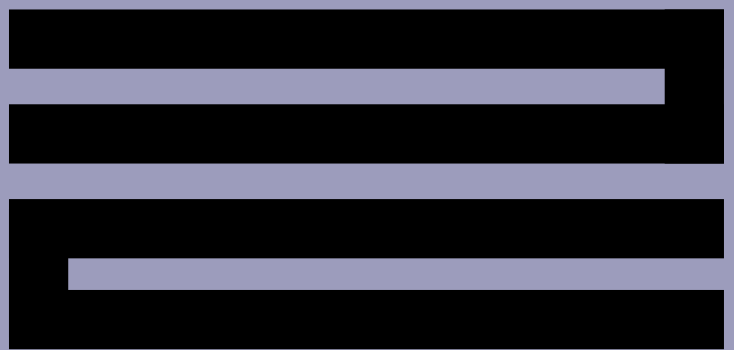


# Lights and Shadows of Industrial Policy in Argentina in the 21st Century



Production  
planning

Daniel Schteingart  
Andrés Tavošnanska  
Paula Isaak  
Juan Manuel Antonietta  
Matías Ginsberg

Document 2

**Series**  
Industrial Policy  
in the 21st Century

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- Generate wealth
- Promote welfare
- Transform the state



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# Introduction

Throughout history, manufacturing has played a fundamental role in the development of nations, given its significant potential to drive long-term economic growth, create formal and well-paid jobs, spur technological innovation, and enhance national autonomy. This strategic role of manufacturing has prompted governments worldwide to implement a wide range of public policies to support it over the past two centuries. As highlighted in the first document of this series, "[The Renaissance of Industrial Policy Worldwide](#)", both major powers and middle-income countries are currently investing in the development of specific industrial sectors to promote social well-being and achieve greater autonomy.

Argentina has been no exception: at various points in its history, the country implemented numerous policies that were pivotal in shaping its manufacturing sector. As in many other countries worldwide, the period from the 1940s to the 1970s was marked by the growing and sophisticated implementation of initiatives aimed at consolidating manufacturing. Although politics and macroeconomics during those years were unstable and volatile, there was, broadly speaking, a consensus on the importance of manufacturing as a driver of development and the role of the state in promoting it. This industrialist paradigm broke down in the final quarter of the 20th century, a period when many industrial policies were dismantled as part of a new national development paradigm focused on economic deregulation, market-based incentives, and the expansion of productive sectors relying on static comparative advantages, such as the primary sector (Schvarzer, 1996; [Rougier, 2021](#)).

In the past two decades, Argentina has reintroduced policies to promote manufacturing. However, unlike the mid-20th century, this time there was no consensus among the main political forces regarding the role of manufacturing as a driver of development and well-being in the 21st century. On the one hand, Peronist (or center-left) governments considered it strategic and sought to stimulate it through public intervention, particularly focusing on manufacturing sectors not based on agricultural raw materials. In contrast, neoconservative governments had less confidence in its strategic role — and in the state's ability to foster it. As a result, most policies aimed at promoting manufacturing — or some of its branches — have been inconsistent and marked by fluctuations.

The lack of consensus on how to address the manufacturing sector has sociopolitical roots: Peronist governments tend to include industrial entrepreneurs focused on the domestic market and salaried workers who support it within their coalition, while conservative governments prefer other segments of the business sector, such as agribusiness, finance, or certain services ([O'Farrell et al., 2021](#)).

Moreover, this lack of consensus is driven by the fact that we know little about the effectiveness of policies targeting manufacturing, which prevents us from determining with certainty which ones have worked (and which have not). This knowledge gap undermines learning in public policy and, as a result, makes it harder to shift the predominant framework of ideas within the main political forces.

This document rests on several key premises. First, Argentina's development is unattainable without a strong commitment to industries with potential for exports, technological advancement, and the creation of well-paying jobs. Second, fostering such sectors requires public investment in manufacturing policies: market mechanisms alone are insufficient (and can sometimes even be counterproductive) to achieve this goal. Third, there are no inherently "good" or "bad" industrial policies for Argentina or any country; their outcomes depend heavily on their design and implementation. Fourth, given how little we know about the success (or failure) of Argentina's industrial policies over the past decades, it is crucial to study, evaluate, and take stock of them. Without this evaluation, it will be challenging to reconcile the starkly opposing views on manufacturing. Finally, envisioning a new industrial policy for Argentina's future—as we aim to do in the third document of this series, "[A Manufacturing Policy for Argentina's Future](#)"—requires a clearer understanding of where we stand today and how we got here.

In this context, this document aims to analyze the main characteristics, strengths, and limitations of industrial policy in Argentina over the past two decades (2003–2024). This effort to gain a better understanding of industrial policy does not occur in isolation but unfolds within an international context where interest in improving the design and implementation of such policies has grown significantly in recent years<sup>1</sup>.

Before proceeding, some clarifications are needed. First, what do we mean by "industrial policy"? The most common definition refers to a set of public policies aimed at transforming a country's productive structure to achieve social and economic objectives, such as accelerating economic growth, generating good jobs, fostering technological development, or ensuring national autonomy. To achieve these goals, industrial policy employs a wide range of instruments that modify the market incentives of private firms. These instruments include promotion (through subsidies for exports, investment, research and development, workforce training, etc.), financing (through subsidized loans or credit guarantees), trade protection from imported competition, public production in strategic sectors, public procurement, or regulations mandating the use of a minimum share of domestic inputs. Additionally, policies in other domains can also serve as tools of industrial policy. These include technological policies, such as developing infrastructure for technology centers or laboratories and regulating intellectual property; labor policies, such as workforce training and skills development; educational policies, such as investing in the university system; and scientific policies, such as building science and technology infrastructure (O'Farrell *et al.*, 2021; Juhász *et al.*, 2024; Chang & Andreoni, 2020; Hauge, 2023).

The second clarification concerns the sectoral scope of this type of policy. It is common for the term to be used interchangeably with "productive policy," which implies including sectors beyond manufacturing<sup>2</sup>. In this document, however, when we refer to "industrial policy," we will primarily focus on policies targeting the manufacturing sector, thereby excluding service sectors such as software (despite the fact that the country has also implemented support policies for these sectors)<sup>3</sup>. Nonetheless, certain policies related to agriculture and oil & gas (e.g., export duties and quotas) will also be considered. This is because these primary sectors significantly impact manufacturing, either through foreign exchange generation or through productive linkages with manufacturing firms<sup>4</sup>.

The third clarification is that the productive structure does not respond solely to the incentives created by industrial policy; the macroeconomic context also plays a crucial role. This influence is evident through various channels, such as the real exchange rate—and its effect on competitiveness—the availability of foreign exchange and fiscal resources, and the level of certainty under which economic agents operate. This context not only determines the conditions in which companies function but also affects the effectiveness of industrial policies. Moreover, the macroeconomic environment shapes how industrial policies are designed, based on the government's perspective regarding the role of manufacturing and the state in development<sup>5</sup>. For this reason, analyzing industrial policy also requires considering the macroeconomic context prevailing at different moments in recent history<sup>6</sup>.

1 See "[The Renaissance of Industrial Policy Worldwide](#)", the first document in this series.

2 The concept of "industry" has Latin origins and, rather than merely referring to manufacturing, it signifies activity, ingenuity, and know-how, encompassing the rest of the productive sectors (Lavarello & Sarabia, 2017).

3 See the "[Anatomy of the Software Sector](#)" series by Fundar for further details.

4 To grow, the manufacturing sector needs to import both inputs and capital goods not produced locally. Therefore, when foreign currency is scarce, it faces serious challenges in expanding.

5 For example, in the face of currency appreciation, one government might choose to impose import barriers to protect certain sectors, while another might not.

6 Two important clarifications are necessary: 1) Our assessment of the last 20 years of industrial policy in Argentina is grounded in existing literature and data, the impact evaluation of certain programs, exchanges with specialists in productive policy, and the authors' expertise (including experience in public administration related to productive issues). However, it should be regarded as a starting point for future research and debates on the subject, rather than a definitive truth. This is particularly important to note given the unfortunate scarcity of studies in Argentina that evaluate the efficiency (or cost-effectiveness) of various industrial policies. 2) This document seeks to provide context and a general overview of Argentina's industrial policy over the past two decades. For the sake of brevity, it does not explore every aspect in depth or include all existing programs and incentives.



The structure of this document is as follows: the first section presents several indicators designed to quantify different aspects of Argentina's industrial policy in the 21st century. The second section examines the main characteristics of these policies during various subperiods, each corresponding to distinct economic and political phases in the country: the administration of Néstor Kirchner (2003–2007), the two terms of Cristina Fernández de Kirchner (2007–2015), and the presidencies of Mauricio Macri (2015–2019), Alberto Fernández (2019–2023), and Javier Milei (from late 2023 to the present). The administrations of Kirchner, Fernández de Kirchner, and Fernández belong to center-left Peronism, while those of Macri and Milei correspond to neoconservative governments, with Milei representing a more radicalized version. The third section offers a general evaluation of industrial policy during the analyzed period. Finally, an Appendix includes a series of studies evaluating industrial policies implemented during this time, which form part of the basis for the analysis and conclusions.

## The Industrial Pendulum in Figures: Key Data on Argentina's Industrial Policy in the 21st Century

Over the past two decades, Argentina's industrial policy has swung widely. As mentioned earlier, this pendular movement is closely tied to the alternation of governments with differing political orientations, which diverge in their views on the role of manufacturing in economic development and the state's role in promoting it. During Peronist administrations, public resources allocated to the manufacturing sector increased, whereas neoconservative governments took the opposite approach. A similar trend can be observed in trade protection measures aimed at various branches of manufacturing. Moreover, contrasting perspectives on primary sectors versus manufacturing sectors help explain why Peronist governments tended to exhibit an anti-agribusiness bias and prioritized non-agricultural manufacturing, while conservative governments displayed the reverse bias. When examining manufacturing performance, we observe that indicators such as production, employment, and the number of manufacturing firms expanded under Peronist governments, while they contracted under neoconservative ones.

### Industrial Policy in Numbers

Measuring total spending on industrial policy is a methodologically complex task, both in Argentina and in other countries. The figures can vary significantly depending on what is defined as industrial policy<sup>7</sup>. Moreover, it is important to note that industrial policy goes beyond the allocation of fiscal resources to specific sectors. It can also involve altering the economy's relative prices to favor certain activities (through measures such as differentiated exchange rates, export duties, and sector-specific import tariffs, among others). This complexity makes it even more challenging to pinpoint a precise figure that represents how much a country invests in industrial policy.

Below are several indicators illustrating the evolution of industrial policy in Argentina. In general terms, the following trends can be observed:

- Spending on industry and science and technology functions increased during Peronist administrations (2003–2015 and 2019–2023) but declined under conservative governments (2015–2019 and from late 2023 onward) (Figure 1)<sup>8</sup>.

<sup>7</sup> As an example, according to [DiPippo et al. \(2022\)](#), France spent 0.55% of its GDP on industrial policy in 2019. In contrast, using a different methodology, the OECD (2021) calculated an expenditure of 2.1% of GDP. For Argentina, the only consolidated estimate of industrial policy spending comes from [Lavarello y Sarabia \(2017\)](#), which indicates that Argentina increased its investment in industrial policy from 0.89% of GDP in 2004–2006 to 1.11% in 2010–2013. However, these figures are not methodologically comparable with those of [DiPippo et al. \(2022\)](#), who estimate that in 2019 Brazil invested 0.33% of its GDP in industrial policy, the United States 0.39%, Germany 0.41%, Japan 0.5%, France 0.55%, South Korea 0.67%, and China 1.73%.

<sup>8</sup> In 2020–2021, there is a notable increase in spending on the industry function, partly due to pandemic containment measures, which then declines in 2022–2023.

- Credit to the manufacturing sector and SMEs as a percentage of GDP grew between 2003–2015, declined from 2015–2019, and stagnated from 2019–2023 (Figure 2).
- Tax expenditure on economic promotion regimes—not necessarily industrial—grew throughout the period. However, clear pendular shifts were observed in specific regimes, such as the Tierra del Fuego regime (the largest among them), where tax expenditure increased between 2003–2015 and 2019–2023 but declined from 2015–2019 (Figure 3).
- Export duties increased significantly during most of the 2003–2015 period, with clear sectoral differentiations, but declined between 2015–2019 and featured less sectoral segmentation (particularly until 2018). From 2019–2023, the export duties scheme largely continued the 2018–2019 structure (Figure 4).
- Trade administration through para-tariff measures, such as non-automatic import licenses, followed a pendular pattern (increasing under Peronist governments and declining under conservative ones; see Figure 5). It should be noted that there were no major changes in tariff rates during this period, as they must be negotiated within the MERCOSUR framework. However, the dynamics of trade administration policies played a decisive role in shaping import trends.

