World Economy Brief

May 23, 2023 | Vol. 13 No. 17 | ISSN 2233-9140

A Review of Changes in the Global Value Chain of Latin America

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I. Introduction

The escalation of the U.S.-China conflict, marked by the imposition of tariffs in 2018, has had wide-ranging implications across various sectors. Beyond trade issues, the competition between the United States and China has expanded to include technology, ideology, and global supply chains. In the era of globalization and increased specialization the existing Global Value Chain (GVC) further complicates and amplifies the impact of the US-China competition, involving a wide range of stakeholders. Additionally, the supply chain disruptions caused by the COVID-19 pandemic have catalyzed the restructuring of GVCs, further complicating the effects and prospects of the US-China competition on GVCs in Latin America.

Latin America is one of the battlegrounds in the U.S.-China conflict, and the region could leverage external environmental changes such as supply chain reorganization as an opportunity. Furthermore, given the findings of previous studies highlighting the positive impact of integrating into the global value chain on productivity in developing countries, Latin American nations struggling with low productivity levels can capitalize on this opportunity to integrate into the global value chain and enhance their productivity.

Therefore, it is crucial to examine the historical evolution of GVCs within Latin American countries, which helps predict future changes in the GVC of Latin America. Such an analysis can offer implications for companies seeking to utilize Latin America as a base for North American and regional expansion, as well as for the governments that provide support. To this end, we employ the export value-added decomposition methodology, proposed by Wang, Wei and Zhu (2018)[1], to calculate indicators such as forward linkage and backward

[1] Wang, Zhi, Shang-Jin Wei and Kunfu Zhu. 2018. "Quantifying international production sharing at the bilateral and sector level." NBER Working Paper, no. 19677. National Bureau of Economic Research.

linkage, which can shed light on the characteristics of GVCs in Latin America.

II. Analysis of Value Chain in Major Latin American Countries

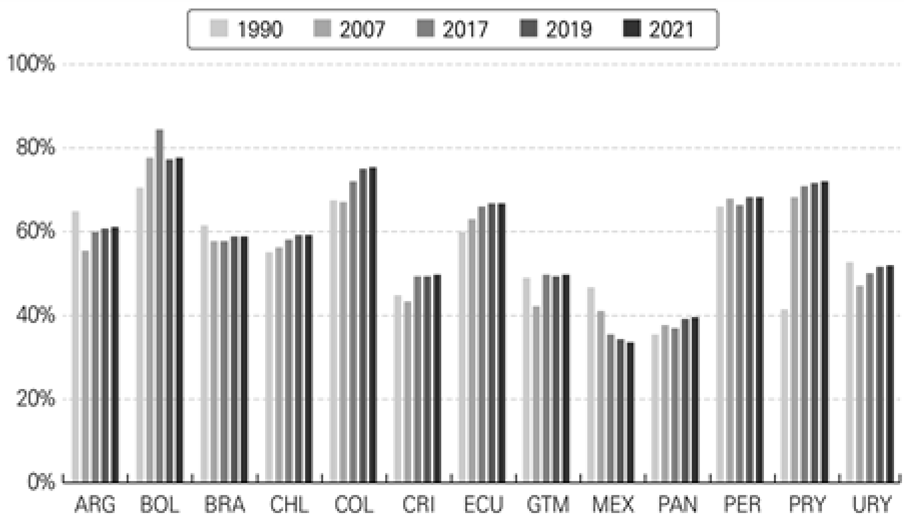
1. Forward Linkage

Figure 1 illustrates the proportion of indirect export value added calculated for major Latin American countries over the last two decades. This measure represents the percentage of country A's value added in goods and services that the other countries imported from country A and subsequently exported to third countries, excluding country A itself. This proportion is commonly known as "Country A's forward linkage participation in the global value chain."

Except for Costa Rica, Guatemala, Mexico, and Panama, the forward linkage participation of Latin American countries in the global value chain surpasses 50%, indicating a relatively high level of engagement. These countries predominantly export primary products, such as raw materials. However, their level of industrialization is lower compared to advanced nations, making it challenging to import intermediate goods and process them to generate high added value domestically. Consequently, the elevated forward linkage observed in major Latin American countries is primarily due to export of raw materials that serve as intermediate goods in other countries.

Figure 1. Forward Linkage by Country/Time

(Unit: %)



Source: Author's calculation using Eora MRIO data.

By contrast, both Mexico and Panama exhibit significantly lower levels of participation in forward linkage compared to other Latin American countries. Moreover, Mexico demonstrates a trend of decreasing forward linkage over time. The relatively low forward linkages of Mexico and Panama in the global value chain can be attributed to a higher proportion of exports consisting of final goods or intermediate goods that are assembled and processed using imported intermediate goods, in comparison to other countries.

2. Backward Linkage

Figure 2 illustrates the proportion of foreign added value in total exports across different countries and periods, serving as an indicator of the degree of backward linkage in the value chain. According to Figure 2, both Mexico and Panama exhibit higher proportions of foreign added value in their exports compared to other Latin American countries. Specifically, as of 2021, Mexico's proportion stands at 39.0%. Notably, Mexico's exports are heavily oriented towards the United States, with 46% of the foreign added value inherent in Mexico's exports to the United States contributed by the United States itself, while 54% is the added value of third countries apart from the United States. This highlights the characteristic of Mexican trade, where a significant proportion of intermediate goods is imported from the United States and subsequently re-exported to the United States. Additionally, it is noteworthy that Mexico has witnessed a decline in forward linkage and an increase in backward linkage within the global value chain over the past three decades.

