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Is China a Threat to Mesoamerica’s Development?

Roldan Muradian

Mesoamerica\(^2\) is currently facing a daunting development challenge. After about a decade and a half of implementing outward-oriented development policies, it is time to reckon the results of this model and to figure out new, creative, and more effective strategies for moving the bulk of its population out of poverty. The outcomes of the outward-oriented development model have been disappointing in Mesoamerica according to a number of indicators of socioeconomic development. Despite an impressive expansion of exports, economic growth has been below expected rates. Even though for a period of approximately ten years, exports have expanded by more than fourfold, average income per capita has increased by only 20 percent.\(^3\) This is a meager performance if compared to the 9–10 percent average *annual* rate of economic growth that China has experienced in the same period of time. Another remarkable feature is that economic growth in the countries that make up Mesoamerica has been very unstable across time, experiencing alternate phases of booms and bursts, including the occurrence of severe economic crises. Furthermore, there have not been major improvements with regards to poverty alleviation or income inequality, and particularly in Honduras, El Salvador, and Guatemala, high levels of violent crimes have been persistent.\(^4\)

A key component of the outward-oriented development model was the creation of special zones for the promotion of exports—zones where so-called “maquila” plants were established. A bundle of economic policies for the promotion of the maquila sector, including tax exceptions, deregulations, and the facilitation of temporary imports, were applied by all
the countries of the region. Most of these measures were supposed to be a temporary means for the consolidation of a nascent, outward-oriented manufacturing industry. NAFTA and the implementation of these economic policies produced a noteworthy transformation in the composition of exports. Further, economic liberalization has considerably affected the performance of the rural sector. Most governmental bodies hitherto involved in the commercialization or price control of agricultural products have been phased out, and state support for agricultural production has been greatly reduced, including technical advice and subsidies. Additionally, trade liberalization has induced a downward trend in the prices of a number of agricultural products. These processes have created conditions favoring economies of scale and have contributed to the displacement of small producers, subsequently resulting in massive out-migration of the rural poor.

The outward-oriented model predicted that most of the labor surplus arising from rural-urban migration would be absorbed by the manufacturing export sector. In reality, however, despite the expansion of exports and the structural changes in the composition of the economy, relatively high levels of migration suggest that employment growth in the manufacturing sector has not outweighed employment losses in the primary sector. Migration to either marginal urban areas (in order to become part of the informal sector) or to North America has been the most common options for those laborers who were both displaced from rural areas by a lack of work and also could not be engaged as low-skill workers in the manufacturing or service sectors. In short, economic diversification and expansion of exports as a result of liberal economic reforms have not been accompanied by a generalized and sizeable improvement of development indicators in the region. This contrasts sharply with the outcomes of globalization in other regions of the world, such as Southeast Asia or China, where a rapid integration into the world economy has been generally concomitant with declining poverty rates and high economic growth.5

CASE STUDIES ON NEOLIBERAL ECONOMIC REFORMS
Two critical factors have to be taken into account to understand why the results of the outward-oriented development model have been so disappointing in Mesoamerica: (1) the economic policies that have been implemented in order to promote export expansion, vis-à-vis those adopted more successfully in other regions of the world; and (2) the effect of China and other emerging Asian players on the role Mesoamerica plays in the world economy. This paper focuses on the latter concern, although the former issue is also addressed briefly. Hence, the two main questions to be tackled in this article are the following: (a) What are the effects of China on the way Mesoamerica integrates into the world economy, particularly with regard to its trade pattern with the United States?; and (b) What are the long-term development implications of these effects? With those two questions in mind, this paper addresses basically three issues: (1) Mesoamerica’s trade patterns during the period of implementation of neoliberal economic policies; (2) China’s trade emergence and the subsequent impact on Mesoamerica; and (3) the environmental concerns that arise out of this. The relationship between China’s integration into the world economy and development prospects in Mesoamerica is assessed principally through changes in export patterns from Mesoamerica to China and through competition between both regions in the area of exports of low-tech manufactured products to the American market.