### Public Spending on Science and Technology and Industry Functions (% of GDP) (2001–2023)

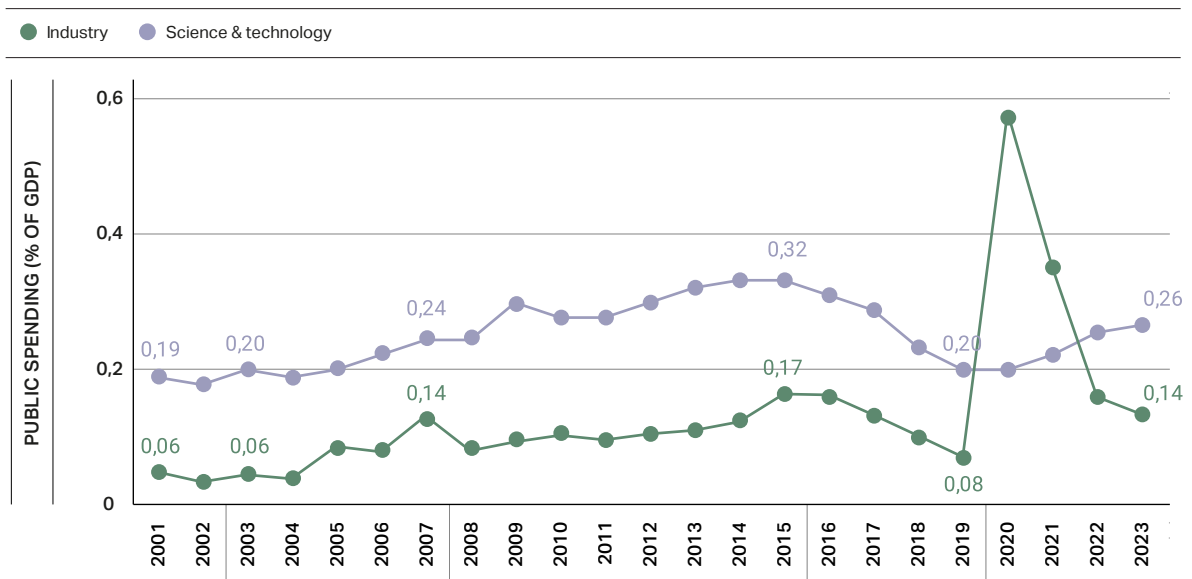


Figure 1

Note 1: Public spending categorized under the “industry” function primarily includes support and financing programs managed by the Ministry of Production and its successors. Public spending categorized under the “science and technology” function includes expenditures for institutions such as CONICET (the main scientific institution of Argentina), the National Agency for R&D, the National Commission for Space Activities (CONAE), the National Atomic Energy Commission (CNEA), the National Institute of Industrial Technology (INTI), the National Institute of Agricultural Technology (INTA), as well as certain programs, among others. Two clarifications: first, for simplicity, the entire budget of CONICET was considered, rather than isolating spending on scientific disciplines with higher potential for industrial transfer—such as “hard” sciences. Second, the relative contribution of these institutions to the total “science and technology” spending varies significantly. For example, in 2023, CONICET accounted for 35% of the total, followed by INTA (15%), CNEA (15%), INTI (5%), the National Agency for R&D (4%), and CONAE (3%). Together, these institutions represented nearly 80% of spending in the “science and technology” category.

Note 2: The sharp increase in public spending on the “industry” function in 2020–2021 is largely due to support programs aimed at cushioning the productive sector during the COVID-19 pandemic.

Source: Fundar, based on data from the Ministry of Economy.

Figure 2

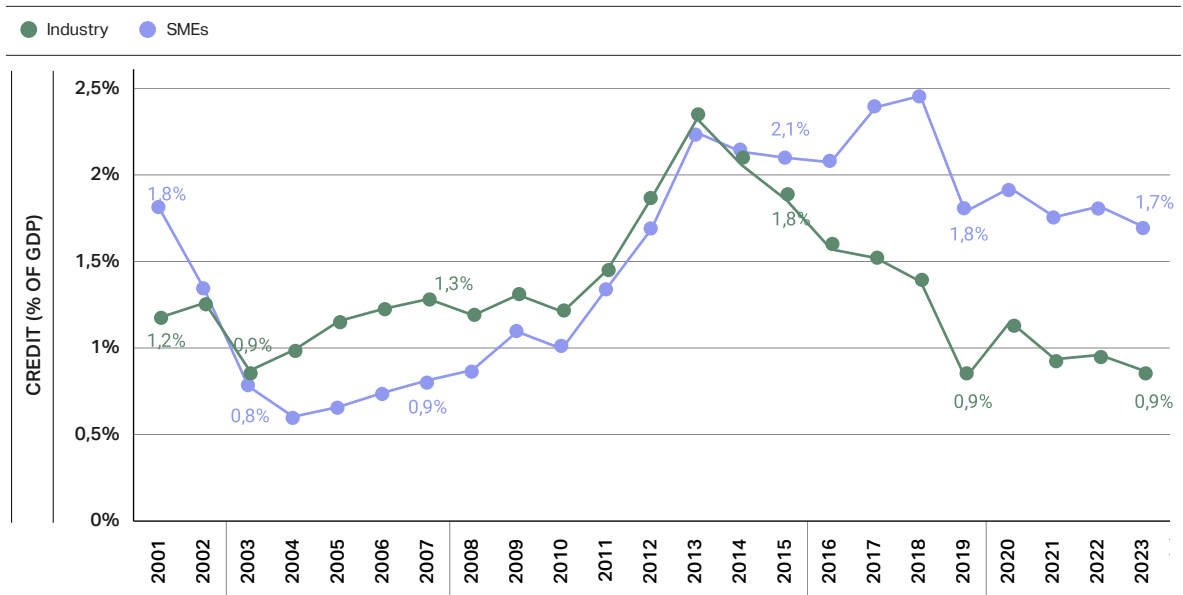




The Industrial Pendulum in Figures: Key Data on Argentina's Industrial Policy in the 21st Century

## Public and Private Credit in Local Currency to the Manufacturing Sector and SMEs (% of GDP) (2001–2023)

Figure 2

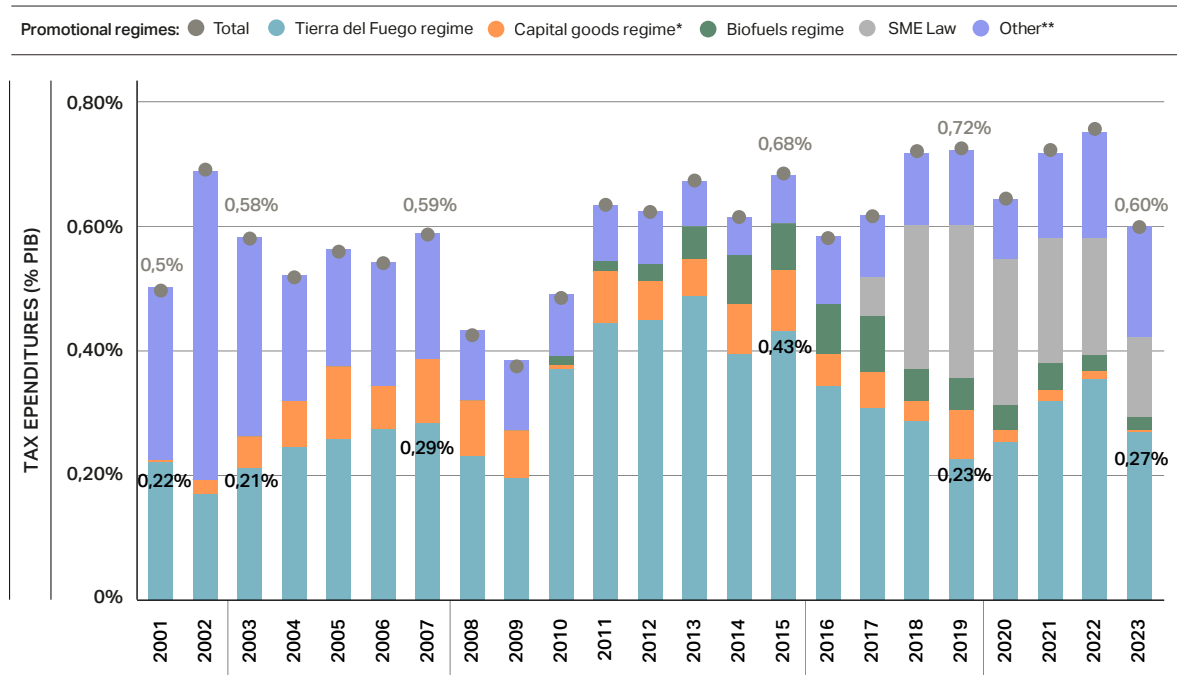


Note: Credit data corresponds to credit in local currency, while SME credit data reflects the total for all SMEs in the economy, not exclusively industrial ones. Some observations about this metric: First, unlike other metrics, it measures a stock (credit) rather than a flow. Second, the data includes all credits (both subsidized and non-subsidized) tracked by the Central Bank of Argentina (BCRA) under these two categories (industry and SMEs), as the available information does not allow for isolating subsidized programs. Additionally, the SME data encompasses sectors beyond manufacturing (since it is not possible to isolate manufacturing-related SMEs); nonetheless, we consider it a reasonable proxy for credit availability.

Source: Fundar, based on data from Central Bank of Argentina (BCRA), and INDEC.

## Tax Expenditure on Economic Promotion Regimes (% of GDP) (2001–2023)

Figure 3



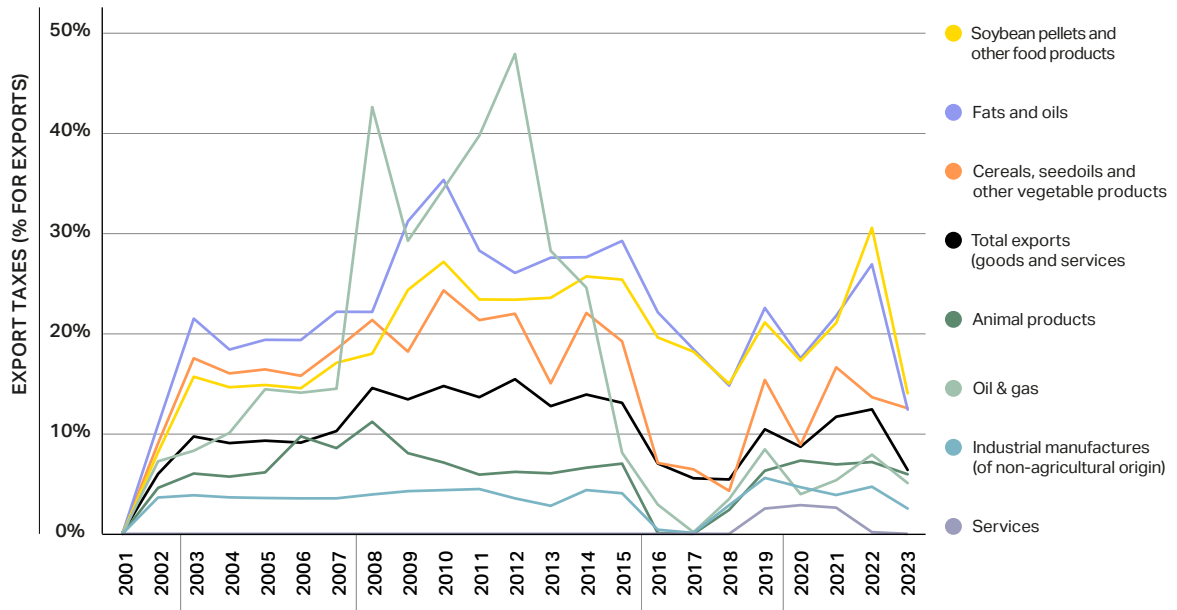
Note: Tax expenditure refers to the loss of government revenue due to exemptions, deductions, discounts, or fiscal incentives granted to specific sectors or activities. \*Starting in 2022, the capital goods regime was reformed, and incentives for this sector were no longer classified as tax expenditure. \*\*Other: This category includes regimes for the promotion of the knowledge economy, software, mining, auto parts, reimbursements for Patagonian ports, industrial promotion in other provinces, forestry, renewable energy, distributed energy generation, mutual guarantee societies, technical education incentives, the Automotive Trade-In Plan, venture capital, and others.

