World Economy Brief

May 24, 2023 | Vol. 13 No. 18 | ISSN 2233-9140

Enhancing Korea's Services Trade Statistics: Policy Recommendations

Jongduk KIM Director, International Trade Department (jongduk.kim@kiep.go.kr)

I. Introduction

This report aims to provide recommendations for improving Korea's system of service trade statistics. Ultimately, the purpose is to enhance the understanding of Korea's service trade and contribute to establishing service trade policies using improved data. In order to achieve this objective, the report classifies the objectives pertaining to the enhancement of Korea's service trade statistics into short-term, medium-term, and long-term agendas, taking into consideration the advancement of discussions on service trade statistics among international organizations such as the OECD, the WTO, and others, domestic policy demands, and the existing data accessibility for statistical improvement.

As information and communication technology (ICT) advances, service trade has grown in importance across countries, including Korea. In fact, Korea's service exports more than quadrupled in 21 years, from about $30.8 billion in 2001 to $132 billion in 2022. However, the current service trade statistics in Korea are only provided in aggregate based on the balance of payments data, lacking disaggregated data at a detailed sector level and by trading partners. Nor are the volumes of trade in services defined under trade agreements due to discrepancies across classifications in services trade. Furthermore, in the case of digital services trade, which have been receiving increasing attention recently, internationally accepted definitions are not settled yet, adding more challenges to compiling rigorous services trade statistics.

Against this backdrop, this study revisits the definition of trade in services, explores the translation of service statistics into the Korean Standard Industry Classification (KSIC), proposes a method to estimate Korea's services trade by mode of service supply under the WTO trade agreement, and seeks ways to collect data on digital trade in services.

II. Summary of Methodologies and Results

1. Reclassification of Services Trade Statistics by the KSIC

The reclassification of transaction-based services trade statistics in the Balance of Payments (BPM6) into activity-based services trade statistics such as the Korean Standard Industrial Classification (KSIC) is discussed. This approach provides better alignment with existing industry statistics and enables comprehensive industry-level policy directions. As a matter of fact, the "Service Industry Development Framework Act" (draft), which was first proposed in 2011 and is currently pending in the National Assembly, defines the service industry as notified under the Korean Standard Industrial Classification by the Statistics Korea pursuant to Article 22(1) of the Statistics Act.

In so doing, we used the Industrial Input-Output (I-O) table provided by the Bank of Korea, the International Standard Industrial Classification Revision 4 (ISIC Rev. 4) and the revisions of the 9th and 10th Korean Standard Industrial Classification. The Bank of Korea once matched imports and exports of services in the Industrial Input-Output table with the Balance of Payments in 2015. We utilized this information and used other supplementary data for the reclassification.

The following characteristics of Korea's services trade are found from the reclassification. First, services trade is active in manufacturing-related services. Most significant is related to intellectual property overall, and in the case of imports, heavy utilization of (foreign) processing services are noticeable. Discrepancies between the industrial I-O table and balance of payments vary across services. For instance, processing, insurance, and finance are sectors relatively more congruent with small discrepancies. At the same time, there are other services sectors indicating significant differences between the two statistics for detailed services, including information services, other business services such as professional, consulting etc., travel, construction, and government services.

2. Services in Trade by Mode of Supply

There have been no official statistics on trade in services by mode of supply defined under the WTO GATS.[1] However, as the importance of trade in services has increased, international organizations such as WTO or the OECD have recently promoted developing such statistics and produced country-level services trade estimates by mode of supply, acronymized as TISMOS (Trade in Services by Mode of Supply) in 2021. The TISMOS statistics on Korea's services trade are not based on actual data, but are estimated using mirror data from the United States and some European

[1] Mode of service supply under the GATS is four-pronged and defined as follows. Mode1: cross-border supply, Mode2: consumption abroad, Mode3: Commercial Presence, and Mode 4: Movement of Natural Persons.

countries, so the understanding of Korea's services trade and its characteristics based on the TISMOS is limited. Furthermore, the TISMOS database imposes the same mode-specific allocation ratios on all countries in the world and hence there are limitations in identifying the exact volume of services trade by mode.

