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The impact of FDI on the sectoral structure of San Luis Potosí and El Bajío region (1998-2018)

Jordy Micheli Thirión*

Abstract

This article looks at the dynamic of globalization in the 21st century using Foreign Direct Investment (FDI), and the particular way in which the state of San Luis Potosi has been inserted into this process, both within the national context and that of the El Bajio macro region. The growth in foreign capital for the transportation equipment industry created a local automotive specialization. This was accompanied by structural change which brought about a polarization of the manufacturing productive structure and a push towards advanced services, accompanied, however, by declining wages. This text explains how globalization has shaped the economic geography in Mexico in this century, as well as its dynamisms and inequalities.

Keywords: San Luis Potosi, Mexico, El Bajio, globalization, structural change, automotive industry.
JEL Classification: F21, F23, O14, O19, O54.

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Resumen

El impacto de la IED en la estructura sectorial de la región de San Luis Potosí y El Bajío (1998-2018)

Este artículo aborda la dinámica de la globalización en el siglo XXI a través de la Inversión Extranjera Directa (IED) y el modo específico en que se han insertado en dicho proceso el estado de San Luis Potosí y su contexto, tanto nacional como macro-región de El Bajío. El crecimiento del capital externo de la industria de equipo de transporte genera localmente una especialización automotriz, lo cual viene acompañado de un cambio estructural con polarización en la estructura productiva manufacturera y un impulso a los servicios avanzados, pero con retrocesos salariales. El texto contribuye a una explicación del modo en que la globalización ha moldeado una geografía económica en México durante este siglo, con sus dinamismos y desigualdades.

Palabras clave: San Luis Potosí, México; El Bajío; globalización; cambio estructural; industria automotriz.
Clasificación JEL: JEL: F21, F23, O14, O19, O54.

Introduction

The state of San Luis Potosi integrated quickly into the globalization of the Mexican economy during the phase that began in 2013. From 1999-2012, Foreign Direct Investment (FDI) in San Luis Potosi had totaled US$5.4 billion, and rose in the period from 2013-2018 to US$8.8 billion, a 63% increase. The state has thus formed part of a group that have actively attracted foreign capital flows in recent years, specifically concentrated in the transportation equipment industry, whose main focus is the automotive industry. In the first phase, 16.9% of FDI in San Luis Potosí was directed towards the transportation equipment manufacturing industry, increasing to 28.2% in the second.

The state has thus occupied an important place in the national globalization process, primarily through the concentration of manufacturing investment[1] around the capital city. Automotive investment1 incorpo-

[1] The first assembly plant in San Luis Potosi was that of General Motors, in 2008, followed by a project by Ford. The latter was subsequently cancelled in 2017 under protectionist pressure from the then US president, Donald Trump. Another assembly plant in the state was established in 2018 by the German BMW company. As a result of the drag effect of these types of automotive industry final assembly plants, 220 auto-part companies have been established in the state.

rated San Luis Potosí into the industrial regional cluster of El Bajío, the macro-region that includes the states of Aguascalientes, Guanajuato, and Queretaro. The total cumulative manufacturing FDI in these 4 states during 1999-2018 accounts for 14.9% of the national manufacturing total in the same period.

As has been shown in the other El Bajio states (Micheli, 2020a), San Luis Potosi has experienced an unbalanced structural transformation, dominated by the dynamism of automotive manufacturing and advanced services, while non-automotive manufacturing has lagged. With this globalization profile, the economic macro-region is dependent on the automotive industry, which is likely to be one of the factors impacting regional economic performance in the coming years within the context of a cyclical decline of globalization.

This article employs a structuralist economics approach to describe the globalization dynamic of the 21st century. It looks at the flow of foreign productive capital and the specific way in which San Luis Potosi has been inserted into this, considering the national context as well as its neighboring El Bajio states. The globalization dynamic is understood as the combination of structure, evolution, and accumulation of foreign capital over time and in defined spaces, such that international, national, and regional dynamics can be compared and characterized.

The article seeks to contribute to the analysis of globalization as a process that has shaped the economic geography in Mexico over the course of this century, with its dynamisms and inequalities. Understanding the phases and structures of economic globalization allows for an analytical connection between the evolution of regions and the general dynamic of globalization. This facilitates an understanding of both recent years and that of a possible future scenario of local development patterns conditioned by globalization trends.

This text is divided into six sections: the first section comprises a literature review which analyzes the economic impact of globalization in this century, with its sectoral FDI modalities. The second provides a brief methodological description of the use of FDI statistics to understand the regional dynamic as well as the development of indicators of structural change. The third section looks at the international and national evolution of globalization in the 21st century. The fourth contains a description of globalization in San Luis Potosi; the fifth analyzes the context of the El Bajio macro-region to contextualize San Luis Potosi within its globalization dynamic and structural change. The final section offers conclusions.

