




# Does a Foreign Subsidiary Create Positive Linkages with Local Suppliers? An Analysis of Governance and Upgrading in Toyota Argentina's Automotive Value Chain

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## ABSTRACT

This article explores the impact of the performance of Toyota Argentina (TASA) on the local auto parts suppliers in the country. The paper begins by providing a brief overview of the global value chains (GVCs) and the development links between automakers and local suppliers. Then, it introduces the trends in the Argentinian automotive industry during the 21st century, including the peculiarities of TASA, which has achieved great economic performance despite the industry's structural and cyclical trends. Using a mixed methodology combining descriptive quantitative and qualitative methods, the paper analyzes the linkages between TASA and its suppliers. The article concludes with a general analysis of TASA's governance and the upgrading processes of its suppliers based on the findings.

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## Introduction

From the 1980s, companies from different countries tended to transfer some production activities to other companies (outsource) and other countries (offshore) forming the so-called global value chains (GVCs) (Gereffi et al., 2001, 2005). The automotive sector also became integrated globally in the 1980s, but it did so on a regional scale (Rugman & Collinson, 2004; Sturgeon et al., 2009). In South America, this form was mainly expressed through the Common Automotive Policy (PAC) between Argentina and Brazil within the framework of Mercosur during the 1990s. This is a macro-regional peripheral integration among Less Developed Countries (LDCs) with almost a total foreign ownership of the automakers and mega-suppliers that lead the chain. The investments of the automotive Multinational Enterprises (MNEs) in this region have been marked by market-seeking

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strategies attracted by the large market potential of these LDCs enhanced by possibilities to export to a macroregional market.

However, this region is different from other strategies that have led to the rapid growth in the vehicle production in LDCs: through the development of an autonomous protected Automotive Industry based on large domestic markets (e.g., China); or through the growth and integration of peripheral regions adjacent to large core-based markets (e.g., Mexico). On the contrary, in Mercosur, the development of the automotive industry has been mainly supported by tariffs on imported cars from outside the region (Pavlínek, 2024, in press).<sup>1</sup>

In 2022, the Argentinian automotive sector included 10 foreign automakers that produced passenger and commercial vehicles, and approximately 350 auto parts suppliers. The Argentinian automotive industry has an important economic and social role in the country due to its participation in industrial employment (6% in 2022), in the industrial sector value added (8% in 2022), in total exports (10% in 2022), among other contributions.

After the Argentinian economic crisis of 2001–2002, the automotive sector experienced increasing growth until 2013, when the Latin American commodities boom ended, and Brazil entered a period of stagnation. During that stage, the vehicle production growth was accompanied by a deep foreign trade deficit in the sector that accentuated the macroeconomic problems of the country. Moreover, after the arrival of neoliberal presidents, Mauricio Macri in Argentina and Michel Temer (then continued by Jair Bolsonaro) in Brazil in 2016, the economic policy of these countries turned to an opening and liberalizing orientation that led to the contraction of their domestic markets and deepened the automotive crisis.

However, despite these structural and cyclical trends, Toyota Argentina (TASA) achieved great economic performance, as it climbed from seventh place in the ranking of firms according to production levels in its early years in 1997 to the first place in 2019, placing its main product, the Toyota Hilux pickup truck, as the leader in the local market and improving its relative position within the Argentinian business elite. In addition to these positive results, this company is the only one with a trade surplus (in a highly deficit sector) and the one that exports to the largest number of destinations (Perez Almansi, 2022). These characteristics give it a particularity in the Argentinian automotive sector, achieving results that overcome structural difficulties in the automotive industry in the country. Despite this, there are few academic case studies on this experience, both in Argentina and in Latin America.<sup>2</sup>

Based on these achievements, the present article aims to answer what impact did these results have on the local auto parts suppliers. In this

regard, the literature states that the development links between automakers and local suppliers are based on long-term collaboration between foreign subsidiaries and national companies that promote the transfer of technology and knowledge from foreign subsidiaries, fostering the improvement of national companies. Conversely, short-term cost reduction and price-based relationships between foreign subsidiaries and national companies create dependent links, perpetuating the dependence of companies and regions on external agents (Pavlínek, 2018; Yeung & Coe, 2015).

Therefore, this main objective raises a series of specific questions, such as: What are the auto parts produced in the country and which ones are imported? How has Toyota's import structure changed over the years? What type of companies produce these parts and components in Argentina? Is the governance relationship constant across all suppliers? Have local firms been able to improve their capabilities through upgrading processes? Has the relationship with Toyota allowed them to reach other automakers in the country or export their products?

In this sense, the goal of the article is to answer these questions by analyzing the linkages between this automaker and its suppliers. This is carried out using a mixed methodology combining descriptive quantitative and qualitative methods. The quantitative data, which includes production figures and trade balances, captures broad trends, allowing the identification of patterns in supplier participation and performance. Complementing this, qualitative data from interviews with suppliers and industry stakeholders provides detailed insights into governance structures, supplier relationships, and firm strategies. This combination of methods offers a more holistic understanding of the factors driving supplier upgrading and chain governance. This integration strengthens the overall analysis, offering a clearer narrative that connects sectoral-level data with the real-world experiences of suppliers.

Sources used include: (1) secondary data from their business balances, company documents, and national newspaper news; (2) semi-structured interviews with Toyota executives and its suppliers, which address the following dimensions: (a) automaker-supplier relationship, (b) characteristics of Toyota's organizational structure, (c) particularities of the automaker in the Argentinian automotive industry, (d) upgrading processes of auto parts manufacturers; (3) visits to Toyota and its suppliers' factories; and (4) statistical analysis of data from ADEFA, AFAC, ACARA, COMTRADE, Softrade, and Customs.

The paper is structured as follows. Firstly, the theoretical framework of GVCs and the concepts of governance and upgrading are briefly developed. Then, the main trends in the Argentinian automotive industry during the current century and the peculiarities of Toyota Argentina are introduced.

After that, the main imported and locally produced parts by Toyota will be explained. Subsequently, the supplier development system of TASA will be described, examining the different stages of this procedure. In the next section an aggregate analysis will be made of the Toyota auto parts suppliers located in Argentina, classifying them into three major groups: (a) Japanese multinationals, (b) Non-Japanese multinationals, and (c) Local companies. Then, a global evaluation will be made of the top eleven suppliers of TASA that were interviewed for this investigation. These companies are Denso, Toyota Boshoku, Yazaki, Dana, Metalsa, Industrias Guidi, Esteban Cordero, Ventalum, Polimetal, CRAMFSA and Mirgor. Finally, a general analysis will be made of TASA's governance and the upgrading processes of its suppliers based on the article's findings.

### The GVCs' theoretical framework

In the 1970s and 1980s, a series of global changes occurred that had an impact on the global manufacturing organization. These modifications involved significant changes in the organization of MNEs, as they tended to transfer some activities—usually the least profitable and sophisticated—from the production process to other companies (outsource) and other countries (offshore), mostly in the periphery. MNEs retained the segments that added most value (core activities) and outsourced generic or low-value production processes focused on volume and price competitiveness. This generated greater interdependence in international trade networks since a significant part of the value of exports began to contain imported value from more than one origin (Gereffi et al., 2001; Gereffi & Korzeniewicz, 1994).

Based on this process, the authors Gereffi and Korzeniewicz (1994), following the contributions of the world-system theory (Hopkins & Wallerstein, 1986), developed the concept of *global commodity chain* (GCC), which was later modified to *global value chain* (GVC) (Gereffi et al., 2005; Humphrey & Schmitz, 2002).<sup>3</sup> The GVC can be understood as '*the sequence of activities that firms and workers perform from the design of a product to its final use*' (Gereffi & Fernández-Stark, 2011, p. 4). Moreover, the formation of these chains gave greater significance to large MNEs in the global economic organization, as they govern these GVCs.

