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45 years saw a retraction in the country’s industrial capacities, which in successive stages lost productive complexity, became heavily foreignized and increasingly focused in sectors based on the processing of raw materials (food and energy) or with special regimes of protection, such as automobiles. Argentina’s deindustrialization was deeper than in other countries, therefore the problems and limitations that we identify in the long-term Argentine manufacturing trajectory are still in force and its overcoming remain a pending goal of the twenty-first century.

Keywords (separated by “-”)	Industry - State - Companies - Development - Argentina
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2 **National Cases of**
3 **Industrialization: Argentina**

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The modern industry in Argentina started with the 49
well-known “agro-export model.” The technolog- 50
ical and productive transformations of the second 51
half of the nineteenth century, the country's entry 52
to international markets, the massive arrival of 53
workers and capitals, an early process of urbani- 54
zation and a rapid growth of income raised by the 55
export of agricultural products to European coun- 56
tries were the drivers behind a new internal market 57
in strong expansion after its effective integration 58
as a result of the elimination of internal customs 59
barriers and the quick expansion of the railway. 60

These conditions gave rise to the first important industrial establishments, some of which were the result of the linkages generated by the boom in the primary-export economy. The early Argentine industry, which was strongly related to the macroeconomic dynamism and to the implemented economic policy, was orientated around two markets: the processing of raw materials for export (in which the meat processing plants stood out as they were controlled by British and North American capital) and the production of simple goods of mass consumption for the internal market, such as food and beverage, clothing and footwear manufacturing or the production of building material.

The growth rate of manufacturing, especially as from the decade of 1890, was major (Fig. 1). The rate was nearly 8% per year and the impulse was primarily given by the textile industry and then, after 1900, by the food industry. In fact, the food and beverage industry was representing more than half of the industrial GDP (Gross Domestic Product) due to the establishment of big factories such as meat processing plants, mills, sugar mills and wineries. This industrial development, framed by the general growth of the economy and by its fluctuations, was focused on the littoral region of Argentina (the northeast area of the country), where most of the industries were located, even when the regional economies of Tucumán (in the northwest) and Cuyo (to the west, on the border with Chile) also registered a significant manufacturing production for the internal market.

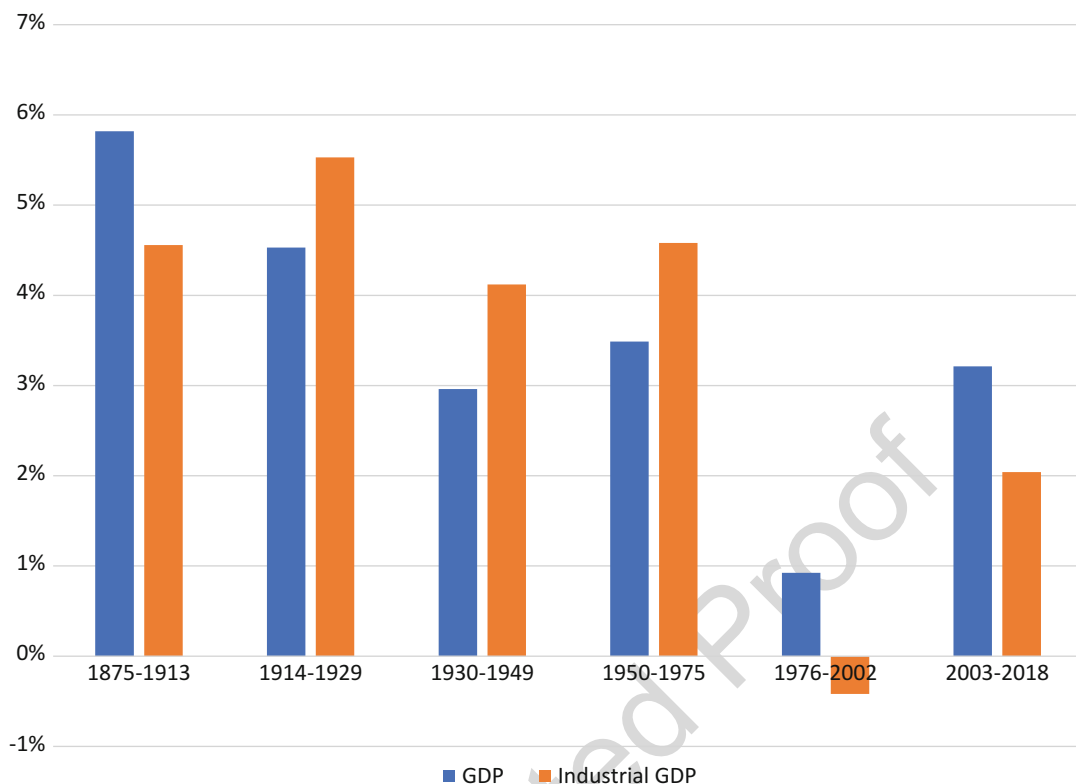
Since then, the Argentine industry has developed with two lasting characteristic features, as pointed out by many classic studies about the history of the industrial sector: firstly, a significant polarization which was, on one hand, economically demonstrated by the preservation of just few big concentrated companies (some of which were part of diversified corporate groups such as Tornquist, Bunge & Born or Bemberg, for example) along with an infinite number of small crafted establishments and, on the other hand, geographically shown by the agglomeration of manufacturing production in the City of Buenos Aires. Secondly, the fact that this emerging industrial