1. The impact of globalization in the 21st century

The dynamism of FDI[2] flows beginning in the 1960s paved the way for the globalization of the world economic structure (Dunning and Lundan, 2008). The expansive phase of manufacturing and service globalization in the current century (Berberoglu, 2010; Pandya, 2016), has led to an understanding of the regional allocation of foreign productive capital as a dynamic process offering opportunities and risks, while simultaneously resulting in inequalities (Mullen and Williams, 2005; Jones and Wren, 2006). A new trend of thought in Economic Geography considers a region to be the space in which transformations that define globalization are materialized and produce inequalities (Scott and Storper, 2003; Ezcurra, Rodriguez-Pose, 2013). Literature on value chains highlights that the organization of transnational companies' production and supply tends to dismiss local actors (Gereffi and Fernandez-Stark, 2016). However, from a development perspective, local actors are needed to create positive external economies in order to fulfill the expectation that FDI stimulates development and structural change in receiving economies (Narula and Dunning, 2010).

The influence of FDI on regional change is rooted in the organizational and competitive characteristics of globalized companies, who promote changes in labor, wages, technological and productive structures in the areas in which they operate, thus generating local learning effects and capacity creation over time (Kumar and Pradhan, 2005). This associates external investment with structural change, traditionally considered to be the combination of product growth with quantitative and qualitative changes in production and employment structures (Kuznets, 1973). This generic definition should, however, consider that local conditions mean that development is specific to each spatial reality (Kottaridi and Stengos, 2010; Syrquin, 1988). Bottom line, "structural change" is a stylized concept that provides analytical guidance for a structuralist analysis of a complex, historical and space-specific process of development. Its explanatory power rests on its capacity to be the central axis of analysis for subsequent economic and social research in specific spaces and times.

[2] The UNCTAD definition of FDI is the capital received, either directly or through other related companies by a FDI company through direct foreign investors, comprising capital, reinvestment, or inter-company loans (UNCTADSTAT, undated).

The importance of foreign capital as a factor for development has acquired new importance with contemporary tendencies of economic tertiarization. Indeed, the growing advance of the service sector has been significant and constituted the driving force of globalization in the last quarter of the 20th century (Aharoni and Nachum 2000), comprising more than 60% of foreign productive capital flows, predominately in sectors such as finance, business services, trade, and telecommunications (UNCTAD, 2018).

The integration of services into manufacturing should be considered when evaluating and analyzing current economic globalization (Bohn et al., 2018). The regional evidence of this integration has been covered in extensive literature which recognizes that service production is associated with greater productivity and income (Daniels and Bryson, 2002; Buera and Kabosky, 2009; Cuadrado-Roura, 2016). The tertiary sectors, together with manufacturing, are recognized as key financial services for the development of both industry and the group of services for technology and information intensive companies, together known as FCB services (Guerrieri and Meliciani, 2005). The dynamism of advanced services is an important factor of structural change, in combination with investment in manufacturing (Pineli *et al*., 2019), while in general, the emergence of a new productive model that jointly develops services and manufacturing has been identified (OECD, 2000; UNCTAD, 2017).

Dunning and Lundan (2008: 295) state that the most frequent and persistent question regarding the activity of globalized companies relates to their impact on the economic and social well-being of the inhabitants of the territory in which they operate. They recognize that despite the abundance of analysis on the issue, there is still no satisfactory answer to this question. Specific conditions play an important role: much depends on the receptor country and its policies, the sector of the investment company and the characteristics of the company itself, not to mention, of course, how the impact is defined. Academic literature in Mexico dealing with the regional impact of economic globalization has shown the limited positive effects on the economic and social well-being of areas with significant FDI implementation (Galindo *et al.*, 2003; Coll-Hurtado and Córdoba y Ordoñez, 2006; Carrillo *et al*., 2012; Contreras *et al.*, 2012; Bensusán *et al.*, 2017).

2. Methodology

The globalization dynamic on a national and regional scale is analyzed using annual and sectoral FDI flows and their accumulation over time. The rhythm and structure of foreign capital stock determine the globalization trajectory of the territory under consideration. Information available per economic branch and by state from the open data of the Ministry of Economics was used (Secretaría de Economía, 1999).

Structural change is observed by analyzing: 1) the trajectory of a concentration index applied to the manufacturing production structure in order to identify the tendency of this process in the state; 2) the productive structure of the state by comparing manufacturing and services; and 3) the specific participation of three groups of activity impacting the structural change of the analyzed states: automotive manufacturing, non-automotive manufacturing and advanced services. The commensurability of these processes enables a comparison between the states of the evolution of globalization. Table 1 below summarizes this methodology.

Table1
Evaluation of local structural change

Concept	Dimension	Variables
1. Industrial concentration	Herfindhal - Hirschman Index[3]	-Production of each manufacturing branch
2. Production structure	Share (%) of Manufacturing and Services	-Production -Personnel Employed
3. Changes in groups of significant activity	Change (growth rate) in automotive manufacturing, non-automotive and advanced services.	- Production -Personnel Employed -Remunerations per person employed

Source: own elaboration.

