic development, together with their proximity in terms of geographical location, a huge potential exist for trade and investment complementarities among BCIM countries. Using different trade indices, such as Regional Orientation Index (RTOI), Grubel-Lloyd Index (GLI) and Trade Intensity Index (TII), they illustrated the scope of regional integration among those countries. Rahman and Alamin (2009) has quantified the potential impact of economic cooperation among BCIM countries by conducting a SMART simulation exercise and predicted that the merchandise trade among BCIM countries might increase to the extent of USD 5.7 billion, USD 4.1 billion,

and USD 2.7 billion respectively under full, moderate and partial tariff liberalisation scenarios. It concluded that the BCIM region has the potential to form a sub-regional growth quadrangle among northeastern India, southwestern China, Bangladesh and Myanmar with expanding cooperation in transportation, energy and the tourism sector. Therefore, a case can be argued for supporting BCIM formation as an entity, especially for the larger economies of this regional cooperation initiative, i.e., China and India.

Other studies that have made use of gravity modeling have highlighted the important role of infrastructure on international trade. For example, Shepherd and Wilson (2009) find that bilateral trade flows in the Southeast Asia region are sensitive to transport infrastructure. Nordås and Piermartini (2004) have proved that infrastructure quality is a significant factor in trade performance. The above brief review of related literature shows that there is not a single study examining the trade potential among BICM countries using the gravity model, this study is the first-ever attempt to estimate the trade potential of BCIM countries using the dynamic gravity model.

# 2.2 Objective of the study:

The main objective of this study is to explore the trade and investment potential within the province of sub-regional cooperation comprising four contiguous countries of Bangladesh, China, India and Myanmar (BCIM). This study addresses both intra-regional and intra-industrial trade, applying dynamic gravity model of bilateral trade flows by product group in BEC's 1-digit product classification to set a panel data for the period 1992-2009. The specific objectives are (i) to assess the trade interdependence or regionalization using the intensity of intra-regional trade index as well as intra-industry trade using Grubel and Lloyd index of the BCIM trading block, (ii) to estimate the trade potential of BCIM using the augmented gravity model and (iii) explore possible ways for greater cooperation

regarding regional development of the BCIM quadrangle commercial hub.

# 3. Current Status of Trade and Investment Flows among the Member Countries

# 3.1 Profile of the BCIM

The total geographical area of the BCIM is 13.7 million sq. kms (9% of world area) with a population estimated at 2.7 billion constituting roughly 40 per cent of the world population. The GDP of these four constituent countries together is estimated at US\$ 5.7 trillion or approximately 10 percent of the total GDP of the world. Yet, the region is also inhabited by about half of the poor people in the Asia-Pacific.

The total area of Bangladesh is 144,000 square kilometers with a population of 160 million, making it the most densely populated country within the BCIM. It shares a 4,053 kilometer border with India and a 193 kilometer border with Myanmar. The population of the People's Republic of China is 1.4 billion, occupying an area of 9,598,100 square kilometers. This makes China the most populous and largest country within the BCIM. China's border with Myanmar is 2,185 kilometers; its border with India is 3,380 kilometers, out of 22,117 total kilometers of borders it shares with other countries. India also shares 1,463 kilometers with Myanmar. India has a population of 1.1 billion occupying an area of 3,287,300 square kilometers. Myanmar has total land area of 676,600 square kilometers with a population of 54.30 million (Asian Development Bank, 2005). It shares 2,185 kilometers of border with China; 1,463 kilometers with India in the northeast sector and 193 kilometers with Bangladesh.

Yunnan is a landlocked province in Southwest China, bordering Myanmar, Laos and Vietnam. Yunnan covers an area of 394,100 square kilometers and has a population of 45.5 million. As for Northeast India, there are eight provinces demarcated broadly on tribal and ethnic lines: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The combined areas of these provinces are 255,000 square kilometers, or about eight percent of the total area of India. It has a population of 40 million which represents roughly 4 percent of all India. The topography of North East India is hilly, with hills covering about 70 per cent of the area.

The complementarities in natural resources and shared history among different ethnic groups in the frontier areas provide scope for cooperation in the sub-region. Most of the tribes, ethnic groups or nationalities in Northeastt India trace their origin to south of Yalung river or Shenlong/Chinlongshan in Southwest China. The Kachins or Jingpos/Singphos, are spread over India, Southwest China and Myanmar. Similarly the Meiteis of Manipur are close to the Shans of Myanmar, one of the three Tai/Dai nationalities spread over Yunnan and parts of Southeast Asia.<sup>31)</sup> Some prominent groups like the Ahoms in Assam are close to the Dai and Shans of Yunnan and Myanmar and the Thais of Thailand. The Khasis of Meghalaya, one of the few matrilineal societies in India, migrated from Red River Delta in Vietnam passing through Myanmar and Yunnan.<sup>32</sup>) Muslim populations are also widely present in Bangladesh, many parts of Northeast India and parts of Myanmar. These natural and social environment makes the sub-region fertile ground to experiment with whether the "process of cultural recognition or socialization of collective identity" can make for an ideal and meaningful cooperation through commonality of "ideas, culture and identities."33)

<sup>31)</sup> Heishnam Nilakanta, "Meitei-Shan Relation," www.manipuronline.com/Archives/Feature/2002 /February/February2002.htm.

<sup>32)</sup> Sanjib Baruah (2004), Between South and South East Asia: North East India and The Look East Policy, p. 19. (Guwahati, India: Centre for North East India, South and Southeast Asia Studies) www.ceniseas.org/publications/sanjib\_baruah.pdf.

<sup>33)</sup> Wang Zhengyi (2003), "Contending East Asian Regional Identity: Market-Led, Institutions, Social Reconstruction," Proceedings of 3rd Annual Fellows' Conference of the Asian Scholarship Foundation, 1-2 July, Bangkok, Thailand, CD-ROM, pp. 10-11.

# 3.2 Status of Trade

#### 3.2.1 BCIM Trade in Global Perspective

With respect to the size of total trade turnover of the economies of the BCIM countries is reckoned to be rather very low. In 2009 BCIM trade accounted for only 9.1 percent of the world trade. Combined share of the forum in world exports and imports are estimated at 10.2 percent and 8.1 percent respectively (Table 1). In terms of contribution, China stands at the top followed by India and Bangladesh in terms of both world exports and imports. China stands out as the only net exporter country among the countries of the BCIM grouping.

Export to the World									
BCIM	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bangladesh	5590	5736	5443	6229	7586	8494	11697	12731	13627
China	249208	266709	325744	438364	593358	762337	968936	1220060	1430694
India	42626	45228	50496	61119	75385	97918	121201	145899	181861
Myanmar	1979	2634	2773	2770	3159	3701	4382	4755	6566
Total BCIM Exports	299403	320306	384456	508482	679488	872451	1106216	1383445	1632748
Total World Exports	6386460	6140180	6428450	7495310	9115210	10343100	11969500	13850000	16018200
BCIM Exports as % of World	4.69	5.22	5.98	6.78	7.45	8.44	9.24	9.99	10.19
Import from the World									
BCIM	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bangladesh	9001	9012	7848	9835	11590	13851	16096	18476	23821
China	225175	243567	295440	412836	561422	660218	791795	956264	1190010
India	50336	59025	58912	74070	99835	134690	186618	249566	300539
Myanmar	3039	2662	2967	3226	3452	3569	3848	5521	6995
Total BCIM Import	287551	314265	365167	499967	676299	812328	998357	1229827	1521365
Total World Import	6591170	6391540	6640610	7755550	9468770	10735600	12377100	14359600	16694700
BCIM's Import as % of World	4.36	4.92	5.50	6.45	7.14	7.57	8.07	8.56	8.07

Table T. Pattern of Bully Trade (2001-20	Table
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(Unit: US\$ Million)

Note: Export Data are taken as FOB and Import Data are CIF.

Source: Estimated from IMF; Direction of Trade Statistics Database, August-2010.

							(I	11 0.5\$	winnon)
Intra-BCIM Export and as	s percer	tage of	BCIM	Exports	relative	e to Wo	orld		
BCIM	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bangladesh	60	67	52	71	99	167	250	327	417
China	2957	3359	4466	5586	8771	12275	18750	29081	37932
India	1667	2685	2924	4396	5908	8188	11529	15902	24270
Myanmar	296	320	460	540	576	728	809	1053	1468
Total BCIM Export	4980	6430	7902	10592	15354	21358	31338	46363	64087
% of Total Export to World	1.66	2.01	2.06	2.08	2.26	2.45	2.83	3.35	3.93
Intra-BCIM Imports and a	as perce	ntage o	f BCIM	Import	s relativ	ve to W	orld		
BCIM	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bangladesh	1635	1988	2080	2618	3218	3854	4421	5448	7093
China	1494	1851	2443	4454	7941	10133	10800	14536	20295
India	1708	2358	3010	4202	6534	10427	16810	27409	36826
Myanmar	600	606	877	1096	1147	1152	1482	2054	2421
Total BCIM Import	5436	6803	8410	12371	18840	25566	33513	49447	66635
% of World's Import	1.89	2.16	2.30	2.47	2.79	3.15	3.36	4.02	4.38

#### Table 2. Intra-BCIM Trade As Compared To World Trade during 2000-2009

(in US\$ Million)

Note: Export Data are taken as FOB and Import Data are CIF.

Source: Estimated from IMF; Direction of Trade Statistics Database, August-2010.

In the period since 2000 intra-BCIM trade has recorded an impressive average annual growth rate of 50 percent, which gathered greater momentum in the last couple of years. Total intra-BCIM trade turnover increased from US\$46924 million in 2005 to US\$95810 million in 2009. Nevertheless, intra-BCIM trade turnover accounts for only 4.2 percent of total world trade turnover demonstrating very limited reliance on the constituent members of the cooperation. It is also seen from relevant data that the two large economies in the group, China and India, are the key players in the intra-regional trade, registering 47.8 percent and 39.7 percent of total trade respectively in 2005, but the share of China has decreased to 44.56 percent in 2008 while that of India increased to 46.74 percent due to increased import from China (Table 2).

# 3.2.2 Status of Intra-BCIM Trade

Cross country trade flow data for each constituent member of the BCIM grouping is presented in Table 3 through Table 6. Data presented in Table 3 reveals that Bangladesh's total trade turnover with the rest of the BCIM sub-regional grouping has increased at an average annual compound rate of 46.5 percent from 2005 to 2009 as opposed to a mere 18.4 percent from 2000 to 2005. Since 2002 Bangladesh's export to both China and India has increased significantly. However, in terms of both exports and imports, India stands out as the largest trading partner for Bangladesh in the region, accounting for 51.0 percent of the total trade turnover with the forum. The share of India and China in Bangladesh's global trade is estimated to be 10.2 percent and 9.5 percent respectively in 2009.

Table 4 showing China's trade flow with the rest of the BCIM members reveals that both export to and import from these countries has been increasing over the recent past. In 2009 total trade recorded a growth of 33.5 percent over the previous year, helped by a 30.4 percent growth in exports and 39.6 percent growth in imports.

								,			
	Bang	Bangladesh Export to CIM				Bangladesh Imports from CIM					
	1995	2000	2005	2008	1995	2000	2005	2009			
China	18	10	46	94	601	668	1870	3498			
India	36	50	119	318	994	945	1951	3511			
Myanmar	2	1	2	4	5	22	32	83			
Total Export to /Import from CIM	56	60	167	417	1599	1635	3854	7093			
Total Export to/Import from World	3129	5590	8494	13628	6496	9001	13851	23821			
% of BD's total Export/ Import	1.79	1.07	1.97	3.06	24.62	18.16	27.82	29.78			

Table 3. Bangladesh's Trade with CIM Countries 2005- 2009

(Unit: million US\$)

Note: Export Data are taken as FOB and Import Data are CIF. Source: Estimated from IMF; Direction of Trade Statistics Database, August-2010.

#### Table 4. China's Trade with BIM Countries

(Unit: million US\$)

	Chi	na's Exp	oort to E	BIM	China's Import from BIM			
	1995	2000	2005	2008	1995	2000	2005	2009
Bangladesh	633	900	2404	4533	45	19	79	198
India	765	1561	8937	31421	398	1350	9780	19468
Myanmar	618	496	935	1978	150	125	274	630
Total Export to/Import from BIM	2016	2957	12275	37933	592	1494	10133	20296
Total Export to/Import from World	148959	249208	762337	1484110	132164	225175	660218	1190010
% of China's Export to /Import from BIM	1.35	1.19	1.61	2.56	0.45	0.66	1.53	1.71

Note: Export Data are taken as FOB and Import Data are CIF.

Source: Estimated from IMF; Direction of Trade Statistics Database, August-2010.

### Table 5. India's Trade with BCM Countries

(Unit: million US\$)

	Ind	ia's Expo	ort to B	СМ	India's Import from BCM				
	1995	2000	2005	2008	1995	2000	2005	2009	
Bangladesh	960	860	1632	3297	79	80	104	363	
China	283	758	6445	20779	811	1449	9829	35599	
Myanmar	21	48	111	194	160	179	494	865	
Total Export to/ Import from BCM	1264	1667	8188	24270	1051	1708	10427	36827	
Total Export to/Import from World	30538	42626	97918	187405	34487	50336	134690	300539	
% of India's Export to /Import from BCM	4.14	3.91	8.36	12.95	3.05	3.39	7.74	12.25	

Note: Export Data are taken as FOB and Import Data are CIF. Source: Estimated from IMF; Direction of Trade Statistics Database, August- 2010.

In the region, India has been the largest trading partner for China with a total trade flow amounting to US\$42.5 in 2009 which constituted over 85 percent of

China's total trade with the members of BCIM grouping.

India's total trade in the year 2008, as revealed in Table 5, was estimated at US\$ 61097 million comprising US\$ 24270 million of export and US\$ 36826 million of import. Cross country comparison demonstrates that, India, among all the four countries, recorded the highest growth in terms of both export and import in 2009, estimated at 52.4 percent and 34.5 percent respectively. During the period since 2000 India has maintained a high average annual growth rate of about 40.7 percent in terms of trade with rest of the forum members.

Table 6 shows that Myanmar's total trade turnover with the rest of the BCIM members together constitutes about 28.8 percent of the country's total turnover with the world in 2009. Within the region, China is the largest trading partner for Myanmar followed by India and Bangladesh.

Cross country analysis in Table 7 shows that in the BCIM grouping Bangladesh is the only country which has a deficit in trade balance with all the other members. Among the BCIM members, India recorded the largest amount of deficit (US\$14.8 billion) with China in the year 2009.

						(011	c. minic	m 000)
	Myar	ımar Ex	ports to	BCI	Myanmar Imports from BCI			
	1995	2000	2005	2008	1995	2000	2005	2009
Bangladesh	4	20	29	78	2	1	2	5
China	146	163	449	603	23	53	122	2203
India	136	113	249	786	680	546	1028	213
Total Export to / Import from BCI	286	296	728	1467	705	600	1152	2421
Total Export to / Import from World	1198	1979	3701	6566	2342	3039	3569	6995
% of MYN's Export to /Import from BCI	23.88	14.97	19.67	22.34	30.11	19.73	32.27	34.61

Table 6.	Myanmar's	Trade with	BCI	Countries
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(Unit: million US\$)

Note: Export Data are taken as FOB and Import Data are CIF.

Source: Estimated from IMF; Direction of Trade Statistics Database, August-2010.

	Bangladesh			China		India			Myanmar			
	2000	2005	2009	2000	2005	2009	2000	2005	2009	2000	2005	2009
Bangladesh				-658	-1824	-3404	-895	-1832	-3193	-21	-30	-79
China	881	2325	4335				211	843	11953	371	661	1348
India	780	1528	2934	-691	-3384	-14820				-131	-383	-671
Myanmar	19	27	73	110	327	-1600	-433	-779	573			

#### Table 7. Intra-BCIM Trade Balance, 2000, 2005 & 2009

(Unit: million US\$)

Table 8. Structure of Intra-Regional Trade in BCIM by BEC 1-dig Product Classification 2005-2009

(Unit: percent of total)

	Food and beverages	Industrial supplies (nec)	Fuels and lubricants	Capital goods (except transport equipment), and parts and accessories thereof	Transport equipment, and parts and accessories thereof	Consumption goods (nec)	Goods (nec)
2006	1.49	39.02	1.59	51.57	2.05	4.08	0.20
2007	1.52	36.37	1.45	53.89	2.25	4.02	0.50
2008	1.70	37.10	1.15	52.46	2.66	4.59	0.34
2009	1.37	36.97	1.34	51.19	2.79	4.29	2.05

Note: BEC = Broad Economic Categories, nec = not elsewhere classified. Source: Authors' calculations from United Nations (UN) Comtrade.

Among the countries of the BCIM sub-grouping, Myanmar's trade is the most regionally oriented compared to other members, followed by Bangladesh. Share of Myanmar's total trade turnover with the sub-grouping members is 26.2 percent of her total global trade. China, the largest economy in the sub-grouping, recorded a mere 2.13 percent of her global trade in 2008 with the BCIM members.

The structure of merchandise trade in BCIM countries in recent years has been biased towards capital-intensive commodities. Based on the Broad Economic Categories' (BEC) 1-digit product classification, more than 50 percent of intra-regional trade in BCIM involves capital goods (Table 8) which is followed by industrial supplies. In particular, as of 2009, capital goods comprised 51.2 percent of BCIM's intra-regional trade followed by industrial supplies at 36.97 percent.

# 3.3. Status of Intra-BCIM Investment

Table 9 shows that inflow of FDI into the BCIM region has recorded significant increases in the last decade which is attributed largely to the growing attractiveness of China due to its large domestic market and low labour cost.<sup>34</sup>) In 2009 the total inflow of FDI to China was US\$95.0 billion which was 12.5 percent lower than the previous year, due to the global financial crisis. FDI inflow to India has been on the rise in recent years and reached \$40.4 billion in 2008 but fell by 14.5 percent in 2009 due to the global economic crisis. The other two constituents of the forum attracted negligible amount of FDI although Bangladesh recorded an impressive growth of over 40 percent in 2008 but again fell in 2009. In terms of outflow China stands on top with US\$48.0 billion followed by India with US\$14.9 billion in 2009.

Intra-BCIM flow of FDI, especially FDI from two big players, India and China, to other members of the Forum has been dismally low. In 2008 the share of Indian FDI in Bangladesh was merely USD 0.33 million out of India's total FDI outflow of USD 17.6 billion. Intra BCIM investment is thus insignificant. There are ample opportunities to take advantage of the complementarities in trade among the countries of the BCIM region. Investment in areas of iron and steel, fertilizer, cement, food and fruit processing plants, granite and lime stone, leather and leather products, textiles, apparels are some of the potential areas of investment.

As Board of Investment (BOI) data indicates, registration of FDI proposals by Indian and Chinese investors in recent times has tended to be inordinately high.

<sup>34)</sup> Barry Eichengreen and Hui Tong, Is China's FDI coming at the expense of other countries? NBER Working Paper 11335, 2005. www.nber.org/papers/w11335.

# Table 9. Foreign Direct Investment: Inflows To And Outflows From BCIM Member Countries (2000-2009)

(a) Value in US\$ Million

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
BCIM's Inflows										
World	1409568	832248	617732	557869	710755	916277	1461074	1978838	1697353	1114189
Bangladesh	579	355	328	350	460	692	793	666	1086	716
China	40715	46878	52743	53505	60630	72406	72715	83521	108312	95000
India	3585	5472	5627	4585	5474	6598	20336	25001	40418	34613
Myanmar	208	192	191	291	251	300	428	258	283	323
BCIM's Outflows										
World	1244465	764197	539540	561104	813068	778725	1396916	2146522	1857734	1100993
Bangladesh	2	21	4	6	6	10	4	21	9	15
China	916	6885	2518	-152	1805	11306	21160	22469	52150	48000
India	509	1397	1679	1325	2024	1364	14344	17281	17685	14897
Myanmar	0	0	0	0	0	0	0	0	0	0
(b) As % of global total										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
BCIM's Inflows										
World	100	100	100	100	100	100	100	100	100	100
Bangladesh	0.04	0.04	0.05	0.06	0.06	0.08	0.05	0.03	0.06	0.06
China	2.89	5.63	8.54	9.59	8.53	7.90	4.98	4.22	6.38	8.53
India	0.25	0.66	0.91	0.82	0.77	0.72	1.39	1.26	2.38	3.11
Myanmar	0.01	0.02	0.03	0.05	0.04	0.03	0.03	0.01	0.02	0.03
BCIM's Outflows										
World	100	100	100	100	100	100	100	100	100	100
Bangladesh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
China	0.07	0.90	0.47	-0.03	0.22	1.45	1.51	1.05	2.81	4.36
India	0.04	0.18	0.31	0.24	0.25	0.18	1.03	0.81	0.95	1.35
Myanmar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: World Investment Report, various year.

			(01111. 0.55 11111011)
Year	Indian FDI in Bangladesh	Bangladesh FDI in India	Chinese FDI in Bangladesh
1991	0.0265	0.0000	0.0000
1992	0.0000	0.0000	0.0000
1993	2.1453	0.0000	0.0000
1994	1.5208	0.0000	0.0000
1995	2.3239	0.0000	0.0000
1996	0.0000	0.0000	0.0000
1997	0.0000	1.6520	0.0000
1998	0.0000	10.9140	0.0000
1999	1.6587	0.0279	3.60
2000	4.2376	0.1175	3.90
2001	0.3487	0.0000	3.81
2002	1.0287	2.9251	6.35
2003	3.2140	3.3171	10.18
2004	1.7698	2.9552	9.65
2005	3.5212	0.2612	10.07
2006	2.4521	0.0000	10.5
2007	1.6542	0.0000	11.52
2008	0.3280	0.0000	18.11
Cumulative	26.2295	22.1700	89.5

#### Table 10. Bilateral FDI Flows between India and Bangladesh

(Unit: US\$ million)

Sources: Finance Ministry, Govt. of India for Indian FDI in Bangladesh. Commerce and Industry Ministry, Govt. of India for Bangladesh FDI in India.

China has proposed 12 projects worth USD 21,000 million for investment in Bangladesh in 2009. India also proposed to commit USD 8,451 million for 9 projects in Bangladesh (BOI August 30, 2010). Improvement of overall investment environment in Bangladesh, including availability of power and adequate infrastructure and trade facilitation, will be crucial in realising opportunities for intra-regional investment in Bangladesh. Establishment of private export processing zones (EPZs), guaranteed buy-back arrangements and special incentives may need to be considered to stimulate Indian FDI-induced exports to the Indian and Chinese market from Bangladesh.

# 3.4 Potential for Expanding Trade and Investment Cooperation

### 3.4.1 Market Access

Bangladesh is a member of a number of regional trading arrangements (RTA) of which Asia-Pacific Trading Arrangement (APTA), the South Asian Free Trade Area (SAFTA), and the Bay of Bengal Initiative for Multisectoral Technical and Economic Cooperation (BIMST-EC). All of the three have India as a member. The member states are the most notable among the APTA; which includes Bangladesh, China, and India; having exchanged the National List of Tariff Concessions. Till now three rounds of negotiations on tariff concessions have taken place - India offers tariff concessions to LDCs on 48 product categories at the 6 digit level with margin of preference ranging from 14% to 100%. A total of 37 product categories are provided a 40-50% margin of preference while only 3 categories are provided with a 100% margin of preference. The general list covers 570 products with tariff concessions in the range of 70-100% to 85 products, 40-60% to 15 products, 20-40% to 93 products; with the remaining 193 product categories falling under the margin of preference ranging from 5 to 20%.

Under the APTA China also granted special tariff concessions to the LDCs, in addition to the general concessions on 1697 commodities, and on 161 product categories under the 8-digit HS Code level. As per this list of 88 product categories fall in the concession range of 80-100 percent, 52 in the range of 50-75 percent, and the remaining 21 commodities falling in the range of 20-45 percent. However, China has agreed to relax duties ranging from 5 percent to 100 percent on 245 Bangladeshi products of which 83 products would receive zero-tariff entry. This provision would provide zero-duty access to selected Bangladeshi products

including jute goods, knitwear, woven garments, soap, fish and leather when entering the Chinese market.

As part of the SAFTA agreement, India will give Bangladesh duty-free access for such items as jute and jute goods, fruit, leather products, ceramic and electrical goods. However, India's negative list includes 746 items including 199 items out of a total of 234 apparel items at HS code 6-digits (chapters 61 and 62) that are included in India's sensitive list prepared for SAFTA members. It should be noted that India has agreed to import 8 million pieces of apparel products each year from Bangladesh.

# 3.4.2 Identification of Bangladeshi Products with Export Potentials in Markets of India and China

The present study has identified commodities, at the 6-digit HS code level, for which Bangladesh has export interest in the markets of the two largest countries in the forum - India and China. To identify the potential export products in the Indian and Chinese markets, the following algorithm was followed: Firstly, a list of products were identified which were exported by Bangladesh to the global market, but not to markets of China and India; a second list of products were identified which included products from the first list which India and China imported from global market but not from Bangladesh. These products were identified at the six-digit level. This list provides a proxy of Bangladesh's export potential to the region, meaning that Bangladesh has the supply-side capacity to produce and export these items, but currently it is not exporting to markets of India and China. The average global per unit import prices of China and India for these items were estimated from global price data set. Bangladesh's global per unit export price of these items were also estimated in a similar manner. The import duties for these items were also documented as Bangladesh's export price of the identified items were compared with import price of China and India, plus import tariff, to explore price competitiveness of Bangladesh in these products

in the markets of China and India.

To compute average RCAs of those products, export data at HS 6 digit level were accessed from the UN COMTRADE database for the year 2007, 2008 and 2009 and then calculated to find their average RCA. RCAs were estimated for a select group of broad product groups that are exported from Bangladesh at disaggregated level.<sup>35</sup>)

The study has also identified 20 potential export products for the China market which includes, among others, apparel (women/girls wear made of cotton), plastic articles, inorganic chemicals, petroleum products, tobacco, pharmaceuticals, and leather items (Table11). Data on unit prices of the major export items reveal that for 25 out of the identified 40 products, Bangladesh's unit export price is significantly lower than the import price of China. Considering the price differential and the export interest of Bangladesh, some of the major commodities have been identified which can, if provided duty free market access, could be considered as having export potential in the Chinese market. These commodities include Objective lenses for cameras, project (HS Code 900211) Men's or boys' jackets and blazers (HS Code 620333), Men's or boys' jackets and blazers (HS Code 620332), pharmaceuticals (HS 300420, 300490), polyethylene products (HS 392321), women/girls cotton shirts, knitted (HS 610610), women/girls blouses and shirts of cotton, not knitted (HS 610630), items of textile materials (HS 630790), and objective lenses (HS 900219) (Table 11). To ascertain Bangladesh's competitive edge in the Indian market, an exercise was undertaken to compute the RCAs of a select set of exportables to the Chinese and Indian market.

The study has identified 25 export items of Bangladesh which have export opportunities in the Indian market. These commodities include, among others,

<sup>35)</sup> The following formula was used to calculate bilateral RCA index (Balassa 1965)

RCA = (Bangladesh's export of commodity j to India) / (Bangladesh's total export to India)

<sup>(</sup>Total exports of jth commodity by world to India) / (Total exports of world to India) A comparative advantage is "revealed" if RCA>1, in which case the origin country (Bangladesh) has a revealed comparative advantage for exporting that particular product to the destination country (India).

Code	Product Name	Bangladesh's Export to World (Million US\$)	China's Import from World (Million US\$)	Bangladesh's Unit Export Price (\$/Unit)	China's Unit Import Price (\$/Unit)	Average RCA
392690	Other articles of plastics, nes	6.96	1888.98	1.22	10.29	4.7
300490	Other medicaments, mixed or unmixed	5.67	1685.22	23.25	83.33	9.5
530510	(jute & oth. textile bast fibres, raw/retted	144.98	178.45	84.45	105.78	78.45
846693	Parts and accessories nes for use o	38.72	447.01	23.70	11.77	0.11
640399	Footwear with rubber soles, leather	19.08	221.97	8.34	23.50	15.78
960719	Slide fasteners, nes	8.38	165.16	15.00	21.06	1.14
410620	Goat or Cow skin leather,	39.62	131.88	11.91	22.03	24.79
640419	Other footwear, with rubber or plastic	8.90	44.72	4.27	16.86	10.12
620331	Men's or boys' jackets and blazers	9.87	23.04	7.92	64.64	6.45
620433	Women's or girls' jackets and blazers	42.04	22.83	6.74	12.83	4.51
850710	Lead-acid electric accumulators	8.73	22.52	26.61	38.76	0.72
621710	Clothing accessories, nes	7.41	22.16	3.42	28.31	7.48
620432	Women's or girls' jackets and blaze	23.23	20.09	5.68	14.34	2.45
620293	Woman's or girls' anoraks, wind-che	6.07	19.76	10.13	14.40	2.14
640319	Sports footwear, with rubber, plastics	47.63	17.25	7.03	30.97	7.15
880390	Parts of balloons, dirigibles, and	8.31	14.54	6.15	209.69	15.8
490700	New stamps; stamp-impressed paper;	46.81	12.39	38.32	500.65	15.17
620341	Men's or boys' trousers, breeches,	176.15	12.13	3.63	25.62	3.45

# Table 11. Products with Export Potentials Which Are Not Exported Bangladesh to the Chinese Market

# Table 12. Products with Export Potentials Which Are Not Exported Bangladesh to the Indian Market

Code	Product Name	Bangladesh's Export to World (Million US\$)	India's Import from World Market	Bangladesh's Export Price (\$/Unit)	India's Import Price (\$/Unit)	Average RCA
232510	Cements, portland, aluminous, slag, supersulfate & similar hydraulic	8.5	78.45	35.15	44.15	31.72
271000	Petroleum oils, etc, (excl. crude);	208.86	8,618.07	0.3	0.64	0.15
293339	Compounds containing an unfused pyr	2.715	63.108	20.16	8.35	0.10
300420	Medicaments of other antibiotics, f	3.077	11.46	10.1	95.6	2.10
490700	New stamps; stamp-impressed paper;	46.812	367.568	38.32	297.51	8.4
491199	Other printed matter, nes	6.052	83.949	36.82	27.37	0.34
520839	Dyed woven cotton fabrics, with >=8	3.234	12.572	3.55	13.97	3.5
520931	Dyed plain cotton weave, with	6.045	23.938	3.96	9.74	6.78
530510	(jute & oth. textile bast fibres, raw/ retted	144.98	37.98	84.45	95.78	150.4 5
540752	Dyed woven fabrics of synthetic fil	6.699	40.916	5.73	7.93	10.75
590390	Textile fabrics impregnated with	5.44	67.861	6.31	9.83	1.01
640299	Footwear, nes, not covering the ank	10.213	13.028	7.64	4.62	3.8
640319	Sports footwear, with rubber, plastics	47.626	11.342	7.03	4.96	4.79
640590	Footwear, nes	5.265	18.743	8.39	2.15	1.11
640620	Outer soles and heels of rubber or	9.542	23.102	3.83	4.37	2.41
721049	Flat rolled prod, i/nas, plated or	14.137	123.47	1.22	0.81	0.78
846693	Parts and accessories nes for use o	38.722	130.244	23.7	35.14	1.11
853650	Electrical switches for a voltage n	3.375	85.968	13.59	13.75	0.97
871499	Bicycle parts nes	5.446	88.815	1.9	6.58	4.78
880390	Parts of balloons, dirigibles, and	8.306	79.987	6.15	442.06	0.94

Source: COMTRADE data, author calculation.

apparel products (men/ boys wear made of cotton fabrics) and accessories, fabrics, petroleum products, pharmaceuticals, electrical equipments etc. (Table 12). It indicates that Bangladesh has a clear price advantage in few major export items including pharmaceuticals (HS code 300420), black tea (HS code 090240), plants and parts of plants (HS code 121191), petroleum products (HS 271000), flat rolled products (HS code 721041) as per unit export price of Bangladesh is somewhat higher compared to India. It may however be argued that these products could see better marketing opportunities in NEI markets because of proximity, lower carrying cost and shorter lead time. The above brief analysis indicates that the growing size of the two emerging economies in the BCIM grouping, China and India, was likely to provide good opportunities for exports from Bangladeshi provided appropriate strategies were pursued in accordance with competitiveness strengths of Bangladeshi products. Preferential market access under SAFTA, BIMSTEC and APTA could enhance the opportunities in this context.

### 3.5 Bangladesh's Trade Potential with North East Indian States

Bangladesh's trade with north-east Indian states was only \$26.6 million in exports and \$237.4 million in imports in 2009. In 2004 the figures stood at \$3.6 million and \$147.8 million respectively (Table 13). There has been some rise in export to North-East from Bangladesh in recent years. Compared to total exports to India, Bangladesh's share of export trade with North-Eastern states was about 8.4% in 2008. Major export items for Bangladesh included RMG, cement, pharmaceuticals, ceramic tiles, hosiery etc. All these, excepting RMG, are small-scale non-traditional products by SME exporters.

Given the location of Northeast India, connectivity provided by Bangladesh to facilitate movement of cargo between the Northeast and rest of India could create opportunities for export of transport services for Bangladesh. According to some estimates (Murshid 2010), if even 25 percent of the cargo movement

Year	NER Exports to Bangladesh (fob) in USD million	NER Imports from Bangladesh (cif) in USD million	Major Import Items	Major Export Items
1992	5.29764	0.50874668	Rice, coal, agarbati,	RMG, cement,
1993	7.303608	0.8790088	bamboo,	pharmaceuticals,
1994	10.941084	2.2616484	limestone.	hosiery, food
1995	43.1829	5.59622	marble slab, fruit,	products,
1996	49.114314	4.057046	ginger,	bleaching powder,
1997	54.077375	4.13105	of tractor, sanitary ware, fabric,	cotton waste, glass
1998	68.862725	4.2245		sheet, fish, lichi,
1999	64.625125	5.42025		brick, furniture,
2000	80.87055	5.19025	waten	battery, molasses
2001	119.5491	3.4108596		
2002	135.9048	3.985592		
2003	158.35545	5.0138236		
2004	147.85862	3.633942		
2005	198.726	6.716954		
2006	180.0678	17.671875		
2007	249.07776	22.238341	]	
2008	242.01804	27.187656	]	
2009	237.3784	26.55441	]	

Table 13. Bangladesh Trade with Northeast India

Source: Rahman (2010) and authors calculation.

between the Northeastern and rest of India is allowed to pass through Bangladesh, this could generate revenue earnings of about USD 400.0 million. However, this would require major investments in infrastructure and would require setting up of appropriate institutional protocols to facilitate movement of cargo. In all likelihood, a developed Northeast will also be in a position to import more from Bangladesh. Bangladesh's export opportunities in the Indian market will also critically hinge on the prospects of a more comprehensive economic partnership with India.

# 4. BCIM Trade Potential - A Gravity Analysis

# 4.1 Methodology

The gravity model originally stems from Newtonian physics, but it first appeared in international trade in the 1960s, when Tinbergen (1962) provided some initial foundations for gravitation of trade flows. Tinbergen (1962) and Poyhonen (1963) explained bilateral trade flows by trading partners' GDP and geographic distance between countries, which has been established as a common approach to modeling bilateral trade flows. Anderson (1979) provided first microfoundations based on constant elasticity of substitution preferences and goods that differentiated by country of origin. Later, Bergstrand (1985) tried to justify the use of the gravity concept using models of monopolistic competition. Helpman and Krugman (1985) showed that the basic gravity equation could be derived from the differentiated products trade. Deardorff (1998) proved that the gravity model is also consistent with Hecksher-Ohlin international trade theory, but at the same time accepted that even a simple form of gravity equation can justify any trade model. Its popularity in empirics increased rapidly with the introduction of "theoretical" gravity by Anderson and Van Wincoop (2003 and 2004), which has become the de facto standard in empirical work.

Besides GDP and distance, other factors relevant for explaining bilateral trade include tariff, trade agreements, language, trade facilitation and non-tariff barriers, etc. There are numerous studies on gravity model, which have examined different types of trade costs, tariffs and non-tariff barriers, and their impacts on trade flows, regional integration agreements, currency unions, time delays at export/import, governance, corruption, and contract enforcement, etc. such as common currencies (Rose 2000), trade costs (Harrigan 2001, Wilson and others 2005; Djankov and others 2006; Baier and Bergstrand 2007; Jacks and others 2008), international borders (Anderson and Wincoop 2003; Gorodnichenko and Tesar 2009), and methodological issues (Egger 2002; Baldwin and Taglioni 2006, 2007; Silva and

Tenreyro 2006; Helpman and others 2008). Most of the researches have focused on "policy" barriers such as tariffs and non-tariff barriers, regional integration agreements, currency unions, and the General Agreement on Tariffs and Trade, time delays in export/import and trade facilitation, governance, and anti-corruption and contract enforcement. On the other hand, very few applications have dealt with "non-policy" barriers such as transport costs, infrastructure barriers, etc. explicitly in the gravity model, the exceptions being Duval and Utoktham (2009), Francois and others (2009), De (2007, 2009), Hoekman and Nicita (2008), Francois and Manchin (2006). While the use of the gravity model has been increasing international trade to estimate trade potentiality among different regions, there is not a single study that attempted to estimate the determining factors among the BCIM countries' trade flows and trade potentiality.

We employ a standard gravity model following a panel regression specification in order to empirically determine the determinants of bilateral trade flows in BCIM countries. The gravity model that we utilize is similar to Shepherd and Wilson (2009), which is based on the theoretically-robust gravity model of Anderson and Van Wincoop (2003, 2004). That is, our model is in a fixed effects form that includes dummy variables for importer ( $\lambda_i$ ), exporter ( $\rho_j$ ), sector ( $\xi_k$ ), and year ( $\sigma_t$ ), in order to capture expenditure, output, and (inward and outward) resistance terms. The specific model estimated in this study for the BCIM trade potential is as follows:

 $lnT_{ijt}^{k} = \lambda_{i}+\rho_{j}+\zeta_{k}+\sigma_{t}+\beta_{1} ln(GDP_{it} GDP_{jt}) + \beta_{2} ln(POP_{it}POP_{jt}) + \beta_{3}lnTFijt + \beta_{4} lnTC_{ijt} + \beta_{5} ln DIST_{ijt} + \beta_{6} BCIM + \beta_{7}ADJ + v \beta_{8}Comlan + \beta_{9}Comcol + \varepsilon_{ij}$ (1)

Where,  $T_{ij}$  = bilateral trade value (exports +imports) between country i and j. i and j are countries, t is time period and k is the product group and  $\beta$ s are parameters to be estimated. The GDP<sub>i</sub> and GDP<sub>j</sub> are taken in US dollars in year t; POP*it* and POP*jt* are population of countries i and *j* in year *t*.

The TF denotes the weight average applied ad-valorem tariff specific to trading partner i and j in year t. TC is trade transaction cost of the countries. EC denotes Export Cost (in %) = [(Import by partners (cif) - Export by Bangladesh (fob)]/Export by Bangladesh (fob)]\*100 then Import cost (in %) = [(Import by Bangladesh (cif) - Export to Bangladesh (fob)/Import by Bangladesh (cif)]\*100 and total Trade cost = (Export cost + Import cost)/2

Geographic distance between capital cities i and j is denoted as  $DIST_{ij}$ . BCIM dummy which takes the value 1 if Bangladesh is a member of RTA in year *t*. The adjacency dummy variable ADJ takes the value of 1 if country shares a land border with country j and 0 otherwise. Comlan and Comcol denote the common ethnic language and common colony as dummy variables.  $\varepsilon_{ijt}$  independently and identically normally distributed random error term with mean zero and constant variance.

# 4.2. Data Sources

This study has conducted a panel data analysis based on bilateral trade flows among BCIM countries from 1992 to 2009. The use of panel data has several advantages over cross sectional analysis. First, panel makes it possible to capture the relevant relationships about variables over time. Second, a major advantage is the ability to monitor the possible unobserved trading-pair individual effects. The gravity model is estimated using both fixed effects and random effects. The countries' GDPs, population, distance, disaggregate export and import, tariff, trade transaction cost, etc. are the variables of interests. The BCIM, common language and land border are considered dummy variables. The GDP data was collected from World Development Indicators; trade and tariff data were collected from TRAINS through WITS and UNCTAD; Yunnan Statistical Year book as well as China Statistical Year book; distance, common language and adjacency data were collected from CEPII. The Stata 10.2 S/E version was used for simulations.

#### 4.3 Econometric Issues

Linearity assumption between response variable and predictors was checked; Ramsey tests were done to check model specifications; Normality of residuals was tracked through the Kernel density plot. All estimates were checked for heteroscedasticity through the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity. Multi-colinearity problems were checked by looking at partial correlations and then by using the variance inflation factor (VIF). To resolve the endogeneity problem, instrumental variables (IV) estimations have been used in two-stage least squares (2SLS) framework.

Selection of model, fixed or random, was based on the Hausman  $\chi^2$  test. For the fixed effect specifications, the OLS method has been used, while the random effects models have been estimated using the GLS method, correcting for possible heteroscedastic errors and panel specific serial correlation. The presence of serial correlation was detected through the Durbin-Watson (DW) test. Alternative estimations such as the maximum likelihood estimation (MLE) were also done in order to check the relative robustness of the models.

# 4.4 BCIM Trade Potential - Estimated Results

Table 14 presents our panel data regression estimated results for the BEC-1 digit of product classification. The model performs well and overall fitness is more than 70 percent both in GLS and OLS except the goods (not elsewhere classified). Most of the coefficients are significant and having expected signs. The coefficient of GDP is positive and highly significant as expected, which implies a tendency to trade more with larger economies. The estimated coefficient of distance variables has an expected negative sign, which indicates a 1 percent increase in the distance between two BCIM economies will lower trade between the two countries by 0.45 percent for the food and beverage products. The dummies such as Adjacency, Language and BCIM are found with expected signs and statistically significant.

Those explain that common border or adjacency, common language as well as regional trade agreement have the positive impact on trade flows among the nations.

We have also introduced trade transaction costs and tariff in the equation in order to estimate their effects on trade flows. Tariff and trade transaction cost variables are expected to be negatively correlated with the volume of trade. The tariff coefficient is -0.342 and trade transaction cost coefficient is -0.411 in OLS but in GLS -542 and -0.401 respectively for the product category of food and beverage. The estimated coefficients reveal that higher trade transaction costs and tariff between each pair of countries reduce the trade flow. This indicates that both trade policy and non-policy measures are crucial for enhancing trade in the region.

Table 14 presents the statistical findings for the product group 'industrial supplies.' The estimated coefficient of distance variables has an expected negative sign, which indicates a tendency to trade more with its neighboring countries. The estimated coefficients reveal that higher trade transaction costs and tariff between each pair of countries reduce the trade flow. Table 15 also shows the result from the estimated panel gravity model for the product of fuels and lubricants. The coefficient of explanatory variables shows an expected sign. The coefficient of distance variables is found to be statistically significant. The tariff, trade transaction cost, the regional cooperation are also found to be statistically significant.

The merchandise trade in BCIM countries is mainly capital-intensive commodities followed by industrial supplies. Table 14 also presents the estimated results for the product of capital goods. The model performs well and the overall fitness is 74 percent in GLS and 77 percent in OLS. Most of the coefficients are significant and have expected signs. The coefficient of GDP is positive and highly significant as expected, which implies the tendency to trade more with larger economies. The estimated coefficient of distance variables has an expected negative sign, which indicates a 1 percent increase in the distance between two BCIM economies lower trade between the two countries by 0.49 percent. The dummies such as Adjacency, Language and BCIM are found with an expected sign and are statistically significant. Those explain that common boarder or adjacency,
dent variable	Food	and	Indus	strial	Fuels	and	Capital	Goods	Trans	sport	Consur	nption	Goods	(nec)
Trade	Beve	erage	supplie	s (nec)	lubrio	cants	(Except ] Equip	Fransport ment)	Equip Includin and Acc	ments 1g Parts 2essories	Goods	(nec)		
	OLSa	GLSb	OLSa	GLSb	OLSa	GLSb	OLSa	GLSb	OLSa	GLSb	OLSa	GLSb	OLSa	GLSb
r GDPj	0.712**	0.756**	$1.12^{**}$	1.24**	0.670**	0.714**	01.34**	$1.01^{**}$	0.652**	0.617**	0.567**	0.652**	0.313**	0.345**
	-4.21	-5.15	-5.2	-4.17	-5.22	-6.54	-6.33	-4.17	-4.21	-5.33	-2.36	-3.54	-1.91	-2.17
GDP;	0.502**	0.515**	0.641**	0.724**	0.662**	0.645**	0.645**	0.677**	0.421**	0.347**	0.552**	0.557**	-0.212**	-0.307**
	-2.32	-3.84	-3.31	-4.95	-4.34	-4.94	-4.32	(4.76	-1.32	-3.84	-5.51	-6.34	-2.32	-3.84
ce (Dij)	-0.447**	-0.475**	-0.455**	-0.395**	-0.247**	-0.275**	-0.334**	-0.485**	-0.546**	-0.451**	-0.447**	-0.475**	-0.517**	-0.515**
	(-5.81)	-6.12	(-4.11)	4.11	(-5.81)	-6.12	(-4.01)	-5.12	(-1.81)	-2.12	(-5.81)	-6.12	(-3.82)	4.17
(TFij)	-0.342**	-0.411**	-0.45**	-0.27**	-0.262**	-0.113**	-0.262**	-0.113**	-0.262**	-0.113**	-0.262**	-0.113**	-0.442**	-0.513**
1	(-2.78)	(-2.64)	(-3.17)	(4.11)	(-2.78)	(-2.64)	(-2.78)	(-2.64)	(-2.78)	(-2.64)	(-2.78)	(-2.64)	(-2.78)	(-2.64)
ransaction	-0.542**	-0.401**	-0.412**	-0.441**	-0.542**	-0.501**	-0.542**	-0.501**	-0.542**	-0.501**	-0.542**	-0.501**	-0.542**	-0.501**
(TCij)	(-4.85)	(-6.82)	(-2.64)	(-3.01)	(-4.85)	(-6.82)	(-4.85)	(-6.82)	(-4.85)	(-6.82)	(-4.85)	(-6.82)	(-4.85)	(-6.82)
y (ADJij)	0.501**	0.541**	0.311**	0.433**	0.501**	0.541**	0.501**	0.541**	0.501**	0.541**	0.241**	0.321**	0.641**	0.701**
	-3.21	-4.82	-3.01	-4.77	-3.21	-4.82	-3.21	-4.82	-3.21	-4.82	-3.21	-4.82	-4.24	-3.82
e (Langij)	0.414**	0.541**	0.312**	0.429**	0.414**	0.541**	0.347**	0.437**	0.414**	0.541**	0.523**	0.491**	0.423**	0.474**
	-2.99	-3.99	-3.45	-3.01	-2.99	-3.99	-4.42	-3.99	-2.99	-3.99	-2.31	-3.04	-1.51	-1.84
(RTAij)	0.492*	0.532*	0.552*	0.612*	0.562*	0.583*	0.541*	0.490*	0.691*	0.472*	0.505*	0.558*	0.792*	0.632*
	-3.15	-3.15	-7.05	-5.1	-5.11	-5.17	-6.18	-4.54	-1.75	-1.89	-2.78	-3.42	-4.24	-2.89
vations	108	108	108	108	108	108	108	108	108	108	108	108	108	108
uared	67	72	74	77	79	84	74	77	70	73	99	68	54	58
chi 2		750.8		7.77		893.5		445		477.9		974.7		218.7
> chi 2		0		0		0		0		0		0		0
Fixed effec	t. bRandoi	m effect. (	Selection 6	of random	effect over	er fixed ef	fect was b	ased on t	he Hausma	in test.) Ro	obust t-sta	tistics in p	arentheses	for OLS
nd z- statis	tics for Gl	LS ** p<0	.05, * p<0	.1. Countr	y-pair effe	octs are inc	cluded in t	he model.	All variab	oles except	dummies	have take	n in log. A	All results
re checked	for robust	standard e	arrors and l	neterosceda	asticity. G	DP and tra	ide were ta	aken in the	e models a	t current L	JS dollar v	alue. BEC	= Broad	Economic
ategories, 1	nec = not	elsewhere	classified		8									

Table 14. Non-linear Gravity Model Estimates for the Panel 1992-2008 of BEC-1 digit of product classification

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common language as well as regional trade agreement have the positive impact on trade flows among the nations. Tariff and trade transaction cost variables are expected to be negatively correlated with the volume of trade. The results are similar for the production of transport equipment and consumption goods as well.

# 5. Challenges Facing the BCIM Countries

## 5.1 Infrastructure and Transport

A Good infrastructure and excellent connectivity are key to establishing and stimulating deeper integration among the members of any aspiring regional grouping. For the success of any growth zone initiative such as the BCIM, it is essential that the participating countries proactively engage themselves in building the required physical infrastructure to facilitate movement of goods and services. Infrastructure and connectivity are core elements of trade facilitation. In the context of the current state of play, BCIM remains one of the least connected regions in the world. The BCIM initiative will need to be geared toward building roads, rail and air transport connectivity, the lack of which at present hinders deepening of trade and investment infrastructure. Indeed the NE states of India and Southern China are virtually land-locked sub-regions within the BCIM. As a matter of geographical fact Bangladesh is the gateway for the CIM. The ports of Chittagong and Mongla have huge hinterlands to serve, whose future prosperity hinge critically on their access to ports for purposes of export and import. Improving the state of connectivity within the region, and mobilising the required resources to build the necessary infrastructure must be seen from the perspective of long term development strategy of BCIM members.

Experiences of other regional and sub-regional integration attempts suggest that participating countries incurred substantial expenditures to develop their infrastructures particularly to develop internal as well as cross-border transportation infrastructure including railways, roadways, airways, bridges and ports. ASEAN could serve as a very good example for the BCIM group members in this regard. Successful implementation of the Asian Highway, completion of the missing links on the Trans Asian Railway route and appropriate facilitation measures could importantly contribute in enhancing economic integration of BCIM member countries. Since all BCIM members will stand to gain from such measures, they should be ready to undertake the required investment.

An integrated transportation system must be seen as critical to generating the expected gains for BCIM cooperation. Serious attention ought to be given to the development of a multi-modal transport system linking road-rail-sea transport in seamless continuity.

## 5.2 Trade Facilitation and Easing Movement of Goods

Establishment of a seamless system of cross-border movement of both cargo and people is major challenge for the BCIM. The issues go beyond building physical infrastructure. For easing up cross border movement and establishing greater connectivity, existing trans-border formalities, vehicular movement and customs procedures need to be simplified. Use of modern technology could play an important role in speeding up the procedures. A BCIM visa could also be introduced to facilitate movement of people particularly investors and businessmen.

Hassle free movement of goods across borders is one of the major prerequisites of successful regional cooperation. Success of regional cooperation largely depends on the existence of a level playing field for trade for all the participating countries. This can be ensured by removing all non-tariff barriers to trade, for which harmonization of standards, tariff structure, and dismantling of all para-tariff and non-tariff barriers are keys. Developing land customs stations with warehouse, weigh bridge, truck-parking area, banking and insurance facilities close to the land customs stations, establishing visa offices in the bordering states, and removal of travel tax could significantly lower costs and enhance trade among the BCIM countries. The recent initiative to sign a framework agreement between Bangladesh and India to recognize standardization certification issued by relevant institutions of partner countries (BSTI in Bangladesh and BIS in India) is a step in the right direction.

## 5.3 The Political Economy

Political commitment on the part of the participating countries is to take the BCIM cooperation forward in a *sine qua non* for closer cooperation among BCIM countries. Although in China and Myanmar, for all practical purposes Track II (informal, civil society level) and Track I (formal, government level) are closely entwined, this is not the case for Bangladesh and India. For any cooperation of the BCIM type to succeed, the initiative, though originating from academia or civil society (Track II), must be seized by the political leadership and the government (Track I). A long term vision will need to be at work in order for this to happen. The BCIM's success to a large extent will hinge on the perspectives and approaches taken by Bangladesh and Myanmar; who have their own priorities, interests and concerns, including security concerns. These issues ought to be solved through constructive and continuing engagements.

## 5.4 Investment Promotion

Trade is a natural consequence of investment. In order for the BCIM sub-grouping to succeed, partner countries must provide adequate incentives to promote intra-regional and extra-regional investment. This is also important from the perspective of balanced cooperation since in such a regional block as the BCIM, the smaller players (Bangladesh and Myanmar) are likely to be at a disadvantageous

position. There may be genuine apprehension on the part of smaller economies that such integration could be detrimental to their trade and investment interests. Such concerns must inform the design of the cooperation. Non-reciprocal market access facilities, incentives for investors willing to invest in weaker economies and other supportive policies must be put in place to foster and promote investment within the region. The major focus of BCIM initiative should be to develop the growth zone that happens to be a relatively underdeveloped area. Attracting investments, both from within and also from outside, to exploit the complementarities of the sub-region, through horizontal and vertical cooperation, should be at the centre of the design of BCIM cooperation.

# 6. Conclusion

The paper attempts to estimate BCIM's trade potential by using a dynamic gravity model. The coefficient of GDP is positive and highly significant as expected, which implies a tendency to trade more with larger economies. The dummies such as Adjacency, Language and RTA are found with an expected sign and are statistically significant. These explain that a common border, common language as well as regional trade agreement have positive impact on trade flows among the nations. Tariff and trade transaction cost variables are expected to be negatively correlated with the volume of trade. Their estimated coefficients reveal that higher trade transaction costs and tariff between each pair of countries reduce the trade flow. One of the major findings of this paper is that a large part of BCIM's trade has remained unrealized and the trade transaction cost is one of the major trading barriers that prohibit the growth of BCIM intra-regional trade.

The BCIM grouping includes two large emerging developing countries and two LDCs. It needs to be recognized that important hurdles are to be overcome if close cooperation among the countries of the grouping in the areas of trade and investment is to be ensured. However, it needs to be kept in mind that Bangladesh and India are already members of SAFTA; Bangladesh, Myanmar and India are members of BIMSTEC; and Bangladesh, India and China are members of APTA. Important initiatives have already been set in motion towards closer cooperation involving BCIM members under the ambit of the aforesaid RTAs. SAFTA and BIMSTEC have chartered ways to establish free trade zones (in BIMSTEC-FTA, services area also included). Indeed both these groupings mention about cooperation in non-direct market access areas (preferential treatment through concessional tariffs) such as customs harmonization, investment promotion and trade facilitation. As far as economic cooperation under the rubric of BCIM is concerned, the idea is to accelerate cooperation between the four member countries, by effecting synergy from the other aforesaid groupings. However, the major focus and point of departure and what gives the BCIM grouping its distinctive features is that the grouping aspires to build a growth triangle covering the region encompassing Bangladesh, Myanmar, NE states of India and Southern Chinese province of Yunnan. As the analysis presented in this study has pointed out, Northeast India and Southern China are soft underbellies of India and China respectively. Both these regions are lagging in terms of socio-economic development compared to the rest of their respective economies. Their geographical location, proximity to the other two LDCs (Bangladesh and Myanmar) and opportunities for trade and transport cooperation make them natural candidates for cooperation. Of special interest from the perspective of regional cooperation will be the establishment of transport cooperation in the BCIM growth triangle - Bangladesh's interest in this enterprise is that it could allow Bangladesh to transform itself into a regional commercial hub with large potential gains from the scale of transport and port services. The above study again reinforce that improvement in infrastructure that leads to less trade transportation costs should be a necessary step in order to realize BCIM's trade potential. The paper concludes that liberalization of non-policy barriers will spur BCIM's trade and economic cooperation, particularly in a time of ongoing global economic and financial crisis.

# References

- Anderson, J. E. and E. van Wincoop. 2003. "Gravity with gravitas: A solution to the border puzzle." *American Economic Review*, Vol. 93, No. 1, pp. 170-192.
- Anderson, J. E. and E. van Wincoop. 2004. "Trade costs." *Journal of Economic Literature*, Vol. XLII, No. 3, pp. 691-751.
- Anderson, J. E. 1979. "A theoretical foundation for the gravity equation." American Economic Review, Vol. 69, pp. 106-116.
- Baier, S. L. and J. F. Bergstrand. 2007. "Bonus vetus OLS: A simple method for approxi mating international trade-cost effects using the gravity equation." Available at http://www.nd.edu/~jbergstr/Working\_Papers/BVOLSOctober2007.pdf.
- Baldwin, R. E. and D. Taglioni. 2006. "Gravity for Dummies and Dummies for Gravity Equations." Working Paper No. 12516. NBER.
- Batra, A. 2004. "India's trade potential: The gravity model approach." Working Paper No. 151. New Delhi: Indian Council for Research on International Economic Relations.
- Bergstrand, J. H. 1985. "The Gravity Equation in International Trade: Some Microeconomic Foundations and Empirical Evidence." *The Review of Economics* and Statistics, Vol. 67, pp. 478-481.
- Carrillo, C. and C. A. Li. 2002. *Trade Blocs and the Gravity Model: Evidence from Latin American Countries*. Economics Discussion Papers 542. University of Essex, United Kingdom.
- Coulibably, S. 2004. "On the assessment of trade creation and trade diversion effects in developing RTAs." DEEP-HEC. Switzerland: University of Lausanne.
- De, P. 2009. "Global economic and financial crisis: India's trade potential and future prospects." Asia-Pacific Research and Training Network on Trade (ARTNeT) Working paper. Bangkok.
- De, P. and B. N. Bhattacharyay. 2007. "Deepening India-Bangladesh economic

cooperation: Developing Countries." New Delhi.

- Duval, Y. and C. Utoktham. 2009. "Behind-the-border trade facilitation in Asia-Pacific: Cost of trade, credit information, contract enforcement and regulatory coherence." Staff Working Paper 2/2009. Bangkok: ESCAP.
- Egger, P. 2002 "An econometric view of the estimation of gravity models and the calculation of trade potentials." *The World Economy*, Vol. 25, No. 2, pp. 297-312.
- Gorodnichenko, Y and L. L. Tesar. 2009. "Border effect or country effect? Seattle may not be so far from Vancouver after all." *American Economic Journal: Macroeconomics*, Vol. 1, No. 1, pp. 219-241.
- Helble, M., B. Shepherd and J. S. Wilson. 2007. "Transparency, trade costs, and regional integration in the Asia-Pacific." Policy Research Working Paper 4401. Washington, D.C.: Development Research Group, World Bank.
- Helpman, Elhanan and Paul Krugman. 1985. "Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy." Cambridge, MA: MIT Press.
- Hoekman, B. and A. Nicita. 2008. "Trade policy, trade costs and developing country trade." Policy Research Working Paper No. 4797. Washington, D.C.: World Bank.
- Hoekman, B. and A. Nicita. 2008. "Trade policy, trade costs and developing country trade." Policy Research Working Paper No. 4797. Washington, D.C.: World Bank.
- Murshid, M. 2010. "Economic Cooperation between Bangladesh and Northeast India." Presented at CIRDAP, Dhaka. (June 6)
- Nordås, P. K., & Piermartini, R. 2004. "Infrastructure and trade." World Trade Organization Staff.
- Papazoglou, Christos. 2007. Greece's Potential Trade Flows: A Gravity Model Approach. *International Advances in Economic Research*, Vol. 13, No. 4, pp. 403-414.

- Poyhonen, P. 1963. "A tentative model for the volume of trade between countries." *Weltwirtschaftliches Archiv*, Vol. 90, No. 1, pp. 93-99.
- Rahman M. M and Laila A. A. 2010. "Bangladesh trade potential: a dynamic gravity approach", *Journal of International Trade Law and Policy*, Vol. 9 Issue: 2, pp. 130-147.
- Rahman, M. T. and Amin, M. A. 2009. "Prospects of economic cooperation in the Bangladesh, China, India and Myanmar region: a quantitative assessment." Working Paper No. 73, ARTNeT. Available at http://www.artnetontrade.org/
- Rahman, M., H. Rahman and W. Bin Shadat. 2007. BCIM economic cooperation: Prospects and challenges." CPD Occasional Paper No. 64. Centre for Policy Dialogue, Dhaka.
- Shepherd, S B., & Wilson, J. S. 2009. "Trade facilitation in ASEAN member countries: Measuring progress and assessing priorities." *Journal of Asian Economics*, doi:10/1016/j/asieco.2009.03.001.
- Sohn, Chan Hyun. 2005. Does the gravity model explain South Korea's trade flows, Centre for International Trade Studies http://www.econ.ynu.ac.jp/CITShomepage/ CITS-WP-2005-02.pdf.
- Tinbergen, J. 1962. Shaping the World Economy: Suggestions for an International Economic Policy. New York: The Twentieth Century Fund.
- Wilson, J. S., C. L. Mann, and T. Otsuki. 2005. "Assessing the Benefits of Trade Facilitation: A Global Perspective." *The World Economy*, 28(6), pp. 841-871. Working Paper ERSD-2004-04. (August)

# 21<sup>st</sup> Century Global Economic Governance Evolving Architecture, Emerging Issues, and Asia's Role

Srinivasa Madhur

# 1. Introduction

The basic foundations of today's framework for global economic governance were laid in the post-World War II years with the establishment of the International Monetary Fund (IMF), the International Bank for Reconstruction and Development (IBRD) that later became the World Bank (WB), and the General Agreement on Tariffs and Trade (GATT) – the precursor to today's World Trade Organization (WTO). In the postwar years, much of Asia was in dire poverty and Asia's share in the world economy had fallen to its lowest level in centuries. Reflecting the balance of economic power of the time, Asian countries did not play a significant role in either designing the institutional architecture or setting the agenda for global economic governance.

