

This article was downloaded by: [Gregorio Vidal]

On: 28 June 2015, At: 15:51

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH,
UK



International Journal of Political Economy

Publication details, including instructions for
authors and subscription information:

<http://www.tandfonline.com/loi/mijp20>

Manufacturing, Industry and Growth in Mexico

Gregorio Vidal

Published online: 19 Jun 2014.



CrossMark

[Click for updates](#)

To cite this article: Gregorio Vidal (2014) Manufacturing, Industry and Growth
in Mexico, International Journal of Political Economy, 43:4, 63-81, DOI:

[10.1080/08911916.2014.1002688](https://doi.org/10.1080/08911916.2014.1002688)

To link to this article: <http://dx.doi.org/10.1080/08911916.2014.1002688>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages,

and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

GREGORIO VIDAL

Manufacturing, Industry and Growth in Mexico

The Advance of Development or Social Heterogeneity?

Abstract: *The Mexican economy has undergone an important transformation that started at the end of the 1980s. There is a greater weight of private investment and some companies are making major investments in certain manufacturing activities. The composition of foreign trade now rests mostly on manufacturing. Multinational companies, which have acquired assets in the country or have made new investments, are mainly interested in exports. However, the growth of manufactured exports has occurred without a sustained real gross domestic product (GDP) growth, let alone GDP per capita. There are no signs of an increase in technical development and there is evidence of slower growth in equipment, machines, and tools used to manufacture the goods being exported. Based on Celso Furtado's analysis, it is possible to argue that what happened in Mexico is a breakthrough in the growth of manufacturing exports, a growth that creates neither conditions for industrial development nor positive changes in the composition of employment. It has created an export platform concentrated in small group activities, mostly due to the arrival of subsidiaries of foreign firms in the country. Industry is not the engine of sustained growth and even less an expansion of productive activity that encourages the emergence of new branches and the multiplication of exchanges among the various sectors of the economy. One witnesses weak growth and a tendency toward stagnation.*

Gregorio Vidal is a full professor-researcher, Department of Economics, Autonomous Metropolitan University of Iztapalapa, Mexico.

Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/mijp.

Keywords: *Celso Furtado, industrialization, technical development, structural heterogeneity*

Since the late 1980s and early 1990s, significant changes in the dynamics of Mexico's economy have become apparent. Transformations were not just a market outcome—they were the result of a greater weight of private investment in the economy and a significant reduction in public investment. Some companies acquired significance, and investment in manufacturing activities multiplied. Transnational automotive companies operating in Mexico were making new investments in manufacturing parts for the industry and a few other companies were operating activities through maquiladoras. Economic policy, based on suppressing the public budget deficit, moved toward the liberalization of interest rates, the opening of foreign trade, the elimination of restrictions on foreign investment and the realization of a comprehensive privatization program. It was the execution of what was presented as the Washington Consensus agenda at the end of the 1980s (Williamson 1990).

The transformation of the economy, observed since the late 1980s, was preceded by the so-called debt crisis. From 1982 onward, economic policy based on fiscal balance was pursued through the reduction of public spending, the removal of subsidies, and a significant contraction of public investment. The unstated objective of economic policy was to have enough resources to cover at least a portion of interest payments on foreign debt, while renegotiating the debt's payment scheme. During the 1980s, several methods were agreed on to cover debt service, always securing the continuity of fiscal adjustment. By the end of the 1980s and the beginning of the 1990s, fiscal austerity was part of an economic transformation: the implementation of the Washington Consensus agenda.

By the second half of the 1990s there was a different array of exports and a significant increase in the weight of exports and imports relative to GDP. These are aspects of the deep change in Mexico's economy. Manufacturing is the main component of Mexico's exports, with the bulk of foreign sales in equipment, electrical and electronic goods, the automotive industry and, more recently, machinery and equipment employed in different industries. Ample evidence in foreign trade statistics clearly shows the growth of manufactured products in Mexico and destined for foreign trade, thereby raising the issue of the nature of this expansion. It is pertinent to ask whether the growth of manufacturing exports is associated with a significant increase in manufacturing in Mexico. It is likewise relevant to ask whether there is an increase in other industrial activities in the country related to exporting firms, which would add complexity to Mexico's industrial apparatus, or whether the facts are unfolding in a different fashion, implying an increase in manufactured exports with little effect on the rest of the country's industry.

These questions pose problems and relationships that have been objects of reflection since the 1940s in Latin America by members of the structuralist school, initially under the aegis of the United Nation's Economic Commission for Latin America and the Caribbean (ECLAC). Within this group, Celso Furtado's studies stand out, and give answers to many relevant questions, including: What is the relationship between industrialization and development? What are the requirements needed to sustain the process of industrialization in economies like Mexico? And, is an increase in manufacturing production necessarily compatible with sustained growth that endows the economy with the capacity to meet social needs? Such reflections and analysis are relevant for explaining the growth of Mexico's manufactured goods exports, the impact that they have on industrial activity, and possible gains in formal employment and production.

As discussed in the text, growth of manufactured exports has occurred in the absence of sustained GDP growth and per capita GDP growth. Furthermore, there are no signs of increased industrial complexity, yet there is evidence of lower growth in the industry in which the equipment, machines, and tools are used to manufacture the goods being exported. With Furtado, it is possible to argue that what has happened in Mexico is an advance in the export of manufactured exports that has not created conditions for development: greater industrial complexity has not been observed, nor have positive changes been seen in the composition of the country's employment.