[3] This indicator measures the concentration of any structure at a particular moment in time. It is commonly used for market structure, and in this case, for production structure:100% is state Gross Value Added (GVA) manufacturing, made up of the 21 sub-sectors that comprise the "31-33 manufacturing industries" sector, according to the North American Industrial Classification System (NAICS), and including subsector "339 other manufacturing industries". This index creates values in a range of 1000-10,000. The closer the value is to maximum, the higher the concentration in the production structure, and vice-versa.

$$IHH_e = \sum_{m=1}^{M} \%m^2$$

IHH_e :Herfindahl - Hirschman Index in state e
m: sectoral manufacturing production
%m: share of m in the states' manufacturing production.

Finally, the category of Advanced Services comprises the aggregate of the following tertiary sectors: financial and insurance services; corporates; professional, scientific, and technical services; business support, waste management, and remediation; and information in mass media services. This selection is based on Guerrieri and Meliciani (2005), authors who identify a broad set of services necessary for firm activity, referred to as Financial, Communication, and Business (FCB) Services. Thus, the tertiary activities included in the analysis are drawn entirely from the following INEGI sectors: (51) mass media information, (52) financial and insurance services; (54) professional, scientific, and technical services; (55) corporate and enterprise management; and (56) business support services and waste management and remediation services.[4] As has been demonstrated in other texts, advanced services constitute a sector that has co-evolved with manufacturing, and its dynamism is the explanatory core of tertiarization and structural change on a regional scale (Micheli, 2020b).

3. The globalization dynamic in the 21st century: Mexico and the international context

Productive investment in this century shows a path of growth with cyclical phases as shown in Figure 1: after reaching a maximum in 2007, international investment decreased and remained relatively stable until 2014, rising once again to a new maximum in 2015, which was slightly higher than that of 2007. Since then, the most recent period shows a continuous decline, paving the way to what UNCTAD has defined as a long-term negative cycle motivated by the decrease in rates of return of FDI sectors in both developing and developed countries (UNCTAD, 2018).

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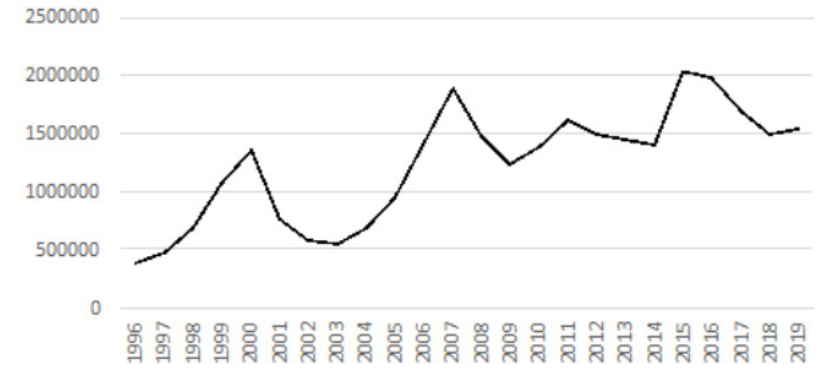
[4] INEGI (2007) describes the nature of labor in each sector: sector 51 operates using information; sector 52 uses assets; and personnel knowledge and experience are used in sectors 52, 54, and 56.

Figure 1
Global FDI flows 1996-2019 (a)
(Millions of dollars)



(a) Incoming flows
Source: author's calculations based on UNCTADTSTAT, undated.

In the sectoral cumulative FDI configuration, service sectors predominate, as shown in Table 2. Tertiarization as a process began in the 1970s, when services contributed a quarter of global investment. This increased to 50% in the 1990s and surpassed this proportion with the change in century. The exception to this tendency is manufacturing FDI in developing countries, which continues to be more significant.[5] The structure of external investment, by country, shows that the United States was the main destination of cumulative investment (1996-2019), with 17.4%, followed by China at a distant second with 7.5% and Great Britain with 6.6%. Brazil was the top developing country in terms of cumulative distribution, with 3.3%, followed by Mexico with an average of 2.3%, and occupying 12th place.

Table 2
FDI stock by sector
(Billions of dollars)

Manufacturing	Financial Activities	Business activities	Trade	Other	Telecommunications unications	Extractive Industries
6.5	5.8	4.7	2.6	2.3	1.8	1.4

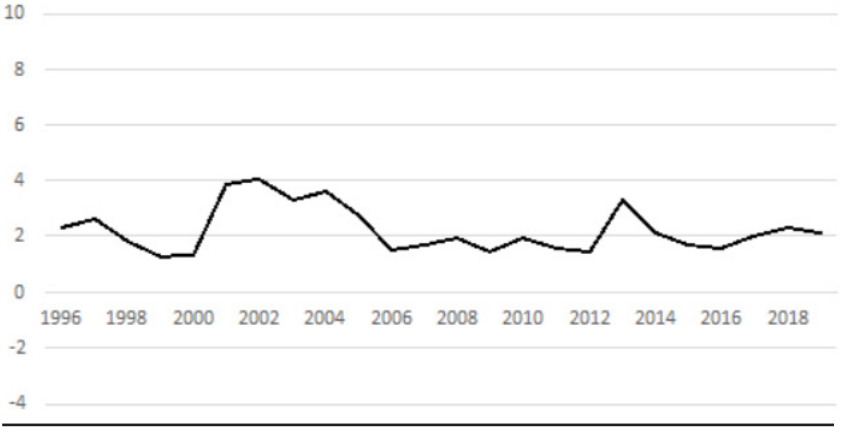
Source: UNCTAD, 2017: 21.