Economic realities have, however, undergone a sea change in the last half century. Successive economic miracles by Asian countries - starting with Japan first and continued subsequently by a host of others at regular intervals - have

enabled Asia to reemerge as a dominant force in the global economy. Thus, Asia has now gotten bigger and richer. Some call this phenomenon "Asia's reemergence", others "Asia rising" or "Asia's renaissance", and yet others "the Asian century" (Gill and Kharas 2007; Mahbubani 2008; and ADB 2011b). Irrespective of how one may paraphrase Asia's resurgence, there is a growing consensus around the world that the center of gravity of the global economy is shifting towards Asia and this trend is most likely to continue in the decades to come.

Taking the above assessment of Asia's rise in the global economy as a given, this paper addresses two questions: (i) can Asia play a much bigger role in shaping global economic governance for the 21<sup>st</sup> century? (Section IV); and (ii) what challenges would Asian countries – individually and collectively – face in playing such a role (Section V). These questions are answered against the backdrop of the evolving institutional architecture for and the emerging issues for global economic governance (Sections II and III respectively). The conclusion of the paper is that Asia's growing global economic governance, but realization of that potential will depend upon how successfully the region addresses five key challenges (Section VI).

The conclusion is derived from a synthesis and consolidation of recent work on the subject by economists, political scientists, and international relations experts. The paper also incorporates relevant analytical arguments and empirical evidences from work in other fields. Generally, economists conclude that as Asia gets bigger and richer, it will, or will have to, play a much bigger role in global economic governance. However, political scientists and international relations experts are generally less optimistic about Asia actually playing such a role, despite its growing economic weight. By synthesizing these somewhat divergent views, the paper focuses on the challenges that Asian policy makers would need to address if they are to enable the region to play a much bigger role in shaping global economic governance. 21<sup>st</sup> Century Global Economic Governance: Evolving Architecture, Emerging Issues, and Asia's Role 155

Before delving into the details, what is global economic governance in the first place? A definition that is both wide enough in scope and user-friendly in practice is given by Finkelstein: "Global governance is governing, without sovereign authority, relationships that transcend national borders. Global governance is doing internationally what governments do at home" (Finkelstein 1995). Global *economic* governance then is governing, without sovereign authority, *economic* relationships that transcend national borders. When a nation interferes in the economic activities of its citizens, other nations and their citizens are invariably affected. Quite often thus, national economic actions have global implications, just as global events have national repercussions. In the absence of a global government, managing such a process of globalization requires intergovernmental arrangements -- formal or informal, institutionalized or ad hoc. Global economic governance then refers to the norms, guidelines, standards, practices, and decision-making processes that are embedded in such arrangements.

While this paper adheres to the above definition, it excludes global environmental governance and global migration management, not because these are unimportant but to keep the paper's scope to a manageable level.

# 2. Evolving Institutional Architecture

Global economic governance through formal intergovernmental institutions and arrangements originated after World War II - marking a big departure from the world economic order of the preceding century under British hegemony (Wolf, 2004). The IMF and the IBRD were established immediately after the War. The objective of the former was to maintain global monetary (and financial) stability while that of the latter was to provide finance for postwar reconstruction of war-torn nations. A third multilateral institution for overseeing an orderly world trading system -- International Trade Organization - was to be originally established around the same time as the IMF and the IBRD, but because of certain historical accidents an intergovernmental treaty – the General Agreement on Tariffs and Trade (GATT) – came into being instead (Verma 2002; and Srinivasan 2004). It took about five decades since to replace the GATT with the WTO in 1995 – a multilateral institution that is akin to the original concept.

## 2.1. The Postwar Trio: IMF; IBRD/WB; and GATT/WTO

Since their establishment, all three institutions have undergone almost continuous adjustments and extensions of their original objectives, mandates, and institutional structures in response to the changing global economic environment and the demands placed upon them by their member governments.

For more than two decades since its inception, the IMF functioned under the dollar-gold standard of fixed but adjustable exchange rate regime - the so-called Bretton Woods system. The system was supposed to provide the right balance between the excessive rigidity of the gold standard and the quazi-anarchy of the floating exchange rates of the 1930s (Crockett 2010). Since the breakdown of the Bretton Woods system in 1971, the world economy has been under a system of partially flexible exchange rate regime - partial because while most advanced countries follow a flexible exchange rate regime with open capital accounts, several developing countries follow either intermediate regimes of managed exchange rates or peg their currencies to the U.S. dollar, often with capital account restrictions and substantial interventions in foreign exchange markets. IMF's task of maintaining global monetary (and financial) stability became much more difficult in such a system, especially since it had to perform that task in a global foreign exchange market that is much bigger compared to the resources at its disposal. In response, the functions and the modalities of its operations have widened over time. As a result, it now does many things: oversees the global monetary and financial system, conducts global economic and financial surveillance both at the

individual country and multilateral levels, and helps member countries in both prevention and management of financial crisis by providing loans and policy advice.

From its establishment until around the early 1960s, the IBRD focused mainly on lending for infrastructure projects to European countries. In 1960, a new sister-institution for providing concessionary finance for development to poor countries - the International Development Association (IDA) - was created. The IBRD and IDA together came to be commonly referred to as the WB. Poverty reduction then became the major objective of WB. A major shift in the WB's lending policy occurred by the early 1980s - from project lending to policy-based lending or structural adjustment financing. The shift occurred mainly because of the thinking at the time that even well-designed development projects cannot deliver development in a poor policy environment. Hence, the focus shifted to improving the policy environment by lending for structural reform programs that emphasized domestic deregulation and external liberalization, at times blurring the distinction between the roles of the WB and the IMF. Since the early 1990s, the WB's agenda has continuously expanded to cover many new areas. The WB, along with its affiliates, now promotes poverty reduction in poor countries, supports growth in middle-income countries, facilitates private sector development, and works towards sustainable environment, primarily through loans, policy advice, and knowledge dissemination.

In the initial years, the GATT focused mainly on the liberalization of world merchandise trade, except agricultural products. Most developing countries did not actively participate in the GATT-led multilateral trade negotiations for over a quarter century partly because of the perception that GATT was an instrument to promote the interests of developed countries (Srinivasan 2004). In response, at the end of the Tokyo Round of multilateral trade negotiations in 1979, the GATT introduced the special and differential treatment to developing countries, exempting them from reciprocal commitments to developed countries. Subsequently, the Uruguay Round of multilateral negotiations between 1986-1993 introduced four major changes. First, it brought in a whole set of new issues under the purview

of GATT - agricultural trade, trade in services, trade-related intellectual property rights, trade-related investment measures, to name a few. Second, it made a big departure from the preceding multilateral negotiations in that all members were required to adopt the final agreement as a single undertaking and thus commit to the entire menu of obligations on all the issues. Third, it initiated a major revamping of GATT's dispute settlement mechanism giving it stronger legal teeth. Finally, it decided to phase out the then quarter century old Multi-fiber Agreement. Since then, the scope of issues covered by the WTO that replaced GATT in 1995 has been expanded much beyond GATT's original mandate.

## 2.2. The United Nations Initiatives

Even as the trio of the IMF, WB, and GATT were evolving, a series of institutions and agencies were created on an almost parallel lane under the aegis of the UN: the UN Conference on Trade and Development (UNCTAD), established in 1964 to promote trade, investment, and development especially from developing country perspectives; the UN Development Program (UNDP), established in 1965 to promote development with a special focus on its social and human dimensions; the International Labor Organization (ILO), established in 1946 to develop and oversee international labor standards; and the UN Environmental Program (UNEP), established in 1972 to manage global environmental issues. Some of these UN initiatives were partly a response to a perception in several quarters that the three post-War institutions of global governance – GATT, IMF, and the WB – did not duly represent the interests of developing countries and hence highlighted the need for an alternative track of global governance that was more sympathetic to them (Verma 2002).

It is now common knowledge that for various reasons - acute resource constraints, the inherently lengthy process of decision-making, reluctance of some major economic powers to use the UN-route, and the rise of alternative informal

multilateral forums- these UN-led initiatives have not been mainstreamed into the overall institutional architecture for global economic governance. Thus, although their mandate and agendas do overlap with that of other institutions, they do not constitute an integral part of the global economic governance architecture.

## 2.3. Post-Bretton Woods: "Multilateralism Light"

The death of the Bretton Woods System in 1971 heralded a new era in the evolution of the institutional architecture for global economic governance – the beginnings of international governance through informal multilateral forums. The first informal forum was born in 1973 with the formation of the Group of 5 (G5) comprising the U.S, Japan, Germany, France, and U.K. The G5 was formed partly to provide a faster track of global governance that could circumvent the constraints faced by a formal institution such as the IMF in the turbulent times after the breakup of the Bretton Woods system (Crockett, 2010). Note that the Plaza Accord for currency realignment was spearheaded by the G5, not the IMF. Some refer to this trend of informal multilateral forums as a "multilateralism light" approach to global governance by expansions of the G5 in the next quarter century, culminating in the establishment of the Group of 20 (G20) in 1999 (Figure 1).

Until recently, the G20 functioned at the level of Finance Ministers and Central Bank Governors. In 2009, in the aftermath of the 2008 global financial crisis, the G20 was upgraded to the level of Heads of State. One of the earliest initiatives of the G20 Leaders was to establish the Financial Stability Board (FSB) for international coordination of financial regulation and supervision. The FSB replaces the Financial Stability Forum that was created in the aftermath of the 1997-98 Asian financial crisis, and is now considered the fourth institutional pillar of global economic governance (along with the WTO, IMF, and the WB).



## Figure 1. The Road from G5 to G20 (Finance Ministers Forums)

Note: This Figure depicts the evolution of the Finance Ministers forums under the respective country groupings and hence does not reflect the evolution of the forums at the level of Heads of Governments; the dates of the two do not coincide with each other (Smith 2011).

Source: IMF, Factsheet: A Guide to Committees, Groups, and Clubs (WWW.imf.org/external/np/exr/facts/groups.htm).



Figure 2. Emergence of the G20 as the Premier Multilateral Forum

# 2.4. A Hybrid Architecture

The rise of multilateralism light has now moved the institutional architecture for global economic governance towards a hybrid system with two, somewhat inter-related yet distinct layers – a set of formal institutions (such as the WTO, IMF, WB, and the FSB) forming its four pillars and the G20 as an informal, yet premier, multilateral forum setting the overall agenda and guiding the formal institutions (Figure 3). The dual system of global governance that is evolving is a combination of the 19<sup>th</sup> century informal "Concert of Europe" forum for international relations (established among the then Austria, Prussia, the Russian Empire, and U.K, and subsequently expanded to include France that existed during the period 1815 to 1914) and the 20<sup>th</sup> century formal institutional structure that was developed since the postwar years (Penttila 2009).



Figure 3. Emerging Institutional Architecture for Global Economic Governance

The strength of this hybrid system is that it can potentially maximize the synergies of the two components – the agility and effectiveness of the informal forums and the technical strengths and implementing capabilities of the formal institutions. An informal forum such as the G20 (like the "Concert of Europe" of the 19<sup>th</sup> century in international relations) could focus on convening crisis meetings, reaching broad consensus on international policy cooperation, and launching new initiatives; the formal institutions could then flesh out the technical details of these broad agreements and initiatives, convert them into binding commitments on the members, and implement them in practice.

# 3. Emerging Issues

As the world economy is recovering from the "Great Recession" that followed the U.S sub-prime crisis, the hybrid system of governance has plenty of issues to resolve before putting global economic governance for the 21<sup>st</sup> century on a firm footing (ADB 2010). A list of these includes: (i) rejuvenating the WTO and multilateral trade negotiations to ensure continued liberalization of the world trade regime, (ii) resolving global payments imbalances for balanced global growth, (iii) managing financial globalization and capital account liberalization, (iv) revamping the regulatory and supervisory frameworks for financial markets, (v) striking a balance between legitimacy and efficiency of institutions responsible for global economic governance; and (vi) making a success of the G20.

## 3.1. Rejuvenating WTO: Doha and Beyond

The moribund Doha Development Round is a major setback not only for the global trading system but also for the WTO that is purported to govern that system. The general feeling is that the Round is as good as dead and even if a deal is

to be struck it will not be before 2015. Certainly, bringing the Doha Round back on track would require solid "great power diplomacy" by the G20, given that the Round does involve some very knotty issues. Irrespective of whether the Doha Round would be completed even by 2015, the mandate and functioning of the WTO need to be reconsidered to make it more relevant and effective for 21<sup>st</sup> century global governance.

Issues that need to be considered in this context are: (i) limiting the overall mandate of the WTO to the governance of a rule-based global system of trade in goods and services, (and by implication, ensuring that the overarching goal of multilateral trade negotiations is the removal of policy-created barriers to trade in goods and services); (ii) making the WTO's ultra-legalistic dispute settlement system more user-friendly to the resource-scarce developing countries; and (iii) repealing the article on anti-dumping measures, as predation - the only economic rationale for dumping - is no longer plausible (Srinivasan 2004).

Overall, there is merit in limiting the jurisdiction of the WTO to its core mandate and rescuing the organization from becoming a "world bargaining organization" on anything and everything (Srinivasan 2004). Certainly, on the part of the developed countries, this would mean letting agricultural trade to be an integral part of multilateral trade liberalization as well as restraining them from bringing up issues that do not directly constitute policy-created barriers to trade in goods and services to the negotiating table. In tandem, developing countries should support the inclusion of service trade as an integral part of multilateral negotiations as well as give up the current special and preferential treatment that indefinitely exempts them from reciprocal commitments in the negotiations. To enable the G20 to work towards international cooperation on many of these trade-related issues, including rejuvenating the WTO, there is merit in setting up a G20 Trade Ministers Forum, just as there is the G20 Finance Ministers Forum to deal with global monetary and financial issues (ADB 2010).

#### 3.2. Resolving Global Payments Imbalances

Global payments imbalances – the U.S. running large current account deficits and some of the emerging markets, especially China, running large current account surpluses – have been with the global economy for some time now. In 2007, just before the recent global financial crisis, the U.S current account deficit accounted for about 1.4% of global GDP and China's current account surplus constituted about 0.7% of global GDP. Payments imbalances of this magnitude are neither sustainable for long nor desirable for the global economy. Such huge capital imports by the U.S. or, equivalently, capital exports to the U.S. by emerging markets - kept U.S. interest rates far too low for far too long leading to the initial asset price bubble in the U.S., subsequently precipitating the global financial crisis (Obstfeld and Rogoff 2009; and Bark and Rhee 2011). The immediate challenge for global governance is to ensure an orderly adjustment of these imbalances to more sustainable levels. Among other things, this would involve raising savings in the U.S. and consumption in China.

However, the long-term challenge for global governance is to prevent the recurrence of large payments imbalances in the first place. This would require regular monitoring of current account imbalances (and other indicators that underlie the imbalances) and some enforcement mechanism to prevent countries from running large current account imbalances either through exchange rate adjustments or through other modalities such as a levy on individual country payments imbalances (Eichengreen 2009; and Goldstein 2010). Whatever the mechanism, in order to ensure balanced global growth, the adjustment process needs to be made symmetrical between "deficit" and "surplus" countries (Crockett 2010).

At the heart of this issue is the fundamental challenge of aligning international trade flows with international financial flows – a challenge that has not been addressed satisfactorily since the Bretton Woods days, despite the introduction of the "scarce currency clause" in the IMF's original articles of agreement or the subsequent introduction of special drawing rights (SDR) as a synthetic global unit

of account. In a world of flexible exchange rates (the post-Bretton Woods system that has evolved since 1971), such alignment is supposed to have been brought about by the foreign exchange markets. But that adjustment process breaks down when some, especially big trading nations do not adhere to such a regime (Alessandrini and Fratianni 2008); hence, the need for international policy cooperation and coordination. Encouragingly, the G20 is addressing this issue under its mutual assessment process, although it is not clear how effective this process will be in practice (Dervis and Kharas 2011).

## 3.3. Managing Financial Globalization

Managing financial globalization and capital account liberalization is emerging as another issue for global economic governance. After the breakdown of the Bretton Woods system in the early 1970s, led by the IMF, there emerged a growing consensus that financial globalization, through capital account liberalization, is beneficial for growth, as it not only leads to a better allocation of the pool of global finance but also improves the access to finance for developing countries. The world witnessed a growing number of developing countries open up their capital accounts to varying degrees since then. However, subsequent experiences of several developing countries showed that financial globalization brought with it extreme volatility of capital flows and the attendant destabilizing effects. Part of the problem arose because of the pro-cyclicality of capital flows – when a developing country was performing well economically, large amounts of capital would flow in but at the first sign of economic weakness, it would flow out, often much faster than it flowed in. When it rained it poured, but then the rain often stopped abruptly, causing a drought.

Capital flows thus not only induced undue exchange rate volatility, but also exacerbated domestic economic cycles, more often than not posing difficult challenges to macroeconomic management in developing countries. Several studies thus came to the conclusion that unlike trade liberalization, capital account liberalization does not necessarily benefit developing countries (Kose *et al.* 2006). As a result, a rethinking is now underway on the pace, sequencing, and management of capital account liberalization by developing countries. In particular, issues such as how best to manage volatility of capital flows and whether or not capital controls should be included in the arsenal of policymakers' toolkit are now being freshly debated (IMF 2010b). Going forward, there is a need for developing not only a broad-based global consensus on the issues related to capital account liberalization and financial globalization but also modalities to assist developing countries in managing capital flows.

## 3.4. Revamping Financial Regulation and Supervision

The recent global financial crisis has exposed significant gaps in the regulatory and supervisory frameworks even for financial sectors in countries with mature financial markets and institutions. Not surprisingly then, a serious rethinking is underway on the need for tightening financial regulation and supervision. Since financial crises have major spillovers across national borders, shaping financial regulation and supervision needs international cooperation and coordination. The G20 has, therefore, given top priority to this issue. Among other things, it has established the FSB as the fourth pillar of global economic governance.

Despite a growing consensus for tighter financial regulation and supervision, however, there is much less consensus on the pace, degree, and modality of that tightening among countries. This would make the tasks of the G20, the FSB, and the IMF in reforming financial regulation and supervision formidable and challenging (Bark and Rhee 2011). Issues such as how to design countercyclical regulation, or how best to complement conventional micro-prudential regulation with macro-prudential regulation, or how to design and implement regular stress tests for national financial sectors are quite difficult ones to reach international

consensus on.

There is also the additional fact that developing countries are at a different stage of financial sector development, and thus require differential treatment on regulatory and supervisory norms than do developed countries. Indeed many developing countries around the world in general, and in Asia in particular, may benefit from more market freedom rather than tighter regulation. Arriving at an international consensus on balancing government regulation and market freedom would be made that much more challenging.

Overall, therefore, there is a need to guard against the temptation of across-the-board tightening of regulations and supervision that could ultimately take promising developing country financial markets to the 3:6:3 mode - borrow at 3%, lend at 6%, and be at the golf course by 3PM. This is especially important since financial crises have occurred almost at regular intervals for centuries and under various regulatory and supervisory frameworks (Reinhart and Rogoff 2009).

## 3.5. Striking the Right Balance between Legitimacy and Efficiency

Striking the right balance among the goals of good governance for the multilateral institutions and forums is emerging as a major issue for global economic governance. Ideally, multilateral institutions should be universal (globally inclusive), democratic (responsive to individual members), and efficient or effective (able to deliver services quickly) (Kawai and Petri 2010). In many respects, striking an appropriate balance among these goals holds center stage in shaping global economic governance for the 21<sup>st</sup> century. For example, in theory, the wide membership and consensus-based decision-making process makes WTO globally inclusive and democratic, but at the cost of sacrificing efficiency; in practice, however, decisions are taken, not by the general membership, but in small caucuses, giving both the U.S and Europe very high "invisible weighting" thus sacrificing legitimacy too (Verma 2002; and Kahler 2010).

The IMF and the WB also have wide membership and hence are globally inclusive, but their decision-making processes are based on explicit majority voting by member countries whose voting rights are based on quotas that do not necessarily reflect their relative economic weights. Not surprisingly, then, the decision-making processes of both these institutions are more efficient than those of the WTO but are less legitimate. Thus the need for necessary adjustments of voting rights of the member countries is emerging as a key issue. The IMF reviews its quotas and voting rights every five years but any proposed changes require 85% majority to be effective, making U.S. support a necessary condition for changes in quota and voting rights.

The FSB is the newest institution that has been created for global economic governance. Its membership is certainly narrower than that of the WTO, IMF and WB but wider than the FSF it replaces. It also has a formal institutional structure with a permanent secretariat, a full-time secretary-general, steering and standing committees, and working groups. Its decision-making is based on consensus. Although it is mainly a coordinating body, it does impose certain responsibilities and commitments to its members in matters of financial regulation and supervision. However, FSB is still in its infancy and only time will tell whether it evolves into an effective fourth pillar of global economic governance. Even at its early stage, FSB faces many challenges, the most important of which is its tiny staffing vis-à-vis its mandate and functions (Griffith-Jones et al. 2010). Its mandate and relationship with the IMF is also somewhat unclear. Some see merit in delineating the roles of the IMF and the FSB - IMF to be responsible for the stability of the "international monetary system" - covering primarily macroeconomic issues such as exchange rate regimes, international liquidity, and the balance of payments adjustment process, and the FSB to be responsible for the stability of the "international financial system" -- primarily covering issues such as oversight of financial markets and institutions and coordination of financial regulation and supervision (Crockett 2010).

# 3.6. Making a Success of the G20

As for the G20, despite being hailed as "the premier forum for international economic cooperation," there are concerns that once major advanced economies have recovered from the recent global financial crisis, the G20 may wither away. Several factors lead to that concern. First, since the G20 is a self-appointed forum, it lacks universal legitimacy even though the countries in the forum account for about 90% of global GDP, 80% of global trade, and two-thirds of the world's population (Eichengreen 2009a; Carin et al. 2010; and Bark and Rhee 2011). In particular, the over-representation of Europe and the under-representation of other parts of the world, especially Africa, exacerbate this concern. Second, there is the perception that the G20 agenda is still driven by the G7 (or the G8), since there are still large overlaps in the agenda of these two forums (Carin et al. 2010; and Kirton 2010; and Smith 2011). This could alienate the developing country members and create a two-tier system within the G20. Thirdly, the absence of a permanent secretariat for the G20 is seen as a constraint on its effective functioning (Carin et al. 2010; and Bark and Rhee 2011). Fourthly, the consensus-based decision-making by the G20 and the fact that whatever decisions it takes will have to be approved by the parliaments and other domestic oversight bodies in the respective member countries could pose a constraint on both speedy decision-making and implementation (Dervis and Kharas 2011). Finally, its relationship with the UN could continue to be a sticky issue, especially from the viewpoint of those countries which are excluded from the G20 (Kirton 2010).

There is thus the concern whether the G20 is built to last (Acharya 2011). For the G20 to be an effective steering committee for global economic governance in the  $21^{st}$  century, the forum should be able to show concrete results in addressing the many emerging issues of global governance. In other words, it should earn legitimacy by a result-oriented approach to global economic governance. Careful nurturing of the forum by both its developed and developing country members will be crucial.

# 4. Asia's Potential Role

It is in Asia's interest to strengthen the hybrid institutional architecture so that it could effectively address the emerging issues for global economic governance (ADB 2010). In particular, Asia could play a constructive role in: striking the right balance between legitimacy and effectiveness of the institutions and forums responsible for good global governance; rejuvenating the WTO and the multilateral trade negotiations that are so crucial for the largely open Asian economies; resolving the global payments imbalances in which Asia is both a part of the problem and the solution; developing an international consensus on sequencing, pacing, and managing capital account liberalization – an issue on which Asian countries have been thinking over ever since the 1997-98 Asian financial crisis; revamping financial regulation and supervision and at the same time ensuring that the new regime takes into account the imperatives for modernizing their financial markets. Asia's growing economic weight and strong presence in the G20 greatly enhances its potential to play such a stronger role in addressing all these emerging issues for global economic governance.

## 4.1. A Bigger and Richer Asia

In 1950, Asia's share in global output (at purchasing power parity, PPP) had bottomed out to about 15% compared to Western Europe's and United States' shares of approximately 26% each. But now, Asia's share has gone up to about 40% while Western Europe's share has fallen to 17% and the share of the US also fell to 19%. Even at market exchange rates, Asia's share in global output is now about 27% – similar to the respective shares of Western Europe and the U.S. Many Asian countries have now caught up with Western living standards and many more are on their way to achieving a similar feat, including the two most populous countries on this planet, China and India.

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A number of studies indicate that by the middle of this century, Asia could regain the dominant position it had held in the world some 250 years ago before the Industrial Revolution. One such recent study concludes: (i) Asia's share in world output at market exchange rates could almost double from the current 27% to over 50% by 2050, with seven countries – China, India, Indonesia, Japan, Korea, Malaysia, and Thailand – alone accounting for about 45%; and (ii) by 2050 Asia's average per capita income could be about \$40,000 (PPP) -- similar to Europe's today (ADB 2011b).

Asia's growing economic weight gives the region more resources to finance a stronger role in global economic governance. It also enhances Asia's bargaining power vis-à-vis countries and regions whose relative economic weight in the world economy is declining and likely to decline further. As the former Canadian Prime Minister put it " … the image of Hu Jintao, the president of China, and Manmohan Singh, the prime minister of India -- quite possibly the largest economies on earth within our life times - waiting outside while we held our G8 meetings, coming in for lunch, and then being ushered from the room so that we could resume our discussions among ourselves, is one that stayed with me … Either the world will reform its institutions, including the G8, to embrace these new economic giants, or they will go ahead and establish their own institutions" (Paul Martin in his 2008 book: Hell or High Water: My Life in and out of Politics, quoted in Smith 2011, p. 5).

## 4.2. Asia's Strong Presence in the G20

For some time now, Asian countries have been under-represented in the Bretton Woods institutions -- their quota and voting rights in these institutions have been disproportionate to their economic weight (Kawai and Petri 2010; and Virmani and Patra 2011). Another dimension of Asia's under-representation is more telling - absolute deprivation. The IMF and the WB have never been headed

by an Asian. As one prominent expert lamented "Not one among the 3.5 billion people in Asia can occupy any of the two posts, even though Asian economies have the largest foreign currency reserves and are the fastest-growing" (Mahbubani 2010). There is widespread perception that partly because of Asia's under-representation, the IMF's assistance to Asian counties during the 1997-98 Asian financial crisis was too small, too late, and not benign (as it came with inappropriate conditionalities).

Encouragingly, the G20 has now made IMF reform a key plank of its agenda. As a result, the "voice and participation" amendment to the IMF's Articles of Agreement in April 2008 was subsequently followed by completion of the  $14^{th}$  general review of quotas in December 2010. The recommended reform package includes a doubling of the IMF's quota to SDR 476.8 billion, a 6 percentage points increase in the quota (from the 2006 level) of Asian and other emerging countries, review of IMF Board composition to be done every eight years with all Board members to be elected rather than nominated; a comprehensive review of the current formula for quota allocation to be done by January 2013; and the deadline for the  $15^{th}$  general review of quotas to be brought forward by two years to January 2014 (Virmani and Patra 2011).

Going forward, Asia's strong presence in the G20 gives it much needed leverage not only in pushing ahead with the expeditious implementation of these recommendations but also in setting the agenda for future reform of the four institutional pillars of global economic governance (Carin and Heap 2010). The five Asian members of the G20 -- China, Japan, India, Indonesia, and Korea (A5) -- account for 27% of the forums' output at market exchange rates, one-third of the forum's output at PPP, and two-thirds of the forum's population. With the December 2010 IMF quota adjustments, which are expected to come into effect by end-2012, the total share of the A5 in the IMF quota will increase from 14.1% in 2006 to 18.4% (an increase of about 4.3 percentage points), mostly at the cost of downward revisions in quotas for Saudi Arabia, Canada, and most advanced European countries. Among the A5, China gets the largest increase (3.72% to

6.39%), followed by India (1.91% to 2.75%), Korea (1.35% to 1.80%), and Japan (6.12% to 6.47%), while the share of Indonesia is reduced marginally (0.97% to 0.95%).

### 5. Converting Asia's Potential into Reality: The Challenges Ahead

Asia's growing economic weight in the world and its strong presence in the G20 are necessary but not sufficient conditions for the region to play a bigger role in shaping global economic governance (Kahler 2010; Acharya 2011; and Cho 2011), but they certainly enhances the region's potential to play a bigger global governance role. Yet, realization of that potential would be conditional on Asia successfully addressing several challenges. In this context, political scientists emphasize the need for growth rebalancing, regional collaboration, and political leadership. However, taking a broader perspective adds two more challenges to the list -- strengthening national governance and adopting the global language

## 5.1. Rebalancing Growth

Despite successive economic miracles for decades, many Asian countries still depend heavily on export markets in the U.S. and Europe for growth. "Factory Asia" has been sustained with China importing capital goods from Japan, Korea, and Taiwan and raw materials and intermediate inputs from the ASEAN countries, assembling final products and exporting them to Western markets (Gill and Kahars 2007). As much as half of China's growth is generated by exports, and the dependence on Western markets for other East Asian countries is even higher once their indirect exposure through exports to China are factored in (Aquz 2010; and IMF 2010).

The capability to open or close a country's domestic market to trade is a

reasonable measure of the country's bargaining power in the global trade regime (Wolf 2004; Barton *et al.* 2006; and Kahler 2010). The more a country depends on export markets for growth, the lower will be that bargaining power. Not surprisingly then, in the current world trading system, the US and Europe, as the largest single markets, exert the greatest influence in the multilateral trade negotiations, despite the wide membership of the WTO and the supposedly consensus-based decision-making. Heavier export dependence also lowers the bargaining capacity of countries in global governance more generally, not just in the trade regime (Kahler 2010).

Therefore, for Asia to bargain for a much bigger role in global economic governance, it will have to generate more organic growth. That requires a rebalancing of the sources of its growth away from exports to domestic and regional demand. Many Asian countries need an "export-substitution growth strategy" that would transform them from being producer-exporters to at least producer-consumers. Raising regional demand is a key to that transformation. Ultimately, the Asian century will have to be one where Asia produces for its home markets rather than for markets around the world only (Roach 2009). Otherwise, how long will the less than 1 billion consumers in the U.S. and Europe (two-thirds of whom are also ageing rapidly) support the economic rise of 3.5 billion Asians? To some extent, as Asia grows bigger and richer, rebalancing may happen naturally, with an expansion of its middle class and the neo-rich (ADB 2011b). But that is not assured as East Asia's experience shows. Hence, there is a need for policy actions for rebalancing.

Raising consumption in China will have to be the key ingredient of Asia's growth rebalancing strategy. China has one of the lowest consumption-income ratios in the world (IMF 2010). Recent studies suggest that promoting service sector growth, developing the financial sector, letting the exchange rate to appreciate, and reforming the healthcare and pension systems are some of the ingredients required for raising the consumption-income ratio in China (Guo and N'Diaye 2010; and IMF 2010). For the middle-income countries of the Association of South

East Asian Nations (ASEAN), raising private investment - that has not revived after its collapse following the 1997-98 Asian financial crisis - should be a priority. A two-pronged approach is needed for this: improving the business climate and hastening the ASEAN integration process (Schou-Zibell and Madhur 2010; and Madhur 2011a). Although India is much less dependent on exports for growth, its export-dependence is increasing; given its huge infrastructure deficit, the obvious strategy should be one of raising infrastructure investment.

These national strategies could be complemented by regional initiatives to channel Asia's huge savings to infrastructure investment. Two recommendations made by recent studies that are worth pursuing are: the establishment of an Asian Infrastructure Forum for developing a regional infrastructure investment strategy and an Asian Infrastructure Fund for financing regional infrastructure projects (ADB and ADBI 2010 and 2011a).

## 5.2. Strengthening National Governance

For Asia to play a responsible role in global governance, governance reforms may have to begin at home (Kuroda 2011). That in turn would require ensuring people's representation and participation in decision-making, establishing accountable and responsive domestic institutions, administering the rule of law, and fostering a democratic polity. How can Asian countries play a credible role in shaping global economic governance if their own national governance standards are poor? It is true that: "one cannot assume •••• that a government that delivers competent domestic governance is equally good at addressing global challenges" (Mahubbani 2008, p. 176). However, it is most unlikely that countries with poor governance at home will have the credibility to make a claim on governing the global economy. High standards of national governance are only a necessary, but not a sufficient, condition for a country to contribute effectively to good global governance.

It is difficult to come up with a set of accurate indicators for measuring standards of national governance. Any assessment is thus bound to have an element of subjectivity. With that caveat, the World Bank ranks countries by several governance indicators. These country rankings are in the range of 0 to 100, so that a rank above 90 means that the country belongs to the top 10%. Conversely, if a country's ranking is below 10, it means that that country belongs to the bottom 10%. In terms of most of these WB indicators, Japan compares well with the U.S., followed by Korea (Table 1). Except for voice and accountability, Singapore also ranks as good as or better than the U.S. Outside of these three countries, all other Asian countries have much lower rankings than the U.S. on all the four indicators.

	Voice and Accountability	Government Effectiveness	Rule of Law	Control of Corruption
China	5	58	45	36
India	60	54	56	47
Indonesia	48	47	34	28
Korea	68	83	83	71
Japan	81	87	88	87
Singapore	34	100	92	99
Malaysia	32	80	65	58
Thailand	35	60	51	51
Philippines	45	50	35	27
USA	86	89	92	85

Table 1. 2009 World Bank Governance Indicators, Country Rankings

Source: World Bank, Worldwide Governance Indicators (www.govindicators.org).

The Economic Intelligence Unit (EIU) brings out indicators covering mostly the political aspects of national governance (Table 2). Once again, in terms of overall rankings and scores, Japan and Korea come closer to the U.S., while other Asian countries generally lag behind. India is an interesting case -- scores higher than the U.S. on electoral process and civil liberties as well as on functioning of government but performs worse in terms of political participation and culture - pointing to the fact that although India is a liberal democracy, it has some way to go before becoming a mature democracy.

	Country Ranking (1)	Overall Score	Electoral Process	Civil Liberties	Functioning of Government	Political Participati on	Political Culture (2)
China	136	3.1	0.0	1.2	5.0	3.9	5.6
India	40	7.3	9.6	9.4	8.6	4.4	4.4
Indonesia	60	6.5	6.9	7.1	7.5	5.6	5.6
Korea	20	8.1	9.2	8.8	7.9	7.2	7.5
Japan	22	8.1	9.2	9.4	8.2	6.1	7.5
Singapore	82	5.9	4.3	7.4	7.5	28.	7.5
Malaysia	71	6.2	6.5	5.9	6.8	5.6	6.3
Thailand	57	6.6	7.8	7.1	6.1	5.6	6.3
Philippines	74	6.1	8.3	9.1	5.0	5.0	3.1
USA	17	8.2	9.2	8.5	7.9	7.2	8.1

Table 2. 2010 EIU Democracy Index, Country Rankings and Scores

Note: 1) Ranking out of 167 countries.

2) Scres range from Worst (0) to Best (10).

Source: Economic Intelligent Unit, Democracy Index 2010 (www.eiu.com).

Many Asian countries thus have substantial scope for strengthening their national governance standards. Governance standards may improve as countries become richer, as it would enable them to investment more on governance. To some extent, that may well happen, but Asia could hasten that process by initiating policies to improve national governance (Katsu 2011). Encouragingly, most countries in the region do realize the importance of improving their governance standards. Even in China, there is a growing realization that the country has to gradually embrace a more liberal polity. As the Chinese Premier Wen Jiabao said

to a U.S. delegation in October 2006: "When we talk about democracy, we usually refer to three most important components: elections, judicial independence, and supervision based on checks and balances." We have to move toward democracy. We have many problems, but we know the direction in which we are going" (quoted in Mahbubani 2008, p. 144).

## 5.3 Institutionalizing Asian Integration

The ability to build regional options through collaboration among countries within Asia will be another key determinant of whether the region can translate its potentially larger role in global economic governance into reality. Credible regional options increase Asia's bargaining leverage vis-à-vis other regions and the established incumbents in the existing global forums and institutions (Kahler 2010).

Since the 1997-98 Asian Financial Crisis, Asia has taken several initiatives to promote regional cooperation and integration (ADB 2008). Those initiatives have recently culminated in: (i) the multilateralization of the Chiang Mai Initiative (CMIM) and the establishment of a \$120 billion regional reserve fund, (ii) the creation of a regional surveillance body – the ASEAN+3 Macroeconomic Research Office (AMRO), and (iii) the creation of a regional Credit Guarantee and Investment Facility. In addition, the ten ASEAN countries have recently ratified a Charter and are set to achieve an ASEAN Economic Community by 2015. Even South Asia is increasingly realizing the need for regional integration and has now established a South Asia Development Fund. Moreover, links between East and South Asia are growing (Francois *et al.* 2009). China has now become India's largest trading partner, whereas only a decade ago Indo-China trade was miniscule.

Despite these achievements, Asian integration is weakly institutionalized. A recent study has explored several options for strengthening the institutional base of Asian integration (ADB 2011a). Three of the study's recommendations are worth

fast-tracking for implementation: (i) consolidating the bilateral and plurilateral FTAs in the region into an Asia-wide Free Trade Area, (ii) establishing an Asian Monetary Fund, building on the recently created CMIM and AMRO, and (iii) establishing an Asian Financial Dialogue. In the interim, there is a need to make a success of the recently established \$120 billion regional reserve fund and the regional surveillance body, AMRO. Developing the necessary regional surveillance capacity will be a major challenge. It would require that member countries give AMRO adequate resources and autonomy to function effectively and conduct objective economic surveillance of the member countries for meaningful peer reviews.

Stronger institutional base of Asian integration will enable it to come up with more unified regional views on emerging issues in global economic governance. It would also give Asia the leverage to gradually move the institutional architecture towards a multilayered structure along the lines of "functional federalism" practiced in many countries at the national level (Kawai and Petri 2010). In such a structure, global institutions and forums will focus on areas of governance where the issues involved are primarily global in nature, and delegate the responsibilities of governance in other areas to regional forums and institutions, especially areas where issues involved are primarily regional or sub-regional in nature. Asian regional forums and institutions would thus form an integral part of the global economic governance architecture (Kawai and Petri 2010; Henning 2010; and ADB 2011a).

Pending the emergence of such a multilayered architecture, an option that the Asian regional forums (such as the ASEAN, ASEAN+3, East Asia Summit, and the South Asian Association for Regional Cooperation) should consider immediately is to align their regular meetings with the G20 meetings, so that any common positions on global governance issues that these forums may have could be effectively pursued at the G20 through those countries who are simultaneously members of these forums and the G20 (Drysdale 2010). Moreover, there would be merit in the A5 holding meetings among themselves for exchanging information and holding consultations for arriving at unified positions on relevant issues of
global governance that could then be pursued in the G20 Forum.

#### 5.4. Providing Leadership

"Asian countries should now provide leadership and become drivers rather than staying passengers in the global bus" (Mahbubani 2010). "Asia's role in global governance cannot be de-linked from the question: "who leads Asia?" (Acharya 2011, p. 863). Political scientists specify three determinants that enable nations to play leadership roles: resource, will, and legitimacy (Acharya, 2011). It is definitely worth it to apply these criteria to the A5, to see how they measure up to the leadership challenge.

Japan has the resource for leadership (although that is slowly eroding following two decades of economic stagnation and a public debt of 225% of the output). Its regional legitimacy – because of the war-related history – is of concern to its neighbors. Even if the war-related "legitimacy deficit" could somehow be resolved over time, Japan's reluctance to play the leadership role seems to be a major constraint. Japan's dependence on external demand for growth and the reluctance to credibly open up the domestic market for imports – has made it somewhat reluctant to play the protagonist role in global economic governance that is commensurate with the size of its economy, despite its handsome financial contributions to multilateral institutions (Kahler 2010).

China's current political system may be a constraint on its leadership legitimacy, but that may change over time. However, despite the recent rise, it still has substantial economic catching up to do. China's self-designation as a developing country may be a pointer to that resource constraint. Over time, the resource constraint may ease. However, by paraphrasing its emergence as a "peaceful rise," China is perhaps pointing towards its reluctance to embrace a bigger global leadership role. It appears that China is content with a shared leadership role in regional forums such as the ASEAN+3 (Kahler 2010; and Acharya 2011). With a liberal democracy, India's political system may be an advantage in terms of leadership legitimacy. However, being poorer than even China, it has serious resource constraints and many domestic economic problems to focus on. Moreover, although India's links to the economically bigger and richer East Asia is growing, it is still not well integrated within Asia for it to be a region-wide economic power. For sometime into the future, India may thus focus on its South Asian leadership role. Indonesia has similar constraints on leadership role as India – a democratic polity but still a developing country with many domestic economic problems. However, being the largest country in the ASEAN, it has a special role within the ASEAN, including representing ASEAN in the G20, even as it takes care of its own national interests in the global forum.

The possibility of a single nation emerging as the Asian leader for international economic cooperation appears less possible at this stage. What is quite possible then is the evolution of a shared Asian leadership among, say, the A5, although some argue that such a shared leadership model will be thwarted by the regional rivalries - between China and Japan on the one hand and between China and India on the other (Kahler 2010; and Acharya 2011). Encouragingly, there are some indications that in recent years Asian countries have demonstrated the capacity to work together on a shared leadership model. The ASEAN, as a regional institution, has been a good example of that. And in more recent years, China and Japan have been able to work together on regional initiatives such as the CMIM and AMRO, tackling sticky issues such as individual country contributions, voting rights, and decision-making modalities to the CMIM amicably and even sorting out the thorny issue of who heads AMRO. It is thus possible that countries may strike political compromises if the economic benefits that flow from such compromises are perceived to be significant. In such a shared leadership model, middle economic powers like Korea will have a significant role to play, as it has already been evident from the experience of regional forums such as the ASEAN+3.

Or else, is there an inherent unwillingness among Asians to take on leadership roles, as a recent perception-survey on Asian Americans in the U.S. seems to indicate? The survey found that Asian Americans are: (i) great workers (competent, intelligent, and dedicated) but not great leaders; and (ii) do not even aspire to advance to leadership positions commensurate with their education, experience, and competence (Sy *et al.* 2010). Possible reasons for this leadership deficit seem to be social introversion, verbal inhibition, quiet demeanor, passivity, and reserved manner. These results seem to resonate with what some experts said in a slightly different context: "Barriers remain to Asia playing a greater role on the world stage, however. In particular, there is little appetite for true leadership from Asia: Asians want to grow and perpetuate the global system not revolutionize or reset it" (Mahbubani and Chesterman 2010, p. 1). Are these survey results simply an aberration? Or, is the Asian leadership style so different from the American model that the survey is simply unable to capture? These issues are worth examining and addressing.

#### 5.5. Adopting the Global Language

Asia has been very successful in globalizing its economies through international trade, investment, and capital. Asian countries have also welcomed and embraced the information technology revolution with open arms. To varying degrees, they have also adopted several aspects of modern Western culture, music, movies, and even the dress code. This shows the very flexible and adaptable nature of Asians. Going forward, Asia needs to make more, perhaps much more, progress in another complementary area of globalization – adopting the global language, or the global lingua franca – English.

The flattening of the global economy increasingly requires English language competence as a crucial skill, whether in private business, international diplomacy, or global politics (Du 2001; Kwan 2002; Crystal 2003; Lazaro and Medalla 2004; and Qi, 2009). English is the most widely spoken language in the world -- by more than 1.5 billion people in more than 100 countries; about 85% of international

organizations make use of English, over 90% of the published articles are written in English (Crystal 2003). English is projected to be the most widely spoken language in the world even in 2050 (Graddol 2001). Adopting the global common language will enable Asians to better communicate their positions among themselves, with the rest of the world, and in global forums and institutions.

Better communication is not the only benefit of adopting English. Since knowledge dissemination in all subjects -- science, engineering, technology, social sciences and humanities, art and architecture -- is done in the English language, adopting that language would give Asians better access to the global knowledge pool in general. Hence, by tapping the network externalities of English, Asia can have better knowledge assimilation and accumulation, even as it has access to cost-effective global communication.

Fortunately, realizing the importance of the English language, many Asian countries have introduced English as a second language at an early stage of their education curricula (Lazaro and Medalla 2004; and Qi 2009). A March 2011 online survey of English proficiency by English First (EF) – a global language training company – indicates that out of the 2.3 million respondents it surveyed in 44 countries, Korea and Japan were ranked 13 and 14 (moderate proficiency), while China and India were ranked 29 and 30 (low proficiency), and Indonesia and Thailand were ranked 34 and 42 (very low proficiency) (EF 2011). Interestingly, India, despite its British legacy and the reputation as an English-proficient nation, is no more English proficient than the rapidly improving China; similarly, despite Hong Kong's historic ties with the UK and the official status of English as a language of the government, it does not significantly outpace Korea and Japan (EF 2011).

Leaving aside methodological issues of sampling, and even variations in access to computers and internet, it is possible that the EF online survey might have inadvertently put too much emphasis on testing English grammar proficiency. Quite often, people may know better English grammar than native English speakers but cannot speak or write a sentence in practice without having an English-local language translation book by their side.

Another way of assessing English proficiency would then be to look at the number of people who speak English at least as a second language, although such estimates would be sensitive to how spoken skill is defined and the method of data collection. By that measure, out of the 126 countries, India came in second (after the U.S.), followed by the Philippines at number 5, and China at number 17 (Table 3). At 80%, Singapore has the highest percentage of English-speaking people in Asia, followed by the Philippines (55%) and Hong Kong (36%). Even though India has the largest number of English speakers in Asia, the percentage of people speaking the language is only around 11%.

	Rank	Population (millions)	Population (%)		
USA	1	251.0	95.8%		
India	2	125.0	11.4%		
Philippines	5	50.0	55.4%		
Pakistan	9	18.0	11.0%		
China	17	10.0	0.8%		
Malaysia	20	7.0	27.2%		
Thailand	22	7.0	10.0%		
Singapore	35	4.0	80.0%		
Bangladesh	38	3.5	2.2%		
Hongkong	47	2.5	35.6%		
Sri Lanka	52	1.0	17.7%		
EU27	2	230.0	27.0%		

Table 3. Wikipedia Ranking By English Speaking Population (Out of 126 Countries)

Source: Wikipedia (2010).

Irrespective of the measure one uses, many Asian countries have substantial leeway for improving their global language skills. While globalizing the language skills of its people, it is possible that Asians will also 'Asianize' English by modifying and adapting it to suit their own requirements, just as the Americans have Americanized British English. "Indeed, if there is one predictable consequence of a language becoming a global language, it is that nobody owns it anymore. Or rather, everyone who has learned it now owns it – "has a share in it' might be more accurate – and has the right to use it in the way they want" (Crystal 2003, pp. 2-3).

Thus, even if a small percentage of the 3.5 billion Asians use the language in the future, English will be de-westernized, so that any stigma that may be attached to Asians using a Western language will be vastly reduced. English will truly become an Asian language as much as it will be a global language.

## 6. Conclusion

Reflecting the balance of economic power of the time, Asia did not play a major role in either designing the postwar institutional architecture or setting the agenda for global economic governance. Since then and in more recent decades, the center of global economic gravity has shifted towards Asia and this trend is likely to continue in the decades to come. This gives Asia a historic opportunity to play a much stronger role in shaping 21<sup>st</sup> century global economic governance.

Adapting an analogy from Indra Nooyi, the CEO of PepsiCo, if the 21<sup>st</sup> century global economy is a hand: (i) Asia is its thumb finger – strong, powerful, and ready to assert itself as a major player on the global stage; (ii) Europe the index finger – the cradle of democracy and western civilization and the basis for most of the global commercial and business laws; (iii) North America, U.S. in particular, the middle finger – the longest finger, stands out and anchors most functions that the hand performs; (iv) South America the ring finger – symbolizes love, passion, and the sensuous beats of the mambo, samba, and tango; and (v) Africa

the little finger - failed to catch up with other regions - yet, when it is hurt, the entire hand feels the pain (Nooyi 2005).

The above analogy well summarizes the emerging global balance of economic power and Asia's position vis-à-vis the other parts of the world. It also avoids posing the issue of Asia's role as one of Asia (the East) verses the West. Rather the issue can now be posed as how Asia and the rest of the world can work together in shaping global economic governance. This is what international economic cooperation for global governance is all about. Viewed from this perspective, the key conclusion of this paper is that with Asia getting bigger and richer, it is already acquiring the potential to play the "thumb role" in global economic governance - in reforming the institutional architecture, setting the agenda, and addressing the emerging issues; realization of that potential would, however, depend upon how successfully the region addresses the challenges of: rebalancing the sources of growth, strengthening national governance, institutionalizing regional integration, providing political leadership, and adopting the global lingua franca. Encouragingly, countries in the region seem to have realized the need for addressing many of these challenges and hopefully will succeed in doing so.

The conclusion of this paper is thus one of hope and optimism about Asia's role in shaping 21<sup>st</sup> century global economic governance, especially compared to the less optimistic conclusions reached by recent papers on the subject (Kahler 2010; Acharya 2011; and Cho 2011). That said, it is good to remind oneself that: "•••• optimistic outcomes do not happen on their own. They require decisive human intervention" (Mahbubani 2008, p. 9).

## References

- Acharya, Amitav. 2011. "Can Asia Lead? Power Ambitions and Global Governance in the 21<sup>st</sup> Century." *International Affairs*, 87, 4, pp. 851-869. (July)
- Alessandrini, Pietro and Michaele Fratianni. 2008. "Resurrecting Keynes to Stabilize the International Monetary System." Money and Finance Research Group (MFIR) Working Paper No. 8. (October)
- Aquz, Yimlaz. 2010. "Export Dependence and the Future of growth in China and East Asia." *South Bulletin*, Issue No. 48, pp. 1-5. (June)
- Asian Development Bank (ADB). 2008. Emerging Asian Regionalism: A Partnership for Shared Prosperity. ADB.
  - \_\_\_\_\_. 2010. Asia's Strategic Participation in the G20 for Global Economic Reform. ADB.
  - \_\_\_\_\_. 2011a. Institutions for Regional Integration: Toward an Asian Economic Community. ADB.
  - \_\_\_\_. 2011b. Asia 2050: Realizing the Asian Century. ADB.
- ADB and Asian Development Bank Institute (ADBI). 2010. Infrastructure for a Seamless Asia. ADB.
- Bark, Tae-Ho and Yeong-Seop Rhee. 2011. "The G20: From Seoul to Paris and Beyond." Updated Version of the Paper presented at the GSIS-GEM Conference on Korea and Europe: At the Crossroads, Science Po, Paris, 18-19 October 2010.
- Barton, John H., Judith L. Goldstein, Timothy E. Josling, and Richard H. Stenberg. 2006. The Evolution of the Trade Regime: Politics, Law, and Economics of the GATT and the WTO. Princeton University Press.
- Brookings Institution. 2011. *Think Tank 20: Macroeconomic Interdependence and the G20.* (April)
- Cho, Je Yoon. 2011. "What Do Asian Countries Want the Sea at the High Table For? G20 as a New Global Economic Governance Forum and the Role of Asia."

ADB Working Paper Series on Regional Economic Integration, 73. (February)

- Carin, Barry and Peter Heap. 2010. Asians Can Think: A Time for Asian Leadership at the G20. East Asia Forum, 4. (November)
- Carin, Barry, Paul Heinbekker, Gordon Smith and Ramesh Takkar. 2010. Making the G20 Summit Process Work: Some Proposals for Improving Effectiveness and Legitimacy. CIGI G20 Papers, No. 2. (June)
- Crockett, Andrew. 2010. "What Have We Learned from 50 Years about the International Financial Architecture." Reserve Bank of Australia 50th Anniversary Conference, pp. 77-86.
- Crystal, David. 2003. *English as a Global Language*. Cambridge University Press (second edition).
- Dervis, Kermal and Homi Kharas. 2011. "Macroeconomic Policy Interdependence and the G20." Brookings Institution, Think Tank 20: Macroeconomic Policy Interdependence and the G20. (April)
- Drysdale, Peter. 2010. "Asia's Global responsibilities through Global and Regional Arrangements." East Asia Forum, 10. (October)
- Eichengreen, Barry. 2009a. "The G20 and the Crisis." East Asia Forum, 10. (March)
  \_\_\_\_\_. 2009b. "Out of the Box Thoughts about the International Financial Architecture." IMF Working Paper. (May).
- Education First (EF). 2011. EF English Proficiency Index. (March)
- Finkelstein, Lawrence S. 1995. "What is Global Governance?" *Global Governance*, 1, pp. 367-72.
- Francois, Joseph, Pradumna Rana, and Ganeshan Wignaraja. 2009. Pan-Asian Integration: Linking East and South Asia. ADB.
- Gill, Indermit and Homi Kharas. 2007. An East Asian Renaissance. The World Bank.
- Goldstein, M. 2010. "Integrating Financial Regulatory Reform with Reform of the International monetary System." Paper Presented at the ADB-Peterson Institute

of International Economics Conference on Reshaping Global Econ and the Role of Asia in the G20, Seoul, Korea, 26-27 October.

- Graddol, D. 2001. "The Future of English." Ann Burns and Caroline Coffin eds. *Analyzing English in a Global Context.* London: Routledge.
- Griffith-Jones, Stephany, Eric Hellener and Ngaire Woods. 2010. The Financial Stability Board: An Effective Fourth Pillar of Global Economic Governance? The Center for International Governance Innovation, Special Report. (June)
- Guo, Kai and Papa N'Diaye. 2010. "Determinants of China's Private Consumption: An International Perspective." IMF Working Paper No. 93. (April)
- Henning, Randall C. 2010. "Connecting Regional and Multilateral Financial Institutions." Paper prepared for ADB. (September)
- Du, Hui. 2001. "The Globalization of the English Language: Reflections on the Teaching of English in China." *International Education Journal*, Vol. 2, No. 4, pp. 126-133.
- International Monetary Fund (IMF). 2010a. *Global Economic and Financial Survey*, Chapter 3: "Does Asia Need Rebalancing?" (April)
- \_\_\_\_\_. 2010b. *Global Financial Stability Report.* Chapter 4: "Global Liquidity Expansion: Effects on 'Receiving Economies' and Policy Response Options." (April)
- Kahler, Miles. 2010. "Asia and the Reform of Global Governance." Paper Presented at the Conference on Asia Reshaping the Global Economic Order: Trade and Finance, Tokyo. (April)
- Katsu, Shigeo. 2011. "Transforming Governance and Institutions." Harinder Kohli, Ashok Sharma, ad Anil Sood eds. *Asia 2050: Realizing the Asian Century*, pp. 221-242. Sage Publications.
- Kawai, Masahiro and Peter A. Petri. 2010. "Asia's Role in the Global Economic Architecture." ADBI Working Paper. (August)
- Kirton, John. 2010. "The G20 and Broader Multilateral Reform." Paper Presented at

the Conference on What Role for the G20 in a Post-Crisis World, Seoul, 15-16 July.

- Kose, Ayhan M., Eswar Prasad, Kenneth Rogoff, and Shang-Jin Wei. 2006. "Financial Globalization: A Reappraisal." IMF Working Paper No. 189. (August)
- Kuroda, Haruhiko. 2011. "Asia's Future: Regional Challenges and Global Responsibilities." Address to the 44th ADB Annual Meeting, Ha Noi, Viet Nam. (May 5)
- Kwan, C. H. 2002. "How to Fix Japan's English language Deficit." Asia Times. (June 27)
- Lazaro, Dorothea C. and Erlinda Medalla. 2004. "English as a Language of Trade, Finance, and Technology in APEC." Philippine Institutute of Development Studies, Working Paper No. 36.
- Madhur, Srinivasa. 2011. "Global Crisis and ASEAN: Impact, Outlook, and Policy Priorities." Saw Swee-Hock eds. *Managing Economic Crisis in Southeast Asia*, pp. 23-53. Singapore: Institute of Southeast Asian Studies
- Mahbubani, Kishore. 2008. "The New Asian Hemisphere: The Irresistible Shift of Global Power to the East." Public Affairs, New York.
- \_\_\_\_\_. 2010. "Move over to the East, Asia is There." *China Daily*, 23 December (Interview reported by Li Yang).
- Mahbubani, Kishore and Simon Chesterman. 2010. "Asia's Role in Global Governance." New York University Public Law and Legal Theory Working Paper No. 175.
- Nooyi, Indra. 2005. Address at the Columbia University Business School Graduation Ceremony. (May 15)
- Obstfeld, Maurice and Kenneth Rogoff. 2009. "Global Imbalances and the Financial Crisis." Paper presented at the Federal Reserve Bank of San Francisco Conference on: Asian Economic Policy, Santa Barbara, CA, 18-20 October.
- Penttila, Risto. 2009. "Multilateralism Light: The Rise of Informal International Governance." Center for European Reform, EU202 Essay. (July)

- Qi, Shen. 2009. "Globalization of English and English Language Policies in East Asia: A Comparative Perspective." *Canadian Social Science*, Vol. 5, No. 3, pp. 111-120.
- Reinhart, Carmen M. and Kenneth Rogoff. 2009. *This Time is Different: Eight Centuries of Financial Folly*. Princeton University Press.
- Roach, Stephen. 2009. The Next Asia: Opportunities and Challenges for a New Globalization. John Wiley and Sons Inc.
- Schou-Zibell, Ana Charlotte and Srinivasa Madhur. 2010. "Regulatory Reforms for Improving the Business Environment in Selected Asian Economies—How Monitoring and Comparative Benchmarking Can Provide Incentive for Reform." ADB Working Paper Series on Regional Economic Integration, Asian Development Bank. (January)
- Smith, Gordon S. 2011. G7 to G8 to G20: Evolution in Global Governance. CIGI G20 Papers, No. 6. (May).
- Srinivasan, TN. 2004. The Future of the Global Trading System: Doha Round, Cancun Ministerial, and Beyond. Mimeo. Yale University. (April)
- Sy, Thomas, Lynn M Shore, Judy Strauss, Ted H. Shore. 2010. "Leadership Perceptions as a Function of Race-Occupation Fit." *Journal of Applied Psychology*, Vol. 95, Issue 5, pp. 902-919 (September)
- Verma, Sabrina. 2002. Improving Global Economic Governance: Trade-Related Agenda, Development and Equity. Occasional Paper. Geneva: South Center. (August)
- Virmani, Arvind and Michael Debabrata Patra. 2011. "IMF Reforms 2010: Do They Mirror Global Realities? *Economic and Political Weekly*, XLVI 3. (July)
- Wolf, Martin. 2004. "Globalization and Global Economic Governance." Oxford Review of Economic Policy, Vol. 20, No. 1, pp. 72-84.

# Strategic Materials, Scarcity, Conflicts A Geopolitical Approach

Stefania Paladini

## 1. Introduction: Scarcity and Conflict in XXI Century<sup>36]</sup>

Since traditional geopolitics has recently been reformulated in terms of geo-economics, a central point has become the competition over strategic resources. The new centrality of economic and trade competition clearly represents a substitution for military confrontation among great powers, with the growing scarcity of key resources making it even more acute. Thus states' competition is now centred not on "strategy and security" but protection of "vital economic interests' by geoeconomic defences, geo-economic offensives, geo-economic diplomacy, and geoeconomic intelligence" (Luttwak 1993, 19).