The objective of this paper is to provide preliminary information to address the aforementioned questions, mainly by means of describing trends in export patterns in Mesoamerica during the period of implementation of economic liberalization policies. The analysis is meant to be a pilot exercise that should bring about insights for further elaboration on this subject. Section I, which follows this introduction, briefly describes the sources of data and analysis. Section II summarizes the most relevant results. The paper then concludes with a general discussion of the results, the implications of those results for development prospects in Mesoamerica, and some conclusive remarks.
I. METHODS AND DATA SOURCES

As stated above, the methodological approach of this paper focuses on analyzing trade patterns of key sectors during the period of implementation of the outward-oriented development model in Mesoamerica, with particular emphasis on trade with the United States (by far the largest trading partner), and a comparison with the performance of Chinese exports. The figures presented in the following section are devoted to showing trends across time. These results are expected to be the point of departure for the elaboration of working hypotheses and they should provide insights for further analysis. Specifically, the following four trade patterns were analyzed:

a. Exports of primary products and manufactured products based on natural resources, both in monetary and physical units, to the world and to China;

b. Exports of pollution-intensive sectors, in physical units, to the world and China;

c. Total Latin American exports to China; and

d. Share of U.S. imports from China and Mesoamerica in manufacturing sectors with low, medium, and high technological content.

This paper has adopted ECLAC’s (Economic Commission for Latin America and the Caribbean) classification system for grouping products according to their relative technological content and their pollution intensity. The following is a summary of the categories used for this paper.

*Polluting sectors:* pulp and paper, products derived from oil, chemical products, fertilizers, products manufactured from wood, minerals, and products derived from minerals.

*Primary products:* fresh fruits, meat, rice, cocoa, tea, coffee, wood, coal, oil, gas, and concentrated minerals.
Manufactured products based on natural resources: products derived from fruits and meat, beverages, products derived from wood, vegetable oils, basic metals, products derived from oil, cement, glass, and precious stones.

Low-tech manufactured products: textiles, cloth, shoes, products manufactured from leather, ceramics, simple metal structures, furniture, jewelery, toys, and plastic products.

Medium-tech manufactured products: vehicles, synthetic fibers, chemicals, fertilizers, plastics, iron, steel, tubes, wires, engines, industrial machinery, pumps, watches, and ships.

High-tech manufactured products: machines for data processing, telecommunication equipment, transistors, turbines, power equipment, pharmaceutical products, optical products, precision equipment, and photographic equipment.

The data source is the online database BADACEL (Banco de Datos Estadisticos de Comercio Exterior), developed by ECLAC.

II. RESULTS

Figures 1, 2, and 3 show the degree of expansion of overall exports in Mesoamerica and Central America (Mesoamerica excluding Mexico) and the changes in the composition of exports that have taken place during the last two decades. In the period of analysis, the region has experienced a remarkable decline in its share of the primary exports sector. Nevertheless, Figure 4 shows that in spite of this, total exports of primary products and manufactured products based on natural resources have increased in a very remarkable manner when assessed using physical units (weight), both in Mesoamerica as a whole and in Central America. This trend is likely driving soaring pressures on local natural resources and ecosystems.
Figure 1. Total exports from Mesoamerica (all products). Value
Figure 2. Share of different sectors to total exports from Mesoamerica. Value

Figure 3. Share of different sectors to total exports from Central America. Value
Figure 5 reveals that total exports (in physical units) of the most pollutant sectors have witnessed a cyclical trend, mainly driven by Mexican exports. In Central America, exports of the most pollutant products, measured in weight units, have remained rather constant and relatively negligible. Figure 6 illustrates exports of primary and polluting products from Mesoamerica to China across time, and Figure 7 illustrates the share of exports to China compared to total exports from Mesoamerica and Central America. These figures show both that exports to China are still negligible compared to exports to other parts of the world, and that exports of natural resources to China are not significant and do not follow a clear trend across time. This is in contrast to the trend in Latin America as a whole. Figures 8 and 9 reveal that the Chinese economic boom has induced rising physical outflows, driven by exports from South America, in both the primary and polluting sectors in Latin America.
Figure 5. Exports polluting sectors. Physical units