In the first part of this article, some relevant proposals are presented in relation to Furtado's characterization of development. The hypothesis of capital accumulation's significance and social appropriation of technical progress as conditions for economic development is elaborated upon, and the relationship between industrialization and economic growth is discussed. This first section questions under what conditions industrialization may be an important element of the development process. The second part of the article analyzes the major changes in Mexico's economy with respect to advances in manufactured exports. A prominent aspect of the process is the high import content of manufactured exports and the growing significance of imports in the composition of fixed capital formation in machinery and equipment. Among the results produced so far is the multiplication of economic activities performed by households without specific facilities and with very weak or precarious technical applications. The article concludes that the observed consequence is an increasing structural heterogeneity with high levels of inequality resulting in weak economic growth and lack of development.

Industry and Development: A Reading from Furtado's Propositions

At the end of World War II the term *development* became more present in both academia and international multilateral organizations and agencies

that governments were then creating, along with agencies and organizations also funded by the governments of the major economies. Studies on backward, developing, or underdeveloped economies were already being disseminated in the 1950s. All of these addressed development or the conditions needed to promote growth, industrialization, and welfare. These include Rosenstein-Rodan (1944, 1957), Singer (1949, 1950), Nurkse (1953), and Lewis (1954, 1955). Lewis notes the difficulties for growth under conditions of unlimited labor supply. In Nurkse, the problem was the weakness of the domestic market due to the unemployment of productive factors that were at the disposal of backward economies. However, changes in economic analysis included the whole of economic theory. There had been systematic expositions that shifted the analysis to the area of economic dynamics. Joseph Schumpeter's work, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, published in German in 1911 and in English in 1934 is a representative study from this perspective. In addition, John Maynard Keynes's reflections had generated a noticeable change.

The recognition of the need for a policy that allowed for the maintenance of effective demand changed the terms of economic analysis. As Furtado notes:

To ensure the use of the entire productive capacity, the policy of maintaining the level of employment ensures a level corresponding to a high rate of investment earnings. Thus, provided that "planned" investments can be carried out without creating large inflationary pressures, countercyclical or stabilization policies are confused, ultimately, with a development policy. (Furtado 1964: 77–78)

Since the late 1940s, in the major economies, the existence of business cycles and the need to plan an appropriate level of investment to achieve full employment were recognized. This could not be left to individual capitalists. Using Keynes's words, "the duty of ordering the current volume of investment cannot safely be left in private hands" (Keynes 1936: 320). Thus, the implementation of these measures involved the maintenance of conditions of development. During the 1940s and 1950s, in economies such as those of Latin America, the terms were different, and a unique perspective was necessary. Yet as shown in his publications from the late 1970s onward, Furtado also explains how he drew on the teachings of authors such as Schumpeter and Keynes. Significant lessons of Keynes and Schumpeter can be found in the work of authors such as Raúl Prebisch and, therefore, in the analyses of ECLAC since its creation in 1949 (Furtado 2006).

In explaining the origin of the so-called structuralist school, Furtado (2006) emphasized that Prebisch's starting point was the criticism of the theory of international trade based on comparative advantage, whereby international trade is not only an engine of growth that allows all countries the rational use of their resources but also a factor in reducing the levels of

income between countries. However, existing evidence points to the opposite, “in the sense of income concentration produced by international trade to the benefit of countries with higher levels productivity and real wages” (Furtado 2006: 18–19). Therefore, structural modifications must be carried out in underdeveloped countries, beginning with the implementation of a project—a development proposal.

In a book published in Brazil in 1964, Furtado discussed the process of social change, concluding that:

Economic development can be defined as a process of social change by which a growing number of human needs, preexisting or created by the same change, are met through a differentiation in the production system generated by the introduction of technological innovations. (Furtado 1965: 39–40; emphasis in the original)

The process of change modifies and extends social needs, which are increasingly satisfied with production that prominently includes technological innovation. Thus, economic development is a process of incorporation and diffusion of new techniques with structural changes at the level of production and income distribution. Consequently, a central issue is the accumulation of capital. In another text, originally published in Portuguese and Spanish in 1954, Furtado pointed out that a theory of development must be based on an explanation of the process of capital accumulation (Furtado 1964: 70), and noted that accumulation includes:

Investment and the total or partial appropriation of the increased productivity that comes from greater accumulation, or in other words the transformation of investment into a source of progress It is for this reason that the theory of development should focus on the study of investment incentives, without neglecting other aspects of the accumulation process. (Furtado 1964: 62)

The issue of the distribution of technical developments and the growing satisfaction of the social needs of larger groups of the population is substantial if accumulation is to be compatible with development. “If the increase in the output generated by accumulation remains concentrated in the hands of a small group of leaders, the process of capital formation tends to reach a saturation point” (Furtado 1965: 65). Under these conditions, underdevelopment continues and it is still possible for economic growth to be weak. The concentration of production and income is also expressed territorially, deepening structural inequalities. “If development can proceed, it is because a significant proportion of new production is distributed among the working masses” (Furtado 1965: 65). The distribution of income is a key figure of development, and growing inequality implies that there is little appropriation of technical developments by the majority of the population.

This implies that simple growth of industry likewise does not generate development. In the late 1950s and early 1960s, upon observing the behavior

of Latin America's economies, particularly Brazil's, Furtado acknowledged that in some countries industrial groups linked to the domestic market existed, and were even capable of producing some of the capital assets needed to expand its productive capacity (Furtado 1964: 174–75). However, this does not mean that this group is the dynamic element of growth. It is certainly possible to continue industrialization itself, despite increasing difficulties in achieving the levels of imports needed for the expansion of manufacturing. But the situation is more difficult when there is no relation between the industrial sector's core composition, the supply it produces, and the consumption of the great majority of the population.