In the first six months of 2008, the world experienced a sharp rise in the consumption of minerals, which, after a dip due to the world economic crisis, has resumed its ascending trend and putting strong pressure on their prices, food and oil *in primis*.

This has attracted renewed attention to the issue of conflicts over strategic

<sup>36)</sup> This introductory section draws heavily from Paladini & George, 2011; see the article for a more articulated discussion.

and scarce resources, and their likelihood. According to Klare (2001, 2010) conflicts related to resources will likely be the reason for future wars.

There is abundant literature regarding evidence of resource-related conflicts. The aim here is to provide a general overview of the main issues, without arguing on the validity of a specific theory. This seems necessary in order to put into a more general context the discussion of the second part, regarding policy choices of particular states to address what is perceived as resource shortage and security threats from strategic supplies.

On a purely theoretical level, the general resource issue is a problematic one.

A general theory cannot be proposed on the basis of available data – since things change a great deal depending on the resource itself. While scarcity certainly has a role in the onset of conflicts, clear relationships (association and/or correlation) are impossible to demonstrate in general; so many distinctions have to be made with each single case, that it would be better to treat them separately and to renounce a unifying framework which includes all natural resources. Furthermore, getting quantitative evidence is hard, given the fact that available databases are not comparable from a statistical point of view and often present consistency and reliability problems. But some general assessments can be made here regardless, to provide a theoretical framework to the sourcing and stockpiling analysis carried out in the main part of this paper.

First of all, non-renewable resources are more likely to cause violent conflicts<sup>37</sup>) than renewable ones. This can be verified easily by a quick review of the available literature on the subject. To be more specific, the so-called "resource wars" (Klare

<sup>37)</sup> Even the very definition of conflict varies according to how many deaths are necessary and without comparable results as a consequence. Some datasets code for "war" events, while others use "armed conflict". "War" is defined by the Norwegian PRIO COW dataset is an event which provokes more than 1000 casualties. In the Swedish Uppsala dataset instead, the more loosely and widely defined category of "armed conflict" is adopted, and coded as one causing at least 25 deaths. (The two are the most widely used database for conflicts analysis)

2001, 2008) are generally related to energy-related issues. In this case, linkages are quite evident.

However, beyond oil, evidence of direct relations between the presence of a resource and onset of conflicts are more nuanced, not to mention the influence of other factors. Moreover, De Soysa and Neumayer (2007) showed in their dataset, by using rent data, that only energy wealth is positively correlated with increasing the risk for onset of civil war. As a general rule, "countries that derive more than one third of their export revenue from oil have a higher risk of civil war onset" (De Soysa and Neumayer 2007, 12). The same, however, is not true, or proven for mineral wealth, where things seem to be pretty different. Finally, other studies (Humphreys 2005; Smith 2004) raised doubts even on the energy correlation. As Samset (2009) in her review of the literature about conflicts and natural resources argued, while there is a certain link between the two, it is much more difficult to define the exact type of the relationship, especially if energy is not included in the list of commodities.

It has been observed that non-renewable resources have been causing more intra-state conflicts than inter-state war. A possible explanation is that because mineral resources are generally fought over in order to use their income for weaponry (this is often the case in Africa) and 40% of all intrastate conflicts since 1950 have a proven connection to natural resources. This category accounts also for a large section of evidence in the dataset.

One of the most common approach here is the commodity chain analysis (O'Lear and Diehl 2005; Le Billon 2001). This is generally done to analyse intra-state conflicts, instead of addressing inter-state competition, concerning which the evidence looks even less compelling. One of the most quoted analyses on the relationship between conflicts and resources, by Collier (2000), focused specifically on civil wars, where he found a positive correlation.

However, this analysis only works for natural resources broadly defined, but not for a single commodity, as significant datasets are difficult to build (Ross 2004) and they also depend (and vary) on the way wealth from commodities is calculated and coded (Fearon and Laitin 2003). And often variability resides more on the way data are collected than on the data itself. It is not, or not only, that databases themselves are the only cause of the variability; but certainly, the way they are built have as much influence as the variables they collect.

This is a long debate, and a complex one, and cannot be discussed in a working paper. It will suffice here to say that, given the variability among and inside dataset formulation, other sources of variance are difficult to identify and even more difficult to prove at a statistical level. Comparison among them often proved impossible as well – or at least only valid at a qualitative level; but certainly not for a quantitative analysis.

There are other complications as well. As previously mentioned, other problems will surface when resources are divided into renewables and nonrenewables.

Soft commodities (or renewable resources) as forestry, fishing and agricultural products, without mentioning water (which will lead to yet another lengthy discussion) generally proved to be only weakly related to violent conflicts (Homer-Dixon 2000; Theisen 2008) and cannot be included in a general formulation with other natural resources. For all these considerations, the analysis here has been restricted to mineral, metal resources only – leaving all the rest out.

Much care is recommended even when making assumptions on the basis of general data in this particular and more restricted field of metal resources. A detailed analysis of specific circumstances is always necessary to avoid dangerous generalisations and faulty conclusions.

After these preliminary considerations, and having set some important reference points, the paper will now discuss reasons for resource scarcity, the way the phenomenon is perceived by the major world players and what has been done and/or prepared to address the issue. Only hard commodities (minerals) will be considered, while soft commodities (forestry, fishing and agricultural products) and water will not be not taken into account for the abovementioned motivations. More specifically the analysis will be centred on the different strategies states use to secure strategic materials, either working on the sourcing level or on stockpiling – or both. Important considerations and clear policy choices are prerequisites for each country when deciding its long-term strategy to secure what they identify as critical.

Finally, some scenarios with the identification of likely "chocking points" linked to the states' choices will be discussed in the conclusion.

## 2. A Geopolitical Approach to Resources Management

#### 2.1. New Players, New Scrambles

As announced in NIC 2025 trends, new players (not only BRICS,<sup>38</sup>) but others as well) will enter and change the rules of the game in the competition for resources, in some cases in a dramatic way.

In present times of enhanced competition for scarce resources and high market prices for commodities, it becomes essential for countries to have coherent resource policies. And until recently,<sup>39</sup> new players have looked more focused and enacted policies more coordinated and aggressive than ones presently established.

The rise of new powers provoked an increase in consumption and tension on resource acquisition, which resulted in stronger competition and in some case in a "scramble". Other trends at work in this context are new technologies which increasingly require new, rare materials, as advances are made in information technologies, green technologies and alternative energies.

<sup>38)</sup> The term is referring here to China, India, Brazil, Russia and South-Africa, an update of the now famous Goldman Sachs' acronym.

<sup>39)</sup> Things have started to change in recent years, however. The US, the EU and the UK have all published policy papers at the central government level, illustrating national strategic approaches to address the scarcity of natural resource; more on this point later in the text.

While REEs<sup>40</sup>) are by no means the only scarce minerals, their story is a good illustration of the problems and of the issues at stake (Paladini 2010).

As a consequence, as materials become scarcer, the danger of trade wars, export quotas and even straightforward bans increased.<sup>41</sup>

China is generally the primary target in this case, and it is commonly blamed for the commodities price boom in the first half of 2008 and for increasing scarcity and competition.

This looks only partially justified. It is true that China's rise at least doubled the pressure on minerals, as China is now the largest consumer of quite a few raw materials. This has certainly been the case of aluminium, palm oil, cotton, soybeans, rare earth elements, copper, lead, nickel, tin, zinc, iron ore, coal, wheat, rice, rubber, steel, timber, and, since 2010, oil. "Since 2002, China has accounted for half the world's growth in consumption of steel, copper, and aluminium; nearly all of the world's growth of nickel and tin, and more than the world's growth of lead and zinc." (Groswold, Cato Institute 2007). The price pressures have been documented and, when China has been a net exporter, as in the case of aluminium and rare earths,<sup>42</sup>) prices have been flat, proving its influence albeit indirectly.

However, other reasons can be mentioned to provide a useful explanation for rising prices. While an in-depth analysis cannot be carried out in this context for reasons of space, a few points can be offered for consideration.

First of all, there are evidences (Cuddleton & Jerrett 2008) that metal prices entered the early phase of yet another super cycle at the beginning of the 21st

<sup>40)</sup> Here the reference is clearly to the REEs restriction imposed by China in terms of export quotas since 2004 and to the halt of REEs shipment in October 2010 after the naval incident with Japan. More details follow later in the text as well.

<sup>41)</sup> There is an abundant literature available about the increase of these kinds of measures since 2008, when the strain on resources made commodities and food prices skyrocketed, triggering a series of protectionist actions and retaliations in kind.

<sup>42)</sup> The consideration is valid for REEs until 2009. As well-known, in 2010 China has dramatically lowered the export quota allowed and this has led to price tensions and to a boom in the sector, which reminds the one affecting uranium some time ago.

century. The first one was linked to industrialization in the US, the second to Japan and the third will be linked to China. This is expected to have lasting consequences.

Also, statistical analysis shows that energy crisis and mineral scarcity are correlated. This is because mining, extraction, and mineral ores concentration consume huge amounts of energy. The energy required for extraction grows exponentially with lower ore grades, which are now being sought for resource depletion. The current high energy prices contributed much to making extraction more costly.

Furthermore, reduced capacity in minerals is widely documented. This industry bottleneck was a consequence of prolonged low prices in 1980s and 1990s, which depressed global investment in commodity production. High capacity plants are very expensive, and low prices made them less competitive. As a result, shortages are now looming.

Finally, commodities became quite popular as investments in recent years, in terms of futures and other derivatives. Only at the NYMEX did oil futures contracts increase, by four-fold in the past decade and non-commercial contracts now make up one-sixth of the market (Groswold, Cato Institute 2007).

It would certainly be unfair to pretend that China is the only cause of the current resource scarcity. However, the calculated policies on the part of China and that of its SOEs aggressively pursuing acquisitions, as well as its offer of investment and aid to countries without strings attached will not make its case popular. Also, it can be argued that the more assertive China becomes, greater will be the frequency of retaliation measures and strategies of containment against it (Sempa 2009).<sup>43</sup>)

<sup>43)</sup> There is plenty of evidence this is already happening. A few examples are the failures in acquisitions China experienced by China any time it has tried to acquire strategic resources or business in advanced countries, as it has happened with REEs (Lynas in Australia), iron (Rio Tinto), oil (Unocal), and telecommunication assets in the US.

On the other end, and to make things more complicated, resource producers are also looking vulnerable; and high prices and increased competitions may, in fact, be harmful to them. As a matter of fact, many resource producers depend almost completely on resource exports for their foreign exchange and this makes them vulnerable to price fluctuations.

For more than 20 countries non-renewable natural resource exports provide up to three-quarters of export earnings (IMF 2007). As the market for natural resources and rights of prospection and allocation are highly inefficient (WTO 2010), there are much differences in prices in reality, and this is generally not good for current account balance of poor countries, without even having to mention the resource curse argument.<sup>44</sup>)

All of this can make these countries more willing to accept long-term agreements at the government level, and more than welcoming toward interest displayed by China and other emerging powers in their resources. When a resource becomes or is considered strategic, however, the level of attention it gathers at international level changes and the presence of new players on the territory become a sensitive issue and will provoke tensions.<sup>45</sup>

It is therefore important for the present analysis to define what makes a material 'strategic.'

As Klare made it clear (2001) it is not only resource concentration which can be a cause of conflict, but other variables such as country stability, controversy over territories, supply risks and a whole set of other indicators need to be taken into account in order to design a vulnerability map.

In a synthetic definition, it is possible to identify three main characteristics which define a strategic material: scarcity, concentration, and use.

<sup>44)</sup> For an overview of the topic, together with ways of mitigating risks, see Humphreys, M., J.D. Sachs and J.E. Stiglitz (2007) 'Escaping the resource curse' Columbia University press, New York

<sup>45)</sup> It has been said, with some degree of truth, that the renovated presence of the US in Africa with AFRICOM is related to the new attention China and the other emerging powers are giving to the continent and their growing presence in resource-rich areas.

All three need to be present in order to qualify the resource as strategic; most of the time, however, the first two are also closely related, and a scarce resource is generally concentrated in only a few areas.

Table 1 gives an overview of minerals for which scarcity is foreseen in the near future, independently from their use or concentration.

To make full sense of it, it is important also to take a look at a mineral's concentration in nature, i.e.in country production shares.

Table 2 shows us top three producing countries for selected metallic minerals, which can easily prove the point. In some extreme cases (Gallium, Germanium) the first two or three producers possess 100% of the whole market.



#### Table 1. Minerals Future Availability-Estimates

Taken form: "Critical thinking," Chemistry World, January 2011. Source: Chemistry Innovation Konwledge Transfer Network.

Metal	First		Second		Third		Cum. %
Gallium <sup>2</sup>	China	83.00%	Japan	17.00%			100.00%
Germanium <sup>1</sup>	China	79.00%	USA	14.00%	Russia	7.00%	100.00%
Rare Earths	China	96.99%	India	2.18%	Brazil	0.53%	99.69%
Vanadium	South Africa	38.33%	China	33.33%	Russia	26.67%	98.33%
Antimony <sup>2</sup>	China	91.19%	Bolivia	2.13%	South Africa	1.82%	95.14%
Platinum	South Africa	76.61%	Russia	12.52%	Canada	3.61%	92.74%
Palladium	Russia	42.80%	South Africa	38.91%	Canada	6.08%	87.79%
Tungsten <sup>2</sup>	China	75.09%	Russia	5.86%	Canada	4.76%	85.71%
Tantalum	Australia	53.37%	Brazil	22.09%	Rwanda	9.45%	84.91%
Lithium <sup>2</sup>	Chile	43.86%	Australia	25.22%	China	12.79%	81.87%
Molybdenum	USA	28.97%	China	28.21%	Chile	21.23%	78.41%
Indium	China	58.10%	Japan	10.56%	Korea	8.80%	77.46%
Chromium <sup>2</sup>	South Africa	44.65%	Kazakhstan	17.21%	India	15.35%	77.21%
Rhenium	Chile	48.68%	Kazakhstan	14.11%	USA	13.58%	76.37%
Silicon	China	57.85%	Russia	11.22%	Brazil	4.73%	73.81%
Cobalt	Congo	44.57%	Canada	11.56%	Zambia	10.86%	66.99%
Manganese	South Africa	21.66%	China	20.22%	Australia	15.88%	57.76%
Titanium	Australia	22.17%	South Africa	19.34%	Canada	15.97%	57.48%
Copper	Chile	35.62%	USA	8.33%	Peru	7.76%	51.72%
Nickel	Russia	17.47%	Canada	15.82%	Indonesia	13.35%	46.64%
Ciluar	Den	47 000/	Maurica	44.000/	China	40 450/	44.040/

#### Table 2. Top Three Producing Countries for Selected Metallic Minerals

 Source: World Mining Data (2008).
 USA production data withheld from world total by USGS to "avoid disclosing proprietary data". Source: USGS (2009).

However, even when generally abundant and widespread, a material can in some case become strategic due to "induced" scarcity, meaning not due solely to geological reasons.

It is what happens in the case of an industry dominated by corporate structure or cartels, such as with iron ore and natural gas. In other cases, it is its extreme concentration in production that creates artificial shortages, which is what happened in 2010 with REEs or in the 70s with cobalt.

And sometimes what makes things critical is the lack of suitable substitutes, which share the same special properties with "scarce" minerals, as with PNG.

Another important point, mentioned by Klare, is the geographical location of these resources, which in some cases happen to be found in states highly unstable and prone to civil wars and therefore not representing a secure supply. This has happened for example with cobalt in the 70s, which has triggered at that time many of the discussions regarding the need for secure supply and stockpiling.

A world map with the location of some of the world's most locallyconcentrated resources is offered below.



Map 1. Geographic Concentration of Selected Natural Resources

## 2.2. Mitigating Resource Scarcity: A Selection of Stockpiling Initiatives

Stockpiling is an ancient practice, used by both governments and private entities to secure safe reserves of essential supplies, and clearly has military and security implications. However, the new, perceived scarcity of a resource and their possible (un)availability is recently emerging as a strategic concern virtually everywhere; this has led to renewed attention and discussion about stockpiling policies.

Among others, the EU, the US and the UK have been issuing in 2010 and 2011 directives and reports on critical materials and updated stockpiling initiatives to preserve and enhance supply security.

The US has generally been the benchmark in this field. Since 1939, the US has been keeping "critical strategic materials for national defense purposes"

Source: EU (2010).

(NMAB 2007, 55) as prescribed by the Strategic and Critical Stockpiling Act. Its warehouses have been historically scattered in different locations on the American territory, managed by the Defense National Stockpile Center (DNSC).<sup>46</sup>) In time, the amount and the typology of the materials guarded has varied substantially but the philosophy remained unchanged; moreover, in 1992, with the demise of the USSR and subsequent geopolitical changes, the US government has started selling its stocks periodically and reduced its list to include only 20 materials, not even including some materials now considered critical, such as REEs.

However, this relatively relaxed attitude came to an end in 2009, following the launch of the EU Raw Materials Initiative in 2008. Since then, the US government has begun to pay much more attention to this issue.

The Strategic Materials Security Program, proposed first and then managed by the Pentagon, aims at changing radically the existing system (WSJ, 3 May 2010). While the details of the new Security Program have yet to be clarified, the Pentagon has for the moment stopped or heavily reduced the already scheduled sale of some of its stocks, namely materials now included in the sensitivity list.<sup>47</sup>)

Stockpiling seems, once more, to be back in fashion; for example, the American Security Project, in a report released on February 2011, even recommended it as one of the best options to prepare for a future shortage, and some congressmen hinted at strong support for such initiatives.

As mentioned before, the EU was the first in the Western world to come out with a systematic approach to the resource scarcity problem, which takes into account both sourcing and stockpiling.

The EU Raw Materials Initiative date back to 2008, when the EU Commission published a Communication entitled "The raw materials initiative — meeting our

<sup>46)</sup> U.S. Code 50, Subchapter III-Acquisition and Development of Strategic Raw Materials, available online at http://www.law.cornell.edu/uscode.

<sup>47)</sup> Namely, Niobium, Columbium, Tantalum Carbide, Platinum, Iridium, Tin and Zinc Beryllium, Cobalt, Ferromanganese, Ferrochromium High and Low Carbon, Tungsten Metal Powder and Ores and Concentrates, and Germanium.

critical needs for growth and jobs in Europe."<sup>48</sup>) A series of points were discussed, taking into account the fact that many EU countries were without any initiatives for addressing this problem, and that there were no integrated policy responses at the time at the EU level to secure sufficient access to raw materials at competitive prices.

After the beginning of several initiatives and the EU now seems to have put in place the most well-articulated strategy among Western countries.

In a new report on 2010, the EU Commission issued five policy recommendations to address this strategic concern: first, update the list of raw materials likely to be in short supply every 5 years; second, work on recycling of products with critical raw materials; third, conduct R&D on substitutes; fourth, encourage projects with more efficient use of materials; and fifth "policy actions to improve access to primary resources" (EU 2010, 56). The vulnerability map included in the same report named 14 strategic materials, among them PGMs (Platinum Group Metals) and Rare Earth Elements.



Table 3. The EU Vulnerability Matrix

48) Europe COM(2008) 699, at http://www.euromines.org/who\_is\_downloads/raw\_materials\_initiative.pdf..

Even if not so comprehensive as the EU, some other European players have recently produced assessments on strategic resources, though only some of them have been released to the public.

A good example is represented by the UK, which has recently issued (October 2011) a government study on this issue.<sup>49</sup>)

The UK Government has clearly identified these new trends in metals scarcity and trade barriers, which will significant impact on its economy, even though the UK manufacturing structure has not highlighted need for them in some cases, as for REEs, and therefore less vulnerable than other countries. The UK has formerly held a reduced amount of strategic minerals, set up by the DTI in 1983. It was quite soon considered not worth the investment and cancelled soon afterwards, even though sales of its stockpiles were not completed until 1996.

However, given this renewed attention to scarcity of certain minerals, one possibility is to reconsider the adoption of a stockpile, even if it has not been decided at the EU or state level. Also, the study recommended a comprehensive review of metal resources — finished and semi-finished goods as well as waste — in the country, in order to better identify supply routes for strategic materials.

Non-European states are also showing signs of being worried as well.

A good example is Japan, which has been amassing REE since 2005 (including by smuggling), expressing increasing concern at China's export quotas on REE. India's export ban on iron ore in 2010 to protect the domestic steel industry seems to be operating on the same logic.

Korea,<sup>50)</sup> as one of the major economies that has to import virtually all strategic materials, looks to be a country in the best position for an efficient managing and stockpiling policy (along with Japan) as well as a model of competitive sourcing.

<sup>49)</sup> House of Common, Science and Technology Committee (2011) - Fifth Report, "Strategically important metals," available at www.publications.parliament.uk/pa/cm201012.

<sup>50)</sup> See Paladini (2011) for a more complete discussion on KORES and the Korean approach to strategic resources.

The Korea Resources Corporation (KORES), a 100% government-owned company in charge of strategic materials, started monitoring supplies of six strategic mineral resources, namely bituminous coal, uranium, iron, copper, zinc and REEs since the beginning of the new century. In 2001 it has also issued a "Basic Plans for Overseas Development of Energy Resources of the Government." KORES was established in 1967 and has constantly evolved in its mission and prerogatives, while keeping the focus on energy and strategic materials procurement and stockpiling.

One of its declared goals is becoming one of the world's 20 biggest mining companies (allegedly by 2020). In one of its last reshuffles, KORES' exploration division has been divided in four teams, one of them (the so-called search team for rare metals) specifically devoted to rare-earth elements and lithium sourcing.

To succeed in securing the resources in the Basic Plan (KORES 2011), its capital has been increased periodically and in 2009 was augmented from 600 billion to 2,000 billion won (US \$ 1.78 billion).

Classification	Bituminous coal	Uranium	Iron ore	Copper	Zine	Rare earth
* Goal in 2010						
-Total demand	80mil ton	4,800ton	40ail ton	1,525,000 ton	1,60,000 ton	7,000 ton
-develop-import	30%	10%	10%	20%	20%	5%
-imported quantity	24mil ton	480 ton	4mil ton	305,000 ton	212,000 ton	350 ton
* As of 2001			-			
-develop-import	15mil ton	0	0	174,000 ton	199,000 ton	0
-Attainment ratio	63%	0%	0%	57%	94%	0%

Table 4. Goal for Import of Overseas-developed Ore vy Mineral

Source: KORES (2011).

These provisions have recently been increased (the government's acquisition target for 2010 has been set at 199,800 t for base metals, as much as in 2009; *ITRI* 16 September 2009) while a new strategy has been implemented for particular categories of metals.

Likewise, stockpiles have risen from 8.1 days of 2010 consumption to the equivalent of 13.5 days of 2011 estimated consumption, and it is expected to be further augmented initially to 35 days/consumption and then up to 60 days (*Lithium Investing News* 16 December 2010), even if a precise timeline is not yet available. While still short of Japan's 'security levels' yet, it is closing fast.

As is well known, Japan has an equivalent of 42 days of standard consumption for seven types of strategic metals, (cobalt, molybdenum, manganese, nickel, chromium, tungsten, and vanadium in its stockpiling facilities) stockpiled. Furthermore, the JOGMEG, the government body in charge of strategic stockpiling of metals and energy, has set a "close observation" list for other sensitive materials as platinum, gallium, niobium, indium, rare-earth elements, tantalum and strontium, for which separate and more conservative provisions are in place.<sup>51</sup>)

Still, in terms of global efficiency, the Korean approach seems more innovative and cost-effective than Japan's, and it is rapidly becoming a benchmark in terms of government policy.

A comparison between countries can be made in the well-known case of oil stockpiling.

Since the beginning, Korea has distinguished itself for having a more innovative and flexible strategy compared to the US and Japan, who have what the experts deem a more traditional approach (Nieh 2006). Korea has positioned itself as one of the 10 fastest-growing oil storage markets also, due to its proximity to Japan and China and its position as a major trading hub in East Asia.

The most secretive of all major players by far is China, about which we can only make the best guesses from its acquisition strategy abroad.

It is known that Chinese government agencies have established a few official

<sup>51)</sup> Japan and Korea have also perfected, even if not started, a practice of private stockpiling, in which the big corporations keep their own stock of the strategic materials, according their needs. These private stocks have varied in time and there are not part of officially released statistics and published data on them. However, according to some estimation they may account for up a 30 percent of the whole stockpile (JOGMEG 2011).

stockpiles for commodities, but only some of them are public (oil strategic reserves). There are others for which existence of reserves is acknowledged but no details are available, as in the case of copper, aluminium, grain, REEs and corn.

Furthermore according to some analysts, the said Chinese stockpiles do not only serve strategic, reserve purposes but also economic and commercial aims, in order to influence seasonal or occasional fluctuations in prices. There are some examples here. In November 2010, when aluminium prices were soaring worldwide the Chinese State Reserve Bureau released on the market a huge amount (more than 200,000 metric tons) of aluminium, at a price much lower than for official futures.

All these examples are evidence that while all countries use different methodologies in determining the scarcity of raw materials, there are some points incommon as to the range of factors related to availability and risks (geological, technical, environmental and social, political and economic). All of these need to be taken into consideration when devising an overall, global strategy.

## 2.3 Working Notes for a New Stockpiling Strategy

Discussing the best stockpiling policy for a country essentially means to understand its rationale, its meanings and its implications. Some of them are evident, while some are not.

There are, generally speaking, two different approaches to stockpiling, one that can be defined as strategic stockpiling, which is done to ensure national security in the event of war. This is because in wartime supplies of essential materials are disrupted and this can create serious problems for production of military equipment and other essential necessities.

The other is called commercial stockpiling and it is instead related to costs and how to make sure that supplies on the international market are available at reasonable prices.

Stockpiling is therefore a strategy for hedging, and is closely related to vulnerability assessments, making it different for every country. Only during international crises and for very concentrated minerals (cobalt in the 70s, now REEs), are there are widespread and common need for all players. Otherwise, every country will mostly likely present a very different list if any at all.

A series of policy options are available for sourcing strategic materials, which all present advantages and costs. Some of them will be pointed out and discussed as follows:

- Strategic stockpiling, as historically done in the US for a long time, serves essentially security and military purposes. It is of limited usefulness but is not very costly.
- Strategic stockpiles can be merged together with or exist as an alternative to a separate "economic stockpile" that could be drawn upon to moderate mineral price swings. Its use is more widespread, but more costly.
- Another way to address shortages is to promote subsidies to induce domestic ore production when possible. This is a good alternative, but again it is generally quite costly. Also, to be actually effective in case of shortage, it has to be coupled with ban or restriction to exports. This would eliminate private incentives to investments, not to mention retaliation at the international and WTO level.
- States can also encourage private companies to maintain their own stockpiles with tax incentives and similar policies; this is a good option, but would present some of the same problems already noticed above. However, this is historically the policy adopted by Sweden and, more recently, by Japan for REEs.
- In order to foster a more effective use and supply of minerals, increased funding for research and development is needed to expand the supply of strategic minerals and their substitutes.

- An expanded access to public lands for the location and development of domestic ores will be needed.
- Diversifying sources of minerals as much as possible will become an imperative. Given that stockpiling is essentially a way to hedge risk, both at strategic and economic levels, diversifying suppliers constitutes an alternative form of hedging.
- In the same perspective, it will be advisable to fight oligopolies and increase access to international mineral markets by multiplying the suppliers. This is what Japanese companies actually did in the 80s when they started their acquisition campaign abroad. In the case of China, it is less clear if their resource-shopping is going to produce the same net effects or, on the contrary, will consolidate market ownership and thus restrict access (Moran 2010).
- States can also accelerate the development of alternative mining locations, as in the case of offshore mining and exploration activities in the Arctic and in Antarctica, in order to tap the vast though difficult-to-access mineral reserves. In this case, the relevant variable is the price of minerals, which need to be high enough to justify the costly investments necessary.
- Recently an option that started gathering momentum is the promotion of recycling ("urban mining") to add to the sources of minerals. This can have additional benefit for the environment in terms of waste usage and a few countries (as Japan and Korea) have been making substantial investments in this regard.
- Finally, as a general consideration, more attention is to be given, and bigger stock devoted, to materials not mined either domestically or abroad by domestic companies, of which there are some clear examples as in the case of France. Since copper is historically not mined in the country or by French companies overseas, more attention has been devoted to this metal in French policy than in other cases.

All these options have to be weighed against their costs, which vary greatly. There are many different types of costs including:

- Cost of sourcing (and of finding more sources to fulfil the stockpiling quotas): this is the case when supply is scarce.
- Cost of purchasing: purchasing large quantities, which is often costly.
- Cost of stockpiling itself: keeping inventories is costly due to capital immobilisation (this is common to all types of inventories but also applies to stockpiling).
- Cost of building and maintaining storage facilities for minerals: some minerals have specific requirements and this can increase costs.
- Cost of tax breaks and other government measures to provide incentives for domestic producers/production (irrespective of the way it happens).
- Induced costs: buying up large quantities can further reduce available supply on international markets and drive prices even higher (this is what will likely happen in 2012 with REEs).
- Higher costs in prices of base minerals will result in higher costs in an array of dependent industries (again the case of REEs).
- Cost of reducing value of inventories: given the volatility of prices in international markets for minerals, there is also a risk of depreciation of prices of minerals held in storage that were acquired in periods of high prices and tensions on the markets.
- Cost in developing recycling facilities.

A common and well-known problem in the case of widespread stockpiling is that governments will become competitors to corporations in an already strained supply chain and in markets, in certain cases and despite their strategic importance, are still relatively small. Therefore more studies have been advocated, especially in the US, before committing to a large-scale stockpiling initiative. There are some intermediate strategies, as the one proposed in 2009 by the US Department of Energy in 2009, advocating a very limited number of stockpiled items, but combining such limits with the establishment of long-term supply agreements with friendly countries.

There are also some additional issues, which have to be considered when choosing the exact mix of sourcing and stockpiling policies to adopt, such as:

- Investment in mineral resources and the use of abundant forex reserves that some countries have amassed can put additional strain on resources and increase prices of minerals even more. This was clearly the case with Japan in the 80s and maybe now with BRICS, especially China.
- The spillover effect of a stockpile in one country to others given the integration of international markets.
- Cooperation initiatives' (or uncooperative Cournot-Nash equilibria) effects on stockpiling itself. On the specific effects, there are quite a few studies in agricultural stockpiling, much less in oil and virtually nothing in minerals. Still, these issues cannot be ignored for metals and will have to be considered in further research.

Moving on to explore the choices for stockpiling policies in greater detail, in order to set up an efficient stockpiling system, an optimum combination needs to be found. In this respect, there are two separate but related aspects.

The first one concerns the behaviour of only one actor, the so-called "Optimal Stockpiling behaviour", which takes into consideration the choices of only one state.

An option will be to analyse and include them in an operational research model for minimizing the overall cost. However, the resulting constraints have to be taken into consideration along with gains in terms of national security and commercial policies, which are difficult to express in purely mathematical and economic terms. The ones normally used in this kind of elaborations are stochastic dynamic linear programming models, which use probabilities to assess the likelihood of interruptions of supplies. A two-stage programming is normally used (Nordhaus 1974; Tolley and Wilman 1977). Also, the transition between different supply states can be modelled as a stationary Markov process.

It should also be noted that this approach has historically been employed for economic stockpiling, and it is not common where the strategic approach is considered instead. An exception has been a similar approach developed by the Office of Policy and Evaluation, US Department of Energy for the US Strategic Petroleum Reserve (SPR). The novelty of this specific model was to include in the multi-stage dynamic operation research model a selling (disposal) strategy when market disruption makes it necessary, instead of only covering the acquisition part (Teisberg 1981).

However, a more complex approach for optimal stockpiling behaviour is needed, as actions of one actor usually modifies and affects the choices and opportunities available to the other.

A whole series of research has therefore been concentrated on how international cooperation can affect stockpiling policies and behavior, and how this collaboration can help maximize results. It is evident that, in this case options have to be modelled differently from stockpiling problems of a single state, and more as a game theory problem, with cooperative and non-cooperative actors (Nichols and ZeckHauser 1976).

Finally, it is worth mentioning that the likelihood of developing stockpiles is not limited to countries that are minor producers of materials. Sometimes even market leaders and price makers do it in case of rising pressures on demand, as it has clearly been the case of China with heavy REEs (*WSJ*, 7 Feb. 2011) in 2011.

However, shortages of materials are statistically not so frequent, and this affects stockpiling decisions negatively. Before China's restrictions on rare earth exports in October 2010 as retaliation to a maritime incident with Japan, it has actually happened only once; Radetzki (2008) noted that there has been only one

deliberate disruption of mineral flows in the past 40 years.<sup>52</sup>)

Therefore, it is likely and advisable that every stockpiling compounded model be built on a probabilistic risk assessment. Bayesian methods here can represent a method of choice.

## 3. Conclusion

It has been mentioned that "Stockpile policies represent one of the few non-military options available to offset the political turbulence of Middle East" (Chao & Mann 1983, 1), with explicit reference to oil sourcing troubles. These considerations may well be true for other strategic commodities when shortages grow acute beyond a certain threshold.

As mentioned above, a stockpiling practice adapted to present needs must combine the old multilevel dynamic programming approach with a view to geopolitical consequences of sourcing. This cannot be done with mathematic modelling alone, but also involves attention to political and strategic aspects as well as negotiation and international coordination.

A number of issues need to be addressed for a successful implementation of sound resource management policies, which involves a coordinated approach to both sourcing and stockpiling.

This will involve regulating access to resources in non-restricted markets, addressing and managing future chocking points in resource competition and the revision of property and exploitation rights.

The first point, the access to resources in the international market has been a longstanding issue. It had been discussed in the literature since the 80s, when the Japanese keiretsu started their campaign of securing raw materials from around

<sup>52)</sup> In 1976, due to political unrest in Zambia, global cobalt production fell by 20% and therefore prices rose from \$5.40/lb. to \$25/lb., and remained elevated for several years.

the world, in some cases provoking a public outcry. However, it has been demonstrated that, contrary to what was feared at the time, Japanese policies in the 80s contributed to "enhancing the competitive structure of global extractive industries and diversifying the geography of production" (Moran 2010, 9) to the great benefit of all players (Wells 1993; Kojima 2002).

Another and more general concern is related to monopolistic practices of Chinese corporations. There are various sentiments (whether they are correct or not is not relevant for the present analysis) that China constitutes at present a force boosting oligopoly in the resource market, with the result of concentrating ownership and in some cases restricting access to scarce and strategic resources.<sup>53</sup> This is particularly sensitive in the case of nonferrous minerals, in which price volatility, uneven resource distribution and small market size make further moves at ownership concentration very upsetting for heavily dependent countries. While China's role in facilitating or constraining market access to resource is still a matter of controversy (Sauvant *et al.* 2008; Moran 2010) its net result is that China will be prevented from acquiring a strategic foothold in areas dominated by other Western players, as in Canada, Australia and the USA (*New York Times* 29 August 2009).

While it is still a matter of debate whether present actions of Chinese companies have the same net effect, Korean corporations instead have been following a path similar to Japan (Paladini 2011). This makes the two countries a reference point for fostering international cooperation and widens access to resources.

The second point concerns something more specific, namely the coming

<sup>53)</sup> This concern has recently been reinforced by the naval collision between Japan and China in October 2010. When Japan seized a Chinese ship and put its captain under trial, China retaliated by halting the exports of rare-earth elements, which are absolutely vital for Japanese industries. While the issue was resolved afterwards, the episode has done nothing to reassure the world about China and further Chinese acquisitions in strategic materials are likely to be affected. Also, this has proven right the governments of Australia (2009) and USA (2004) which have vetoed the previously mentioned Chinese acquisitions in REEs in their territories.
competition for new source areas. According to Klare (2010) Africa, the Middle East, and the Caspian Sea/Central Asia will be the next chocking points of resource competition, and likely to be theatres of proxy wars.

Another, rather new but rapidly expanding area is related to alternative sourcing, as in extreme exploration as in the case of the Arctic, the Antarctica and the deep sea.

According to NIC 2025, "Although serious near-term tension could result in small-scale confrontations over contested claims, the Arctic is unlikely to spawn major armed conflict." (NIC 2025, 72). However, if resources in these areas are as rich as promised, countries suchas China will not agree to being cut out of the scramble, and they may be willing to resort to a "revisionist" approach.

In 1994, Korea became the 7th nation in the world to register with the UN a deep-sea mining area, more specifically a sector extending 150,000 sq. km over the deep-sea floor of the Clarion-Clipperton zone in the Pacific Ocean. This kind of initiative will only become more common in the future, and the Korean experience can provide important indications for a successful handling, including hostile reaction, from international stakeholders. A major problem is clearly represented by the property right of prospection and exploitation. The principle that natural assets belong to the citizens of nations which they are found in, will be either questioned in the future or will lead to reshaping of borders to grab the resources embedded. WTO (2010) suggested it as a way to solve the conflicts related to resources; maybe this will be a solution. "Over half of the Earth's surface is not currently under the jurisdiction of any nation." (WTO 2010, 87).

It is clear that a joint paradigm is needed in order to avoid conflicts, some of them already looming. Initiatives such as the Extractive Industries Transparency Initiative<sup>54</sup>)(EITI) can help solve mining contract issues. The problem here and in similar circumstances is their universal acceptance. In the case of EITI, key emerging countries as Brazil, China, India, Russia do not support it, while Canada,

<sup>54)</sup> For more details and for the reference framework of this key initiative see: http://eiti.org/

Australia, Japan, the US and the biggest economies of the EU (Germany, France, the UK and Italy) do. If pressure on the new powers is to be alleviated, these powers will need to play according to international rules and begin integration into the system. EITI and similar agreements can become an important starting points.

### References

- Beaumont, P. 1997. "Water and Armed Conflict in the Middle East Fantasy or Reality?" Gleditsch N. P. ed. *Conflict and the Environment*. Dordrecht: Kluwer Academic.
- Bernauer, T. & A. Kalbhenn. 2010. "The Politics of International Freshwater Resources." Robert A. Denemark. ed. *The International Studies Encyclopedia*, Hoboken. NJ: Wiley-Blackwell.
- Buzan, B & OWæver. 2003. *Regions and Powers: The Structure of International Security.* Cambridge, England: Cambridge University Press.
- Chao, HP & A.S. Manne. 1982. "An Integrated Analysis of U.S. Oil Stockpiling Policies." James Plummer ed. Energy, Vulnerability, Ballinger, Cambridge, MA.
- Collier, Paul. 2000. "Doing Well out of War." Mats R. Berdal & David M. Malone eds. *Greed and Grievance: Economic Agendas in Civil Wars.* Boulder and London: Lynne Rienner.
- De Soysa, I & ENeumayer. 2007. Resource Wealth and the Risk of Civil War Onset: Results from a New Dataset of Natural Resource Rents, 1970-1999. *Conflict Management and Peace Science*, 24(3), 201-218.
- EU Commission. 2008. "The Raw Material Initiative: Meeting Our Critical Needs for Growth and Jobs in Europe." Commission Staff Working Document- COM (2008) 699. Online at http://ec.europa.eu/enterprise/sectors/metals-minerals/files/sec\_2741 \_en.pdf.

- Fearon, J. D. & D. D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." American Political Science Review, 97(1), 75-90.
- Homer-Dixon. T. F. 2000. *Environment, Scarcity and Violence*. Princeton: Princeton University Press.
- House of Common, Science and Technology Committee. 2011. Fifth Report, "Strategically Important Metals." Available at www.publications.parliament.uk/pa/cm201012.
- Humphreys, M. 2005. "Natural Resources, Conflict, and Conflict Resolution: Uncovering the Mechanisms." *Journal of Conflict Resolution*, 49(4), 508-537.
- Humphreys, M., J. D. Sachs and J.E. Stiglitz. 2007. "Escaping the Resource Curse." New York: Columbia University Press.
- JOGMEG. 2011. "*Rare Metals Stockpiling Program*." Online at http://www.jogmec. go.jp/index.html, accessed February 13, 2011.
- Klare, M. T. 2001. *Resource Wars: The New Landscape of Global Conflict.* New York: Metropolitan Books.
  - \_\_\_\_\_. 2008. *Rising Powers, Shrinking Planet: The New Geopolitics of Energy*. New York: Metropolitan Books.
- Le Billon, P. 2001. "The Political Ecology of War: Natural Resources and Armed Conflicts." *Political Geography*, 20(5), 561-584.
- Luttwak, E. 1993. "The Coming Global War for Economic Power: There are No Nice Guys on the Battlefield of Geo-economics." *The International Economy*, 7(5), 18-67.
- Kojima, Si. 2002. "Stable Supply of Mineral Resources, Mineral and Natural Resources Division, Ministry of Economy, Trade and Industry of Japan." Online at http://www.rieti.go.jp/jp/projects/koubutsu.
- KORES. 2011. "Overseas Mineral Resources Development." Online at http://eng.kores.or. kr:8080/gpms.
- Moran, T. 2010. China's Strategy to Secure Natural Resources: Risks, Dangers, and

Opportunities. Washington: Peterson Institute for International Economics.

- Nieh D. 2006. The People's Republic of China's Development of Strategic Petroleum Stockpiles, CUREJ - College Undergraduate Research Electronic Journal, Pennysilvenia University, Online at http://repository.upenn.edu.
- Nichols A, and R.ZeckHauser. 1976. Stockpiling Strategies and Cartel Prices. John Fitzgerald Kennedy School of Government, Harvard University, Cambridge, Mass.
- NICS. 2010. Mapping The Global Future: Report Of The National Intelligence Council'S 2020 Project, Online at http://www.dni.gov/nic/NIC\_2020\_project.html.
- NMAB. 2008. Managing Materials for a Twenty-first Century Military, National Materials Advisory Board. Online at http://www.nap.edu/openbook. php?record \_id=12028&page=7
- Nordhaus, W. D. 1974. "The 1974 Report of the President's Council of Economic Advisers: Energy in the Economic Report." *American Economic Review*, 64(4), 556-565.
- O'Lear, S & P Diehl. 2006. "Not Drawn to Scale: Research on Resource and Environmental Conflict." *Geopolitics*, 12(1), 166-182.
- Paladini S. & S. George. 2011. "Chinese corporations and the scramble for resources.A study in the oil business." *L'EspacePolitique*, 15, 2011-3. Online at http://espacepolitique.revues.org/index2151.html.
  - \_\_\_\_. 2011. "Shopping the Korean Way. A Study in Resource Acquisition." *Korea* 2011. Politics, Economy and Society. GIGA Hamburg: BRILL.
- Paladini, S. 2010. "Dealing with the Global Crisis. Effects on China's External Trade and Commercial Policies." CPI Discussion Paper No. 63. The Study of Contemporary China Centre, University of Nottingham. (May)
- Radetzki, M. 2008. *A Handbook of Primary Commodities in the Global Economy.* Cambridge: Cambridge University Press.
- Ross, M L. 2004. "What Do We Know About Natural Resources and Civil War?" Journal

of Peace Research, 41(3), 337-356.

- Samset, I. 2009. Natural Resource Wealth, Conflict, and Peacebuilding. Online at Ralph Bunche Institute for International Studies.
- Sauvant, K., K. Mendoza, I. Ince. 2008. *The Rise of Transnational Corporations from Emerging Markets*. Cheltenham: Edward Elgar.
- Smith, B. 2004. "Oil Wealth and Regime Survival in the Developing World, 1960-1999." *American Journal of Political Science*, 48(2), 232-246.
- Teisberg, T. J. 1981. "A Dynamic Programming Model of the US Strategic Petroleum Reserve." *The Bell Journal of Economics*, 12(2), 526-546.
- Theisen, O. M. 2008. "Blood and Soil? Resource Scarcity and Internal Armed Conflict Revisited." *Journal of Peace Research*, 45(6), 801-818.
- Tolley, G. G. Wilman J. D. 1977. "The Foreign Dependence Question." *Journal of Political Economy*, 85(2), 323-347.
- USGS. 2004, 2009. *The Mineral Industry of the Republic of Korea*. 2004 and 2009 editions, Online at http://minerals.usgs.gov/minerals/pubs/country.
- Wells, L. T. 1993. "Minerals: Eroding Oligopolies." Yoffie, David B. ed. Transnational Corporation and the Exploitation of Natural Resources, Boston: HBS Press.
- WTO. 2010. World Trade Report 2010.



# European Development Policies at the Crossroads

Wolfgang PAPE

# 1. Introduction

Europe's development policies are of great importance not only for aid recipients but as well for donors in the world. The **EU is the main driver** in the discussion on the promotion of effectiveness of aid and it has shaped considerably the debates leading to the Declarations in Rome of 2004, Paris of 2005 and Accra of 2008 and the discussions that have prepared the ground for the 4<sup>th</sup> High Level Forum in Busan in November 2011. It results a large degree from the fact that the EU is at the **origin of more than 50% of all development aid** of any source worldwide (total EU aid in 2010: Euro 53.8 billion,<sup>55</sup>) i.e. more than Euro 100 per EU citizen). The EU has agreed to increase its official development assistance on the way to achieving the United Nations target of 0.7% of gross national income by 2015.

<sup>55)</sup> European Commission. 2011. Brussels, EuropeAid News on Communication, Increasing the impact of EU Development Policy: an Agenda for Change, accessed 2.11.2011 at http://ec.europa.eu /europeaid/news/agenda\_for\_change\_en.htm

While the EU as such mainly sets the pace and provides impulses, the actual work for **higher effectiveness** is carried out on the spot with the partner countries. Notably the Code of Conduct for the division of labour among stakeholders, the decisions on Budget Support and Capacity Development has to be pointed out in this context. The Conclusions of the EU Council Meeting of 14<sup>th</sup> November 2011 set the basis of the position of the EU at the Busan Forum. They were expected to focus on the principles of non-interference but equal partnership for development as the basis for European development policies. This connects easily with the concept of "inclusive partnership" that South-Korea is seeking according to President Lee Myung-bak.<sup>56</sup>)

This evolution of aid policies has to be seen in a historical perspective. Not surprisingly, due to the destruction and desperation in most European countries (and for that matter also in Japan) shortly after the Second World War, it was by the US-American President Harry S. Truman in his inauguration speech in 1949 that the concept and capacity of international development aid was first publicly acknowledged by a head of state. Referring notably to Latin America, but also to other poor nations in need elsewhere, he pointed out that "for the first time in history, humanity possesses the knowledge and skill to relieve the suffering of these people." This declaration ever since has been regarded as the **beginning of modem development assistance** to poorer countries worldwide.<sup>57</sup>) What was later to become the **Truman Doctine** of peaceful development of nations marked a harsh contrast to the hitherto historical, but humanly untenable exploitation of the weaker parts of the world through the 'old imperialism' of the Second World War.

In Europe, development policies, of course, pre-dated the establishment of EU institutions in the 1950s after the Second World War, and its current **Member** 

<sup>56)</sup> The Korea Times, 5.11.2011 p.1, "Eurozone crisis outshines Seoul initiative."

<sup>57)</sup> Michael Cowen and Robert Shenton "The Invention of Development", in: "Power of Development," edited by Jonathan Crush, Routledge 1995

**States individually** have their own histories in terms of providing assistance to developing countries. For a better understanding, different examples of such national policies in European countries are analyzed in the following paper for the Korean reader, in terms of relevance to the development policy of South Korea as far as their impact on current implementations are concerned.

For most Member States of the EU, it is of significant importance to be aware of the historical background of colonial economics of European imperial powers in order to fully comprehend their current development policies. For instance, already being a colonial power, Great Britain clearly displayed a more pragmatic approach in international relations than continental European countries, since it was mainly motivated by economic gains to be made in colonies overseas.<sup>58)</sup> But France, for her own "gloire", focused rather on the spread of the claimed superiority of her national culture to be instilled in her colonies, while the Iberians from Portugal and Spain showed a strong missionary spirit as Christians, notably in Latin America, with little respect to local beliefs and values in those regions. The German "Kaiser" on the other hand --after dismissing the rather reluctant (in terms of colonisation) Chancellor Bismarck-- wanted foremost to gain political "Weltgeltung" (recognition in the world) as a latecomer also in the push for colonies, and hence Germany hardly profited from them economically.<sup>59</sup> Imperial Sweden also had its colonies in the Americas, Africa and South India, but apart from its small slave trade initially, it was already known for its liberalism and tolerance towards different religions and languages in view of the diverse people from Europe in some of the Swedish colonies, where other languages such as English and French were counted as official languages.<sup>60)</sup>

<sup>58) &</sup>quot;The Economic and Social Impact of Colonial Rule in India", Chapter 3 of "Class Structure and Economic Growth: India & Pakistan since the Moghuls," Maddison (1971), accessed 18.10.2011 at http://www.ggdc.net/maddison/articles/moghul\_3.pdf

<sup>59) &</sup>quot;1871-1914 Kolonialpolitik", accessed 18.10.2011 at http://www.dhm.de/lemo/html/kaiserreic h/aussenpolitik/kolonien/index.html

<sup>60)</sup> Neil Kent, *A Concise History of Sweden*, United Kingdom: Cambridge University Press 2008, p. 134-138.

## 2. Individual EU Member States' Policies

Before outlining the policies of the European Commission below, comparative analyses of representative development policies of Member States could provide the various elements which lay the basis for actual common policy of the EU. This is particularly pertinent for South Korea, which would find more elements of reference in national policies of EU Member States than in the policy of a supra-national institution like the European Commission. Hence, the following is an overview of the relevant characteristics, strengths and weaknesses of a few of the most important national policies of EU Member States, namely the UK, France, Germany and Spain, as distilled mainly from the peer reviews of OECD-DAC experts.<sup>61</sup>

#### 2.1. United Kingdom

In the foreword to the 2011 reviews of "UK aid: Changing lives, delivering results" Prime Minister David Cameron and Deputy Prime Minister Nick Clegg wrote i.a. "*Combating poverty, disaster and conflict is in the best traditions of our country. Whether it was the campaign to abolish slavery in the 19th century, the fight against fascism in the 20th century, or campaigns like Live 8 and Make Poverty History in the 21st, the UK has a proud history of showing compassion to those who are suffering beyond our borders.*"<sup>62</sup> This eulogy pronounced by politicians', naturally, cannot hide its **history of colonialism** that remains an essential part of the motivation today for development aid given by Great Britain. However, the traditional **pragmatism** already applied in its foreign relations during days of colonialism has also remained.<sup>63</sup>

<sup>61)</sup> OECD website accessed repeatedly in November 2011 at http://www.oecd.org/dataoecd.

<sup>62)</sup> Department for International Development and UK aid, "Bilateral Aid Review: Technical Report," London March 2011.

<sup>63)</sup> See Africa power and politics, Working with the grain and swimming against the tide: Barriers

An evaluation from a more neutral position comes from the OECD Development Assistance Committee (DAC) Peer Reviews of the UK, of which the three last ones since 1997 are available.

Over the years it has been recognised that the UK is an international leader in development assistance. This reputation results from clear vision, consistent political leadership, strong human resources and financial capacity, and continued commitment to its 2013 target of providing 0.7% of its gross national income (GNI) as official development assistance (ODA). With the appointment of a **Secretary of State for International Development**, as a member of the Cabinet and responsible directly to the Prime Minister, it gave international development a higher profile. Likewise the creation of the **Department for International Development (DFID)**, derived from the Overseas Development Administration (ODA) as an independent ministry underlined a new priority. As a result of the creation of the DFID, a Parliamentary Select Committee on International Development was set up automatically for better Parliamentary oversight of the aid programme.

The UK development cooperation programme benefits from a solid legal basis. The **International Development Act 2002** clearly stipulates poverty reduction to be the purpose of development assistance. The clarity of its focus on poverty reduction has been a powerful asset for the UK aid programme in the past years. Meanwhile, the two most recent white papers (2006 and 2009) have progressively expanded the policy framework for development cooperation and adopted a comprehensive approach, which goes beyond the aid agenda to address new global challenges.

The focus of the UK's **White Papers** on poverty elimination is based not only on moral grounds, but also on pragmatic self-interest of the British Government. They came to recognise that the development agenda can best be

to uptake of research findings on governance and public services in low-income Africa, David Booth, Working Paper 18 of April 2011.

implemented through partnerships with the recipient countries. Elsewhere, solidarity would be sought through NGOs and the like.

The UK's development cooperation has gone through a period of substantial transformation since 1997. The recasting of DFID as an autonomous government department strengthened its capacity. To improve **aid effectiveness** and maximise development impact, the United Kingdom is delivering an increasing share of its aid in collaboration with other donors through development frameworks in support of partner country-led poverty reduction strategies, most notably Poverty Reduction Strategy Papers (PRSPs). This explains a number of features of the British aid programme including a move away from stand-alone projects, the pooling of bilateral funds and the untying of aid. This means that public support for aid will rest more on its contribution towards achieving development goals rather than aid having a strong national identity.

Also for aid effectiveness, the DFID gives serious attention to the rule of "value for money" and assessments. The DFID evaluation system, including reports and synthesis studies, has been well developed, independent, with the requisite feedback loops to operations and decision makers. An assessment, however, had found that there was inadequate learning from past experience. The three challenges for evaluation were to provide operations staff with timely and appropriate responses to the questions they face in the field; to devise appropriate ways to measure programme impacts particularly with respect to poverty elimination; and to improve the evaluation of impacts of NGOs' activities.

As for the **private sector in recipient countries,** it had been made clear that for the UK its development was an integral part of sustainable development, as reflected in the White Paper. British policy would try to promote sound understanding of the partnership between well-governed states and a well-functioning market, essential to poverty elimination. There are several fields of action: DFID's role in ensuring coherence of trade, environment, investment and export credit policies as they affect the private sector in developing countries; DFID's work in good governance, capacity development for policy reform and

improvement of the investment environment in partner countries; capacity development for private sector associations and enterprises; initiatives to promote small-scale enterprise, many of them handled by NGOs; ensuring that trade and investment in poorer countries promote social responsibility and local development, including fair labour standards, child labour laws, environmental concerns, socially responsible trading and investment, fiduciary duties, and possibly codes of conduct for ethical trading; and the activities of the Commonwealth Development Corporation (CDC), a public corporation established in the 1940s, charged with the task of assisting overseas countries in the development of their economies by helping them to create long-term self-sustaining businesses. The Government has announced that the CDC (which in recent years even became a net source of cash for the Government), was to be transformed into a government/private sector partnership. This introduction of private sector capital would enlarge the resources at CDC's disposal. It would carry through the objective set for it by the Government of providing leadership as an ethical and socially responsible investor in poorer countries. The proceeds from the sale of shares in CDC would be ploughed back into the aid programme. The essential mission of the CDC would be enhanced to spread viable business cultures and best practices to poorer developing regions, by divesting from more advanced markets in order to invest in riskier markets in poorer countries.

When the British government set up the Colonial Development Corporation in 1948, the aim was to develop self-sustaining agriculture, industry and trade in the British Empire. Renamed the Commonwealth Development Corporation (CDC) in the mid-1960s, its area of operation widened to the third world in general. Still, it kept its development mandate, especially for poor rural areas. In 1997 Tony Blair, the Labour prime minister, declared the CDC a trendy "**public-private partnership**", the first of several attempts by his government to involve private capital in state-owned businesses. In the long run, the government still planned to keep a substantial minority stake, and the CDC was to carry on as a benign investor in poor countries. Its mandate was to invest in sustainable and socially responsible projects that were also profitable. Its charter insisted that at least 70% of its investments are in poor countries, with 50% in sub-Saharan Africa and south  $Asia.^{64}$ 

The British aid system has well-defined procedures for procurement aimed at obtaining value for money. British procurement rules had become progressively more liberal with respect to **untying** with the introduction of a number of exceptions and derogations such as for procurement in the Special Programme of Assistance to Africa (SPA) which had become totally untied for local cost financing, and for items under £25 000.

Already in 1996 an in-depth review of untying concluded that unilateral untying of the aid programme would have very little effect on British exports. It would rather increase competition for aid-funded contracts thus improving value for money in the aid programme, but would have only marginal impact on the British economy generally. Given the cost and bureaucracy involved in operating the present procurement system with its many exceptions, it can be asked whether the point has not been reached where on balance the costs outweigh the benefits. Completely untying the programme would not only serve as a helpful example for the donor community of other countries at little or no cost to United Kingdom exporters, it would also remove unnecessary bureaucracy and enhance the value for money in terms of British aid. The Government, however, believed that concerted international efforts were needed to see effective progress in untying development assistance from UK exports.

The UK played a key role in promoting and supporting multilateral efforts for the untying of aid, notably the recommendation on untying aid to least-developed countries adopted by the DAC in April 2001. Untying of the British aid programme was facilitated by the abolition of the Aid and Trade Provision, a mixed-credits scheme, in 1997. Since 2000, the government has endeavored to

<sup>64)</sup> The Economist, 14.6.2001 Commonwealth Development Corporation, "Two fingers to the poor, Privatising Britain's development arm may not help those who need it."

end the ties of all remaining development assistance to the procurement of British goods and services.

The UK fully embraced the **partnership approach** to development and geared its aid programme around achieving the results-oriented international development targets and MDGs, set mostly for 2015. Recognising that no country can achieve unilaterally the objective of eliminating world poverty, the DFID was charged by the UK government with fostering international efforts by "engaging with and influencing" others in support of developing countries' own efforts. Among members of the OECD's DAC, the UK has taken a leading role in promoting the development partnership strategy.

The adaptation of **bilateral aid agencies** to this evolving context is a topical issue of general concern internationally. The United Kingdom's approach demonstrates that bilateral aid agencies can continue to add value by providing constructive and informed contributions to international policy debates, by providing an additional source of independently commissioned research and by monitoring the implementation of international undertakings. The extent to which the UK's approach is replicable and can serve as a model for a common approach by bilateral donors is an important question.

**Promoting public awareness** of development issues has become a higher priority through i.a. consultations with stakeholders, civil society representatives and the public; and wider dissemination. The increasingly sophisticated and ambitious nature with which aid can be provided in support of host country-owned poverty reduction strategies could also increase the challenges associated with raising public awareness of the aims, instruments and approaches associated with a high-impact aid programme. DFID sought to widen community involvement in the aid programme by diversifying its contacts beyond NGOs to wider civil society. In doing so, DFID needed to assist smaller organisations to engage on development issues and to meet DFID's criteria for funding and implementation.

DFID was working closely with international agencies at different levels and within their governing bodies, but also on co-ordination of policy and performance within selected developing countries, towards a more systematic approach to influencing their agenda and assessing their performance. DFID has adopted a broader approach to **working with civil society** by targeting a wider range of stakeholders. The funding schemes for supporting activities by NGOs were transformed. DFID engaged more strategically with larger NGOs and gave more emphasis to the advocacy role of smaller NGOs.

At the same time, DFID expanded its **representation in the field** with new country offices with delegated financial authority. Responsibility for managing bilateral development assistance programmes devolved to large country teams, now mostly located in the partner country themselves. With the turn of the century, after being reduced for several years, staff levels in DFID increased significantly, including employment of local staff in the decentralisation process, and for achieving a more effective policy dialogue with partner countries and other donors in country.

The DFID's **Evaluation Department** has changed its focus from ex-post assessments of the impact of projects to a focus on sectoral and thematic studies of current relevance. The government's objective of improving the delivery of the United Kingdom's public services has reinforced DFID's attention to the development impact of its activities. A set of time-bound and results-oriented performance targets was agreed with the Treasury and laid out in a triennial Public Service Agreement.

The government also recognised that a more substantial ODA/GNI performance is necessary to demonstrate the UK's commitment to tackling world poverty and had reiterated its commitment to the United Nations' **ODA/GNI target of 0.7%** Although the UK was one of the few DAC Members committed to raising its ODA volume and lifting its ODA/GNI ratio, it remains far from reaching this target.

Achieving greater **coherence** in policies affecting developing countries has become a priority for the government as a whole, and is also being pursued internationally, especially within European Union (EU) institutions. Another UK government White Paper on international development, published in 2000, addressed the opportunities and risks for development arising from increased globalisation, based on the recognition that the poorest countries could become more marginalised unless greater attention is paid to international economic linkages.

As for other DAC Members, achieving policy coherence is a difficult task for the UK and will continue to require constant scrutiny. DFID actively engaged other policy communities across the UK government on policy coherence issues and decision making. The introduction of adequate legislation into Parliament in several areas such as corruption, arms exports and money laundering had not been given high priority. Domestic interests remained strong in some areas, such as the process for granting export credits for sensitive projects due to their social and environmental impact. The results achieved in some other areas demonstrated the difficulties in implementing policies that were fully consistent with development objectives, for example in relation to the EU's "Everything but Arms" initiative.