Figure 6. Exports of natural resources and polluting sectors from Mesoamerica to China. Weight
Figure 7. Share exports to China to total exports

Figure 8. Latin America: index of physical outflows (Exports) 1990 = 100

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Figure 10 depicts the share of U.S. imports, from Mesoamerica and China, of manufactured products with different technological content. Even though this comparison does not establish a causal relationship between the two trends, the figure reveals that China’s share in American imports of manufactured products with low, medium, and high technological content has increased steadily, with a noticeable boost during the last five years of analysis. Even though Mesoamerica’s share in American imports of low- and medium-technology manufactured products has also grown, during the last years of analysis the trend has shifted towards stagnation. In the case of high-tech manufactured products, both regions have experienced a remarkable rise in their shares. However, particularly during the last years of analysis, the rate of market share growth has been considerably higher for China than for Mesoamerica. These trends suggest that Chinese
competition is likely preventing further diversification of Mesoamerican economies. Though difficult to test, further analysis should be devoted to assess this working hypothesis.

The main insights of the data analysis may be summarized as follows:

• Despite a declining share of primary exports to total exports in Mesoamerica, physical outflows of primary products and natural resource-based manufactured products have experienced a considerable expansion during the period of analysis.

• There are no clear trends with regard to the share of exports to China compared to total exports, or the physical flows of natural resources or polluting sectors from Mesoamerica to China. This is in contrast to what is happening in Latin America as a whole. The Chinese boom is steering increasing flows of natural resources and polluting products from Latin America (particularly South America) to China.

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• Even though our analysis does not establish causal relationships, the results show that manufactured products imported from Mesoamerica are losing market share in the United States, while China has alternatively experienced a significant rise in its U.S. market share of manufactured imports with low, medium, and high technological content. This is likely preventing further economic diversification in Mesoamerica, and it is probably promoting an increase in the relative importance of the primary sector in Mesoamerican exports.

III. DISCUSSION

This section will address the following three issues of concern: a) the environmental implications of rising physical outflows; b) the implications of Chinese competition in the American manufacturing market; and c) the reasons why the outward-oriented model for development has shed such divergent results—in terms of improvement of development indicators—in Asia and Mesoamerica.

A. The Environmental Impacts

A declining proportion of primary exports to total exports may suggest that pressures on local natural resources from the exporting sector are also diminishing. However, the rise of the total outflows (exports measured in physical units) of primary products and natural resource-based manufactured products actually indicates that the Mesoamerican exporting sector is likely enlarging its burden on the environment. In addition, rising total outflows of primary products and manufactured products also indicate that the analysis of physical flows may shed different insights on the relationship between trade and the environment. Increasing physical flows are often driving conflicts about access to resources, particularly between local users or dwellers and owners of natural resources who are part of large-scale exporting networks, as well as conflicts about the social distribution of negative environmental impacts.6.7 Furthermore, many
products from the emerging nontraditional and capital-intensive agricultural exporting sector—products such as flowers, snow peas, broccoli, melon, and chayote—use water and agrochemicals intensively. As a result, the expansion of this sector, which is among the most dynamic in Mesomarica (and Latin America as a whole), is often associated with conflicts related to water access, as well as problems linked to occupational health and degradation of natural resources (water, land) as a result of pollution. 

In addition, the production of renewable natural resources is often associated with land-use conflicts, especially in areas with particularly high levels of biodiversity. Given the current structural characteristics of the Latin American agricultural sector—low crop yields, high ratio of cropland to total land area, and a large share of agriculture in overall exports—Barbier estimates that about 70 percent of the expansion of cultivated land area that will take place during the following decades will originate from deforestation and wetland conversion. Furthermore, given the unequal distribution of land tenure in most Mesoamerican countries, a further expansion of the physical scale of primary exports is likely steering large concentrations of economic benefits.