Thus, the literature on GVCs offers a stylized description of these global production networks based on two key concepts: governance and upgrading. The notion of governance implies a top-down view, analyzing how the lead firms in the chain control and make decisions related to the organization of the production process. The first systematization and classification of forms of governance were carried out by Gereffi and Korzeniewicz (1994), who at

the time identified two main types of chains: buyer-driven and producer-driven.

Later, Gereffi et al. (2005) elaborated a new complementary concept by creating five ideal types of governance of GVCs, taking as the unit of analysis the links between the segments: (a) market; (b) modular; (c) relational; (d) captive; and (e) hierarchical. This new typology emerged from the intersection of three variables: (a) the complexity of the exchange of information between supplier and buyer; (b) the codifiability of such information; and (c) the existence (or not) of capabilities in suppliers. In summary, the governance of “market” and “hierarchical” are radically opposed: in the first case, the links between supplier and buyer are of very low density, and in the latter, they operate within the same company.

For this paper, the governance of the chain is central to understanding the specific characteristics of the lead firm (Toyota, the automaker) and the subordinate firms (auto parts suppliers). In this sense, the GVC literature has classified the automotive industry as a producer-driven chain, due to the specific assets behind this type of governance being mainly production capabilities, high capital requirements, and research and development (R&D). Companies that govern producer-driven chains often outsource some phases of production but retain R&D and the complex manufacturing of the final product.

Regarding the second classification of governance, in the automotive industry may vary depending on the automaker-supplier relationship. In general, in automotive value chains, these have been classified as market, modular, relational, or captive. In this sense, specifications can be jointly developed, in a co-design process, or suppliers can receive complete instructions on what to produce. In the more relational approach, design engineers from major companies and suppliers work closely together to develop parts that will function within the overall vehicle design. In the second instance, engineers from the leading company develop all vehicle parts internally and then hire the supplier, creating modular or captive links (Sturgeon et al., 2009, p. 20).

On the other hand, the notion of upgrading is based on a bottom-up approach, focusing on how subordinate firms can (or cannot) move up the chain. Firm-level upgrading refers to the process of acquiring or strengthening capabilities that enable companies to do things differently and/or better and to do different things compared to the previous context (Yoruk, 2019). The purpose of the upgrading concept is to examine the processes and ways in which companies that do not govern the chain move up the international scale of value-added activities, moving from low-value to high-value activities to increase the benefits of participating in GVCs (Bair & Gereffi, 2003). The characteristics of the links between subsidiaries of

multinational corporations and suppliers in the countries where they are located are an important factor in the potential industrial scaling of domestic firms and the types of spillover effects generated by the presence of multinationals in developing countries (Pavlínek, 2018).

Humphrey and Schmitz (2002) have distinguished four types of upgrading: process, product, functional, and intersectoral. The first, process upgrading, is the easiest to achieve and involves producing more efficiently (increasing productivity), either by using superior technology (such as new machinery) or by reorganizing production systems within the company or improving relationships with other links in the chain. The second, product upgrading, involves greater capabilities than process upgrading and consists mainly of making product lines more sophisticated, of higher quality, and with higher unit value (for example, moving from making table wines to fine wines). The third, functional upgrading, is one of the most difficult to achieve and involves moving towards activities that require higher capabilities and therefore have greater barriers to entry (for example, moving from assembly to design). The last, intersectoral upgrading, involves using the capabilities acquired in one chain to move into new sectors (for example, using the capabilities obtained for television manufacturing to make monitors and move into the computer sector). These concepts will be revisited in the last sections of the paper when analyzing the trajectory of the main suppliers of Toyota Argentina in recent decades.

Moreover, through this specific framework analyzing a successful MNE in a peripheral country, this article looks to contribute to a more general discussion: what are the economic impacts of FDI in host countries? This debate has a long history in the economic development literature.<sup>4</sup> However, there is no academic consensus about the benefits and drawbacks of FDI for host economies generally and for productivity of domestic firms in the form of spillovers specifically (Pavlínek & Žížalová, 2016, p. 332). Taking into account that the results of those analyses vary greatly depending on different factors such as regions, countries, levels of development, sectors, or historical contexts, this paper seeks to contribute to this broad discussion by examining one specific case.

### **The recent trajectory of the Argentinian Automotive Industry and the particularity of the Toyota case**

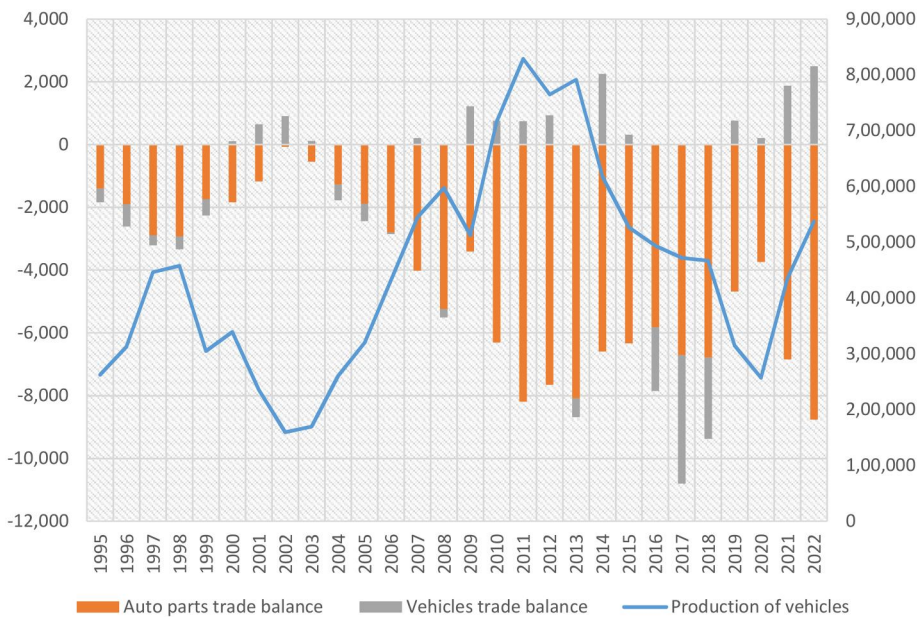
In the 1990s, a process of regionalization of the South American automotive industry was carried out, which ended with the automotive organization based on the ISI. On the one hand, these changes generated the disintegration of the local industry. On the other hand, they also implied a modernization of the production processes in the sector and the arrival of



new automakers, such as Toyota in 1996 (Bastos Tigre et al., 1999; Novick et al., 2002).

At the beginning of the current century, Argentina went through one of the most significant economic and social crises in its history. This severe crisis led to the departure of the government and the end of the neoliberal era, giving rise to a new phase in Argentinian economic history. In this new stage, the automotive sector played a leading role as it led the industrial growth of Argentina, showing a strong pace of increase in employment, domestic production, exports, and productivity (Barletta et al., 2013). However, despite this auspicious performance, severe difficulties were noted in inducing the reactivation of productive linkages, mainly evidenced in the high levels of trade deficits resulting from the increasing importation of auto parts (Cantarella et al., 2017) (see Figure 1).

Following the victory of Macri in Argentina and Bolsonaro in Brazil, the vehicle-producing countries of Mercosur went through a series of changes that implied a turn towards openness and liberalization of their economies and the contraction of their domestic markets. In general terms, the new neoliberal experience in Argentina meant a significant setback in the industrial sector (Santarcángelo et al., 2019). In the automotive sector, the commercial problems of the industry were accentuated, while some virtuous characteristics of the previous cycle were lost, such as the level of local vehicle production and sector employment.