Source: Fundar, based on data from the Ministry of Economy.

The Industrial Pendulum in Figures: Key Data on Argentina's Industrial Policy in the 21st Century

Figure 4

### Average Export Duties by Sector (% of Exports) (2001–2023)

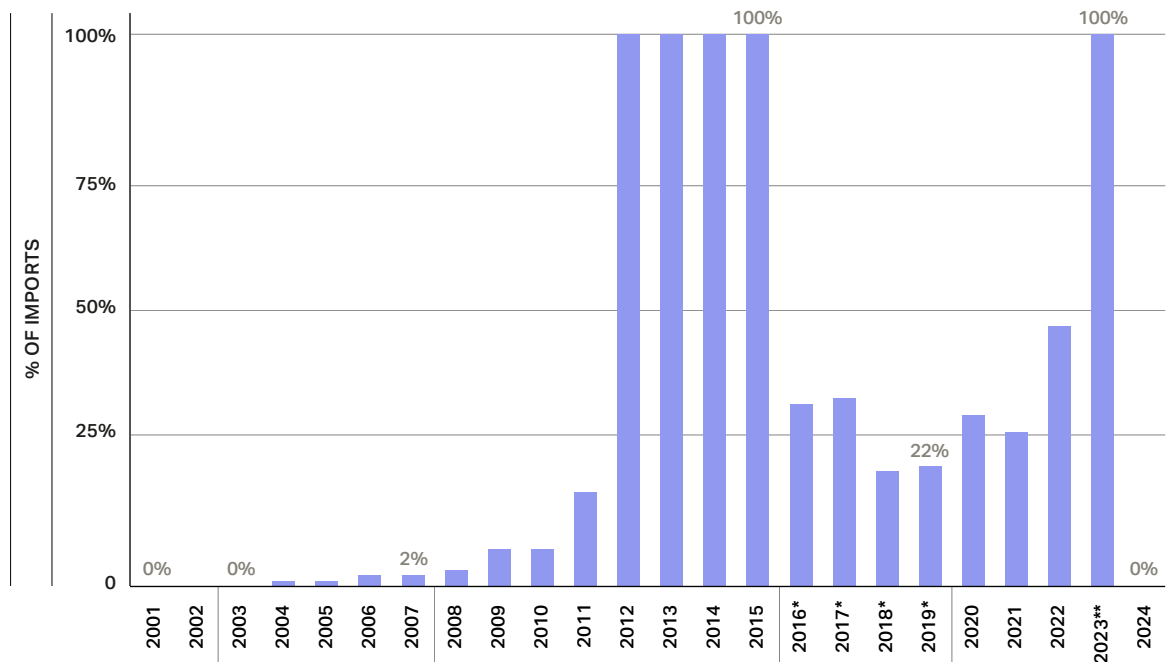


Note: This figure presents the average export duties by sector, serving as a key indicator of the government's intent to influence relative prices among the primary, industrial, and service sectors.

Source: Fundar, based on data from AFIP, INDEC, BACI, and the World Bank.

### Imports (%) Subject to Restrictions (e.g., Non-Automatic Import Licenses) (2001–2024)

Figure 5



Note: \*Years 2016–2019: Although a percentage of imports was formally subject to non-automatic import licenses, in practice, most were treated as automatic licenses, effectively reducing the number. \*\*Year 2023: While the regulations in effect as of 2022 remained unchanged during 2023, quantitative import restrictions were effectively expanded to cover nearly all tariff positions.

Source: Fundar, based on [Hallak \(2023\)](#).

## Industrial Performance

What happened to the manufacturing sector's performance over these years?

- Following the end of the Convertibility regime in 2002<sup>9</sup>**, manufacturing production, the number of manufacturing firms, formal manufacturing employment, and the volume of manufactured exports experienced significant growth. Between 2001 and 2011, manufacturing GDP per capita expanded by 47%, outpacing overall economic growth (32%). This trend was largely driven by the early post-convertibility years (2002–2004), when manufacturing performance—deeply negative during the final years of Convertibility—became particularly dynamic (Figure 6). During this period, the number of manufacturing firms increased significantly, rising from 41,600 to 58,500. Formal manufacturing employment followed a similar trajectory, growing from 816,000 to 1,257,000 (Figure 7). Meanwhile, exports of manufactured goods (both of agricultural and non-agricultural origin) surged by 75% (Figure 8).
- Starting in 2011**, manufacturing GDP per capita, along with overall GDP per capita, began to exhibit a sustained decline, despite occasional years of temporary recovery (2013, 2015, 2017, and 2021–22). By 2023, GDP per capita was 11.2% lower than in 2011, while manufacturing GDP per capita had dropped by 21% (Figure 6). Exports of manufactured goods also declined (-26%) (Figure 8). The number of manufacturing firms fell after peaking in 2011, with approximately 3,600 fewer firms in 2023 compared to that year. In contrast, formal manufacturing employment in 2023 was roughly the same as in 2011 (Figure 7).
- Over the full period** (2023 compared to 2001), GDP per capita grew by 18%, while manufacturing GDP per capita increased by 16%. Additionally, there were 13,300 more manufacturing firms and nearly 450,000 more formal manufacturing employees, and the volume of exported manufactured goods rose by 30%.

### GDP Per Capita for the Total Economy and the Manufacturing Sector (Index Base 100 = 2001) (2001–2024)

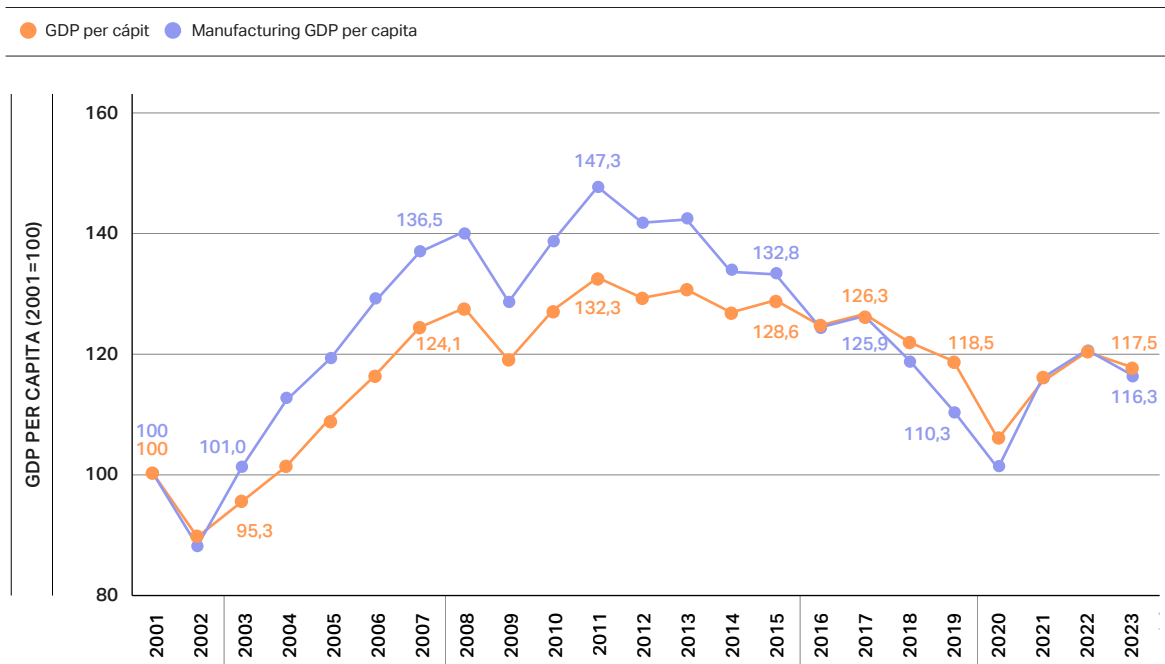


Figure 6

Source: Fundar, based on INDEC.

<sup>9</sup> The Convertibility regime was the predominant macroeconomic framework between 1991 and 2001. It consisted of a fixed exchange rate, where 1 Argentine peso was equal to 1 US dollar. This framework helped reduce the inflation inherited from the 1980s but eventually became unsustainable due to the significant appreciation of the real exchange rate. This led to a growing current account deficit, financed through external debt. From 1998 onward, the framework became unsustainable, resulting in a deep recession until its collapse in 2002.

The Industrial Pendulum in Figures: Key Data on Argentina's Industrial Policy in the 21st Century

### Evolution of the Number of Firms and Formal Manufacturing Employees (2001–2023)

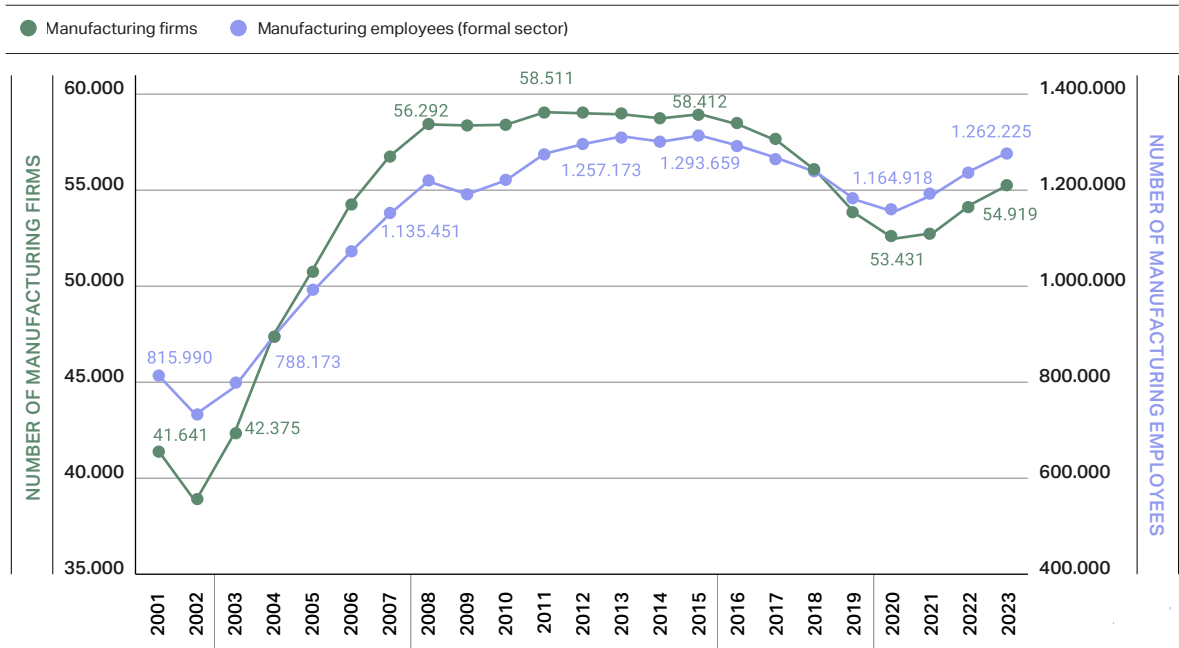


Figure 7

Note: The 2023 data on firms is estimated by extrapolating the 2022 data from the Observatory of Employment and Business Dynamics using data from the Superintendence of Occupational Risks.

Source: Fundar, based on data from the Observatory of Employment and Business Dynamics (2001–2022) and the Superintendence of Occupational Risks (2022–2023).

