Journal of Economics, Finance and Administrative Science 20 (2015) 94–104

JOURNAL OF ECONOMICS, FINANCE AND ADMINISTRATIVE SCIENCE

www.elsevier.es/jefas

Article

Little value creation, articulation and propagating forces: A hypothesis for the Mexican manufacturing sector

Santiago Roca T.[a,*], Luis Simabuko N.[b]

[a] Centro de Propiedad Intelectual, Competencia, Consumidor y Comercio, Cepic, Graduate School of Business, Universidad ESAN, Lima-Peru. Ph.D. Cornell University
[b] Research fellow, Graduate School of Business, Universidad ESAN, Lima-Peru

ARTICLE INFO

Article history:
Received 9 October 2014
Accepted 21 August 2015

JEL classification:
O14
O25
O38
O54
F1

Keywords:
Industrialization
Technological change
Industrial policy
Trade
Latin America

ABSTRACT

This paper evaluates the impact of Mexican trade and productive integration processes during the last 20 years. It finds evidence that growing per capita income in Mexico is directly related to its "trade opening", but is inversely related to the growth of its manufacturing export industry. Specifically, for each point of growth in "trade opening" (as a proportion of GDP) per capita income grew by 0.22%; while each point of increase in the share of industrial exports reduced income per person by 0.09%.

To explain this apparent contradiction between the positive effect of "trade opening" and the negative impact of productive manufacturing specialization, we examined the characteristics of Mexico's industry. Results show that although Mexico's export-led industrialization successfully adapted to the world market and transformed its productive, business, organizational and technological structure, it did not translate into adequate macroeconomic benefits due to the absence of strong value dissemination forces over the rest of the economy.

In this sense, poor internal linkages in the *maquila* industry, its high propensity to import, and its limited value added generation, among other elements, led the Mexican industry to operate as an export enclave. In those circumstances, manufacturing does not generates positive externalities nor articulations, nor strong disseminations that increase and multiplies value in other sectors of industry, thus limiting expansion effects and restraining or even reducing–under some specific circumstances–per capita income growth.

Escasez de la creación de valor, articulación y fuerzas de propagación: una hipótesis para el sector manufacturero de México

Códigos JEL:
O14
O25
O38
O54
F1

Palabras clave:
Industrialización
Cambio tecnológico
Política industrial
Comercio
Latinoamérica

RESUMEN

Este documento evalúa el impacto del comercio y los procesos de integración productiva de México durante los últimos veinte años. Aporta evidencia acerca de que el crecimiento de la renta per cápita en México se halla directamente relacionado con su "apertura comercial", aunque guarda una relación inversa con el crecimiento de su industria de exportación manufacturera. De modo específico, para cada punto de crecimiento de la "apertura comercial" (como proporción del PIB), la renta per cápita creció un 0.22%, mientras que cada punto de incremento de la cuota de exportaciones industriales redujo la renta per cápita en un 0.09%.

Para explicar esta aparente contradicción entre el efecto positivo de la "apertura comercial" y el impacto negativo de la especialización manufacturera productiva, examinamos las características de la industria mexicana. Los resultados muestran que aunque la industrialización impulsada por la exportación de México se ha adaptado exitosamente al mercado mundial, transformando su estructura productiva, comercial, organizativa y tecnológica, ello no se ha traducido en los beneficios macroeconómicos adecuados, debido a la ausencia de unas sólidas fuerzas de diseminación del valor sobre el resto de la economía.

* Corresponding author.
E-mail address: sroca@esan.edu.pe (S. Roca T.).

http://dx.doi.org/10.1016/j.jefas.2015.08.003

En este sentido, los débiles vínculos internos en la industria de maquila, su elevada propensión a la importación, y su limitada generación de valor añadido, entre otros elementos, han llevado a la industria mexicana a operar como un enclave exportador. En estas circunstancias, la fabricación no genera externalidades ni articulaciones, ni fuertes diseminaciones que incrementen y multipliquen el valor en otros sectores de la industria, limitando, por tanto, los efectos de expansión, así como restringiendo, e incluso reduciendo, bajo circunstancias específicas, el crecimiento de la renta per cápita.

1. Introduction

This paper evaluates the impact of Mexican trade opening and productive specialization on per capita income. It specifically analyses how trade opening and specialization in manufacturing exports has affected per capita income.