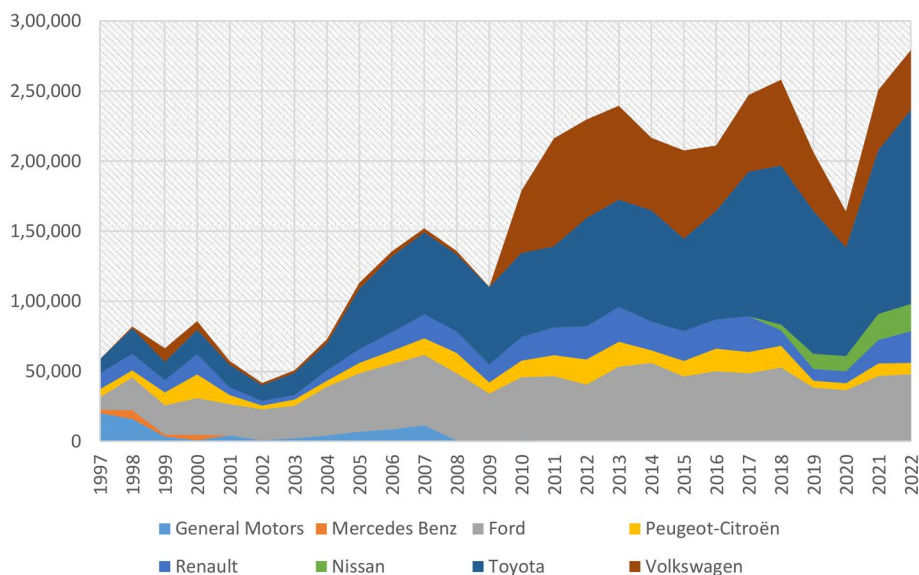


**Figure 1.** Production of vehicles (units) (right axis) and trade balance of vehicles and auto parts (million current US dollars) (left axis) in Argentina (1995–2022).

Source: Author's own elaboration based on ADEFA, AFAC and COMTRADE.

However, despite these structural and conjunctural trends, Toyota Argentina achieved great economic performance, climbing from seventh place in the ranking of firms according to production levels in its beginnings in 1997 to the first place in 2019, placing its main product, the Toyota Hilux pick-up truck, as the leader of the local market. This performance is even more remarkable when differentiating production by type of vehicle, since from its origins Toyota concentrated its operations on the production of the Hilux pick-up truck. Thus, while passenger car production in Argentina fell steadily after Brazil's economic contraction in 2013, manufacturing of light commercial vehicles remained stable (see Figure 2). In particular, the production of these vehicles grew significantly after 2010, starting with the manufacturing of the Volkswagen Amarok, which was added to the other more successful pick-up models, the aforementioned Hilux and the Ford Ranger.

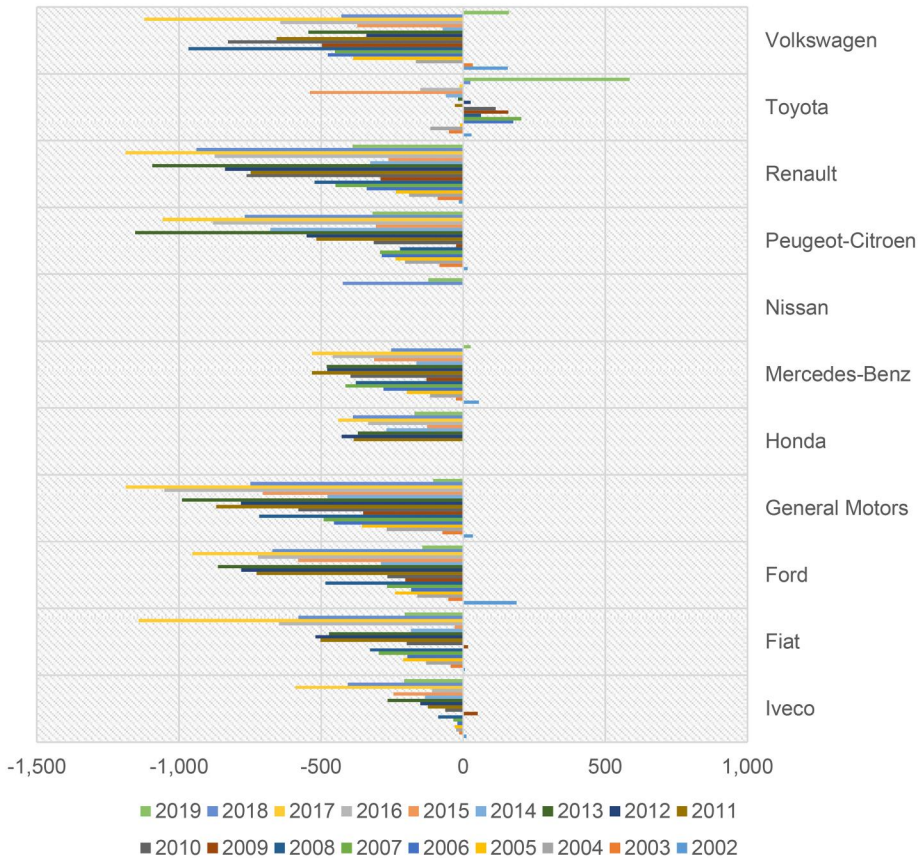
Another outstanding aspect of Toyota's trajectory is related to foreign trade. In this regard, the company was the one that produced the most exports between 2002 and 2019, reaching to place products abroad for almost US\$25 billion. However, the most important feature in which Toyota stands out is its trade balance compared to the rest of the automakers (see Figure 3). Indeed, the company is the only one that obtained a surplus result in the difference between its exports and imports between 2002 and 2019. The rest of the automakers obtained deficit results that together amounted to almost US\$60 billion, around 70% of the total sector deficit during the period under study. This dimension is even more significant due to the macroeconomic importance of having access to foreign



**Figure 2.** Production of light commercial vehicles in Argentina (units) (1997–2022).

Source: Author's own elaboration based on ADEFA.





**Figure 3.** Trade balance of Argentinian-based automakers (million current US dollars) (2002–2019).

Source: Author's own elaboration based on Softrade, customs and balance sheets.

exchange for Argentina, given its chronic problems of external restriction (Braun & Joy, 1968; Thirlwall, 1979).

Thus, based on the comparison of the performance of each of the automotive companies, the case of Toyota Argentina stands out for its positive achievements. This success stands out, in turn, considering the structural and cyclical problems of the automotive industry related to its commercial deficit and the high use of imported auto parts and the contraction of the industry between 2018 and 2019. This evolution was evident in the company's production levels, sales, and, above all, its commercial results based on its exports and surplus trade balance. Therefore, in the next sections the backward effects on suppliers of this positive performance of Toyota will be analyzed.