In a text published in 1984, after several years of poor growth and stagnation of Brazil's economy, Furtado insisted that for a long time "the basic wage—for most of the population—participated in the process only as a cost, with its weight a minimum in the configuration of demand in the most dynamic sectors, with production's growth independent of the basic wage" (Furtado 1984: 10). Furtado continued his argument: "therefore, it is possible to say that the model of growth followed by our country structurally concentrates rents and disarticulates society" (*ibid.*). The economy has an industrial sector that is tied to the satisfaction of the needs of the majority of the population. It has no capacity for integrating growing groups into formal work and instead favors the preservation of high levels of income concentration and the territorial concentration of modern industry, and even physical infrastructure. There is an increase in social or structural heterogeneity, a "geographic concentration of economic activity, accentuating disparities in living standards between population groups, with the depopulation of certain areas and excessive agglomeration of others" (Furtado 1984: 81).

The progress of manufactured exports from Mexico, primarily to the United States, and with a high import content of industrialization, is a case of industrialization that does not generate development and has difficulties even in sustaining economic growth. The country is operating with a notable tendency toward stagnation and increasing social heterogeneity.

Manufactured Exports, Industrial Disarticulation, and Structural Heterogeneity

In 1980, before the external debt crisis, exports from Mexico were equivalent to 9.7 percent of GDP. In that year and the following years, resources obtained by foreign sales of crude oil were important. In 1982, foreign crude sales were 73.2 percent of total exports. During 1983, the figure decreased to 67.8 percent. In contrast, manufacturing exports were 14.1 in 1982 and 17.3 in 1983. Regarding the share of exports in terms of GDP, during the rest of the 1980s no major changes were observed. It was only until 1992, after

several years of implementing the Washington Consensus proposals, that exports from Mexico reached a higher weight in terms of GDP. In addition, since 1985 the share of exports in total manufacturing increased, becoming the greatest component by the late 1980s.

Between 1994 and 1995 a remarkable leap in foreign trade was produced. In 1995, exports accounted for 27.8 percent of GDP, whereas the year before the figure was 14.5 percent. The change occurred in the context of a recession and without any history of significant growth of GDP or capital formation. Thereafter, exports were systematically equivalent to more than 25 percent of GDP and in some years around 30 percent.

In an evaluation made by the federal government, the increase in exports relative to GDP was believed to be a positive development in itself, considered to be part of a structural transformation of the economy due to economic reforms. Such points of view considered that trade liberalization and increased exports were showing Mexico's new insertion into the world economy, which would supposedly lead to greater social welfare and sustained growth. The central bank considered export growth to be highly positive, highlighting the greater position that the country's economy was achieving in the world economy (Banco de Mexico 2001). In 2012, exports were 31.5 percent of GDP, and in 2013 they were 31.8 percent. As noted above, these were mostly manufactured exports.

In 2013, 80.6 percent of total exports were manufactured, reflecting a secular trend. However, in all these years the increase in foreign sales of manufactured goods did not correspond to an increase in domestic manufacturing activity. Based on data from the National Institute of Statistics (INEGI), in 1997, manufacturing represented 19.1 percent of GDP. Years before, in 1990, we find a similar figure—18 percent. Since the second half of the 1990s, the increase in exports and manufactured exports in particular, has not positively altered domestic manufacturing in terms of GDP, which decreased from 17.6 percent in 2003 to 16.5 percent in 2013.

Observing the composition of manufacturing GDP, there is no increase in the construction of steel structures, the manufacture of hand tools, and much less in machinery and equipment for the manufacturing industries. Increases in manufacturing are concentrated in a small group without relevant or significant connections to the rest of the industrial activity in the country. This is the result of the composition of manufacturing exports, the share of imports in their production, and the control of a small group of large firms in both production and foreign trade. It is an industry whose dynamic core is outside of Mexico and, as expressed in the case of automotive production, which will be analyzed shortly, demand is not related to the consumption of the broad mass of workers in Mexico and therefore does not create conditions for development.

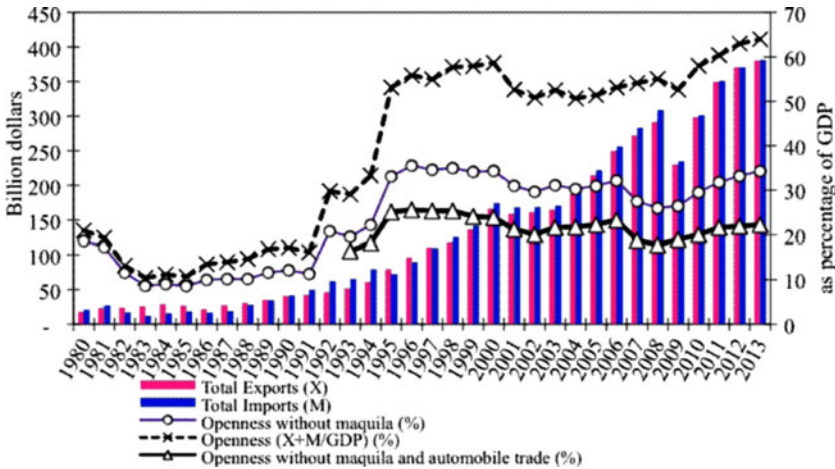
From 1994 onward, between 52 percent and 62 percent of total exports pertained to three groups of manufacturing activities: electrical and

electronic equipment; the automotive industry, including parts; and special equipment and machinery for various industries. These activities are dominated by a small number of large firms, most of which are transnational companies that placed a portion of their production in Mexico. The increase in export activity is associated with an increase in imports.