production required imported materials in non-negligible amounts did not correspond to the arguments given in the debates of that time, which insisted on the need of solely boosting the “natural industries” of the country (those using raw materials domestically produced). In fact, only those industries that dealt with local raw materials had some sort of “take off” during the First World War (like food and textile) and could substitute imports, while the companies that resorted to imported inputs, like the metal industry and other less “natural” industries, suffered a strong downturn in that period.

After the war ended and until the 1929 crisis, the industrial growth started to accelerate and it remained at around 8% on an annual average (Fig. 1). As a result of the massive arrival of North American and European (especially German) capitals, a major industrial expansion took place in productive branches new in the country: petroleum, cement, cars, chemistry, pharmaceuticals, phones, printing, among others, along with the textile industry when the imports recovered. This was reflected in the increase of the investment rate, the import of machinery and the changes in the structure itself of the industrial sector. From a microeconomic point of view, this expansion entailed a transfer and spread of novel technology and processes from the American system, along with new ways of organization and strategies of penetration in the consumer markets.

The big local diversified groups lost relative weight and some big companies of local capital emerged, like SIAM in the metal-mechanic industry, with enormous plants in comparison with the rest of Latin America. Furthermore, the presence of an entrepreneurial State came to the scene as a new participant that would have relevant prominence in the Argentine industrial development during the following decades. In this sense, the creation of YPF in 1922 stood out, as it was the first public petroleum company of the continent and it continues to be the biggest company in the country nowadays.¹

¹YPF stands for Yacimientos Petrolíferos Fiscales (Fiscal Petroleum Deposits).



National Cases of Industrialization: Argentina, Fig. 1 Average annual growth rate of the GDP, total and industrial (1875–2018). (Source: own elaboration based on data from Ferreres (2010) and World Bank)