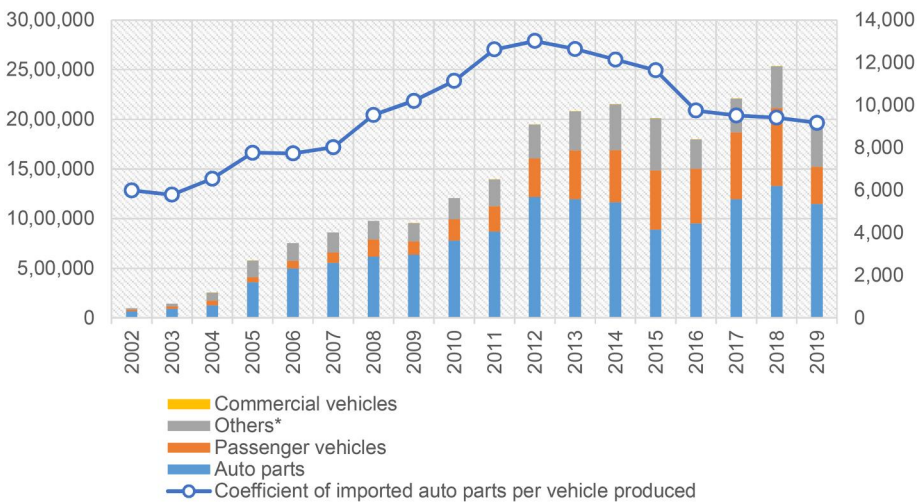
#### 4. Local and imported content of Toyota Argentina's vehicles

As mentioned, among the car manufacturers based in the country, Toyota is the only one that achieved a trade surplus during the period being

studied and incorporated most local content into its vehicles. According to TASA's Purchasing department, in 2022 the local content of Toyota's Argentinian vehicles was 40%, being the automaker that registered the highest value in this dimension. Following other estimations as the one developed by Perez Almansi (2023b), TASA also registered higher local content than the Argentinian automotive industry average.

Based on these findings, it is important to analyze in greater detail: (1) how the structure of its imports was formed over these years, and (2) how these imports were utilized by the company. In that sense, Figure 4 provides some answers.

Firstly, the main group of imported products in all years was auto parts, indicating that importation for production was given priority over passenger vehicles that were not manufactured in the country for sale in the domestic market. On the other hand, it can be observed that the coefficient of imported auto parts per vehicle produced increases until 2012 and then steadily decreases, with a more pronounced decline between 2015 and 2016. This process of import substitution was primarily made possible by increased production volumes and the resulting economies of scale (see Figure 2). Between 2013 and 2015, TASA received a US\$1 billion investment from its headquarters, which enabled the expansion of the plant and an increase in production with the launch of the new Hilux model. This scale-up allowed the company to localize several components that had previously been imported (Perez Almansi, 2023a). However, beyond this indicator, it remains to be seen which parts were localized and which companies were responsible for their production.



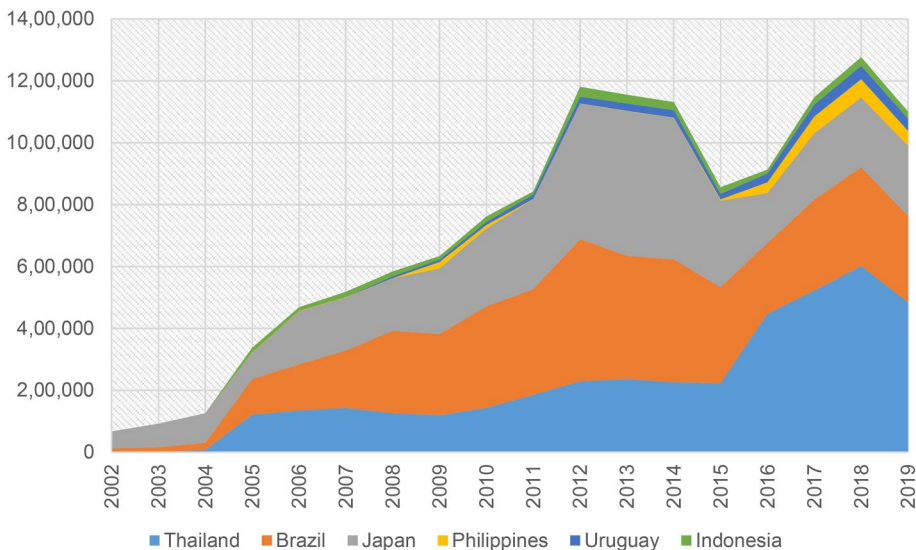
**Figure 4.** Main groups of TASA's imported products (thousands of dollars) (left axis) and coefficient of imported auto parts per vehicle produced by TASA (dollars) (right axis) (2002–2019). Source: Author's own elaboration based on Softrade, ADEFA customs and balance sheets.

\*Others exclude vehicles and auto parts and include various goods such as fuels.

Therefore, by analyzing the details of these imported auto parts, other relevant features can be seen. In its early days, TASA's imports came mostly from its country of origin, Japan. However, starting in 2005, with the execution of Toyota's plan "Innovative International Multi-purpose Vehicle" (IMV), other origins began to grow, such as Brazil and Thailand, which become the majority from 2015 onwards (see Figure 5). This last origin coincides with the place that Thailand took as a production hub for the Hilux in the TMC structure. Its growth as a supplier of auto parts for Argentina occurs mostly after 2015, with the launch of the 8th Generation Hilux.

Examining the structure of auto parts imports in more detail allows to recognize which products were purchased from these countries. In this regard, it can be noted that certain crucial systems and parts that are not produced locally were imported from these origins. First, it should be mentioned that gasoline engines are mainly imported from Thailand, and then from Brazil. At the Zárate plant, diesel engines are produced, but these are essentially assembled from imported parts and components (Misión Productiva, 18/7/2022). In addition, suspension systems are also assembled at the local factory, but this is done through purchases of domestic auto parts (Interviewee 1, personal interview, 16/12/2022).

On the other hand, gearbox assemblies are mainly imported from Thailand. The braking and steering systems are sourced from Brazil. Finally, albeit to a lesser extent, intake and exhaust valves are imported from Japan (Interviewee 1, personal interview, 16/12/2022). The importation of these



**Figure 5.** Imports of auto parts by Toyota Argentina from main origins (thousands of dollars) (2002–2019).

Source: Author's own elaboration based on Softrade, customs and balance sheets.

systems (especially engines and gearboxes) is noteworthy because they are central and complex technical elements of the vehicle and therefore have higher value-added compared to others, as will be seen in the following sections.

In sum, over these decades Toyota has mainly imported auto parts to Argentina. Since 2012, the coefficient of imported parts over vehicles produced has been steadily decreasing, indicating a process of increased local content in their vehicles. This trend correlates with the company's increased growth in production and exports in the second decade of the century. However, a large portion of the imported auto parts are of high technical complexity and added value, coming from Thailand (world hub of the Hilux), Brazil (Mercosur), and, increasingly less, from Japan (headquarters). In the following sections, the localization processes of parts and the suppliers of Toyota located in Argentina are examined in more detail.

## 5. Toyota suppliers' development

In the early years following TASA's opening in 1997, the production system was based on an assembly plant rather than a manufacturing plant.

The parent company reserved 50% of the supply of the most complex components and sub-assemblies of the product from Japan, specifically those that are more sophisticated or have higher added value (Novick et al., 2002). According to Interviewee 2, TASA executive since 1996, the incorporation of local suppliers was a very difficult process *“because the requirement that Toyota had for the auto part that was put in the vehicle was not consistent with what the local suppliers had”* (Interviewee 2, personal interview, 28/1/2022).

The director of HR since 1995 and then president of Toyota Argentina between 2006 and 2010, Interviewee 3, states that for the Purchasing area to Suppliers, they were asked from Japan to *“not bring anyone from Purchasing, but to bring someone from Production. Because being from Production, when they talk to our auto parts suppliers, they understand that if they deliver a well-made part, we can put it directly on the line. We will negotiate the price within a couple of years. Right now, what we need is quality”* (Interviewee 3, personal interview, 4/17/2021). To solve these problems, the parent company and the subsidiary focused on intensifying relationships with local suppliers -through direct technical assistance from the parent company and through joint and cooperative work- carrying out deep supplier development work (Rama, 2004).