As seen in Figure 1, from 1994 to 2013, the degree of openness of the economy, defined as the sum of exports and imports divided by GDP, exceeds 50 percent. The data presented in the same graph show that since 1998 imports have been higher than exports. The advance of manufacturing exports has not been accompanied by the creation or expansion of businesses in the country that could supply some of the goods now imported, or even supply those used by exporting firms, both of which could provide the economy with a growing positive balance in foreign trade. Yet the opposite often happens, given the high import content of much export activity.

Based on information from Banco de Mexico, in 1998 imported inputs were equivalent to 57.2 percent of exports. Two years later the figure was 72.9 percent, and it grew until 2000, when the import inputs represented 80.4 percent of exports. In subsequent years, there was a slight decrease,

Figure 1. Mexico: Openness, Exports, and Imports.



Sources: Author's calculation based on information from Banco de México Statistics: "Balance of Payments", available at www.banxico.gob.mx [accessed October 2012 and April 2014]; INEGI: "Bank for Economic Information, External Sector, Summary of Foreign Trade" available at www.inegi.gob.mx [accessed October 2012 and April 2014]; National Council of the Maquiladora Export Industry and Manufacturing Export Index: "Statistical Report of the maquiladora export industry and manufacturing" July 2007 - August 2013, available at www.index.org [accessed April 2014].

Downloaded by [Gregorio Vidal] at 15:51 28 June 2015

but the figure remained around 75 percent. Trade liberalization, the establishment of free trade agreements, and broad freedom for the entry and exit of capital have allowed transnational corporations to organize a segment of its export production in the country with high levels of imported inputs. For some authors, this is a positive element: “empirical evidence suggests that one of the fundamental effects of trade liberalization was the increased competitiveness of Mexican exports that allow access at internationally competitive prices of imported inputs” (Ramos Francia and Chiquiar Cikurel 2004: 478). Furtado observed that this was one of the major changes in the international economy, emphasizing that markets are replaced by internal transactions of large companies that do not necessarily involve positive elements for the economies in which subsidiaries are based (Furtado 2000: 262).

Much of the export manufacturing industry is organized as maquilas, so statistics on imports of intermediate inputs and data on imported machinery are important elements in its operation. As can be seen in Figure 1, if the foreign trade of the maquiladora industry is not considered, the degree of openness in the economy is significantly reduced, remaining stable at around 32–33 percent since 1995. The maquila is not relevantly linked to the country’s economy in terms of supply and demand. Possibly the most significant component for the domestic market is the remuneration of workers and employees, who, however, are not linked to production as major consumers of the items assembled in these industrial plants. The same can also be said of the rest of the employees in the country.

The automotive industry, the most important in recent years by its weight in total exports, must be considered alongside the maquilas. Much like the maquilas relevant to the electric and electronics industry and the manufacture of machinery and equipment for various industries, automotive production has high import content. In the manufacture of automobiles and trucks as well as also internal combustion engines, most automotive production involves participants from a small group of transnational firms. Some of their production lines are located in Mexico in order to supply mainly the U.S. market. Excluding the total trade of the automotive industry, the degree of openness is reduced to around 22 percent from 2001 onward. If exports and imports of petroleum and petroleum-based products are also excluded, Mexico’s economic degree of openness would be reduced to 10.4 percent of GDP in 2013. In 2013 the foreign trade of the oil industry was equivalent to 11.9 percent of GDP. Exports of crude oil from Mexico remain important in foreign trade, but so do imports of petroleum products, including more than 50 percent of the gasoline and diesel used in the country.

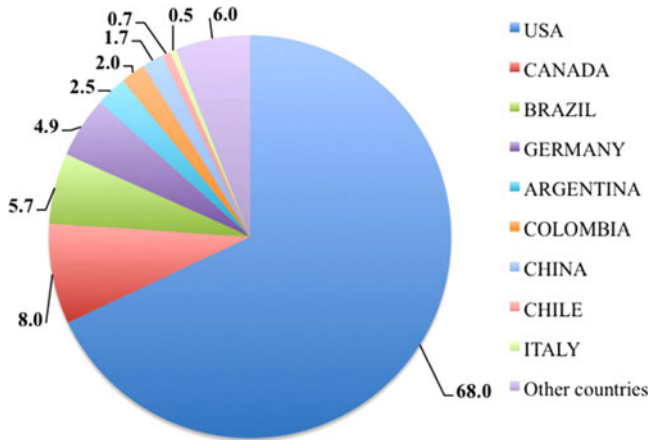
Manufacturing exports grew based on high import content. They are highly concentrated by destination, as about 80 percent is sent to the United States. The increase is mainly due to what is called intrafirm trade. As noted

above, in a strict sense, a large part of these transactions is internalized within the same corporation. Indeed, in each of the activities highlighted above, a narrow range of products is exported, making the composition of imported goods that are finally put together in Mexico notable for its greater diversity. This also translates into a lower share of imports from the United States, insofar as firms bring intermediate inputs from other regions of the world to stitch clothes in Mexico and export them to the United States. Imports from the United States represent 50 percent of total imports. The European Union is the source of 11 percent, Japan 4.5 percent, and Korea 3.5 percent. In the manufacturing of electrical equipment and appliances, the participation of companies with headquarters in Japan and Korea is significant. In addition to automotive companies like General Motors and Ford (headquartered in the United States), Chrysler (whose main stock holder is Fiat), the German Volkswagen and the Franco-Japanese Renault-Nissan, 370 are also relevant actors. It is a process whose dynamics depends on the behavior of certain sectors and companies in the U.S. economy. Foreign firms headquartered in Europe or Asia that are involved in these international trade flows make their investment decisions and organize their production based on the dynamics of the U.S. economy.