### Evolution of the Volume of Exported Manufactures (Index 2001=100) (2001–2023)

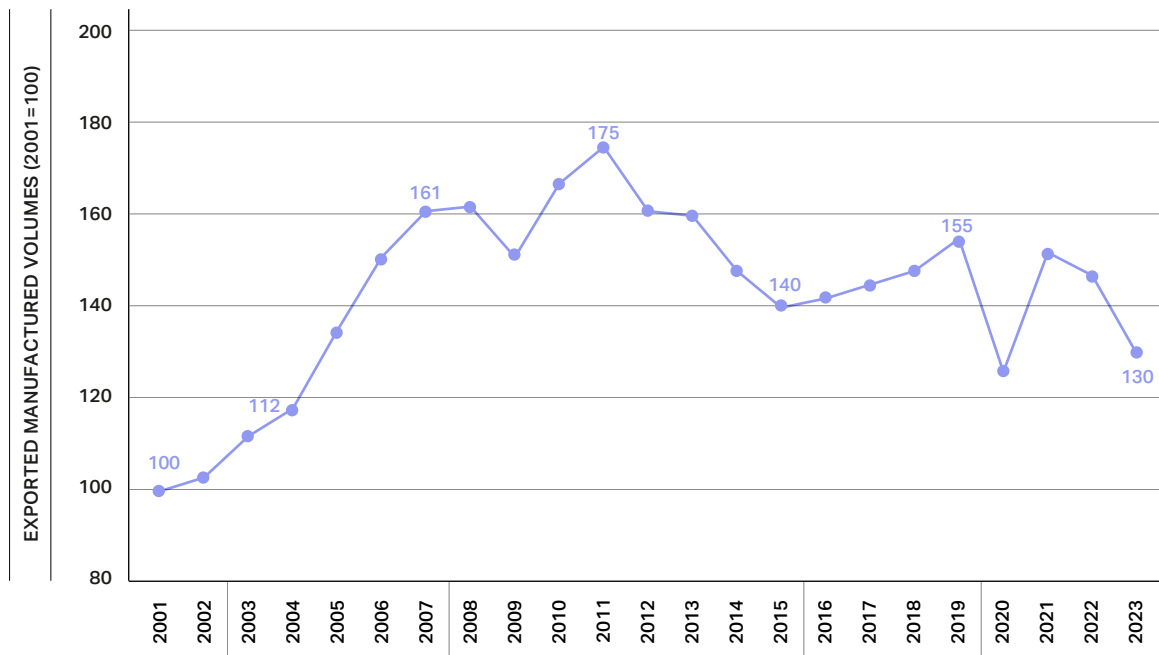


Figure 8

Source: Fundar, based on INDEC.

The Different Stages of Argentine Industrial Policy in the 21st Century



If we analyze manufacturing performance by political cycles, we observe an expansion in manufacturing GDP per capita, manufacturing employment, and the number of manufacturing firms during both 2003–2015 and 2019–2023. In contrast, these variables contracted between 2015–2019 and, so far, under the cycle that began in late 2023<sup>10</sup>. Regarding manufactured exports, they increased during 2003–2015, 2015–2019, and the early part of 2024<sup>11</sup>, but contracted between 2019–2023.

The following sections will provide a more in-depth analysis of the characteristics of industrial policy during these periods. As noted in the introduction, this analysis will also address the macroeconomic context, given its significant influence on both the effectiveness and design of such policies.

## The Different Stages of Argentine Industrial Policy in the 21st Century

Since the end of the Convertibility regime in 2002, Argentina's manufacturing sector has undergone significant transformations through an evolving framework of incentives, which can be divided into five distinct stages:

- **2003 to 2007:** Favorable macroeconomic conditions supported most manufacturing sectors, while industrial policy reflected a combination of continuity and change compared to the promarket approaches inherited from the 1990s.
- **2007 to 2015:** As macroeconomic stability began to erode, the implementation of industrial policy tools intensified, with a particular focus on non-agricultural manufacturing industries.
- **2015 to 2019:** Existing macroeconomic challenges deepened, prompting substantial reforms in prior industrial strategies. This period saw a shift toward economic liberalization and a redistribution of relative prices, favoring agro-industries over more protected sectors.
- **2019 to 2023:** The reliance on industrial policy measures grew amid increasingly severe macroeconomic difficulties.
- **2023 to 2024:** A new administration marked the beginning of a new phase, characterized by the rollback of most industrial policies from the previous period. The current agenda emphasizes economic openness, deregulation, and fiscal adjustments aimed at eliminating the budget deficit.

### The 2003–2007 Period

The end of the currency convertibility regime in 2002 led to a significant transformation in Argentina's economic incentive system, which substantially stimulated the tradable segment of the economy. This shift was driven by a sharp rise in the real exchange rate and the financial recovery of many companies as a result of the so-called "asymmetric pesification" introduced that year ([Coatz & Scheingart, 2016](#))<sup>12</sup>. Within the tradable segment, the manufacturing sector—particularly non-agricultural manu-

<sup>10</sup> In the first ten months of 2024, manufacturing GDP contracted by 11.3%, significantly outpacing the overall economic decline of -2.7%. Meanwhile, between December 2023 and September 2024, 1,081 manufacturing firms and 27,000 employees were lost, according to the Superintendence of Occupational Risks (SRT) and the National Labor Secretariat, respectively.

<sup>11</sup> In the first nine months of 2024, the volume of manufactured exports rose by 17% year-on-year, driven by agricultural-based manufactures—primarily due to the end of the agricultural drought that had negatively impacted 2023 figures.

<sup>12</sup> The "asymmetric pesification" policy meant that dollar-denominated deposits were converted to pesos at a rate of 1.40 pesos per dollar (plus an inflation adjustment), while debts were converted at a rate of 1 peso per dollar (plus an inflation adjustment). In a context where the exchange rate had shifted from 1 peso to 3 pesos per dollar, this measure effectively restored the balance sheets of companies indebted in dollars, particularly those in tradable sectors, whose relative prices greatly benefited from the devaluation of the peso in 2002.

facturing—benefited from lower export duties than the primary sector (see Figure 4). Supported by favorable global conditions, Argentina’s macroeconomic performance was robust during this period, enabling rapid economic growth overall and especially in the manufacturing sector (Kosacoff, 2010; [Herrera & Tavosnanska, 2011](#); Kulfas, 2016; [Porta et al., 2017](#)). The sector’s strong performance was evident across key indicators: per capita production increased by 35%, approximately 14,000 manufacturing firms were established, nearly 350,000 industrial salaried jobs were created, and industrial export volumes rose by 44%, driven by both agricultural and non-agricultural manufacturing exports (see Figures 6, 7, and 8).

Industrial policy during this period combined elements of continuity with departures from the 1990s framework. On the continuity side, a high degree of trade openness persisted, albeit underpinned by a high real exchange rate that enhanced manufacturing competitiveness. Key promotion regimes also remained in place, notably the Tierra del Fuego regime and the capital goods regime. The former, established in 1972 to encourage settlement on the island<sup>13</sup>, provided fiscal benefits—such as exemptions from income tax, VAT, and import duties—for companies operating in the province, primarily in the electronics sector ([Hallak et al., 2023](#)). The latter, introduced in 2001, was designed to compensate local capital goods producers after tariffs on machinery and equipment were reduced to 0%. As shown in Figure 3, tax expenditures related to the complete set of promotion regimes remained stable during this period (rising slightly from 0.58% to 0.59% of GDP). However, there was an internal shift in their composition, with these two regimes accounting for a larger share of the total<sup>14</sup>.

**Between 2003 and 2007, industrial policy displayed both continuities and departures from the 1990s framework. Among the continuities were a high level of trade openness—supported by a high real exchange rate that boosted industrial competitiveness—the continuation of key promotion regimes, and an incentive policy aimed at the automotive industry.**

The continuity of the incentives for the automotive industry inherited from the Convertibility period was evident in measures like the 35% tariffs on non-Mercosur imports and the regulation of regional trade through the *flex system* (which establishes a maximum ratio between car imports and exports between Argentina and Brazil). Other continuities included horizontal policies introduced in the 1990s, such as the Argentine Technological Fund (FONTAR) — designed to foster innovation and technological modernization in the firms— and financing programs for SMEs. These policies positively influenced productive performance (see [Appendix](#)). Although no major instruments were introduced in this area between 2003 and 2007, the favorable macroeconomic context boosted both SME credit and industrial credit, which expanded in absolute terms and relative to GDP (Figure 2).

While these continuities were notable, significant policy shifts also occurred. The most relevant example is the approach to the primary sector and its downstream industrial links. After the relative price changes triggered by the end of Convertibility and in a context of rising international commodity prices, the state sought to capture part of the rent from sectors like agribusiness and oil & gas. This was achieved through an increase in export duties in 2002, later consolidated and expanded from

<sup>13</sup> Tierra del Fuego is the southernmost province of Argentina, the closest to Antarctica and the Falkland Islands (*Islas Malvinas*). Since the 1970s, it has held significant geopolitical interest, not only due to its proximity to these territories but also because of historical territorial disputes with Chile.

<sup>14</sup> Between 2003 and 2007, both regimes increased their share of GDP from 0.26% to 0.39%. This growth was not driven by regulatory changes but rather by economic dynamism, which had a particularly strong impact on the sectors benefiting from these regimes (mainly electronics and metalworking), as they are more sensitive to economic cycles than the average. Since tax expenditure is partly linked to the activity level of beneficiary companies, faster growth compared to the overall economy leads to an increase in such expenditure. As other promotional regimes contracted, the share of Tierra del Fuego and capital goods in total tax expenditure under these regimes rose from 45% to 66%.

2007 onward (Figure 4). The rise in export duties — sometimes paired with export quotas on products like meat and hydrocarbons — aimed to lower domestic raw material prices. This approach sought to simultaneously enhance the purchasing power of the population (and, consequently, demand for domestic-market-oriented industries) and promote value addition in downstream links ([Allan et al., 2024](#)). However, while this policy encouraged value addition, industries dependent on these raw materials (such as food production and petroleum derivatives) faced challenges, including disincentives to increased primary production and export duties higher than the manufacturing average<sup>15</sup>.

**The most significant break with the 1990s was the policy toward the primary sector: the state aimed to capture part of the economic rent from sectors such as agribusiness and hydrocarbons by increasing export duties in 2002, a measure that was further consolidated in the following years, especially from 2007 onward.**

During this period, several initiatives with lasting significance began to take shape. Notable among them were initial efforts to advance high-tech projects in sectors such as nuclear energy, satellite technology, and defense industries. These efforts included the reactivation of the Atucha II nuclear power plant construction, the development of the CAREM small modular nuclear reactor, the establishment of the state-owned satellite services company ARSAT, and the promotion of radar manufacturing. Another important development was the introduction of a new industrial promotion regime in 2006, focused on biofuels<sup>16</sup>. Moreover, science and technology policies saw increased funding for programs (including FONTAR) and for the training of fellows and researchers ([Lavarello & Sarabia, 2017](#))<sup>17</sup>.

## The 2007-2015 Period

This period was characterized by growing macroeconomic imbalances: the emergence of twin deficits —fiscal and external—, loss of foreign reserves, exchange rate appreciation, greater distortions in relative prices, and the implementation of exchange controls starting in 2011. Additionally, worsening global conditions —the 2008-2009 international financial crisis, and towards the end of the period, declining terms of trade and recessions in the two main export destinations for non-agricultural-based manufactured goods, Brazil and Venezuela— heavily impacted manufacturing performance. The high growth rates in manufacturing production and exports seen in the previous period gradually slowed, eventually transitioning to contraction from 2011 onward (Figures 6 and 8). Simultaneously, many industrial policy tools were implemented during these years, partly to mitigate the negative effects of macroeconomic deterioration on various industrial sectors and partly to promote sectors considered strategic.

One of the most significant changes occurred in import controls, which shifted from being predominantly open-market-oriented to increasingly interventionist (Figure 5). Given the limited scope to modify import tariffs —as they are largely determined by MERCOSUR negotiations— the use of non-automatic import licenses (NAILs) increased during the 2008-2009 international crisis. The focus was on sectors deemed “sensitive” to foreign competition, such as textiles, footwear, toys, and agricultural machinery. From 2012 onward, a more comprehensive import control system was implemented with the Advanced Import Affidavits (DJAI), in a context of growing foreign currency shortages. In

<sup>15</sup> For example, manufactures such as meat or processed foods, while subject to lower rates than raw materials, generally faced higher export duties than non-agricultural-based manufactures (Figure 4).

<sup>16</sup> In 2004, the Software Industry Promotion Regime was established, offering tax benefits and fiscal stability to incentivize this sector. We do not analyze it here, as software is not part of the manufacturing industry—the focus of this work—but rather of knowledge-based services. However, it was addressed in Fundar's "[Anatomy of the Software Sector](#)" series.

<sup>17</sup> Public expenditure on the science and technology function increased from 0.20% of GDP in 2003 to 0.24% in 2007, according to data from the Ministry of Economy (Figure 1). In real terms, this represents a 63% increase.



2012-2013, this tool's administration failed to reduce imports, which reached a record level in 2013, but it did complicate the supply of inputs for companies<sup>18</sup>. This led to its redesign and professionalization in 2014-2015, streamlining part of the import process and focusing import restrictions on sectors with greater potential for import substitution. On the one hand, the increasing restrictions on imports helped sustain the number of companies and manufacturing employment (Figure 5). On the other hand, these measures resulted in a 7% increase in the relative price of goods between 2007 and 2015, a striking figure given the sharp exchange rate appreciation during this period<sup>19</sup>. At the same time, these restrictions negatively impacted the competitiveness of many manufacturing companies due to the rising cost of inputs ([Bernini & García Lembergman, 2020](#), see [Appendix](#)).