[5] However, it has been found that developing countries also capture significant capital flows in services: 25 % in 2002 and almost 50 % from 2011-2012 (Kafait, 2018).

Mexico's participation in globalization began at an early phase, in the 1980s, with a government stimulus package that permitted the inflow of majority foreign capital into companies, and significantly liberalized trade (Dussel, 2000). In addition, the conversion of the automotive industry to export-oriented plants had already begun in various parts of the country Micheli (1994). The signing of the North American Free Trade Agreement (NAFTA) in 1994 drove investment in this early phase of globalization in Mexico, characteristic of the 1980s and 1990s.

The evolution of Mexico's participation is shown in Figure 2, which evidences that Mexico's globalization was most significant in the period between 2001 and 2004. In 2001, Mexico's participation accounted for 3.9%, with 4.1% in 2002, 3.3% in 2003, and 3.6% in 2004. Following this period, the only other notable year was 2013, with a peak of 3.3%. From 2014 to 2019, Mexico has oscillated between 1.6 and 2.3%.

Figure 2
Mexico's participation (%) in global FDI (a)



(a) FDI flows entering countries.
Source: author's calculations based on UNCTADSTAT, undated.

In terms of sectors, the cumulative FDI in Mexico (1999-2018), amounting to a total of US$545,294 million, 48.7%, was concentrated in manufacturing activities, followed by services with 38.7%, as illustrated in Table 3. Mexico thus follows the pattern evident in other developing countries where external investment in manufacturing is greater than that in services.

Table 3
Structure of cumulative FDI (1999-2018) in Mexico

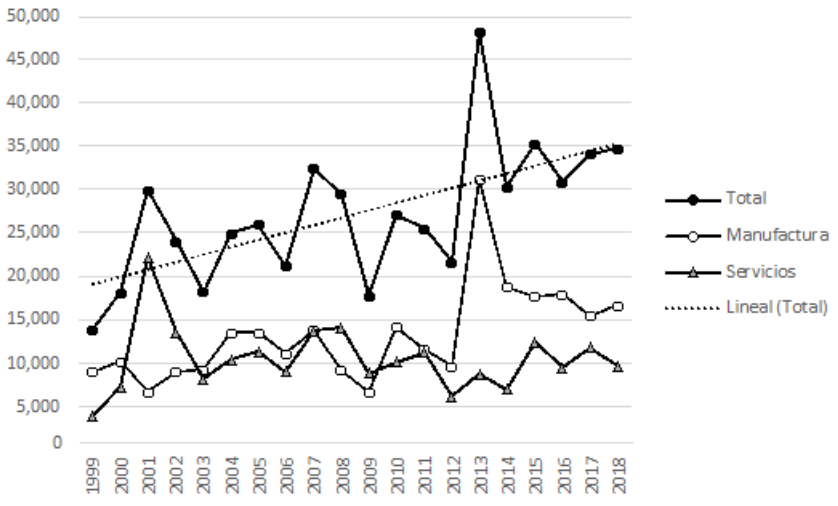
Manufacturing	Services	Mining	Construction	Energy and gas	Total
48.9	38.7	5.4	3.9	3.1	100.0

Source: Author's calculations based on Secretaría de Economía, 1999.

Figure 3 shows the annual flow of total FDI and its two main components: manufacturing and services. Manufacturing can be seen to have two distinct phases, from 1999-2012, and from 2013 to 2018. Beginning in 2013, annual flows in manufacturing broke with the previous tendency and were higher than those of the 1999 - 2012 period. In the initial phase, it accounted for 60.7% of the total stock for the period, while in the second phase, it accounted for 39.3%. The initial phase may thus be characterized as the dynamic phase of globalization in Mexico, while the second is the mature phase.

Obviously, as in all processes observed in periods, it is important to account for the transitions. As can be seen in Figure 3, the two phases are distinguished by the differentiated behavior of services and manufacturing. This refers to the particular behavior of the various globalization actors: service companies, which have experienced the most dynamic international expansion; and, in manufacturing, automotive companies, which prioritized Mexico in the post-crisis restructuring phase to the extent that the automotive industry became the engine of globalization in Mexico during the mature phase (Micheli, 2019a, b).