DFID collaborated widely with other donors, for example in international fora and by making its research and experience available to others. There were, however, some perceptions that it needs to pay more attention to creating a broader sense of ownership among other donors in its alliances formed around common objectives and priorities.

The increasingly sophisticated and ambitious nature with which aid can be provided in support of host country-owned poverty reduction strategies could also increase the challenges associated with raising public awareness of the aims, instruments and approaches associated with a high-impact aid programme. DFID sought to widen community involvement in the aid programme by diversifying its contacts beyond NGOs to the wider civil society. In doing so, DFID needed to assist smaller organisations to engage development issues and to meet DFID's criteria for funding and implementation.

Since there appears to be little ownership of these processes by DFID staff in general, **compliance** remains an issue. Another matter for consideration is the institutional independence of ex-post evaluations, presently determined by a committee comprising DFID's management. In the longer-term, achievement of international development targets in each developing country would provide a basis for assessing DFID's performance, not an easy task due to the difficulties of capturing data on changes in developing countries and establishing the links between those changes and actions by individual donors. Despite systems being put in place to improve performance assessment, it remained a challenge for the UK how to reconcile the targets embedded in the three-year time-frame of the Public Service Agreement with DFID's longer-term development objectives.

#### 2.2 France

In its development policy, France has certainly distanced itself from its past as a pre-WWII colonial power, but nevertheless some historic elements still run like a red thread through her approach towards third countries, in particular in the developing world. A case in point is the pride in her culture, and her language in particular. The **promotion of "***La Francophonie***"** is not only obvious with the policy of maintaining an expensive branch of the European Parliament in Strasbourg as well as proactive French language promotion in all EU institutions, but it can also be observed in privileging francophone developing countries. Curiously, the website of "*La Francophonie*"<sup>65</sup>) is headlined with "*La voix de la diversité*" and amongst its objectives there is no mention of the French language. However, these objectives clearly point out principles that read like a typical mantra of development policies, ranging from democracy to education.

The Francophonie is a significant cultural asset for the French, comprising more than 200 million French readers worldwide, making French the 9th most widely spoken language on the planet and the only one, together with English, to be spoken in all five continents. It is the 3rd most widely used language on

<sup>65)</sup> http://www.francophonie.org/Qui-sommes-nous.html.

the Web with 5% of Internet pages, after English (45%) and German (7%) and ahead of Spanish (4.5%). There are an estimated 900,000 French language teachers worldwide.

Evidently, there cannot be any comparison of the readers of French literature with those of Korean Hangul in terms of numbers. However, the French example might demonstrate the importance of 'soft power' in not only geo-politics but also development policy where education is of growing importance. It might sound naïve to the Korean reader to propose the teaching of the Hangul script, which unfortunately remains is still rather unknown to other parts of the world. Yet among developing countries' minority cultures, the spoken tongue is often less properly reflected in writing in the rather limited choice of agreed sounds through the Roman alphabet. Successful sales of Nepali-Korean dictionary by Sang-nyong Yi successfully on amazon.com ("Out of Print--Limited Availability")<sup>66)</sup> may be a first step in the direction of achieving coherence with possible external cultural policy of Korea beyond perhaps more short-lived phenomena like K-Pop. The hardly successful and very expensive attempts at external cultural campaigns of the Japanese government in teaching Nihongo abroad since the late 1980s might serve as negative example to avoid. Perhaps, the Chinese propagation of their language with establishment of the new Confucius Institutes worldwide could set more positive examples along with the more experienced schools such as the Alliance Française, the British Council, Goethe-Institut etc.

In a nutshell, Hangul is a scientific script and an enormously valuable home-grown cultural educative asset; its capacity to efficiently represent some 11000 different sounds could contribute considerably to the **development of an enhanced script** for many of the spoken languages that are hardly writable using the Roman alphabet. In some cases it might even preserve these tongues from oblivion and extinction. The expertise of linguists in combination with digital

<sup>66)</sup> http://www.amazon.com/Nepali-Korean-dictionary-Nepal-Hangul-sajon/dp/B00069WV5W/ref =cm\_cr\_pr\_product\_top/183-7205134-2398008.

technology easily available in today's hi-tech Korea could aid poor developing countries as well as preserve cultural diversity (UNESCO aim) and at the same time improve the good will and image of Korea in the world, as France is trying to achieve with the Francophonie and Japan failed for lack of proper communication. Unlike these two countries, Korea cannot be accused of 'cultural neo-colonialism', as it never was a colonial power historically.

It was at the International Conference on "Financing for Development' held in Monterrey in 2002, that the French President pledged to increase **France's ODA to 0.7% by 2012**. At least half of this aid would be directed towards Africa to help achieve the Millennium Development Goals and to support the areas specified by the Africans themselves in their "New Partnership for Africa's Development" (NEPAD). However, the stated objective of 2012, could be difficult to achieve under current economic and political circumstances in the country (presidential elections in 2012) and in Europe (Euro-Crisis).

According to the OECD, France is keen to promote the mobilisation of development funding and has endorsed a British proposal to set up an **International Finance Facility.** It joined in other initiatives aimed at promoting public private partnerships (PPP). France has also commissioned a working group to draw up proposals regarding **taxation of international financial transactions**, which have been taken up also by Germany and the European Commission.<sup>67</sup>)

One major impediment to a unified vision of French development policy is its **plurality of goals.** This plurality of goals which French co-operation must meet is partly due to the complexity of its system. The Ministry of Foreign Affairs (MAE) and the Ministry of Economic Affairs, Finance and Industry (MINEFI) have joint responsibility for the strategic management of ODA. The French Development Agency (AFD) acts as principal operator in the field.

Despite having several key principles - priority to Africa, global public goods and the regulation of globalisation, sustainable development, democratic governance,

<sup>67)</sup> Commission President Barroso in 'State of the Union' at European Parliament, 28 September 2011.

cultural diversity and emphasis on the French language, La Francophonie – French development policy does not project a unified vision. An overview of the directions for ODA would therefore seems warranted in order to rank goals by order of importance; clarify geographical, sectoral and thematic choices; and determine the role of different institutions and instruments, notably with regard to the MDGs.

Since France now embraces the MDGs, a clearer **focus on achieving the MDGs** seems necessary. Reducing poverty and inequality has become an explicit axis of cooperation. Rather than targeting the poor, the French approach is aimed at integrating poor and marginalised populations in its global interventions and at diversifying remedial strategies to meet the needs of the social groups concerned. This approach is starting to take account of gender, but this dimension has yet to be mainstreamed. The creation of a budget focused on **gender promotion** and the development of monitoring and evaluation tools to assess progress might be useful. As a general rule, French cooperation could make greater use of in-depth socio-economic analyses, including those of the relationship between gender and poverty.

The French approach leads to actions being dispersed among different levels (national, regional and local) and requires a wide range of actors and instruments whose coherence and co-ordination could be improved. While sectoral priorities have been identified (education, health and the fight against HIV/AIDS, water and sanitation, rural development, infrastructure and environment), they are not always linked to the goal of reducing poverty and inequality. With regard to **education**, which accounts for almost a quarter of France's bilateral ODA, only a modest share of activities is aimed at improving educational systems in developing countries. France's support for the "Education for All" initiative is a positive action in this respect and should be strengthened.

At the **multilateral level**, France plays a leading role in harmonising aid procedures and practices. France has chaired the DAC Working Party on Aid Effectiveness and Donor Practices, and in 2005 hosted the follow up to the high-level forum on aid effectiveness held in Rome in 2003.

France is the most generous G7 donor country. However, a large share of this growth is currently attributable to **debt relief** under the initiative for heavily indebted poor countries (HIPC), which in 2002 accounted for almost a quarter of all French ODA. The gradual implementation of the HIPC initiative is a major challenge for France. A substantial reduction in debt relief efforts is to be expected. The French government is to step in to maintain the level of ODA and ensure that it continues to grow. Given the scale of the debt relief programme, the increase in ODA has scarcely generated any flows of fresh money to developing countries. Moreover, this growth has not yet afforded room for manoeuvre to allow France, through appropriate budget decisions, to follow the strategic orientations announced with priority given to Africa and to least developed countries. The challenges of achieving the MDGs in a large number of sub Saharan African countries - which receive about 2/3 of bilateral ODA - raise the question of aid effectiveness and should compel the French authorities to consider which countries should be given priority for ODA. An analysis should be made of the timeliness of setting priorities within the priority zone for solidarity (ZSP), which contains fifty or so countries. The criteria to take into account should concern the level of poverty and needs in terms of achieving the MDGs, the introduction of sound social and economic policies, good governance and respect for human rights.

As is the case for other European Union (EU) member states, **EU aid accounts** for a substantial share of French ODA (64% of multilateral ODA and 19% of total ODA in 2002). Its contributions to multilateral development banks represented 6% of its ODA in 2002. Contributions to United Nations institutions – to which France appears to attach strategic importance in response to the challenges of globalisation – are low (2% of total ODA in 2002) and lower than the DAC average.

**More transparency** is necessary, as it is difficult to link ODA with budgetary appropriations. This is the case for some debt relief operations, France's budgetary contribution to the development activities of the European Commission (other than the European Development Fund) and ex-post accounting of certain expenditure

in accordance with DAC definitions (costs induced in France by students from developing countries, costs of assisting refugees and administrative costs). In addition, there is no annual report on French ODA as a whole.

In the context of **improving coherence of policies**, it has to be noted that promoting globalization with a human face, based on democratic principles and social equality, is one of France's central concerns. The President of the Republic has launched several initiatives aimed at integrating African countries into the global economy. The trade initiative for Africa led to the EU action plan to create fairer trading conditions in the international market for African cotton producing countries. France could follow up on this example and use its influence to encourage the European Commission to pursue reforms in areas which would assist developing countries in sectors where they have a comparative advantage but which were not covered by the reform of common agricultural policy. French bilateral cooperation has often assisted the development of key sectors in the economy of partner countries and expansion of their export capacities.

The complexity of the issues at stake in terms of policy coherence requires systematic action at the political and administrative levels. EU member states must intervene simultaneously at the national level and also at the level of the European Union. France's commitment in this respect has not been explicitly endorsed in political declaration, in which policy coherence for development would be identified as an objective for all government actions. The impetus in this area seems to depend largely upon presidential initiatives. Inter-ministerial coordination structures and analytical capacities do not appear to be mobilised sufficiently to ensure that greater account is taken of the interests of developing countries in decision-making processes. The creation of a co-ordinating unit specifically tasked with ensuring policy coherence, at the level, for example, of the Inter-ministerial Committee for International Cooperation and Development (CICID) might be helpful.

The dialogue with **civil society** has intensified in France, with coordination among non-governmental actors. The High Council for International Cooperation (HCCI) has enabled the creation of a forum where the various actors involved in co-operation, NGOs and territorial authorities can meet and hold discussions. The government has on several occasions reasserted its desire to promote more wide ranging participation by actors from French civil society and territorial authorities. A broader dialogue should be initiated with these actors regarding their role in strengthening civil society in developing countries and the implementation of national poverty reduction strategies. In this context, French authorities may need to strengthen coordination in the field and reconsider the current level of NGO co-financing, which is one of the lowest among DAC members.

**Evaluation** has evolved in methodology in that the scope of evaluation has been broadened to include approaches by country, sector, and instrument; and measures have been taken to improve feedback. Progress still needs to be made in terms of disseminating evaluation reports, which are not always published, capitalising on lessons learned and analysing impacts.

The **compartmentalisation** of actors and instruments results in the dispersion of information and limits the benefits derived from implementation experience. The creation of inter-ministerial working parties and the networking of intellectual and operational resources are some of the efforts that should eventually bear fruit.

It would be useful to conduct a more in-depth analysis of the effectiveness of various instruments of French aid in relation to the shift towards the programme approach and **budget support**. Likewise, pursuing efforts to adjust technical assistance to strengthen its contribution to capacity building would help France to improve effectiveness, while assessing its opportunity cost compared with other instruments. Untying such assistance has to be considered, opting instead for co-financing with other donors and increasing use of expertise of local or regional actors.

The costs of implementing **public-private partnerships (PPPs)** are usually high. Private involvement by itself often cannot remove the barriers that impede the public sector's efficiency. Without strong regulations, private monopolies may replace state ones - but tight regulations may hinder market forces.

In particular, the case of private involvement in the water sector - of particular

importance for France - remains a controversial issue. Unlike telecommunications and electricity sectors, competition is very limited in the water sector. The international water market is dominated by two French multinationals, and past experience does not show any successful model for competition. Moreover, there is no consensus in the water sector on how to promote competition, the roles of the public and private sectors, and the institutional arrangements for regulation. It might well be that privatization reform leads to more state involvement than expected. The question of the role of the government in the water sector and in infrastructure development is thus crucial. The issue of public-private partnership is always complex, and this is even more so in the case of water supply.<sup>68</sup>

However, examples seem to be more positive in other sectors, such as the initiative by the United States Agency for International Development (USAID) in partnership with Nutriset, a French food company dedicated to humanitarian nutrition solutions that is now being used for famine relief. Nutriset makes a high protein, high energy, peanut-based, ready-to-use therapeutic food. The nut is now being processed and packaged in local peanut producing areas such as Malawi and Niger. In other words, as well as saving people, the partnership transfers knowledge and technology, and so helps to build the capacity of governments and people in affected areas to face the challenge of malnutrition. This is an example of public-private partnerships in action. It is an agreement between two or more parties to define and address a development challenge. As with the case of food, it is an approach, not an end in itself. Much more than simply outsourcing a private contractor for a service, the alliance partners combine resources and share risks in pursuit of common objectives. In addition to cash, resources include human capital, technology and intellectual property, market access, cutting-edge business practices, policy influence, in-country networks, and other expertise. And because

<sup>68)</sup> Public-Private Partnerships for Funding Municipal Drinking Water Infrastructure: What are the Challenges? Discussion Paper, May 2006, PRI Project Sustainable Development by Meriem Aït Ouyahia, accessed on 4.11.11 at http://www.horizons.gc.ca/doclib/DP\_SD\_PPP\_200605\_ e.pdf.

this partnership brings scale, effectiveness and innovation to development efforts, public-private alliances can help make aid more effective and accelerate progress toward MDGs.

The latter example is a development assistance model that combines aid money- with the resources, expertise and creativity of a range of players. Together, they provide a growing share of funds, human capital, and other resources for global development. These partnerships unite the unique skills and resources of each partner and apply them to problems that no one actor could solve alone.<sup>69</sup>)

These two examples outlined above involving French actors show the ideal PPP models, which in the concrete cases differ considerably in setup, method and results.

#### 2.3 Germany

Until towards the turn of the 21<sup>st</sup> century, one could hardly criticise German foreign policy for continuity with the Kaiser's aim of gaining "*Weltgeltung*". In the contrary, from its beginnings the Federal Republic had played a game at low profile on the international stage for decades after Germany had caused and lost WWII. Humbled through the occupation by the Allied Powers, it needed economic growth and European integration to find its voice in the world. With increasing prosperity came the growing conscience for the "Third World" and the **commonality of responsibility in Europe** for poorer peoples in the South. For several decades already, **economic interests** of German industry are evident notably in the high proportion of tied technical cooperation at a level clearly above prescribed DAC levels that is to a certain degree paralleled, if not surpassed, by Japan. The more self-confident attitudes of the Germans in international development policy circles are a more recent phenomenon. A shift in political leadership to the post-WWII generation might have contributed to this trend.

<sup>69)</sup> See details at http://www.oecdobserver.org/news/fullstory.php/aid/1859/ accessed on 4.11.11.

Also the management of development policies and activities has changed considerably recently. Since the merger in March 2011, all collaborators of development aid in Germany are working within one single federal enterprise (a limited company as a "GmbH"), namely the new "Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)" bringing together a staff of 140,000 in Germany alone and 19,000 world-wide in 130 countries, bundling the former "Gesellschaft für Technische Zusammenarbeit (GTZ)", "Deutsche Entwicklungsdienst (DED)" and the "Bildungsorganisation InWent". The new GIZ has a turnover of about €2 billion, making it the biggest consultation organisation for development cooperation in the world on the basis of an integrated business model designed to bring together all the instruments of technical cooperation and offer them from a single source.<sup>70</sup>) While EU 27 intend to expand their ODA to 0.7% by 2015, Germany now spends around 0.4% of GNP on development aid. At the first visit of Chancellor Merkel to the GIZ, the Minister for Development Cooperation reminded the audience that "Future-oriented development policy is more than altruistic aid. It ••• represents solutions to global problems.<sup>71</sup>)

The MDGs, poverty reduction and the Paris Declaration on Aid Effectiveness continue to form the strategic framework for Germany's development co-operation policy and objectives. While maintaining its commitments within this strategic framework, in 2009 the federal government had promised a clear change of course for Germany's development co-operation.

In 2009, Germany was the **third largest bilateral donor** in the world,<sup>72</sup>) behind the United States and France and just ahead of the United Kingdom and Japan.

<sup>70)</sup> Bundesministerium f
ür wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), accessed 27.1 10.11 at http://www.bmz.de/en/press/aktuelleMeldungen/2011/October/20111004\_pm\_175\_gi z/index.html.

<sup>71)</sup> See GIZ website http://www.giz.de/de/presse/presse/presse/pressemitteilung-detail/article/bundeskanzl erin-angela-merkel-zu-besuch-bei-der-deutschen-gesellschaft-fuer-internationale-zusammena.h tml accessed on 7.11.2011.

<sup>72)</sup> OECD DAC Peer Review 2010 of German ODA accessed 27.10.11 at http://www.oecd.org/data oecd/61/51/46439355.pdf.

Germany provided USD 12 billion of ODA in 2009, or 10% of total ODA of DAC member countries. While Germany has maintained its position as a leading contributor of ODA, progress towards its European Union commitments to increase its aid as a proportion of gross national income (GNI) has stalled. Its targets were for its ODA to be 0.51% of GNI by 2010 and 0.7% by 2015. However, in 2010 ODA was only 0.4% of GNI, putting Germany far off target in its first aid volume commitment. Despite this setback, and the gloomy global economic outlook, Germany remains committed to achieving 0.7% of GNI by 2015. Among the expanding areas of its development co-operation, Germany needs to ensure that its increasing emphasis on private sector development does not lead it to divert ODA to finance assistance that is oriented toward its own commercial interests. This implies that modalities need to be developed to ensure that projects are not selected on the basis of German commercial interests rather than expected developmental benefits. Where loans are used for development co-operation, Germany needs to ensure that these meet all the ODA criteria - i.e. that they are developmental, concessional, and meet the minimum 25% grant element (calculated against a 10% discount rate) - and to assess the extent to which future repayments on ODA loans may impact on targets for net ODA volume.

Germany has played a leading role in key global issues such as linking climate change with development. For instance, at an International Workshop on **Mainstreaming Adaptation to Climate Change** - Guidance and Tools in Berlin in May 2009, nearly one hundred participants presented very concrete issues such as the general lack of climate change information and the uncertainty related to it, as well as confidence in climate projections very much depending on the variables and the regions examined. Thus, the challenge was rather to manage than to overcome uncertainty. Another challenge is that data in some cases is not accessible. Data is often filed in research centres in developing countries and is not being shared among interested parties involved in adaptation to climate change  $e^{.73}$ 

Among other changes, Germany has dropped the term "priority partner

country" and narrowed its **focus to 57 partner countries** (down from 84). This reduction has been achieved by applying tighter selection criteria and by prioritizing them. These 57 partner countries consequently benefit from more intensive co-operation; each has a country strategy in place, which is generally aligned to the national development strategy. Germany's evolving co-operation with "anchor countries" (emerging economies) focuses on regional strategies and global public goods. In this context, trilateral co-operation is being used to mobilise Germany's human and financial resources together with the inputs of anchor countries. This represents an innovative approach, combining foreign policy and development co-operation objectives to tackle global threats and challenges. Germany has also narrowed its sectoral focus and now concentrates on **7 priority sectors**: good governance; education; health; protection of climate, environment and natural resources; rural development; private sector development; and sustainable economic development.

Germany has long maintained a policy of allocating not more than one-third of its ODA to **multilateral channels** in the broadest sense, i.e. including the EU. This limit is not based on evidence, nor is it linked to the relative effectiveness of bilateral and multilateral aid. The Ministry is developing a new strategy for multilateral organisations, an opportunity for Germany to confirm its rationale for channeling funds through these entities and to set out its priorities for reform of the multilateral system and its criteria for multilateral funding. The new strategy should also provide a clear analysis of how its development objectives could be advanced through multilateral funding.

Germany needs a stronger leadership on **gender equality** and women's empowerment. The strategy and guidelines of the Federal Ministry of Co-operation (BMZ) on gender equality need to be more firmly established in all of the agencies responsible for implementing Germany's ODA, particularly other ministries.

<sup>73)</sup> International Workshop on Mainstreaming Adaptation to Climate Change, Guidance and Tools Berlin, May 2009 accessed on 7.11.2011 at http://www.gtz.de/de/dokumente/en-climate-mainst reaming-adaptation-workshop-report.pdf.

Moreover, BMZ's capacity to take the lead on gender equality is constrained by the small number of staff devoted to this activity in headquarters and in the field.

While represented at the Cabinet level, BMZ is well placed to ensure that development is taken into account in all areas of Germany's domestic and international policies. However, policy coherence also depends on embedding the concept within the various government departments and setting clearer priorities for its implementation. Despite the dedication and skills of its staff at HQ and in the field, BMZ's lack of capacity to cover the range of issues it needs to address leaves it little room for a full influential and proactive role in decision-making and policy coordination that might be expected from such a key player. In particular, BMZ's analytical and strategy development capacity should be complemented by increased efforts to engage with other ministries on development issues. At the same time, awareness of and expertise in development issues should be strengthened in other German ministries. In terms of monitoring, analyzing and reporting on policy coherence, Germany has so far made only modest progress. It should take into account the lessons identified in the OECD's Building Blocks for Policy Coherence for Development when strengthening its capacity in this area, including transparent reporting to the German Bundestag and the wider public about progress made, to produce the accountability needed to drive further progress.

In particular, for climate change and **whole-of-government engagement** in Afghanistan Germany has made good progress. Germany can learn from these experiences to enhance BMZ capacity to improve and apply coherent whole-of-government approaches to tackle other global challenges. For example, thinking on this issue has evolved since Germany produced its 2004 action plan on Civilian Crisis Prevention, Conflict Resolution and Post-Conflict Peace-Building. Germany needs a new joined-up approach for fragile and conflict-affected states which takes into account the changes in donor thinking and practice in these areas. It could also build on planned inter-ministerial regional strategies by developing joint strategies for selected countries, notably fragile states.

BMZ continues to be responsible for a little more than half of Germany's

ODA. Since March 2011, the remainder is allocated mainly to the new GIZ, bundling major institutions.

**Debt relief** has been a major component of Germany's development co-operation for several years, but replacing debt relief with other forms of aid is necessary. The stock of debt is now becoming exhausted and must be replaced with other forms of multilateral and bilateral aid, if volumes are to increase or at least be maintained. The diminished debt relief is the main reason why ODA levels fell in 2009. Germany should therefore plan to replace debt relief with alternative aid allocations and channels.

Germany channels 6% of its ODA through **non-government organisations** (NGOs). In working with NGOs, Germany gives high priority to the independence of NGOs. However, Germany needs a clear strategy to guide this work, for application to both German and Southern civil society organisations. Most NGOs enjoy considerable freedom in how they use the ODA they receive but there are insufficient accountability linkages between them and the German development co-operation institutions. Germany needs to strike a balance between respecting NGO autonomy whilst encouraging them to demonstrate development results and also to align with partner country priorities. Germany's consultation with NGOs on its development co-operation policies and strategies needs to be improved. One approach would be to begin consultations earlier in the policy-development process. Germany should therefore develop a strategic approach to its relationships with NGOs. This should include a range of mechanisms for channeling funds through NGOs, such as framework agreements at headquarters and at partner country levels. This kind of approach is necessary to ensure a sustained focus on results.

The merger of the three technical co-operation agencies (GTZ, DED and InWent) is seen as a good first step in the wider reform process. The reforms should also: (i) strengthen significantly BMZ's capacity to oversee the development and implementation of its own policies; (ii) strengthen BMZ's leadership capacity to implement the development policy across the German government; and (iii) lead to innovation and adaptation of the technical co-operation models and

strengthen the links between technical and financial co-operation.

However, the pace of **decentralisation of responsibilities** to the field also has to accelerate. As part of these improvements, BMZ's in-country representatives must be empowered to make more decisions locally and have greater delegated authority for policy and strategy. Further decentralisation of decision-making responsibilities, accompanied by adequate resources, would improve the strategic oversight of Germany's ODA and could help to address some partners' concerns about delays in processing decisions and approvals. A new understanding on working relationships will also need to be developed between BMZ and the Federal Foreign Office.

Other important steps for improving the coherence of Germany's bilateral development co-operation include the establishment of a **Development Co-operation Country Office** in each partner country; joint programming; and appointing focal area co-ordinators in the field.

BMZ is also improving Germany's development co-operation evaluation system: the various evaluation systems are being standardised and guided by a policy framework, standards and specific approaches.

Germany is addressing **aid effectiveness** at three levels: (i) internationally and within the European Union; (ii) nationally; and (iii) within partner countries. It is having varying degrees of success. At the international level, Germany plays a leading role within the EU and the Working Party on Aid Effectiveness in promoting effective division of labour. Following the Fourth High Level Forum on Aid Effectiveness in Busan, Korea, in 2011, Germany should sustain its engagement in long-term and inclusive international dialogue on aid effectiveness and consider how it could more effectively support the broader implementation of aid effectiveness commitments. At the national and partner country levels, BMZ put in place in 2005 a Plan of Operations for implementing the Paris Declaration on Aid Effectiveness (it was the first donor to do so). It followed this up with an aid effectiveness manual for the German aid system in 2006, staff training for BMZ and the implementing agencies and an updated plan in 2009.

In 2008, the DAC average **untying** ratio for bilateral aid was 81%, and 61% for technical co-operation. In 2008 Germany reported that 77% of its bilateral ODA was untied; the remainder was reported as tied. In that same year, 41% of German technical co-operation was reported as untied. Germany is thus below the DAC average for untied aid, especially with respect to technical co-operation. To meet its commitments under the Accra Agenda for Action, Germany has set out a credible plan and timetable to untie more aid. Almost all of Germany's financial and food aid is entirely untied and BMZ's focus is now on untying further technical co-operation and humanitarian aid (the latter is currently 77% tied). Germany's plan for further untying of its aid should therefore focus on delivering increased levels of untied technical co-operation in particular.

A major overall goal of Germany's development co-operation for many years has been **capacity development**. Technical co-operation has traditionally been Germany's principal means of developing capacity in its partner countries, but over time, the focus has shifted from building the technical skills of individuals and strengthening local organisations to improving legislative, economic, social, ecological and political environment. However, Germany does not yet have a common definition of capacity development or a clear strategy for this aspect of its development co-operation.

In 2007 a total of 73% of German technical co-operation funding was aligned with partner strategies and co-ordinated with other donors. There are also a number of instances where German technical co-operation forms part of harmonised arrangements, including **technical assistance pools**. The emphasis here should be on building the capacity of partner countries to: (i) identify capacity development needs for themselves and the areas where technical assistance is needed; and (ii) manage the selection, contracting, deployment and use of technical services.

Germany is commended for its strong inter-ministerial and international leadership on **environment and climate change** issues. For internal political reasons, notably through the strengthening of the Green Party in federal and provincial assemblies, Germany has been strongly committed to the environment and climate change agenda for the past two decades, with its climate-related expenditure increasing by 40% between 2008 and 2009. This agenda is being driven by the highest levels of government. Germany's comprehensive national legal and strategic framework for the environment and climate change also recognises the importance of addressing climate change in developing countries. Germany should continue to provide international leadership on climate change and development approaches. It should also fulfill its international commitments, particularly to "fast start" financing for climate change mitigation and adaptation and for reducing emissions from deforestation and degradation (REDD).

The partnership between BMZ and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) is a good example of policy coherence for development and a major feature of Germany's development co-operation in the field of climate change. The centrepiece of this partnership is a new funding instrument that uses the proceeds from the sale of CO2 emissions trading allowances to fund BMU's **International Climate Initiative** (ICI). This unique financing mechanism is a potential model for innovative financing proposals in the global climate negotiation process. BMZ and BMU should consider how their environment and climate change programmes could be made more comprehensive and innovative; for example, by improving criteria for benefits from sustainable development and indigenous rights in REDD activities. Germany should also broaden its environment and climate change programmes to include environmental capacity development, the mainstreaming of environment into national planning and budgeting and promoting green growth world wide.

Germany has a strong track record, stretching back more than two decades, of mainstreaming environment within its official programmes. Since mid-2009, climate change issues have entered the mainstream of German development co-operation by applying a "Climate Check" to all new projects and programmes. Germany's work in this area is being guided by a Programme of Action on Climate and Development. BMZ is in the process of merging its Climate Check instrument with requirements for environmental impact assessment (EIA, required since 1988)

and also including elements of strategic environmental assessment (SEA). The resulting new "Joint Environment and Climate Assessment" will address both the strategic level (all focal area strategy papers and sectoral strategies/joint donor strategies) as well as the programme and project level (for all interventions). Germany is generally following the advice from DAC in this process. A systematic and strategic approach is required to integrating climate change considerations, especially adaptation, into programme and monitoring efforts.

As for **humanitarian action**, Germany does not yet have an overarching policy to guide its programming across ministries. Instead it relies on a comprehensive set of policies and guidelines, each focused on a different thematic area. Developing a macro policy, built on the comparative advantage of its funding instruments, would lead to more effective division of labor and promote linkages between immediate relief and programming for longer-term recovery. It could also help in developing a system for a more comprehensive monitoring and accountability for partner programmes. Germany's performance within the DAC's Assessment Framework for Humanitarian Action continues to be largely positive, and it has increased the proportion of its humanitarian funding from 2% of ODA (2004) to 3.3% (2008). However, this share is significantly lower than the DAC donor average of 9.2% in 2008 and Germany gives much less humanitarian funding as a share of its ODA than most other DAC members. Given Germany's status as one of the largest donors, and also given the world's humanitarian needs, Germany should further increase its humanitarian funding.

There is a need to clarify the division of labor, strengthening thematic linkages and enhancing impact of humanitarian assistance as it is delivered through two ministries: the Federal Foreign Office provides emergency assistance while BMZ funds efforts for relief of protracted crises and ongoing disaster recovery. The Humanitarian Aid Coordinating Committee is the coordinating body for the BMZ, the Federal Foreign Office and other national humanitarian actors. It meets regularly and can also be assembled rapidly following a sudden crisis or disaster. However, more needs to be done to clarify the division of labor between the ministries, and to strengthen thematic linkages among Federal Foreign Office officials working on humanitarian assistance and relevant development specialists within BMZ. A pertinent example is programming for disaster risk reduction (DRR), which is funded by both ministries and lacks a coherent overview structure or formal linkages between the Federal Foreign Office and the BMZ's DRR specialists, thus undermining learning and programme strengthening despite DRR being one of Germany's major focus areas. The division of instruments between the ministries increases transaction costs for partners substantially, especially during protracted crises. It forces partners to submit separate proposals and reports using different formats and guidelines for various parts of the same project.

While the rapid funding provided by the Federal Foreign Office is beyond reproach, its short-term projects do hinder the application of other Good Humanitarian Donorship (GHD) principles, especially operational flexibility and support for longer-term recovery. Closer co-ordination on both strategic and operational issues is required and Germany should work to establish formal co-ordination mechanisms. Stronger co-ordination will also strengthen linkages between immediate relief operations and longer-term recovery programming.

#### 2.4 Spain

With an intact catholic monarchy at the head of the state, Spain might still display a certain degree of **Christian missionary spirit** in its development policy, but the need to integrate into the EU in terms of ODA policies has led them to find compromises with more secular Member States and particularly Scandinavians. Most of Spanish NGO activities take place in Latin American countries, and about a third of the amount dedicated to Spanish bilateral development assistance is channeled through NGOs.<sup>74</sup>) Obviously, Spanish NGOs focus on the geographical priorities of the governmental Spanish development

<sup>74)</sup> Accessed 27.10.11 at http://www.unevoc.unesco.org/donors/countries/spa.htm.

assistance, which are set mainly for historical reasons.

Spain's **Law on International Development Co-operation** of 1998 provides the main legal framework for Spanish aid, and a review of the plan and discussions is in progress. The Master Plan, updated every four years, sets a comprehensive framework for development policy, including strategic objectives, geographic and sectoral priorities, and the roles of various players and instruments. Parliament provides oversight, particularly through the International Co-operation for Development Commission, a permanent body in the Congress and also in the Senate.

The Secretariat of State for International Co-operation (SECI) which sits within the Ministry of Foreign Affairs and Co-operation (MAEC) has the primary responsibility for Spanish aid policy and implementation. Within SECI, the Directorate-General for Development Policy and Evaluation (DGPOLDE) sets policy, engages in strategic planning and evaluation and manages the Spanish contribution to the UN global funds. SECI also houses the Spanish Agency for International Development Co-operation (AECID) that manages Spanish Aid. AECID follows a policy of sustainable human development, eradication of poverty and active construction of peace in solidarity with more than 50 countries in the world.<sup>75</sup>) AECID is the main implementing agency for bilateral assistance; the agency is undergoing a reform to increase its capacity for bilateral aid delivery, which is essential for implementation.

The **Ministry of Economy and Finance (MEH)** manages Spanish contributions to international financial institutions and the European Commission. Autonomous regions and local administrations provide a substantial share of ODA. These decentralised actors manage their own aid programmes, most often channeling funding through NGOs. In 2008 almost 14% of Spanish ODA was managed through decentralized co-operation. Two other important bodies within Spanish development co-operation are represented by the Inter-Ministerial Commission for International

<sup>75)</sup> Homepage of AECID accessed 27.10.11 at http://www.aecid.es/es/que-hacemos.
Co-operation, which coordinates ministries, and the Development Co-operation Council; both headed by the Secretary of State for International Co-operation. The latter, in particular, is a consultative body bringing together different actors from the government, civil society, universities, trade unions and business associations, to consult and coordinate development policy.

In its 2007 Peer Review, the OECD/DAC<sup>76</sup>) recommended that Spain introduce a results-based approach to aid management, improve its evaluation systems, and build a culture of evaluation. During the past few years Spain has shown a much commitment towards the MDGs. The 8 MDGs have been at the core of the two most recent Master Plans for Development Co-operation, respectively in 2004-2008 and 2009-2012. The Pact of State Against Poverty, signed by all political parties in 2007, is inspired by and framed around the MDGs. Moreover, the Spanish government at the highest level has reinforced its commitment to the MDGs on several occasions; among them, in his speech of investiture in 2008. This commitment has also been translated into several policies; case in point, in the last two years almost 70% of ODA was allocated to sectors directly related to the MDGs.

Until recently, Spain set goals for scaling up its **aid volume**, pledging to increase its ODA/GNI ratio to **0.7% by 2012**, three years before the EU deadline. Spain has also established a timetable and has showed a strong commitment to comply with its promises. Spanish ODA represented 0.45% of GNI in 2008, up from 0.37% in 2007 and 0.32% in 2006. In 2008 - once again - the Parliament approved the 2009 budget which included a commitment to 0.5% of GNI. 2009 data from the OECD-DAC showed a slight increase of ODA/GNI for 2009 to 0.46%.

The economic crises since 2008 have led to cuts also in ODA of about 800 million (around \$1 billion) for 2010 and 2011. Spanish ODA has expanded at

<sup>76)</sup> OECD DAC Peer Review 2007 of Spanish ODA accessed 28.10.11 at http://www.oecd.org/doc ument/40/0,3343,en\_2649\_34603\_39677544\_1\_1\_1\_1,00.html.

a much greater rate than its peer DAC/EU countries, and also showed the largest increase of ODA by any DAC member country; taken together, the ODA of the 15 members of the DAC that are also EU members rose by 8.6% during the same period.

In terms of **absolute volume**, Spain provided 6.8 billion USD in net ODA in 2008. This decreased slightly to 6.5 billion USD in 2009. Debt relief grants (i.e. grants which forgive the debt of developing countries) comprised only 4.7% of Spanish ODA in 2007 and 5.1% in 2008. Excluding debt relief, Spanish ODA rose slightly less - 18.9% - between 2007 and 2008. As outlined in its 2006 law regarding the management of external debt, the Spanish Government must publish information over the management of debt.

Aid quality is a separate of its own issue apart from aid quantity. Spain's share of bilateral aid was 70% in 2008, which fell to 65% in 2009. Two thirds (67%) of Spanish aid goes to middle-income countries. Only 33% is directed to LDCs and 23% to low-income countries, where aid is most needed. Spain has traditionally allocated a high share of its aid to middle-income countries. Between 2002 and 2008, roughly 60% of Spanish gross bilateral ODA was allocated to middle-income countries, compared to a DAC average of 36-41% over the same period. Spain's share of aid to middle-income countries reached a high of 67% in 2008, apparently a consequence of its focus on Latin-America.

By region, in 2008 **Latin-America** and the Caribbean received the greatest share of Spanish bilateral ODA (37.5%), reflecting Spain's historical, linguistic and political linkages to the region. Africa followed with 35.4% from which 26% went to Sub-Saharan Africa and 6% to North Africa. By country, top recipients of gross bilateral ODA in 2008 were Guatemala and Peru. In order to decrease dispersion of aid, Spain has identified 23 out of its 50 priority countries in which it seeks to concentrate 2/3 of its bilateral ODA. In 2006, Spain fell far short of this goal, with only 36% of bilateral ODA going to priority countries. Country Programmable Aid (CPA) is the proportion of aid that developing countries can allocate according to their development needs.

Spain has made consistent progress in **untying** its aid over a period of several years; the share of untied aid increased from only 56% in 2003 to 89.1% in 2007. Spain's 2007 performance was better than that of Italy (59.8%) and Portugal (58%), but worse than those of Germany (93.4%) and France (92.6%). The Master Plan 2009-2012 moved the gradual phasing out of tied aid from 2012 to 2015. Spain is in an excellent position to push ahead on this issue, as there is strong support among diverse stakeholders.

In Spain, tied aid has generally been identified with credits from the Fondo de Ayuda al Desarrollo. Protocol-linked assistance is linked to ODA even though it aims to enable Spanish businesses to acquire strategic positions regarding exports. It is therefore, in view of its nature, strictly tied aid. FAD credits are soft loans that the Spanish State makes to other states to carry out particular projects by contracting goods and services offered by Spanish companies. 70% of the goods and services supplied by the FAD credits must be Spanish, leaving the acquisition of 15% of goods and services to the beneficiary country and 15% to third countries. Aid was tied with the explicit aim of promoting the interests of Spanish businesses, i.e. basically of promoting exports and investments by Spanish companies.

The percentage of Spanish aid flows accurately recorded in partner country budgets, a measure of **transparency and accountability**, decreased from 41% in 2005 to 25% in 2007. Spain's 2007 performance was below those of France (58%), Germany (57%), and Italy (35%). Spain's performance also remains well below the target of 85% by 2010. The percentage of Spanish technical assistance coordinated with country programmes increased from 10% in 2005 to 45% in 2007. Spain's 2007 results remained below those of some of its peers, such as Germany (72%), Italy (72%), and France (48%) as well as below the 2010 target of 50%.

The overall statistics on Spanish **aid effectiveness** across partner countries globally mask a disparity between regions. While implementation of the principles of the Paris Declaration has proven successful in Latin America, it has proven less successful in other partner countries.

The OECD/DAC recommended implementing a division of labour between

**donors** to make use of the comparative advantage of Spain in Latin America and of peer donor nations in Sub-Saharan Africa. Nonetheless, Spain should continue to work towards decreasing its aid volumes to Latin America, and to effectively implement plans to increase Spanish engagement in Sub-Saharan Africa. In its Master Plan 2009-2012, Spain set clear objectives for improving the quality of its aid at the country level. In accordance with the EU Code of Conduct, Spain plans to identify sector priorities through dialogue with each partner country.

Spain's Master Plan 2009-2012 also identifies seven **strategic priorities**: improve the quality of aid at partner country level; improve the efficiency of Spain's multilateral aid; improve policy coherence for development; strengthen education on development; utilise research and analysis to benefit development policy; strengthen development co-operation through better human resources and institutional capacities; and coordination among all actors involved in development co-operation. Spain's efforts to implement and sustain this integrated approach to development, with a focus not only on increasing the quantity and improving the quality of aid, but also on policy coherence among all national actors, signal Spain's prioritisation of poverty reduction. Spain should leverage this strength within the European context and be an example to other EU donors.

The OECD defines **policy coherence** for development as working to ensure that the objectives and results of a government's development policies are not undermined by other policies of that same government which impact on developing countries, and that these other policies support development objectives where feasible. In Spain's 2007 OECD Peer Review, the OECD/DAC finds a strong framework for policy coherence in Spain and ample political support: Spain is among the few DAC members to include policy coherence for development in its legal and planning framework.

The signature of the **Pact of State against Poverty**, promoted by the Coordinadora de ONGDV, a platform of Spanish NGOs and signed by all political parties in December 2007, represents an unprecedented willingness across party lines to consolidate the achievements made in Spanish development co-operation.

The objective of this pact is to reinforce strong and long-lasting commitments in the fight against poverty, independently from the change of government over time. Policy coherence across ministries is also well recognised. The Secretary of State for International Co-operation (SECI), who holds responsibility for promoting policy coherence, engages often in inter-ministerial discussions on development, trade and defence; at the same time, the Development Commission includes a range of national and regional parties that discuss links between development and various issues such as climate change and migration.

Spain's alignment of trade policies with development is key to helping create livelihoods in poor countries. As an EU Member State, Spain implements the Common Agricultural Policy (CAP), providing subsidies and price controls on agricultural commodities. Subsidies for EU producers lead to overproduction, pushing down world prices, and obliging the EU to dump production abroad in order to keep prices high at home. As a result, poor farmers in developing countries are unable to compete and find their access to the European market denied. EU citizens meanwhile pay more for the food they buy and bear the burden of higher taxes resulting from the huge cost of maintaining the CAP. Over the years, gradual reforms of the CAP, particularly those adopted by EU Member States in June 2003, have slowly decreased support levels and shifted some support toward less-distorting mechanisms, including decoupling payments from production and tying direct payments to good agricultural stewardship. Nonetheless, the CAP continues to distort the market for a wide range of products of critical importance to developing countries, such as cotton, dairy products, rice, fruits and vegetables etc. During the negotiations over the future of the CAP, Spain stated its preference for a strong CAP which could play a big role in overcoming the crisis and which would be able to feed an ever-growing world population. Spain favours EU agricultural supports for many sectors of production; these positions are largely explained by the labour-intensive means of production practiced in Spain, the diversity of production between regions, and the fact that Spain is a net exporter of agricultural commodities.

Spain is also a major beneficiary of the **European Fisheries Fund** and of EU fisheries agreements with developing countries. Spain's very high fishing subsidies cost the average Spaniard \$3.82 annually. According to fishsubsidy.org, a project led by EU Transparency and funded by The Pew Charitable Trusts, Spain received 48% all EU fisheries funding between 1994 and 2006. Spain's role in EU internal negotiations on fisheries agreements is not transparent; the Development Co-operation Council's working group on policy coherence and the OECD/DAC, in Spain's 2007 Peer Review, recommended that Spain make transparent its position on EU fisheries. In June 2009, Spain joined with France and Portugal in an attempt to pre-empt the European Commission from also cutting banana import tariffs which threatened their production.

Spanish public opinion on development has influenced cross-party support for increases in aid. Up until now, support has been generated by involving the public in the form of NGO activities and by the widespread official development assistance activities of autonomous communities and local administrations. The report later notes that the experience of Spain's entry into the EU is generally considered a factor in the public's favourable view of ODA, though there are other motives. Spain plans to integrate development education into all levels of its formal and informal education systems. The Master Plan 2009-2012 strengthens the strategic objective to enhance education for development and social awareness. Opinion polls show that awareness of development issues leads to general support for development co-operation even if detailed knowledge of official development activities is patchy. According to polls from the Spanish Centro de Investigaciones Sociologicas, 70% of the public is aware of the UN goal of allocating 0.7% of GNI to ODA, but 76% did not know how Spain performed in this regard. A 2009 Eurobarometer survey shows that the number of people aware of the MDGs has increased sharply from 12% in 2007 to 23% in 2009. However, the majority of Spanish respondents (77%) remain uninformed about the Millennium Development Goals. Spain's results were comparable to the European Union average (76%), however far behind countries like the Netherlands (36%).

The Centre for Global Development (CGD) ranks 22 of the world's richest countries based on their dedication to policies that benefit poor nations. CGD's **Commitment to Development Index** looks at seven policy areas important to developing countries: aid, trade, investment, migration, environment, security and technology. CGD's 2009 Commitment to Development Index ranks Spain 7th among 22 OECD countries. This score represents a rise in the rankings since 2006, when Spain was ranked 17th among 21 nations. Spain's overall score was brought down by low ratings on aid, particularly its quality – environment and security. Spain's high fishing subsidies detrimental to poor countries and small resource contribution to peacekeeping over the last decade also contributed to the fall in Spain's score.

Geographically close to Africa and culturally to Latin-America, on the positive side, Spain performs well on **migration**, accepting large numbers of immigrants from poor countries, and on technology, supporting technological innovation and dissemination. These positive aspects might relate also to the fact that Latin-America's indigenous people increasingly see themselves as "multi-national".<sup>77</sup>

## 3. European Commission

The European Commission alone, apart from separate Member States' activities, is responsible for the management of Euro 11 billion of aid annually, i.e. ranking in second place in amount of ODA globally among all individual donors. Thus, by far the **largest donor of ODA** together with its Member States, the European Union has already an essential shaping influence on the recipient countries and their development, as well as in the international ODA arena as seen at the crucial conference in 2002 in Monterrey, with the 'Consensus' achieved

<sup>77)</sup> BBC World News, via Internet 17.10.11 2011.

here on funding for development leading to the 2005 Paris Declaration and the 2008 Accra Agenda. The EU now distributes its ODA across 145 recipient countries, the largest spread of any DAC member. Accordingly, expectations were running high for the outcome of the conference on 29 November 2011 in Busan, Korea, with a High-Level Forum on aid effectiveness.

The EU's development policy has its legal basis in the origin of European integration, namely in the original **Treaty of Rome** of 1957. Articles 131 and 136, Chapter 4 provided for the "*association*" of non-European countries and territories with which EEC Member States had particular relations known as "overseas countries and territories" (OCTs). Against the background of historical --often-colonial-- links of several major Member States and proximity of certain developing parts of the world, first activities of European development aid addressed African countries. It later evolved to include a 'Neighbourhood Policy' towards countries around the Community/Union, some of them recently coming together in the Mediterranean Union.

It has to be stressed that the European Commission as a supra-national institution is *sui generis* among the members of the OECD's Development Assistance Committee in that it both provides direct donor support to developing countries and at the same time plays an important "federating" role with the other institutions and Member States of the EU.<sup>78</sup>) As the origin of more than half of global ODA, the 27 Member States and the EU together account for more aid than that of the World Bank's International Development Association and several times that of the United Nations Development Programme.

European development co-operation has evolved along with individual Member States' policies towards a **collective vision** for European assistance world-wide, ranging from assistance to former colonies of Member States' to stabilisation of the European "neighbourhood" and "near abroad", in particular

<sup>78)</sup> OECD, European Community (2007), DAC Peer Review: Main Findings and Recommendation s, accessed on 30.10.11. at http://www.oecd.org/document/0/0,3746,en\_2649\_34603\_38897408 \_1\_1\_1\_1,00.html.

through the Mediterranean Union and similar initiatives. These various levels of ODA governance in Europe in terms of objectives as well as procedures have left the EU institutions with a reputation of bureaucratic complexity. The Commission has reformed its administration in recent years. Since the last Peer Review, the Commission has paid significant attention to strengthening its policy framework and delivery systems, including its specialised service for implementation (EuropeAid). The most recent streamlining of services on the basis of the Lisbon Treaty resulted from the establishment of a separate diplomatic service, the **European External Action Service (EEAS)** and the subsequent merging of the Commission's pertinent Directorates-General into **DG DevCo**.

The EU now seeks to move its development programmes towards a more pro-active and strategic EU vision for development co-operation. Despite the recent economic and financial crises, the last decade was in general a period of a greater and more geo-political role for the EU, notably with the implementation of the Lisbon Treaty. At the same time, with the end of the Cold War in Europe --but world peace outside the EU still under threat--, the foremost asymmetrical security issues since 2001 raised considerably the resolve of the Commission. It also has served as an expression of solidarity of its Member States by playing an increasing role in dealing with the threat of world terrorism and new issues of security. Likewise, for the EU with its strengthened and more integrated foreign service, development institutions now work in a more complex and political environment. On the one hand, within the Commission the relevant services are streamlined into one DG DevCO, on the other hand the new EEAS outside the Commission shows more direct dependence on consensus-building among the 27 Member States.

Development policy has thus come to form a major part of EU foreign policy as well as trade, humanitarian aid and external relations in general, often creating issues of **coherence** that the Commission has sought to overcome internally, mainly through procedures such as "inter-service consultations". Most recently, the separate set-up of the EEAS has further complicated these procedures. The European Parliament, in this context, had initiated a critical study in 2011<sup>79</sup>) which concluded that the Generalised System of Preferences (GSP) and Economic Partnership Agreements (EPAs) of the EU with 'sensitive product' lists, particularly high tariffs for semi-processed and final goods, and rules of origin often undermine their positive potential impact. At the same time, tailor-made liberalisation programmes in the EPAs risk regional integration and export diversification. In the area of climate change the study finds a need for improvement, especially regarding climate funding and mainstreaming of climate change concerns into EU development co-operation. In agriculture, the EU export and domestic subsidies are reported to have a negative impact on developing countries.

According to the EU Treaties, development objectives have to be taken into account as an overarching principle in all non-aid policies that affect the developing world. The political and operational priority has grown substantially over the last years. In 2005, the European Council of Member States agreed on a new policy coherence effort by focusing attention on the achievement of MDGs by 2015. The Council committed to a wide-ranging list of **12 policy coherence priority areas**: trade, environment, climate change, security, agriculture, fisheries, social dimension of globalisation, migration, research and innovation, information society, transport, and energy. This political framework now needs to be progressively implemented by the EU based on field realities and with a clearer sense of operational priorities.

A work plan for this policy coherence agenda was adopted by the Council in 2006, including a calendar of action and proposals in each priority area. It also defined more specific roles for the Council, the Commission and the Member States. An Informal Network composed of experts from the Member States and the Commission has been active since 2003. A formal means of bringing policy coherence issues to the attention of EU decision makers is needed. According

<sup>79)</sup> Study for EP DG External Policies, "AN ASSESSMENT OF THE BALANCING OF EU DEVELOPMENT OBJECTIVES WITH OTHER POLICIES AND PRIORITIES', EXPO/B/DEVE/FWC/2009-01/Lot5/14 March 2011, PE 433.771 accessed 2.11.2011 at http://ecologic.eu/download/projekte/2610/2610\_14/EP\_PCD\_study.pdf.

to the OECD, organisational responsibilities within the Commission and the Member States are now being identified and should be as operationally specific as possible.

The Commission has sought to play a role in harmonising (or according to OECD even "federating") development co-operation among Member States in headquarters and in the field. It will need to further strengthen inter-service consultations on competing or even sometimes conflicting policies in order to reconcile differences quickly and effectively. This has become particularly urgent with the set-up of separate foreign service EEAS under the Lisbon Treaty since 2010.

Better coherence requires a "whole-of-government" approach also at EU level, where strengthening coherent governance in the current crises has become a keyword. Democratic governance also in third countries is a growing political priority for the Union and requires policy coherence at Headquarters and a well structured policy dialogue at the recipient country level. Currently there is strong pressure from the European Parliament and the public to link assistance only to recipients meeting minimum governance, anti-corruption and human rights standards. The Union characterises this as rewarding mutually agreed performance standards, rather than as conditionality. Nevertheless, according to the Communication of an Agenda for Change of October 2011, in some cases even "stricter conditionality will be warranted."80) Effective implementation of democratic governance requires closer co-ordination among Commission directorates-general, the EEAS, Member States and other key donors at the country level. Clearer guidance to be sent out to the actors in the field on performance standards could facilitate this dialogue, manage recipient government expectations and enhance the predictability of aid disbursements.

EU policies towards fragile states and security systems reform are other issues

<sup>80)</sup> European Commission, Brussels, Communication, Increasing the impact of EU Development Policy: an Agenda for Change, COM(2011) 637 final of 13.10.2011, p.5

which also require effective and coherent approaches. The challenge of coherence is particularly daunting given the variety of instruments available to the Commission and elsewhere in the EU for different actions. Greater coherence is also required among European security and defence policy instruments.

In addition, the Commission has pointed out the need to redress gender inequalities as an integral part of the Union's development policy. For that purpose, it promotes a twin track approach for women's empowerment and mainstreaming **gender equality**. But enhanced implementation of the programme is necessary, which should be a focus in the next two-yearly evaluation.

The Commission also helps ensure that the entire European Union contributes to greater quality and **quantity of aid**. In 2005 it galvanised Member State commitment to a 0.51% of GNI target until 2010 (0.17% for the new Member States) and 0.7% by 2015 (0.33% for the new Member States). Of the total additional European ODA over this period Member States were responsible for much of the increase. Achieving their respective ODA targets proved to be notably difficult for some relatively well-established members as well as for new Member States which have to build aid management capacity. It became even more difficult for most due to the crises since 2008. An emerging challenge for the Commission is to encourage, track and help these members achieve their ODA targets. Also, some Member States look to the Commission to manage part of their growing pool of ODA. Assisting in these challenges has become a substantial added value in the role for the Commission in order to increase European ODA to reach the target of 0.7%.

A much needed reform of the EU consolidated the previously complex array of 35 **financial instruments** of the Commission into a more manageable set of 10 instruments in 2006. Subsequently, the largest ODA flows are found in the European Development Fund (EDF) and the Development Co-operation Instrument (DCI). Together they represent the majority of total ODA. However, they are managed differently. Both EDF and DCI instruments are implemented by the merged DG DevCo, although each has a different set of rules and regulations. EDF is a multi-annual programme managed by DG DevCo and funded by voluntary contributions from Member States outside the EU budget. It provides support essentially to 77 African Caribbean and Pacific (ACP) countries. DCI is managed by the new EEAS; it is financed directly from the EU's annual budget; and it supports development programmes principally in Asia and Latin America. In the budget proposal of the Commission of June 29<sup>th</sup> 2011, the amount allocated for 2014-2020 to the DCI reaches Euro 20.6 billion.<sup>81</sup>) In both cases, thematic funds largely fall outside country strategies would increase effectiveness and overall impact, in particular in view of the new separate structure of the EEAS.

The consolidation of financial instruments as an important and necessary exercise and should result in greater transparency, efficiency and effectiveness. But there are more opportunities ahead to further integrate and reduce them, particularly due to the new EEAS and then in 2013 when most financial instruments expire. The EU needs to persist in streamlining its budgetary arrangements. Funding country development assistance for the ACP countries from the EU budget could increase efficiency through the use of more uniform rules.

Depending on its 27 constituents, often even on their consensus, the EU has been under pressure from some of its Member States to increasingly concentrate on the low income countries. While more than one half of its total bilateral ODA already goes to these countries, the growth trend has leveled off and became a target of criticism.

Since the EU functions both as a plurilateral donor agency itself and as a supranational recipient of funds from Member States, it does not contribute significantly to **multilateral aid** of international institutions, like the World Bank and the family of United Nations entities. The ratio of multilateral aid to bilateral aid as reported to the DAC has remained stable over the last 20 years at around

European Commission, Brussels, Communication on Budget, Policy Fiches COM (2011) 500 final of 29.6.2011.

7% of ODA. Of this bilateral aid, the EU contributes an increasing amount to international organisations for the implementation of specific projects. The EU needs more explicit frameworks such as partnership agreements to pursue improved relations with key multilateral development organisations. It also should be more transparent in its role and value-added in channeling resources to the multilateral organisations.

The shared values, goals, principles and commitments, on the basis of which the European Commission and EU Member States have implemented their development policies, were laid down in 2005 in the European Consensus on Development. A particular focus was put on the tasks spelled out in the MDGs, such as reducing poverty in order to help meet other challenges such as sustainable development, HIV/AIDS, security, conflict prevention, forced migration and to lead to equitable globalisation. Furthermore, the EU requires development based on rule-oriented democratic values with respect for human rights, fundamental freedoms and the rule of law, good governance, gender equality, solidarity, social justice and effective multilateral action. For mostly historical reasons, the recipient developing countries are mainly responsible for their own development - based on national strategies developed in collaboration with NGOs, and mobilising their own domestic resources. Thus, like budgetary supports, EU aid will be aligned with national strategies and procedures on the spot. Again, for mostly historic reasons, about 50% of the additional aid will go to Africa, with special focus on fragile states, i.e. less served countries with low numbers of donors and poor people in middle-income countries.

However, the implementation of the European Consensus will require DG DevCo and the EEAS to work closely together and challenge their separate organisational responsibilities. They have different approaches to implementing development priorities because of their specific institutional mandates. Their distinct geographical coverage gives them a different exposure to developing world realities and experience. A more unified EU organisation for development could minimise institutional redundancy, promote a development policy informed by the full

geographic range of development experience and ensure that aid leadership is unambiguously dedicated to the priority issues of development. The DG DevCo-EEAS division of labour merits review in the face of evolving EU institutional frameworks and in the interest of greater development coherence and aid effectiveness.

On the basis of its experience of over half a century of development policies, in November 2010 the Commission published a **Green Paper** with the Title "EU development policy in support of inclusive growth and sustainable development - Increasing the impact of EU development policy".<sup>82</sup>) The purpose of the Green Paper is to open the debate and receiving ideas from stakeholders and the general public on its activities and policies in this field. While developed and developing countries adopted in 2000 the Millennium Development Goals to reduce poverty by 2015 and in the past decade economic growth has been robust in many parts of the world, a great deal remains to be done towards this goal. Many developing countries are at risk of falling behind and about 1.5 billion people still live in extreme poverty with half of them in Sub-Saharan Africa, where the EU has long experience and with whom some EU Member States have had long relationships.

There is a continuing need for the EU to devolve authority to the field and further simplify procedures and accelerate programme implementation. While the Commission fulfilled its specific reform mandate, the EU should not become complacent about the **reform process** given the need to update, adapt and reform management systems in response to the new international aid challenges of scaling-up, aid effectiveness, policy coherence and results based management. Its involvement in the aid effectiveness agenda, including the agenda of the High Level Forum in Busan, could help to better identify its own reform agenda. The substantive devolution of management responsibility away from HQ to the Commission's 81 empowered field delegations has been a key component of the reform process. This is highly appreciated by EU partners in the field and has

<sup>82)</sup> European Commission, Brussels, Green Paper, COM (2010) 629 final of 10.11.2010.

played a major role in improving the efficiency of EU operations. The initial devolution process should now be complemented by more strategic empowerment in such areas as project approval and results reporting. Additional professional development staff and operational resources may be needed to strengthen delegation capacities to take on greater responsibilities.

Effective development work often requires **specialised personnel** planning at headquarters, especially to provide the required skills-mix at the field level. Consideration could be given to establishing a specialised development personnel function so that personnel planning and action for all Commission development professionals is led and co-ordinated from the development perspective. Development personnel strategy should also incorporate the significant potential for sharing staff within the larger EU and Member State systems. This may help to allow collective scaling-up of aid without the need for major new recruitment.

In order to improve performance monitoring and reporting, three points merit further Commission attention and effort. The European Parliament and the public increasing demands for better results based on more effective management and reporting from the EU institutions. The European Consensus requires that progress in implementing its objectives is measured regularly and reported annually. Future performance monitoring and reporting should strive to be integrated; simple and organised to provide relevant information to different parts of the overall system. In the longer term, and as international donor interest in joint field approaches evolves, the Commission will need to increase further capacity-building for common results systems at the local level. Credible local tracking and reporting systems can also reduce EU and Member State management needs in this area. Improved performance management is an area of common interest for the EU and Member States and the Commission has an opportunity to work closely with Member State aid institutions for better harmonisation of the overall European Union approach. This is also true in the related area of knowledge management, where the Commission could play a federating role.