**During the 2007-2015 period, one of the most significant changes occurred in import policy, which shifted from being predominantly open-market-oriented to increasingly interventionist.**

In a context of accelerating inflation, the government adopted a price regulation strategy targeting various goods and services. This policy involved intervention in the export of certain basic agro-industrial goods, such as meat and wheat, which were restricted to ensure domestic supply. In both cases, the medium-term result was stagnation in primary production and, consequently, in the associated industrial chains. The policy also failed to achieve its objective of reducing the relative prices of food, which over the past two decades have almost always risen faster than inflation ([Schteingart et al., 2024](#)). Similarly, price caps and export duties in the oil & gas sector reduced domestic production, negatively impacting the manufacturing sector due to increased foreign currency use for energy imports, weak demand for supplier industries, and limited supply for user industries. This situation began to reverse after the nationalization of YPF<sup>20</sup> in 2012 and the implementation of aggressive production incentives, which were consolidated in subsequent governments through various measures, such as lower export duties (Figure 4), higher prices, and subsidies ([Arceo et al., 2022](#)).

Between 2007 and 2015, significant resources were allocated to industrial policy (Figures 1, 2, and 3). New tools were introduced to support financing to firms — such as the 2012 Productive Investment Credit Line (LCIP), which required banks to allocate 5% of their deposits to productive credit, particularly targeting SMEs — and to boost the consumption of domestically manufactured goods, such as the Ahora12 program<sup>21</sup>. These instruments had a considerable impact. The LCIP significantly increased industrial credit, which rose from 1.3% of GDP in 2007-2011 to almost 2% in 2012-2015 (Figure 2). Similarly, Ahora12 helped sustain demand in a context where real wages were beginning to stagnate and macroeconomic conditions were deteriorating. In addition to LCIP and Ahora12, several other SME support programs proliferated, some of which had positive effects on employment and firm competitiveness, although their reach was limited<sup>22</sup> (see [Appendix](#)).

<sup>18</sup> In 2012-2013, companies were required to maintain a balanced trade account (a policy known as "1 to 1," meaning one dollar of imports was allowed for every dollar of exports). In practice, this scheme made operations difficult for SMEs, which struggled to source inputs and machinery. In contrast, large firms managed to circumvent this rule by triangulating exports of primary products (e.g., purchasing soybeans from other companies and exporting them through their own).

<sup>19</sup> The price data corresponds to December 2007 and December 2015, based on statistics from San Luis and the City of Buenos Aires. During the same period, the real exchange rate appreciated by 47%, according to the Central Bank of Argentina (BCRA). Since goods are tradable, exchange rate appreciation tends to make them cheaper relative to services (and vice versa during devaluations).

<sup>20</sup> YPF is Argentina's largest company by sales. Established as a state-owned oil company in 1922, it was privatized in the 1990s and partially renationalized in 2012.

<sup>21</sup> Ahora12 was created in 2014 and consisted of offering up to 12 interest-free installments for the purchase of domestically manufactured durable goods.

<sup>22</sup> These programs include the Access to Credit and Competitiveness Program (PACC), the SME Experts Program, and various financing lines from the SME Secretariat. However, these programs reached no more than 10,000 companies—a relatively small figure considering there are over 50,000 in the manufacturing sector and more than 500,000 across the entire economy.



On the other hand, funding for science and technology policy, as well as for high-tech sectors such as nuclear energy, defense industries (e.g., aircraft and radar), and satellite technology, also increased<sup>23</sup>. This led to significant milestones, such as the launches of the ARSAT-1 and ARSAT-2 satellites in 2014 and 2015, respectively, which positioned INVAP — the state-owned company that manufactured them — among the 18 global firms capable of producing these highly knowledge-intensive goods<sup>24</sup>. In the nuclear sector, the 2006 Nuclear Sector Reactivation Plan was maintained, culminating in the commissioning of the third nuclear power plant (Atucha II) in 2014, after construction had been stalled between 1994 and 2006 ([Caro, 2023](#)). The plan also included investment in the CAREM project, which saw significant progress between 2007 and 2015.

Building on long-established capabilities within the science and technology system, industrial policy also contributed to shaping a vibrant biotechnology hub, with notable success stories in biotechnology related to health (such as MabXience, a developer of monoclonal antibodies) and agriculture (such as Bioceres, which developed drought-tolerant crops in collaboration with CONICET researchers). In both cases, a decisive factor was the combination of a science and technology system with expertise in fields such as biological and health sciences and public sector funding (primarily through the National Agency for R&D)<sup>25</sup>.

Other notable developments were related to state-owned enterprises and public procurement. On one hand, several state-owned companies privatized in the 1990s were nationalized during this period, the most prominent being YPF in 2012. This marked the beginning of the development of Vaca Muerta<sup>26</sup>, which has since become one of the most dynamic productive complexes in the country with significant potential for generating foreign currency and industrial capabilities. This potential extends both upstream (capital goods) and downstream in the value chain (liquefied natural gas and petrochemicals). Following the nationalization, Y-TEC, an R&D company for the energy industry, was established in 2013 by YPF and CONICET. Additionally, public procurement played an increasingly important role as an industrial policy tool, targeting industries such as defense, satellite technology, and healthcare (in the latter case, aimed at boosting domestic production of certain vaccines and medicines).

However, a significant portion of the increased resources allocated to industrial policy was absorbed by the Tierra del Fuego regime. In 2009, internal taxes on electronic products (primarily cell phones, televisions, and notebooks) not assembled on the island were raised. This led to a sharp rise in the regime's tax expenditure, which grew from 0.20% of GDP in 2009 to 0.43% in 2015, peaking at 0.49% in 2013 (see Figure 1). According to [Lavarello & Sarabia \(2017\)](#), between 2004/2006 and 2010/2013, the Tierra del Fuego regime's share of total resources transferred to the manufacturing industry increased from 21% to 37%, more than 20 times its contribution to manufacturing GDP. Despite this, its progress in terms of value addition, exports, or creating linkages with the broader productive and technological network remained very limited ([Hallak et al., 2023](#), see [Appendix](#)).

<sup>23</sup> For example, in 2009, the Argentine Sectoral Fund (FONARSEC) was created. FONARSEC marked the first public-private associative funding initiative aimed at promoting technology transfer, strengthening sectoral capacities (in areas such as health, nanotechnology, ICTs, alternative energy, agribusiness, and agrobiotechnology), and creating technology-based companies.

<sup>24</sup> These 18 companies are from 12 countries (the United States, France, the United Kingdom, Germany, Italy, Russia, Japan, China, India, Israel, Turkey, and Argentina).

<sup>25</sup> For example, Bioceres received funding in the form of Non-Refundable Contributions (ANRs) from 2005 to 2012. Additionally, it partnered with CONICET to create the Rosario Institute of Agrobiotechnology (INDEAR) in 2004. The support provided by the National Agency for R&D to both Bioceres and INDEAR was crucial for developing laboratory infrastructure, building scientific capabilities, and financing project development.

<sup>26</sup> Vaca Muerta is a geological formation located in the province of Neuquén, which holds one of the largest shale oil and gas reserves in the world.

## The 2015-2019 Period

During Macri's administration, macroeconomic policy took precedence over industrial policy, which lost prominence on the agenda. Despite attempts at economic restructuring — including a swift removal of exchange controls in place since 2011 — macroeconomic issues worsened, resulting in heightened inflationary pressures and a contraction in GDP per capita (-7.8%). These years were also marked by efforts to achieve greater trade openness and, particularly from 2018 onward, fiscal balance, which led to reduced fiscal resources for industrial policy, among other areas. Funding for productive development programs was cut, momentum for most high-tech projects in areas such as satellites, defense, and nuclear energy was halted — with the exception of the CAREM project — and spending on science and technology was significantly reduced (Figure 1). The increased cost of productive credit and declining sales — driven by the recession and greater import penetration — caused severe liquidity problems for many manufacturing firms. In this context, manufacturing production contracted more sharply than the overall economy (-17% per capita), 5,000 industrial companies closed, and 129,000 manufacturing jobs were lost (Figures 6 and 7). However, manufacturing exports (+11%) regained some of the ground lost in previous years, supported by a higher real exchange rate, changes in export duties, and greater trade openness (Figure 8).

**The priority of Macri's administration was on macroeconomic issues, but it also had a productive strategy: the focus was on greater specialization in natural resources, agribusiness, and knowledge-based services.**

While the government's priority was on macroeconomic issues, it also pursued a productive strategy. The focus was on greater specialization in natural resources, agribusiness, and knowledge-based services, with much of the manufacturing sector—particularly labor-intensive and metalworking industries—taking on a secondary role. Australia was presented as a model to follow, a country that since the 1970s shifted from an import substitution strategy to an economy more integrated into international trade, with the primary sector (mining, oil & gas, and agriculture) as the main generator of foreign currency. The gradual closure of previously protected industries was not considered particularly problematic in this model ([Schteingart & Tavosnanska, 2022](#)).

In this context, one of the main changes in industrial policy was the abandonment of the import control system (DJAI) at the beginning of the administration, which was replaced by the Comprehensive Import Monitoring System (SIMI) ([O'Farrell et al., 2022](#)). This import management framework resembled the one in place until 2008 (Figure 5). At the tariff level, there were no major changes due to restrictions under the MERCOSUR framework; however, an exception was the 2017 elimination of customs tariffs on computers and notebooks, which dropped from 35% to 0%, leading to lower relative prices<sup>27</sup>. Combined with the reduction of certain fiscal incentives for electronic production in Tierra del Fuego and the local recession, this resulted in a significant decrease in the tax expenditure associated with the Tierra del Fuego regime (Figure 3), which nonetheless remained largely unreformed. Another significant change in industrial policy was the immediate elimination of export duties, except for the soybean complex. This provided a relative improvement for primary sectors vis-à-vis manufacturing ones, and within the latter, for food products compared to other manufactures, whose rates started at lower levels. However, this reduction was partially reversed in 2018-2019, when fiscal deficit elimination became a central goal of economic policy (Figure 4).

<sup>27</sup> Using data from Buenos Aires City statistics, we can see that the dollar price of computers fell by 25% between December 2016 and December 2019. However, the relative price decline had already begun with the removal of import controls at the end of 2015: comparing December 2015 to December 2019, the drop reached 34% in dollars.

Although industrial policy lost prominence on the agenda and in terms of budget allocation, the government implemented several significant initiatives, particularly during the first two years, before fiscal adjustment became the priority. Examples include the [National Auto Parts Law \(27,263\)](#), which increased subsidies to promote domestic integration in the automotive sector; the [Buy Argentine and Supplier Development Law \(27,437\)](#), which improved conditions for domestic companies to access public procurement; and the [SME Law \(27,264\)](#), which reduced the tax burden for small businesses. The tax expenditure under this law reached 0.25% of GDP by 2019, a magnitude similar to that of the Tierra del Fuego regime (Figure 3). In 2017, the [Entrepreneurs Law \(27,349\)](#) was enacted, establishing the Entrepreneurial Capital Development Trust Fund (FONDCE) to create and strengthen an entrepreneurial ecosystem with the potential to develop technology-based industries ([Gonzalo et al., 2022](#)). FONDCE played a key role in creating dozens of startups in fields such as biotechnology, leveraging the capabilities built in previous years within the public science and technology system, primarily in institutions like CONICET. Additionally, in 2019, the software regime established in 2004 was expanded to include sectors such as biotechnology, audiovisual production, nanotechnology, nuclear energy, satellite technology, and professional services, and was renamed the [Knowledge Economy Promotion Regime \(Law 27.506\)](#).

Another noteworthy development involved renewable energy, which had been governed by a regulatory framework for promotion since October 2015 under [Law 27,191](#). To incorporate new renewable electricity projects, several instruments were implemented, most notably the RenovAr Program. While it lasted (until the crisis began in 2018), this initiative included fiscal and tariff benefits for local equipment production, with a low but gradually increasing local content scheme ([Drucaroff & Farina, 2022](#)).

Finally, greater emphasis was placed during this period on promoting horizontal industrial policies (i.e., those not targeted at a specific sector in advance). Key initiatives included streamlining bureaucracy and facilitating trade through instruments such as the Single Window for Foreign Trade (VUCE), the Exporta Simple platform, the simplification of business creation (via the simplified joint-stock company—SAS—model), and the digitization of administrative processes.

## The 2019-2023 Period

After the return of Peronism to the government at the end of 2019, productive policy regained prominence on the agenda. However, this occurred in an environment marked first by the COVID-19 pandemic and later by worsening macroeconomic imbalances. These imbalances were evidenced by sustained inflationary acceleration, a widening gap between official and parallel exchange rates, growing distortions in relative prices, and the depletion of the Central Bank's foreign reserves.