The organization of automobile production in the country offers stark evidence of this kind of industrialization, which is expressed in weak growth and does not generate economic development. In 2013, as the production of cars and trucks exported from Mexico gained importance, about 70 percent was sent to the United States. In 2012, the total light vehicles manufactured in the country and exported was 81.6 percent. In 2013, the increase in production was expressed as a relative increase in exports, accounting for 82.6 percent of manufactured exports. In contrast, the significance of vehicles made in Mexico for the local market has been reduced. In 2012 it was 53.6 percent, while in 2013, of the 63 million vehicles sold in Mexico, 48 percent were assembled in the country.

Exports of light commercial vehicles are, as in previous years, highly concentrated. Five companies dominate the market and, as seen in Figure 2, the number of units exported to Europe and Asia is minimal. Even to Latin America, exported vehicles represented only 12.7 percent of the total, with most going to Brazil, Argentina, and Colombia. The high concentration of exports to the United States does not imply that these occupy an important place in this market. Much corresponds to sales made by General Motors, Ford, and Chrysler. These companies as well as Nissan-Renault and Volkswagen conduct high levels of transactions within each firm itself. Overall, exports from Mexico are equivalent to 10.6 percent of all light commercial vehicles sold in the United States. In this country, contrary to what happens in Mexico, in 2013 more than 10 million vehicles, corresponding to 67.3 percent of the total sold, were manufactured and marketed within the country. The pattern of relations with the rest of the manufacturing activity

Figure 2. Mexico's Main Export Destination of the Automobile Industry, 2013 (% of total).



Source: AMIA (Mexican Automobile Industry Association).

is completely different from that in Mexico, and the main destination of the products is the United States itself.

The growth potential of high-export industrial activities is not the outcome of economic conditions in Mexico. Therefore, it is not surprising that despite continued structural adjustment, trade liberalization, financial liberalization, and privatization, the weight of exports from Mexico in world trade has been almost stagnant for years. In 1980, with crude oil exports as the main component, foreign sales originating from Mexico were equivalent to 0.95 percent of the total worldwide. In 1990, an important push in manufacturing lifted exports from Mexico up to 1.22 percent of the total. In 1995, when the current scheme of exports dominated by manufacturing took hold, exports rose to 1.56 percent of the total. In 2001, after years of progress in transforming the country's economy, the figure rose to 1.6 percent. In 2010, exports from Mexico were 1.7 percent of the global total, almost the same as in 2001.

As a product of the high import content of manufactured exports and the lack of important linkages and transactions between these and companies from other industrial activities, the impact on the country's growth is limited or absent. It is even more serious to observe the lack of any change in this trend. From 1994 to 2000, the annual growth of GDP per capita per year was 1.6 percent. Yet between 2000 and 2013, this became even weaker, registering an average annual increase of 0.7 percent. Maintaining an economy with an industrial sector turned to the outside and conducting commercial and financial transactions with other companies within the same firm, all

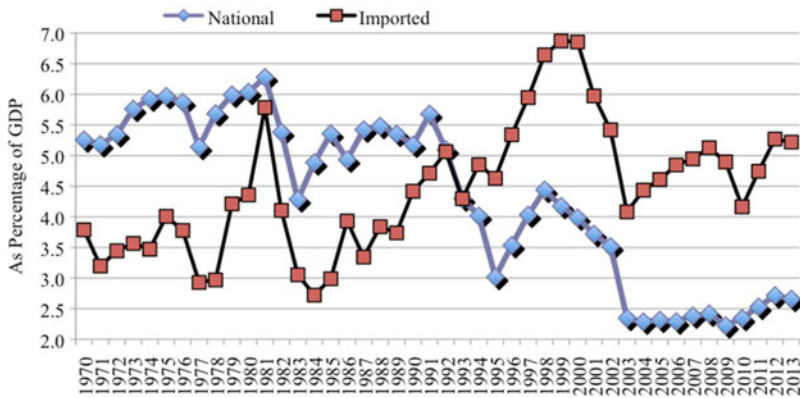
according to the conditions in the United States, does not imply development in Mexico. Indeed, it is accompanied by very weak GDP growth.

The increase in transactions abroad along with some manufacturing does not mean the increased participation of the Mexican economy in international trade and investment flows, and much less a diffusion of different manufacturing techniques in Mexico's multiple production activities. The Mexican economy is characterized by a small group of large firms operating with technologies ranging from relatively modern to the most advanced, amid a sea of small and micro enterprises, along with a multitude of informal establishments, which in general do not incorporate new technologies and techniques, and are carried out along the roadsides of many cities, including those where new industrial establishments have been created. As Furtado argued, it is a type of industry that does not create development. Subsidiaries operate in a way that does not allow the country's capital to dominate new technology. The technology used and the operation of these plants depend on decisions made outside of the economy's space and passed on to subsidiaries (Furtado 2000: 262–64). The results are even more negative in the case of Mexico because what is produced is overwhelmingly exported to a single country.

A second aspect of industrial activity in Mexico that accounts for the condition of increasing underdevelopment is the poor performance in manufacturing of capital goods and the decreasing component of gross domestic fixed capital formation in machinery and equipment. The coefficient of investment has not changed substantially in the past two decades and is above 20 percent of GDP. But, as seen in Figure 3, as the implementation of the Washington Consensus proposals advanced, and manufactured exports gained prominence, the domestic component decreased in gross fixed capital formation in machinery and equipment.