Greater use of budget support is viewed by the EU as a key instrument for

advancing the aid effectiveness agenda and improving its aid delivery. Greater reliance on budget support requires systematic use of risk assessments and a good understanding of the appropriateness of budget support in the local context. The Commission should guard against using this approach for moving funds more quickly to scale-up or to achieve the 50% target. Commission headquarters should rely more on the experience and assessments of the delegation staff in designing and managing budget support. It should insist upon its past dynamic and pragmatic approach which fits budget support to the country context. Budget support is an area where the Commission has a comparative advantage over many Member States, given its experience and accumulated know-how.

While the EU has made considerable effort to untie its assistance, it should consider completely **untying** its aid in line with the DAC recommendation of 2001, whether (i) DCI funding, where other donors who have untied their aid can apply for reciprocal access with the EU, or (ii) EDF funding, where only Member States or ACP countries may bid for contracts. EU trade policies need to be an integral part of this vision, including the rules of origin for ACP countries under the EU's 'Everything but Arms' policy. The Commission should review its procurement procedures and contract award criteria to allow competitive access for new EU Member States, which, as newly emerging donors, do not necessarily have firms and NGOs with well-established performance records as aid contractors and grantees. Given the large share of their ODA they contribute to the EU as part of the Barcelona Agreement, these new members are eager to convince their parliaments and public that they are full partners in implementing EU programmes.

The European Commission is the second largest **humanitarian donor** in the DAC of the OECD. It so far provided about 12% of its total ODA for humanitarian purposes through an extensive presence of ECHO (Humanitarian Aid department in the service of the European Commission) with 43 field offices. This constitutes a wide network of technical experts and a focus on delivery through established NGO partners, which reaches about one half of ECHO expenditure. The Commission endorsed the Good Humanitarian Donorship principles and practice

and is committed to implementing them through a rapid, needs-based and flexible response to humanitarian crises.

As an important donor, ECHO could have greater policy influence and could better engage the international community to improve the overall effectiveness of individual and collective humanitarian action. The Commission has addressed this need in a Communication and subsequent European Consensus on humanitarian aid. Internally, there are challenges in the way ECHO interacts with other Commission policies for civil protection, crisis response, disaster preparedness and links to relief and development. The EU needs to work to establish better connections between humanitarian issues and development programming, for example, in terms of building disaster preparedness into country strategies or in ensuring better transition and coordination between humanitarian and longer-term programming.

ECHO's basic budget remains static even though it must draw on significant supplemental resources every year from the Emergency Aid Reserve or elsewhere. ECHO's response capacity is built around strong partnerships with 200 non-governmental organisations with which it has signed framework partnership agreements. Despite the use of these prior agreements, ECHO administrative requirements for proposals and reporting are viewed by many partners as complicated.

In the **Lisbon Treaty of the EU**, gradually implemented since 2010, Article 208 specifies that "Union development co-operation policy shall have as its primary objective the reduction, and, in the long term, eradication of poverty. The Union shall take account of the objectives of development co-operation in the policies that it implements which are likely to affect developing countries." Development assistance will continue to require long-term financial commitment. It is therefore particularly important to demonstrate its relevance to EU citizens, and this also for other global challenges like climate change, energy and raw material access as well as security, water scarcity and food supply. The EU persists in addressing bad or weak governance which it views as providing fertile ground for terrorism,

piracy, trafficking and criminality. In particular its Neighbourhood Policy plays a role in better management of migration flows by facilitating legal migration in line with labour market needs, fighting illegal migration and making migration work for development, but the EU also aims to promote economic growth in other developing countries and accompany them in their integration into the world economy. Gaining the support of European citizens for development co-operation has become also a task of more transparency not only of funds involved but as well of methods applied.

With its concept of 'budget support/ and still **strict conditionality** clauses the EU continues to focus on developing countries' capacity to generate inclusive growth and to mobilise their economic, natural and human resources in support of poverty reduction strategies. But this is hardly reflected in the fledgling debate in Europe on issues of de-growth and economically successful alternatives to the neo-liberal approach seen in some emerging markets. Geopolitical changes worldwide might lead to new methods of development policies ranging from laboratory-like trial and error approaches to novel forms of South-to-South co-operation where different constellations might bring mutual benefits without imposition of governance models which have also come under discussion recently in Europe with the current crises.

The aforementioned Communication of the European Commission on development policies and in particular its impact, namely the Agenda for Change of 13 October 2011,<sup>83</sup> is to a large degree a response to **changes in the geopolitical landscape** of the recent past as well as a reflection on the comments received on its Green Paper of November 2010. Thus, it *expressis verbis* refers to the "people-led movements in North-Africa and the Middle East" and concludes – now not anymore without controversy in view of China's advances in Africa— that "objectives of development, democracy, human rights, good governance and

<sup>83)</sup> European Commission, Brussels, Communication, Increasing the impact of EU Development Policy: an Agenda for Change, COM(2011) 637 final of 13.10.2011.

security are intertwined." Also the recognition that it is "critical for societies to offer a future to young people" can be interpreted in the context of recent phenomena reaching beyond development countries to the movements of *'indignados'* and "Occupy' worldwide. The Communication's focus, however, remains on the reduction of poverty and the MDGs. While conditionality is explicitly mentioned only once, its concept permeates most of the Communication's text, which repeatedly refers to good governance and its elements as a condition for aid. It seems to cover up with words of "new opportunities" the difficulties of the EEAS splitting from the Commission, although it is still under the double-headed Vice-President of the Commission. Likewise, there is no question about the growth paradigm in EU development policies, but increasingly with the indication that "growth *patterns* are as important as growth *rates*," which leads to more social inclusivity and participation, including CSR and a decent work agenda.

Of importance in terms of aid **implementation** is the document's emphasis on 'differentiated development partnerships' according to country needs, capacities and commitments (i.e. to good governance). Following criticism of its lack of coherence, the Commission claims to be at the forefront of the Policy Coherence for Development (PCD), but adds the obviously recognised need to strengthen its dialogue on PCD. In order to bring about faster progress towards the MDGs the Commission in the Communication calls on the Council as usual to endorse the proposed Agenda for Change, since as a matter of fact the Commission itself implements only 20% of the collective aid effort.

However, beyond ODA in the strict sense under the Consensus on Development of 2005, the Commission is also coordinator, convener and policy-maker in an increasingly closer EU co-operation in the framework of the **Neighbourhood Policies** that add further assistance and mutual benefits to developing countries and Lower Middle Income Countries on the DAC list of the OECD.

In particular most recently, with the so-called "Arab Spring" and the

Mediterranean Union such co-operation under the heading of industrial co-operation of the Euro-Mediterranean partnership is helping to create an area of shared prosperity between the EU and 16 Mediterranean partner countries, namely Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, Israel, Jordan, Lebanon, Mauritania, Monaco, Montenegro, Morocco, Occupied Palestinian Territories, Syria, Tunisia and Turkey. In this context, since 1996 the EU and Mediterranean industry ministers meet every two years to take stock of progress, decide on future priorities and adopt a 2-year work programme.

In May 2011, these industry ministers met again already for the 8th time and adopted a work programme for 2011-2012. Under the Partenariat EuroMed this most recent meeting took place in Malta in view of profound changes occurring on the southern shores of the Mediterranean echoing the slogan of "Arab Spring". The participants in the conference affirmed their commitment to strengthening the partnership between the EU and its Mediterranean neighbours and to combining political and economic reforms for the benefit of democracy, rule of law, human rights and shared prosperity in the entire Euro-Mediterranean region. They emphasised confronting common challenges facing the Euro-Mediterranean region with a view to ensuring sustainable and inclusive growth and economic development. Ministers also stressed the need for industrial co-operation and the regional "Invest in Med" project, and for all countries of the Union for the Mediterranean to further coordinate their laws, regulations and standards applicable to the business community, as well as policies and programmes concerning economic governance. At the same time, it was decided to continue the implementation of the Euro-Mediterranean Charter for Enterprise, and evaluate its progress. The Ministers welcomed the efforts made to date by the regional "Invest in Med" project, by the Facility for Euro-Mediterranean Investment and Partnership (FEMIP) and by the Neighbourhood Investment Facility (NIF). They stressed the absolute necessity for the European Investment Bank to fully mobilise its lending capacity. They proposed to prepare and conclude Agreements on Conformity Assessment and Acceptance of industrial products (ACAA) and thereby facilitate

trade in industrial products. Within the field of technical legislation, standards and conformity assessment, the Ministers decided to continue the alignment of the Mediterranean countries with the system of the EU, thus eliminating regulatory and technical obstacles and facilitating the free movement of industrial goods between the EU and the Mediterranean region. These efforts are important steps leading to the establishment of a free trade area. Also, the promotion of sustainable enterprise development and energy efficiency is at the at the heart of the Euro-Mediterranean industrial co-operation calling on all parties concerned, particularly the private sector, to mobilise their resources and know-how in support of the Mediterranean Solar Plan, the strategy for water in the Mediterranean and the fight against pollution.

Of course, the rationale for regional industrial co-operation in the Euro-Mediterranean is to go beyond the pure assistance to less developed countries. At stake also for EU businesses is the development of trade, although the EU has significant commercial surpluses with all Mediterranean partner countries except for Algeria, which is a major exporter of gas and oil to the EU. Compared to major EU trade partners, export rates from some MED countries to the EU are remarkably high in a few specific sectors. Mediterranean countries remain interesting, solvent markets for the EU, also in the aftermath of world-wide financial and economic crises, not solely for their proximity. Hence, spurred by a growing domestic demand and by low-cost local production, the number of FDI projects announced in the Southern Mediterranean region in 2010 has picked up, with 826 projects compared to 542 in 2009, i.e. an increase of 52%. The European dominance in terms of FDI and business partnerships in the Southern Mediterranean area, however, seems to be challenged by the growing influence of emerging economies. In fact, other countries' FDI flows towards the MED region have also increased in 2010. Most of those FDI flows originated from the BRICs, especially China, India and Russia. As a matter of fact, whereas they only represented 4% of the total net investments in the Southern Mediterranean region in 2003, their contribution rose to 12% in 2010. With the current Euro-crisis and the political

changes in the Arab countries' investment flows, notably from China and Brazil, are expected to register huge growth in regions on both sides of the Mediterranean Sea.

Another recent trend impacting development assistance policies evolves from increasing disaster help needed by poor countries exposed to cycles of natural emergencies, all the way from extreme draughts to devastating floods. Probably not entirely unrelated to climate change, such disasters often discourage favourable investment in long-term development projects that would strategically benefit the stricken countries. For some developing countries endless cycles of emergencies clearly nullify or discourage investments in longer-term development.<sup>84</sup>) Thereby, the need for preventive measures for resilience-building becomes obvious, thus linking humanitarian and emergency aid with development policies, which traditionally so far have been separated. UN assistant secretary-general Wahlstroem proposed a more comprehensive approach of both types of funding, and working more closely together. The European Commissioner Georgieva agreed while mentioning the cases of earthquakes and tsunamis of recent dates and more intertwining of risks and complex crises. Some recent media reports attribute them not only to the fact that 7 billion people now inhabit the planet, but as well to issues of the environment in connection with the anthropocene discussions in the wider context.

### 4. Conclusions

The historical background of individual EU Member States' development aid

<sup>84)</sup> Toby Vogel in European Voice, Brussels 26.5.2011, accessed 30.6.2011 at http://www.european voice.com/article/imported/while-the-dust-is-settling-/71175.aspx.

policies not only have a strong impact on their national activities, but also influence the consensus-building for policies and their implementation at the EU level. However, there is a perceivable tendency towards a **convergence** in view of the need for effectiveness and efficiency of such policies, which is also relevant to other donors as well as recipients of the aid. On the other hand, major differences between national policies remain in the geographical focus often due to the historical experiences of the countries involved.

Over the last decade, and notably following the European Consensus on Development in 2005, the EU has **doubled the amount its ODA**. It has increasingly recognised that its partner countries bear primary responsibility for shaping their own development strategies, but continues to **require good governance**, although avoiding the politically controversial term of conditionality. The influence of China's activities, which are free from conditionality on some of those countries, cannot be neglected.

The EU has further moved from a donor-recipient type of relationship to a **partnership model**, involving contractual approaches, while reaffirming its target of devoting 0.7% of its GNP to ODA by 2015. Due to the recent Euro-Crisis, this target seems difficult to achieve, but new initiatives in this context such as the proposal of a Financial Transaction Tax dedicated at least partially to ODA might help compensate eventual cuts from other sources.

Furthermore, there are suggestions that wider **geopolitical** -- if not mere security -- considerations often overwhelm objective needs for assistance on the ground. OECD figures show that about one third of all development aid delivered over the last decade to fragile states has gone only to Iraq (supposedly including aid from Korea), Afghanistan and Pakistan, while numerous least-developed countries were made to share the rest.

Amongst stakeholders of development aid, like NGOs as intermediates as well as Think Tanks and academics the **discussion in the EU on fundamental issues** focuses increasingly on such topics as the relationship between development and democracy, human rights and freedoms or the role of women. But there is an overriding trend that points towards growing recognition of self-sustainable development, which is necessary to address issues like pervasive poverty, global climate change and need to convert towards renewable energies. But they require resources far beyond what is available through traditional development aid.

There is a recurrent theme emphasising the importance of finding the **right combination of support for each individual country**. There is no "one-size-fits-all" development model and each recipient must define its own path in accordance with its own history, tradition and situation. In the end, development aid -- most obviously for the environment -- serves an omnilateral purpose: the common good of everyone on this globe.

# Economic Integration of Russia, Belarus, and Kazakhstan and Tax Harmonization

Olga Shuleiko

# 1. Introduction

The process of economic integration in former Soviet-bloc countries has been continuing for the last two decades. In 2009, presidents of Belarus, Kazakhstan, and Russia reached an agreement and signed a package of documents on creating a customs union. The EurAsEC interstate council approved the Customs Code and import duty rates for the common customs tariff of the Customs Union. In 2010 Belarus, Kazakhstan, and Russia ratified a package agreement on a common economic space. As the formation of a single market requires completely free movement of goods, capital, labor and services, it can only be achieved through the creation of favorable environment for investment with a common policy on competition; establishment of common rules on regulation of natural monopolies; the harmonization of subsidy practices; rejection of anti-dumping and other protective measures; harmonization of technical and regulatory standards and other non-tariff barriers; and finally, simplification of labor migration.

Increasing economic integration among the countries involved has major implications for taxation. Free movement of capital, labor and services will have especially significant consequences for tax policy and tax administration. Distortions of economic activities due to fiscal competition have led to calls for international tax harmonization to eliminate tax competition. This paper will focus on the logical relationship between the level of integration achieved, the degrees of tax harmonization required and the regulatory instruments used.

The paper is organized as follows. Section 2 provides an overview of the history of integration and analysis of the level of tax harmonization achieved in the CU countries. Section 3 examines the economic implications of acceptance of a common custom tariff for the three countries, along with discussion of problems connected with the indirect taxation are considered. Tax systems of the CES countries and income tax models are analyzed in section 4. Sections 5 concludes.

## 2. Regional Integration as a Framework for Tax Harmonization

#### 2.1. History of integration in post-Soviet space

After the dissolution of the USSR and the resulting economic disruption, new independent countries had to choose as to which form of integration they should follow. Former Soviet countries aspired to maintain economic linkages and also to protect their markets from international competition. The first organization was the CIS, whose coordinating power in the realm of trade was merely nominal. At the same time, a large number of bilateral and multilateral trade agreements have been signed. Their main purpose was to protect domestic markets using high external trade barriers.

In 1996, the Union of Belarus and Russia was formed, which on paper intended

to further integration, including the introduction of the ruble as a common currency. But as this organization was motivated by political rationale rather than economic ones, the common currency was never introduced and its economic purposes were not achieved.

#### 2.1.1 Free trade area (FTA)

Another step of integration involved hopes of creating a free trade area between Armenia, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, Russia, Tajikistan, Ukraine, and Uzbekistan in 1994. It was supposed that free trade would take place, tariff and nontariff barriers would be abolished by the FTA, and that would eliminate numerous trade barriers. It would stimulate an increase of trade turnover and would create conditions for stable economic growth of the signatory countries - members of the CIS. On April 2, 1999, the Protocol on Amendments and Supplements to the Agreement on Establishing a Free Trade Area was signed in Moscow - a framework document according to which a multilateral free-trade regime which previously existed among the CIS would be implemented instead of a bilateral one. Duties were to be cancelled, as well as duties and taxes of equivalent action, and quantitative restrictions for import and (or) export of goods were also cancelled in mutual trade between countries - members of the FTA. But in fact, the multilateral free-trade regime had not been formed completely. Members of the Agreement had not started negotiations on a common list of exemptions from the free-trade regime, which according to the terms of this international agreement should be its main element. A range of countries - members of the CIS - did not ratify both documents (Agreement on Establishing an FTA and the Protocol to this agreement), which slowed down the implementation of a large-scale free-trade area. A free-trade regime, which had been fixed in bilateral free-trade agreements, still existed between Commonwealth partners.

At the same time, in conditions of objective imbalance of mutual trade inside the Commonwealth, there was an acute need for completing implementation of a full-scale free-trade regime. At the present time, approximately 110 agreements on mutual trade exist between CIS countries, which create inconveniences and, as a result, lead to various discriminatory consequences in trade.

On October 18, 2011, heads of governments of 8 countries – members of the CIS (the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Republic of Kyrgyzstan, the Republic of Moldova, the Russian Federation, the Republic of Tajikistan, and Ukraine), representing 90 % of all mutual trade between CIS countries, signed the Agreement on a Free-Trade Area. This agreement is to effectively replace hundreds of multilateral and bilateral free-trade agreements concluded 10, 15, or 20 years ago.

#### 2.1.2 Customs union

In 1995, three countries – Belarus, Russia and Kazakhstan established a customs union, with the Kyrgyz Republic joining them later. In 2000, the participating countries decided to reorganize the customs union into the Eurasian Economic Community. The union was supposed to establish a common customs tariff in relation to third countries and also to coordinate measures of nontariff regulations within the EurAsEC. But member countries still could not achieve stated objectives. Due to different economic structures and levels of economic development, they tried to protect various sectors; Kyrgyzstan, however, had the most liberal trade regime among EurAsEC countries after joining the WTO and it could not increase the level of tariff protection because of WTO obligation. Actually, members of this RTA were attempting to reorient their trade beyond its borders more and more.

#### 2.1.3 Common economic space

Despite unsuccessful experience with previous regional initiatives, Belarus, Kazakhstan, Russia and Ukraine signed an agreement on creating a common economic space (CES) in 2003. But Ukraine was against the creation of supranational authorities and was only willing to be the member of a free-trade area without any exemptions and restrictions. Besides, Ukraine insisted that the CES should not contradict its strategic goal – integration into the European Union.

Thus, even at the earliest stages of the creation of the CES, countries had very different positions as to what the main issues would be, as Belarus and Russia wanted closer economic integration including a common currency, and they also aspired to create a customs union, while other countries looked toward a free-trade area. The contradictions above resulted in the inability of the CES to move beyond the free-trade area, as the problems from a wide array of trade barriers remained, and existing contradictions remained unsettled.

New integration initiatives appeared within the EurAsEC in 2007, when member countries made a decision to opt for methods that varied the speed of integration. It was decided that three counties - Belarus, Kazakhstan, and Russia - create a customs union and establish a common external customs tariff, and other countries are so far situated in the free-trade area. At the same time, the EurAsEC continued to function. The necessity of having to increase stability and effectiveness of economies of member countries in conditions of global economic crisis was the main incentive for the integration. In 2009, presidents of Belarus, Kazakhstan, and Russia reached an agreement and signed a package of documents on creating a customs union. The interstate council of the EurAsEC approved the Customs Code and rates of import duties of the customs union. In addition, member countries announced their intention to enter the World Trade Organization as a single block, and to create a common economic space by the year 2012. Thus, that was the first time when countries were able to overcome their differences and reach an agreement concerning the common customs tariff, which became an important step on the way toward creating a customs union.

In 2010 Belarus, Russia and Kazakhstan ratified a package agreement on the Common Economic Space (total of 18 agreements). Creating a single market requires completely free movement of goods, capital, labor and services. This is achieved through the creation of common and favorable environment for investment, a single competition policy, establishment of common rules for regulation of natural monopolies, the harmonization of practices of subsidies, rejection of anti-dumping and other protective measures, harmonization of technical and regulatory standards and other non-tariff barriers, simplification of labor migration.

# 2.2. The analysis of level of tax harmonization achieved in the CU countries

Tax harmonization is interpreted in different ways, for example, as an approval of a common tax rate (See Krugman and Baldwin, 1986)<sup>85)</sup>. Other authors suggest more detailed approach differentiating "concerted" and "spontaneous" tax harmonization, the first being a convergence-oriented formal agreement (but does not necessarily mean "equalization") and second, a convergence in response to competitive pressures. (Kopits 1992).<sup>86)</sup> A more common approach was suggested by Musgrave, who defined tax harmonization as "the process of adjusting national fiscal systems to conform to a set of common economic aims" (Musgrave 1989).<sup>87)</sup>

The necessity of tax policy harmonization within integration groups is conditioned upon several factors. One of them – spillover – may be caused by national policy and should be considered while making decisions in order to achieve a global optimum, with additional help from harmonization of macroeconomic strategies including tax policies. The experience of the EU shows that it is appropriate to concentrate tax policy harmonization at the level of regional integration regarding distortions, which appear during the process of integration

<sup>85)</sup> Krugman, P. and R. E. Baldwin (2002), "Agglomeration, Integration and TaxHarmonization," NBER Working Paper 9290, p. 12.

<sup>86)</sup> Kopits, George (1992), "Tax Harmonization in the European Community," IMF Occasional Paper 94, p. 15.

<sup>87)</sup> Musgrave, P. (1989), *Fiscal coordination and competition in an international setting*. University of California, Santa Cruz. Dept. of Economics, p. 68.

and cannot be improved with the help of national tax policy.

Tax harmonization processes involve a number of steps such as convergence, which according to Kopits, is a spontaneous movement (sometimes inevitable, though unwanted) towards the same type of solution, brought about by globalization and competition,<sup>88</sup>) cooperation. This also implies mutual assistance, for instance, one country supplies tax information in the expectation that it will receive information from its counterpart, or out of mutual interest (such as when double taxation is detected and two countries agree to cooperate). Another step involves achieving compatibility, which means adjusting the tax structure in order to counteract or compensate for the distortionary effects caused by tax burden disparities upon the integration process; and standardization, which consists of having the same tax.<sup>89</sup>)

The foundation of tax harmonization within the CIS was included in the agreement on principles of coordination of tax policy between governments of CIS member countries dated March 13, 1992. According to this document, CIS countries had to pursue coordinated tax policy on the basis of unification of principles and rules of taxation, and to coordinate it on the basis of approximation and unification of legislation provisions connected with profit (income) tax of companies, income tax of individuals, and VAT. Unfortunately, the Agreement of March 13, 1992, was not ratified by all CIS countries and is of a declarative nature at best. As a result, reforms in the sphere of direct taxation in CIS countries are carried out without coordination and frequently move in different directions.

Attempts to harmonize tax legislation were also taken at the Union level, between Belarus and Russia. Two countries concluded an agreement on creating unified tax legislation and conducting a common tax policy, where the process of unification of tax legislations should conclude with the approval of the Customs

<sup>88)</sup> Kopits, George (1992), "Tax Harmonization in the European Community," *IMF Occasional Paper* 94, p. 17.

<sup>89)</sup> Tanzi V., Barreix A., Villela L. (2008), "Taxation and Latin American Integration," David Rockefeller Center for American Studies Harvard University, p. 25.

Code of the Allied state.<sup>90</sup>) Prior to achieving these results, the adaptation of single principles and rules of taxation should be achieved, as well as the adjustment of basic taxes, rights and obligations of taxpayers on the territory of Russia and Belarus. However, this agreement was basically left on paper without moving further.

The basic legal documents, which regulate tax relations between CIS countries at the present time, are bilateral agreements for avoiding double taxation. Coordination of tax policy in the CIS is carried out mainly within the scope of activity of the Eurasian Economic Community.<sup>91</sup>) A special program on the harmonization of legislative and normative legal acts of EurAsEC member countries is to be worked out, including in the sphere of tax regulations. The current directions of tax policy coordination within the EurAsEC are as follows:

- creation of common tariff regimes, in particular, of a customs union between EurAsEC member countries;
- signing of basic agreements aimed at harmonization of indirect taxation, especially VAT;
- unification of tax documents circulation.

# 3. Customs Union of EuRasES: What Changed?

### 3.1. Customs union and common customs tariff

It is well known that trade liberalization has been progressing at a relatively

<sup>90)</sup> Соглашение между Правительством Республики Беларусь и Правительством Россий ской Федерации о создании унифицированного налогового законодательства и прове дении единой налоговой политики Союзного государства (Москва, от 30 августа 2000 г.).

<sup>91)</sup> Договор Об учреждении Евразий ского экономического сообщества (Астана, 10 октября 2000 г.)

fast pace in recent years. J. Frenkel, A. Razin and E. Sadka have reported that the average tariff rate in industrialized countries fell from about 40 percent in 1959 to less than 5 percent in 1980. This trend has continued since 1980.<sup>92</sup>) But developing countries and countries in transition decrease trade barriers much more slowly. Main reasons, as noted by V. Tanzi, are connected with the fact that import duties continue to be widely used in developing countries for both revenue reasons and for protecting domestic industries and inducing import substitution.<sup>93</sup>)

Prior to forming a customs union, a tendency towards reduction of customs tariffs was also observed in CIS countries, though their level was still significantly higher than world averages. In all CIS countries, customs fees provide a significant part of budget incomes; thus, in 2010, the percentage of customs fees in budget incomes was 18% in Belarus, 6.4% in Russia, and 13.5% in Kazakhstan (Table 2). These countries also protect their markets from external competition with the help of tariffs. Creation of the Customs union changed the situation for some member countries. According to the Agreement dated October 6, 2007 on creating a common customs territory and forming a customs union; and the plan of actions regarding the formation of a Customs union within the Eurasian Economic Community for the period 2007-2009; it is defined that "a customs union is a form of trade and economic integration of parties providing a common customs territory, where customs duties and restrictions of economic nature are not used in mutual trade of goods, which come from the common customs territory and which also come from third countries and are released into free circulation on this customs territory." At the same time, Parties use a common customs tariff and other measures for regulating commodity trade with third countries.94)

<sup>92)</sup> Frenkel Jacob, Razin Assaf and Sadka Efrain (1991), "International Taxation in an Integrated World," MIT Press, p. 212.

<sup>93)</sup> V. Tanzi (1994), "Taxation in an Integrating World," Washington, D.C.: The Brooking Institution, p. 43.

<sup>94)</sup> Договор о создании единой таможенной территории и формировании Таможенного союза от 6 октября 2007 г. и План дей ствий по формированию Таможенного союза в рамках Евразий ского экономического сообщества на 2007-2009 г.

The key element of any true customs union is the adoption of a common customs tariff. Since the  $6^{th}$  of January 2010, common rates of import customs tariffs established on the basis of the Common customs tariff (which includes over 11,000 commodity items) have been used in the Republic of Belarus and the Republic of Kazakhstan in the sphere of tax regulation connected with goods from third countries. At the same time, the possibility of temporary (under 5 years) use of decreased duties for goods is provided for the transition period, and this is very important for economics of countries which form the Customs union (certain types of raw materials, manufacturing equipment and its spare parts, investment goods). Countries also adopted a list of 1141 sensitive goods, tariffs on which should be kept unchanged; 632 out of these are important for Belarus.

Taking into consideration that at the initial moment of formation of the CET, congruence rate of import customs duties between Belarus and Russia were more than 90%, but the figure was only 38% between Kazakhstan and the other two countries – (as a result, the country had to increase tariffs for more than 5,000 commodities). A transition period was established in order ease adaptation to new conditions.

Russian import duties (92%) were taken as the base figure during the establishment of the Common customs tariff. Since the common customs territory came into operation on July 1, 2010; Belarus, Kazakhstan and Russia approved the mechanism of distribution of incomes from import customs duties on March 25, 2010. According to these agreements, Belarus gets 4.7% of total sum of import customs duties, Kazakhstan gets 7.33%, and Russia gets 87.97%.

Table 1 shows that before the creation of EURASEC Customs Union, the highest level of tariff protection was in Russia and the lowest in Kazakhstan. According to the World Bank database *World Trade Indicators*, the Belarusian weighted average tariff was 8.04%, while in Russia, it accounted for 12.34%.

The level of tariff protection in Belarus after the adoption of the common external tariff (CET) has not changed noticeably. Though the simple average tariff decreased, the level of decrease was not significant; the weighted average tariff

	Before the Customs Union			Common
	Russia	Belarus	Kazakhstan	external tariff
Simple average tariff (%)	10.6	10.77	6.16	10.6
Weighted average tariff (%)	12.34	8.04	5.06	10.89

Table 1. Level of Tariff Protection in Belarus, Russia and Kazakhstan before and after Creation of the Customs Union

Source: The World Bank, World Trade Indicators.

showed a slight increase and accounted for 10.34%. The gross of tariffs in Kazakhstan was more significant, where the weighted average tariff doubled.

The short period of existence of the CU (Customs union) does not afford full estimation of positive and negative consequences of its creation. There are small numbers of predictive estimates available with regard to possible results of the customs union creation and the common customs tariff adaptation. According to evaluations of I. Tochitskaya, performed for Belarus, "the reduction in the volume of imports from non-CIS countries may reach USD 1.1 bn (8% of Belarusian non-CIS import in 2008). Yet, it will be mostly due to the cancellation of used cars imports from non-member countries."<sup>95</sup>) But the first signs of the functioning of the CU indicate that despite the decrease in imports of certain goods from non-CIS countries, trade turnover with these countries is, in general, increasing rapidly.

The analysis of dynamics and structure of trade turnover within the CU after the implementation of the common customs tariff showed a dynamic growth in trade. For instance, in 2010, Kazakhstan increased its exports to Belarus by more than five times, and imports from Belarus by 1.5 times. Belarus increased its export to Russia by 1.46 times, and imports from Russia by 8%. But rates of growth

<sup>95)</sup> I. Tochitskaya I. The Customs Union between Belarus, Kazakhstan and Russia: an Overview for Economic Implication for Belarus German Economic Team Belarus IPM Research Center Policy Paper Series [PP/02/2010], p. 11.
of trade turnover affected not only the conditions of trade within the CU, but also post-crisis rehabilitation of the economy of member countries, because the volume of trade has not yet reached pre-crisis levels.

In November 2011, agreements for the accession of Russia to the WTO were signed, according to which the country was to adjust rates of customs duties. In particular, average duty rate for agricultural production, are to be reduced from 9.387 to 6.410%; the rates for for industrial goods – from 15.634% to 11.275% (from 30 to 25% for passenger cars). Tariffs will be bound at zero for cotton and information technology (ITA) products (currently applied tariff on ITA products is 5.4%). In general, the average weighted tariff will decrease from 10.293% and will be reset at 7.147%. It is provided that the decrease in customs tariff will happen gradually over 8 years<sup>96</sup>). Accordingly, rates of the Common customs tariff of the Customs union should be revised.

	CET	WTO weighted a	average tariff (%)
	weighted average tariff (%)	Initial level	Final level
All goods	10.293	11.850	7.147
Industrial	15.634	15.178	11.275
Agricultural	9.387	11.256	6.410

Table 2. Level of Tariff Protection in Russia and before and after Joining the WTO

Source: Official site of Ministry of economic development and trade of Russia ww.economy.gov.ru.

Consequently, integration of CU countries into the global economy requires a decrease in import taxes, because import duties lead to frictions among countries. In this respect, the main trend in many developing countries is to replace import duties with domestic indirect taxes, because these taxes are more neutral with respect to allocation of resources and the free movement of goods.

<sup>96)</sup> http://www.wto.org/english/news\_e/news11\_e/acc\_rus\_10nov11\_e.htm.

## 3.2. Customs union and indirect taxation

Tax harmonization in CIS countries is mainly based on the experience of the EU, where initially and in particular, attention was paid to indirect taxes, which have the biggest influence on mutual trade, pricing of goods. Also, indirect taxes represent the largest part of tax revenues in budgets of all countries.

Domestic indirect taxes include retail taxes, turnover taxes, VAT and excises. Turnover taxes were widespread in transition economies in recent years, but they tend to distort the free flow of goods and the allocation of resources. The extent of distortion depends on scales of horizontal integration within a country. Taking into consideration a negative influence of turnover taxes on economic efficiency and foreign trade, these taxes were cancelled in EurAsEC countries, which became an important step toward integration and spontaneous tax harmonization<sup>97</sup>).

At the present time, countries of the Customs union use VAT and excises, while they rejected retail taxes, though they have become more widespread recently.

It should be noted that VAT is one of the main sources of budget incomes in all countries; thus, in Belarus, it provides 33 % of budget revenue, in Russia -16%, and in Kazakhstan -12,4%.

V. Tanzi noted that economic liberalization and implementation of VAT are closely connected, which is why VAT became widespread worldwide. According to Tait, "The VAT is the only common sales tax in a customs union, other than a retail sales tax, that fulfills the obligations for tax neutrality on trade goods and services under the General Agreement on Tariffs and Trade"<sup>98</sup>). VAT provides neutrality in mutual trade in cases where a credit mechanism and a destination principle are used, which according to the handbook of GATT means that goods should be liable to tax in the country where they are consumed.

<sup>97)</sup> V. Tanzi (1994), *Taxation in an Integrating World*, Washington, D.C.: The Brooking institution p. 46.

<sup>98)</sup> Tait, Alan (1988), Value Tax: International Practice and Problems. Washington: International Monetary Fund, p. 35.

The destination principle in the collection of VAT was fixed in the agreement on principles of collection of indirect taxes during export and import of goods (works, services) between CIS countries in 1998. But not all countries ratified this document, with some of them used the principle of country of goods origin, while others used the destination principle while collecting VAT.

At the present time, all EurAsEC countries switched over to the destination principle, which provides usage of zero VAT rate during export of goods (works and services) and refund of VAT from the budget in connection to resources used for exported goods. Issues of harmonization of indirect taxes developed further in the agreement on collection principles for indirect taxes during export and import of goods, execution of works, rendering of services within the customs union, which came into force on 7<sup>th</sup> of January 2011. It also established the principles of collection of indirect taxes during export and import. The agreement defines the procedure for collecting indirect taxes during export and import of goods, execution of work, and rendering of services according to the destination principle in conditions of expected cancellation of customs control and of customs clearance in trade between the Republic of Belarus, the Russian Federation and the Republic of Kazakhstan in 2010. It confirms the use of zero VAT rate during export of goods and regulates the use and (or) exemption of payment (reimbursement of the sum paid) of excises subject to documentary confirmation of the export; and the destination principle of collection of indirect taxes. Also, the nondiscrimination principle was firmly established. It is established that the rates of indirect taxes for imported goods in mutual trade should not exceed the rates of indirect taxes

Country	Standard rate (%)	VAT revenue as share of GDP (%)	VAT revenue per unit rate (%)
Russia	18	5,6	0,31
Kazakhstan	12	3,3	0,27
Belarus	20	8,8	0,44

Table 3. Value-Added Taxes in CU Courtiers, 2010

paid for similar goods produced domestically. During export of goods to CU countries, taxpayers use zero rate of value-added tax and are exempt from excises. At the same time, taxpayers-exporters should confirm the validity of the usage of zero VAT rate (or exemption of excises) within 180 days.

CU countries unified basic principles of VAT collection, while the rates and the structure of the tax are defined on a national level and limitations are not established (Table 3).

VAT rates in CU countries have a very wide distribution: from 12 percent in Kazakhstan to 20 percent in Belarus; the rate in Russia is 18 percent. The average revenue productivity per unit of standard rate is higher in Belarus at 0.44 percent of GDP, while in Kazakhstan this value is only 0.27 percent.

Kazakhstan maintains a single rate, while in Russia there is a decreased rate (10 percent), apart from the main one (18 percent), for a range of food products and other essential commodities. In Belarus, there are several rates, apart from the main one (20 percent); a decreased rate has been established (10 percent) for so-called socially important goods, and there are two rates - 9.09 and 16.67 - for goods, whose prices are regulated by the state. Such a complicated VAT system makes the system of administration much more expensive, while the multiplicity of rates gives rise to doubt.

Both in Russia and Belarus, there are certain exemptions which according to the OECD recommendations were called "standard exemptions".<sup>99)</sup> The list of standard exemptions from VAT payment includes: financial and financial services (banking operations, insurance and reinsurance, financial market services, etc.); public and quasi-public welfare (health care, education, telecommunications and communication, public transport); services in the sphere of culture and art; lotteries; real estate transactions (sale of plots of land, buildings, leasing of real property); non-commercial activity of non-profit organizations, and charity work.

The reason for the presence of standard exemptions from VAT payment as

<sup>99)</sup> OECD (1995), Consumption Tax Trends, OECD, p. 21.

a routine, in particular, is that it is impossible to correctly define tax liabilities for corresponding operations from the administrative point of view, or to determine whether administrative costs exceed estimated profits. But apart from the above mentioned exemptions, there is still a range of other exemptions, which reasonability gives rise to doubt. Case in point, for agricultural producers, layers, notaries, for housing construction and free economic zones, etc., exemptions disrupt the tax base, does not help the low-income population and makes the VAT system ineffective.<sup>100</sup> At the same time, Kazakhstan reformed its VAT system, unified rates and minimized benefits, which significantly strengthened the system. Russia and Belarus still have a lot to do in order to provide neutrality, fairness and effectiveness to taxation and simplify administration of their VATs.

The experience of the EU, where compulsory assignments from VAT to the EU budget demanded the unification of the list of taxable items and exemptions from the tax base, can serve as a guideline for further VAT harmonization in CU countries. As for VAT rates, their unification is hardly possible in a short term, because if the government loses their freedom to impose the rates, it loses an important instrument of stabilization policy. In this regard, the practice of setting the limits of fluctuations of VAT rates in the EU, where currently a standard VAT rate should not be less than 15% and a preferential rate cannot be less than 5%, may also be useful for CU countries.<sup>101</sup>

The system of VAT administration changes in case of customs control cancellation. Border control was replaced by administrative control, based on the VAT declarations presented by enterprises. This system allowed member countries of the CU to abolish fiscal borders among themselves. Nevertheless, the system of administration and control of VAT payment within the CU is still complicated,

<sup>100)</sup> Т. Малинина Оценка налоговых льгот и освобождений : зарубежный опыт и россий ская практика / Т. Малинина - М.: Ин-т Гай дара, 2010. - 212 с.: (Научные труды / Ин-т экономической политики им. Е.Т. Гай дара; No. 146P, р. 135.

<sup>101)</sup> Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax.

as taxpayers must produce numerous documents to confirm their exports to taxation authorities. On one hand, such a system is aimed at prevention of tax evasion and tax fraud; on the other hand, it entails greater cost to taxpayers and increases the cost of tax administration. Besides, complete harmonization of national tax legislations in connection to the issue of confirmation of VAT payment has not yet been achieved.

## 4. Tax Policy Issues in the Context of Common Economic Space

# 4.1. Common and specific features in economic and tax system of the CES countries

In the accepted agreement, "under the common economic space the parties understand the economic space which unites the customs territories of the parties, where the economic regulation mechanisms function, which are based on the common principles guaranteeing the free movement of goods, services, capital and labor; and where the unified foreign trade-, tax-, monetary and fiscal policies are performed which are coordinated and agreed to the extent necessary for facilitating fair competition and maintaining macroeconomic stability."

Such an agreement implies the harmonization of macroeconomic policies in the following spheres: taxation and fiscal policy, exchange rates, interest rates, unified exchange regulations.

In order to evaluate the perspectives on the harmonization of macroeconomic policies, the main positions of the SIC countries must be analyzed and compared. Belarus, Russia and Kazakhstan are dissimilar countries, not only in terms of geo-demographics, but also economically. As can be seen from table 4, and taking into account the territory and population of Russia, we can see that Russia far outstrips either Belarus or Kazakhstan. All countries have common history, as they became independent after the breakup of the Soviet Union in 1991. All of them

	Russia	Belarus	Kazakhstan
Territory, sq. km	17,075,200	207,600	2,724,900
Population, mln	141.8	9.8	15.2
GDP, US \$ bln.	1477.0	52.89	129.8
Per capita GDP, US \$	10,437	5,771	8,539
Unemployment, %	7.6	1	5.5
Index of human poverty,%	13	5.4	12.10
Inflation, %	6.9	7.7	7.1
Central government debt to GDP, %	9.5	40	8.7
Current account balance US \$ bln	70.6	-8.5	4.3

Table 4. The Main Indicator of Russia, Belarus, Kazakhstan in 2010

Source: United Nations, IMF, FACT-CIA for per capita income PPP corrected and countries' chapters.

started the transformation from centrally planned economies to market economies, but there were differences in the speed of economic reform. The private sector dominates in Russia and Kazakhstan, while in Belarus the state actor is still the prime element of the economy. Russia and Kazakhstan thus have status as market economies, while Belarus maintains many features of a planned economy.

There are also differences in the manufacturing structures. Russia and Kazakhstan are rich in natural resources and have a developed extractive industry, as production and exports of natural resources provide the major part of their export and foreign exchange earnings. National resources of Belarus are limited and the much of them are imported from Russia.

Current trends in inflation, exchange and real interests that were very similar in early 1990s, are rather different. In 2011 Russia had the lowest inflation level for the last few years, and Belarus – the highest. The balance of payments as well as the account of current balance are positive in Russia and Kazakhstan; in Belarus we can observe a considerable deficit. In order to prevent excessive strengthening of the national currency, Russia and Kazakhstan created so-called stabilization funds, while Belarus devalued its national currency three times within the period of 2009-2011.

These differences complicate the harmonization of macroeconomic policies, especially in the sphere of currency regulation and fiscal policy. There are also many differences in the sphere of taxation.

## 4.1.1 Total fiscal pressure

The common feature of the countries under analysis is a higher tax burden compared to the countries with a similar per capita income in countries in other parts of the world (Table 5). Along with this, the level of tax burden varies from country to country, ranging from 24 % of GDP in Kazakhstan to 40 % in Belarus. Russia's tax level lies in the middle – about 32 %. Belarus has the highest level of the tax burden, comparable to the developed Western European countries while the level of the income per capita is lower. Only Kazakhstan's level of tax burden corresponds to other countries with similar income levels.

	Per capita income US\$	Taxes/GDP %
Russia	10,437	31.7
Brazil	10,710	15,6
Latvia	10,705	12.7
Kazakhstan	8,539	25.3
South Africa	7,275	25.5
Belarus	5,771	39.6
Bulgaria	6,325	21
Colombia	6,225	11,8
Macedonia	4,425	19.1

Table 5. Per Capita Incomes and Taxes/GDP % in 2009

Source: The World Bank.

During the last decade the level of tax burden in the above mentioned countries has been decreasing, the result of tax reforms conducted there. The comparative analysis of the tempo of economic growth and the dynamics of the tax burden provided no confirmation of Wagner's law, because a sustainable economic growth in all countries during the last decade accompanied a stable or even decreasing fiscal pressure. Furthermore, as per capita income grows, fiscal pressure decreases.

## 4.1.2 Tax structure

As a rule, indirect taxes prevail over direct taxes in developing<sup>102</sup>)(Baunsgaard, T. and Keen) and transition (Bernardi) countries.<sup>103</sup>) While this rule applies to Russia and Belarus, it does not for Kazakhstan, where the shares of indirect and direct taxes in GDP are approximately equal (Table 6).

Among the indirect taxes, the role of VAT is predominant in Belarus and Kazakhstan, while custom duties are prevalent in Russia. As in most countries rich in natural resources, a relatively large portion of revenues in Russia and Kazakhstan come from accounted taxation of companies. Corporate tax revenues comprise an approximately equal share, about 4%, of GDP in all three countries. Corporate taxes are also equal to personal income tax revenue relative to GDP in Belarus and Russia, whereas Kazakhstan is an exception in this case because the corporate tax revenue is twice the amount of personal income tax; this reflects the downward trend in income and social tax in the face of rising revenues from extractive industries in the country.

The main distinguishing features in the tax structure of CES countries are connected to differences in their economic structure. As already mentioned above, extraction and processing of natural resources in Russia and Kazakhstan dominates

<sup>102)</sup> Baunsgaard, T. and Keen, M. (2005), "Tax revenue and trade liberalization," mimeo, Washington. D.C.: IMF, pp. 23-25.

<sup>103)</sup> Bernardi, L. (2004) 'Rationale and open issues for more radical tax reforms,' in Bernardi, L.and Profeta, P. eds. Tax Systems and Tax Reforms in Europe, London & New York, Routledge, pp. 30-54.

	Russia	Belarus	Kazakhstan
Direct taxes, of which	8	6.5	5.4
personal income	4	3.1	1.6
corporate income	4	3.4	3.8
Indirect Taxes, of which	13.1	15	5.6
VAT-General	5.6	8.8	3.1
excises	1.1	2.7	0.3
custom duties	6.4	3.5	2.2
The tax to mining operations	3.2	-	0.6
The tax for using natural resources	-	-	1.1
Other taxes	2.2	6.3	10.2
Total taxes revenue	26.1	28.1	22.9
Social contributions	5.6	11.5	1.2
Total fiscal revenue	31.7	39.6	24,1

Table 6.	Structure	and	Development	of	Fiscal	Revenue	in	CES	Countries	as a	a Percentage	of	GDP,
	2010												

Source: Russian Federal Service for Fiscal, Ministry of taxation of Belarus Republic.

the industrial structure of their economies. These sectors also provide a significant part of their budget income. There is an extraction tax in Russia the revenues from which comprises 3% of the GDP. In Kazakhstan the primary sector, in addition to the extraction tax, also pays taxes for the use of natural resources. Total income from these taxes is about 2% of the GDP.

As for the share of social contributions to the GDP, it ranges from 1.2% in Kazakhstan to 11.5% in Belarus. During the economic crisis in Russia the rates of social insurance contributions increased up to 34% in 2010 and were the same as in Belarus, which can be explained by common demographic problems facing both countries, related to the aging of the population and the necessity of increasing the social spending for these purposes. In Kazakhstan the rate of social contributions is three times lower and is only 11%, which reflects a positive demographic situation in the country.

#### 4.2. Income tax model and rates

Free movement of capital and labor within the CEA with existing differences in their tax systems inevitably increases tax competition for foreign direct investment and skilled labor forces. As many authors noted, tax competition may have both positive and negative effects. Thus, there is harmful and fair tax competition. The Code of Conduct which was signed by the EU in 1997 contains the criteria for distinguishing harmful measures in order to counter fiscal competition. The Code of Conduct highlights the following criteria: a significantly lower effective tax rate compared to the statutory practice, tax exemptions for non-residents, tax credits for the activities that are isolated from the national economy, and thus not affecting the national tax base; provision of tax benefits even in cases of absence of real economic activity, differentiation of profit definition for companies in multinational groups from the internationally agreed rules, in particular approved by OECD.<sup>104</sup>

However, harmful tax competition is not the case with of CIS countries, which have cancelled a number of benefits during the tax reforms conducted in the last several years; these benefits can be classified as those which belong to the harmful tax competition. For example, many benefits for foreign investors were cancelled.

There is a commonly accepted view in economics literature that capital is the most mobile factor of production and therefore taxation of capital should be the focus in studying the problem of tax competition.

Income tax rate is the same both in Russia and Kazakhstan, where it is 20% and it should be mentioned that the rate in Kazakhstan was temporarily increased during the economic crisis. Besides, the tax code of the country provides for a decrease of income tax rate down to 15 % in the near term. The highest income tax rate is in Belarus – 24 % (Table 6). The distinctive feature of the profit tax in Kazakhstan is the tax on excess profits of mining companies, thus, the tax

<sup>104)</sup> ECOFIN Council, Resolution of the Council on a Code of Conduct for Business Taxation, OJ C2,6/1/1998.

burden for these companies is higher.

	Russia	Belarus	Kazakhstan
VAT	18 (10; 0)	20 (10; 0)	12 (0)
Corporation income	20	24	20 (15; 10)
Personal income	13	12	10 (5)
Social contributions	34	34	11 (4.5-20)

Table 2. Rates of Taxes in CES Countries in 2010, percent

Russia and Kazakhstan have reformed the income tax on corporations and eliminated a large number of benefits, thereby increasing the neutrality of the tax and lowered its distortionary effects on resource allocation; simplified the income tax, which is a global trend, and were able to lower the rate by expanding the tax base. Nevertheless, international comparisons show that the majority of Eastern European countries have lower corporate income tax rate, as most of them including the Czech Republic, Poland, Hungary, and Slovakia established a rate of 19%; some even lower.

The differences in rates of corporate income tax could create problems in case of increased mobility of capital within the common economic space, which will stimulate governments to cut the rates to increase competitiveness of their tax systems. However, it was repeatedly noted in the economic literature, that the reduction of income tax in the process of tax competition may lead to the phenomena called "race to the bottom", i.e to falling of interest rates to near zero, which is too low from the social perspective.<sup>105</sup>)

In this case the main arguments which support the harmonization of the income tax rates are connected with the fact that it will prevent the transfer of the tax burden on labor and, consequently, lead to excess taxation and oppose reduction

<sup>105)</sup> Baldwin Richard Krugman Paul (2002), "Agglomeration, Integration and Tax Harmonization," NBER 2002 Working Paper 9290, p. 8.

of budget revenues as a source of social spending.

However, there is also an opposite view which argues that during the formation of economic unions, monetary and currency rate policies are harmonized first. That is why taxes become the main instrument for realization of the aims of economic policy.<sup>106</sup>) The experience of the EU countries also shows that despite many attempts to harmonize the income rate tax, there are still no significant achievements in this direction.

In addition to the differences of rates the model of the corporate income tax also has other significant differences in each of the countries. As V. Tanzi noted, the burden of taxes on enterprises depends not just on the tax rates but also on the bases on which the rates are applied. In principle, the bases should be identical to the concept of income or profit and should thus be similarly defined across countries. In practice, the tax bases actually differ widely from the theoretical bases and from country to country.<sup>107)</sup> The difference in the tax base appears because of various existing differences between accepted standards of financial and tax control, accounting rules for calculating depreciation, valuation of securities, degree of adjustment for inflation, and the extent to which interest payments and other business expenses are allowed to be deducted. (See more: Messere 1993).<sup>108</sup>) According to all these parameters the tax systems of the countries mentioned differ significantly.

Depreciation of capital assets for tax purposes is one of the most important elements in the determination of the profitability of investment.<sup>109</sup> In recent years

- 107) Tanzi Vito (1994), *Taxation in an Integrating World*, Washington, D.C.: The Brooking institution, p. 109.
- 108) Messere, K. C. (1993), *Tax Policy in OECD Countries: Choices and Conflicts*, Amsterdam: IBFD Publications, p. 36.

<sup>106)</sup> Mitchell D. (2010), *The Economics of Tax Competitions*, Adam Smith Institute. Briefing Paper, Drobyshevskiy S.M., Poleboy D.I. 2007 Financial aspects of currency integration on the territory of CIS. Research works. Institute of economics of transition period. No. 109P, p. 6.

<sup>109)</sup> Tanzi V., Zee H. (2000), "Tax Policy for Emerging Markets: Developing Countries," IMF Working Paper WP/00/35, p. 16.

Russia and Kazakhstan have reformed the systems of depreciation, reduced the number of asset categories and depreciation rates. At the same time the depreciation system of Belarus remain quite complicated, with excessive number of asset categories and low depreciation rates. In all the countries observed, there is a system of accelerated depreciation, which should stimulate investment. In addition to accelerated depreciation, there are other incentives for investment. In particular, in Russia, there is a so-called bonus depreciation, which allows investors to write off up to 30% of the equipment costs. In Belarus, costs of capital investments are exempt from profits up to a certain amount, and a range of investment profits is also implied within the legislation of Kazakhstan. In all of the countries there are special tax regimes for free economic zones or technological parks (High-Tech Park in Belarus, Skolkovo in Russia) as well as special tax regimes for the agricultural sector and small enterprises. As it has been mentioned, various tax measures aimed at investment stimulation were used and are still being used in developed industrial countries as well as in developing ones and in transition economies. The classification of incentives used in developing countries and the effectiveness of their application are observed in research by R. Boadway and A. Shah.<sup>110</sup>) However, even the supporters of the tax benefits provision agree with the fact that in the issues concerning the attraction of investments, political and economic stability as well as institutional problems such as property rights enforcement, play a more significant role than tax rates.<sup>111</sup>)

However, the formation of the common economic space in the next few years and the application of tax incentives for the promotion and attraction of investments will require a coordinated multilateral approach on a regional basis. In this case, the signing of regional agreements between members of the CES regarding

<sup>110)</sup> Boadway R., Shah A. (1992), "How Tax Incentives Affect Decisions to Invest in Developing Countries." The World Bank, WPS 1011, p. 19. (November)

<sup>111)</sup> Синельников-Мурылев С.Г. Шкребела Е.В. 2011.Совершенствование налога на прибыль в Российской Федерации в среднесрочной перспективе (Научные труды / Интукономической политики им. Е. Т. Гайдара; No. 149Р р. 72.

coordinated policy in the sphere of investment stimulation, including a limited number of tax incentives conditioned to certain criteria, could create different kinds and varying degrees of cooperation.

The necessity of tax policy coordination is also connected to the necessity of developing common plans of actions aimed at prevention of tax evasion. In this case the coordinated policy of the countries in the sphere of transfer pricing, are aimed at limiting corporate tax minimization by manipulating the prices during the execution of the operations between the connected and controlled persons. At present, the laws concerning the transfer pricing are in effect in Kazakhstan and Russia but the methods used are a bit different. In this case the introduction of the common regulation scheme based on international standards could be an important step towards tax harmonization of the countries.

## 5. Conclusions

In this paper we have considered the stages of integration among the Post-Soviet countries since the disintegration of the USSR, when bilateral trading agreements were concluded, until the signing of the agreement creating the Common Economic Space. A number of agreements remained on paper, some of them, for example, the Union of Russia and Belarus, pursued political goals. The global economic crisis stimulated the process of integration and the conclusion of the agreement on creation of a Customs union between Belarus, Kazakhstan and Russia.

Process of tax harmonisation is determined by progress rates and scales of integration. Entering into a free trade policy, which provided cancellation of customs tariffs in the trade of commodities produced in their respective territories, became the first real step on a way towards economic integration of the CIS countries. The issues of indirect tax collection have also been agreed for mutual

trade in commodities and services.

The formation of a customs union and uniform customs tariffs for three countries entering into force was the subsequent and significant step in the process of integration of the CIS countries. The consequences of a common customs tariff were ambiguous for the countries that formed the union, however. The unified tariff, mainly based on tariff rates in Russia, exceeds world average for tariffs and primarily indicates the protectionist policy of the Russian Federation for some of its industries. Insitution of a common tariff has led to marked increase of tariffs in Kazakhstan, and also raising of the average tariff in Belarus. In the short-term, it would be impossible to give an unequivocal estimation of their impacts, due to the change in the tariffs themselves, and on intra- and interregional volume of foreign trade; since postcrisis restoration of the world economy has led to general growth of trade both within the region and with third countries. The agreement reached with respect to Russia's accession to the World Trade Organization will lead to a downward revision of the countries.

Given the conditions in the customs union, the harmonization of indirect taxation, which has the greatest influence on export and import prices, is extremely significant in developing equal trade conditions. Great strides have been made concerning harmonization of indirect taxation between the countries in the union, including but not limited to the destination principle, the list of the taxable goods and services. Although it remains quite difficult, the administration system has been established. At the same time the rates of indirect taxes in the countries forming the customs union essentially differ, as they are connected to different economic structures of the countries forming the customs union, in particular, their share of extraction industries. Making use of the experience in the EU, where the fluctuation limits of VAT rates are within the limits of tax harmonization can be useful for countries forming a customs union.

Creation of a common economic space will be the following stage of economic integration of countries forming the Customs union. At present, the agreements

determining general terms on the functioning of the CES have been signed. Free movement of capital and labor will become the main elements of further integration. In these conditions, the problems connected with tax competition become sharper as the taxation of capital and labor influences their allocation during the move toward liberalization. Presently, the taxation system of Kazakhstan is the most competitive, as its level of tax burden is the lowest and along with its basic tax rates, in particular VAT, personal income taxes and capital income taxes.

Harmful tax competition can create a "race to the bottom" effect leading to decreases in the capital tax rates, resulting in shrinkage of budget incomes and in deterioration of infrastructure and quality of human capital. To prevent harmful tax competition, it is important to improve procedures on information exchange between tax services of the countries, and coordinate policies in the field of transfer pricing. These issues remain uncoordinated between the countries forming the customs union, and it is obvious they will become a priority in the near future.

At the same time, fair tax competition can become an important impetus for national economic policies aimed at increasing competitiveness of a country. The fair tax competition is of a special importance for small countries poor in natural resources, for example, Belarus. The national tax policy of such countries is an expedient for focusing on the attraction of foreign investments through the creation of a favorable tax climate. At the same time, it would be unacceptable to decrease the quality of public services and infrastructure.

## References

## [Boaoks and Articles]

Baldwin, Richard E Krugman Paul. 2002. "Agglomeration, Integration and Tax Harmonization." NBER Working Paper 9290, p. 19.

- Baunsgaard, T. and Keen, M. 2005. "Tax revenue and trade liberalization." Mimeo, pp. 23-25. Washington. D.C.: IMF.
- Boadway R., Shah A. 1992. "How Tax Affect Decisions to Invest in Developing Countries." WPS 1011, p. 19. The World Bank.
- Bernardi, L. 2004. "Rationale and Open Issues for More Radical Tax Reforms." Bernardi, L.and Profeta, P. eds. Tax Systems and Tax Reforms in Europe, pp. 30-54. London & New York: Routledge.
- OECD. 1995. Consumption Tax Trends, p. 21. Paris: OECD.
- J. Frenkel, Jacob AssafRazin and Efrain Sadka. 1991. *International Taxation in an Integrated World*, p. 212. MIT Press.
- Krugman, P. and R. E. Baldwin. 2002. "Agglomeration, Integration and TaxHarmonization," pp. 8-12. NBER Working Paper 9290.
- Kopits, George. 1992. "Tax Harmonization in the European Community." *IMF* Occasional Paper, 94, pp. 15-17.
- D. Mitchell. 2010. *The Economics of Tax Competitions*. Briefing Paper, p. 6. Adam Smith Institute.
- Musgrave, P. 1989. Fiscal Coordination and Competition in an International Setting. University of California, Santa Cruz. Dept. of Economics.
- Tanzi V., Barreix A., Villela L. 2008. Taxation and Latin American Integration David Rockefeller Center for American Studies Harvard University. p. 25.
- Tanzi V. 1994. *Taxation in an Integrating World*, pp. 43-46, 109. Washington, D.C.: The Brooking Institution.
- Tanzi V., Zee H. 2000. "Tax Policy for Emerging Markets: Developing Countries." IMF Working Paper WP/00/35, p. 16.
- Tait, Alan. 1988. "Value Tax: International Practice and Problems," p. 35. Washington,D. C: International Monetary Fund.

Tochitskaya I. 2010. The Customs Union between Belarus, Kazakhstan and Russia: An

Overview for Economic Implication for Belarus German Economic Team Belarus.

IPM Research Center Policy Paper Series [PP/02/2010], p. 11.

- Малинина Т. 2010. Оценка налоговых льгот и освобождений : зарубежн ый опыт и российская практика. Ин-т Гайдара. Научные труды / Ин-т экономической политики им. Е.Т. Гайдара; No. 146P p. 135.
- Синельников-Мурылев С.Г., Шкребела Е.В. 2011. Совершенствование на лога на прибыль в Российской Федерации в среднесрочной перс пективе. Научные труды. Ин-т экономической политики им. Е. Т. Гайдара; No. 149P. p. 72.

[Legal Texts]

- The Agreement on creating a single customs territory and forming a Customs union dated October 6, 2007, and the Plan of actions of forming a Customs union within the Eurasian Economic Community for the period 2007-2009
- Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax
- ECOFIN Council, Resolution of the Council on a Code of Conduct for Business Taxation, OJ C2,6/1/1998.
- Договор Об учреждении Евразий ского экономического сообщества (Аста на, 10 октября 2000 г.)
- Соглашение между Правительством Республики Беларусь и Правитель ством Российской Федерации о создании унифицированного нало гового законодательства и проведении единой налоговой полит ики Союзного государства (Москва, от 30 августа 2000 г.).
- Договор о создании единой таможенной территории и формировании Таможенного союза от 6 октября 2007 г. и План дей ствий по форм ированию Таможенного союза в рамках Евразий ского экономичес кого сообщества на 2007-2009 г.