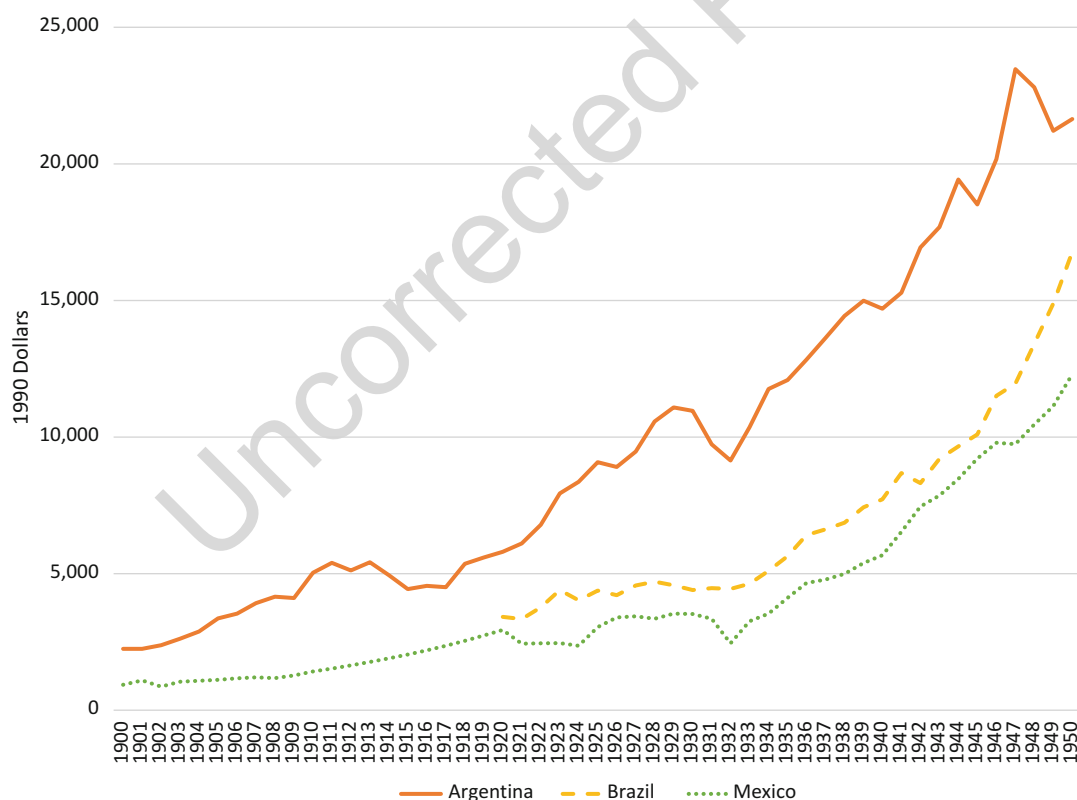
The different points of view as regards the necessity of boosting (or not) a more complex industrialization in Argentina were delineated under the heat of the crises of the second half of the nineteenth century and they continued for the following decades. Even though an industrial policy did not exist as such during the predominance of the agro-export economy, some authors have stated that the macroeconomic scheme related to the “conservative order” was not contrary to the development of the industrial capability of the country. Considering the lack of a comprehensive policy to achieve that goal and given the absence of other specific measures, the principal feature in discussion was the customs protection that emerged in the decade of 1870. The tariff policy of that period imposed a high level of tariff rights, close to 20% on average, which were enshrined in

the Customs Act of 1906. However, that level decreased during the First World War and the effective protection was recovered later on because of the devaluation of the Argentine peso.

In a context favourable to economic liberalism in broad terms, the decisions depended more on the necessity of public revenue (given that the principal source of fiscal resources was the customs) and from the pressures from specific interests, mainly the ones related to the trade with England. The big companies of the local market fought for the protection of the goods they produced and the exemption in inputs and machinery that they needed. The result of these factors and pressures was a combination between free trade and protectionism that allowed a close bond with the British and the American markets (for the purchase of goods such as railway materials and

farm machinery) and, at the same time, provided the protection of the local production in niches that did not contradict those bonds. In this way, the customs structure that lasted until 1930 was characterized not only by its instability in real terms, but also by having setting up a “backward protectionism” which meant placing a bigger burden on the import of final goods than on the industrial inputs. In fact, it was a “pragmatic protectionism” that was defending some industrial interests without affecting the equilibrium with other economic sectors and regions. After all, Argentina had achieved by far the largest industrial sector of all Latin America (Fig. 2). Even at the end of the Second World War, the Argentine industrial product in Purchasing Power Parity represented twice the value of Brazil or Mexico.

The global crisis unleashed in October 1929 proposed new challenges for the Argentine economy and the economic policy. In response, the state intervention increased searching for a buffer in the cyclical fluctuations associated to the external result and for stability in employment levels. In both directions, the industrial sector appeared as a response to this new development strategy. Given the strong external vulnerability of the economy with respect to the inflow of foreign capitals and international prices, since the middle of the decade of 1930 the economic drivers have tried to compensate, in a pragmatic way and with significant effect, the depressing effects of the external factors and maintain the level of production and employment. To this effect, the primary focus was to decouple the money supply and the internal demand from the foreign exchange crisis