Figure 3
FDI flows received by Mexico (millions of dollars)



Source: Secretaría de Economía, 1999.

Mexico's participation in international investment was greatest during the dynamic phase. In this period, Mexico experienced a globalization model with an equal participation of services and manufacturing of 45%. In contrast, during the mature phase, manufacturing had a 55% participation, far greater than the 28% of services.

In short, the dynamic phase of globalization generated the highest FDI stock, distributed equally between services and manufacturing, while the mature phase accounted for less stock with investment concentrated in manufacturing.

Table 4 details the performance of the sectors in the national manufacturing FDI structure and the weight of each phase in the total structure of each sector, that is, the dynamisms of its accumulation, according to the dynamic and mature phases.

Table 4

National structure of cumulative FDI and structure of cumulative FDI of each sector, in two periods

1999-2012		2013-2018	
Transportation equipment manufacturing	30% (46%)	Transportation equipment manufacturing	42% (54%)
Chemical industry	19% (64%)	Beverage and tobacco industry	27% (57%)
Beverage and tobacco industry	17% (43%)	Chemical industry	13% (36%)
Manufacturing of computer, communication, measurement equipment and other electronic equipment, components, and accessories.	14% (70%)	Manufacturing of computer, communication, measurement equipment and other electronic equipment, components, and accessories.	7% (30%)
Food industry	11% (75%)	Basic metal industry	6% (34%)
Basic metal industry	9% (66%)	Food industry	4% (25%)
Total	100.0%	Total	100.0%

Note: figures without parentheses represent the national structure of cumulative FDI ; figures in parenthesis refer to the structure within the same sector.
Source: author's calculations based on Secretaría de Economía, 1999.

This table shows how cumulative FDI in transportation equipment manufacturing strengthened its participation on national level, as well as its own rate of accumulation in the dynamic and mature phases, increasing from 30% to 42% of national FDI manufacturing stock, while its own rate of accumulation increased from 46% to 54%. The

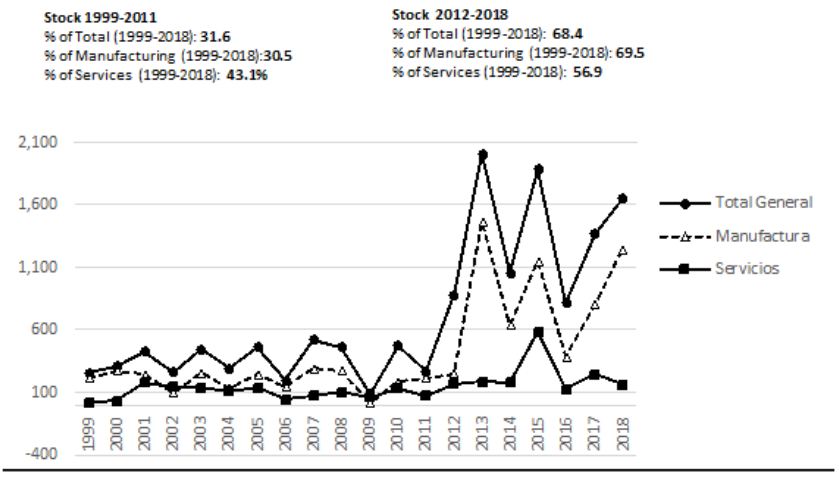
beverage and tobacco sector behaved similarly. In contrast, the other sectors decreased their accumulation dynamic in the second phase. This is typical of manufacturing FDI in Mexico in this century. [6]

4. San Luis Potosí in the globalization of the 21st century

From 1999-2018, San Luis Potosi FDI stock accounted for 2.6% of the national stock, locating the state in 13th place. Nationally, the state participated with 3.2% manufacturing and 1.4% services. Within the state, the stock was composed of 60.5% manufacturing and 20.7% services, with other sectors accounting for the remaining 18.8%.

The two national globalization cycles of this century were both evident in the state. Figure 4 shows that San Luis Potosi received 31.6% of the total FDI in the first phase, and 68.4% in the second. The state's integration into globalization became increasingly characterized by manufacturing: in the 1999-2011 period, every dollar in services corresponded to 2.1 of FDI manufacturing stock, while in the 2012-2018 period this ratio was 1 to 3.6.

Figure 4
FDI flows received by San Luis Potosí (millions of dollars)



Source: Author's calculations based on Secretaría de Economía, 1999.

[6] Due to the geographical distribution of these industries in the country, these states participated differently in the FDI dynamism of the mature phase of globalization. San Luis Potosi increased its share, together with Guanajuato, Aguascalientes, Coahuila, and Veracruz, while states such as Nuevo León, Chihuahua, Baja California, Jalisco, and the State of Mexico decreased their share.