The compounded effects of these challenges, along with a severe drought in 2023, prevented the economy from consolidating the post-pandemic recovery (2021-2022). As a result, GDP per capita contracted by an additional 0.8% between 2019 and 2023. Nonetheless, manufacturing GDP per capita, supported by productive policies, grew 5.4%, recovering a small portion of the 25.1% decline experienced between 2011 and 2019. Additionally, approximately 1,500 companies and 97,000 manufacturing jobs were created (Figures 6 and 7). Despite these improvements, industrial export quantities contracted once again, as they did during 2011-2015 (-16%, Figure 8).

With the return of Peronism to government at the end of 2019, productive policy regained prominence on the agenda. However, this occurred in a context first shaped by the COVID-19 pandemic and later by a significant worsening of macroeconomic imbalances.

The greater role of productive policy was evidenced by an increase in public spending on both industry and science and technology (Figure 1). In the case of public expenditure in industry, there was a dramatic surge during the pandemic years (2020-2021), when financing for the productive sector was expanded through two key instruments: the Guarantee Fund (FOGAR), which enabled the State to act as a guarantor for companies to improve their access to bank financing; and the Productive Development Fund (FONDEP), which subsidized interest rates and provided loans. Post-pandemic, both funds remained operational, though with reduced resources and a shift in focus from defensive goals (mitigating liquidity constraints caused by COVID-19) to offensive ones (financing investment projects). Meanwhile, the increase in spending on science and technology was driven by two main factors: the growing number of researchers and increased funding for various programs. Notable initiatives included infrastructure and equipment investment projects across Argentine provinces and financing executed by the National Agency for R&D.

In addition to increased public spending on industrial policy, another significant departure from the previous period was the return of strict import controls, aimed at conserving foreign currency and revitalizing industrial production and employment. Initially, non-automatic import licenses (NAILs) covered 31% of imports, focusing on sectors such as automotive, household appliances, agricultural machinery, footwear and textiles<sup>28</sup>. This policy had its greatest impact on industries like agricultural machinery, which achieved record production levels in 2021 and 2022, and the automotive sector, which in 2023 reached its highest production since 2013. While these policies did not significantly increase the local content of inputs used in production, they significantly expanded the market share of final domestic products, albeit with the trade-off of noticeably higher relative prices<sup>29</sup>. Similar trends were observed in sectors such as textile-apparel and footwear, though with less pronounced production recoveries. By 2022, amid increasing foreign currency shortages driven by worsening macroeconomic imbalances, import restrictions became even more extensive, covering nearly all goods. The resulting difficulties in accessing imported inputs and machinery, combined with a highly discretionary system for granting import permits, negatively impacted manufacturing production and exports, halting the post-pandemic recovery. Furthermore, in 2023, import tariffs on notebooks—previously lowered by the prior government—were reinstated, supporting an assembly sector with minimal employment generation and limited value-added contributions.

Regarding export duties, there were more continuities than disruptions compared to the framework in place since 2018 (Figure 4). Unlike the period from 2003 to 2015, there were no significant increases. Instead, priority was given to reducing rates for higher value-added products within the same value chain to encourage value addition. However, in 2022–2023, facing an urgent need to secure foreign currency, the government introduced a higher exchange rate for certain agricultural commodities (primarily soybeans), significantly distorting the existing framework. In contrast to the previous Peronist administration, between 2019 and 2023, the government largely avoided imposing quantitative export quotas on specific food items (such as meat, corn, and wheat), implementing them only sporadically.

Regarding promotion regimes, these years saw a combination of new initiatives and continuities. In 2022, the capital goods regime, established in 2001, was restructured to address its long-standing administrative inefficiencies—which had often resulted in significant bureaucratic delays—and to reward companies with strong export performance and investments in R&D<sup>30</sup>. Additionally, the government extended the Tierra del Fuego regime (set to expire in 2023) for an additional 15 years and, in 2020, reinstated a

<sup>28</sup> As mentioned earlier, between 2016 and 2019, in practice, the vast majority of positions under NAILs were approved as if they were automatic licenses. Although formally 22% of imports were regulated by NAILs in 2019, this tool was not effectively utilized. With the change in government, NAILs began to be implemented as an actual, rather than merely formal, barrier.

<sup>29</sup> In the automotive market, domestically produced vehicles increased from around 30% in 2019 to over 50% two years later and 70% in 2023. According to INDEC's Consumer Price Index (CPI), vehicle prices rose 37% above the general price level between 2019 and 2023.

<sup>30</sup> For example, until its reform in 2022, the regime required the tax credit bond to be calculated based on a company's sales, verifying invoice by invoice. This made it very cumbersome to administer, causing significant operational delays and complaints from companies. Indeed, the notable decline in tax expenditure under this regime between 2019 and 2022 (Figure 3) can be explained by issues in managing the tax credit bond.

tax differential previously eliminated by Macri's administration to support production on the island. The extension of the Tierra del Fuego regime introduced an innovation: the creation of the Productive Matrix Expansion Fund (FAMP), which requires companies to allocate part of their fiscal benefits to projects aimed at diversifying Tierra del Fuego's economy ([Hallak et al., 2023](#)). On the other hand, the biofuels regime, originally set to expire in 2021, was also extended, underscoring—like the aforementioned cases—Argentina's recurring challenges in phasing out promotion regimes once implemented. Finally, although not strictly a promotion regime, a noteworthy development during this period was the creation of a regulatory framework in 2022 for the production of medicinal cannabis and industrial hemp ([Law 27.669](#)) with the goal of establishing a new productive sector rooted in the bioeconomy.

Regarding policies targeting high-tech sectors, during this period, funding was reinstated for several projects that had been halted in the previous years, particularly in the defense and satellite industries. Projects related to the health sector were also promoted, as exemplified by the development of the Argentine COVID-19 vaccine. The reactivation of defense-related initiatives was preceded by the establishment of the National Defense Fund (FONDEF) in 2020, under [Law 27.565](#), which provided a progressively increasing budget for re-equipping the Armed Forces. In the nuclear sector, funding for the CAREM reactor continued, albeit with slower progress. Meanwhile, work on the RA-10 multipurpose reactor, designed by INVAP, advanced to its final construction phase. Once operational, this reactor would enable the export of medical radioisotopes to Latin America.

Furthermore, in 2021, the national government, in partnership with the province of Mendoza, nationalized the metalworking company IMPSA, which was undergoing bankruptcy proceedings. This move aimed to preserve the company's accumulated expertise as a technology provider for the energy sector.

## The Stage Opened in Late 2023

The inauguration of Javier Milei's government in December 2023 marked a new significant shift in industrial policy. Even more pronounced than during the 2015–2019 period, the first year of the administration have been defined by the complete dominance of macroeconomic policy over productive policy and a pronounced inclination toward deregulation reforms. The emphasis on macroeconomics over productive policies can be attributed not only to the magnitude of the inherited macroeconomic challenges but also, and more fundamentally, to the belief that state intervention in the economy—particularly in productive policy—creates more problems than it solves. This perspective is rooted in the notion that "the best industrial policy is one at all," a hallmark of the prevailing discourse during the 1980s and 1990s<sup>31</sup>. This context explains the strongly deregulation-focused nature of [Emergency Decree \(DNU\) 70/2023](#), enacted just days after the administration took office, the passage of the [Bases and Starting Points for the Freedom of Argentines Act \("Bases Act"\)](#) by Congress within the government's first few months, and the creation of a Ministry of Deregulation and State Transformation. Among its measures, the DNU repealed the [Argentine Buy and Supplier Development Law](#), originally enacted in 2018.

Additionally, the combination of severe fiscal austerity and the ideological conviction that markets should allocate resources in sectoral matters has led to significant cuts in public spending on industrial, scientific, and technological policies<sup>32</sup>. These cuts have effectively halted the implementation of most programs managed by agencies such as the National Agency for R&D, high-tech projects like CAREM, financing for productive sectors through the Industry Secretariat, and the training of new researchers at CONICET.

<sup>31</sup> In his [Industry Day speech](#) on September 2, 2024, President Milei stated, among other things, that "the so-called sectoral development policies, at the expense of a shattered macroeconomy, are doomed to fail".

<sup>32</sup> According to the 2025 Budget, it can be inferred that in 2024, real spending on science and technology will contract by 35% compared to 2023, while spending on industry will decrease by 63%.



**With Milei's rise to power, a sharp fiscal adjustment and the ideological conviction that the market should allocate resources explain the significant cuts to public spending on industrial, scientific, and technological policies.**

Another departure from the previous administration is the return to a trade liberalization agenda, aimed primarily at reducing the relative prices of goods, which had trended upward for much of the past 20 years ([Schteingart et al., 2024](#)). Shortly after taking office, the new administration dismantled trade management mechanisms inherited from the prior government, in a move reminiscent of the early days of Macri's administration. Additionally, various non-tariff measures introduced in the past—such as certain technical regulations that effectively shielded industrial sectors like textiles and apparel, footwear, bicycles, or steel—have been phased out. However, there have been no significant changes to tariff policy so far.

This context of severe fiscal adjustment, recession, and the removal of industrial policy instruments helps explain the sharp decline in manufacturing production. According to INDEC, manufacturing output contracted by 11.3% during the first ten months of the year, far exceeding the overall economy's average decline of -2.7%. Notably, 15 of the 16 manufacturing branches experienced contraction. Between late 2023 and September 2024, the number of active industrial companies dropped by nearly 1,000, and industrial employment fell by 27,000 jobs. On the other hand, export volumes of manufactured goods rose by 17%, driven primarily by those of agricultural origin following the end of the 2023 drought.

Despite the rhetoric that "the best industrial policy is one at all," a new regulatory framework with clear productive implications has been introduced: the Regime for Incentives to Large Investments (RIGI), which has emerged as one of the key pillars of the Bases Act. The RIGI offers a broad array of fiscal, foreign exchange, and customs incentives<sup>33</sup> to attract investments exceeding \$200 million in eight sectors identified as "strategic": oil and gas, mining, tourism, forestry industries, steel, infrastructure, energy, and technology. The technology category encompasses areas such as electromobility, biotechnology, nanotechnology, satellite technology, nuclear energy, aerospace, software, robotics, defense industries, and artificial intelligence. Although several of the sectors eligible under the RIGI are manufacturing-oriented—such as liquefied natural gas, petrochemicals, forestry, steel, electromobility, and certain high-tech industries—the reduction of tariffs on capital goods and input imports, the absence of requirements to develop local suppliers, and the ease of imports significantly constrain the spillover potential of these sectors on the broader local industrial network.

While industrial policy has experienced significant shifts in many areas, certain aspects have remained consistent. For instance, despite the discourse on reducing the tax burden for companies, the government has thus far maintained the inherited structure of export duties almost entirely unchanged. Additionally, despite having been a vocal critic of it in the past, the newly elected president has expressed support for the Tierra del Fuego regime—one of the country's most expensive and inefficient industrial policies—which has been designated as a "[vested right](#)".

To summarize, Table 1 outlines the main features of the industrial policy described throughout this section.

Table 1

<sup>33</sup> Among the benefits for companies joining the RIGI, the most notable are a reduction in corporate income tax, accelerated depreciation of investments, the ability to credit the tax on financial transactions against income tax, limits on the imposition of export duties, duty-free imports of new capital goods and inputs, low local content requirements, 30 years of fiscal stability, and unrestricted access to foreign currency.