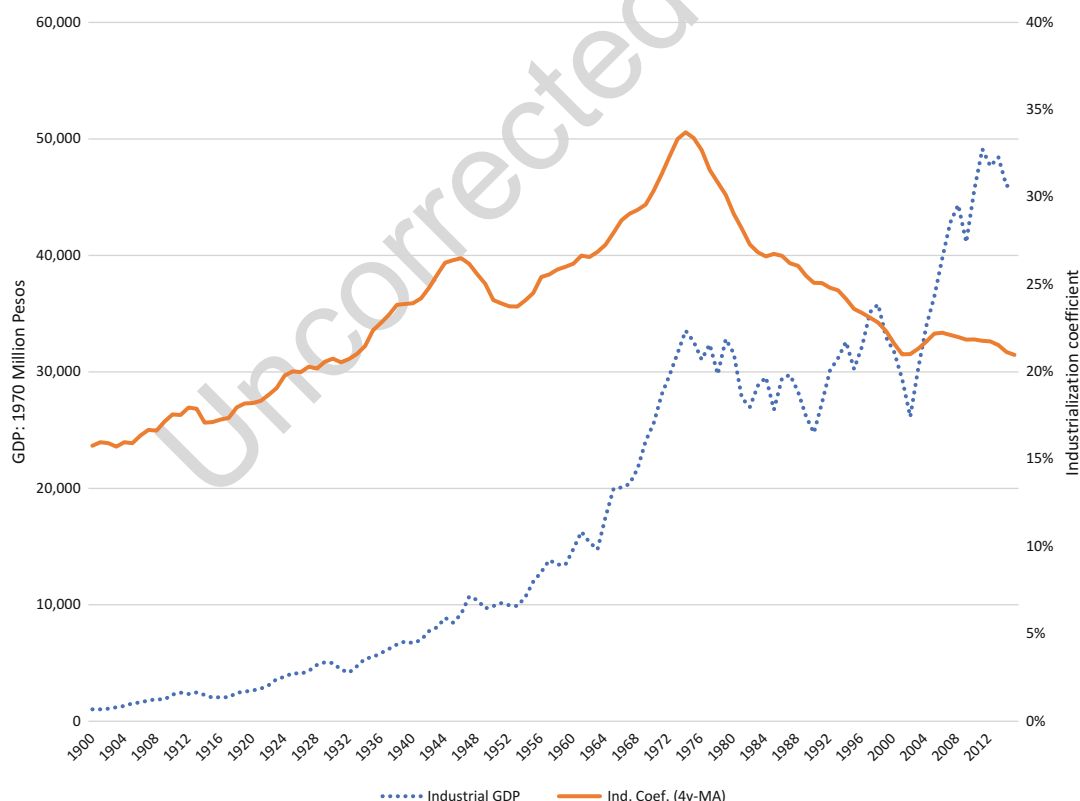
National Cases of Industrialization: Argentina, Fig. 2 Industrial GDP of Argentina, Brazil and Mexico, in 1990 PPP dollars (1900–1950). (Source: own elaboration based on data from MOxLAD and World Bank)

that the country was suffering by introducing the exchange control. This measure, along with an analysis of import tariffs based on fiscal reasons tended to make imports more expensive and to stimulate the substitution for local products. The possibilities to advance were huge, considering the overt delay in the development of some industries, such as textiles that had very favourable conditions for expansion.

Later on, after World War II, a second period of the industrial growth took place (Fig. 3). Therefore, the idea of going back to the *belle époque* of the beginning of the century was obviously impossible, due to the major economic, social and politic changes that occurred in the country during the previous years and due to the operation of the new international system of trade and capitals that then emerged.

There was a deep transformation in the manufacturing sector. During the first years of

the process of imports substitution, between 1930 and the end of the decade of 1940, the leadership of the growth was exercised by the “traditional” industries, especially textiles (which grew to 10% on an annual basis and generated 30% of the value added of the sector) and, to a lesser extent, by the industries of food, beverages and tobacco. Although they progressively lost positions, at the beginning of the decade of 1950 the traditional sectors still provided almost 60% of the industrial product. Among the “dynamic” branches, the metalworking and chemical industries significantly contributed to the industrial development, but they concentrated in the easiest activities such as the production of simple metallic products and the assembly of cars and, as regards the chemical industry, it concentrated in consumer goods of widespread use (soaps, cosmetics and toiletries, paint industry). The lack of steady and lasting industrial policies



National Cases of Industrialization: Argentina, Fig. 3 Industrial GDP and industrialization coefficient (1900–2015). (Source: own elaboration based on data from MOxLAD and Indec)