The sectoral profile of cumulative FDI in San Luis Potosi shows a significant concentration in transportation equipment, comprising 39.5% of manufacturing FDI , despite the fact that the state still only accounts for 4.7% of the national FDI in this sector. Other industries in the state trail far behind: beverage and tobacco at 15.5%, and machinery and equipment with 12.5%. In terms of services, the most important sector in the state is the transport, mail, and storage services, accounting for 36.7% of the total services FDI . Although the financial sector has led globalization on a national level, within the San Luis Potosi structure, it has a lesser impact, similar to that of trade. Data evidencing this is shown in Table 5.

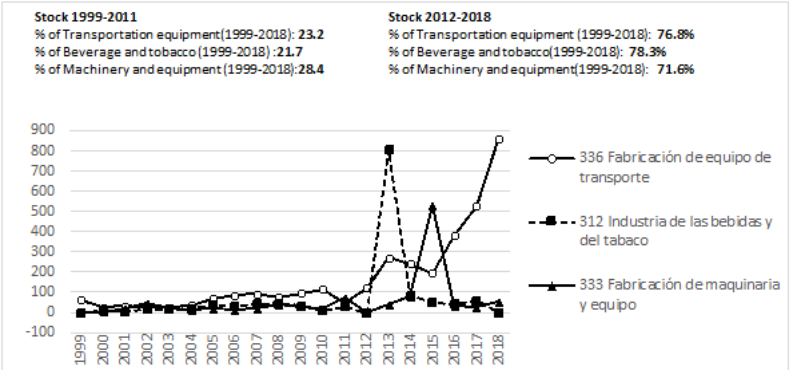
Table 5
Cumulative FDI in San Luis Potosí (1999-2018) in important sectors (a)

Manufacturing	% in Sector	% in Manufacturing in San Luis Potosí	Services	% in Sector	% in Services in San Luis Potosí
Transportation equipment	4.7	39.5	Transport, mailing and storage	5.1	36.7
Beverage and tobacco	3.1	15.5	Financial and insurance	0.8	22.0
Machinery and equipment	9.6	12.5	Trade	1.6	21.1
Basic metal industries	5.2	9.3	Mass media information	1.5	11.6
Subtotal		**76.8**	**Subtotal**		**91.4**

(a) Totals are rounded.
Source: author's calculations based on Secretaría de Economía, 1999.

The weight of FDI in transport deserves particular attention. In the 1999-2011 phase, US$783.2 million was invested in this sector, rising to US$2,597.6 million during the 2012-1028 phase, that is, an increase of 231.7%. This sector thus accounted for 30.0% of the state's manufacturing FDI in the 1999-2011 period, and 43.7% in the 2012-2018 period. Figure 5 shows the annual evolution of FDI in the state's three main manufacturing sectors.

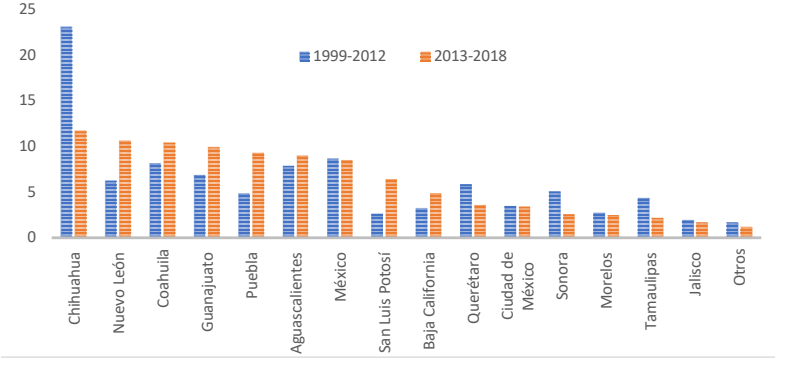
Figure 5
ANNUAL FDI EVOLUTION IN SAN LUIS POTOSI: THREE PRINCIPAL SUBSECTORS



Source: Results of a sample of 72 returning migrants surveyed in the municipality of Cuautlancingo.

Regarding the growth of FDI for transport in the state, from 1999 to 2012, San Luis Potosi only accounted for 2.7% of the national industry stock, increasing to 6.4% between 2013 and 2018. The state was thus among those that drove the rise in automotive FDI in the mature globalization phase, and significantly changed the geography of this industry in the country. Figure 6 shows the distribution of national cumulative FDI by state for the transport sector for both periods, illustrating the drop in Chihuahua, Sonora, and Tamaulipas, as well as the rise in other states, including San Luis Potosi. The extent of the change in the latter is particularly notable.

Figure 6
% PARTICIPATION IN TRANSPORTATION EQUIPMENT FDI IN TWO PHASES



Source: author's calculations based on Secretaría de Economía, 1999.