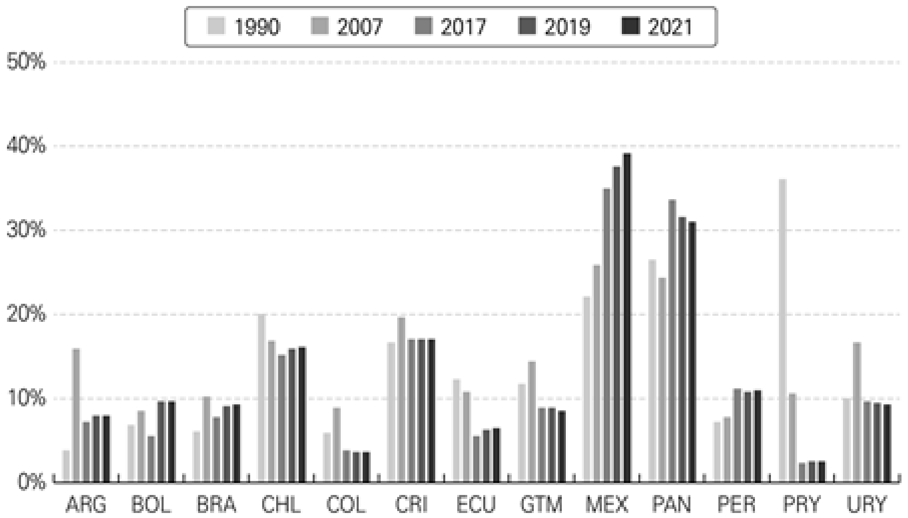
Similarly, Panama also exhibits a notably high proportion of foreign added value in its exports, reaching 30.8% as of 2021. Panama's exports are primarily directed towards Costa Rica, Ecuador, Guatemala, and the United States, reflecting a relatively high proportion. Furthermore, Figure 2 shows an increasing trend in the proportion of foreign added value included in exports to these countries over time.

One notable observation from Figure 1 and Figure 2 is the distinctive pattern observed in Paraguay. From 1990 to 2007, Paraguay experienced a rapid increase in indirect export value added and forward linkage in its exports. Simultaneously, the proportion of overseas value added and backward linkage significantly declined, reaching a remarkably low level of 2%. In contrast, during the same period, there was a substantial increase in rear linkage between Argentina, Brazil, and Uruguay. These findings suggest that Paraguay may have undergone rapid integration into MERCOSUR, particularly in terms of import and export activities, likely influenced by the establishment of MERCOSUR in 1991 and other contributing factors.

Furthermore, Figure 2 indicates that the majority of Latin American countries, with the exception of Panama, demonstrated an increase or stable levels in the period from 2017 to 2019. This period coincided with the escalating competition between the United States and China. Considering that major Latin American countries sought to diversify their exports to the United States as an alternative market amid the intensifying rivalry between the U.S. and China, it is plausible that the backward linkage of these countries has witnessed an increase.

Figure 2. Backward Linkage by Country/Time

(Unit: %)



Source: Author's calculation using Eora MRIO data.

III. Policy Implications

Based on the findings of the value chain analysis conducted on major Latin American countries, it suggests that these countries may have derived certain economic benefits. This can be attributed to the increased exports to the United States and China, where Latin American countries served as substitute countries for imports during the intensifying competition between the two nations.

However, amidst the U.S.-China hegemony race and the supply chain disruptions caused by the COVID-19 pandemic, there is a notable shift in focus. Particularly, the United States is actively working to establish secure and stable supply chains, primarily centered around its own country and allied nations, with the intention of reducing dependence on China. As part of this process, the United States advocates for reshoring or near-shoring, which involves relocating production facilities to its home country or neighboring nations. Additionally, the U.S. is implementing various incentives to support this objective.

Despite the U.S. government's efforts to offer various incentives to promote near-shoring, Latin American countries, including Mexico, have not yet fully capitalized on the opportunity. In the case of Mexico, the forward linkage to the U.S., which represents the proportion of Mexican intermediate goods included in U.S. exports, experienced a slight decline between 2017 and 2019. Additionally, the low level of backward linkage, indicating limited integration in trade with the U.S., suggests that near-shoring has not been prominently observed in Mexico recently.

However, the continuous mention of Latin American countries, in particular Mexico, as potential candidates for near-shoring of the United States underscores the importance for Korean companies aiming to enter or expand their market share in North America to closely monitor developments in Latin America. Specifically, considering the potential impact of the U.S. Inflation Reduction Act (IRA), it becomes crucial to pay attention to Latin American countries that have either signed Free Trade Agreements (FTAs) with the U.S. or are classified as "like-minded" countries that share common values

If near-shoring takes place in these countries, they can be regarded as favorable locations for establishing a foothold to access North America or securing key minerals. Additionally, Latin American countries with substantial backward linkages should be prioritized in trade with the United States. Among them, Mexico and Brazil, which exhibit relatively high levels of backward linkage within Latin America, are considered suitable hubs due to their capacity for generating significant foreign added value in their exports to the United States. KIEP