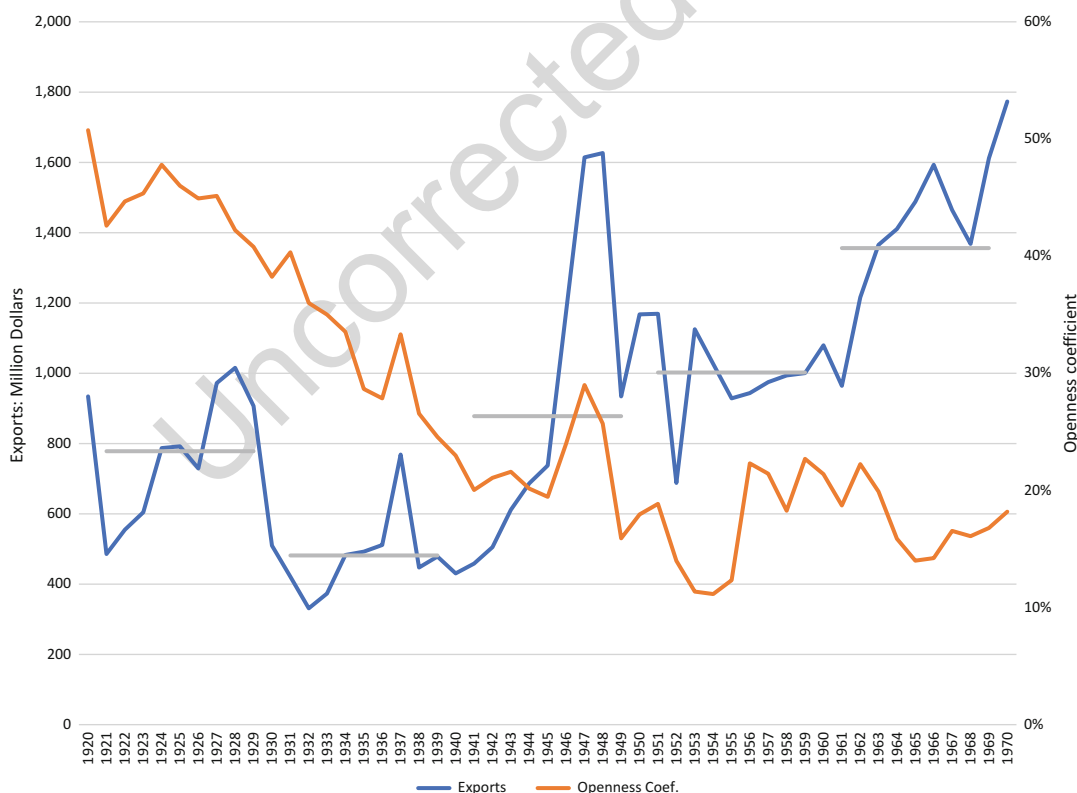
and strategies to support the development of local entrepreneurship resulted in the delegation of the leadership of investments on foreign capitals mainly from North America and Europe in the food industry, textiles, the electrical industry, pharmaceutical and medicinal products and the production of tires, among others.

The behaviour of the different industrial branches was substantially modified in 1950 when the substitution of simple manufacturing processes was finished. Therefore, when it became clear that the coefficient of imports could not continue to be compressed and traditional exports did not have great possibilities to success, the economic policy changed its focus to the integration of the manufacturing matrix (Fig. 4). The openness coefficient decreased from a maximum of 56% in 1913 to 11% 40 years later. Even though the value of exports was recovered from the low levels reached in the

decade of 1930 (with an average of 480 million dollars per year), the Argentine economy kept an inward-looking strategy.

The way of maintaining growth had to resort to the local production of manufactured goods previously imported. First, durable goods and then, machinery and industrial inputs. Even though the Argentine economy continued to be characterized by the deep instability, the industrial sector effectively moved forward for a greater complexity. The textile industry contributed just 4% of the industrial product increase between 1950 and 1970, while the other “traditional” branches contributed 21%. At the end of the decade of 1960, the “traditional” industries were generating 38% of the whole sectoral GDP. In terms of contribution to the imports substitution, the percentage decreased from 60% to 15%.