According to Daniel Herrero, TASA's president from 2010 to 2022,

In a global strategy, your supplier is your partner. It is impossible to have a successful long-term project without competitive local content. It does not make

sense, for example, to manufacture a bumper in Brazil and transport it by truck. It does not work. In this sense, we have done a supplier development job where we have given each of them a cost and quality improvement target to reach the standards we needed. When we started the project, we knew that some suppliers would need help and time (Misión Productiva, 18/7/2022).

Once these initial problems with the provision of basic auto parts were resolved, by establishing a stable network of suppliers, the incentives for the subsequent localization of parts and components focused on different elements. In particular, regarding the benefits of localizing parts, from the TASA Purchasing Management they argue that having nearby suppliers allows: (1) saving logistics costs and customs barriers, (2) greater flexibility when making changes, and (3) lower vulnerability to transportation problems that may arise.

Furthermore, executives argue that the benefit of tax credit reimbursement for the purchase of domestic auto parts under Law 27,263 is another important element that is taken into account for the localization of auto parts.<sup>5</sup> Lastly, executives point out that it is essential to have a large volume of vehicle production in order to be able to localize a part since, if there is any cost difference with the imported part, the greater scale amortizes that effect because suppliers can lower the price of the part by dividing their fixed costs over a larger production (Interviewee 1, personal interview, 16/12/2022).<sup>6</sup>

The process of producing parts locally begins with the search for alternative suppliers who can provide the parts or components. Generally, this occurs broadly when new investments are being made and/or when the model of the produced vehicle is being changed (Rama, 2004). Thus, TASA's steps to localize a part are: (1) the supplier's trajectory in the market is investigated, analyzing whether they are capable of handling the work, (2) a meeting is held where the auto parts supplier presents the proposal and mentions their possibilities and capacities, (3) if TASA considers that the supplier has the possibility of fitting in, they move on to a stage of competitiveness examination, (4) if the price level is in line, they continue to a stage of supplier development, which is a more technical and less commercial (Interviewee 1, personal interview, 16/12/2022).

For the latter, there is a management team in the Purchasing department called the Supplier Production Tracking Team (SPTT), which is dedicated to new projects. In this new stage, the Product Engineering and Quality departments are involved. Depending on the complexity, the Logistics department may also participate. Then, the Production department is the final customer of this process (Interviewee 1, personal interview, 12/16/2022).

The negotiation process can be distinguished between Toyota's multinational suppliers and those that are only in Argentina. In the first case,



the commercial conditions are generally an extension of those established by the parent company, which facilitates the negotiation in Toyota Argentina and is not a critical factor. The aspects to consider in the commercial agreement consist of knowing if the supplier can develop a part and if it can meet the quantity and delivery deadline requirements. In the second case, the commercial conditions and the form that agreements take are the responsibility of Toyota Argentina, although with general guidelines from the parent company (Rama, 2004).

Once TASA has decided to begin a commercial relationship with a supplier, a general purchasing agreement is signed which establishes the basic guidelines of the relationship. This agreement highlights that the relationship is long-term and mutually beneficial. It also establishes the timeframe, quantity of replacement parts for spare parts once a model series is completed, timely delivery, and quality standards. In addition, the willingness and commitment of the supplier to allow TASA personnel to intervene in their processes to achieve established quality standards and make corresponding improvements in case of failures are determined.

Joint activities and cooperation start to have a leading role in the initial phases of supplier development. This development can take from two to three years, and the variation is due to the level of technology transfer that is carried out from Toyota to the suppliers. Joint work begins with the analysis of the supplier's production processes and the specific needs of Toyota regarding the auto parts supplier. This is because, for the supplier to be responsible for manufacturing a part, they must incorporate a production process, adapt or change a machine, or create a new production line. Mainly, the auto parts supplier must understand and incorporate the guiding principles of the Toyota Production System (TPS). The trend is for the supplier to acquire the methodology and, in the future, to manage autonomously (Rama, 2004, p. 121).

However, there is also a limit to this state of autonomy. For example, while other automakers entrust their suppliers with creating the molds, Toyota is one of the few that owns its own molds. According to Interviewee 2, *“the molds -both for stamping and injected plastics- are ours and are used by the supplier for the duration of the production contract (...) This has saved us more than once from internal conflicts with suppliers. In case of any difficulty to comply, we recover the mold and can deliver it to another manufacturer.”*<sup>7</sup> The cost of each stamping mold is around one million dollars and is one of the most significant costs for an auto parts supplier. In this way, Toyota allows them to save this investment, but at the same time, it maintains strict control over them, retaining a greater margin of action in case of deciding to change suppliers, although this happens on rare occasions.



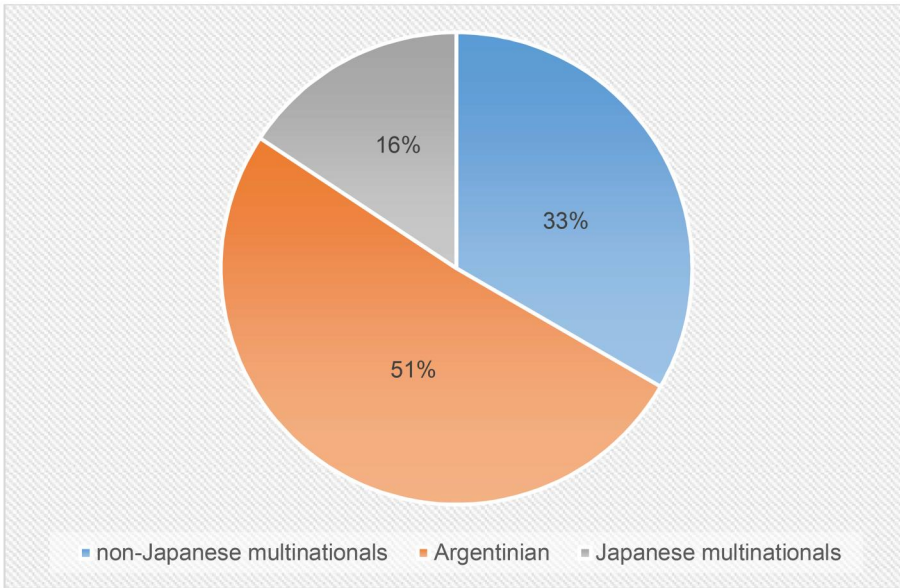
On the other hand, TASA has its own association of suppliers since 2006, the Association of Suppliers of Toyota Argentina (APTA). Although other automakers in the country also have groups of auto parts manufacturers, such as Ford and Volkswagen, these are more oriented towards commercial issues, mainly price negotiations. The focus of APTA is different since it is more oriented towards development strategies, communication with suppliers, growth plans, continuous improvement programs, *kaizen* activities, among others. That is, it is more linked to the TPS (Interviewee 5, personal interview, 20/12/2022). In addition, TASA constantly carries out training activities with suppliers, in order to strengthen the management of key issues in their value chain.

In summary, TASA has greatly expanded its base of local suppliers since its installation in the country. This was done with an active participation of the automaker in the improvement processes of the auto parts manufacturers, granting different programs and activities for the development of local suppliers, but also maintaining high levels of demand and control over these firms. Among the different channels of cooperation between TASA and its suppliers are the SPTT for the inclusion of a new supplier, the APTA, and various training and strengthening activities. In this way, it can be seen how the links between the automaker and the chosen local suppliers are initiated.