## Egypt's International Competitiveness A Product Level Analysis

Hossam Younes<sup>112)</sup>

## 1. Introduction

Although Egypt has semi-distinct trade relations in international markets, notably with the European Union (EU), USA, Arab countries and Asian markets, an empirical question need to be addressed. Does Egypt have the competitive strength to survive in these markets? This question is considered against the background of changes in these major markets at the individual product level. Specifically, does Egypt demonstrate evidence of the flexibility necessary to adapt to these changes in the foreign markets? This question is especially timely in light of recent steps taken by Egypt to engage with economic groups in different times and also joining the WTO. In short, Egypt has agreed to reduce its tariffs on many commodities, and in some instances, by even more than is proposed by the WTO, association agreements and preferential trade agreements.

Typically, Egypt's trade in these major markets has been characterized by exports of mainly traditional goods, imports of manufactured goods and the bulk

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of its manufactured exports flow to partner countries within the Arab world. In the beginning of the nineties, Egypt turned its attention to re-energizing its foreign sector and reintegrating its economy into the emerging Global Village.

Egypt's exports do not have favorable access to international markets. It's Market Access TTRI<sup>113</sup> (including preferences) is 3.3 percent, higher than the averages for the MENA region<sup>114</sup>) and lower-middle-income country group of 2.1 and 2.3 percent, respectively. The simple average of the rest of the world tariff (including preferences) faced by Egypt's exports is 8.9 percent. When its trade flows are taken into consideration, the weighted rest of the world tariff (including preferences) is 1.8 percent (1.2 percent for non-agricultural products and a high 8.2 percent for agricultural products) (WTO, World Trade Indicators 2009/10).

So, export performance is an important factor that must be taken into consideration in economic policy decision-making, especially under the current circumstances, with financial market turmoil already having detrimental effects on the real sector of the economy. The study of export performance, in particular for countries like Egypt, with serious external imbalances, might prove crucial for the choice of policies aimed at addressing these imbalances.

This research tries to investigate Egyptian's export growth both at the aggregate, and at and manufactured sector levels. Also, the research strives to answer the following research questions: to what extent Egypt's trade performance in seven major markets - the United States, European Union, Saudi Arabia (as proxy of Arab countries), India, South Korea, Japan and China? By investigating the determinants of Egypt's exports, the research hopes to contribute to the formulation of better policies for export promotion. This research is conducted at a relatively high level of data aggregation; further research would be required in the future at more specific or lower levels of data aggregation.

<sup>113)</sup> TTRI calculates the equivalent uniform tariff that would keep domestic welfare constant. It is weighted by import shares and import demand elasticity.

<sup>114)</sup> Middle East and North Africa.

Introduction that explores the degree of exposure of the Egyptian economy to international trade and particularly the structure of exports by commodity and area of destination are analyzed in section I. In section II, market share of Egyptian exports and the method of Constant Market Share Analysis (CMSA) is applied in order to measure the factors underlying changes in Egyptian export market shares and empirical results. Finally, section III summarizes the conclusions of this study.

# 1.1 Egyptian Export Structure and International Trade Exposure of the Egyptian Economy

1.1.1 Egyptian export structure by product type, technological intensity and geographic destination area

The structure of Egyptian exports by product groups and geographical destination changed considerably during the 2005-2010 period. The contribution of foodstuff, chemicals and other manufactured products in exports has increased, in contrast to products in the crude materials category that rose slightly and mineral fuel that sharply declined.

The structure of Egyptian exports by product (one-digit category of the Standard International Trade Classification (SITC), indicates that, the combined share of foodstuff, chemicals and manufactured products<sup>115</sup>) in total Egyptian exports increased from 33.4% in 2005 to 62.2% in 2010 (Figure 1).

<sup>115)</sup> The product categories presented here correspond to the one-digit SITC codes in parentheses, as follows:

<sup>·</sup> Foodstuff products: food and beverages (1), tobacco (2) and fats and oils (4).

<sup>•</sup> Crude materials excluding fuel (2).

<sup>•</sup> Mineral fuels (3).

<sup>·</sup> Chemicals: chemical and pharmaceuticals (5).

<sup>•</sup> Manufactured products: manufactured products classified by crude material (6), Machinery: mechanical and transportation equipment (7) and other manufactured products (8).

<sup>·</sup> Other products: Commodities and transactions not classified elsewhere in the SITC (9).



Figure 1. Commodity Composition of Egyptian Exports

Source: Author calculations from UN COMTRADE database.

The changes in the composition of Egyptian exports by technological intensity are shown in figure 2. Exported manufactured goods are grouped into four categories: "labour-intensive resource manufactures", "low", "medium" and "high" technology. During the period of interest, the share of labour-intensive resource manufactures increased from 9.5% to 16.1% and share of low-technology products in total exports fell from 7.2% in 2005 to 6.2% in 2010, while that of medium technology exports more than tripled. The share of high-technology products in exports also increased by nearly three times. However, the gradual substitution of low technology-products by medium- and high-technology ones has been slow and limited; placing Egyptian exports in an unfavorable position relative to other similar countries (low-technology products represent 13.4% of Egyptian exports of manufactures and 6.2% of Egyptian total exports in 2010). The technological content of exported products must be given serious consideration if Egypt is to benefit from the growth prospects of foreign demand, since the markets for high-technology goods are the most dynamic. In addition, Egyptian exports, as well as the exports of other countries that specialize in low technology products, face strong competition from countries with low labour costs, such as China.

Overall, the participation of medium- and high-technology products in exports improved significantly, although their share in total exports is still rather low.



(Unit: % change in total exports value)



Source: Author calculations from UN COMTRADE database.

At the same time, Egyptian exports maintained their traditional destinations, as the large EU-27 market remained the major destination for Egyptian products, despite the fact that its share in Egyptian exports decreased from 34.1% in 2005 to 30.3% in 2010 (Figure 3), Saudi Arabia came on as the second largest market at 5.9% in 2010 compared to 3.6% in 2005, with the USA in third place also at 5.9% in 2010 compared to a 2005 figure of 9.0%, India, S. Korea, China and Japan came in at 4.7%, 2.0%, 1.6% and 0.7% respectively. Specifically, the shares of exports towards these markets absorb almost half of Egyptian exports.



#### Figure 3. Geographic Structure of Egyptian Exports

(Unit: % share in total exports value)

Source: Author calculations from UN COMTRADE database.

Table 1. Sectoral Contribution to Egypt's rotal Export	Table	1.	Sectoral	Contribution	to	Egypt's	Total	Export
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(Unit: in %)

	China		China EU		Inc	India		Japan		S Korea		Saudi Arabia		USA	
	2005	2010	2005	2010	2005	2010	2005	2010	2005	2010	2005	2010	2005	2010	
Foodstuff	0.07	0.09	34.0	18.2	0.03	0.06	0.32	0.28	0.25	0.20	7.54	13.32	1.11	1.32	
Crude materials excluding fuel	15.36	10.72	40.1	15.8	14.14	13.30	1.59	0.53	2.61	0.37	3.12	2.96	4.83	2.55	
Chemicals	4.87	1.35	10.2	46.7	0.65	1.70	0.01	0.10	0.03	0.11	4.15	2.41	1.75	3.72	
Manufactured products	0.75	2.61	29.5	29.2	0.36	0.76	0.46	0.16	0.18	0.13	11.36	9.32	10.18	11.90	
Mineral fuel	0	0.19	81.9	33.0	8.34	10.70	1.87	1.76	2.20	5.80	0.69	0.66	12.83	3.53	

Source: Author calculations from UN COMTRADE database.

In Table 1, if we consider categories of products, we can observe differences amongst shares of the countries studied in Egyptian exports by sectors. EU and Saudi Arabia contribute with 18.2%, and 13.3%, for foodstuff exports in 2010. The share of EU, India and China are 15.8%, 13.3% and 10.7% in crude materials exports in 2010.

For chemicals product, EU imports about half of Egyptian exports. Finally, EU, USA and Saudi Arabia contribute with 29.2%, 11.9% and 9.3% in manufactured products exports in 2010. For mineral fuel, EU imports of about 82% of Egyptian exports in 2005 declined to 33.0% in 2010. India and South Korea contributed with 10.7% and 5.8% in 2010.

#### 1.1.2. Trade exposure of the Egyptian economy

The positive correlation between growth rates and international trade exposure is supported by a number of empirical studies (Balassa 1985; Edwards 1992; Dollar 1992). In addition, Sachs and Warner (1995) exploring the effect of trade liberalization on economic development, after World war II, in two groups of countries: "open" and "closed", found that increased exposure of less developed economies to international trade supports higher growth rates than in more developed countries. These higher growth rates can be attributed to technology transfer or concentration of capital. However, the openness of the Egyptian economy to international trade during the 2005 - 2010 period seems to have remained relatively low, mainly due to low export performance.

As indicated in Table 2, Egyptian export performance, as measured by exports as a percentage of GDP, is the lower than Arab countries and MENA region approximately quarter to one third of the both groups' averages (2005: 11.9%, 2010: 12.0%). The slight improvement observed since 2008 can be explained by the sudden increase of oil price in this year. The overall openness of the Egyptian economy increased substantially (from 34.0% in 2005 to 36.2% in 2010). However, it remained significantly lower than Arab countries and

Year	2005	2006	2007	2008	2009	2010			
		Expor	t Performanc	e		·			
Arab World	43.4	48.7	46.8	50.1	40.0	32.5			
Egypt	11.9	12.8	12.4	15.9	12.8	12.0			
MENA	46.4	45.4	45.2	47.6	37.7	NA			
Export performance (EP) = $X/Y$ , where X and Y are goods exports and GDP respectively, USD, current prices.									
Trade Openness									
Arab World	69.3	75.5	76.5	82.1	68.1	57.6			
Egypt	34.0	31.9	33.1	48.3	36.6	36.2			
MENA	80.5	85.1	79.8	83.5	67.9	NA			
Openness (OP) =(X+M)/Y, where X, M and Y are exports, imports and GDP respectively, in USD and current prices.									
Import Penetration									
Arab World	31.4	34.3	35.8	39.1	31.9	27.1			
Egypt	20.0	18.0	19.1	27.8	21.4	21.6			
MENA	38.9	41.2	38.7	40.7	32.7	NA			
Th	e ratio of tot	tal imports to	o domestic de	emand, as a	percentage.				
		Marginal P	ropensity to	Import					
Arab World	0.31	0.46	0.41	0.58	0.03	0.31			
Egypt	0.04	0.28	0.79	0.35	0.27	0.04			
MENA	0.38	0.34	0.41	0.83	0.48	0.38			
The ratio of the c	change in tota	l imports to o	the change ir one year).	n GDP over a	a defined peri	od (typically			
		Exposure to	internationa	l trade					
Arab World	61.2	66.3	65.9	69.6	59.2	50.8			
Egypt	29.5	28.5	29.1	39.3	31.5	31.0			
MENA	67.2	70.8	66.4	68.9	58.1	NA			
Trade Exposur	e = Export p	erformance +	+ (1 - Expo	ort performan	ce) Import p	enetration.			

Table 2. Export Performance, Tra	de Openness and	d Exposure to Inter	rnational Trade
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Note: NA= not available

Source: Author's own calculations from UN COMTRADE and World Bank WDI database.

MENA region averages. Finally, the index of international trade exposure is also lower than Arab countries and MENA region averages.

## 2. Market Shares of Egyptian Exports and Constant Market share Analysis Methodology

#### 2.1 Market shares of Egyptian exports

Further evaluation of the export performance of the Egyptian economy requires a study of Egyptian export shares in foreign markets. Export market share analysis allows the isolation of the effects of foreign demand and reflects changes mainly in export competitiveness. The export market share of total Egyptian exports in all destinations is defined in this study as the ratio of the value of Egyptian exports over the value of total world imports.<sup>116</sup>)

Export market shares may differ depending on the definition of world imports. That is, world imports may be either weighted by the participation of each destination area in total exports of the country of interest, or taken as an unweighted sum. Market shares calculated using exports and imports in value terms are also different from shares based on volumes, partly reflecting movements in exchange rates (Panayiotis *et al.* 2010). However, they are used more often because detailed data on international trade volumes are not easily available and are of limited reliability due to the presence of measurement errors.

The analysis of Egyptian export market shares, in Figure 4 and Table 3, shows that the share of Egyptian exported goods in the world market increased slightly, overall, from 0.10% in 2005 to 0.20% in 2009 and declined to 0.18% in 2010.

<sup>116)</sup> The export market share of product i in market j, is defined, as the ratio of the value of exports of product i in this market j over total imports of product i in market j.





Source: Author's own calculations from UN COMTRADE database.

Egyptian exports achieved considerable market share in the markets of Saudi Arabia. This was approximately six times higher than the world total and increased from 0.64% in 2005 to 1.45% in 2010. The next highest Egyptian export market shares are observed in India and rose from 0.37% in 2005 to 0.46% in 2010. Egyptian export market share in the EU-27 market also rose and remained at a level below 0.40% in 2010. For South Korea, market share of Egyptian export also rose, from 0.05% in 2005 to 0.12% in 2010.

Egyptian export market shares by product category and destination area are shown in table 3. The market share of "chemicals" increased considerably from 0.05% in 2005 to 0.22% in 2010, in world and all the market researche researched In addition, the market share of "foodstuff" showed improvements in the same markets except China. The share of crude materials and manufactured products showed improvement in all markets except of Japan and South Korea. By contrast, with the exception of some destinations (China, India, Korea), the market shares of "mineral fuel" declined.

		China	EU	India	Japan	South Korea	Saudi Arabia	USA	World
Foodstuff products	2005	0.49	0.34	0.01	0.01	0.02	0.83	0.01	0.14
	2010	0.02	0.73	0.07	0.02	0.05	3.61	0.62	0.42
Crude materials	2005	0.04	0.12	0.09	0.01	0.02	0.02	0.03	0.14
excluding fuel	2010	0.20	0.29	0.25	0.01	0.01	0.06	0.05	0.22
Chemical	2005	0.02	0.14	0.03	0.00	0.00	0.38	0.01	0.05
products	2010	0.03	0.94	0.22	0.01	0.01	0.79	0.07	0.22
Manufactured	2005	0.00	0.09	0.01	0.00	0.00	0.56	0.02	0.03
products	2010	0.03	0.24	0.06	0.00	0.00	1.08	0.08	0.10
Minaral fuel	2005	0.00	0.63	0.77	0.07	0.18	4.02	0.20	0.41
wineral fuel	2010	0.01	0.53	0.78	0.07	0.40	2.12	0.07	0.33
Total	2005	0.02	0.25	0.26	0.02	0.04	0.30	0.05	0.11
Total	2010	0.03	0.41	0.38	0.03	0.11	0.89	0.10	0.18

Table 3. Egyptian Export Market Shares by Product Category and Destinations (Current prices, percentage of total imports value of each area)\*

Note: \* The cases where export market shares increase are in bold characters. Source: Author's own calculations from UN COMTRADE database.

Egyptian export market shares by technological intensity and destination area are presented in Table 3, which indicates in separate sections that market shares of labour-intensive and resources manufacture and, to a lesser extent, of medium (except of Japan) and high (except of China)-technology products (except of China) increased in all the major markets, between the two sub-periods under review. At the same time, the market share of low-technology products fell only in India, Japan and USA between the two sub periods under review.

		China	EU	INDIA India	Japan	South Korea	Saudi Arabia	USA
Labour-intensive and resource Manuf.	2005	0.043	0.242	0.036	0.002	0.018	0.769	0.062
	2010	0.492	0.610	0.678	0.015	0.026	2.284	0.407
Low skill and technology	2005	0.002	0.284	0.071	0.053	0.002	2.724	0.074
	2010	0.005	0.289	0.020	0.018	0.007	3.577	0.009
Medium skill and technology	2005	0.001	0.011	0.002	0.000	0.000	0.083	0.000
	2010	0.003	0.150	0.035	0.000	0.003	0.325	0.002
High skill and technology	2005	0.009	0.040	0.012	0.000	0.000	0.188	0.002
	2010	0.009	0.319	0.118	0.002	0.004	0.383	0.025

Table 4. Egyptian Export Market Shares by Technological Intensity and Destinations (Current prices, percentage of total imports value of each area)\*

Note: \* The cases where export market shares increase are in bold characters. Source: Authors own calculations from UN COMTRADE database.

## 2.2 The Constant Market Share (CMS)

#### 2.2.1 Theoretical background

This paper focuses on the use of the Constant Market Share (CMS) model of international trade. As noted, success in the modern competitive global village requires revealed flexibility to rapidly changing market conditions. The CMS Model is an especially useful empirical tool that allows us to examine the nature and sources of changing international competitiveness. It reveals whether (and in which product groups) Egypt was able to competitively increase its exports above and beyond constraints set by external demand factors. In terms of this model, a country is regarded as doing well if its exports grow in line with or faster than export growth in the market. This empirical model is used to assess Egypt's export performance in total, and various subsets of manufacturing exports.

This section discusses the theoretical constructs that are used in analyzing

and interpreting the data. It presents theoretical models and details the manner in which they are used to draw specific inferences.

The constant market share model is adopted from a sub-discipline of marketing, and is used to explain changes in a country's share of trade in world markets. It may be demonstrated that CMS analysis is an alternative form of the so-called 'shift and share' analysis, first used in regional economics by Creamer (1943). The key phenomenon explained in this model is the extent by which the growth in a country differs from the world, or the reference-market's average.

The CMS analysis is a decomposition method that was applied for the first time to international trade flow by Tyszynski (1951). It is a method for examining a country's export growth. The method basically was built from the assumption that a country's exports may succeed (or fail) to grow as rapidly as the world average for three reasons: (1) exports may be concentrated in commodities in which the demand is growing relatively fast (slowly); (2) exports may be going to regions of relative growth (stagnation); (3) the country in question may have been able (unable) to compete effectively with other sources of supply (Leamer and Stern 1970). Another assumption of the method is that a country's export share in the world market should remain unchanged over time. The difference between export growth implied by this constant-share norm; and the actual export growth is assumed to be caused by competitiveness, commodity-composition and marketdistribution effects.

The following section will explain the CMS method developed by Learner and Stern. Following notations are used:

 $\begin{array}{l} V_{i.}: \mbox{ Value of country A's exports of commodity i in period 1} \\ V_{i.}: \mbox{ value of country A's exports of commodity i in period 2} \\ V_{j}: \mbox{ value of country A's export to country j in period 1} \\ V_{j}: \mbox{ value of country A's export to country j in period 2} \\ V_{ij}: \mbox{ value of country A's export of commodity i to country j in period 1} \\ \end{array}$ 

r:percentage increase in total world exports from period 1 to period 2
r<sub>i</sub>:percentage increase in world export of commodity i from period 1 to period 2
r<sub>ij</sub>:percentage increase in world export of commodity i to country j from period 1 to period 2

The value of country A's exports in period 1 is:

$$\sum_{i} \mathbf{V}_{ij} = \mathbf{V}_{i.} = \sum_{j} \mathbf{V}_{ij} = \mathbf{V}_{.j} \tag{1}$$

and we can also define A exports in period 1:

$$\sum_{i}\sum_{j}V_{ij} = \sum_{i}V_{i.} = \sum_{j}V_{.j} = V_{..}$$
<sup>(2)</sup>

At the first level of analysis, we may view exports only as a single good to a single market. At this level the method argues that if country A maintains its export share in world market then exports would increase by rV..., and therefore the following identity may be written:

$$V'_{..} - V_{..} \equiv rV_{..} + (V'_{..} - V_{..} - rV_{..})$$
 (3)

Identity 3, the first level of analysis, means that the export growth from period 1 to period 2 (V'.. - V..) is divided into parts associated with general increase in world exports (rV..) and an unexplained residual, the competitiveness effects (V'.. - V.. - rV..).

In the next step in the two-level analysis, the method expands the arguments that exports are in fact a quite diverse set of commodities and there are markets for a particular commodity class. For i commodity it may be written an identity analogous to identity 3:

$$V'_{i.} - V_{i.} \equiv {}_{ii}V_{i.} + (V'_{i.} - V_{i.} - r_{i}V_{i.})$$
 (4)

and be aggregated to

$$V'... - V.. \equiv \sum_{i} r_{i}V_{i.} + \sum_{i} (V'_{i.} - V_{i.} - r_{i}V_{i.})$$
  

$$\equiv \sum_{i} (r_{i}-r_{i}) V_{i.} + \sum_{i} (V'_{i.} - V_{i.} - r_{i}V_{i.})$$
  

$$\equiv \sum_{i} (rV_{i.}) + \sum_{i} (r_{i} - r)V_{i.} + \sum_{i} (V'_{i.} - V_{i.} - r_{i}V_{i.})$$
  

$$\equiv (rV_{..}) + \sum_{i} (r_{i} - r)V_{i.} + \sum_{i} (V'_{i.} - V_{i.} - r_{i}V_{i.})$$
(5)  
(1) (2) (3)

Identity 5 represents two-level analysis in which the growth of country A's export is broken into part attributed to (1) the general rise in world exports, (2) the commodity composition of country A in period 1, and (3) unexplained residual, the competitiveness effects indicating the differences between actual export increase and the hypothetical increase if country A had maintained its share of exports of each commodity group.

From identity 5, the commodity-composition effect is defined as:

$$\sum_{i} (\mathbf{r}_{i} - \mathbf{r}) \mathbf{V}_{i}$$
(6)

Equation 6 means that if world export of commodity i increased passed the total world export, then  $(r_i - r)$  will be positive. This positive number will receive a heavy weight when added to other term  $V_{i.}$ . The result is that 5 would be positive if A had concentrated on export of commodities in which the market was growing relatively fast, and would be negative if A had concentrated on export of commodities in which the market was than total world export growth.

Finally, in the three-level analysis, the method will observe that exports are differentiated by destination and commodity type. The appropriate norm of this case is constant market share of export of particular commodity class i to a particular region j. The identity analogue to 3 and 4 is:

$$V'_{ij} - V_{ij} \equiv {}_{ij}V_{ij} + (V'_{ij} - V_{ij} - r_{ij}V_{ij})$$
(7)

and it can be aggregated to:

$$\begin{aligned} \mathbf{V}^{\prime}..-\mathbf{V}_{\cdot\cdot} &\equiv \sum_{i} \sum_{j} \mathbf{r}_{ij} \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{ij} - \mathbf{V}_{ij} - \mathbf{r}_{ij} \mathbf{V}_{ij}) \\ &\equiv \sum_{i} \sum_{j} (\mathbf{r} - \mathbf{r} + \mathbf{r}_{i} - \mathbf{r}_{i} + \mathbf{r}_{ij}) \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{i.} - \mathbf{V}_{i.} - \mathbf{r}_{i} \mathbf{V}_{i.}) \\ &\equiv \sum_{i} \sum_{j} (\mathbf{r} \mathbf{V}_{ij} - \mathbf{r} \mathbf{V}_{ij} + \mathbf{r}_{i} \mathbf{V}_{ij} - \mathbf{r}_{i} \mathbf{V}_{ij}) \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{i.} - \mathbf{V}_{i.} - \mathbf{r}_{i} \mathbf{V}_{i.}) \\ &\equiv \sum_{i} \sum_{j} \mathbf{r}_{ij} \mathbf{r}_{ij} + \sum_{j} \sum_{j} (\mathbf{r}_{i} - \mathbf{r}) \mathbf{V}_{ij} + \sum_{j} \sum_{j} (\mathbf{r}_{ij} - \mathbf{r}_{i}) \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{ij} - \mathbf{V}_{ij} - \mathbf{r}_{ij} \mathbf{V}_{ij}) \\ &\equiv \sum_{i} (\mathbf{r} \mathbf{V}_{i.}) + \sum_{i} (\mathbf{r}_{i} - \mathbf{r}) \mathbf{V}_{i} + \sum_{i} \sum_{j} (\mathbf{r}_{ij} - \mathbf{r}_{i}) \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{ij} - \mathbf{V}_{ij} - \mathbf{r}_{ij} \mathbf{V}_{ij}) \\ &\equiv (\mathbf{r} \mathbf{V}_{.}) + \sum_{i} (\mathbf{r}_{i} - \mathbf{r}) \mathbf{V}_{i} + \sum_{i} \sum_{j} (\mathbf{r}_{ij} - \mathbf{r}_{i}) \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{ij} - \mathbf{V}_{ij} - \mathbf{r}_{ij} \mathbf{V}_{ij}) \\ &\equiv (\mathbf{r} \mathbf{V}_{.}) + \sum_{i} (\mathbf{r}_{i} - \mathbf{r}) \mathbf{V}_{i} + \sum_{i} \sum_{j} (\mathbf{r}_{ij} - \mathbf{r}_{i}) \mathbf{V}_{ij} + \sum_{i} \sum_{j} (\mathbf{V}^{\prime}{}_{ij} - \mathbf{V}_{ij} - \mathbf{r}_{ij} \mathbf{V}_{ij}) \quad (8) \\ & (1) \qquad (2) \qquad (3) \qquad (4) \end{aligned}$$

Identity 8 represents three-level analysis in which the growth of country A's export is broken into part attributed to (1) the general rise in world export (2) the commodity composition of country A in period 1 (3) the market distribution of A's export and (4) unexplained residual, the competitiveness effects that indicating the differences between actual export increase and the hypothetical increase if A had maintained its share of export of each commodity group to each country.

From equation 8 the market distribution effect is defined as:

$$\sum i \sum j (\mathbf{r}_{ij} - \mathbf{r}_{i}) \mathbf{V}_{ij} \tag{9}$$

Equation 9 means that if the world export of commodity i to country j increase beyond the total world export of commodity i, then  $(r_{ij} - r_i)$  will be positive. This positive number will receive a heavy weight when added to other term  $V_{ij}$ . The result is that 9 would be positive if A had concentrated its export in the market that were growing relatively fast and would be negative if A had concentrated

its export in the more stagnant region.

## 2.2.2 Data set

Two sets of data are used in this study come from the COMTRADE database, compiled and maintained by the United Nations. The data set has the world exports to Saudi Arabia plus the USA, EU and Japan, India, South Korea and China, as well as "World"; and then separately, exports from Egypt to the selected countries for the years 2005 through 2010.

Each year's data includes, in thousands of USD, values for traded commodities, ranging from Standard International Trade Classification (SITC, Rev 3). The advantage of using Rev. 3 is that it renders this dataset consistent with historical data, thus allowing for long term analyses.

Among various trade classifications, it utilizes Standard International Trade Classification (SITC) for data analysis. The SITC has a 5 level hierarchical structure. Level 1, that is SITC digit 1, consists of 9 sections. Sections 0 to 4 can be defined as the non-manufacturing sector, while sections 5 to 8 are defined as the manufacturing sector. Section 9 consists of products that cannot be classified into sections 0 - 8. For using data for the manufactured goods according to technology intensity, the study used Level 3, that is, SITC digit 3.

## 2.3. The Empirical Results

In addition to applying the decomposition to total Egyptian exports, it was also applied to:

- Exports to seven specific areas: EU27, USA, South Korea, Japan, India, China and Saudi Arabia and the rest of the world.
- Exports grouped by SITC manufactured groups: chemicals, manufactured goods classified chiefly by materials, machinery equipments and miscellaneous manufactured articles.
• Exports grouped by technological intensity: Labor and intensive resources manufactures, low, medium and high technology

The four terms of equation (8) were calculated for the period 2005-2010. The results of the CMSA to examine the export performance of Egypt in the world and among the countries researched are presented in Tables 5. Total exports increased by US\$ 15686 million between 2005 and 2010. Almost 29 % of the increase in exports is attributed to a general rise in world exports.

The positive sign of world trade effect indicates that Egypt has maintained her share of exports in foreign markets vis-à-vis the world. The increase in Egypt's exports is accounted for by favourable commodity composition for the period mentioned. The commodity composition effect is positive, that is, the commodity composition of Egypt's export has changed and varied much overtime. Egyptian exports were not concentrated in traditional commodities but instead depended on diversification. The market distribution effect (MDE) also had positive impact on the growth. The positive sign suggests that Egypt's exports are going to rapidly growing markets.

The competiveness effect is the largest contributor to the export growth. As mentioned already, we cannot do a straightforward interpretation of the residual term, because it is determined by the interaction of many factors - supply and demand forces, price and non-price factors etc. The competitiveness effect for overall exports is positive and quite significant.

The main factors for the increased competitiveness may be attributed to rapid devaluation, privatization and trade liberalization. Egypt moved towards a market oriented open economic system by deregulating and liberalizing the state owned institutions, financial organizations and international trade sector. Also, it must be noted that high competitiveness in this period reflects the considerable subsidies to many Egyptian exporting firms.

On one hand, the sharp devaluation of Egypt's currency at the beginning of the millennium has made her exports very competitive. However, on the other hand,

macroeconomic/political instability and corruption have dramatically raised the general price level, resulting in an increased cost of production for exports. Therefore, in terms of net result, Egypt's exports rose only marginally. The study of these interacting forces is a suggested area for future research.

	Change in	Attributed to: (%)						
	Exports	Growth of world trade	Commodity composition	Geographic structure	Competitiveness			
Total	15686 (=100)	29.1	8.9	5.1	56.9			
China	322 (=100)	14.5	39.1	-4.5	50.9			
EU	4363 (=100)	35.7	-6.3	1.4	69.2			
India	700 (=100)	32.4	22.5	-3.1	48.2			
Japan	67 (=100)	78.1	-142	-5.2	169.1			
S. Korea	394 (=100)	15.01	-9.99	1.1	93.9			
Saudi Arabia	1168 (=100)	14	18.6	3.6	63.8			
USA	590 (=100)	69.7	-75.5	10.1	95.7			
Rest of the world	8083 (=100)	25.4	25.7	5.0	43.9			

Table 5. Constant Market Share Effects - Egypt's Exports by Destination 2005-2010

Source: Author's calculations based on UN COMTRADE database.

The results of the CMSA by country indicate that, for exports to Saudi Arabia, all the effects were positive; the commodity composition effect, however, was negative for exports to EU27, Japan, South Korea and USA; while the geographic effect was negative for China, India and Japan between the two years.

The results of the analysis by SITC manufactured groups are presented in table 6 and show that commodity composition had a negative effect on the exports of machinery equipments products, while the geographic structure had a negative effect on exports of manufactured goods classified chiefly by materials. By contrast, all effects on exports of chemical products and miscellaneous manufactured articles were positive.

Table 6.	Constant Market Share Effects	-	Egypt's	Manufactured	Exports	by	SITC	Commodit	y
	Groups 2005-2010								

	Chemicals products	manufactured goods classified chiefly by materials	machinery equipments	miscellaneous manufactured articles
change of exports	2994 (=100)	3753 (=100)	1009 (=100)	1713 (=100)
Growth of world trade	9.2	15.8	3.8	6.3
Commodity composition	1.3	2.4	-2.3	0.1
Geographic structure	5.0	-6.1	10.4	0.0
Competitiveness	84.5	75.7	83.5	93.6

Source: Author's calculations based on UN COMTRADE database.

The results of the analysis by technological intensity are presented in table 7 and show that commodity composition had a negative effect on the exports of low technology products, while the geographic structure had a negative effect on exports of high technology products. By contrast, all effects on exports of labour and intensive resources goods and medium technology products were positive.

Table 7. Constant Market Share Effects - Egypt's Manufactured Exports by Technological Intensity 2005-2010

	Labour-intensive and resource manufactures	Low skill and technology	Medium skill and technology	High skill and technology
change of exports	3237(=100)	851(=100)	1271(=100)	3072 (=100)
Growth of world trade	7.6	41.0	3.9	6.8
Commodity composition	4.4	10.9	2.5	3.7
Geographic structure	0.0	-5.0	0.0	-10.5
Competitiveness	88.1	43.1	93.6	79.0

Source: Author's calculations based on UN COMTRADE database.

# 3. Conclusions

There are many factors that may affect a country's ability to successfully compete in world markets. This study focuses on the Constant Market Share Analysis to capture the contribution of various effects to the total change in exports and may help us identify key elements, shaping Egypt's performance in the critical and growing sector of manufacturing exports. The analysis is focused on USA, EU27, India, China, South Korea, Japan and Saudi Arabia. In addition to the model being applied to decomposition to total Egyptian exports, it was also applied to exports of manufactured groups and exports groups according to technological intensity in 2005-2010.

Based on the analysis, this research concludes as follows:

The share of the markets researched in this paper increased in total in recent years, absorbing more than 50 percent of Egyptian exports in 2010.

CMS analysis shows that the commodity composition is the main problem for Egyptian exports growth in the EU27, Japan, South Korea and USA since its impact on growth has been negative throughout the period. This problem may be because Egyptian exports are too concentrated in products which have relatively slow-growing demand in the countries concerned. On the other hand, geographic structure is negative for Egyptian exports in China, India and Japan. This means that Egyptian exports did not match the trade growth trends for those markets.

The Egyptian exports of manufactured products groups and for products according to the technological intensity have improved significantly and Egypt's exports have become more competitive over the period.

Despite some methodological flaws, the Constant Market Share Analysis produced interesting results. On the basis of our findings, the following policy recommendations are suggested.

Firstly, the share of traditional export should be decreased and that of non-traditional exports should be increased in the total exports as the demand for the former is either stagnant or declining in the world market.

Secondly, the Egyptian government should give first priority to finding ways to enhance exports. The product groups researched here have, in relative terms, rapidly-growing world demand but their shares in total exports of Egyptian export is still low.

Moreover, there is a further need to explore new areas of comparative advantage and increase the variety of exports by moving towards the exports of semi-manufactured and manufactured commodities from the raw commodities.

Although Egypt has sharply adjusted the market distribution of her exports, there is still room to explore new rapidly growing markets and policy-makers should maintain and facilitate the economic environment of the country by further moving towards liberalization and openness to make Egyptian exports more competitive in the world market.

# References

- Balassa, B. 1965. "Trade Liberalization and Revealed Comparative Advantages." The Manchester School of Economics and Social Studies, 32, 2.
- Creamer, D. 1943. "Shifts of Manufacturing Industries." *Industrial Location and Natural Resources*. Washington, D.C.: U.S. Government Printing Office.
- Dollar, D. 1992. "Outward-orientated Developing Countries Really do Grow more Rapidly: Evidence from 95 LDC's, 1976-85." *Economic Development and Cultural Change*, 40. (April)
- Edwars, S. 1992. "Trade Orientation, Distortions and Growth in Developing Countries." Journal of Development Economics, 39.
- Leamer, E., and Stern, R. 1970. "Quantitative International Economics." Boston: Allyn and Bacon Inc.
- Panayiotis A., C. Backinezos, E. Georgiou. 2010. "Export Performance, Competitiveness and

Commodity Composition." Working Paper. Bank of Greece.

- Sachs, J. and A. Warner. 1995. "Economic Reform and the Process of Global Integration." *Brookings Papers on Economic Activity*.
- Tyszynski, H. 1951. "World Trade in Manufactured Commodities, 1899-1950." *The Manchester School School*, Vol. 19, Issue 3.
- WTO. 2010. "Arab Republic of Egypt Trade Brief, Trade Policy." World Trade Indicators, 2009/10.

# The Influence and Countermeasures of Population Aging on the Economic and Social Development

Based on the Comparison between South Korea and China

Tan Yongsheng

# 1. Introduction

Population aging is an important demographic factor that restricts and influences the future economic and social development of South Korea and China, a problem both counties need to take seriously. Currently, the situation in terms of population aging in South Korea and China is very similar, and their population aging will reach a very high level by the mid-21st century. Rapid aging will influence economic growth, labor resources as well as many aspects of economic development of the two countries. This paper focuses on the problem of population aging in South Korea and China, with emphases on the comparison of the similarities and differences between the two countries, discusses the impact of population aging on the economic and social development, and proposes some countermeasures.

# 2. Body

The whole body of the paper is divided into six parts: the first part introduces concepts about population aging; the second part analyzes the process, current state and trend of population aging in South Korea and China; the third part assesses the main reasons for population aging in South Korea and China; the fourth part evaluates the impacts of population aging on the two countries; the fifth part makes a simulated analysis of the factors which affect the two countries; and the last part proposes some policy options for South Korea and China in dealing with population aging.

# 2.1 About Population Aging

2.1.1 The criteria for the classification of an aging society

According to the general criteria set by the United Nations, if a country or a region's elderly population over the age of 65 reaches 7% of the total population, or its population over the age of 60 reaches 10% of the total population; the country or the region becomes an aging society. At the beginning, 65 years of age was the United Nations' only indicator for deciding whether a nation has turned into an aging society. Obviously, it is an indicator that is better suited to developed countries. As we all know, many developing countries are currently facing rapid fertility declines caused by aging of the population, and this trend is expected to become more prominent, but dividing the population at the threshold of 65 years of age does not seem suitable for developing countries at the moment. The United Nations noted the limitations of its criteria, so in recent years, the age of 60 was added as another indicator.

The change in the age structure revealed that the trend of population aging is a global phenomenon. Although the nature of aging is different between developing and developed countries, it is certain that there is a general trend of



Figure 1. The Aging Ratio of Population in Different Income Countries, 1960-2010

Note: HIC (LIC, MIC) represents the high (low, middle) income countries. WLD represents world average level. Source: World Bank Database.

population aging all over the world, as shown in Figure 1.

The United Nations also divided the aging phenomena into several categories: the 'young' population countries are those where the elderly population has not reached 4% of the total population; the 'mature' population countries are those which elderly population has reached 4%-7% of the total population; the 'aged' population countries are those with an elderly population of 7% of the total. Aged population can also be divided into several categories: an elderly population of 7%-14% of the total population makes the country an aging society; 14% -20% makes it an aged society; a country with an elderly population of 20% is a super-aged society.

The problem of population aging is an issue that all countries and the United Nations pay attention to. In 1982, the United Nations held the first conference on the aging of the world in Vienna. And it brought forward a declaration on "the problem of population aging all over the world held", which pointed out the challenges and the chance brought by the increasing of the elderly. In the 21st

century, the problem of population aging is a new problem that the whole world must face as it could significantly restrict global economic and social development.

#### 2.1.2 A prospect of the world's population aging

From 1950 to 2010, the world's population grew from 2.5 billion to 7 billion. In 2050, the world population will likely exceed 9 billion. In general, there is a trend of aging all over the word. In 2002, the entire world entered the 'aging' category (the population over 65 years of the total population was 7.06% in 2002). In 2010, the figure was 7.61%. It is expected that the world population over the 65 will reach 16.2% of the total in 2050, as shown in Table 1. Table 1 shows the level of the population aged over 65 out of the total population of different countries: the figure in the high-income countries was more than 7% in the 1950s, now over 15%, and by 2050 it is to rise further to 26%. As for the middle-income countries, the proportion of the elderly population is currently just over 6.5%, but they are expected to become aging societies in 2020, and with the figure rising to about 15% by 2050. In the low-income countries, the proportion of the elderly

			(0		, , , , ,
Year	1950	1975	2000	2025	2050
Total population of the world	25.35	40.76	61.24	80.11	91.91
The proportion of young	34.20	36.80	30.20	24.10	19.90
The proportion of over 65	5.20	5.70	6.90	10.50	16.20
Developed countries	8.14	10.48	11.94	12.59	12.45
The proportion of young	27.40	24.20	18.30	15.60	15.80
The proportion of over 65	7.90	10.80	14.30	20.70	26.10
Developing countries	17.21	30.28	49.30	67.51	79.46
The proportion of young	37.40	41.20	33.10	25.70	20.60
The proportion of over 65	3.90	3.80	5.10	8.60	14.70

Table 1. The World Population and the Age Structure, 1950-2050

(Unit: 100 million, %)

Source: UN (2007), World Population Prospects (The 2006 Revision), New York.

is currently 3.6%, meaning it would take a long time for low-income countries to become aging societies.

# 2.2 South Korea and China's Aging Process, Status and Trend

2.2.1 The comparison of the aging starting point between South Korea and China

Figure 2 shows the birth rate decreased and the proportion of elderly population increased year by year in South Korea. The number of people over 65 years of age was 2.9% of the total population in 1960, 3.1% in 1970, 3.8% in 1980, 5.1% in 1990, 6.3% in 1997, 7.0% in 1999, 7.3% in 2000 (there are 3,395,000 people over 65 years of age, and the total population is 47,008,000). It indicates that South Korea became an aging society in 1999.

In China, the number of people over 65 years of age was 4% of the total population in 1960, 4.02% in 1970, 5.15% in 1980, 5.94% in 1990, 6.63% in 1997, 6.88% in 1999, 7.01% in 2000 (there are 88,511,415 people over 65 years of age, and the total population is 1,262,645,000).<sup>117</sup>) That is to say that China became aging society in 2000 when the ratio of its elderly population surpassed 7%.

So, it shows that South Korea and China entered the ranks of aging societies at about the same time; that is to say that the population over the age of 65 has reached 7% of the total population around the year 2000 in both countries.

Although South Korea and China entered the ranks of the aging society at almost the same time, but in-depth analysis shows that there are some great differences between South Korea and China.

<sup>117)</sup> In this paper, the Chinese data is the data of the mainland, not including those of Hong Kong, Macao and Taiwan.





Note: WLD is world average level. 0-14 indicates aged 0-14, 15-64 indicates aged 15-64, 65+ indicates aged 65 and over.

First, the population of South Korea is aging faster than China's. The data shows that the proportion of the population aged over 65 in China is greater than that of South Korea before 1998. However, since 1999, the proportion of the population over the age of 65 in South Korea began to exceed that of China. In 2000, the proportion of South Korea's population over 65 was 0.33% higher than China's.

Second, Table 2 shows the average age of South Korean population is also much higher than that of China. The average age of South Korea's population, which was 23.1 years in 1960 would reach 25.9 years by 1980. By the year 2000, it increased to 33.1 years. In China, the average age of the population was 22.7 years in 1953, 20.4 years in 1964, 22.9 years in 1982, 25.3 years in 1990, and 30.8 years in 2000. In other words, the average age of South Korea's population is 2.3 years older than China's.

Finally, it is necessary to point out that China's population is aging in spite of inadequate development of its society and economy, which can be described as "getting old before getting rich," a very unique characteristic when compared to South Korea.

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YEAR	CHN 65+	KOR 65+	KOR-CHN	YEAR	CHN 65+	KOR 65+	KOR-CHN
1960	4.00	3.74	-0.26	1981	5.27	3.95	-1.32
1961	3.94	3.70	-0.24	1982	5.39	4.04	-1.35
1962	3.86	3.63	-0.23	1983	5.50	4.13	-1.37
1963	3.78	3.54	-0.24	1984	5.60	4.23	-1.37
1964	3.72	3.45	-0.27	1985	5.68	4.33	-1.35
1965	3.70	3.38	-0.32	1986	5.74	4.44	-1.30
1966	3.71	3.34	-0.37	1987	5.79	4.56	-1.23
1967	3.76	3.32	-0.44	1988	5.84	4.69	-1.15
1968	3.84	3.31	-0.53	1989	5.88	4.83	-1.05
1969	3.93	3.31	-0.62	1990	5.94	4.98	-0.96
1970	4.02	3.32	-0.70	1991	6.01	5.14	-0.87
1971	4.13	3.33	-0.80	1992	6.09	5.30	-0.79
1972	4.24	3.35	-0.89	1993	6.18	5.49	-0.69
1973	4.35	3.38	-0.97	1994	6.28	5.69	-0.59
1974	4.47	3.42	-1.05	1995	6.39	5.91	-0.48
1975	4.58	3.48	-1.10	1996	6.51	6.15	-0.36
1976	4.70	3.54	-1.16	1997	6.63	6.41	-0.22
1977	4.81	3.61	-1.20	1998	6.76	6.69	-0.07
1978	4.92	3.69	-1.23	1999	6.88	7.00	0.12
1979	5.04	3.77	-1.27	2000	7.01	7.34	0.33
1980	5.15	3.86	-1.29				

Table 2. The Proportion of over 65 Years Age in South Korea and China, 1960-2000

(Unit: %)

Source: World Bank Database.

In 1960, South Korea's per capita GDP was only 1.7 times that of China's. However, by 2000, South Korea's per capita GDP was 12 times that of China, as shown in Table 3. This shows that South Korea was essentially a developed country when it became an aging society, while China was still a lower-middle income country. In fact, there are great differences between South Korea and China not only in per capita GDP, but also in other aspects of social and economic development, such as industrial structure, urbanization and social security, especially in rural areas. These differences show that the pace of development of the Chinese economy is incongruent with that of its society when its population changes.

Table 3. The Per Capita GDP in South Korea and China, 1960-2000

(Unit: \$)

YEAR	WLD	CHN	KOR	KOR/ CHN	YEAR	WLD	CHN	KOR	KOR/ CHN
1960	445	92	155	1.7	1981	2497	195	1846	9.4
1961	451	76	92	1.2	1982	2430	201	1938	9.6
1962	474	70	104	1.5	1983	2440	223	2118	9.5
1963	502	74	142	1.9	1984	2490	248	2307	9.3
1964	537	84	121	1.4	1985	2571	292	2368	8.1
1965	581	97	106	1.1	1986	2989	279	2703	9.7
1966	618	103	130	1.3	1987	3336	249	3368	13.5
1967	644	96	157	1.6	1988	3668	281	4466	15.9
1968	680	90	195	2.2	1989	3784	307	5438	17.7
1969	733	99	239	2.4	1990	4154	314	6153	19.6
1970	781	112	279	2.5	1991	4287	330	7123	21.6
1971	846	117	302	2.6	1992	4508	363	7555	20.8
1972	959	130	323	2.5	1993	4508	374	8220	22.0
1973	1150	155	403	2.6	1994	4771	469	9525	20.3
1974	1303	158	556	3.5	1995	5222	604	11468	19.0
1975	1427	176	608	3.5	1996	5255	703	12249	17.4
1976	1526	163	824	5.1	1997	5167	774	11235	14.5
1977	1696	183	1042	5.7	1998	5079	821	7463	9.1
1978	1966	155	1383	8.9	1999	5201	865	9554	11.0
1979	2242	182	1747	9.6	2000	5298	949	11347	12.0
1980	2477	193	1674	8.7					

Note: WLD is world average level.

Source: World Bank Database.

From an industrial perspective, Figure 3 shows that the composition of GDP in China was 35.2:40.49:24.29 in 1970, while South Korea's composition was 29:25:26.02:44.72. By 2000, the composition of GDP in China was 15.06:45. 92:39.02, while South Korea's composition was 4.63:38.06:57.31.

Figure 3. The Composition of GDP in South Korea and China, 1970-2008





Note: WLD is world average level, I indicate primary industry, II indicates secondary industry, III indicates tertiary industry.

2.2.2 The comparison of the aging development and current situation between South Korea and China

Since 1999, South Korea's population over 65 years of age has reached 7% of the total population and the figure increased more rapidly year by year, reaching 9.1% by 2005. The Korean statistical data showed that the number of people aged 65 or older reached to 5.36 million, or 11.3% of the total population in 2010, representing an increase of 4.3 percentages from 1999 to 2010. These figures show that the interval in which the aging population increases by 1 percent is becoming shorter, as shown in Table 4. This also shows up in average age in South Korea, which was 33.1 years in 2000, according to the "2010 Korean social indicators" released by Korea National Statistical Office. That figure has

risen to 38 years in 2010, showing that the aging of South Korean society has been accelerating.

(Umit: %)

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YEAR	CHN 65+	KOR 65+	KOR-CHN	YEAR	CHN 65+	KOR 65+	KOR-CHN
2000	7.01	7.34	0.33	2006	7.68	9.67	1.99
2001	7.13	7.70	0.57	2007	7.79	10.04	2.25
2002	7.24	8.09	0.85	2008	7.90	10.40	2.50
2003	7.36	8.49	1.13	2009	8.03	10.77	2.74
2004	7.47	8.89	1.42	2010	8.19	11.14	2.95
2005	7.58	9.28	1.70	2010 💥	8.87	11.30	2.43

Table 4. The Ratio of Persons over 65 Years Age in South Korea and China, 2000-2010

Note: Figures from Korean National Statistical Office and Chinese National Bureau of Statistics. Source: World Bank Database.

In contrast, China became an aging society in 2000 after which the pace of aging also began to accelerate. The percentage of China's population over 65 reached 8.87% in 2010 and increased by 1.87 percent annually from 2000 to 2010. The average age of China's population was 30.8 years in 2000 and 35.2 years in 2010, an increase of 4.4 years from 2000 to 2010.

Relative to the pace of aging of the global population, the pace of South Korea's and China's aging process is moving forward rapidly. In 2000, the number of persons over 65 in South Korea was nearly 3 percent higher than that of China. In 2010, South Korea's per capita GDP reached to \$20,757; while China's per capita GDP was only \$4,393. In some international comparisons, the rate of aging was 7.6% which is the same as China's in 2005. However, a comparison of the income level when a country became an aging society reveals confirms what was said before. surprising fact: USA's per capita GDP was \$15,538 (1943); Japan's GDP was \$14,900 (1972); and South Korean GDP was \$10,654 (2001), while China's figure was only \$1 731 (2005). It can be seen that China was still a low-income country when it entered into the aging society.

2.2.3 The comparison of the aging trends between South Korea and China

To South Korea, the level of population aging is not high currently, but the speed of population aging will become faster in the future. According to the future population projections published by the Statistical Office, South Korea's population growth rate has been declining, and it will enter into negative growth in 2023. South Korea's total population will exceed 50 million in 2013, and peak at 50,683 thousand in 2023, then decrease gradually, and shrinking to 44,337 thousand after 2050, as shown in Table 5. Accordingly, the percentage of the population over 65 years of age will reach 14% in 2019, 19.1% in 2025, above 30% in 2040. The proportion of persons aged 65 and over will reach to 34.4% in 2050, a full third of the total population of South Korea.

		(Unit: 1000 persons)
Countr	y CHN	KOR
2000	1275215	47008
2005	1322273	48461
2010	1364875	49594
2015	1402321	50352
2020	1429473	50650
2025	1445100	50649
2030	1450521	50296
2035	1448112	49484
2040	1438933	48204
2045	1421133	46471
2050	1395182	44337

Table 5. South Korea and China's Future Population, 2000-2050

Source: UN (2007), World Population Prospects (The 2006 Revision), New York.

The speed of aging of the South Korean population is much higher than that of other developed countries. It took only 18 years for the ratio of senior citizens to increase from 7 to 14 percent in South Korea. It is an incredibly short time relative to developed countries, as it took 115 years in France, 73 years in the USA, and 24 years in Japan. Also, it will take only 8 years for percentage of senior citizens to grow from the present 14 percent to 20 percent (The ratio is expected to jump to 14.3 percent in 2018 and rise further to 20.8 percent in 2026), while it took 39 years in France and 21 years in the USA.

From the perspective of average age of population, as shown in Table 6, the average age of South Korea's population will be 41.4 years when it enters the ranks of aging societies. When South Korea becomes a super-aging society in 2026, the average age of its population will be 44.2 years. In 2050, the average age will reach 51 years.

To China, the country's population continues to grow under the effect of the huge population inertia, and will reach its maximum at 1.45 billion in 2030, after then, the population will enter into a negative growth. Accordingly, China's labor-age population also continues to increase during the period between 2000 and 2020, and will peak at around 1000 million, and then start to decrease, shrinking to 860 million in 2050. The proportion of China's labor-age population will peak at about 72% of the total population around 2015, and then begin to decline and until its percentage drops to 61% after 2050.

As for the size and the level of aging population, China's elderly population over 65 will reach 176 million in 2020, 249 million in 2030, 338 million in 2040, and 354 million in 2050. The percentage of the population over 65 will be 11.7% in 2020, 16% in 2030, 21.8% in 2040, 22.9% in 2050, which is much higher than that of the world average level (16.2%). In terms of the average age of population, the average age of the Chinese population will exceed 37 years in 2020. In 2030, it rise above 40 years, and reach 42 years in 2050. China is still a developing country, but it will likely take only 25 years for the percentage of the population aged over 65 to increase from 7 to 14%, and it will likely take

less than 10 years for this country to go from a moderate aging society to a highly aging society. Also, aging of China's population aging will progress very quickly.

(Unit: %)

						( )
Country	Age	ed 0-14	Aged	15-64	Aged 65	and Over
Year	CHN	KOR	CHN	KOR	CHN	KOR
2010	19.83	16.80	71.20	71.80	8.87	11.30
2015	19.40	15.30	71.30	72.10	9.40	12.60
2020	18.80	13.90	69.50	71.00	11.70	15.10
2025	18.10	13.00	68.50	67.90	13.40	19.10
2030	17.20	12.40	66.80	64.60	16.00	23.10
2035	16.50	12.00	64.20	61.40	19.30	26.70
2040	16.20	11.50	62.00	58.40	21.80	30.10
2045	16.20	10.90	61.60	56.70	22.40	32.40
2050	16.10	10.50	61.00	55.10	22.90	34.40

Table 6. The Age Composition of Population in South Korea and China, 1910-2050

Source: UN (2007), World Population Prospects (The 2006 Revision), New York.

However, there are many similarities along with differences in population aging between South Korea and China.

Firstly, both populations are aging very fast; and much faster in South Korea than China. The aging in South Korea increased at an average annual rate of 0.56% during the period 2010-2050, while the rate in China was 0.34% during the same period of time.

Secondly, along with the aging of the population between the two countries, both the elderly population and the working-age population are getting older. There is a general rising trend in the average age of the working-age population and the median age of the entire population. In the next ten years, the number of new entrants will begin its downward trend. According to research projections, new entries will decline 4% -5% per year in South Korea and China.

Thirdly, rapid changes in the age composition of the population is not only

reflected in the entire population and in different age groups but also reflected in different areas (urban and rural, regional). Both the aging process in both South Korea and China are very complicated. The process is influenced not only by the natural population change (births and deaths level) but also by migration. As the migration flows with a strong selection, young people are more likely to migrate. Currently, South Korea's urbanization process has been completed, with its urbanization rate at 82% in 2010. China is just now entering into the stage of rapid urbanization. In 2010, the level of urbanization of China was nearly 50%. In the future, the migration from rural to urban regions will become the main form of China's population migration. The migration will lead to an even more rapid increase of urbanization, meaning China's rural population will be aging much faster than the urban population.

#### 2.3 The Reasons of South Korea and China's Population Aging

Population aging is a phenomenon concomitant with declines in fertility, the improvement of life expectancy and the rise of median age of the population. Fertility, mortality and age composition are the main factors which determine the pace of change of population age composition. Other factors, such as sex ratio at birth, migration and urbanization, influence aging by impacting on fertility and mortality.

# 2.3.1 The decline of the TFR

Based on theories on populations, the decline of fertility is the dominant factor in terms of how they age (Preston *et al.* 2001). The decline in fertility reduces the number of young persons directly, which would mean fewer minors as a proportion of the population, and this will increase the median age of the entire population and thus expand the relative proportion of the elderly.

The demographic indicator that measures the level of fertility is the fertility

rate which is calculated by the number of live births to women of a particular age. The general fertility rate can reflect the level of fertility of all women in childbearing age; however, in order to analyze the fertility in-depth, we must first assess the total fertility rate. Total fertility rate (TFR) is the average number of births that a woman of a certain age group (15-49) will have during her lifetime. The total fertility rate often involves in the concept of population replacement level. The population replacement level is basically birth rate to maintain a population. In demography, when the TFR is 2.1, that is to say that a woman in childbearing age gives birth to 2.1 children in her average lifetime (in accordance with the sex ratio at birth, mother and daughter at this time is basically the same number of generations), then population is reproducing at the replacement level. Essentially, the population retains its size and the population growth becomes zero and completely stationary. If the TFR is lower than 2.1, it is considered that the population has a low replacement level by reproduction (the number of population in daughter generation is less than the previous generation). If the reproduction rate of the population is lower than its rate of replacement, it tends to reduce the level of reproduction. Also, if population reproduction is higher than the replacement level of the population, it tends to increase the size of the reproduction.

The changes in the TFR have an immediate impact and lag effect on aging. If there is a sudden increase in the number of births, it can immediately alleviate population aging. That is to say, greater the increase in proportion, greater the impact on the population aging. The population birthed in this cohort decreases the social dependency ratio after 15 or 20 years, because of the queue to enter the reproductive age population usually requires 20 years. In this period of time, this queue population and their children are all at working age, so this can greatly slow the pace of aging after 35 or 40 years. When the queue enters into old age, it will create an upward trend in aging for those 60 years and older.

South Korea is a country that experienced rapid population change in a short period, as shown in Figure 4. During the period of descending birthrates, the policy of population control in 1962 is very important (Kim 1987). In the 1960s, South

Korea began its rapid economic development. It was not until 1962 that the government sounded the alarm stating that the rapidly increasing population was undermining economic growth, so the government engaged in a nationwide family planning program. Other factors that contributed to a slowdown in population growth included urbanization, later marriage ages for men and women, higher education levels, a greater number of women in the labor force, and better health standards. During the period from 1962 to 1967, the gross national product (GNP) grew at an annual rate of 7.0%. Since then, the Korean economy had consistently grown at a high rate. Family planning succeeded in reducing population growth. According to Chung (1998), the Korean population is apparently aging faster than that of developed countries. In that period, the TFR had reached to the level of 6.00 in 1960, and then it declined continuously, 4.5 in 1970, and 2.8 in 1980.





Note: HIC is high-income countries, LIC is low-income countries, MIC is middle-income countries, WLD is world average level.

Korea is faced with a rapidly aging society as well as low birth rates. The TFR decreased to the bare replacement level in 1984 and has remained below the replacement level since (Cho and Byun 1998). The fertility rate dipping below the replacement level of 2.1 births per female triggered a national alarm. The South

Korean government has prioritized the issue on its agenda, promising to enact social reforms that will encourage women to have children, but without positive results. South Korea's TFR decreased to 1.74 in 1995, 1.17 in 2002. The average for the member countries of the OECD currently stands at 1.7 in 2002.

Year	1970	1980	1990	2000	2002	2003
South Korea	4.53	2.83	1.59	1.47	1.17	1.19
Japan	2.13	1.75	1.54	1.41	1.32	1.29
France	2.47	1.95	1.78	1.88	1.88	-
Germany	2.03	1.56	1.45	1.36	1.40	-
Britain	2.43	1.90	1.83	1.64	1.65	1.73
Italy	2.42	1.64	1.33	1.24	1.26	-
Spain	2.90	2.20	1.36	1.23	1.25	-
Sweden	1.92	1.68	2.13	1.54	1.65	-
Norway	2.50	1.72	1.93	1.85	1.75	-
Czech Republic	1.91	2.10	1.89	1.14	1.17	-
Finland	2.20	2.28	2.04	1.34	1.24	-
USA	2.48	1.84	2.08	2.06	2.01	-
Australia	2.86	1.90	1.91	1.75	1.75	-

Table 7. Part of the Countries' Total Fertilized Rate (TFR), 1970-2003

Source: KOSIS (2004).

In the 21st century, the trend of eschewing children has intensified in South Korea, as the fertility rate dropped to 1.08 in 2005, the lowest in the world. The birth rate and the rate of population increase is approaching a low point and South Korea now faces the problem of population aging, as shown in Figure 5. Many people worry that an aging South Korea will mean a loss of the engine for its future growth.

In 2005, the South Korean government introduced the "123" policy to encourage women to give birth to three children or more, by providing care for every third or fourth child. In the end of 2005, South Korean government announced the its official "integrated approach to low fertility." In 2006, South Korea enacted the "the basic plan for low fertility and aging," and put forward the fertility rate target of 1.6 for the year 2020, which is the mean rate for the OECD. In 2007, the South Korean government decided to carry out the "free birth" policy from 2008. South Korean Health and Welfare Ministry announced the national blueprint for the 2030 health investment strategy; it announced that the government is responsible for all medical expenses incurred in childbearing, from conception to delivery.

Under this strategy, pregnant women can enjoy free medical services. In addition, the South Korean government also decided to give pregnant women manuals and coupons, basically providing free prenatal education, sports and nutritional supplements and other forms of maternity support. To reduce medical expenses related to infants, the South Korean government will expand subsidies for infant vaccination, promote school health improvement and plans to strengthen the physical conditions of children and youth by improving school meals, etc.