## Stylized Features of Argentina's Industrial Policy in the 21st Century

		2003-2007 (Néstor Kirchner)	2007-2015 (Cristina Fernández de Kirchner)	2015-2019 (Mauricio Macri)	2019-2023 (Alberto Fernández)	2023-2024 (Javier Milei)
<b>Macroeconomics</b>	<b>Macroeconomic context</b>	High and stable real exchange rate (RER), twin surpluses, rapid growth, favorable international context, controlled inflation	Appreciating RER, erosion of twin surpluses, capital controls and stagnation from 2011, rising inflation	2016-2017: Appreciated RER, external deficits. 2018-2019: Balance of payments crisis, fiscal adjustment, recession, rising inflation	Recession (pandemic) and recovery, appreciated RER, capital controls, severe foreign exchange shortages, rising inflation	Sharp fiscal adjustment, recession
<b>Industrial policy</b>	<b>Spending on science and technology function</b>	Increasing	Increasing	Decreasing	Increasing	Decreasing
	<b>Spending on industrial function</b>	Increasing	Increasing	Decreasing	Increasing	Decreasing
	<b>Credit to the manufacturing sector and SMEs</b>	Increasing (due to favorable macroeconomics)	Increasing (LCIP and other instruments)	Decreasing (post-2018)	Stable	n/a
	<b>Tax expenditures in economic promotion regimes</b>	Total: stable. Tierra del Fuego: slightly increasing	Total: increasing. Tierra del Fuego: sharply increasing	Total: slightly increasing (due to SME Law). Tierra del Fuego: decreasing	Total: decreasing (due to SME Law). Tierra del Fuego: increasing	n/a
	<b>Export duties and quotas</b>	Clear differentiation between primary/agroindustry sectors (high and increasing) and the rest of manufacturing (low); export quotas on meat	Similar to the previous period (with a sharp decline in hydrocarbons from 2012)	Less differentiation between sectors; low export duties (2015-18), medium export duties (2018-19); no quotas	Slightly greater differentiation between sectors (processed vs. unprocessed); export duties similar to 2018-19; few quotas	Similar export duties to the previous period; no quotas
	<b>Non-tariff import restrictions</b>	Low	2007-2011: Medium (non-automatic licenses). 2012-2015: High (DJAI)	Low	2020-2021: Medium (SIMI). 2022-2023: High (SIRA)	None
<b>Industrial performance</b>	<b>Manufacturing GDP per capita</b>	Increasing	2007-2011: Increasing. 2011-2015: Decreasing	Decreasing	Increasing	Decreasing
	<b>Number of manufacturing companies</b>	Increasing	2007-2011: Increasing. 2011-2015: Stable	Decreasing	Increasing	Decreasing
	<b>Number of formal manufacturing employees</b>	Increasing	Increasing	Decreasing	Increasing	Decreasing
	<b>Exports of manufactured goods (in volumes)</b>	Increasing	2007-2011: Increasing. 2011-2015: Decreasing	Increasing	Decreasing	Increasing

Table 1



# A Balance of Argentina's Industrial Policy in the 21st Century

Over the past 20 years, Argentina has implemented various industrial policy initiatives. With few exceptions, these policies have been highly pendular. This oscillation reflects the differing visions among the political forces that governed the country regarding the role of the manufacturing sector in economic development and the importance of the State in fostering it. These perspectives were, in turn, shaped by the sociopolitical alliances they forged—an aspect not addressed in this paper<sup>34</sup>. Moreover, macroeconomic conditions, filtered through these visions, significantly influenced the trajectory of industrial policy and its effectiveness.

During Peronist governments (2003–2015 and 2019–2023), the prevailing view was that the manufacturing sector—particularly non-agroindustrial manufacturing—and the role of the State in fostering it are crucial for economic development. This helps explain why: a) resources allocated to industrial policy increased; b) protection against imports also grew; and c) there was a clear anti-agroindustrial bias.

This combination yielded mixed results. On the one hand, the increase in resources devoted to industrial policy was instrumental in expanding manufacturing production, the number of companies, and industrial jobs during much of these periods. Notably, it played a decisive role in building standout capabilities in high-tech industries, where Argentina excels regionally, such as satellite, nuclear, defense-related industries (like radars), and biotechnology. In a context where Argentina has experienced a long-term decline at both the global and regional levels, it is particularly noteworthy that today it stands as Latin America's leading biotechnology hub<sup>35</sup> and the only country in the region capable of manufacturing geostationary communication satellites and exporting high-complexity products such as research nuclear reactors and radars. In these successful cases, multiple tools were applied, including subsidies, financing, public procurement, and the training of researchers.

Beyond strictly high-tech manufacturing sectors, several industrial policy programs that received public funding had positive effects at the firm level on variables such as employment, exports, innovation, and productivity. However, evidence on the cost-effectiveness of these instruments remains limited (see [Appendix](#)).

At the same time, a significant portion of this public investment was directed toward industries that failed to increase value-added, foster technological innovation, or expand exports. The most emblematic case is the electronics industry promoted under the Tierra del Fuego regime. The fiscal cost of this regime surged following changes introduced in 2009 and, to a lesser extent, after the reintroduction of tax incentives in 2020. Over the past two decades, its fiscal cost has averaged 0.32% of GDP, peaking at nearly 0.5% during 2011–2015, and has consistently surpassed total public spending on science and technology (0.25% of GDP) and industry (0.14% of GDP).

Lastly, the adoption of non-tariff import barriers became the preferred response of these governments to mounting macroeconomic challenges, such as the appreciation of the real exchange rate—with its impact on local production and employment—and foreign exchange shortages. The outcomes of these barriers, much like those of increased public investment in industrial policy, reveal both strengths and weaknesses.

On the one hand, import controls helped preserve formal employment and productive capacities in technologically mature industrial sectors oriented toward the domestic market and threatened by foreign competition (e.g., textiles, apparel, footwear, household appliances, etc.). On the other hand, they contributed

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<sup>34</sup> See [Bril Mascarenhas et al. \(2020\)](#) for further discussion on this point.

<sup>35</sup> According to the 1st Argentine Census of Bio and Nanotechnology Companies and Startups, Argentina has 340 biotechnology companies, ranking 10th globally.



to saving foreign currency in key industrial sectors relevant to the balance of payments, such as the automotive industry. Import controls even facilitated notable success stories, such as Toyota Argentina, which became a regional production hub for pickups and the country's leading exporter of manufactured goods<sup>36</sup>. To achieve this outcome, a combination of import controls—penalizing automotive companies with higher trade deficits while favoring export-oriented ones, such as the Japanese firm—and high tariffs on vehicle imports from outside MERCOSUR were employed. These measures were complemented by tools such as low-interest investment loans, subsidies for local supplier development, and the company's long-term strategy. Toyota's model transformed Argentina's automotive industry, which has since specialized in producing pickups with larger-scale platforms aimed at export markets.

However, overall, import controls were excessively defensive and came with significant drawbacks. The most notable were high prices in the domestic market—affecting consumers—and supply chain disruptions during periods of mismanagement. Additionally, import controls were highly discretionary, undermining business certainty and making the system especially vulnerable to political changes. During periods of reduced import barriers, such as 2015–2019, jobs and foreign currency savings were quickly reversed, revealing the serious shortcomings of import controls in fostering lasting competitive advantages (perhaps with the exception of the automotive sector).

Thirdly, the anti-agroindustrial bias of productive policy—motivated both by fiscal considerations and the aim of favoring the domestic supply of food, and reflected in significantly higher export duties for the primary sector and agro-industrial manufactures compared to other manufacturing sectors (and even in the existence of export quotas)—limited the potential of one of the country's main manufacturing sectors: the food industry (Bisang *et al.*, 2022). This reduced the country's export capacity, thereby constraining overall economic growth and, in particular, the growth of the manufacturing sector. Additionally, by weakening supply, it ultimately proved ineffective in the long term at diminishing the relative prices of food, which have shown an almost consistently upward trend since the end of Convertibility (Schteingart *et al.*, 2024). . Until the nationalization of YPF in 2012, this bias also affected the oil & gas sector. However, the drastic shift in energy policy—broadly consolidated during governments of different political alignments, enabling the development of Vaca Muerta—has turned this sector into a potential driver of industrial development. This potential stems both from the generation of foreign exchange, which could support the growth of other sectors, and from the opportunities for linkages with industrial branches, both upstream (capital goods) and downstream (liquefied natural gas and petrochemicals).

By contrast, under Macri's administration (2015–2019), there was less confidence in the potential of the manufacturing sector to contribute to Argentina's development and in the role of the State in promoting it. Instead, greater expectations were placed on the role of markets and sectors with static comparative advantages (such as those based on primary activities) as drivers of development. At the same time, the prevailing view within this government was that the primary macroeconomic problem was the fiscal deficit, which should be addressed through public spending adjustments.

As a result, during that administration, public investment in industrial, scientific, and technological policies sharply declined, alongside a reduction in import barriers. Combined with a recessionary environment, this led to a deep crisis in the manufacturing sector, particularly in non-agro-industrial branches. Over those four years, per capita manufacturing GDP per capita fell by 17%, 5,000 manufacturing companies closed, and 129,000 industrial jobs were lost. The improvement observed in industrial export indicators was insufficient to offset the overall decline in manufacturing.

On the one hand, the retreat in spending on industrial policy and science and technology—despite the creation of some valuable instruments, such as FONDCE, the SME Law, the Buy Argentine and Supplier Development Law, and the National Auto Parts Law—hindered the capacity-building efforts that had been advancing in high-tech projects such as satellites, radars, and aircraft. This reduction

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<sup>36</sup> In 2023, Toyota was the second-largest exporter in Argentina, with exports totaling nearly 4 billion dollars—a figure higher than the combined exports of the entire software and wine industries.

in public investment also hindered the realization of the potential that certain programs (such as FONTAR, FONARSEC, the LCIP, and those from the SME Secretariat) have in promoting technological improvement, employment, competitiveness, exports, and the development of more complex sectors. On the other hand, the reduction in import barriers lowered the relative prices of highly protected manufacturing sectors and facilitated access to inputs that supported certain exports. However, the recessionary context and the absence of compensatory mechanisms led to a significant contraction in these branches, without sufficient productive capacities being developed in other sectors.

The period ushered in by Milei's arrival to power in late 2023 shares three key traits with previous phases: a reduction in spending on industrial policy, lower import barriers, and the prioritization of sectors with static comparative advantages, such as those based on primary activities. However, it has deepened some of the more harmful aspects, such as severe cuts to public investment in industrial, scientific, and technological policies. The magnitude of the current fiscal adjustment far exceeds what occurred during 2015–2019, and the few high-tech initiatives that had appeared to be state policies and had been sustained over the past two decades—such as the commitment to the CAREM nuclear project or the development of public-private capabilities in biotechnology—are now under serious threat. All of this will significantly constrain Argentina's ability to consolidate medium- and high-tech manufacturing sectors with competitive potential, which have been key drivers of economic development worldwide and whose growth would have been impossible without public investment in industrial policy.

One area that deserves special attention is the institutional framework through which productive policies are designed, implemented, and monitored in the country—an aspect not addressed in previous sections of this paper. Over the past two decades, Argentina's industrial policy has been carried out by various public agencies, often poorly coordinated with one another, undermining its effectiveness. Additionally, the pendular nature of industrial policy has affected the training and retention of human resources ([Schteingart, 2024](#)). This has created the need to form new teams not only with each political transition (as occurred in 2015, 2019, and 2023) but also within the same government periods. In addition to political fluctuations, frequent changes in the organizational structure of the national government, weak mechanisms for establishing merit-based administrative careers, and low public sector wages have hindered the consolidation of a professional bureaucracy. Although certain "islands of efficiency" have emerged over the years—teams of professionals achieving remarkable results in specific areas—these have been exceptions to the broader rule of weak institutional frameworks. This has constrained the quality of industrial policies, whose technical design and implementation are critical to achieving their objectives.

As a final reflection, as highlighted in the first document of this series, "[The Renaissance of Industrial Policy Worldwide](#)", major powers and middle-income countries are increasing their investment in industrial policies as key tools for development and national autonomy. In this context, Argentina cannot afford to abandon industrial policy. Instead, it is crucial to learn from past experiences, identifying both what worked and what failed. Without such learning, it will be very difficult to change the antagonistic views that have fueled the pendular behavior of industrial policy. In particular, aspects that have proven ineffective must be restructured, such as promotion regimes with poor results, which are notoriously difficult to dismantle once created—the most notable example, as repeatedly emphasized throughout this document, is the Tierra del Fuego regime. Excessive protection for sectors with limited competitive potential and the anti-agroindustrial bias prevalent during periods of strong faith in industrial policy as a development tool must also be reassessed. At the same time, initiatives that—despite certain limitations in design, implementation, and scope—have shown better results should be strengthened. These include investment in productive financing programs, technical assistance, and support for medium- and high-complexity sectors. However, redesigning industrial policy—and the institutional framework responsible for its execution—goes beyond identifying the most and least effective tools. It also requires, as a guiding principle, defining which sectors to prioritize to create a more developed and inclusive country. As discussed in the final document of this series, "[An Industrial Policy for Argentina's Future](#)", much of the manufacturing sector can (and should) play a key role in that strategy.

# Appendix



# Evaluation of Industrial Policies in Argentina

This appendix provides an overview of impact evaluations and studies conducted on industrial policies in Argentina. It is divided into two sections: program evaluations and studies on other policies (such as the Tierra del Fuego regime, non-automatic import licenses, and export duties on the agroindustry).

## Program evaluations

Most of these evaluations are drawn from the [Public Policy Evaluation Database](#), currently managed by the Ministry of Deregulation and State Transformation. It should be noted that the vast majority of the evaluations pertain to programs financed by multilateral organizations—which mandate evaluation—contrasting with programs financed by the National Treasury, where evaluations have been far less frequent.