## 6. Suppliers of TASA based in Argentina

The local suppliers of Toyota Argentina have different origins that can be classified into three distinct groups according to their origins: (a) Japanese multinationals, (b) non-Japanese multinationals, and (c) local suppliers. In 2020, TASA was directly purchasing from 62 tier 1 auto parts suppliers. This list of suppliers is confidential; however, for this article, the group of the top 51 auto parts suppliers was able to be reconstructed.<sup>8</sup>

Thus, by classifying the companies of this group, it can be mentioned that Japanese multinational suppliers accounted for 16% of the total tier 1 auto parts suppliers of TASA (see [Figure 6](#)). Typically, these are subsidiaries of Japanese companies that supply to Toyota Japan and its subsidiaries worldwide. These procedures are usually created at the headquarters of the automaker and transferred to the corporation's subsidiaries because Toyota's head office has fluid and direct contact with the headquarters of these global suppliers. In addition, most of these companies were established in Argentina through follow sourcing, that is, following the Toyota subsidiary in the country. Furthermore, four of these eight Japanese companies are part of the Toyota Group globally (Denso, Jtekt Automotive, Toyota Boshoku, and Toyota Tsusho).



**Figure 6.** Tier 1 auto parts suppliers of Toyota Argentina according to their country of origin ( $n = 51$ )<sup>9</sup> (2020).

Source: Author's own elaboration based on AFAC, ADIMRA, TASA balance sheets, and interviews.

Secondly, there are multinational suppliers with a presence in Argentina (33%), which are foreign companies that have subsidiaries in the country. Most of these are from the United States (8 out of 17) and then three from France. Finally, there are local capital suppliers (51%). This distribution with a greater presence of domestic capital is unusual even in other Toyota subsidiaries worldwide, which usually have a percentage of over 90% of domestic suppliers of foreign origin (Rubio et al., 2022, p. 10).

However, despite more than half of TASA's suppliers being locally owned, it is worth noting that most of them are engaged in simpler activities, such as the manufacture and supply of metal and plastic parts. Many of these auto parts also have advantages over imports as they are bulky parts, which are difficult and costly to transport.

Among the complex and high-value auto parts systems manufactured in the country are: air conditioning systems (Denso), seats (Toyota Boshoku), cables, dashboards and instrument panels (Yazaki), and information and entertainment systems (infotainment) (Mirgor) (Interviewee 1, personal interview, 12/16/2022). This means that while most of Toyota's suppliers in the country are domestic, only one of them, Mirgor, manufactures complex parts. The other three suppliers of higher value-added parts are Japanese global auto parts companies, two of which are part of the Toyota Group (Denso and Toyota Boshoku). Based on this data, it is important to understand how this situation was reached among TASA's main auto parts suppliers, what kind of upgrading processes were carried out, and what kind

of governance TASA established with its suppliers. This is discussed below based on the trajectory of the eleven main TASA auto parts suppliers based in the country.

## **7. The Governance in Toyota Argentina's Value Chain**

As mentioned, governance in the automotive value chain is producer-driven, because the specific assets that underlie this type of governance are mainly production capabilities, high capital requirements, and R&D. Companies that govern producer-driven chains often subcontract some phases of production but retain for themselves the R&D and (complex) manufacturing of the final product. However, the governance of TASA has also been distinguished by a series of particular elements that are detailed below.

Firstly, the active participation in the development of local suppliers can be mentioned. This has been seen through a series of programs and activities, such as the SPTT for the inclusion of new suppliers, the APTA to strengthen cooperation in the value chain, and various training activities to collaborate in the improvement of auto parts manufacturers. This involvement has been highlighted mainly by suppliers of national capital whose main client is Toyota (Industrias Guidi, Esteban Cordero, Ventalum, and CRAFMSA).

Thus, these training activities, personnel rotation, quality circles, formal and informal conversations, and various meetings generate an exchange of information because they open spaces that facilitate the creation of networks of contacts and personal interactions. These networks then pass through different tools to the organizational sphere, increasing the circulation of information on topics such as production processes, organization, and management. Toyota Argentina's relationship with its main suppliers provides mutual commitment and trust, allowing for greater exchange of information due to the duration and continuity characteristics of the relationship.

The distinctive feature of this governance is the generation of long-term relationships, in line with the type of relationship established by Japanese automakers with their suppliers worldwide. In this sense, all the interviewed auto parts companies have continued their relationship with TASA since they started supplying parts. The only exception in this regard was the case of CRAFMSA. This was a particular situation in which the auto parts company was on the verge of bankruptcy due to divestment and poor management of the firm.

Long-term relationships were maintained in all cases and suppliers did not suffer threats of being displaced by others. According to the president

of the local firm Ventalum, this is because “*Toyota does not make decisions with short-term financial criteria, about things that will impact the long term. You can lose a little for a while. They do not want to maximize profits, they want to optimize profits*” (Interviewee 6, personal interview, June 19, 2022). The most extreme case of this type of relationship was presented by Esteban Cordero, as the auto parts supplier decided to work only with Japanese clients (Toyota, Honda and Yamaha) due to its successful experience with Toyota and failed experience with other Western clients (Fiat and Visteon).

In addition, the incorporation or increased production of most of the interviewed suppliers displaced imported parts (Ventalum, Dana, Guidi, Boshoku, Polimetal and Mirgor).<sup>10</sup> The majority of these incorporations occurred between 2014 and 2015, and were driven by the expansion plan of the automaker, facilitated by the change to the 8th Generation Hilux model, the increase in production to 100,000 units in 2016, and the reimbursements offered by the auto parts law.

A fourth relevant element in the type of governance is constituted by TASA’s strong control over its suppliers. Most of the interviewed companies highlight this point, and some emphasize the complexity of working under these conditions. For example, CRAFMSA raises the difficulty of increasing prices with TASA, which leaves them with low profit margins. In turn, Guidi states that Toyota “*is interested in cost reduction, but through productivity improvements, natural reductions, not forced ones*” (Interviewee 4, personal interview, 15/2/2022). In addition, Metalsa argues that the demand for productivity and quality is sometimes excessively high. Likewise, this control can be seen in the ownership of the molds and matrices granted to the auto parts companies, unlike other automakers.

The second classification of governance, made by Gereffi et al. (2005), varies depending on the lead firm-supplier relationship in the automotive industry. Based on the analysis of the eleven interviewed auto parts suppliers, this type of relationship with TASA is classified. Based on the highlighted elements and following this governance typology, it can be argued that TASA had three types of relationships with the interviewed auto parts suppliers, which can be classified as shown in [Table 1](#).

Firstly, Toyota Argentina established a modular governance with the largest non-Japanese suppliers, such as Mirgor, Dana, Metalsa, and Polimetal. This is because the complexity of the exchanged information, its codifiability, and the suppliers’ capabilities are high in these cases. In addition, in this type of governance, specific products are assigned to highly competent suppliers, with versatility to manufacture different products and with a moderately diversified customer portfolio. This variety of customers and products provides suppliers with relative autonomy regarding buyers,

**Table 1.** Types of TASA's governance with interviewed suppliers.

	Modular	Relational	Captive
Complexity of the information	High	High	High
Ability/need to decode information	High	Medium	High
Capabilities of suppliers	High	High	Low
Level of coordination and power asymmetry	Medium-low	Medium	Medium-high
Cases	Mirgor, Dana, Metalsa, Polimetal	Denso, Toyota Boshoku, Yazaki	Esteban Cordero, Industrias Guidi, Ventalum, CRAFMSA

Source: Author's own elaboration based on interviews and Gereffi et al. (2005).

and therefore, the power asymmetries between them are relatively reduced. This was the case for Mirgor, Dana, Metalsa, and Polimetal.

In the second place, TASA maintained a relational link with the Japanese system suppliers: Denso, Toyota Boshoku and Yazaki. In this type, suppliers are also highly competent and there is high complexity in the transactions, but unlike the modular type, the codifiability of these is low, so tacit knowledge plays a crucial role. Basically, these companies have their R&D centers where Toyota designs and develops a specific vehicle model. In the case of the Toyota Hilux, this country is Thailand, and the Japanese system suppliers also install their research centers in that country. Thus, most of the information exchange is deployed there, and then these products and processes are replicated in other industrial centers, in this case, Argentina and South Africa.