Note: HIC is high-income countries, LIC is low-income countries, MIC is middle-income countries, WLD is world average level.

But the TFR still fell to 1.08 in 2005 before starting to rebound in 2010. In 2010, the TFR only rose to 1.22. This proves that South Korea has run into the "low fertility trap". Today, because of the high cost of raising children, even with a variety of government subsidies and incentives, the majority of the households do not want to give birth to a second child.

As for China, "family planning" should not be taken as synonymous with one-child policy. The specific content of family planning policy is different for different historical periods, different regions and different cultural traditions. The early family planning policy did not limit each couple to only one child, but was marked by a "late and less" slogan that called for younger and fewer children. It was not until the early 1980s that the one-child policy was introduced under the slogan "only one child per couple". Demographic data shows that China had a TFR of 6.45in 1968, when the family planning policy was implemented, with China's TFR decreasing rapidly thereafter. After 1983, China's TFR has been stabilized at a lower level around 1.8.

Low fertility would eventually bring about a decline in the size of the population and the quantity of the population of working age, as well as various socioeconomic problems. Under the current circumstances, the TFR will be the major factor which will affect the future structure of South Korean and Chinese populations.

#### 2.3.2 The reduction in mortality

Compared with the birth rate, the impact of the death rate on the aging of the population is rather modest (Peng Du 1992). According to demographic theories, a uniform change in the probability of death in all age groups and certain age groups will not lead to a sudden dramatic increase or decrease in the size of the population (Preston *et al.* 2001). The only area the probability of death changes has a great impact is on the age structure. Improving the nutritional status and paying attention to public health can progressively extend the average life

expectancy of the entire population, and lead to growth of the aging population.

In 1963, South Korea's average life expectancy was 53 years, with drastic declines in the mortality level since. The average life expectancy was 71.7 years in 1991, 76.5 years in 2001, 80.3 years in 2009. South Korea has already experienced large declines in fertility and mortality, and thus has built significant inertia towards further population aging (Kim 1999). This also shows that South Korea's average life expectancy will continue to extend and is expected to reach to 80.7 years in 2020, reach to 83.0 years in 2050.

In China, the average life expectancy was 67.3 years in 1981, 69.7 years in 1991, 71.4 years in 2001, and 73.1 years in 2009. This also shows that China's average life expectancy will continue to rise but the growth rate would be lower than that of South Korea. The main reasons for the increase in life expectancy are largely due to the decline in mortality in the future which will greater numbers of the elderly as a proportion of the total population. However, the growth rate is much smaller than changes in fertility.

2.3.3 The enhancement of urbanization

In general, urbanization affects the degree of aging by changing people's reproductive behavior and mortality levels. There is a big age-selection with respect to population migration as rural youth is more likely to migrate to cities and towns. So, the change in the degree of population aging in urban and rural areas is actually different. During the process of urbanization, rural residents who migrate to urban areas gradually adapt and accept the urban lifestyle, culture, material standard of living and health conditions. Therefore, the new migrants' attitudes on fertility and behavior will undergo change in urban areas. Urbanization of the population will also change the spatial distribution of population aging. In general, during the process of urbanization, much of the working-age population in rural areas migrates to cities. This will slow down the pace of aging among urban populations, but seriously aggravate aging of the rural population, and lead to more severe

population aging in rural areas than in urban ones.

2.3.4 The alteration of the sex ratio at birth

The sex ratio at birth has a more complicated effect on aging. More specifically, it affects the aging by affecting the future population size and total life expectancy. In the case where fertility rates are the same, high sex ratio at birth means that a relatively small number of girls. So when they grow up, the number of women of childbearing age would be relatively small. With the same fertility in the future, this will reduce the size of the birth population thereby increasing population aging. In addition, since there are some differences in patterns and levels of the death between men and women, high sex ratio at birth will affect the population's gender ratio. The average life expectancy of women is longer than that of men, so the high sex ratio at birth will lead to a reduction of the total elderly population, and mitigate the aging of the population.

# 2.4 The Impact of the Population Aging to South Korea and China

# 2.4.1 The reduction of the working population

An aging population will mean a reduction of the labor force and a corresponding increase of the non-working population. Population aging has affected the size and proportion of the working age population - the size of the working age population in South Korea has increased consistently and is projected to increase until 2020, and then decrease (Chang and others 1996). In South Korea, the proportion of the labor force vis-à-vis the total population was 71.8% in 2010. It will drop to 71% in 2020, 64.6% in 2030, 58.4% in 2040, and 55.1% in 2050. Similarly, in China, the percentage of the labor force in the total population was 71.2% in 2010, and it will reduce to 69.5% in 2020, 66.8% in 2030, 62% in 2040, 61% by 2050.

The OECD includes all persons from 15 to 64 years old in its definition

of the labor force, while the core labor force is defined as a segment of the population from 25 to 49 years of age because they are more active in economic activity. It means that if this part declines in number, there will be a sharp reduction in labor input and production efficiency, which will affect economic growth. Out of South Korea's total population, the core labor force decreased from 42.3% in 2005 to 40.7% in 2010. A decrease in the core workforce will result in decreased consumption, and it also means that economic growth will decline. With the decline in fertility rates, the size of the younger population will also shrink, and the proportion of employed young persons will also shrink.

In contrast, the labor force over 50 years of age will continue to increase, to about 25% in 2010 and about 40% in 2050. In other words, the working population (25-49 years old) represents about 60% of the total population in 2010; with the working population over 50 years of age is only 20%. By 2050, the working population over 50 years of age will increase to 40%, and the aging of the workforce will become much more serious.

Such structural changes in the labor market will lead to an aging workforce and the extension of the retirement age. The UNPD (2000) predicts that the working age population in South Korea would decrease by 6.4 million from 1995 to 2050. According to the IMF (2004) survey, if South Korea wants to maintain the current level of labor supply in 2050, it must raise the retirement age by 11 years. In addition, Japan has to extend its retirement age by 12 years, while the United States and the United Kingdom have to extend the retirement age by only 3 years; the reason is that the United States and the United Kingdom has sustained policy of immigration. Based on the IMF analysis, if current fertility rates remain unchanged in 2050, South Korea will need immigrants to fill this vacancy of about 35% in order to maintain the current levels of labor supply. As a researcher predicts , South Korea would need a total of 6.4 million immigrants between 2020 and 2050 in order to maintain the size of the working age population at its maximum of 36.6 million in 2020, and it would be necessary to attract 1.5 million in net immigrants between 2035 and 2050 (Kim 1999).

#### 2.4.2 Economic growth will be slow down

In the view of economic growth, population aging reflects not only upon labor supply but also on capital accumulation. In fact, the effect of population aging on capital accumulation is comparatively more important than other factors.

According to the life cycle theory, people in their childhood and youth are interested in health and educational investments; the youth depend on the ability to supply their labor and savings, while the elderly depend on health insurance and pension income, so people in different age groups have different income and consumption patterns. Moreover, the reduction of labor input will directly lead to declines in production, and then lead to increased burden of raising the population. In addition, it will lead to a low fertility rate which has a negative effect on capital accumulation and plays a direct or indirect influence on economic growth.

The data from Japan and Italy which have huge elderly populations confirm the above-mentioned conclusions. In 1970, the percentage of the Japanese population aged 65 and over was 7%, which rose to 21.4% in 2008, an increasing of 14.4 percent during this period of time. From 1970 to 2008, Japan's national savings rate decreased from 40% to 23.5%, just as the consumption rate increased from 58.7% to 76.3%. This shows that the savings rate decreased by 16.5 percent, but the consumption rate increased by 17.6 percent over the same period. At the same time, Japan's economic growth slowed down significantly. In the 1970s, the average annual economic growth rate of Japan was 6.4%. Since the beginning of the 21st century, the same rate for Japan fell to 1.5%. A simultaneous analysis of data from Italy led us to similar conclusions concerning the country.

According to Heng Biao Wen & Stone Kim's (2004) analysis, if low birth rates in South Korea persist, its potential GDP growth in 2020 will be 3.6%, 2.3% in 2030, and 1.4% in 2040. According to Qihao Jin (2005), South Korea's annual average GDP growth rate will be 2% during 2030 and 2050, a drop-off of 3% compared with the average 5% economic growth from 2000 to 2005. Therefore,

population aging will be the central factor in slowed economic growth.

# 2.4.3 The increase of labor cost

A possible consequence is that the incentive for investors to invest in South Korea China will be weakened. Investors might shift their investment to countries like Vietnam and with overabundance of cheaper and younger labor. If employers in South Korea and China want to maintain business operations at present levels, they will need to accept the higher costs required to retrain or upgrade the skills of middle-age workers. In addition, healthcare rise, so the government needs to set aside more money to maintain a good healthcare system in order to cater to the elderly.

#### 2.4.4 Effects to pension and financial system stability

Pension is another serious issue and a consequence of population aging. Population aging has a potential impact on future pension and financial systems, and will even increase the risk of instability in the system. Aging of the population tend to enlarge pension assets (such as pension and savings deposits of social security funds, etc.), and thus increase total financial assets. Thus, inflation, interest rate fluctuations as well as other factors such as the financial crisis will directly affect the value of pension assets.

Aging of the population increases the proportion of expenditure for the elderly population. The pension money paid by companies also increase, so that old-age social security funds become enlarged. In 2030, when retirement rates reach their peaks in South Korea and China, more money will have to be paid in order to fulfill the need of social security pensions. If the state finance allocates less money to pension funds, the pension funds will decrease, and then the financial situation will be worse. Chung (1998) predicts that if the national pension system in Korea continues to operate under the current system, the reserve fund will be exhausted by 2033.

# 2.5 The Simulation Analysis of Factors Affect South Korea and China's Population Aging

In this approach, we utilize the logarithmic regression equation analysis model based on cross-sectional data for the period between 1960 and 2009 in order to analyze the effects of aging. We select the total fertility rate, per capita GDP, life expectancy, level of urbanization as independent variables, and establish the degree of aging as the dependent variable to establish the equation.

Each quantitative variable is converted into natural logarithms to express elasticity. The variables used in the models are defined in Table 8.

Variables	Definition
PGDP	Per capita real GDP (PPP US dollar of 2000)
TFR	the total fertility rate
LIFE	life expectancy
URBAN	level of urbanization

Table 8. Definitions of Variables on the Determinants of Population Aging

The following is the full model used in the analysis:

#### $lnAGED_t = c + a_{1t}lnPGDP_t + a_{2t}lnTFR_t + a_{3t}lnLIFE_t + a_{4t}lnURBAN_t + e_t$

The results show that all of the selected variables are significant in the regression model, which means that all changes that occur in these variables will bring about changes in population aging.

# 2.5.1 The effects based on TFR

The regression equation between South Korea and China has shown that if the other conditions are unchanged, the TFR becomes a significant factor that can explain changes in the aging level. Increased fertility rate will bring about younger population age structure, while decline in TFR will lead to aging. The regression equation for China shows that if the TFR drops 0.33%, the aging level will increase by 1%, as shown in Table 9. The regression equation for South Korea shows that if the TFR drops 0.45%, the aging level will increase by 1%. Therefore, the development of aging process can be attributed mostly to changes in the fertility rate, as shown in Table 10. Meanwhile, changes in the fertility rate have both immediate impacts and the long-term effects. Declining fertility will directly reduce the children population and increase the proportion of the elderly.

# 2.5.2 The effects based on urbanization

Urbanization affects population aging mainly through its impact on fertility and mortality, thus the effects are indirect. The urban population can delay childbearing and reduce fertility expectations which lead to a decline in the fertility rate. At the same time, changes in the urban population's living conditions and habits will cause the mortality rate to decrease. In theory, if other conditions remain unchanged, the rise in urbanization will increase the aging level. The regression equation for China shows that if urbanization increases 0.1%, aging will increase by 1%, as shown in Table 9. The urbanization of South Korea was accomplished in a short time, as the regression equation shows that impacts of changes in its urbanization to aging is not significant.

#### 2.5.3 The effects based on life expectancy

In theory, life expectancy will increase the amount and proportion of the elderly population. As we see in the model, the impact of China's life expectancy on aging is not significant. South Korea's regression equation shows that if life expectancy increases by 4.7%, the aging will increase 1%, as shown in Table 10. In fact, this change is also consistent with South Korea and China's life expectancy. The average life expectancy in South Korea was 80.3 years in 2009, increasing 14.1 years compared with that of 1981. The average life expectancy

in China was 73.1 years in 2009, increasing only 5.8 years older compared with 67.3 years in 1981. Through these observations, China's per capita growth rate in life expectancy is significantly lower than that of South Korea, so the effects on aging are not as significant as that of South Korea.

#### 2.5.4 The effects based on GDP per capita

International experience shows that the aging of developed countries was significantly higher than that of developing countries, and much higher than that of low-income countries. Therefore, with the increase of per capita GDP, life expectancy will gradually go up, while the mortality rate will decline, and this will inevitably heighten the population's aging level. The regression equation of China shows that if per capita GDP goes up 0.058%, the aging rate will go up 1%, as shown in Table 9. The regression equation of South Korea shows that if per capita GDP goes up 0.32%, the aging rate will go up 1%, as shown in Table 10.

Dependent Variable: LnAGED			Country: CHN	
Method: Least Squares			Sample: 1960 2009	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	1.360229	0.105365	12.90973	0.0000
LnPGDP	0.058491	0.012763	4.582891	0.0000
LnTFR	-0.325212	0.017647	-18.42870	0.0000
LnURBAN	0.104058	0.044837	2.320807	0.0248
R-squared	0.991826	Mean dependent var		1.686736
Adjusted R-squared	0.991293	S.D. dependent var		0.247479
S.E. of regression	0.023093	Akaike info criterion		-4.621984
Sum squared resid	0.024531	Schwarz criterion		-4.469022
Log likelihood	119.5496	Hannan-Quinn criter.		-4.563735
F-statistic	1860.531	Durbin-Watson stat		0.201671
Prob(F-statistic)	0.000000			

Table 9. Results from the Regression Equation of Population Aging in China

Dependent Variable: LnAG	Country: KOR			
Method: Least Squares			Sample: 1960 2009	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-8.124399	1.589797	-5.110339	0.0000
LnLIFE	4.691116	0.429140	10.93143	0.0000
LnTFR	-0.450063	0.082846	-5.432494	0.0000
LnPGDP	0.322930	0.032447	9.952564	0.0000
R-squared	0.975776	Mean dependent var		1.582382
Adjusted R-squared	0.973623	S.D. dependent var		0.374934
S.E. of regression	0.060893	Akaike info criterion		-2.664761
Sum squared resid	0.166857	Schwarz criterion		-2.473559
Log likelihood	71.61903	Hannan-Quinn criter.		-2.591950
F-statistic	453.1713	Durbin-Watson stat		0.693241
Prob(F-statistic)	0.000000			

Table10. Results from the Regression Equation of Population Aging in South Korea

In the above-mentioned factors, although there is a big difference between South Korea and China's per capita GDP and urbanization level, especially in China, where there is still much room for improvement. But to both South Korea and China, the common factor that affects the two nations' aging is the total fertility rate. Also, some studies in China have shown that when total fertility rate reaches 2.1(the replacement level) it will have a significant impact on the future of China's aging. If China postpones the deadline for fertility rate recovery from 2012 to 2028 (zero population growth year), aging will become even more serious in the future, and the elderly population's peek will increase 2.1%. In other words, the two countries should stabilize the replacement fertility rate at 2.1, and sooner the better.

# 2.6 Policy Options of South Korea and China's Population Aging

According to the experience of western countries, once a region enters the

'aging' stage, it will require a long-term effort to reverse the aging process. Even when the entire country enters the aging stage, there will be differences between certain regions. Some areas that come to possess an 'aging' population may have a high degree of aging, but the population structure of some areas will be still young, so they have no need to worry about the aging, as they average out. However, once the whole country or region (a country or region in each section) enters into an aging society, the speed of aging will gain powerful inertia, making it difficult for the state in the short term or with a smaller force to slow down or reverse the aging process.

On the basis of existing population structure, the basic trend of population aging in South Korea and China is irreversible, but the level of fertility chosen can work to exacerbate or alleviate the process of population aging. The most important factor that affects aging in these two countries is the rapid decline in fertility. Therefore, these two countries' aging population could be mitigated in the future. At that time, the adjustment of the fertility rate will become the main policy response.

#### 2.7. Policy of Fertility Adjustment

South Korea and China must try to avoid or mitigate the rapid aging of the population which will negatively impact the sustainable socio-economic development at the national level. Also, these two countries must ready an adequate labor force to ensure long-term sustainable development in the future.

For South Korea, it is necessary to initiate the policy response to low fertility in order to maintain a long-term economic growth. South Korea has recognized the seriousness of this problem and has taken various measures to encourage new births, without much success. It shows that it is difficult to return to the replacement level when the fertility rates drop very low.

Currently, it is expensive for South Korean households to raise children.

Therefore, the country shall continue to reduce the cost of education and the housing prices, and extend maternity and other family welfare policies in order to improve low fertility. Meanwhile, the country shall carry out policies of expanding the employment of women.

As for China, the population policy requires a change from a one-child to a two-child policy and then to more aggressive pro-natal policy. These changes need to be pushed ahead gradually given the huge population base. Currently, China can start from two-child families who can have two children, and gradually target childless marriages so they can have two children, and finally shift to all couples being able to have two children. This shift should start around 2020, as it will lose the advantageous opportunity otherwise. Fertility recoveries can ease aging peaks in the future. Studies have shown that if the fertility rate in the next few years rises to 1.96, it can decrease the elderly population by above 2.3% in the future. If the fertility rises in the near future, the proportion of elderly population in China will be higher in the mid-century (Zhigang Guo 2008).

#### 2.7.2 Raising the retirement age

Population aging is an inevitable process of demographic transition. So, with the extension of the life expectancy, nations will inevitably become aging societies. Aging is inevitable, but if we create suitable policies, perhaps the prospect of an aging society may not be so pessimistic. In order to reduce the burden of an aging population, some countries are actively promoting the extension of the retirement age. Since 2003, France, Germany, Italy, Britain and other countries have issued a program to extend the retirement age. Now Germany's retirement age is 65 years of age, and 70 in the UK. This indicates a general trend of lengthening of the retirement age. At present, Shanghai also attempted to institute a flexible retirement system. Raising the retirement age can ease not only the economic burden of old age but also the burden for labor support.

Prediction shows that the proportion of South Korea and China's population
of between the ages of 15-64 of the total population will drop to 69-71% by 2020. Labor supply and demand will obviously experience more tension which will significantly strengthen the demand for labor. The contradiction between labor supply and demand will become more apparent. Because labor supply will become a significant binding factor, it would be very necessary to increase the labor supply. Certain research in South Korea show about 65 percent of the employees working in the private industries and retired at the age of 55 years (Yoo 1999). According to a national survey (Rhee and others 1994), most of South Korea's elderly (79.9%) want to remain in the workplace as long as possible, and 24.8 percent of the elderly respondents believe that the existing compulsory retirement system should be abolished. Prolonging the retirement age may be thus indispensable not only for the welfare of the elderly but also for supplementing the labor shortage due to population decline (Kim 1999).

Raising the retirement age needs some transition and adjustment period, so South Korea and China should consider raising the retirement age in 2020. On the one hand, we know that it may be difficult to set a certain age as the appropriate age, but the retirement age should be flexible depending upon the health and ability of the elderly; on the other hand, extending the retirement age may be a gradual approach, the state should firstly set male and female retirement at the same age, and then extend it gradually. It means that a flexible retirement plan should be adopted in order to link the pension and retirement benefits, and it also means that a corresponding reduction in pension benefits to early retirees should be carried out.

### 2.7.3 Play the positive role of community care

The developed countries always use the aging-related public policy system and institutional arrangements to deal with the aging issue before the aging trend accelerates. There is a much discrepancy in the formation and development processes in different social security system. Because of differences among political system, level of economic development and socio-cultural backgrounds, the policy orientation, system design, operation mechanism are different; in addition to distinctive patterns among old-age security systems.

In terms of old-age security, due to a relatively complete old-age security system, the western countries generally opt for old-age societies. Obviously, the old-age society is also the likely trend for South Korea and China in the future. Affected by traditional Chinese Confucian thinking, more elderly and older persons choose to be cared in their own communities. The community will provide a comprehensive and multi-level old-age security services and the elderly need not leave their familiar lives. The community care mode is a useful mode to old-age security. Community homes should include recreational centers and hospitals where they can draw, read books, play ball-games and set up discussion groups. It should be a place to empower senior citizens. For this mode, a greater proportion of the national budget should go towards serving the aging population, namely by building more infrastructures and improving service in the community. The government should encourage insurance companies in providing services for the community and should also offer policy incentives such as tax reduction for community services.

# 2.7.4 Creation of employment condition

In the long run, an aging population will inevitably lead to relative and even absolute declines in labor input. Therefore, in addition to improving technological progress and capital accumulation, it is also very important to focus on taking full advantage of women and the elderly population.

Firstly, in order to solve the labor shortage in the future, South Korea and China must provide more opportunities for female participation in the labor market. To facilitate the female labor force participation, the government should set up a better infrastructure and environment for female workers. These should include not only equal opportunities for both sexes, but also provisions such as child care facilities, etc.

Secondly, the government should play a positive role for the elderly employees. There is a long-term and systematic character for working-age employees, but the elderly population tend to be concentrated in relatively short-term, temporary employmen. In fact, in many cases, the employment of older people can make up the insufficiencies in labor-age population in employment, that is, to make up for labor-age population employment vacancies. To a large extent, the employment of the elderly population and the working-age population are complementary. In reality, many elderly persons work only for psychological fulfillment needs rather than economic interests. In addition, the elderly population can help young workers to improve their labor skill. This does not only improve the ability in the workplace but also reduce labor training costs. So, South Korea and China need to establish the mechanisms for the elderly population who are willing to act as volunteers.

Third, in relation to the drastic decline of the labor force, adopting a new immigration policy which accepts a significant number of immigrants into South Korea and China may be inapplicable for the time being. However, in the long run, a new immigration policy would be indispensable if limits related to replacement fertility persist in South Korea.

# 3. Conclusions

South Korea and China have been aging societies since 2000. In 2010, the proportion of their respective populations aged over 65 reached 11.3% in South Korea and 8.87% in China's. Aging in the two countries have been accelerating, and South Korea's is aging faster than China. But there is a big difference between the aging processes of South Korea and China. China's aging process is happening despite its inadequate social and economic development, showing what can be

described as "getting old before getting rich," a unique characteristic in comparison with South Korea.

The level of population aging may not be very high currently in both South Korea and China, but the speed of population aging will become faster in the future. In 2050, the proportion of South Korean and the Chinese population aged over 65 will reach to 33.4% and 22.9% respectively. This is far higher than that of the world average (16.2%) in 2050.

Fertility, mortality and age structure of the existing population are the main factors which determined the changes of population age structure. Other factors, such as sex ratio at birth, migration and urbanization will all influence aging through the impact on fertility and mortality. In 2010, South Korea and China's TFR was only 1.22 and 1.8, all below the replacement level of 2.1. This proves that the two countries have been caught in a "low fertility trap".

We utilized the logarithmic regression equation analysis model to analyze the effects of aging based on cross-sectional data during the period from 1960 to 2009. The result shows that with other conditions staying the same, the TFR is the most significant factor that can explain the changes of the aging level.

The trends of population aging make great impact on these two countries' economy, labor force and social security. On the basis of the existing population structure, the basic trend of population aging in South Korea and China is irreversible; choices made regarding the level of fertility could either exacerbate or alleviate the process of population aging. The most important factor in aging is, again, the rapid fertility decline in these two countries. Therefore, if population aging in these two countries aging population is to be mitigated in the future, the main countermeasure should involve adjustment of fertility rates. Other policies, such as raising the retirement age, would also have a positive impact on community care and create employment conditions that can also alleviate the process of population aging.

# Reference

- Bongaarts, John. 2002. "The End of Fertility Transition in the Developed World." *Population and Development Review*, 28.
- Cho, Nam-Hoon and Young-Chan Byun. 1998. "New Challenges of Population Policy Development in Korea. Paper presented at International Symposium on Population and Development Policies in Low Fertility Countries. Korean Institute of Health and Social Affairs.
- Chung, Kyunghee and others. 1998. "National Survey of Living Conditions and Welfare Needs of Older Persons." Seoul: Korean Institute of Health and Social Affairs.
- IMF. 2004. 9. World Economic Outlook.
- Qihao, Jin. 2005. *Population Aging on Economic Growth*. Bank of Korea Economic Research Institute of Finance.
- Li, Jun. 2005. The Economic Effects of Aging Population. China: Social Sciences Documentation Publishing House.
- Li, Yinheng. 2007. Population Studies on the Population Structure of the Republic of Korea upon Economic and Social Development. *China: Jilin people's Publishing House.*
- Kim, Ik Ki. 1987. Socioeconomic Development and Fertility Behavior in Korea. Population And Development Studies Center. Seoul National University.
- Kim, Ik Ki. 1999. "Population Aging in Korea: Social Problems and Solutions." *Journal* of Sociology and Social Welfare, Vol. 24, No. 1.
- Mason, Andrew and Ronald Lee. 2004. "Reform and Support Systems for the Elderly in Developing Countries: Capturing the Second Demographic Dividend1 International Seminar on the Demographic Window and Healthy Aging: Socioeconomic Challenges and Opportunities." China Centre for Economic Research, Peking University, Beijing.
- Morgan, S.P. and M. G. Taylor. 2006. "Low Fertility at the Turn of the Twenty-first Century." *Annual Review of Sociology*, 32.

- Du, Peng. 1994. *Study of China's Population Aging Process*. RenMin University Press of China.
- Preston, Heuveline, Guillot. 2001. *Demography: Measuring and Modeling Population Processes.* Blackwell Publishers Ltd.
- Rhee, Ka Oak and others. 1994. Analysis of Life Conditions of the Elderly and Policy Questions. Seoul: Korean Institute of Health and Social Affairs. (in Korean)
- United Nations. 1956. The Aging of Population and Its Economic and Social Implications. New York.
  - \_\_\_\_\_. 1973. The Determinants and Consequences of Population Trends. New York.
    - \_\_\_\_\_. 2007. World Population Prospects (The 2006 Revision). New York.
- United Nations Population Division. 2000. *Replacement Migration: Is It a Solution to Declining and Ageing Populations?* (March)
- Biao, Wen Heng Kim Stone. 2004. An Aging Population and Macroeconomic. KDI. (December)
- World Bank. Database. http://www.worldbank.org.
- Moon, XiongBiao. 2008. "South Korea's Status and Pension System Reform." Contemporary World and Socialism, Vol. 6. China.
- Yoo, Seong-Ho. 1999. The Economic Status of the Aged and Income Security Programs for the Aged in Korea. Aging in Korea: Today and Tomorrow.
- Kim, YuanMing. 2011. Korean Social Security. China Labor and Social Security Publishing House.
- Guo, Zhigang. 2011. "China's Low Birth Rate and its Impact Factors." Population Studies, 2008 (4). China.
- Jin, Zhongfan. 2011. Korean Social Security System. People's Publishing House of Shanghai, China.

# Value Premium and Institutional Ownership in Chinese Stock

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# 1. Introduction

The mainland Chinese stock markets are often perceived as "casinos driven by fast money flows in and out of stocks with little regard for their underlying value" (*Wall Street Journal* August 22 2001). Additionally, the segmentation of the markets, the predominance of individual investors in these markets, and the introduction of stock market reforms make the Chinese stock market a natural and unique candidate for testing whether individual investors drive value premium.

This paper examines the association between the percentage of institutional ownership and the significance of value premium in Chinese stock markets. Our results suggest that the value premium does exist in Chinese markets for the period from 1994-2010. Moreover, there is a significantly negative relationship between institutional ownership of stocks and value premium. This is apparently consistent with the mispricing explanation of Lakonishok *et al.* (1994) and Phalippou (2007, 2008). In particular, the explanation suggests that, if the value premium arises as a result of both pricing errors and limited arbitrage, then the value premium

should be concentrated in stocks that are both held by less sophisticated investors (who are usually individual investors) and expensive to arbitrage. As argued by Lakonishok *et al.* (1994), unlike individual investors, institutional investors are less likely to have judgement biases, and so they are considered more sophisticated. Our findings for the Chinese stock market provide strong supporting evidence that the value premium could be driven by individual investors, whereas stocks that are mostly held by institutional investors are value-premium free.

More specifically, the first part of our empirical analysis involves the comparison of the returns between A-share and B-share markets. Before 2001, the A-share market was dominated by individual domestic investors whereas the B-share market comprised mainly foreign institutional investors. The comparison reveals that in stocks held mostly by individual investors, the value premium is significantly positive. Furthermore, we test for the relationship between institutional ownership and the value premium using a multivariate regression framework under different types of institutions. Finally, this paper discusses the implications of our results for policy regulators, the role of institutional investors, and the overall market efficiency in China.

# 2. Background

#### 2.1 The book-to-market effect and its explanations

The book-to-market effect (otherwise known as the "value premium" effect) is an empirical regularity that stocks with high book-to-market (BM) ratios (low market prices relative to the book value of equity) provides higher average (risk-adjusted) returns than stocks with low BM ratios. However, the economic interpretation of the value premium is a much debated issue, with current explanations falling into two broad categories. One explanation suggests that the

value premium is compensation for risk that is not captured by the capital asset pricing model (Fama and French 1995, 1996, 1998). In particular, Fama and French suggest that the value premium is apparently related to the degree of "relative distress" in the economy. When the economy weakens, investors demand a higher risk premium on firms with distress characteristics. Since distressed stocks perform poorly just when the investor least wants to hold a poorly performing stock, value stocks must offer a higher average return to compensate for the additional systematic risk.

However, evidence against this explanation has been suggested by several researchers (Dichev (1998), Griffin and Lemmon (2002), Campbell *et al.* (2008)) and it shows that the risk-based explanation cannot completely account for the existence of the value premium. In particular, Campbell *et al.* (2008) note that financially distressed firms apparently deliver abnormally lower returns than others, implying that distress risk may not be systematic.

This has prompted an alternative approach based on the behavior of investors in explaining the existence of the value premium (Lakonishok et al. (1994), Ali et al. (2003), Phalippou (2007, 2008)). As suggested by Lakonishok et al. (1994), the value premium can arise from a behavioral or "irrational" perspective due to systematic mispricing. In particular, investors are predisposed towards investments in firms with high current or expected future levels of profits, regardless of the stock price, so they overvalue growth stocks. The opposite applies for value stocks. As a result, growth (value) stocks become overvalued (undervalued). Ali et al. (2003) builds on this idea of mispricing by showing evidence that systematic bias in mispricing is NOT arbitraged away as arbitrage is costly and any systematic mispricing is not quickly and completely traded away in situations where arbitrage costs exceed arbitrage benefits. Furthermore, risk due to the volatility of arbitrage returns ("arbitrage risk") deters arbitrage activity and is likely to be an important reason for the B/M effect. In general, they conclude that the B/M effect is higher for stocks with higher expected stock volatility (proxy for arbitrage risk), higher transaction costs, and lower ownership by sophisticated investors.

Other related studies (La Porta *et al.* 1997; Skinner and Sloan 2002) also corroborate the finding that market participants naively extrapolate earnings and persistently overvalue (undervalue) future earnings for low (high) B/M stocks. This systematic bias in expectations generates the value premium and it may not be eliminated quickly through arbitrage. As argued by Shleifer and Vishny (1997), arbitrage can be difficult due to prohibitive transactions costs. Furthermore, they predict that higher volatility of stocks will deter arbitrage activities, which makes it even more difficult to eliminate systematic mispricing.

More recently, Phalippou (2007, 2008) shows that market mispricing is consistent with the existence of the value premium. He further adds that if the value premium arises due to mispricing and limited arbitrage, then the value premium should be concentrated in stocks that are both held by relatively less sophisticated retail investors and expensive to arbitrage. In contrast, institutional investors should be somewhat less prone to judgment biases than retail investors. As such, if the percentage of institutional ownership were a proxy for investor sophistication, then value premium will be significant in stocks with low institutional ownership.

# 2.2 The Chinese Stock Market: Background Information and Characteristics

The Chinese stock markets create a unique testing ground for understanding the potential relationship between the book-to-market anomaly, mispricing, investor sophistication, transactions costs, and arbitrage risk. As noted in the media, the mainland Chinese stock markets are often perceived as "casinos driven by fast money flows in and out of stocks with little regard for their underlying value" (*Wall Street Journal* August 22 2001). Literature on the trading environment of Chinese stock markets has further suggested that speculation is rampant in the markets, in part due to dominance of inexperienced individual or retail investors (Ng and Wu (2006, 2007) and Mei *et al.* (2009)). Furthermore, Chen *et al.* (2007)

suggest that Chinese investors are subject to several behavioral biases, including overconfidence.

Additionally, the current market structure can test the significance of investor sophistication from several angles. In particular, the stock exchanges themselves, located in Shanghai and Shenzhen, are segmented into A- and B-share classes. A- and B-shares are similar in the sense that they have the same voting rights and earn the same dividends; however, prior to 2001, A-shares were dominated by domestic participants (mostly individual retail investors) while the B-shares were meant for foreign institutional investors. However, after 2001, the domestic retail investors were allowed to invest in B stocks and a Qualified Foreign Institutional Investor (OFII) program allowing certain foreign institutions to invest in A-shares was established in 2002. Nonetheless, differences between the stock classes still exist. As noted by Tan, Chiang, Mason and Nelling (2008), the A-share markets are dominated by domestic individual investors who typically lack knowledge and investing experience, while the B-markets are dominated by more sophisticated foreign institutional investors. Furthermore, short-selling and margin trading in the mainland Chinese stock markets was disallowed until 2010. Moreover, stock trading in China is subject to a "one-day lock-up" regulation: buyers cannot sell their stocks until the next trading day (Bian, Su and Wang, 2010). These features created barriers and high transaction costs for conducting arbitrage trading. All these unique characteristics present several testable hypotheses for understanding how the existence of value premium in China can be related to the level of transactions costs, arbitrage risks, investor sophistication and institutional ownership.

# 3. Hypothesis Development

Based on the unique features of the Chinese stock market, we develop the

following hypotheses:

Ali *et al.* (2003) postulate that, as arbitrage is costly and systematic mispricing is not quickly and completely traded away in situations where arbitrage costs exceed arbitrage benefits, the book-to-market effect can persist to create disparity between value and growth stocks. Furthermore, risk due to the volatility of arbitrage returns ("arbitrage risk") deters arbitrage activity. Arbitrage resources are concentrated in the hands of a relatively few specialized and poorly diversified traders. These arbitrageurs are risk averse and are concerned about the idiosyncratic risk in their portfolios. To specialized arbitrageurs, idiosyncratic volatility of the stocks in their portfolio is of greater concern than systematic volatility. Idiosyncratic volatility cannot be hedged and since arbitrageurs are not well-diversified, idiosyncratic volatility adds to total portfolio volatility without a corresponding increase in expected returns. The B/M effect is higher for stocks with higher expected stock volatility (proxy for arbitrage risk), higher transaction costs, and lower institutional ownership. As such, we propose the following hypotheses:

Hypothesis I: The book-to-market effect exists in Chinese stock markets, and high transaction costs and the predominance of individual investors are significant explanatory factors for its existence.

In addition, based on the unique structure of Chinese stock markets, we can establish the following hypotheses. Note that Hypothesis II is a cross-sectional comparison whereas Hypothesis III focuses on the time-series variations:

Hypothesis II: Before 2001, the firms in the A-shares market should display significant book-to-market effect, whereas the same shares listed on B-shares should not, due to the predominance of domestic retail investors in the A-shares market.

Hypothesis III: Before 2001, the firms in the A-shares markets should display strong book-to-market effect, but after 2001, the book-to-market effect becomes weaker.

# 4. Methodology and Data

#### 4.1 Methodology

Our methodology is based on Ali *et al.* (2003) and Phalippou (2007, 2008). One part of the analysis will make use of the technique of sorting portfolios. First, we sort the firms according to their book-to-market ratios and compute the return differences between the top and bottom quintiles. Additionally, we also perform double-sorting based on their levels of institutional ownership to see if there are any significant return differences between the different ownership levels.

The other part of the analysis will involve a set of predictive regressions to analyze the incremental explanatory power of different variables that can potentially influence the book-to-market effect. Specifically, we compute a set of variables as follows:

- <u>Expected idiosyncratic volatility</u> (*Ivolatility*): regress daily returns on a value-weighted market index over a one-year period immediately preceding the holding period and compute the variance of the residual term (Ali *et al.* 2003);
- <u>Transaction Costs</u> (Implied Spread): bid-ask spreads are estimated using high and low prices (based on Corwin and Schultz's method published in the forthcoming Journal of Finance article);
- Beta: the systematic risk component of the firm;
- <u>Top 10</u>: the top 10 owners of the shares (proxy for institutional ownership). Our predictive regressions are provided below:

$$SRET_{ii} = b_0 + b_1 Beta_{ii} + b_2 BM_{ii} + e_{ii}$$
(1)

$$SRET_{ii} = b_0 + b_1 Beta_{ii} + b_2 BM_{ii} + b_3 BM \times Ivolatility^{-1}_{ii} + c_1 Ivolatility^{-1}_{ii} + e_{ii}$$
(2)

$$SRET_{ii} = b_0 + b_1Beta_{ii} + b_2BM_{ii} + b_3BM \times Ivolatility^{-1}_{ii} + b_4BM \times ImpliedSpread^{-1}_{ii} + c_1Ivolatility^{-1}_{ii} + c_2ImpliedSpread^{-1}_{ii} + e_{ii}$$
(3)

$$SRET_{ii} = b_0 + b_1Beta_{ii} + b_2BM_{ii} + b_3BM \times Ivolatility^{-1}_{ii} + b_4BM \times ImpliedSpread^{-1}_{ii} + b_5BM \times Top10_{ii} + c_1Ivolatility^{-1}_{ii} + c_2ImpliedSpread^{-1}_{ii} + c_3Top10_{ii} + e_{ii}$$
(4)

where  $SRET_{it}$  indicates the size-adjusted stock returns of firm i at period t. In all our regressions, we use the one-month buy-and-hold returns minus the average returns of the portfolios for the size deciles.

#### 4.2 Data

Our sample begins with A-shares and B-shares in the Shanghai Stock Exchange from CSMAR (China Stock Market Trading Database). Stocks should have price, market values, book-value items as well as return data for the subsequent three-year period available. The BM ratio is calculated as total share holders' equity plus deferred tax assets last December (the end of the fiscal year) divided by market value in June. We drop stocks with negative book values and also exclude stocks with the highest 0.5% and lowest 1% BM values. Extreme observations with 400% monthly returns are also omitted. To minimize potential bias from penny stocks, stock returns are set to missing when their closing prices are less than 3 Yuan (about 50 US cents) in the previous month. CSMAR data is available from 1991, but we limit the sample from January 1994 to December 2010 due to few observation for the period from 1991-1993. The currency for all the data items is the Chinese Yuan (CNY). We use the three-month deposit rate in China as the risk-free rate. Buy-and-hold returns are measured over one-, two-, and three-year holding periods beginning in July of year t.

Database for shares held by institutional investors are obtained from the RESSET Financial Research Database. RESSET database provides percentage of shares by all institutional investors. We use the "Top 10 Unrestricted Stock Holders' Holding Percentage to Unrestricted Shares" for our analysis.

# 5. Estimation Results

#### 5.1 Value Premium in Chinese Stock Market

In this section, we examine whether the book-to-market effect exists in the Chinese stock markets. The book-to-market effect can be easily shown by forming BM-based portfolios and comparing return differences among the highest BM and the lowest BM portfolios. In Table 4, we confirm positive and significant average return differences using A-shares in our sample period, from January 1994 to December 2010. For each year, stocks are sorted based on the value of BM, calculated as book value at fiscal year-end (December) of year t-1 divided by market value of equity at the end of June of year t. Then, five quintile portfolios, from Q1 (the lowest BM portfolio) to Q5 (the highest BM portfolio) are formed. For each portfolio, monthly time series averages of variables are calculated. The variables are BM, market value of equity in millions at the end of each month (ME), systematic risk (Beta), raw returns and size-adjusted returns with one-year, two-year, and three-year buy-and-hold periods (Ret12m, Ret24m, Ret36m, SRet12m, SRet24m, and SRet36m, respectively). Beta is the estimated coefficient from regressing monthly stock returns on market returns over a maximum 36 months and a minimum 24 months and is calculated only from 2004 to 2010. SRet12m, SRet24m, and SRet36m are defined as raw buy-and-hold returns less size-decile returns. In this analysis, Q5-Q1 returns are 9.9%, 20.2%, and 24.3%, over one-, two-, and three-year holding periods, which are similar to Ali et al.

(2003)'s U.S. results. Ali *et al.* (2003) suggest that BM has the ability to predict returns. Beta shows that systematic risks are similar across all portfolios. We also observe positive and significant average return differences using different sample period: 1994-2001 and 2002-2010. These results are available from the authors upon request.

Variable	All firms	Q1	Q2	Q3	Q4	Q5	Q5 Q5-Q1		
variable	All IIIIIS	(Low)				(High)	Diff	t-sta	at
BM	0.370	0.156	0.252	0.331	0.427	0.643	0.487	12.586	***
ME	6403	5503	4710	4520	4704	5432	-71	-0.08	
Beta	0.993	0.993	0.982	0.997	1.019	0.992	0.000	-0.032	
Ret12m (%)	31.405	22.051	27.632	34.633	30.780	31.985	9.934	3.455	***
Ret24m (%)	67.474	50.414	61.766	75.052	67.314	70.570	20.156	5.452	***
Ret36m (%)	92.811	75.949	97.389	103.437	101.478	100.266	24.318	6.139	***
SRet12m (%)	-1.336	-4.779	-2.718	2.538	-0.816	0.481	5.260	2.237	**
SRet24m (%)	30.521	17.030	25.154	36.048	28.663	31.544	14.514	4.460	***
SRet36m (%)	65.341	48.700	61.219	71.965	64.767	67.145	18.444	5.589	***
Avg. Num. obs.	500	101	101	101	100	98			

Table 1. Characteristics of the Book-to-market (BM) Quintiles Portfolios over the 1994-2010 Period

Note: Q5-Q1 is the average return differences from Q5 to Q1. The t-stat shows the statistical significance of Q5-Q1 and is reported with the Newey and West (1987) t-statistics with 11- month lags to avoid serial correlation. \*\*\*, \*\*, and \* indicates significance at better than 1%, 5%, and 10% levels, respectively. Avg. num. of obs. is the average number of stocks.

# 5.2 Value Premium and Mispricing: Domestic Investors versus Foreign Investors

Figure 1 shows the trend of average returns for A shares and B shares of firms to which both domestic investors and QFII have access. Before 2002, both B shares and A shares (with B shares included) exhibit different patterns. During

this period, investor groups are different for our sample firms. QFII were only allowed to buy B shares of firms and there were approximately 40 firms with B shares. After 2002, QFII can buy A shares as well and average returns become similar. Thus, Figure 1 apparently suggests that different investor groups may be driving the different returns for the same firm. One possibility is that one of the groups tends to commit mispricing errors.





Note: The reported lines are equal-weighted for monthly value-weighted average of returns over a year. B shares indicate the average returns of reported B shares in the Shanghai stock exchange; A shares with B shares indicate the average returns of A shares of firms which also have B-shares in the Shanghai stock exchange.

Table 2 shows average return differences of the highest quintile (Q5) BM-based portfolio and the lowest quintile portfolio of three samples. The comparison using three samples provides empirical evidence for our hypothesis II and III that either foreign or domestic investors are related with the BM effect. The Q5-Q1 columns provide values of average return differences (Diff) and the Newey-West (1987) t-statistics (t-stat) with 11 months. The first Q5-Q1 is calculated with the sample, and B shares before 2002 and from Jan. 1994 to Dec.

2001. The second Q5-Q1 is with the sample, A shares of firms with B shares before 2002. The last Q5-Q1 column is with the sample, and A shares of firms with B shares after 2002 and from Jan. 2002 to Dec. 2010.

Period		Before 2002	After 2002 (2002-2010)						
Sample	В	shares	A shares of firms with B shares						
	Ç	25-Q1		Q5-Q1	Q5-Q1				
variable	Diff	t-stat	Diff	t-stat	Diff	t-stat			
Ret	-0.528	-0.956	0.326	0.451	0.178	0.510			
Ret12m	-0.005	-0.086	0.094	1.404	0.042	0.718			
Ret24m	0.185	1.529	0.298	3.078 ***	0.214	1.140			
Ret36m	0.764	2.043 **	0.489	3.810 ***	0.359	1.842 *			
SRet	-0.007	-1.519	0.002	0.276	0.004	1.230			
SRet12m	0.005	0.079	0.090	2.232 **	0.046	1.092			
SRet24m	0.085	0.942	0.225	3.098 ***	0.150	1.832 *			
SRet36m	0.383	2.991 ***	0.429	5.077 ***	0.429	1.917 *			
Avg. Num. of obs.	33		32		41				

Table 2. High Minus Low Portfolio: A Shares and B Shares

Note: Ret, Ret12m, Ret24m, and Ret36m are raw returns with one-month, one-year, two-year, and three-year buy-and-hold period. SRet, SRet12m, SRet24m, and SRet36m are size-adjusted returns as explained in Table 1. \*\*\* , \*\*, and \* indicates significance at better than the 1%, 5%, and 10% levels, respectively. Avg. num. of obs. is average number of stocks.

Before 2002, for B shares, most BM-based portfolios except for Ret36m and SRet36m do not show positive and significant return differences; this implies that B-shares before 2002 do not have value premium. However, the results using A shares of firms with B shares show positive and significant value premium for size-adjusted returns over one-, two-, and three-year buy-and-hold periods. For the same firms but different group of stocks, the BM effect is observed differently. The only differences are that investor groups and stocks that domestic investors

have access to are related to the existence of the value premium. After 2002, A shares do not show value premium. The value premium has disappeared since the participation of QFII in the A shares market. This finding implies that a Chinese stock market's value premium is derived mostly from mispricing and overreaction of domestic investors.

# 4.3 Value Premium and Mispricing: Retail versus Large Owners

In this section and the next, we explore Hypothesis I, which states that the predominance of individual investors (or retail investors) is a significant explanatory factor for the existence of the value premium.

Table 3 shows average return differences of the highest quintile (Q5) BM-based portfolio and the lowest quintile portfolio within three groups: stocks of retail owners, Middle-sized owners, and Large Owners. The averages of Top 10 percentage across groups are 6.2%, 19.1%, and 68.4% for the retail, middle-sized, and large owners groups, respectively. When Top 10 percentage is low (on the other hand, retail owners are the majority in investor groups), a group of such stocks shows differences in positive and significant average returns up to two years in terms of a buy-and-hold period. To avoid size-bias (small stocks), we examine size-adjusted returns and our findings stay the same. This finding implies that VP is observed especially in a group of stocks where retail owners are the majority, as retail owners have a frequent tendency toward mispricing.

For Table3, stocks are sorted based on Top 10 Unrestricted Stock Holders' Holding Percentage to Unrestricted Shares (Top10) for each year. Stocks with the lowest values ( $0\sim30\%$ ) of Top10 are assigned to the retail owners group. Stocks with the highest values ( $70\%\sim100\%$ ) of Top10 are assigned to the large owners group. Other stocks are assigned to the middle-sized owners group. In each group, BM-based quintile portfolios are formed. All firm columns show the average of variables. The Q5-Q1 columns provide values of average return differences (Diff)

and the Newey-West (1987) t-statistics (t-stat) with 11 months. The first Q5-Q1 is calculated with the retail owners group sample. The second Q5-Q1 is with the mid-sized owners group sample. The last Q5-Q1 column is with the large owners group sample. The sample period is from July 2004 to December 2010 since Top10 variable is available from July of 2004. Ret12m, Ret24m, and Ret36m are raw returns with one-year, two-year, and three-year buy-and-hold period. SRet, SRet12m, SRet24m, and SRet36m are size-adjusted returns as explained in Table 1.

Sample	Retail Owners			Mid-sized owners			Large Owners					
Variable	All	(	Q5-Q1 Diff t-stat		All Q5-		Q5-Q1	5-Q1		Q5-Q1		
	firms	Diff			firms	Diff	t-sta	t-stat		Diff	f t-stat	
BM	0.505	0.606	15.101	***	0.440	0.605	14.184	***	0.411	0.672	10.504	***
ME (in mm Yuan)	4162	-2721	-1.86	*	6490	-3384	-1.78	*	15500	5542	2.09	**
Beta	1.033	-0.079	-3.016	***	0.999	-0.046	-2.637	**	0.957	0.074	3.868	***
Top10	0.062	0.000	0.097		0.191	-0.006	-1.413		0.684	0.563	8.103	***
Ret12m	0.667	0.189	3.256	***	0.649	0.108	2.353	**	0.542	0.069	1.103	
Ret24m	1.547	0.382	2.915	***	1.534	0.248	2.747	***	1.316	0.031	0.510	
Ret36m	1.980	0.306	1.575		2.010	0.601	5.189	***	1.697	-0.086	-1.116	
SRet12m	-0.040	0.070	3.322	***	-0.016	0.025	0.900		-0.021	0.024	0.665	
SRet24m	0.727	0.267	4.348	***	0.712	0.145	4.001	***	0.564	0.024	0.426	
SRet36m	1.598	0.095	0.712		1.633	0.360	4.034	***	1.509	0.007	0.085	
Avg. Number of obs.	183				289				252			

Table 3. High Minus Low Portfolios: Retail and Large Owners

Note: \*\*\*, \*\*, and \* indicates significance at better than the 1%, 5%, and 10% levels, respectively. Avg. num. of obs. is average number of stocks.

# 4.4 Value Premium and Mispricing: Predictive Regressions

Finally, we confirm Hypothesis I as using predictive regressions as explained in the Methodology section, from equation (1) to equation (4). Since our data sample is essentially stock-month observations, the regressions should account for

Dependent Variable: size	e adjusted	returns with one-r	nonth buy-and-ho	ld period
Variables	Spec1	Spec2	Spec3	Spec4
Beta	0.022	0.019	-0.006	-0.005
	(0.02)	(0.02)	(0.01)	(0.01)
BM	0.004	0.023***	0.03	0.038
	(0.01)	(0.01)	(0.03)	(0.03)
BM x Ivolatility-1 (x107)		-1.652***	-2.353***	-2.279***
		(0.54)	(0.83)	(0.80)
BM x Implied spread-1			-0.007	-0.009
			(0.02)	(0.02)
BM x Top10				-0.024***
				(0.01)
Ivolatility-1 (x107)		-0.249	-0.334	-0.353
		(0.16)	(0.21)	(0.22)
Implied spread-1			-0.088***	-0.088***
			(0.03)	(0.03)
Top10				0.023***
				(0.01)
Constant	-0.025	-0.019	0.121***	0.114***
	(0.02)	(0.02)	(0.03)	(0.03)
Observations	51,131	51,131	49,349	49,349
R-squared	0.067	0.089	0.165	0.172

#### Table 4. Predictive Regressions

Note: \*\*\* , \*\*, and \* indicates significance at better than the 1%, 5%, and 10% levels, respectively.

firm cross-correlation. Thus, we implement the Fama and MacBeth (1973) two-step procedure. In the first step, for each month, a cross-sectional regression across A shares is performed.<sup>118</sup> Then, coefficients are collected from each month. In

<sup>118)</sup> B shares are excluded in the regressions as there will be a double-count issue especially after 2002.

the second step, we regress the collected coefficients on one to test whether the average of these coefficients are significant. The reported final estimates are the coefficient and standard errors of one variable. We also account for the correlation of errors across time by calculating Newey-West (1987) standard errors. Table 4 reports the regression results from equation (1) in the second column to equation (4) in the fifth column. The dependent variable is size adjusted returns with a one-month buy-and-hold period. The interaction variables,  $BM \times Ivolatility^{-1}$  and  $BM \times Top10$  provide negative and significant coefficients implying that stock returns are higher when either  $BM \times Ivolatility^{-1}$  or  $BM \times Top10$  decrease (thus, when BM is constant and either *Ivolatility*<sup>-1</sup> or *Top*10 decreases). *Ivolatility*<sup>-1</sup> is a proxy for inverse of expected idiosyncratic volatility and lower values of *Ivolatility*<sup>-1</sup> imply that expected idiosyncratic volatility increases. *Top*10 is a proxy for institutional ownership and lower values of Top10 imply higher percentage of retail investors, thus, more chances of mispricing by investors. The regression results clearly show that the BM effect (higher returns for high BM stocks) can be explained by increasing expected idiosyncratic volatility and mispricing by retail investors.

# 5. Discussion and Conclusion

Our results indicate that arbitrage risks, transactions costs, investor sophistication and low institutional ownership are significantly related to the existence of the book-to-market effect in the Chinese stock market. From the perspective of market efficiency, our findings have policy implications. As noted by Lakonishok *et al.* (1994) and Ali *et al.* (2003), the inability to arbitrage away persistent mispricing is the main reason for the existence of the book-to-market effect. Given the fact that the Chinese stock market is subject to various transactions costs such as short-selling constraints and one-day lock-up regulation, it appears

that the recent approval of short-selling and margin trading constitutes the right step in enhancing market efficiency. In fact, it has been noted in the literature that short selling bans are not only detrimental to price discovery and market quality but also fail to achieve their original intention of supporting prices (Saffi and Sigurdsson (2011), and Beber and Pagano, forthcoming).

In addition, the significant relationship between investor sophistication (or institutional ownership) and the book-to-market effect highlights the potentially beneficial impact of having foreign institutional investors in the Chinese stock market. The reduction in the value premium apparently coincides with the liberalization measure involving introduction of QFII in the A-share market. Apart from this measure, it may also be beneficial to emphasize investor education, in order to influence the behavior of investors in the Chinese stock market.

# References

- Ali, A., Hwang, S., and Trombley, M. 2003. "Arbitrage risk and Book to Market Anomaly." *Journal of Financial Economics*, 69, 355-373.
- Beber, A., and Pagano, M. "Short-selling bans around the world: evidence from the 2007-09 crisis." *Journal of Finance*. Forthcoming.
- Bian, J., Su, T., and Wang, J. 2010. "Non-marketability and One-day Selling Lock-up." University of International Business and Economics Working Paper. (March)
- Campbell, J., Hilscher, J., Szilagyi, J. 2008. "In Search of Distress Risk." *Journal of Finance*, 63, 2899-2939.
- Chen, G., Kim, K., Nofsinger, J. and Rui, O. 2007. "Trading Performance, Disposition Effect, Overconfidence, Representativeness Bias, and Experience of Emerging Market Investors." *Journal of Behavioral Decision Making*, 20, 425-451.
- Dichev, I. 1998. "Is the Risk of Bankruptcy a Systematic Risk?" Journal of Finance

53, 1131-1147.

- Fama, E. F., French, K. R. 1995. "Size and Book-to-market Factors in Earnings and Returns." *Journal of Finance*, 50, 131-155.
- \_\_\_\_\_. 1996. "Multifactor Explanations of Asset Pricing Anomalies." *Journal of Finance*, 51, 55-184.
- . 1998. "Value Versus Growth: the International Evidence." *Journal of Finance*, 53, 1975-1998.
- Fama E., MacBeth J. 1973. "Risk, Return, and Equilibrium: Empirical Tests." Journal of Political Economy, 81, 607-636.
- Griffin, J., Lemmon, M. 2002. "Book-to-market Equity, Distress Risk, and Stock Returns." *Journal of Finance*, 50, 185-224.
- La Porta, R.; Lakonishok, J.; Shleifer, A.; and Vishny, R. 1997. "Good News for Value Stocks: Further Evidence on Market Efficiency." *Journal of Finance*, 52, 859-874.
- Lakonishok, J., Shleifer, A., Vishny, R. 1994. "Contrarian Investment, Extrapolation, and Risk." *Journal of Finance*, 49, 1541-1578.
- Mei, J., Scheinkman, J., and Xiong, W. 2009. "Speculative Trading and Stock Prices: Evidence from Chinese A-B share premia." *Annals of Economics and Finance*, 10, 225-255
- Newey, W., and West, K. 1987. "A Simple, Positive Semi-definite, Heteroskedasticity and Autocorrelation Consistent Covariance Matrix." *Econometrica*, 55, 703-708.
- Ng, L., and Wu, F. 2006. "Revealed Stock Preferences of Individual Investors: Evidence from Chinese Equity Markets." *Pacific-Basin Finance Journal*, 14, 175-192.
- Ng, L., and Wu, F. 2007. "The Trading Behavior of Institutions and Individuals in Chinese Equity Markets." *Journal of Banking and Finance*, 31, 2695-2710.
- Phalippou, L. 2007. "Can Risk-based Theories Explain the Value Premium?" *Review* of Finance, 11, 143-166.
  - . 2008. "Where is the Value Premium?" Financial Analysts Journal, 64, 41-48.

- Saffi, P., and Sigurdsson, K. 2011. "Price Efficiency and Short Selling." *Review of Financial Studies*, 24, 821-852.
- Skinner, D., and Sloan, R. 2002. "Earnings Surprises, Growth Expectations, and Stock Returns or Don't let an Earnings Torpedo Sink Your Portfolio." *Review of Accounting Studies*, 7, 289-312.
- Shleifer, A., and Vishny, R. 1997. "The Limits of Arbitrage." Journal of Finance, 52, 35-55.
- Tan, L., Chiang, T., Mason, J. and Nelling, E. 2008. "Herding Behavior in Chinese Stock Markets: An Examination of A and B Shares." *Pacific-Basin Finance Journal*, 16, 61-77.
- Zhang, L. 2005. "The Value Premium." Journal of Finance, 60, 67-103.

# Influence of Transportation Corridors Across Yellow and Bohai Sea on the Economic Cooperation and Development in NAIR<sup>119</sup>

Xiang Aibing

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# 1. Introduction

The Northeast Asia International Region (NAIR) is one of the most dynamic economic regions in the world. The Yellow and Bohai Sea Rim (YBSR) which mainly includes South Korea and the China's Northeast Region as well as the eastern coastline, belongs to the Inferior Region Economic Cooperation Zone of NAIR, and there is extremely close cooperation between countries in this area on trade, investment, technology, service and so on.

In order to promote cooperation and development of the regional economy

<sup>119)</sup> NAIR refer to the Northeast Asia International Region. Usually it includes Japan, South Korea, North Korea, Mongolia, the Far East of Russia, the Northeastern/Northern China. Here it is defined as an economic region, and it includes Japan, South Korea, North Korea, Mongolia, Russia and China. Since the availability of data, this paper focuses its impact on South Korea and China.

in YBSR, and meet the growth of cross-sea transportation demand, Chinese government have proposed a grand strategic concept involving the creation of a transportation corridor across Bohai Sea, and also together with South Korea to construct another transportation corridor across the northern Yellow Sea. A series of period research have been presently launched in this regard.

There is no doubt about that the construction of those corridors will have profound tremendous influences on the economic cooperation and development in NAIR, especially in YBSR. This paper describes those impacts from the regional economic growth, adjustment and upgrading of industrial structure, optimization of the transportation network and transportation facilitation as well as potential risk for economic development and so on.

As a special explanation, we hypothesize that these two corridors have been built and are in operation, in discussing its influence in this paper. The research on the actual feasibility of the project on each corridor is still at a very early stage at present.

# 2. Body

This paper is divided into six parts: the first part introduces two transportation corridor programs, which mainly includes the conception, construction scheme and investment; the second part analyses the current state and trend of regional economic cooperation and development in NAIR; the third part analyses the boosting effect on the growth of regional economic, pulled by the investment of corridors' construction and stimulated by the increase of transportation consumption; the fourth part analyses the impact of construction and operation of transportation corridors on the regional industrial structure and trade logistics structure; the fifth part analyses the promoting effect on the regional growth poles; and the last part analyses the potential risks of those two programs on the regional economic cooperation and development.

# 2.1 About Transportation Corridor Programs

### 2.1.1 The Trans-Bohai Strait Passage

According to The Strategic Plan for Long-term Development of Comprehensive Transportation Network issued by the Chinese government in 2008, China will build a transportation passage across Bohai strait (which is composed of railways and highways, hereinafter referred to as the 'Trans-Bohai Strait Passage') in the future, to meet the ever-growing transportation demand and the needs of regional economic development in the Bohai Economic Rim.