During the 1970s there was a notable difference in favor of machinery and equipment of domestic origin in the conformation of gross fixed capital formation, increasing from 5 percent of GDP in 1977 to 6.3 percent 1981. During these same years, imported machinery and equipment fluctuated between 3 percent and 5 percent of GDP. During this period the Mexican economy was growing at rates above 6 percent a year. The use of machinery and equipment manufactured in the country must be emphasized, despite significant challenges in the process of capital formation. The size of the capital goods sector presents itself as a limiting factor for industrial growth (Furtado 1964, 2000). As emphasized elsewhere, Furtado considers the production of capital goods far from sufficient for maintaining accumulation. In previous years, with the help of private capital, the government had established projects for the manufacture of machinery and equipment (Vidal 2000). However, deeper structural changes had yet to occur when the growth process was abruptly interrupted, precipitated in part by financial events at the beginning of the 1980s.

Figure 3. Mexico: Local and Imported Gross Fixed Capital Formation.



Sources: Author's calculations based on data for 1970–87 from the Programming and Budget Secretariat, Mexico's System of National Accounts, vol. 5: *On the supply and use of goods and services* available at <http://tinyurl.com/nh7unqo> [accessed April 2014]. Data for 1988–2013 from INEGI: Economic Information Bank, Mexico's System of National Accounts, Supply and Final Demand of Goods and Services, Gross Fixed Capital Formation available at <http://www.inegi.gob.mx/sistemas/bie> [accessed April 2014].

Since the debt crisis of 1981–82, the dynamics of the economy changed dramatically. As seen in Figure 3, in the early 1980s there was a reduction in the share of machinery and equipment as shown in the investment coefficient, which only recovered at the end of that decade. At the beginning of the 1990s, the most significant increases were in investment in machinery and equipment involving the use of imports. Beginning in the late 1980s, some of the automotive companies that were creating an export platform in Mexico made new investments involving imported machinery and equipment in order to establish manufacturing plants. Investments by the transnational automotive industry operating in Mexico represented a significant portion of foreign direct investment between 1989 and 1996.

At that time the manufacturing industry in the country was also transforming itself in order to establish an export platform (Vidal 2001: 36–38). Automotive plants were no longer created in the center of the country, where most of the motor vehicles are sold in Mexico. The new locations are based on exports to the United States. These plants include locations in the north such as Hermosillo, Sonora; Ramos Arizpe, Coahuila; Chihuahua, Chihuahua; and Aguascalientes, Aguascalientes. More recently plants have been established in Silao, Salamanca, and Celaya in the states of Guanajuato and San Luis Potosi, all focused on exports. This has also been a moment of significant increases in maquila investment for manufacturing electrical equipment and appliances intended for exports, which are also growing.

Together, these are investments that use imported equipment and machinery as a result of the decisions made by transnational firms.

Since 1998, investment in machinery and equipment as a proportion of GDP has followed a slight downward trend. The national machinery and equipment component shows a clear reduction (see Figure 3). From 2003 to 2013, the investment in machines and equipment manufactured in Mexico is in the range of 2.3–2.7 percent of GDP. New investment by foreign firms will not change the scenario. Greater openness to private investment in electricity and petroleum further increases investment in imported machinery, equipment, and software. Foreign firms realize investments in these sectors by importing machinery and equipment from other countries. Furthermore, the investments of state-owned PEMEX also include the acquisition of capital goods abroad.

The dismantling of industrial activity is therefore greater as the relationship between possible increases in manufacturing exports and growth trends decline. Diversification in these and other industrial activities in the country decreases as well. Greater crude oil extraction will not change the scenario as long as it is only destined to maintain or increase levels of nonrenewable resource exports because it not destined toward greater investments in the country's industrial plants to transform crude oil. The current administration of state-owned PEMEX maintains that it is better for the country to import gasoline, arguing that it is not profitable to invest in refining. By 2013, 72.7 percent of total exports of crude oil were sent to the United States. To Mexico, the United States sent 81.2 percent of their oil industry exports in the form of petroleum derivatives, mainly gasoline. Just as the advance in exports of manufactures concentrated in a few activities results in an industry that does not generate growth conditions, the same can be said of the development of new projects with the participation of private capital from abroad to increase crude oil extraction for export. These all accentuate processes that impede the expansion of industry in the country, the emergence of new industrial branches, and the strengthening of other relationships that arise from the demands of diverse groups of the national population.

In an article titled “L’impératif technologique et les social inégalités” (The Technological Imperative and Social Inequalities),” Furtado noted that:

We are witnessing in this century the widespread adoption of the view that the process of globalization of markets will prevail over all. It's almost a technological imperative, like that which commanded the process of industrialization that founded modern society over the past two centuries. (Furtado 1998: 169)

This has been the prevailing view in Mexico's government institutions for several decades. The transformations executed in the Mexican economy have

been defended with this hypothesis in mind. However, no significant growth in the economy has been observed, much less improvements in the living conditions of the majority of the population. Furtado identified this problem some time ago. In relation to the transformation that some economies have exhibited in their processes of development, he pointed out that “the true engine that has allowed economic growth has not been the dynamism of exports, but the expansion of internal markets made possible by the increased purchasing power of the entire working population” (Furtado 1998: 169–70).

In creating the conditions for development, there is a positive relationship between technological innovations applied to production and the increased purchasing power of the mass of workers. An expansion of industrial activities occurs when new activities emerge, also strengthening ties among industries. There is an endogenous basis for the growth of the economy, and exports grow as internal productive activity increases. None of this has happened in Mexico. Therefore, the growth of manufacturing exports comes amid a sea of informality and the multiplication of economic activities that incorporate almost no technical knowledge, even when they are formally registered in industry, commerce, or services where they meet the demands of workers from large corporations.