Hence, we conducted an analysis on the establishment of statistics concerning trade in services by mode in Korea, with a specific focus on Mode 1 and Mode 3. To begin with, in order to enhance the precision of measuring the volume of Mode 1 services trade, a survey was conducted among Korean service firms. Firms on survey were asked to indicate the value of service exports and imports and the share of Mode 1 for each of the five sectors they belong to: (a) telecommunications, computer and information services; (b) research and development services; (c) legal, accounting, management consulting and marketing services; (d) advertising and market research services; and (e) architectural, engineering and scientific and other technical services. The obtained results were then compared with the sector-specific Mode 1 allocations assumed in the Manual on Statistics of International Trade in Services 2010 (MSITS 2010), which serves as the foundation for TISMOS. Subsequently, the report aimed to compute Korea's Mode 3 trade. In the case of TISMOS, the Foreign Affiliates Statistics (FATS) were used to estimate Mode 3 services statistics, based on the activities of foreign subsidiaries as services providers. However, fully comparable data with FATS are not available in Korea. Instead, alternative sources such as ″Management Analysis of Overseas Direct Investment″ provided by the Export-Import Bank of Korea and ″Survey and Analysis of Business Practices of Foreign Enterprises″ provided by the Ministry of Trade, Industry and Energy were available to estimate Korea’s Mode 3 exports and imports to the extent possible. Note that data overall sales by Korean subsidiaries in ″Management Analysis of Overseas Direct Investment″ consist of local sales, re-imports back to Korea, and sales to third countries, but only local sales in invested countries (minus the value of local inputs purchased by investing Korean firms or Korean subsidiaries) were counted as Mode 3 (net) exports by definition. The same principle applies to ~~for~~ Mode 3 imports, where local sales by foreign firms or subsidiaries in Korea were accounted for.

Estimated results of Korea’s Mode1 and Mode3 services trade are following. The survey for Mode1 trade estimation shows that the results are in a close range of those in MSITS 2010 (See Table 1.). However, there are some distinctions worth mentioning. First, legal, accounting, management consulting and marketing services, and advertising and market research services show higher shares of Mode1 exports compared to those in TISMOS - a systemic pattern similar to countries that use country-specific weights (See Wettstein et al. (2019)). Second, Mode 1 import share in telecommunications, computer and information services is 68.7% relatively lower compared to the shares allocated in MSITS 2010. In these

services areas, there is no consistent pattern across countries. Many of the countries applying actual Mode 1 share data to build TISMOS use higher shares than the MSITS, but the United States and Spain use lower Mode 1 shares, 56% and 50%, respectively. Another reason that Korea's lower Mode 1 import share of telecommunications, computer, and information services than that in the MSITS may be due to the fact that a significant portion of telecommunications, computer, and information services are provided to individuals and small businesses through software downloads. The survey on services firms above a threshold level due to the lack of samples of micro-enterprises may possibly underestimate Mode 1 imports.

Table 1. Korea's Mode1 Services Share (compared to MSITS)

(Unit: %)

Services Sector		Exports		Imports	
		MSITS	survey	MSITS	survey
Telecommunications, Computer, and Information services	Telecommunications	100	74.1	100	68.7
	Computer	75		75	
	Information	100		100	
Other Business Services	R&D	75	79.9	75	81.1
	Legal, Accounting, Management, Consulting, Marketing	75	88.8	75	75.5
	Advertising, Market research	75	85.7	75	87.9
	Architectural · Engineering · Scientific and other technical	75	70.3	75	68.5

Source: Authors' calculation.