B. China’s Trade Impact on Mesoamerica

For Mesoamerica, the large importance of trade with the United States explains why the Chinese economic boom has been relatively decoupled from the expansion of flows of natural resources and polluting products exported from this region to China; this is in contrast to what has happened with South America (see fig. 8). Moreover, Mesoamerica is relatively less endowed with nonrenewable natural resources, as compared to South America. China currently accounts for about one quarter of global consumption of tin, zinc, aluminium, and copper, and the share of Chinese consumption compared to worldwide consumption of these products has more than doubled during the last decade. The recent increase in global demand for nonrenewable natural resources is concentrated in Asia,
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particularly in China. For instance, it is reported that from 2000 to 2003, China accounted for 76, 95, 99, and 100 percent of the increase in global demand for aluminium, steel, nickel, and copper, respectively.\textsuperscript{12}

South American and African countries, as large providers of nonrenewable natural resources to the world economy, are expected to be considerably impacted by these trends. However, there are other types of impacts on Mesoamerica as a result of China’s emergence as a major player in the world economy. Those impacts need to be assessed mainly by analyzing China’s impact on trade patterns between Mesoamerica and the United States, particularly in the manufacturing sector in which Mesoamerica has recently specialized.

As stated above, the fact that the Chinese share in American imports of all types of manufactured products is dramatically increasing, while the Mesoamerican share has already started to experience stagnation, supports a claim that competition from China in the manufacturing sector is the main channel through which the Chinese economic boom is affecting the way Mesoamerica integrates into the world economy. China’s vast production capacity and its enormous provision of cheap labor are depressing the price of manufactured products.\textsuperscript{13} While benefiting low-income consumers, this is also preventing the value of low-skilled labor from rising worldwide, particularly in countries specializing in the provision of labor for manufacturing, such as Mesoamerican countries. In addition to the low costs of Chinese labor, the ease of current international mobility of capital and production and the declining freight costs are also making China a strong competitor with Mesoamerica for foreign investment.\textsuperscript{14} This is steering a production shift from Mexico to China. For instance, Horbath reports that about 34 percent of all the companies that have closed down their maquilas in Mexico between 2001 and 2003 have moved production to China.\textsuperscript{15}

Due to the integration of Chinese workers into the world economy and the higher cost of labor in Mesoamerica (measured in terms of minimum
wage), low-skilled workers in the Mesoamerican maquila sector would need to considerably increase their productivity in order to enlarge their bargaining power and attain higher salaries. However, a major improvement in productivity due to increased capabilities of workers is not very likely to occur in Mesoamerica, given the structural lack of investment in education and innovation in the region. In general, Latin American economies have weaker education and technological infrastructures when compared to East and Southeast Asia. The trends presented in the previous section suggest that Chinese competition is limiting the expansion of the manufacturing export sector in Mesoamerica, and thus its capacity to provide employment. Additionally, as mentioned before, economic liberalization policies have reduced employment opportunities in the rural sector. The combination of all of the above factors makes competition with China more likely to hinder the integration of low-skilled workers into the formal economic sector, which will maintain the high share of informal labor and widen income distribution.

C. Divergent Results of the Outward-Development Model

There has been a tremendous expansion in both the scale of exports and the overall income earned by exporters of cheap manufactured products. This has been fueled by rising global demand for these products. Thus, despite falling prices of manufactured products, the income terms of trade have improved noticeably in Asia. However, in spite of following trends similar to China and Southeast Asian countries in terms of export expansion and diversification, most Mesoamerican countries have experienced two “lost” decades, characterized by stagnant social indicators of development and scanty economic growth. Hence, critical questions must be asked: Why have the outcomes of the outward-oriented development model been so different in Asia and Mesoamerica? Why has Mesoamerica experienced a gap between the achievement of some expected outcomes of the outward-oriented model—namely exports expansion and diversification—and the
improvement of development indicators? Certainly there is not a single answer to these daunting questions. Nonetheless, I think that a critical factor in understanding these disparate outcomes is the extent to which the manufacture-exporting sector has established backward and forward linkages with other sectors of the national economy; another key factor is the extent to which mechanisms for knowledge transfer and innovation have been established.