As regards the “dynamic” industries, they contributed almost 80% of the increase of the value

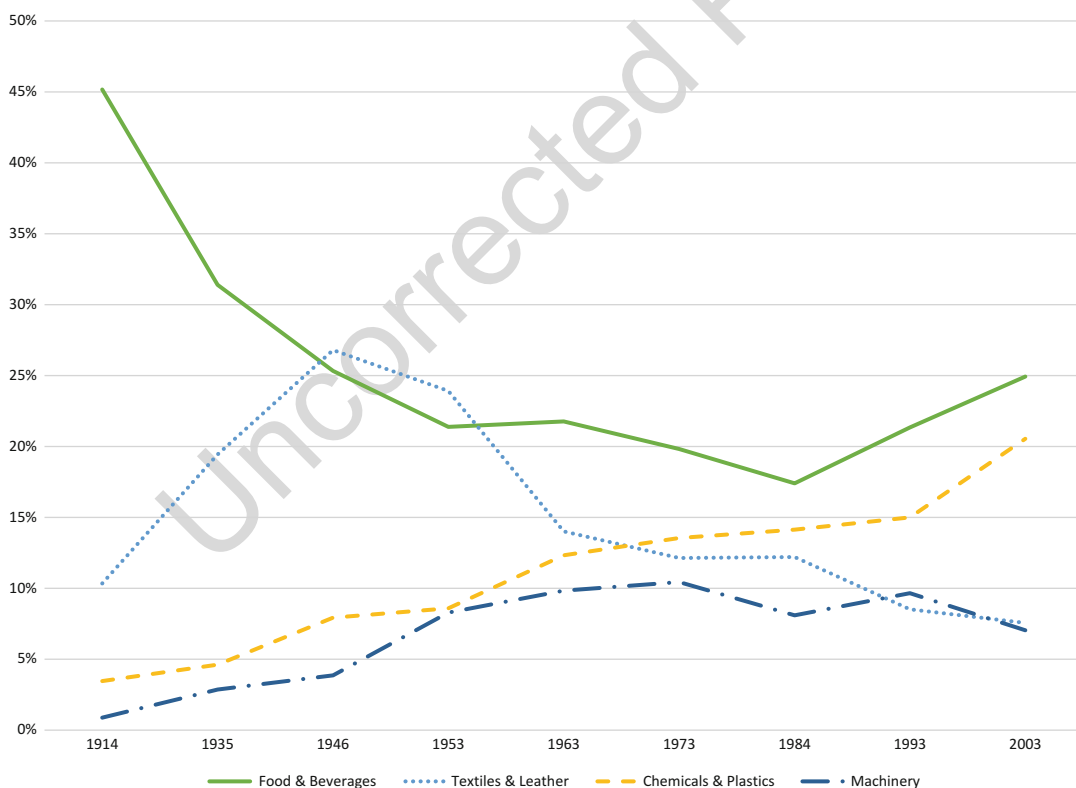


National Cases of Industrialization: Argentina, Fig. 4 Total exports (with 10-year averages) and openness coefficient (1920–1970). (Source: own elaboration based on data from Ferreres (2010) and Indec)

added of the manufacturing industry. The expansion coincided with a growing participation of subsidiaries of foreign companies, as we said. At the beginning of the decade of 1970, that participation was, approximately, 100% in the production of tractors, in spinning and synthetic fibre, 85% in tires, 70% in electronic products and 97% in cars. The investments presented positive effects on different regions and encouraged local entrepreneurs by allowing the “dynamic” industries (metalworking, machinery or chemical products) to assume the leadership of growth. The features that determined the hegemonic role of those branches, in accordance with the of global industrial development experience, also appeared in Argentina. Moreover, the development of more complex activities started to grow among those industries. In the case of metal-mechanic

industries, for example, they improved progressively from the production of relatively simple goods to machine tools, agricultural and industrial machinery, tractors, electrical and communication equipment, transport material, electrical devices and electronic equipment (Fig. 5). In the automotive industry, which was one of the sectors specially benefited by the policy of attraction of foreign capital, moved from assembly to the production of cars with high integration of national parts. Moreover, the vast interaction between automotive companies with the rest of the economy had a multiplier effect in the level of activity and employment. The chemical industry also registered deep changes with a greater reliance on basic, intermediate and petrochemical products.