In these supply chains, there is a mutual dependence between the supplier and the buyer, and trust between the parties becomes extremely important. The need for tacit information to flow between supplier and buyer makes social and spatial proximity between them a requirement for this type of transaction. Given such trust and mutual dependence, the development of relational chains requires a lot of time, and therefore the costs of changing supplier/buyer tend to be high. This is the case with the original links between Japanese system suppliers and Toyota from their home country to their external location in the rest of the world.

Finally, TASA maintained a captive governance with most of the local capital auto parts companies: Esteban Cordero, Industrias Guidi, Ventalum and CRAFMSA. In this type, information flows are also highly complex, but here the suppliers are less competent than in the modular governance. In this type, buyers give their suppliers explicit instructions on what, how and when to produce, and they often monitor them, so the situation involves a high asymmetry. In some cases, buyers invest resources in increasing the capabilities of suppliers in order to improve the quality-price of inputs, as is the case with TASA and local suppliers. In these networks, the low competences of suppliers make them captive to large buyers, who

hold the power and can unilaterally modify costs and prices without much resistance. Nevertheless, the organization and coordination required to carry out transactions between buyers and suppliers are high.

Overall, Toyota Argentina's governance structure is distinctly defined by the type of supplier, their size, ownership origin, and the complexity of the products involved. In this context, larger suppliers with multiple clients experience less power asymmetry with the automaker. The large Japanese multinational firms demonstrate a symbiotic relationship with Toyota that extends beyond the country and is influenced by global agreements. In contrast, the smaller local companies that consider Toyota their primary or sole client operate under a hierarchical dependency on the automaker.

In summary, TASA's governance has been characterized by its active participation in the development of local suppliers, its fluid exchange of information with them, its long-term relationships with strong demands and control over them. Furthermore, the types of governance established with different auto parts companies are divided into: relational with global Japanese system suppliers, modular with large non-Japanese auto parts suppliers, and captive with most of the locally owned suppliers.

### **Suppliers Upgrading in Toyota Argentina's value chain**

Regarding the upgrading processes of these firms, they have also been sufficiently delimited by the type of company. In general, local capital auto parts companies (except for Mirgor and Polimetal) have stated that the main improvement they have made, as a result of their relationship with TASA, has been in processes. It should be noted that within the upgrading typologies developed by Gereffi et al. (2005), process upgrading is the easiest to achieve. In the cases studied, this has arisen to a greater extent as a result of the adoption of the TPS method, which has allowed them to increase the productivity levels of their plants. Also, although to a lesser extent, this improvement has been produced by the incorporation of new machinery in the production lines.

On the contrary, the rest of the firms have not been involved in these improvement processes through TPS. In the case of Japanese multinationals (Denso, Toyota Boshoku and Yazaki), because they already had it incorporated, and in the rest of the companies, because they have high levels of efficiency, work with other clients and their connection with TASA is less close than that of local firms (Dana, Metalsa, Mirgor and Polimetal). In these latter firms, process upgrading has also been carried out, but not through the inclusion of TPS, but through the purchase of more modern machinery, the inclusion of robots, and the automation of processes, which allowed them to increase their productivity.



Moreover, for some local auto parts companies, the link with TASA allowed them to sell to other automakers. This was the case for Ventalum, Industrias Guidi, and Esteban Cordero. Additionally, the latter was also able to access exports to Toyota Brazil, although only for a few years.

Another element that has allowed auto parts companies to make improvements in their relationship with TASA is the predictability of their customer's purchases, derived from the planned and gradual increases in the automaker's production, in line with the principles of production smoothing of TPS, and their long-term link. In this regard, most companies highlight this factor, which is even more valued in such a volatile market as Argentina. In the most extreme case, Esteban Cordero decided to work only with Japanese customers due to this issue. In particular, auto parts firms point out that, on the one hand, the stability and predictability of contracts allows them to plan. On the other hand, the gradual increase benefits them by being able to increase their production capacity, but in a staggered way, since if the increase in purchases were to occur rapidly, most auto parts companies would not be able to make the necessary investments and achieve the production capacity of the new orders. In addition, Toyota's volume and predictability of purchases allowed Dana to specialize in the pickup truck market, leaving aside other types of clients with whom it was encountering various difficulties.

The only exception to this favorable element is presented by Yazaki. For this auto parts company, the gradual increase in production makes it difficult to operate due to the labor-intensive characteristics of cable production. This requires hiring processes that are costly for the firm. In addition, the supplier highlights that the low profitability of the local plant and the lack of investment in the company worsen this situation.

However, in the vast majority of suppliers, the gradual increase in TASA's production has allowed auto parts companies to make investments to improve productivity and/or increase production. The most representative case of this process is presented by Industrias Guidi, which made a significant investment to build its second plant in Zárate, close to the TASA factory, and increased the number of parts in Toyota vehicles. In the case of Industrias Guidi and Denso, these investments were also made possible by obtaining subsidized public credit (FONDEAR) in 2014 and 2015, just like Toyota.

Finally, in some cases, other upgrading processes were recorded, although in a more isolated and specific way. For example, for Ventalum, the link with Toyota allowed it to carry out a product upgrade, as it went from producing only windows to being able to manufacture steps and roof racks. In particular, this enabled them to specialize in the latter product and position themselves as leaders in the local market. On the other hand, CRAFMSA carried out a functional upgrade by developing the front-end

support for TASA with the launch of the IMV, although the company's complications in subsequent years hindered its design and innovation capacity. In addition, Toyota Boshoku was able to carry out a slight functional upgrade by starting some design activities. Thus, since 2017, it opened a Project Management department, in which innovation activities are carried out to adapt the product to its local context. For example, it developed a particular air conditioning system for seats, given the specificities of the Latin American markets.

The case of Mirgor is the only one in which an intersectoral upgrading has been carried out, since it started manufacturing onboard entertainment systems with Toyota, based on the technology transfer agreement with the Japanese firm Pioneer. Later, Mirgor continued designing and producing these systems on its own. This case is the most advanced upgrading process among TASA auto parts suppliers and stands out even more since it is the only locally owned capital supplier that manufactures complex systems in the country.

The suppliers argue that the absence of advanced R&D functions from Toyota in Argentina, and the lack of a specialized R&D center in the country or region, are significant limitations when it comes to carrying out innovation activities. On the other hand, it can be seen how Japanese system suppliers participate with Toyota in the design and development of the Hilux and SW4 and their parts in Thailand, and then these products are replicated in Argentina, leaving little margin for these activities in the country. On the one hand, this reflects the central role played by these global Japanese suppliers in the creation and production of Toyota vehicles, and the low capabilities that remain for local subsidiaries of these system suppliers. This also marks a limit for local auto parts manufacturers and their opportunities for scaling up in this value chain, as the most complex and costly parts of vehicles are determined in global agreements between multinationals, far from peripheral industrial centers like Argentina.

This evidence is consistent with other papers that highlight that R&D activities have a low degree of internationalization and are mainly concentrated in the home countries of global automakers or in other developed countries (Carrincazeaux et al., 2001; Miller, 1994), and that the internationalized activities beyond those destinations are usually those linked to product development and adaptation to regional and national conditions (Pavlínek, 2012).

Some suppliers point out the possibility of developing products for the Hilux Gazoo Racing, the model intended for car racing, which, although its volume is small, its design is located in Argentina. But, until the period studied in this article, this has not driven new processes of upgrading of local suppliers, except for some activities of Toyota Boshoku's subsidiary.