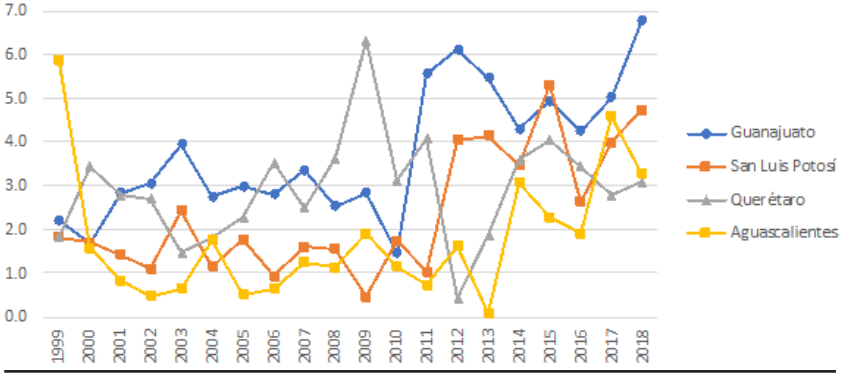
5. San Luis Potosí in the El Bajio macro region

Globalization occurred in San Luis Potosi within the framework of a growing FDI presence in the neighboring states of Aguascalientes, Guanajuato, and Queretaro. These states, together with San Luis Potosi comprise the El Bajio economic macro-region. They formed part of the early globalization process of the last decades of the 20th century, resulting from changes in their industrialization models, which were based on both traditional manufacturing as well as on large companies that relocated production from Mexico's central metropolitan region. The three states were homogenous in their globalization in the 21st century, with a significant FDI contribution in the automotive sector. [7]

Figure 7 shows the participation of each of the four states in national FDI stock, in the 21st century. It illustrates the marked rise in San Luis Potosi in the most recent globalization phase, in which the state overtook Aguascalientes and Queretaro, and occupied second place behind Guanajuato, which receives the most FDI in El Bajio.

Figure 7

Participation of each state in the total national FDI



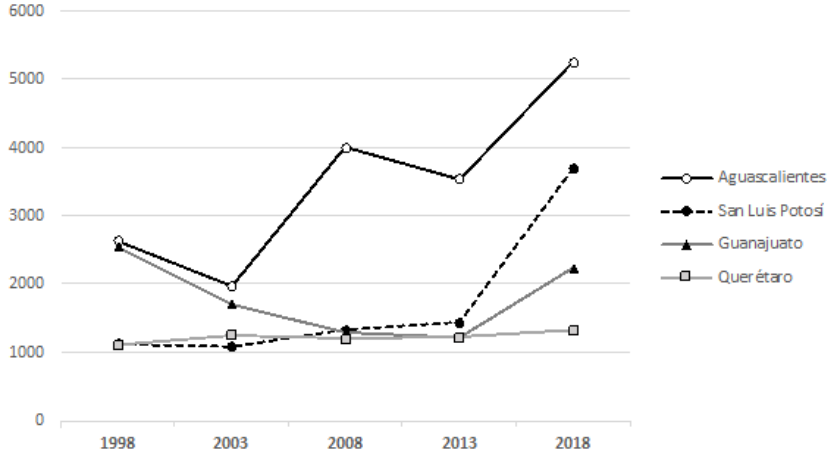
Source: author's calculations based on Secretaría de Economía, 1999.

An evaluation of structural change in the 4 states of the macro-region is shown below, following the model outlined in Table 1.

[7] The two globalization phases on a national level, described above, are clearly reflected in the three states: the cumulative FDI comprised 37.6% in the 1999-2012 period and 64.4% in 2013-2017.

The Herfindahl-Hirschman Index of concentration, applied during the 21st century, indicates whether the industrialization trajectory in each state has a tendency towards concentration or diversification of the productive structure. Figure 8 shows that Aguascalientes and San Luis Potosi, states with a predominantly automotive FDI , tended towards greater industrial concentration. To a lesser degree, this also occurred in Guanajuato, while this tendency is not evident for Queretaro.

Figure 8
Trajectory of the Herfindahl-Hirschman Index in El Bajío



Source: author's calculations based in INEGI (1999, 2004,2009, 2014, 2019).

Data from Table 4 show the profile of the structural change in the 4 states.

Similarities in the evolution of the structure of added value can be observed, with an increase in the participation of manufacturing and advanced services. Advanced services grew simultaneously in the 4 states in terms of employment. This general evolution denotes a process of structural change: production and employment shifted towards manufacturing and advanced services in each of the states.

Table 6
Structural change in El Bajío

Economic variable	Activities	Aguascalientes		Guanajuato		San Luis Potosí		Querétaro	
		1998	2018	1998	2018	1998	2018	1998	2018
GVA (a)	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Manufacturing	57.1	61.6	54.7	55.2	57.2	63.8	64.7	52.1
	Advanced services	5.4	6.3	4.0	11.1	4.3	8.1	3.7	14.1
	Traditional services	32.4	26.2	36.4	30.7	29.2	22.8	26.2	30.5
	Others	5.1	5.9	5.0	3.0	9.2	5.3	5.3	3.4
TPE (b)	**Total**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	Manufacturing	40.1	35.8	37.3	36.2	29.6	33.3	40.8	33.2
	Advanced services	8.3	10.5	5.9	10.4	7.8	10.8	6.6	19.1
	Traditional services	46.5	49.8	51.3	50.4	53.0	51.8	45.6	43.8
	Others	5.1	3.9	5.6	3.0	9.6	4.1	7.0	3.9

(a) Gross Value Added, (b) Total Personnel Employed.
Source: author's calculations based on INEGI (1999, 2019).