1. Maquila Sectors in Mesoamerica and Backward and Forward Linkages

One reason for the resulting differences between China and Mesoamerica is that the maquila sector in Mesoamerica has generally been unable to upgrade production processes from assembly-line activities in order to become the driving force of dynamic networks of innovation; while exactly that type of upgrade is happening in Asia. The maquila in Central America—with the exception of the production of microchips by Intel in Costa Rica—has remained specialized in low-tech manufacturing, particularly in the textile industry. In general, when characterized according to trade patterns, Central American countries still specialize in sectors with very little value added.\(^{19}\) Nevertheless, when characterized following trade classifications based on technological content, the manufacture-exporting sector in Mexico has experienced a dramatic transformation. The share of high-tech manufactured products in the total outcome of the exporting sector has noticeably increased in Mexico.\(^{20}\) However, when analyzed according to processes taking place at the production level—even though some clusters have been able to achieve a higher level of industrial upgrading\(^{21}\)—most of the Mexican maquila is still characterized by assembly of imported parts (mainly from the United States) and the re-exporting of the final products back to the United States, adding only the assembly work of usually low-skilled labor at the local level.\(^{22}\)
The persistence of assembly line processes has been encouraged by the very incentives designed to promote the maquila sector, such as tax exceptions for transitory imports of inputs for the maquila. These incentives—including zero trade tariffs, no value added, or income taxes—create barriers for establishing local backward linkages because the substitution of imports by local provision is hampered by the relative larger cost of the latter. On the contrary, the transfer of knowledge and the acquisition of local upgrading capacities have been two key pillars of the outward-oriented development model implemented in China. The lack of local linkages of the maquila sector in Mesoamerica explains why a tremendous expansion of the exporting sector has been generally decoupled from the evolution of local development indicators.

2. Other Institutional Components

Institutional components may also play a role in explaining the differences between China and Mesoamerica regarding the performance of the outward-oriented development model. For example, the concentration of economic power is a distinctive feature of Mesoamerican countries as compared to China. This concentration has led to economic inefficiencies because of a high incidence of monopolies, oligopolies, structural high-income inequality, large levels of social exclusion, and low internal demand. These conditions have become a serious impediment to balanced economic development in Mesoamerica because the economic benefits arising from the new opportunities offered by the globalization process have been reaped by only a small portion of the population. Corruption and weak institutions have also been persistent features of Mesoamerican countries, and these have hindered the consolidation of long-term policies or effective wealth-redistribution programs, thereby creating conditions for political and social instability.

In China, and most East Asian countries, global economic integration has been accompanied by state interventions aiming to ensure knowledge
transfer and to build up local industrial capacities.26 This has not been the case in Mesoamerica. Contrary to what occurred when the model of import substitution industrialization was applied, long-term planning for economic development in Latin America—including the implementation of policies for achieving industrialization—has generally been abandoned during the liberalization period.27 Industrialization was expected to be the outcome of a larger integration into the world economy by means of following comparative advantages—a process that would be accelerated by foreign investment. Nonetheless, as argued above, liberalization policies have not been sufficient to trigger actual industrialization beyond mere assembly of imported parts. Paradoxically, as mentioned above, economic incentives for the promotion of the maquila have actually contributed to prevent the development of local industrial capacities in the long term. Many of these measures that were supposed to have been temporary, in order to allow the consolidation of the exporting-manufacturing sector, have nevertheless become permanent.28