During the 1990s, once significant progress in the transformation of the economy of Mexico was achieved, work in the informal sector was officially considered. According to INEGI (2011), these constitute all market activities operating outside of the household, but not established as a separate business enterprise. Many of those working in this sector are self-employed or develop their activities without any precise payment scheme. In the period from 1991 to 2002, based on figures from INEGI, the formal economically active population (EAP) grew by 20 percent. In the same period the EAP in the informal sector increased by 47 percent. In subsequent years the importance of those employed by the informal sector has not decreased:

Structural underemployment is consolidated, as are multiple forms of self-employment. There are vast contingents of workers with scarce productivity, working with poor techniques and with very low income levels. It is remarkable that economic changes implemented in recent years did not modify this situation. (Vidal 2006: 178)

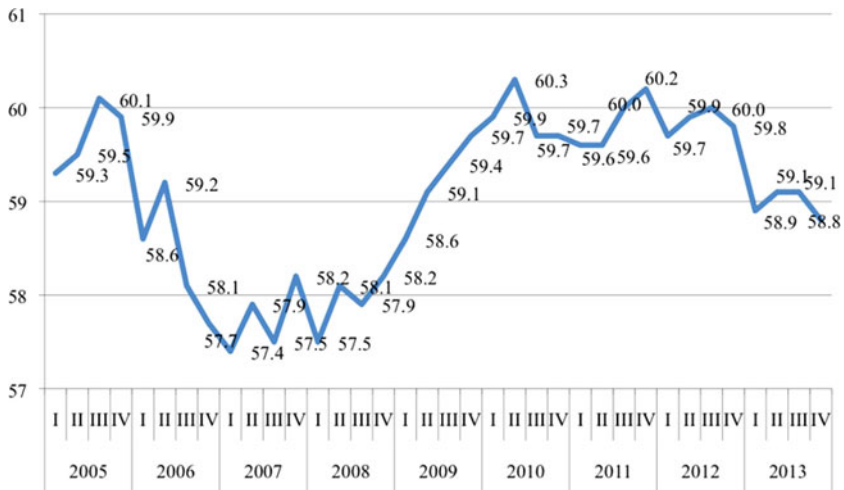
No changes have been observed in the composition of the working population. Thus, in 2011, based on information from INEGI and the Social Security Institute (IMSS), permanent workers in the private sector amounted to only 13 million people, 28 percent of the population employed in Mexico (INEGI 2011). The numbers of those who are self-employed in the informal and micro sectors, along with those who work without receiving remuneration, complete a scenario of strong labor fragmentation. Social or structural heterogeneity, which includes other parameters, is a fact of economic life in the country.

At the end of 2013, based on information from INEGI, without considering the agricultural sector, the population is concentrated in the so-called micro business sector to the tune of 47.5 percent. To these can be added another 17.9 percent working in small establishments. A significant portion of the population works in the informal sector or in establishments that have no technical knowledge incorporated. These represent two-thirds of the total employed population and, in recent years, has accounted for much of the anemic job growth. Only 9.2 percent of the employed population works in large establishments, and even if there is some growth in employment in this sector, its impact on the overall dynamics of employment is low. Many work fewer than 15 hours a week and an increasing number work more than 48 hours. In 2000, the employed population working more than 48 hours a week was 23.6 percent of the employed, more than 9 million people. At the end of 2013 the number increased to 14.3 million people, 29 percent of the employed. During this period, those working more than 48 hours a week were equivalent to 42.6 percent of the increase in employment. Those who work fewer than 34 hours, many of them only 15 hours a week, have a similar weight in the total employment figures. Those working without employment benefits have risen, and an immense working population has no access to health care.

At the end of 2013, if all forms of informal employment are considered—and not just those who work in the so-called informal sector—the result is that 58.8 percent of the working population finds itself in this labor market state. The so-called rate of labor informality includes workers in the informal sector, but also the unprotected work in agriculture, domestic services, and unpaid household work with no social security. It also includes subordinated workers who work in formal businesses but do not register their workers in the social security system. Of all people working in agriculture, 75 percent do so with no security of employment, so these workers are part of the informal labor sector. It is perhaps even more worrisome that, of the total number of subordinate workers in Mexico, more than 7 million are employed in business, government, and institutions that are not registered with social security, representing 21 percent of total subordinated workers. Thus, labor informality is a relevant component of employment in various business enterprises and government institutions.

As shown in Figure 4, the rate of informality is not decreasing. If the figures at the beginning of each year are compared, based on INEGI data, the result is that 58 percent of the working population is in the informal sector. It is a universe of growing social inequality, with broad sectors of the economy operating with very low levels of productivity, entirely excluding the possibility of integrating recent technology. It is a process of increasing social heterogeneity, characterized by the articulation of a small sector of production tied to the dynamics of the U.S. economy, producing significant benefits to a small group of companies whose profits are realized beyond

Figure 4. Mexico: Labor Informality Rate.



Sources: Author's calculations based on INEGI, National Survey of Occupation and Employment (ENOE), ENOE figures for the fourth quarter of 2013 (<http://www.inegi.gob.mx>), December 2013 and March 2014.

Mexico's borders. This is a type of capitalism characterized by a tendency toward stagnation and the maintenance of inequality and increasing social heterogeneity.

Conclusions

The Mexican economy has undergone a major transformation that began at the end of the second half of the 1980s. A central element of this change is the increase in manufactured exports, which have come to dominate national exports in recent decades. The transfer of these goods abroad is the result of the establishment of new industrial plants in the country. However, the establishment of these industries has not led to a significant increase in the weight of manufacturing output in total GDP. Rather, it has created an export platform concentrated in small group activity, mostly resulting from the establishment of foreign firms' subsidiaries in the country. Some of these industrial plants have been organized as maquilas, which, much like the automotive companies, involve high import contents. Partly for this reason, few have established relationships with other local industries. This export industry has, therefore, not modified the behavior of the economy. Among the results is that the industry is not the engine of sustained growth, let alone a tool for the expansion of productive activity that

promotes the emergence of new industrial branches and the multiplication of exchanges among various sectors of the economy. This has produced weak growth with a tendency toward stagnation.