Table 7 provides greater detail of the structural change, illustrating the dynamism of three important groups of activities: automotive manufacturing, non-automotive, and advanced services. As has been demonstrated (Micheli, 2019 a), those states with significant investment in the automotive branch demonstrate a process of structural change with different dynamics between automotive manufacturing, non-automotive and advanced services: the dynamism of the advanced services sector and the weakness of the non-automotive manufacturing sector are characteristic of these states.

Table 7
Growth in production, wages and employment in automotive production, non-automotive manufacturing, and advanced services, by state, 2003-2018

	Automotive			Non-automotive Manufacturing			Advanced Services		
State	GVA	Wages per person employed	Total personnel employed	GVA	Wages per person employed	Total personnel employed	GVA	Wages per person employed	Total personnel employed
Aguascalientes	18.0	-2.0	13.4	-0.7	-1.5	2.2	10.4	-0.4	6.7
Guanajuato	17.2	-0.9	16.2	2.5	21.1	4.2	10.0	1.4	7.5
Querétaro	3.6	-6.1	8.8	7.0	11.6	5.4	10.5	-3.3	12.0
San Luis Potosí	9.0	-1.6	11.2	8.0	91.4	3.6	11.7	-0.9	7.3

Note: Gross Value Added (GVA) and Wages in 2013 values.
Source: author's calculations based on INEGI (2004; 2019).

With regards to production, Table 7 shows that, with the exception of Queretaro, production in automotive manufacturing and advanced services grew more than in non-automotive manufacturing. In terms of wages, there was a general fall in remunerations across the four states, confirming the poor quality of labor models based on globalization. Finally, regarding growth of employment, the role of automotive manufacturing activities and advanced services is significant, while non-automotive manufacturing shows less employment growth across the four states.

Conclusions

This study addressed the impact of globalization on structural change in San Luis Potosi in the current century. It considers the investments of multinational companies, reflected in FDI , as the driving force for regional industrial accumulation, and offers an analysis of the observable trends of structural change. As has been mentioned, the explanatory power of the structuralist approach rests on its capacity to be the axis of analysis for subsequent economic and social research in specific spaces and times. The economic-social development of the state of San Luis Potosi is still under-studied, and the stylized analysis of this article may contribute to expanding the field of economic geography and regional studies by incorporating San Luis Potosi with greater vigor.

Mexico has formed part of the pattern of globalization during the 21st century, experiencing two phases: one dynamic, from 1999 to 2012 in which 60% of FDI stock in Mexico was formed, driven by the combination of services and manufacturing activities; and a second, mature phase, from 2013 to 2018, comprising 40% of cumulative FDI in which manufacturing has predominated. At the same time, this mature phase also revealed a general weakening of manufacturing flows, with the exception of automotive production, which increased.

The state of San Luis Potosi was quickly integrated into the mature globalization phase of the Mexican economy which began in 2013. This was accomplished through an insertion mode led by the automotive industry, and clustered with neighboring states, which together comprise the El Bajio macro region: Aguascalientes, Guanajuato, and Queretaro. These states are characterized by an influx of significant foreign investment flows at the end of the 1990s, which shaped a similar structural change in all, including San Luis Potosi.

The contribution of this article is the articulation of the process of change in the Mexican economic geography with the globalization process of the 21st century, identifying two phases and their impact on a regional level. The article thus provides an international, national, and macro-regional context which allows for a comparison of the dynamics of structural change on a state level. A structural analysis of the regional economy was undertaken, focusing on the 4 states that make up the El Bajio region. While a generalized tertiarization process may be evident on a national level, manifestations of this on a regional level are not homogenous, and state economies give way to different experiences of structural change.

In this regard, the article provides evidence that supports the view that globalization does not have a homogenized impact on development, and that the conditions of particular internationalized sectors and regional structures impacted by FDI led to unequal and regionally specific changes. This evidence challenges the idea of FDI as a driver of development in which manufacturing increases production, employment, and wages in conjunction with a set of advanced services activities.

The experience of the El Bajio region, including San Luis Potosi, illustrates that the regional globalization specialized in automotive manufacturing was accompanied by an imbalance in the manufacturing productive structure as well as by an increase in advanced services, but with declining wages. Thus, it shows the trend towards the polarization of the manufacturing apparatus, the growing importance of the tertiary group of advanced services, the greater importance of automotive manufacturing in comparison with non-automotive, and the absence of real wage increases in both manufacturing and advanced services. Compared with an ideal model of development and structural change, the case analyzed reflects a truncated regional change that is vulnerable to risks derived from sectoral concentration

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