In summary, most locally-owned auto parts suppliers have benefited from process upgrading, primarily through the introduction of TPS and to a lesser extent the adoption of new machinery. In addition, some of them were able to access other local customers through their relationship with TASA. But the element that most suppliers highlight as the main benefit is the predictability provided by the gradual and sustained increases in Toyota vehicle production. This allows them to plan production organization, investments, and to expand their production capacities in the context of the uncertainty that the Argentinian macroeconomy continually presents to them. However, compared to other supplier upgrading processes, improvements are sporadic and scarce. In particular, the location of the Toyota Hilux R&D center in Thailand and global contracts with Japanese system suppliers, who also have their centers in that country, set rigid limits for local auto parts suppliers and their opportunities to scale up in this value chain.

## Conclusions

This article aimed to analyze the nature of the relationship between TASA and the companies located upstream in its value chain, given its superior relative performance compared to the rest of the firms in the Argentinian automotive complex. In this way, it has been seen that since 2012, the coefficient of imported parts per vehicle produced has been steadily decreasing, reflecting a process of higher local content in their vehicles. This trend is consistent with the greater growth in production and exports of the company in the second decade of the century. This process of import substitution was mainly driven by the larger economies of scale that the company achieved after the massive investment of 2013–2015. However, a large part of the imported auto parts is of high complexity, coming from Thailand (the world hub for the Hilux), Brazil (Mercosur), and increasingly less from Japan (the parent company). The importation of these systems (mainly engines and gearboxes) stands out because they are of high technical complexity and, therefore, have higher added value than others.

Additionally, it has been observed that TASA has significantly expanded its base of local suppliers since its installation in the country. In this sense, it has also been confirmed that most of Toyota's suppliers in the country are domestically owned. However, despite this, it has also been noted that most of these suppliers engage in simpler activities, such as the manufacture and supply of metal and plastic parts. The exception in this group is Mirgor, which produces complex parts. Finally, the other three suppliers of higher-value systems are global Japanese auto parts companies, two of which belong to the Toyota Group.

Furthermore, throughout this article, it has been observed that TASA's governance has been characterized by its active participation in the development of local suppliers, its fluid exchange of information with them, its long-term relationships, but with strong demands and control over them. Additionally, the types of governance established with different groups of auto parts suppliers are divided into: relational with global Japanese system suppliers, modular with large non-Japanese auto parts suppliers, and captive with most local capital suppliers.

But one of the fundamental questions of this paper focuses on how the increase in production, exports, and local content of TASA's vehicles resulted in improved technical capacities of the auto parts companies linked to it. Regarding this, the literature indicates that development links between automakers and local suppliers are based on long-term collaboration between foreign subsidiaries and domestic companies that promote the transfer of technology and knowledge from foreign subsidiaries, fostering the improvement of domestic companies. Conversely, short-term cost reduction and price-based relationships between foreign subsidiaries and domestic companies create dependent links, perpetuating the dependence of companies and regions on external agents (Pavlínek, 2018; Yeung & Coe, 2015).

In this case, it has been seen that most of the local capital auto parts manufacturers have benefited from process upgrading, mainly from the introduction of TPS and secondly from the incorporation of modern machinery. In addition, some of them were able to access other local customers through their link with TASA. But the element that the majority of suppliers highlight as the main benefit is the predictability of gradual and sustained increases in Toyota vehicle production. This allows them to plan production organization, investments, and to dare to expand their productive capacities in the face of the uncertainty of the Argentinian macroeconomy. However, compared to other supplier upgrading processes, the improvements are specific and scarce.

In particular, the location of the R&D center for the Toyota Hilux in Thailand and global contracts with Japanese systemists, who also have their centers in that country, set rigid limits for local auto parts manufacturers and their opportunities for scaling up in this value chain. Thus, it can be concluded that, despite the increase that TASA experienced in its production, exports, employment, and local content, the spillover effect on the technical capacities of domestic companies has been rather limited.

Despite surpassing the scope of the paper, these results can show that peripheral countries can obtain positive effects from automotive FDI beyond production and employment as the Thai case shows. This trend seems to apply not only for the case of Toyota, but also for other

automakers that localized their main medium pick-up trucks productive hubs and R&D centers in that country (Intarakumnerd, 2021; Natsuda & Thoburn, 2013; Warr & Kohpaiboon, 2018). On the other hand, another similar case that can be compared to the Argentinian one is South Africa as it has been also specializing in medium pick-up trucks and having limited positive effects in its automotive complex (Barnes et al., 2021; Black, 2009; Monaco & Wuttke, 2023). Therefore, a hypothesis that arises from this article is that peripheral countries can scale up in the automotive value chain, but it seems that there is no room for all, and this trajectory could vary depending on MNEs strategies on segment specialization and geographical localization of activities. These ideas must be investigated in future further research.

## Notes

1. However, unlike the other macro-regional periphery, ASEAN, that has been able to also export to the world market, Mercosur countries have been mostly limited to the South American market.
2. Despite not being the same, the case of Škoda Auto, originally Czech (then purchased by Volkswagen), shares some similarities with the Toyota Argentina case. It illustrates a successful integration of a firm from a less developed country into a global network organized and controlled by a core country firm in the automotive industry (Pavlínek, 2015). Moreover, Pavlínek and Janák (2007), conducted a similar research to the one proposed on this paper by analyzing the entire Škoda's supply chain.
3. These changes implied a break with the theoretical framework of the world-system, mainly around the issue of development. The authors of the world-system theory argue that the GVC approach has a 'developmentalist illusion' because it suggests that the insertion of companies and countries into GVCs implies an improvement for them, while the world-system theory has a more static view in which most of the value of these chains is transferred to central countries, following the view of dependency theory (Arrighi, 1990; Wallerstein, 1988). Research that delves into these theoretical changes, consult Bair (2005).
4. To explore a further development of this debate see Perez Almansi (2023a, pp. 53–60).
5. This law was enacted in 2016, although executives argue that with the 2008 law they also had a similar incentive, although payments used to take longer. According to the 2016 law, the percentage of tax credit reimbursement can vary from 4% to 15% of the ex-factory value of the national auto parts referred to in the law, depending on the local content of the vehicle, starting from a minimum of 30%. In 2022, TASA was one of the few automakers that had 40% local content according to the methodology detailed in the law. Although this information is not public, according to executives, Toyota is a few steps ahead of the rest in this dimension (Interviewee 1, personal interview, 16/12/2022).
6. The discussion about "local content" has been explored in the literature. For example, Mitchell (2024) examines the complexities and challenges associated with onshoring manufacturing through local content requirements within the context of WTO law, or Shadikhodjaev (2023), work on localization measures and subsidies in ASEAN countries. However, in the automotive sector the crucial factor is associated with

economies of scale. Mainly, when there is a large enough local market for locally designed or locally adapted vehicle models, the OEMs will be willing to undertake the significant investments and risks associated with sourcing and design localization (Wuttke, 2021).

7. However, the replacement of TASA's suppliers located in Argentina was very limited, as will be seen in more detail later on.
8. This was done through the Argentinian suppliers' association databases (AFAC) retrieved from <http://www.afac.org.ar/>.
9. It is important to highlight that the obtained list consists of 51 direct auto parts suppliers. According to the Purchasing department of Toyota, in 2020, the total number of direct suppliers was 62, although this list is confidential. According to ADIMRA, the business chamber of metallurgical auto parts suppliers, of the total of 62 auto parts suppliers, the percentage of local capital is 60%, higher than what was analyzed in the sample of this article.
10. In the case of Yazaki, imports were also displaced, but the company decided to install plants in Uruguay and Paraguay, so a large part of the new production continued to be imported.

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