After assessing the performance of the outward-oriented development model in Mesoamerica and Asia, it seems clear that a shift—from policies encouraging mere assembly processes to policies aiming to promote the development of local industrial capacities—is needed in order to make integration into the world economy a real driving force of development. However, the current harsh competition with China makes such policy changes difficult because it reduces the bargaining power of national states, vis-à-vis international capitals in search of appropriate conditions for the establishment of manufacturing plants. The Mesoamerican region is definitively facing a daunting development challenge and, at least for the time being, it does not appear that the necessary policy changes will be developed and adopted. For example, Central American countries are currently setting up free trade agreements with the United States without systematically evaluating why NAFTA has dramatically failed to shape a sustainable and equitable development path for Mexico. Further, economic
planning or state interventions for promoting industrialization are still almost forbidden words in the mainstream political discourse in Mesoamerica. The dogmatic adoption of development recipes has made politicians and economists unable to either recognize previous mistakes or invent alternative options for the future.

IV. CONCLUSIONS

The Chinese economic boom has increased the physical outflows in the primary and polluting sectors from South America to China. This is then increasing the share of these sectors in Latin American total exports and, subsequently, its degree of primary specialization. However, the effect has been different in Mesoamerica. There is no clear trend toward increasing physical flows in the primary sector between Mesoamerica and China. The significance of manufactured-products trade with the United States, and the greater share of manufactured products in exports in this region, may explain this outcome.

Even though the evidence is not conclusive, the results suggest that Chinese competition is leading to a loss of market share of Mesoamerican-manufactured exports in the United States. This prevents further economic diversification and will likely enlarge the scale of primary exports. It is revealing that while the share of primary exports has dropped in the period of analysis, total physical outflows of natural resources from Mesoamerica has increased substantially, which is likely linked to rising pressures on the environment.

The failure to couple the integration into the world economy with major improvements in development indicators suggests that Mesoamerican countries need to undertake radical changes in order to create incentives for promoting the acquisition of real industrial capacities. However, strong competition with China is making such a shift extremely difficult because any attempt to bargain for greater local benefits would likely impart larger
operational costs on transnational corporations and add an incentive for international capital to move away.

There is a need for further research on policies for the promotion of forward and backward linkages between the exporting-manufacturing sector and other local economic sectors, in addition to strategies for ensuring knowledge transfer and the acquisition of industrial skills (which would allow a move away and forward from assembly processes). The role of government in steering the development of industrial capacity has to be revised. Some key lessons may be learned from the industrialization experience of Southeast Asian countries. Additionally, the long-term development implications of primary specialization is a subject that needs to be revisited in Latin America. In particular, efforts should be devoted to analyzing the relationship between primary specialization, income inequality, and institutional quality from a historical and comparative perspective.

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2 For the purpose of this paper, Mesoamerica is defined as the region comprised by Mexico, Honduras, Nicaragua, Guatemala, El Salvador and Costa Rica. Central America refers to the same countries except Mexico.


8 See Joan Martinez-Alier, Ecological Distribution Conflicts and Indicators of Sustainability, 34 Int’l J. Pol. Econ 13, 13-30 (Spring 2004).


12 See Raphael Kaplinksy, Globalization, Poverty and Inequality: Between a Rock and a Hard Place 123 (2005).

13 See generally Raphael Kaplinksy, China, Globalisation and Neo-Liberal Dogma. Paper prepared for 50th Ann. Conf. at Queen Elisabeth House, Oxford, Eng. (July 4-6, 2004), available at http://www.qeh.ox.ac.uk/dissemination/conferencepapers/kaplinksy.pdf (challenging prevailing policies, particularly with regard to a faulty assumption regarding China’s increasing participation in the global economy.).


21 See Jennifer Bair, Beyond the Maquila Model? NAFTA and the Mexican Apparel Industry, 9 Industry & Innovation, 203, 205-23 (Fall 2002); see also Jennifer Bair &
26 See Wade, supra note 5.
28 See Alicia Puyano Mutis & Jose Antonio Romero Tellaeche, La Maquila (Fragmentacion De Los Procesos Productivos) Y Su Impacto Sobre Las Remuneraciones A Los Factores, 36 PROBLEMAS DEL DESARROLLO, 141, 155-82 (Oct-Dec. 2005).