While the evaluation methodologies are robust (using various econometric tools and treatment and control groups), most do not assess the cost-effectiveness of the programs. This limitation hinders the ability to determine which instruments are the most efficient in promoting improvements in business performance.

### **Program for Access to Credit and Competitiveness (PACC)**

The PACC was established in 2009 and operated under the SME Secretariat (SEPYME). The program was designed to co-finance technical assistance for SMEs through grants, aiming to enhance their competitiveness in key areas such as market development, quality improvement in processes and services, and product development, among others.

According to an impact evaluation funded by the Inter-American Development Bank (IDB) in 2016 for the period 2005–2014, 4,343 companies were reached between 2010 and 2014. The results confirm that PACC support is effective, as it improves the competitiveness of firms by showing positive effects on employment, exports, survival, and wages ([Castillo et al., 2016](#)). Additionally, the authors highlight that most of the effects are concentrated in the first support received, providing relevant information that can be used to better design and target these types of policies.

Another evaluation, also funded by the IDB, for the period 2016–2021 (the second version of the PACC) reports similarly positive impacts on relevant variables ([Franco Churruarín & González-Rozada, 2022](#)). Compared to [Castillo et al. \(2016\)](#), the second version of the program produced effects of similar magnitude on the probability of exporting and business survival, as well as a greater impact on wages. However, the effect on employment was smaller than in the first version (though still positive), and no impact was found on export volume (unlike the first version).

### **Program for Business Restructuring Support (*Programa de Apoyo a la Reestructuración Empresarial - PRE -*)**

The PRE, created in Argentina in the late 1990s, was an initiative aimed at increasing the competitiveness of SMEs in a context of economic liberalization. Between 1999 and 2007, the program co-financed technical assistance for approximately 1,200 companies through grants, with a budget of \$154 million. An impact evaluation funded by the IDB revealed significant improvements in the competitiveness of beneficiary firms, reflected in increases in employment and exports, as well as business survival and higher wages ([Castillo et al., 2011](#)). The impact was greater for companies that received support for product innovation compared to those focused on process innovation.

## SME Experts Program

This program was created in 2010 and implemented by the SME Secretariat. Its objective was to provide technical assistance and highly specialized consulting services to SMEs in applying tools for market development, business management, design, productivity improvement, and the use of new technologies. To achieve this, the SME Secretariat fully funded the consulting services for participating companies. According to an impact evaluation conducted between 2011 and 2015 by the [Ministry of Production \(2017a\)](#), 979 companies (mostly manufacturers) benefited from the program, which had a total cost of \$939,000 over those five years. The report indicates that the program had positive effects on employment within beneficiary firms but no significant impact on average wages or the probability of exporting.

## Financing and Access to Credit Programs

Several studies have evaluated the impact of access-to-credit programs for companies in Argentina.

Two of these, conducted by the Ministry of Production in 2017, focus on the National Development Fund for Micro, Small, and Medium Enterprises (FONAPYME)—an instrument created in 2000 to improve financing for SMEs by offering subsidized-rate loans for investment projects—and the *Créditos del Bicentenario* program, which were active between 2010 and 2014.

The first of these studies assessed the performance of FONAPYME between 2009 and 2015 ([Ministry of Production, 2017b](#)). During that period, the program reached 975 companies (the vast majority of which were manufacturers) with a total of \$184 million in loans. The study found a positive and significant impact on employment levels, wages, and export activity among beneficiary firms, although there were sectoral, regional, and size-related heterogeneities.

The second study evaluated the performance of the Bicentennial Credits ([Ministry of Production, 2017c](#)). Unlike other programs, this one did not exclusively target SMEs, as large companies were also eligible, ultimately accounting for 76% of the total loans disbursed (\$431 million). The study concluded that the *Créditos del Bicentenario* program had a greater impact than FONAPYME or other tools, such as the Interest Rate Subsidy Scheme (*Régimen de Bonificación de Tasas -RBT-*). However, it was a much less efficient policy, with the fiscal cost per job created being 1.5 times higher than FONAPYME and 10 times higher than RBT. Additionally, the impact on employment, wages, and export potential was generally greater for SMEs than for large companies.

Additionally, the CAF financed a comparative evaluation of three productive financing programs: FONAPYME, RBT, and Mutual Guarantee Societies (SGR), all created in 2000 ([Butler et al., 2017](#)). The study analyzed the performance of 11,225 companies that participated in one of these three programs between 2007 and 2016. Results showed that, on average, these programs had a positive and significant impact on employment, average wages, the likelihood of accessing financial markets, and the debt levels of firms that were already doing so. The effect on exports was ambiguous: while the programs were not very effective in encouraging non-exporting firms to begin exporting, they were significant for existing exporters, who increased their foreign sales by 16%. The study highlighted that, of the three programs, RBT had the greatest reach in terms of the number of firms it supported and the deepest effects on firms' overall performance.

Another relevant evaluation was conducted by [Guiñazú et al. \(2018\)](#), who analyzed the impact of companies receiving multiple benefits (e.g., financing and technical assistance) between 2007 and 2016. The authors found that combining programs generated stronger impacts on variables such as employment, wages, export probability, export volume, and access to financial markets. Additionally, the combination of benefits allowed firms to diversify their export portfolios, indicating improvements in productive capacities. The study emphasized that the impacts were strongest among industrial, young, and smaller firms.

### **Supplier Development Program (*Programa de Desarrollo de Proveedores - PRODEPRO*)**

PRODEPRO has been a program under the Ministry of Production, established in 2016 with the objective of fostering domestic suppliers in strategic sectors. The initiative gained significant momentum in 2020-2021, driven by a ninefold real increase in funding compared to 2017-2018. The program offers three promotional instruments: non-refundable contributions, subsidized loans, and technical assistance, targeting companies that are (or have the potential to become) suppliers in strategic sectors such as energy, mining, healthcare, and transportation.

An evaluation conducted by the [National Secretariat of Industry and Productive Development](#) in 2023, covering the period from 2016 to 2021, found that PRODEPRO had positive effects on firms' innovation, including advancements in product and process development, as well as organizational improvements. The report did not identify significant changes in export activity but noted that "after participating in PRODEPRO, the companies that accessed the program increased their sales in the domestic market at the expense of sales in nearby markets, which may represent a first step toward opening up to foreign trade" (Secretariat of Industry and Productive Development and UNAB, 2023: 6). Regarding employment, the evaluation observed a positive, albeit modest, effect.

### **Argentine Technological Fund (FONTAR)**

Established in 1996, FONTAR is currently managed by the National Agency for R&D. Due to its longevity, scale, and reach, it stands as the country's primary fund aimed at fostering investment in R&D and innovation within the productive sector. This is reflected in its support for approximately 14,000 projects since its inception, a notably high figure compared to other programs.

FONTAR's financing instruments include grants and, in some periods, subsidized loans and tax credits. Since its creation, these instruments have supported projects for individual companies, supplier development, partnerships between businesses and the scientific system, the creation and/or equipping of technology service centers, the establishment of technology clusters, projects targeting specific technologies (e.g., nanotechnology or biotechnology), and patent applications, among others.

FONTAR has been the focus of numerous studies, many of which have conducted impact evaluations of its instruments. Arza and Vázquez (2015) found that, between 2008 and 2013, FONTAR's ANRs had a positive impact on innovation expenditures, internal R&D, and overall innovation activities. Similarly, [Pereira et al. \(2018\)](#), analyzing the period 2007–2013, confirmed a positive impact on innovation expenditures and observed increased innovation intensity among firms (measured as innovation expenditure/sales or R&D expenditure/sales). Additionally, [Castillo et al. \(2014\)](#) found that FONTAR contributed positively to knowledge dissemination through workforce mobility, with employees moving from beneficiary firms to non-beneficiary firms. Examining the period 2002–2010, the authors concluded that FONTAR positively influenced the likelihood of exporting, employment, and wages in beneficiary firms, as well as in firms that hired workers from those beneficiaries.

### **EMPRETECNO**

EMPRETECNO is a program managed by the Argentine Sectoral Fund (FONARSEC) within the framework of the National Agency for R&D. It was launched in 2009 with the aim of fostering the creation of technology-based companies (TBCs). In 2020, CIECTI conducted a traceability study on the projects financed through the 2009 and 2016 calls, totaling 95 projects. These calls resulted in the creation of 71 new companies, 55 of which were still operational at the time of the study, reflecting a survival rate exceeding 70% ([Britto et al., 2020](#)). The study also revealed that the program increased the probability of creating a TBC by 30 percentage points compared to scenarios without EMPRETECNO and raised the likelihood of securing private capital contributions by 13 percentage points.

## Sectoral High-Technology Funds (FSAT)

The FSAT program is another instrument of FONARSEC, executed by the National Agency for R&D. Its goal is to strengthen the connection between the scientific and technological sectors and the socio-productive sector to address social and economic challenges. For this reason, the program's beneficiaries are public-private associative consortia. The program focuses on high-intensity technological platforms such as biotechnology, nanotechnology, and ICTs. Since its inception, FSAT has launched ten calls between 2010 and 2017, resulting in the selection of 34 consortia.

Molina and Pereira (2022) conducted an econometric study to assess whether the trajectories of firms that participated in the program differed from those that did not. The study included only 18 consortia, as calls still ongoing at the time of evaluation were excluded. The results indicated positive impacts on the trajectories of participating companies, both in innovation efforts and market performance. Regarding innovation, the study found that per capita investment in innovation activities grew at a significantly higher rate than it would have without program participation. In terms of market performance, the study concluded that growth in employment levels and total sales was more pronounced due to the program.

## Evaluation of other industrial policies

### Industrial Promotion Regime of Tierra del Fuego

The Tierra del Fuego Regime was established in 1972 with geopolitical objectives: to populate the southernmost island of the country. To achieve this, a special scheme with tax and customs benefits was implemented. The primary goal of this initiative was achieved: by 2022, the province's population had reached 190,000 inhabitants.

According to [Hallak et al. \(2023\)](#), the regime incurs a fiscal cost of \$1.07 billion annually, primarily driven by the electronics sector, which is concentrated among a small number of large companies. The authors argue that this fiscal cost is disproportionately high compared to the limited benefits it generates. The incentive scheme does not promote value addition, as it ties fiscal and customs benefits to the total revenues of the promoted companies rather than to the value they create. Moreover, the structure of the incentives favors the domestic market over exports, limiting the pursuit of specialization in competitive niches. This, in turn, restricts innovation, which is mostly confined to production processes rather than products. Lastly, the Tierra del Fuego regime has failed to foster a more diversified economy based on sustainable activities, instead creating a provincial productive framework heavily reliant on these tax and customs benefits.

### Non-Automatic Import Licenses (NAILs)

NAILs have been widely used as an import control tool in Argentina over the past two decades. Between 2008–2015 and 2019–2023, they were employed by governments to protect the industrial sector from imported competition and to conserve foreign currency amidst balance of payments crises. While, as mentioned in the main text, these objectives were achieved in certain sectors, NAILs also had negative consequences.

[Bernini & García Lembergman \(2020\)](#) use firm-level data for the 2000–2011 period to evaluate their performance following an increase in NAIL usage. They find that, after the implementation of NAILs, the average firm reduced its total imports by 7.5%. The impacts varied by firm size: larger firms could mitigate the impact by adjusting their input mix, while smaller firms experienced greater declines in import volumes. The negative effect of NAILs on imports led to a significant reduction in firms' total exports. The average firm reduced its exports by 5.5%, implying an export-import elasticity of 0.75. The authors also found that the negative impact of NAILs was relatively greater for exporters of differentiated goods



Appendix

to non-Mercosur destinations and for smaller firms. In summary, the findings suggest that these import barriers made Argentine firms less competitive in export markets.

### **Export Restrictions and Taxes on Agroindustrial Products**

Throughout its history, and particularly in the 21st century, Argentina has implemented export duties and quotas on certain agroindustrial products. Bisang et al. (2022) analyze the consequences of these measures and conclude that increases in export duties negatively impacted the planted area, technological adoption (e.g., fertilizer use), and, consequently, productivity. For instance, they estimate that a one-percentage-point increase in export duties reduces maize and wheat yields by 0.15% and 0.1%, respectively. As a result, production and exports were adversely affected, with the greatest impact observed in non-Pampas regions, which face higher costs (both in terms of productivity and transportation to port).

Similarly, [Allan et al. \(2024\)](#) find that the reduction in export duties at the end of 2015 increased fertilization by approximately 26% during the 2016/17 and 2017/18 crop seasons.



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