Standard international trade theory assumes that trade opening will automatically make countries better off. Some of the major developing economists argue this is not necessarily true, opening and specialization in raw materials may reduce instead of increase standards of living. Many of them say that it is only through industrialization that income per capita will increase. This paper tests these different hypotheses. The second section briefly summarizes the economic literature on trade opening, and productive specialization and growth. The third section estimates the impact of trade opening and specialization on Mexican economic growth. Sections four and five explain major empirical findings: how trade opening has increase GDP per capita and why specialization in manufacturing exports has had a significant negative contribution to per capita income. Finally, the paper draws some major conclusions regarding conditions for better economic growth.

1.1. Trade opening and growth

There are several reasons why “trade opening” and commercial exchanges in general favor economic growth.

- First, trade permits local companies to buy foreign goods, services, inputs, machinery and equipment, and technology, not available locally or available at a greater cost.
- The second is that opening of trade allows for the introduction of new ideas, new forms of entrepreneurial organizations and various types of management techniques.
- Third, trade opening eventually allows small countries to increase their exports and to gain access to broader markets, with which they could increase their income levels.
- Fourth, broader markets could also have greater possibilities to benefit from economies of scope and scale and from the international division of labor (Krugman, 1991).
- Related to the previous idea is that broader market leads to larger R&D spending, which accelerates technological change and economic growth (Romer, 1990).
- Finally, a more open business environment creates more competition in the internal market, increasing the efficiency of local firms compared to when there are restrictions to international trade.

Diverse empirical works based on econometric analysis (Dollar, 1992; Sachs & Warner, 1995; Edwards, 1992) have come across evidence of the positive relationship between trade opening and economic growth. For example, Dollar and Kraay (2001) estimate that an increase in the volume of trade (as % of GDP) by 20 percent results in an increase in the annual growth rate between 0.5 and 1%. Other empirical investigations —based themselves on *gravity models*— try to isolate and separate the net impact of “trade opening” from other structural and institutional factors. For example, Frankel and Romer (1999) consider the gravity model and some demographic factors; Dollar and Kraay (2003), consider the gravity model plus social, historical and institutional variables.

1.1.1. Productive specialization and growth

Diverse springs of economic thought consider that the type of specialization (productive specialization) determines economic growth. That is, economic activities are not equivalent creators of value, nor they are neutral at all. The common denomfinator of all these theories is that certain economic activities are preferable to others due to some intrinsic or extrinsic qualities than other sectors lack. One of these is the work by Graham (1923) who demonstrates that:

- In a world of two countries, if one country specializes in goods with increasing returns and the other country in goods with decreasing returns, the world will overall have increased income, but the level of the second country’s income will be diminishing, while the first country’s income will be increasing.
- Moreover, the level of income for both countries will be greater **if and only if** the two countries produce with similar returns.

Graham, like many of his predecessors of past centuries, was of the opinion that the use of raw materials has intrinsically decreasing returns, while the production of manufactured products presents increasing returns.

In the middle of the past century, Prebisch and Singer, for example, showed that countries specializing in natural resources hurt themselves because the price of these products grow relatively more slowly than the price of manufactured products, due to the smaller income elasticity of the former and the asymmetry of international markets. For Hirschman, agriculture lacks upstream and downstream links or the complex division of labor current in manufacturing. Myrdal speaks about “cumulative causations” present in manufacturing but absent in natural resources based industry.

In the 1990s, Matsuyama (1992) and other authors said that manufacturing presents positive effects for growth absent from agriculture, resulting from bigger “induced learning” that neither agriculture nor the service sector offer. Sachs and Warner (1995a) and Sala-i-Martin (1997) found that economies specializing in goods production and exports on the basis of intensive natural resources use tend to grow slightly more slowly than those exporting manufactured products. While for Sachs and Warner the reason should have been the poor development of the institutions created by a primary exporting economy, for Sala-i-Martin the interpretation of these results is not very clear.

Reinert (2002), from a Schumpeterian perspective, argues that economic activities are qualitatively different in the way technological progress spreads and in the way benefits from this progress are distributed, and that this difference determines economic growth and income inequality among nations. For this reason, he proposes a “quality index” of economic activities where high quality jobs show increasing returns, imperfect competition, steep learning curves, rapid technological changes and large