Many have argued that one of the positive results of the economy's transformation is the integration of international trade and investment flows, and that this incorporation would enhance the well-being of the national population. However, as discussed above, there is no integration of the economy into international trade or investment flows. Linkages are only created within a small group of activities, all led by transnational firms, which only consider the conditions of the U.S. market in making investment decisions. These firms have shifted part of their production to Mexico in order to compete in the U.S. market, and products made in Mexico do not primarily target the domestic market. There is no relationship between the expansion of these activities and the composition of aggregate demand and, therefore, the expansion of the domestic market is hindered. As Furtado notes, industry does not necessarily act as a force for development.

Excluding the foreign trade activities of the maquila and the automotive industry, substantially reduces the openness of the economy. If sales and purchases outside the oil industry are also excluded, the economic transactions with other countries are equal to only 10 percent of GDP. In addition, as the export platform advances, the imports of machinery and equipment increase too. Industry, therefore, does not act as an element that energizes the whole economy, nor does it advance toward a greater capacity to produce capital goods. In this context, some large companies are still operating in the midst of a multitude of micro and small commercial and industrial establishments, whose market economic activities depend on the household or public roads as commercial venues. There is growing structural or social heterogeneity, which is a characteristic feature of a society with weak growth. Industry does not necessarily lead to development. In Mexico, a chief characteristic of the economy is the multiple forms that informality has taken, even within business and government.

References

- Banco de México. 2001. *Informe Anual 2000* (Annual Report 2000). Mexico.
- Furtado, Celso. 1964. *Desarrollo y Subdesarrollo* (Development and Underdevelopment). Buenos Aires: Editorial Universitaria de Buenos Aires.
- . 1965. *Dialéctica del Desarrollo* (Dialectics of Development). Mexico: Fondo de Cultura Económica.
- . 1984. *Cultura e desenvolvimento em época de crise* (Culture and Development in Times of Crisis). Rio de Janeiro: Editora Paz e Terra.
- . 1998. "L'impératif technologique et les inégalités sociales (The Technological Imperative and Social Inequalities)." *Cahiers du Brésil Contemporain* (Notebooks of Contemporary Brazil), no. 33/34: 169–71. Paris: Maison des Sciences de l'Homme et Institut des Hautes Etudes d'Amérique Latine (Paris III).

- . 2000. *Teoria e política do desenvolvimento econômico* (Theory and Policy of Economic Development). 10th ed. Sao Paulo: Editora Paz e Terra.
- . 2006. “Retour à la vision globale de Perroux et Prebisch (The Return to the Global Vision of Perroux and Prebisch).” *Économie Appliquée* 59, no. 3: 13–22.
- INEGI. 2011. *Encuesta Nacional de Ocupación y Empleo* (National Survey of Occupation and Employment) (May). Mexico: INEGI. <http://www.inegi.org.mx/inegi/contenidos/espanol/prensa/Boletines/Boletin/muestra.asp?.tema=20&c=1047> (accessed May 14, 2011).
- Keynes, John M. 1936. *The General Theory of Employment, Interest and Money*. London: Macmillan.
- Lewis, Arthur. 1954. “Economic Development with Unlimited Supplies of Labour.” *Manchester School of Economic and Social Studies* 22, no. 2 (May): 139–91.
- . 1955. *The Theory of Economic Growth*. London: Allen and Unwin.
- Nurkse, Ragnar. 1953. *Problems of Capital Formation in Underdeveloped Countries*. New York: Oxford University Press.
- Ramos Francia, Manuel, and Daniel Chiquiar Cikurel. 2004. “La transformación del patrón del comercio exterior mexicano en la segunda mitad del siglo XX” (The Transformation of the Model of Mexican Foreign Trade in the Second Half of the Twentieth Century). *Comercio Exterior* (Foreign Trade) 54, no. 6 (June): 472–94.
- Rosenstein-Rodan, Paul. 1944. “The International Development of Economically Backward Areas.” *International Affairs* 20, no. 2 (April): 157–65.
- . 1957. *Notes on the Theory of the Big Push*. Cambridge, MA: MIT Center for International Studies.
- Singer, Hans W. 1950. “The Distribution of Gains between Investing and Borrowing Countries.” *American Economic Review* (*Papers and Proceedings*) 40, no. 2 (May): 473–85.
- Singer, Hans W. 1949. “Economic Progress in Under-Developed Countries.” *Social Research* 16, no. 1: 1–11.
- Vidal, Gregorio. 2000. *Grandes empresas, economía y poder en México* (Large Firms, Economy, and Power in Mexico). Mexico: UAM-Iztapalapa y Plaza y Valdés Editores.
- . 2001. *Corporaciones, inversión extranjera y mercado externo en México, en México y la economía mundial: Análisis y perspectivas* (Corporations, Foreign Investment and the External Market in Mexico and the World Economy: Analysis and Perspectives), ed. Vidal 17–41. Mexico: Miguel Ángel Porrúa Editor.
- . 2006. “Globalization, Underdevelopment and Ruling Classes: Latin America at the Beginning of the 21st Century.” *Économie Appliquée* (Applied Economics) 59, no. 3: 167–86.
- Williamson, John. 1990. *Latin American Adjustment: How Much Has Happened?*. Washington: Institute for International Economics.