The Bohai strait is located between the Shandong and Liaodong Peninsulas. It is the most important hub of communication and strategic junction between Northeast and North China, and is the eastern gateway to Beijing and Tianjin. The shortest distance of strait between the north and south sides is approximately 106 kilometers (57 nautical miles, 1 nautical mile=1.852 kilometer), and the hydraulic mean depth is approximately 25 meters, the maximum depth being 86 meters. The breadth of the gap in the south of the strait which is about 56.4 km and 30.8km wide, there are a number of islands. As one of those islands, Miaodao Islands which is composed of 32 unnamed islands, is located in the middle and south of the Bohai strait, and divides the strait into dozens of ship channels, oriented in an approximate east/west (EW) direction.

A series of research on the Trans-Bohai strait passage program have been launched since 1992. The initial and common concept is that: to build the Trans-Bohai Strait Passage from Shandong to Liaodong Peninsula utilizing the advantageous terrain (Bohai strait), which will alter the nature of transportation significantly. Someone traveling by train from Dalian to Qingdao at present has to stop over at Tianjin. The present route is described as a C-shaped encirclement. However, if Trans-Bohai Strait Passage is created and goes into operation, one can travel directly from the city of departure to the destination. The outline of the Trans-Bohai strait passage is as shown in Figure 1.



Figure 1. The Concept of Trans-Bohai Strait Passage

It is a great project which will transform a major geographical break into a throughfare, and create a transportation artery from the far north to the southernmost regions of China, through 11 provinces such as Heilongjiang, Liaoning, Shandong, Fujian, Hainan and so on.

◆ The construction scheme

There are three schemes regarding the construction of the passage way, which include the all-bridge project, the all tunnel project and the bridge-tunnel combination. The relatively long Laotiesan ship channel in the north of the Strait and many islands that dot the southern half is perfect for a construction scheme involving bridges in the south and a tunnel in the north. This plan can take full advantage of geographical conditions, and minimize the impact of the project on the shipping of various harbors along the Bohai Economic Rim. According to the joint research by TPRI and ITC,<sup>120)</sup> the pathway would be about 130 km's long, with the road rail bridges in the south being about 65 km. The road tunnel and rail tunnel is separated in the north. The rail tunnel in the north be 65 km; the road tunnel in the north would be 46 km, with the other 19 km being the length of the road bridge.

#### Construction work period

The construction work period would take about 12 years - beginning in 2026 and due to be completed and become operational in 2038.

### • The investment of program

The total of investment of this program is estimated at about 320 billion RMB, including 280 billion RMB for the main construction work and the other for connecting line and the purchase of equipments. In terms of channels of finance, according to the usual procedure and practice of Chinese government in building railways and highways; it may well be that the central authorities of China invest 70%, and the local authority invests another 30%.

# 2.1.2 The North Yellow Sea Tunnel

To meet the stable and rapid growth economic of China and more closely international cooperation between South Korea and China, the idea of building transportation corridor across the North Yellow Sea was created by researchers in both countries since the beginning of the 21st century. The program involves a tunnel which originates from China and terminates at South Korea across the North Yellow Sea, and hereinafter referred to as the 'North Yellow Sea Tunnel'.

Although it remains a preliminary concept, it led to many related research

<sup>120)</sup> The strategic research on Trans-Bohai Strait Passage, Transport Planning and Research Institute (TPRI) of MT,P.R.C with the Institute of Comprehensive Transportation (ICT) of NDRC,P.R.C, 2010.

on the program in South Korea. Korea Development Institute (KDI) published an article named the Basic Concept of the North Yellow Sea Tunnel in the fifth forum meeting of Shandong Province and Gyeonggi-do in 2008. This article has analyzed and explained the necessity of this program, and well as required technology and investment. Further, KDI completed the detailed research report which was named "the Economic Cooperation Network in Northeast Asia: North Yellow Sea Tunnel" in the following year, and submitted to the government of South Korea a formal proposal. Shandong academy of social sciences (SDSS) and ICT of China and Cross-Harbour Tunnel Research of Japan(CHTR) also have conducted preliminary study on this project.

#### • The construction scheme of program

According to the research of KDI, there are four options with respect to construction schemes. These include a tunnel from Inchon to Weihai (362km), from Hwaseong to Weihai (373km), from Pyongtaek to Weihai (374km), and from Yongyeon (North Korea) to Weihai (198km). After considering factors such as population and regional economic development, KDI suggested adopting the scheme from Hwaseong to Weihai. In addition, KDI suggested building a large-scale man-made island as a transfer station and tourist destination in the center of the North Yellow Sea.

According to the research of CHTR, the scheme from Pyongtaek to Weihai is the best choice, since there are many better conditions for a port in Pyongtaek and the depth of water is the shallowest, with a maximum depth of only 73 meters, and with the average depth of the remaining areas being only about 40 meters.

According to the research of ICT, Rongcheng, located in the eastern end of the Shandong Peninsula, is also the nearest place in China from South Korea. And the nearest place in South Korean away China is Taean, a small peninsula only 320 km from Rongcheng and 190 km's to Seoul. It is also a good choice

since it attract passengers and cargos both of north, south, and central South Korea.

#### Construction work period

The construction work period is expected to be about 20 years, with construction starting in 2026, to be completed around 2046.

#### • The investment of program

According to the research of KDI, if the North Yellow Sea Tunnel is built from Pyongtaek to Weihai, the total cost of the program will be about 109.20 billion won (about 97.6 billion USD), including the cost of offshore bridges and tunnels as well as terrestrial cable and ancillary facilities. The estimate of ICT is higher, even if the construction scheme connecting Rongcheng to Taean is chosen. The cost would be about 730 billion RMB (about 115.7 billion USD). This paper adopts the research result of the ICT.

# 2.2 Current state of Regional Economic cooperation

#### 2.2.1 Summarization on the economic cooperation in NAIR

The idea of economic cooperation in NAIR first appeared in the late 1960s, but it began attracting the attention of countries only in the late 1980s. Relative to the integrated regional economic cooperation in other areas (such as EU and NAFTA), the economic cooperation in NAIR is obviously loose and lagging, as the level of cooperation is still relatively low.

The trend of regional economic cooperation in NAIR has been further enhanced in recent years. The cooperation mechanism of governments between six countries in NAIR have been formed, initially constituting the basis of international, regional economy with China, South Korea and Japan comprising the center and surrounded by Russia, Mongolia and North Korea. It showed extensive prospects for the development of integrated regional cooperation in NAIR. The prevailing conomic conditions among Northeast Asia countries are complementary to each other. China has abundant human resources, strong secondary and primary manufacturing capacity, as well as a large consumer market. Japan has technical, financial and high-end product design, processing capacity, as well as a sizable consumer market. And there are powerful mid-range production capacity of South Korea, rich resources and part of the scientific and technological advantages of Russia, natural and mineral resources of Mongolia, and strong geographical advantage of North Korea. Those economic factors can be integrated to achieve complementary advantages and coordination in development.

Each country in NAIR has displayed good and healthy development trends in their domestic economies in the recent years. Chinese economy has an average annual rate of more than 10% in growth, without considering fluctuations in the fluctuations in the international financial crisis in 2008, and the Russian economy grew by nearly 8%. South Korea and Japan have a larger total output of gross domestic product, but their economies still maintain growth rates of around 3% and 6%. The total and variation tendencies of GDP of each country are shown as Figure 2.

Along with the emergence of the Chinese economy and the healthy development of other countries, the international trade market also continues to expand, and the Economic Cooperation in NAIR will continue to deepen, developing toward the the direction of regional economic integration. As a result, it will manifest long-term, stable, stable and positive trend of economic development, and will have a significant impact on the entire Asian region and world economy in the context of the era of economic globalization.



Figure 2. The Variation Tendency of GDP in Different Countries, NAIR, 1990-2010

Note: CN refers to China, JP refers to Japan, SK refers to Korea Rep. RF refers to Russian Fed., ML refers to Mongolia Source: World Bank WDI Database.

#### 2.2.2 The trade cooperation between mainly countries in NAIR

In recent years, trade cooperation between South Korea, China and Japan is becoming even closer. Tabel1 provides data on intraregional trade of the three countries in NAIR over past two decades. Korea-China and Japan-China trade was very active, and increasing by14.59% and 17.83%, respectively, in this period. Trade between the two countries and China expanded rapidly from a narrow base. Japanese trade with China grew from \$18 billion to \$228 billion during this period; Korea's trade with China increased from less than \$3 billion to almost \$156 billion. During this period, China's global trade volume increased almost twentyfold, while figures for Korea more than quintupled, and those for Japan more than doubled. Japan-Korea trade has encountered very slow growth in the first decade due in part to the weak performance of the Japanese economy throughout the 1990s, but the bilateral trade in the last decade has nearly doubled. Now, Japan has become the third largest export market and second largest source of imports of South Korea, while South Korea is the third largest export market, the sixth largest source of

imports and the third largest source of trade surplus of Japan. As a result, the share of intraregional exports in total exports of the three countries increased modestly from 12.1 percent in 1990 to 20.24 percent in 2009.

				(Unit: USD	billion, %)
	1990	1995	1999	2005	2009
Intraregional 2-way Trade					
Korea-China	2.8	16.5	22.6	100.5	156.2
China-Japan	18.1	58	66.1	184.5	228.7
Japan-Korea	29.2	48.2	38.8	48.4	60.9
Total of Intraregional Trade(TIT)	50.1	122.7	127.5	333.4	434.4
Total Exports					
Korea	65	125.1	144.7	284.4	363.5
China	62.1	148.8	195.1	762	1201.5
Japan	287.6	443.1	419.4	584.9	580.5
Total Trade					
Korea	134.8	260.2	264.5	545.6	686.6
China	115.4	280.9	360.9	1422	2207.2
Japan	523	779	730.7	1100.8	1131.5
TIT /TE	12.10%	15.70%	16.80%	20.43%	20.24%

Table 1. Northeast Asia: Intraregional trade, 1990-2009

Source: WTO, international trade statistics, various issues; Chinese statistical Yearbook (2010) and the Korea statistical Yearbook (2010).

In addition, the growth of trade between Japan, South Korea and Russia has been rapid. Russia is the eighth largest export target country for South Korea. And they have broad prospects to develop oil and gas fields in Siberia and the Far East. Japan has the largest investment in Russia, relative to other countries in NAIR. The total of international investment of Japan in 2008 is \$29 billion, of which 9.1 billion went to the Russian Far East.

### • Intraregional trade of China with other countries

Table 2 shows the foreign trade of China with other countries in recent years. The trade of China with Japan, South Korea, North Korea, Mongolia, increased at a rapid pace; and China has presently become their largest trading partner. China is also the largest export market of Japan and South Korea, and the largest source of foreign investment into Korea and Mongolia.

The Sino-Japanese bilateral trade volume reached \$297.77 billion in 2010, an increase of 30.2 percent. Following 2009, China has once again become Japan's largest export destination.

The Sino-South Korea bilateral trade volume was over \$207 billion in 2010, and the personnel exchanges amounted to 5.7 million. China has been South Korea's largest trading partner for eight consecutive years, and South Korea is the sixth largest trading partner of China.

The Sino-Russian trade increased from \$20 billion in 2004 to \$55.5 billion in 2010. China is Russia's second largest trading partner after the European Union. Meanwhile, the structure of bilateral trade improved significantly, the mutual investment steadily grows, and the field of trade cooperation is expanding continuously.

The Sino-Mongolia trade volume is also increasing rapidly, with the bilateral trade volume accounting for more than half of the total foreign trade of Mongolia

Country		2007		2010				
	Total	Exports	Imports	Total	Exports	Imports		
Korea DPR	19.76	13.99	5.84	34.72	22.77	11.95		
Japan	2359.51	1020.09	1339.42	2977.79	1210.43	1767.36		
Mongolia	20.35	6.83	13.51	40.02	14.50	25.52		
Korea Rep.	1598.51	560.99	1037.52	2071.15	687.66	1383.49		
Russia	481.55	284.66	196.89	555.33	296.12	259.21		

Table 2. Value of Imports and Exports by Country of Origin/Destination

(Unit: USD100 million)

Source: The customs statistic, China.
in recent years. Also, China is the largest investor of Mongolia, and the investment is growing every year.

In addition to North Korea, the bilateral economic cooperation of each country in NAIR is progressing smoothly, and the mutual economic dependence is also rising. The potential advantages of complementarity among Northeast Asian countries are being realized.

2.2.3 The trade cooperation between mainly areas in YBSR

The YBSR refers to the Yellow and Bohai Sea Rim which includes the northeast, northern and eastern China, the Kyushu region of Japan, and the west coast, southwest and southeast regions of South Korea. It has a population of over 26,500 million, and land area of 667,700 square kilometers. At present, the regional trade cooperation in YBSR is very loose, mainly between Chinese coastal provinces and cities area with Japan and Korea.

The total and variation tendency of GDP

The total GDP in YBSR is USD 2,479,057 million in 2010, an increase of 8.8% compared with fifth years ago, as shown in figure 3.

Although South Korea accounted for the largest share in total GDP (40.9% in 2010), major contribution to this increase came from three other areas, namely Shandong Peninsula, Northeast of China, and Beijing-Tianjin. They increase by 16.3%, 14.59% and 17.83%, respectively, relative to the corresponding period in 1995 and calculated at current prices. Also the total of those areas in China increase respectively by 12.3%, 12.7% and 10.3%, calculated at constant prices and compared with the same period in the preceding year. The rapid economic development in the eastern and northeast China has driven the rapid development of regional economies in the YBSR.



#### Figure 3. Gross Domestic Product by Area in YBSR, 1995-2010

Note: 1) SDP refers to the Shandong Peninsula, NECN refers to the Northeast of China, BTA refers to the Beijing- Tianjin area, SK refers to Korea Rep.

- Data in value terms in this figure are calculated at current prices. And data of china in the figure have been adjusted according to the results of the second national economic census.
- Source: Shandong, Liaoning, Jilin, Heilongjiang, Beijing and Tianjin statistical Yearbook (2011) and the Korea statistical Yearbook (2010).

• The intraregional trade between major areas in YBSR

Tabel 3 provides the data on intraregional trade mainly between provinces (or cities) in Eastern China and South Korea/Japan in 2010. Among other areas in the east of China, Shandong province stands as the largest trade partner of South Korea and Japan, with the total amount of Shandong-Korea trade being \$280.82 billion and the total of Shandong-Japan trade being \$209.69 billion in 2010. Shandong province, Beijing and Tianjin are three major areas of china that export to South Korea, while Beijing and Liaoning are first and second place in exports to Japan. The area of China first and second in imports from South Korea is Shandong and Tianjin, and who are 1<sup>st</sup> and 2nd regarding imports from Japan as well.

(Unit: 100 million USD)

AREA		South Korea				Japan			
	TOTAL	Imports	Exports	Balance	TOTAL	Imports	Exports	Balance	
Shandong	280.82	137.72	143.10	5.39	209.69	131.76	77.94	-53.82	
Liaoning	70.75	30.91	39.84	8.94	153.38	56.06	97.32	41.26	
Jilin	6.37	4.17	2.20	-1.97	28.91	4.59	24.32	19.74	
Heilongjiang	7.51	6.56	0.95	-5.61	6.68	3.90	2.78	-1.11	
Beijing	132.39	23.61	108.78	85.16	188.79	36.02	152.77	116.75	
Tianjin*	130.02	89.26	40.76	48.5	96.94	65.64	31.3	34.34	
Shijiazhuang*	23.7	4.89	18.81	-13.92	19.69	6.7	12.99	-6.29	

Table 3. Total Trade of Areas in Eastern Chinese with Korea and Japan, 2010 (Unit: 100million USD)

Note: \* data in 2007.

Source: The statistical Yearbook of each Chinese province.

# 2.3 Boosting Effect on the Growth of Regional Economies

2.3.1 Driven by investment in construction

The boosting effect of investment and construction of transportation corridors mainly include the pull side. One of the effects from this would be the creation of benefits to promote the increase in the regional Gross Domestic Product, and another is the forward or backward multiplier effect on the industry.

# 2.3.1.1 The Investment of transportation infrastructure has a positive role in promoting economic growth

The relationship in which investment of transportation infrastructure promotes growth of regional economic has drawn wide attention, on the basis of extensive research on such relationships in the past several decades. Although the research on the relationship between infrastructure investment and economic growth can be traced back to the non-balanced growth theory proposed by Hirschman (1958), most neo-classical economic growth theory, such as the Solow Growth Model, did not admit the role of infrastructure investment on economic growth. Until the 1970s, Western economists began to regard the factor termed 'technical change' in the Solow Growth Model as a separate variable to be considered. Sala-i-Martin (1987) listed most common factors closely related to the economic growth, including income level, education level, geographic factors, savings and investment, natural resource endowment, political factors and so on. Aschauer (1989) pioneered the research on relationship of infrastructure investment and economic growth, and took the lead in adopting the method of combining theoretical analysis and empirical tests to separate the infrastructure investment from total investment. He also explained the outputs and spillover effects of infrastructure investment.

On the basis of extensive research on the relationship of infrastructure investment and economic growth, Banister and Berechman (2000) specifically analyzed the role of transportation infrastructure in the economic growth in detail. It states that the investment of transportation infrastructure has a positive role in promoting economic growth. Other, Cantos Gumbau-Albert and Maudos (2005) analyzed the output elasticity of Investments of transportation infrastructure (roads, ports, airports, railways) for various industries (agriculture, industry, construction, and services), recuring in the Spanish national panel data. It also states that the investment of transportation infrastructure has a significant positive effect on the industrial added value.

### 2.3.1.2 Composition and directly promoting the increase of GDP

As an important part of the national economy, the Gross Fixed Capital Formation (GFCF) is the component of GDP in the expenditure approach, and it can by formed directly by the investment of transportation infrastructures. Also, the investment can directly effect the increase of national wealth (GDP), thereby promoting economic growth.

#### ◆ As a part of GFCF

Since the statistical data of GFCF formed by transport investment (Trans-GFCF) is unavailable at present, the value of Trans-GFCF has to be calculate indirectly. This paper measures it through analyzing the relationship between the transport investment and the value of Trans-GFCF.

The Figure 4 shows relationships between the Total Investment in Fixed Assets in the whole country (TIFA) and the value of GFCF in China and South Korea from 2000 to 2010.



Figure 4. The Rate of GFCF Relative to Total Investment in the Whole Country, 1991-2010

Source: statistical Yearbook of china and the bank of Korea [Nation Account].

The value of GFCF in China was significantly greater than the value of TIFA before 2007, and they changed after 2007. The rate of GFCF with TIFA in 2010 is 0.67. On the whole, the ratio presents a decline. However, it almost holds steady for South Korea, fluctuating around 0.95 over the last twenty years.

As an important part of TIFA, the transport investment and Trans-GFCF have the similar relationship with TIFA and GFCF.

Both of the rates for Trans-GFCF regarding investment in transport in China and South Korea would be more stable in the near future, since the cost of land and removal for transport is increasing. Also, those rates would decline in the long term.

The result would be that the investment of Trans-Bohai Strait Passage can directly contribute to the GDP by an order of 192 billion RMB, and the investment of North Yellow Sea Tunnel would add 547.5 billion RMB to the GDP (with China investing 50%; the other half by South Korea), if both of programs would be finished in the construction work period and the rate of GFCF formed by transport investment would be about 0.6 in China and 0.9 in South Korea.

Contribution to the GDP growth

The contribution of corridors investment to the regional GDP growth is different from the formation of regional GDP which was analyzed in the last section. Contribution share of the corridors investment to the increase of the GDP refers to the proportion of the increase of Trans-GFCF; by expenditure approach to the increment of GDP. And the contribution of transportation investment to GDP growth refers to the growth rate of GDP multiplied by the contribution share of Trans-GFCF.

The share of contribution, and contributions of Trans-Bohai Strait Passage and North Yellow Sea Tunnel to the regional GDP growth, are shown in tables 4 and 5, supposed if the average annual rates of GDP growth of China and South Korea in 2010 to 2025 are 8% and 5%, 6% and 4% in 2026 to 2035; 5% and 3% in 2036 to 2046; and the reduction index of GDP and GFCF refer to the average value of reduction index in 1990 to 2010.

Above tables show that the maximal Contribution Share and Contribution of transportation investment to GDP growth for Trans-Bohai Strait Passage is 0.77% and 0.04 percentage point in 2027, and 2% and 0.12 for the North Yellow sea Tunnel.

At the same time, we can result that the construction of corridors in initial stage can create remarkable boosting effect on economic growth, and the effect

Year	(a) GDPe *	(b) added value of GDP#	(C) Transport investment*	(d) added value of Trans-GFCF#	(e) Contribution Share	(f) Contribution
	100 million RMB	100 million RMB	100 million RMB	100 million RMB	%	percentage points
2026	1355961	76753	300	172	0.22%	0.01
2027	1437319	81358	1000	574	0.71%	0.04
2028	1523558	86239	800	459	0.53%	0.03
2029	1614972	91413	200	115	0.13%	0.01
2030	1711870	96898	200	115	0.12%	0.01
2031	1814582	102712	200	115	0.11%	0.01
2032	1923457	108875	150	86	0.08%	0.00
2033	2038865	115407	150	86	0.07%	0.00
2034	2161197	122332	100	57	0.05%	0.00
2035	2290868	129672	50	29	0.02%	0.00
2036	2405412	114543	20	11	0.01%	0.00
2037	2525682	120271	20	11	0.01%	0.00
2038	2651966	126284	10	6	0.00%	0.00

Table 4.	. The Estimated	Contribution of	of Transportation	Investment to	GDP Gro	wth, Trans-Bohai
	Strait Passage					

Note: \* current price; #: Price last year (the same for the next table); (e)= (d)/ (b); (f)= (e)\* the Growth Rate of GDP; (a) is the expected value.

Source of (c): The strategic research on Trans-Bohai Strait Passage, Transport Planning and Research Institute (TPRI) of MT, PRC with the Institute of Comprehensive Transportation (ICT) of NDRC, PRC, 2010.

will gradually become weak with the continuous decrease of investment scale.

Of course, the above analysis is predicated upon the stable growth of GDP. If the speed of economic growth in China and South Korea changes, the boosting effect of corridor investment on regional economic growth also changes. However, the change only influences the level of effects of corridor investment, not the direction of effect on the economic growth.

Table 5.	The Estimated	Contribution of	Transportation	Investment to	GDP	Growth, N	lorth
	Yellow Sea Tu	nnel					
			(Unit: 10	0million USD,	% .	percentage	points)

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Year	(a) GDPe (2)*	(b) GDPe (1)*	(C) added v alue of GDP(3) #	(d) transport investm ent(3)*	(e) added v alue of Trans-G FCF(1)#	(f) added v alue of Trans-G FCF(2)#	(g) added v alue of Trans-G FCF(3)#	(h) Contrib ution Share	(i) Contrib ution
2026	21934	193179	11778	50.0	14.1	27.4	41.5	0.35%	0.02
2027	22812	204770	12468	300.0	84.6	164.6	249.2	2.00%	0.12
2028	23724	217056	13199	200.0	56.4	109.8	166.1	1.26%	0.08
2029	24673	230079	13972	100.0	28.2	54.9	83.1	0.59%	0.04
2030	25660	243884	14792	80.0	22.6	43.9	66.5	0.45%	0.03
2031	26686	258517	15659	50.0	14.1	27.4	41.5	0.27%	0.02
2032	27754	274028	16578	50.0	14.1	27.4	41.5	0.25%	0.02
2033	28864	290470	17552	50.0	14.1	27.4	41.5	0.24%	0.01
2034	30019	307898	18583	40.0	11.3	22.0	33.2	0.18%	0.01
2035	31219	326372	19675	40.0	11.3	22.0	33.2	0.17%	0.01
2036	32156	342690	17255	40.0	11.3	22.0	33.2	0.19%	0.01
2037	33121	359825	18099	30.0	8.5	16.5	24.9	0.14%	0.01
2038	34114	377816	18985	30.0	8.5	16.5	24.9	0.13%	0.01
2039	35138	396707	19914	30.0	8.5	16.5	24.9	0.13%	0.01
2040	36192	416542	20889	20.0	5.6	11.0	16.6	0.08%	0.00
2041	37278	437369	21913	15.0	4.2	8.2	12.5	0.06%	0.00
2042	38396	459238	22987	10.0	2.8	5.5	8.3	0.04%	0.00
2043	39548	482200	24114	10.0	2.8	5.5	8.3	0.03%	0.00
2044	40734	506310	25296	5.0	1.4	2.7	4.2	0.02%	0.00
2045	41956	531625	26538	5.0	1.4	2.7	4.2	0.02%	0.00
2046	43215	558206	27840	2.0	0.6	1.1	1.7	0.01%	0.00

Note: (1) refers to China; (2) refers to South Korea; (3) refers to the total of China and South Korea; (a) and (b) are expected values; (h)=(g)/(c);(i)=(h)\*the growth rate of GDP. Source of (d): Research on the North Yellow Sea Tunnel, ICT of N.D, PRC, 2009.

#### 2.3.1.3 Indirect multiplier effect on other industries

The investment of transportation corridors can create indirect multiplier effect on the industries which relate to the construction of transport infrastructure. The multiplier effect is made up of two parts, the forward and backward effects.

Let us take the Trans-Bohai Strait Passage as an example. According to the survey and analysis of the Ministry of Railways of China, the direct input coefficient and the total input coefficient of transport construction in Bohai Rim is shown in table 6.

Table 6. Direct &	Total Input	Coefficients of	Input-Output	Table for	Rail Investment	: (2007)
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Industry	DIC	TIC	Industry	DIC	TIC
А	13.85	33.19	F	4.12	11.77
В	5.96	11.05	G	3.32	5.87
С	8.33	12.04	Н	3.82	8.11
D	8.13	19.52	Ι	3.83	9.64
Е	4.53	6.62	J	3.17	6.77

Note: 1) DIC: direct input coefficient; TIC: total input coefficient

2) A: Ferrous metal smelting and rolling processing industry

B: Timbering and non-mental mineral product industry

C: Manufacture and Processing of Metals and Metal Products

D: Business E: Nonmetallic minerals Industry

F: Mechanical industry

G: Timber processing and furniture manufacturing

H: Electric appliances and instrument manufacturing

I: Freight transport and logistics J: Coking, Gas and Processing of Petroleum

Source: the research of Chinese transportation development strategy, Ministry of Railways of China, 2008.

So we can calculate the total multiplier effect of Trans-Bohai Strait Passage on other industries. As a result, the value of the multiplier is 2.816. In other words, adding a unit of the final product (Trans-GFCF)can draw out 2.816 units of production demand from other industries. And the investment into the Trans-Bohai Strait Passage will lead to an increase of GDP formed in other industries by 540.7 billion RMB, assuming that the investment of Trans-Bohai Strait Passage is 320 billion RMB. Certainty, it will produce a huge pulling function for the economic growth in the Bohai Rim.

Also, construction of the Trans-Bohai Strait Passage will directly consume large amounts of materials such as cement, steel, asphalt, wood and so on. According to table 7 and the reference of typical projects, table 7 shows the expected consumption of materials for the construction of the Trans-Bohai Strait Passage.

Type(Unit)	Road bridge	Rail bridge	Road tunnel	Rail tunnel	Down-lead program	Total
Investment 100million R	600	565	805	1080	150	3200
Steel 100thousand ton	98	326	425	1259	14	2122
Asphalt 100thousand ton	179	0	413	0	29	622
Cement 100thousand ton	1688	1817	5140	6554	278	15477
Wood 100thousand m <sup>3</sup>	49	24	145	275	8	501
Grit 100thousand m <sup>3</sup>	13662	6621	31760	16496	2517	71056

Table 7. The Consumption of Materials for the Construction

Source: "calculation based on basic data in research about the boosting effect of transport infrastructure on the economic growth," *Comprehensive Transportation*, Vol. 7, 2009.

# 2.3.2 Stimulated by the increase of Transport Demand

The transport demand is a kind of derived demand caused by other economic or social activities. Economic growth, which is the basic driving force of transportation development, can create transport demand. In another side, the growth of transport demand can, in turn, stimulate economic growth.

The construction of transportation infrastructure can cause the increase of transportation supply, place a premium on transport demand, and also make it possible to transform the transport demand into passenger and freight traffic and let travellers and consignors successfully consume transport products. Finally, the consumption of transport product will fuel the growth of the gross domestic product.

#### 2.3.2.1 Transport demand forecast of corridors

# (A) A reasonable hypothesis

Since there are more factors influencing transport demand for the operation of Trans-Bohai Strait Passage and the North Yellow Sea Tunnel, it is not easy to 'fix' them and identify them; therefore we usually forecast the transport demand in three types of scenarios - conservative, average and optimistic.

This paper takes the average scenario as an example. In this scenario, rapid growth is expected in regional economies in NAIR, and no serious economic crisis for several decades in the future several. The industrial structure would be adjusted according to the direction of the plan, regional cooperation would achieve the expected development level, and the urbanization level would be higher. The standard fee of sea-crossing passenger transportation would be moderate. The rate of increase in passenger and freight volume of transportation corridors would be at average levels.

(B) Mentality and methods of forecast

The transport demand of corridors is made up of trend traffic volume (TTV) and induced traffic volume (ITV). TTV is a natural increase of transport demand volume, followed by growth in regional population and economy, the development of industries, increased consumption levels, increased import and export trade volumes, impact other economic and social areas, as well as restraining factors of transportation ability in NAIR. TTV appear in a hypothetical scenario of abandoning the construction of corridors. In other words, TTV would be involved in decision whether or not to build transportation corridors. While, ITV is kind of new transport demand product stimulated by the construction of transportation corridors.

The Regression Mode and Elastic Coefficient Method are usually adopted for the forecast of TTV, and the Gravity Model and Growth curve model for ITV. (C) Result of forecast

• The Trans-Bohai Strait passage

Table 8 shows the transport demand of different transport models in a hypothesis where Trans-Bohai Strait passage does not exist in the future. And table 9 shows the transport demand of total transport demand in the hypothesis of building the corridor.

Table 8. The Transport Demand over Bohai Strait (by transport model), without Corridor program (Unit: 10000 passenger /ton)

	(Child Tooto passenger / to								
Yea	r	2008	2025	2030	2038	2050			
	Total	585	2010	2640	3204	3433			
Desserves	Shipment	576	1492	1847	2142	2271			
Passenger	Railway	0	0	0	0				
	Road*	9	518	793	1062	1161			
	Total	11087	15653	17002	17775	18162			
Freight	Shipment	9455	12312	12738	13136	13363			
Freight	Railway&	999	1841	2122	2367	2493			
	Road*	633	1500	2142	2272	2301			

Note: & for railway ferry and \* for rolling on/off transport. Source: The strategic research on Trans-Bohai Strait Passage, Transport Planning and Research Institute (TPRI) of MT, PRC with the Institute of Comprehensive Transportation (ICT) of NDRC, PRC,2010(the same as in the following table).

#### Table 9. The Transport Demand over Bohai Strait, with Corridor Program

	(Unit: 10000 passenger /ton)								
Index	Uvpothosis	2025		2038		2050			
	Trypoulesis	Passenger	Freight	Passenger	Freight	Passenger	Freight		
TTV	NO, program	2010	15653	3433	18162	4524	19798		
RI	program			8.78%	6.45%	2.3%	1.67%		
ITV	program	0	0	301	1171	104	331		
Total of TD		2010	15653	3734	19333	4628	20129		

Note: RI refers to the ratio of induced traffic volume with the total of transport volume.

# • The North Yellow sea Tunnel

Table10 shows the transport demand of total transport demand in the hypothetical scenario where the corridor is built.

(Unit: 10000 passenger/ton)

Table10. The Transport Demand over North Yellow Sea, with Corridor Program

Index	Uzmathagia	2025		2046	5	2050	
	riypoulesis	Passenger	Freight	Passenger	Freight	Passenger	Freight
TTV	NO, program	2220	16815	5809	28098	6538	30414
RI	program			12.30%	9.12%	9.61%	8.15%
ITV	program	0	0	715	2563	628	2479
Total of TD		2220	16815	6524	30660	7166	32893

Source: Research on the North Yellow Sea Tunnel, ICT of N.D.P.R.C, 2009.

2.3.2.2 Transport consumption stimulates the growth of regional economy

The increase of transport demand means that transport enterprises have to create more transportation products, and passenger and consignors can consume more transport services. In other words, the consumption of transportation product can create new transport demand for subsequent production, producing more and more transport services. And this kind of transport demand is just the purpose and power of reproduction. The new product ability of transportation can cause the increase of the national economy. As a result, the consumption activity regarding transport product stimulates the growth of the regional economy.

We can conclude from tables 9 and 10 that the induced traffic volume will be created every year after the operation of transportation corridors. Certainly, the rate of induced traffic volume will decrease with the increase of time, until finally dropping to 0. However, if the induced traffic volume each year is accumulated together, it becomes a huge number.

In addition, the upgrading and transformation of consumption structure aroused by transportation consumption activities can also increase economic growth. Due to the construction of transportation corridors, the distance between regional cities becomes shorter and the transfer time becomes faster, and the passenger and consignors begin to pursue better service for enhanced convenience, quality and safety. With upgraded demand, improved consumption ideas as well as the improvement of income, the activity of transportation consumption will bring about optimization of consumption structure, and eventually drive the development of transportation and related industries.

# 2.4 Optimizing the structure of regional economy

- 2.4.1 Regional industrial restructuring and industrial transfer
- 2.4.1.1 The reduction of transport cost leads to agglomeration and dispersion of industries

The New Geographical Economics<sup>121</sup> holds that the relationship between the trade cost including transport cost and benefits brought by scale economy is the main driving mechanism which determines the agglomeration and dispersion of industry. The reduction of transport cost can bring the agglomeration of industries along transport lines or around transportation junctions. Also, the formation of industrial clusters will be accompanied by the large-scale industry transfer. When the industrial cluster develops to a certain extent, its own industrial centrifugal force will also continue to strengthen.

The construction of corridors can effectively reduce the transport cost in the Bohai region, thereby reducing transaction costs, and further impact location choice for industrial transfer in South Korea, Japan and other countries by changing the centripetal and centrifugal force of industrial agglomeration.

<sup>121)</sup> Liu Liming and others' "An Empirical Analysis of Transportation Costs, Rent and Transfer of Industry Agglomeration", prices monthly, 2010.2. The New Economic Geography mainly study the problem of industry transfer from the perspective of industrial division, industrial agglomeration and industrial diffusion. Taking industry cluster as the center, research has been done on the phenomenon of industrial transfer in the evolution of industrial clustering.

Take the North Yellow Sea Tunnel as an example. If the passenger transport price for the tunnel is 1.5 Yuan/kilometer and general cargo transport is 1.2 Yuan/ton per kilometer,<sup>122)</sup> and the railway transport price for Seoul to Beijing through Jing-yI (Gyeong-eui) Railway (assuming the traffic is integrated with the Korean Peninsula) is about 1.2 Yuan/person per kilometer and general cargo is 1 Yuan/ton per kilometer,<sup>123)</sup> we can conclude that 755 Yuan/person for passenger and 660 Yuan/ton for freight in transport costs can be saved.

# 2.4.1.2 Optimizing the Distribution of Resources brings overall advantage of regional industries into full play

Northeast Asia is rich in resources, and the resources in different countries can complement each other. The Russian Far East has certain advantages in fertilizers, machinery, timber, aquatic products, military products, mineral products; China owns surplus labor force, vegetables, textile, daily-use manufactured products, food, medicine and so on; North Korea possesses a smaller amount of surplus labor force and much seafood, which is very attractive; Japanese manufacturing industry which is in urgent need of transfer still retains its charm in this region, and Japan is advanced in electronic, aquatic products, home appliances, automobile, chemical industry, capital, practical technology and management technology; South Korea seconds only to Japan in aquatic products, textile, electronics, financial and practical technical; Mongolia has great potential in animal products, mineral products .

The construction of the Trans-Bohai Strait Passage and North Yellow Sea Tunnel can develop and enhance the overall superiority of NAIR especially for YBSR, and turn the potential advantage of YBSR into reality. On one hand, it is helpful for the evolution to progress gradually from the first to the secondary

<sup>122)</sup> Those prices are culled from the research on the North Yellow Sea Tunnel, ICT, 2009.

<sup>123)</sup> Those prices refer to the regulation rule of railway freight rates, Ministry of Railways, china, 2000.

or third industrial in each country and the evolution from labor-intensive industry to capital, technology-intensive industry; on the other hand, it is helpful to achieve complementarity of industrial structure among different countries, realizing the sharing of industrial advantages.

2.4.1.3 Promotion of effective transfer of industry from South Korea and Japan to China

In the background of economic globalization, the international industrial transfer has become a common topic for developed and developing countries.

The international industrial transfer, mainly in manufacturing, and has been seen in three waves since the 1950s. They are as follows: transfer of steel, textile and other traditional industries from United States to Japan, Germany and other west countries (in the 1950s); transfer of low value-added, labor-intensive and resource-intensive industry from Japan and Germany to the "four tigers" in Asia and other emerging industrialized countries and regions (in the 1960s to 1980s); transfer of disadvantaged industries from the Asian Tigers to China and other developing nations (since the 1990s). So East Asia has become the place where the most rapid transfer in the manufacturing industry has taken place in the third wave of international industrial transfers.

The northeast and east of China was the main recipient of industrial transfer from South Korea and Japan. The construction of the Trans-Bohai Strait Passage and North Yellow Sea Tunnel conforms to the trend of international industrial transfer, and will facilitate transfer of most of the industries in South Korea and Japan to the Bohai Rim. The industries include the iron and steel industry in Incheon; textile and spinning industry in Gwangju; shipbuilding, machinery, automobile manufacturing, textile and food industry in Busan; as well as iron and steel, chemical, metal, ceramic industry in Kitakyushu, Japan; shipbuilding, fishery and tourism industry in Nagasaki; aquatic product processing and shipbuilding industry in Shimonoseki, and so on. Meanwhile, the construction of a manufacturing

# base in Shandong province and new

industrial economic zones in Beijing-Tianjin-Hebei region will effectively catch the transfer from South Korea and Japan. In addition, the service industry will gradually become new hot spot for this international industrial transfer. The construction of corridors is beneficial for the exchange of knowledge, technology and culture as well as the transfer of service industry between China, South Korea and Japan in the future.

# 2.4.2 Influence on China-ROK Foreign Trade Structure of Goods

2.4.2.1. Status quo of China-ROK Foreign Trade Structure of Goods

Composition of Foreign Merchandise Trade (CFMF) refers to the construct of all traded commodities (both exported and imported) of one country during a certain period. As an important indicator of the capacity of a country's foreign trade, it includes both the structure of exported imported commodities, reflecting the level of economic development of a country and its status within the international division of labor.

The exports from China to South Korea mainly include mechanical, electrical and audio-visual equipment and components, textile raw materials and manufactured products, base metals and manufactured products, mineral products, plant products and chemical products. The above six categories of merchandise accounted for 81.1% of the total exports from China to South Korea in 2007, an increase of 26.8 percent over the previous year.

Imports of China from South Korea mainly include mechanical and electrical and audio-visual equipment and components, chemical products, base metals, plastics, rubber and manufactured products, mineral products, and optical medical instruments. The above six categories of goods accounted for the share of 93.3% of China's total imports from South Korea in 2007, an increase compared with the share of 92.2% in the previous year.

In recent years, the technology content of China-ROK traded goods is

increasing, and the bilateral commodities trade structure is further improving, gradually shifting to trade in manufactured and high value-added goods from a past marked by trade in raw materials and low value-added goods. It shows that the bilateral economic and trade relations between China and South Korea have come to a new stage of the horizontal division of labor.

# 2.4.2.2 Influence on China-ROK Foreign Trade Structure of Goods

The main impact of the operation of the Trans-Bohai Strait Passage and the North Yellow Sea Tunnel on the China-ROK foreign trade structure of goods comes from the following two aspects. Firstly, the operation of the Trans-Bohai Strait Passage and the North Yellow Sea Tunnel will promote the industrial restructuring and industrial transfer around the Yellow and Bohai Sea Rim, which may lead directly to changes in the China-ROK foreign trade structure. Secondly, continuous improvements in regional transport will expand the scope of the China-ROK foreign trade related to cargo transportation, eliminating traffic "bottleneck" constraints in the type and quantity of imports and exports in YBSR, and further optimize the goods structure of the China-ROK trade.

a) Influence of Industrial Restructuring and Transfer on Foreign Trade Goods Structure

Theory and practice have shown that a country's foreign trade commodity structure is closely related to its domestic industrial structure. The industrial structure is the material basis of a country's import and export commodity structure, and the evolution and optimization of the industrial structure directly determines the level of import and export commodity structure. Take China for example, before the 1980s, The Chinese government placed too much emphasis on the development of heavy industry, ultimately leading to the imbalance between light and heavy industries. At the beginning of the 1980s, China implemented policies to expedite light industrial development. By the beginning of the 1990s, the problem of the unbalanced industrial structure was basically resolved. During this period, China's

commodity structure in terms of imports and exports gradually achieved the transition from primary products as the main items for trade to textile products. After the 1990s, China strengthened the infrastructure investment, especially in the energy, transport and communications industries, and as a result, the share of machinery, office and telecommunications equipment in total exports increased to a certain extent. At the same time, the process of heavy industrialization brought about the need to import a large number of machinery and transportation related goods; and the demand for imported minerals, fuel and other commodities also increased. In the middle 1990s, China began to develop high-tech industries, resulting in Chinese high-tech product exports exceeding textile exports in 2002.

As described in section 2.4.1.1, the large-scale investments into the Trans-Bohai Strait Passage and North Yellow Sea Tunnel, and the decreasing costs of regional transport, will promote the accumulation and diffusion of regional industry, which will facilitate industrial upgrading and restructuring in all countries around the Yellow and Bohai Sea Rim. For China, the construction of the Trans-Bohai Strait Passage and North Yellow Sea Tunnel, will significantly boost development of its high-tech industries; machinery, electronics and chemical industries; and manufacturing in the Shandong, Beijing, Tianjin and Hebei; in addition to influencing import and export trade structure of Beijing and Tianjin and other regions.

The section 2.4.1.2 discusses China catching industry transfer from South Korea and Japan. With the transfer of South Korea's manufacturing industries and some technology-based labor-intensive industries, China-ROK trade in machinery and electronics, steel, chemical, general-purpose electronic equipment, and textile raw materials and manufactured commodities will continue to increase.

b) Influence of the Regional Transport Structure Optimization on the Foreign Trade Goods Structure

From the perspective of reasonable transportation, different places and different categories of trade goods should select the appropriate mode of transport and transport organization, due to the different technical and economic characteristics of each transport mode. For example, maritime transportation has the advantages in large capacity and low cost, but disadvantages in speed and timeliness; the capacity of rail transport is relatively large, and rail transport has good timeliness, with relatively high efficiency of per unit volume; road transport has comparatively weak transport capacity, with high costs, but it is flexible and it can achieve "door to door" transportation. Therefore, minerals, fuel, building materials, crude oil and other bulk cargo or containerized cargo can choose ocean transport or rail transport, and timeliness or high value-added goods such as fruits and vegetables, agricultural products, pharmaceuticals, precision instruments, electronic components and other goods, are suitable for air transport or rail transport.

The construction of Trans-Bohai Strait Passage and North Yellow Sea Tunnel, will greatly improve the network structure of regional transportation in YBSR, promote the transport efficiency of import and export cargo, increase the transport capacity of foreign trade cargo, and expand the scope of foreign trade cargo transportation, in order to eliminate the traffic "bottleneck" constraints on the type and quantity of the imports and exports, and to realize efficient movement of imports and exports which are not suitable for ocean transport or air transport. At the same time, the projects will also contribute to imports and exports with the timeliness requirements (such as agricultural products, vegetables, fruits and vegetables, pharmaceuticals, chemical products, etc.), and further enhance China-ROK trade in goods (such as mechanical and electrical audio-visual equipment and parts, textile raw materials and products, base metals, minerals, etc.).

#### 2.5 Promoting Effect on the Regional Growth Poles

Transportation is the basis of regional economic development, which forms the spearhead in the change of the regional economic spatial structure. The construction and operation of the Trans-Bohai Strait Passage and the North Yellow Sea Tunnel will improve the accessibility of YBSR, promote regional transport and logistics integration, which will make full use of the location advantage of YBSR, strengthen the attractiveness of YBSR for various economic activities, and ultimately make this region a new growth pole of economic development in NAIR.

#### 2.5.1 The improvement of regional accessibility & transportation facilitation

Regional accessibility is a term used to describe the degree of convenience to which material, energy, personnel and others are exchanged with other relevant regions. And it also signifies the degree of convenience of the social and economic ties within the region and inter-region.<sup>124)</sup> Usually, regional accessibility can be measured by the average travel distance (or travel time) from the corresponding nodes to the network in the region. The shorter the distance between the point and the network (or travel time) is, the better the accessibility is.

Regional accessibility can enhance locational advantages of a region, shorten the transport distance, save shipping time, reduce transportation costs, improve the regional transport facilitation, promote the optimal allocation of the resource elements, and ultimately impact regional economic development.

The construction and operation of the Trans-Bohai Strait Passage and the North Yellow Sea Tunnel, will have a significant role in improving regional accessibility, according to shortened transport distance and time/cost savings calculated from two scenarios of whether the project does or does not exists. According to the study of the Ludong University, the constructing and operation of the Trans-Bohai Strait Passage will influence the time cost and the accessibility of the hub cities in northeast China and eastern region, as shown in Table 11. According to the ICT research, with the construction of the North Yellow Sea Tunnel, hub cities in China and South Korea will be impacted on their accessibility, as shown in Table 12.

<sup>124)</sup> Mitchell R, Rapkin C. (1954), Urban Traffic: A Function of Land Use, p. 217. New York: Columbia University Press.

Table	11. Influence of	the Construction	of the Trans-Boha	i Strait Passage on	Time Cost and
	Accessibility	of Hub Cities in	Northeast China a	nd Eastern Region	
		. Time cost be	efore Time cost	Area before the	Area increased

Transport hub cities	Targeted cities	Time cost before	Time cost	Area before the	Area increased
		the construction	savings	construction	(square
		(minutes)	(minutes)	(square kilometers)	kilometers)
Harbin		1212	289	1956403	10369
Changchun	Yantai	1045	265	1830699	14204
Shenyang		873	317	1612712	10598
Dalian		930	603	134113	282167
Tangshan		616	9	745728	1
Beijing		676	0	13390507	262
Tianjin		520	17	802808	59
Shijiazhuang	Dalian	520	37	858093	54
Jinan		688	147	1371377	4122
Yantai		930	603	1453452	237775
Qingdao		877	424	1518511	72633
Xuzhou		848	178	1925322	8772
Nanjing		1092	324	2601954	20144
Hangzhou		1254	318	2854100	21188
Ningbo		1350	319	2881811	20187

Source: Wang Zhenbo, Sun Dongqi (2009), Effects of Trans-Bohai strait Passage on traffic accessibility for East China and Northeast China.

Table 12. Influence of the Construction of the North Yellow Sea Tunnel on Accessibility of Hub Cities in China and South Korea

Transport hub cities	Targeted cities	transport distance (km)*	transport distance saved (km)	Time cost before the construction (minutes)	Time cost savings (minutes)
Shenyang		729		486	
Beijing		1470	-70	980	
Qingdao	Seoul	2210	1510	1473	1007
Lianyungang		2361	1450	1574	967
Shanghai		2783	1230	1855.33	820

Note: At present, the connecting Chinese and South Korean railways requires passing through North Korea. There were three rail links between North and South Korea, which were Seoul to Sinuiju Line, Seoul to Wonsan Line and Donghae Line. In 2007, the Seoul to Sinuiju Line and Donghae Line was repaired after being severed for more than 50 years, but is not fully operational. \* Assuming that the operation of the three railways between the North and South Korea. Source: Research on the North Yellow Sea Tunnel, ICT of N.D. PRC, 2009. The above tables also shows that the improvement of accessibility in YBSR will greatly promote the optimization and upgrading of the regional transportation network structures, enhance the capacity of the entire transport network, and facilitate regional transport.

# 2.5.2 The establishment of a logistic center in YBSR

The construction of the Trans-Bohai Strait Passage and the North Yellow Sea Tunnel, will create two longest lines of international transport in the world (including Asia-Australia Continental Bridge and the New Euro-Asia Land Bridge) intersect, and the YBSR is just located on the intersection of lines.

According to the Transport Location Theory, if two longest of regional orthogonal or approximately orthogonal transport lines join together, it can allow production elements to intersect along transport lines, to gather around the intersection, thus forming an economic center and finally forming a regional center.

Therefore, as far as the YBSR is concerned, the construction of Trans-Bohai Strait Passage and North Yellow Sea Tunnel will likely lead to the formation of regional centers in NAIR, or comprehensive transport hub or international logistics centers that will be large-scale even by global standards.

Certainly, as it were, it is the natural transport location advantages of YBSR that makes it possible to be built as an international integrated transport hub or logistics center. The advantages as a transport location created by those corridors will have great impact, and lead to multiplier effect and scale effect drawing in areas remote regions of the YBSR, and promote rapid transit of resource elements and goods in the area. This will no doubt go a long way towards the formation of an international integrated transport hub/logistics center. In addition, the abundant port facilities and convenient transportation system of harbor **hinterland** provide definite advantages with respect to the establishment of such a logistics center.

Of course, the establishment of an integrated international transport hub or

logistics center must be preceded by advancement of economic integration in NAIR. Only with closer cooperation in YRSR and also in NAIR, will the effect and advantage of integrated transport hub or logistics center as a bridgehead in NAIR can be highlighted.

At present, the trade cargos exported from South Korea and Japan to Russia or Northern Europe transit mainly through ports, then by the Siberian Land Bridge. But in the long run, the New Euro-Asia Land Bridge will become the main transport passageway for these trade cargos. With the increase of regional economic and trade demand along the line of the New Euro-Asia Land Bridge as well as facilitation of the transport process across the border, the natural location superiority of New Euro-Asia Land Bridge will gradually translate into competitive advantages such as lower transport cost, a more rapid transport and so on. So in this way, as the bridgehead of New Euro-Asia Land Bridge, the YBSR will play a central role in the cargo circulation between European and Asia countries.

If export cargos from South Korea transit to European countries by way of the North Yellow Sea Tunnel and New Euro-Asia Land Bridge, the transit distance will be reduced by over 900 kilometer relative to the Siberian Land Bridge; if the cargo only moves to the center of Asia, it can save nearly 2,700 kilometers. Compared to shipping, a cargo from South Korea to Europe traveling through the New Euro-Asia Land Bridge can take off 15000 kilometers compared to shipping around the Cape, and 8000 kilometers compared to the route through the Suez Canal.

# 2.5.3 The establishment of Free trade center in NAIR

Given the state of economic globalization and regional integration at present, the establishment of a Free Trade Area (FTA) in NAIR remains a common strategic idea among northeast Asian countries, which is also an effective way to raise the level of regional cooperation, make regional economies better supplement each other, and promote regional economic integration in NAIR. Restricted by different political systems, culture and custom and other factors in different countries in NAIR, it is slow to establish the NAFTA at present.

Although institutionalized cooperation mechanisms in NAIR is the key factor for the establishment of an FTA in NAIR, and the construction of a comprehensive regional transportation system. In addition to improving improve the regional transportation conditions and providing greater convenience in transportation services, it will be the foundation for an FTA and promote regional economic cooperation and development in NAIR.

The construction and operation of the North Yellow Sea Tunnel is no doubt beneficial to improving transport links between China and South Korea, facilitate transportation across border, and further promote the formation of Northeast Asia FTA or Three Sided Free Trade Area in China, South Korea and Japan or China-KOR Bilateral Free Trade Area. China, South Korea and Japan account for nearly 20% of the global economy, and 22% of the world's population. Once the Trilateral Free Trade Area between the China, South Korea and Japan is concluded; the CJK will will become the third largest free trade area in the world, right behind the North American Free Trade Area and the European Union Free Trade Area. It will enhance the strength and sustainability of regional economic growth in the three countries, driving further regional economic integration in the East Asia and the Asia-Pacific.

In addition, the construction of transportation infrastructures has been the priority area of economic cooperation in NAIR. The construction of the North Yellow Sea Tunnel is expected to further deepen regional cooperation between China and South Korea and sustain steady economic growth in NAIR. It will also stimulate personnel exchanges and cooperation in other industries related with construction of transportation infrastructure. This paper suggests that it will be important and necessary to take the construction of North Yellow Sea Tunnel as a cooperation issue, within the discussion of creating an FTA in NAIR.

#### 2.6 Potential risk: A alarming topic

There are many uncertainties and potential dangers during the building and operation of the Trans-Bohai Strait Passage and the North Yellow Sea Tunnel, since construction of those corridors are usually accompanied by many risks such as complex engineering conditions, geological hazards and bad weather, political storms and military incidents and so on. And these potential risks may have direct and adverse impacts to YBSR and NAIR. The bad influence mainly include as following:

One of the issues concerns safety, including during the construction phase and in operation. Although there are no dangerous engineering or geological factors, as indicated in nearly all of the studies about construction of those two corridors, it is safety incidents caused by engineering geology or technical problems could arise during the construction period, and disasters could also happen from social and economic turbulence, not to mention the possibility of a local military conflict in NAIR (such as the war in Korea) during its operation.

Another is the crisis involving resource and environment. The building and operation of corridors could cause over-consumption of regional resources, and negatively impact environments in YBSR and surrounding areas, resulting in marine pollution and other environmental damage in YBSR.

These intertwined problems will bring serious challenges to the sustainable development and cooperation in the regional economy in YBSR.

# 3. Conclusions

Based on the study, this paper forms some conclusions as follows:

a) Creating connection for regional transportation is the main method for strengthening economic contact, but it is also important in social and regional labor division.

The construction (including building and operation, **similiarly** hereinafter) of Trans-Bohai Strait Passage and North Yellow Sea Tunnel (hereinafter referred to as Cross-sea corridors) is to be the foundation of regional economic integration in NAIR, and lead the way in regional economic cooperation and development.

b) The construction of cross-sea corridors will promote rapid flow of resource rapid in NAIR, and lead to rational regional division of labor based on increasing **returns to scale.** It not only improves allocation efficiency of regional resources in YBSR, but can also greatly shorten the distance of time and space, improve the regional transport, reduce the transaction and logistics costs, and finally, effectively increases regional trade.

c) Boosting effects on the growth of regional economies in NAIR from the construction of cross-sea corridors, is mainly embodies in two aspects: one is that the investment of corridors can directly stimulate domestic economic growth, and indirectly create multiplier effects on industries related to the construction of transport infrastructure. Another is that the operation of cross-sea corridors will release huge potential transport demand and bring about an increase of passenger & cargo traffic volume, and increase the consumption of transport products, further stimulate the growth of the regional economy.

d) The investment of the Trans-Bohai Strait Passage can contribute about 192 billion RMB to the GDP directly. The figure is about 547.5 million RMB for the North Yellow Sea Tunnel. And the maximum share of contribution and contribution in investment to GDP growth for the Trans-Bohai Strait Passage is 0.77% and 0.04 percentage point in 2027, and 2% and 0.12% in the same time for the North Yellow Sea Tunnel.

Other, the multiplier for construction investment of the Trans-Bohai Strait Passage is 2.816. And the total multiplier effect (in monetary value) of Trans-Bohai Strait Passage on other industries is about 540.7 billion RMB.

e) The construction of cross-sea corridors is beneficial to the agglomeration and dispersion of industries, and promotes international industry transfer to China from South Korea to China, Mongolia and the Russian Far East, especially for manufacturing industries. At the same time, it also promotes the free flow of resource factors in the northeast Asian countries, and enhances economic complementarity in the region.

f) The construction of cross-sea corridors effectively improves the regional accessibility in YBSR, and promotes regional transportation facilitation and logistics integration. All are beneficial to the build of Northeast Asia Free Trade Area. At the same time, the construction of the cross-sea corridors will greatly change the transport location and economic capability of YBSR. And the change may eventually transform the area of YBSR become an international comprehensive transportation hub or international logistics center in NAIR.

g) The construction of cross-sea corridors is companied by many potential risk factors, and these factors are likely to cause safety problems and precipitate crises related to resources and the environment. Further, they may influence the sustainable development and cooperation of regional economies in YBSR.

# Reference

- Arrow, K, Kurz. M. 1970. "Public Investment, the Rate of Return, and Optimal Fiscal Policy." *Baltimare:* The John Hopkins Press.
- Aschauer, David Alan. 1989. Is Public Expenditure Productive? *Journal of Monetary Economics*, 23, pp. 177-200.
- Banister, David and Bereclullan, Yossi. 2011. "Transport Investment and the Promotion of Economic Growth." *Journal of Transport Geography*, Vol. 9, 209-218.
- Brian, Linker, Nigel Spence. 1996. "Road Transport Infrastructure and Regional Economic Development. *Journal of Transport Geography*, Vol. 4(2), 77-92.
- Cantos, P. M. Gumbau-albert, and J. Maudos. 2005. "Transport Infrastructures, Spillover

Effects and Regional Growth: Evidence of the Spanish Case." *Transport Reviews*, Vol. 25, 25-50.

- Demurger, Sylvie. 2000. "Infrastructure Development and Economic Growth: an Explanation for Regional Disparities in China." *Journal of Comparative Economics*, Vol. 29, 95-117.
- Granger, W. 1988, "Some Resent Development in a Concept of Causality." *Journal* of *Econometrics*, Vol. 39, 199-121.
- He, Shouyi, An Huseng. 2004. Regional Economics. Beijing: Economic science press.
- Jin, Guo. 2010. Research on the International Regional Cooperation in the North Asia International Region. AMR, NDRC.
- Korea (South). 2011. Korea statistical Yearbook (2010), Seoul: Korea (South) Press.
- Li, Hong. 2009. Research on the North Yellow Sea Tunnel, ICT of N.D.P.R.C.
- Liu lei, Wang lei. 2008. Influence of Tans-Bohai Strait Passage on Coordinated Development of Region Encircling Bohai Sea. Ludong University.
- Liu, Bin. 2009. "Boosting Effect of Transport Infrastructure on the Economic Growth." *Comprehensive Transportation*, Vol. 7.
- Liu, Xinhua, Liu Zhongliang. 2009. Impact of Tans-Bohai Strait Pssage on the Economic Development of Rigion Encircling Bohai sea and Northeast China Old Industrial Bases, Beijing: Economic Science Press.
- Lixuegong, Xuena. 2010. "The Logistics Cooperation Mechanism of Bohai Sea Economic Belt and the Northeast Asian Economic Region." *Northeast Asia Forum*, Vol. 19, No. 1.
- Munnell, Alieia H. 1992. "Infrastructure Investment and Economic Growth." *Journal* of *Economic Perspectives*, Vol. 6(4), 189-198.
- National Bureau of Statistics of China. 2012. *International Statistical Yearbook* (2011). Beijing: China Statistics Press.
- Nicholas, Richard J.Ellings eds. 2001. Korea's Future and the Great Powers, Seattle:

The National Bureau of Asian Research.

- Qiqie, Piao. 2011. "The Established Possibility of the Northeast Asian Economic Circle with China-KOR-Japan as the Center, *Journal of Shenyang Normal University* (Social Science Edition), Vol. 35, No. 2.
- Rihfield, J. B. M. P. H. Panggabean. 1995. "Is Public Infrastructure Productive A Metropolitan Perspective Using New Capital Stock Estimates [J]." *Regional Science and Urban Economics*, Vol. 25.
- Team of Trans-Bohai Strait Passage. 2010. *The Strategic Research on Trans-Bohai Strait Passage*. TPRI of MT, ICT of NDRC.
- The Ministry of Land, Transport and Maritime Affairs, http://stat.mltm.gp.kr.
- World Bank Database. http://www.worldbank.org.
- Yang, Qing. 2012. "Research on Promotion Effect of Transportation Infrastructure Investment to Economic Growth." *Value Engineering China*, Vol. 6.
- Yoon, HyungKim, Chang JaeLee. 2004. Strengthening Economic Cooperation in Northeast Asia. KIEP.
- Zhang, YUnling. 2005. East Asian Regionalism and China. Beijing: World Affairs Press.
- ZhangYunLing: the establishment of a free trade area in northeast Asia will have a far-reaching impact. http://expo.ce.cn/newmain/roll/201108/29/t20110829.

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