Turning to Mode 3 trade, in 2015 Mode 3 net exports for wholesale and retail were estimated approximately $118.7 billion, a bit smaller than Mode 3 exports presented by TISMOS, approximately $126.3 billion. To estimate Mode 3 imports, we used 2013 non-manufacturing sales from the "Analysis of Business Practices of Foreign-Invested Enterprises". In terms of Mode 3 imports, we estimated Mode 3 imports to be approximately $92.9 billion (after adjusting foreign firms' local purchases in Korea), which is smaller than Mode 3 imports provided by TISMOS, approximately $128.3 billion. As noted, the data presented in "Management Analysis of Overseas Direct Investment" are based on a sample of about 70 percent of target companies, so underestimation is inevitable. Likewise, Survey and Analysis of Business Practices of Foreign Enterprises 2014 analyzes a sample of 1,000 companies out of the 15,598 foreign companies present in Korea as of the end of 2013. These data give a glimpse of an

idea about Korea's Mode 3 trade; however, to be recognized as country's official statistics and to perform rigorous analyses, a population survey seems more appropriate.

3. Integrate Digital Trade into Services Trade

The classification of "knowledge-capturing products" remains unresolved, and ongoing debates persist. Currently, intangible products that can be transmitted electronically are generally categorized as services. However, the scope of knowledge-capturing products and the specific classification of such products are still under discussion. The lack of a precise classification is largely attributed to the absence of a universally agreed-upon definition of services.

In line with UNCTAD's definition, which characterizes ICT-enabled services as "service outputs delivered over long distances using ICT networks," we estimated Korea's digital trade. UNCTAD establishes "potentially ICT-enabled services" and defines them as including ICT services and ICT-enabled services. UNCTAD differentiates between ICT services (telecommunications services and computer services) and ICT-enabled services (services delivered using ICT technologies, including information services, financial and insurance services, audio-visual services, certain business services, and education services). Notably, transportation services are not included. Trade in potentially ICT-enabled services encompasses only cross-border supply (Mode 1) and does not include other forms of digital services trade. Based on our estimates, Korea's Mode 1 exports and imports in potentially ICT-based services (ICT services and ICT-based services) amount to approximately USD 224.9 billion and USD 335.7 billion, respectively. The overall trade (the sum of exports and imports) accounts for about 27.1% of total commercial services trade in 2015. However, there are three important considerations regarding these estimates. Firstly, as a matter of scope, UNCTAD's definition of "potential" ICT-based services covers a wide range of services, except for some sectors that necessarily involve physical movement, such as transportation, travel, accommodation, and distribution. Clearer categorization for digital trade statistics and a consensus building about it among countries are the way to go. Secondly, it is important to note that the definition of digital trade is limited to services "delivered" using ICT networks. As explained, the current Mode 1 statistics cannot distinguish "digitally-delivered" trade from "digitally-ordered" trade, which include not just services but goods as well. In the case of travel services, it is possible to place a digital order, but the eventual delivery of the service is not electronically possible and therefore does not fall under UNCTAD's definition of ICT-based trade in service. Lastly, digital trade is confined to trade "using an ICT network," excluding trade conducted via phone or email.

III. Policy Implications

Policies concerning Korea's services trade statistics have important implications. Firstly, the Korean government needs to make an effort to provide more detailed service trade statistics by industry and trading partner, and build a system that links the current database with existing complementary data allowing for effectively matching with other industrial classifications. Currently, the balance of payments statistics serves as the primary source of service statistics in Korea, while other complementary statistics are collected sporadically and irregularly as needed. This results in a lack of statistical consistency across different aspects of service trade. Secondly, in order to more accurately estimate Korea's mode-specific service trade, a national firm-level survey is also necessary. It is worth noting that the growth of Mode 1 trade extends beyond the service sector and is intertwined with the increasing servitization of manufacturing. Therefore, it is necessary to survey companies engaged in providing or receiving services abroad, regardless of industry. Lastly, in the realm of digital services trade statistics, active engagement in international discussions is crucial to monitor developments and ensure that Korea's perspectives are adequately represented. Notably, much of discussions and agreements regarding services trade statistics has been led by the Interagency Task Force on Statistics of International Trade in Services (TFSITS), a group of seven international organizations, including the World Trade Organization (WTO), the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF), the United Nations Conference on Trade and Development (UNCTAD), the World Tourism Organization (UNWTO), the United Nations Statistics Division (UNSD), and the European Statistical Office (EuroStat). Therefore, increased attention and participation are warranted. KIEP