From another point of view, in the decades of 1930 and 1940, the import of capital goods was



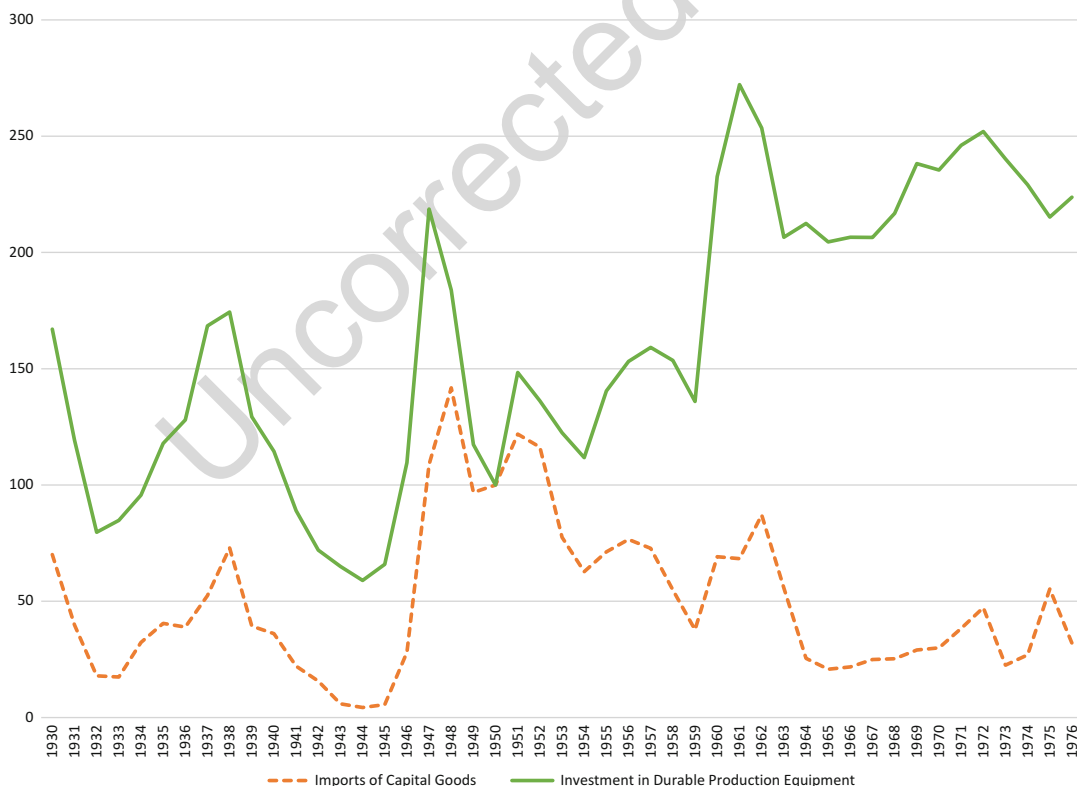
National Cases of Industrialization: Argentina, Fig. 5 Industrial structure according to economic censuses; contribution to Value Added of selected sectors (1914–2003) (Groups correspond to the different activities classified by ISIC Rev. 3: “Food and Beverage” (15),

“Textile and Leather” (17, 18, 19), “Refinery and Chemical industry” (23, 24, 25), “Machinery” (29, 30, 31, 32, 33).). (Source: own elaboration based on data from Kulfas and Salles (2019–2020))

strongly associated to the incorporation of new durable production equipment (Fig. 6). This means that the investment depended on the possibilities of importing machinery in that difficult global context. However, from 1950 to 1975, those flows had an unequal behaviour as the imports of capital goods tended to decrease while the investment in equipment for production increased. This dynamic demonstrates precisely the local improvements of the imports substitution, which satisfied the demand of an “accelerated” investment during the height and maturity period of the industrialization model in Argentina.

As we said, the first “bet” during the second period of the industrialization model was to resort to foreign capital, which was pursued during the 1950s and the 1960s by democratically elected governments (Juan Perón, Arturo Frondizi) and also by militaries (Juan Onganía), with different results. However, at the end of the decade, it was

evident that the “foreignization” of the national economy tended to generate, in a medium and long term, more problems than solutions in relation to the provision of foreign exchange. To the greater relative demand of imports from foreign companies, the outflows of capital as dividends, utilities, patents, etc., had to be added. In this context, the last action taken by the political economy of the industrialization was to strengthen the domestic capital companies (both public and private) and boost the presence of productive plants with efficiency and activities not so distant from the international border. Under these guidelines, before the military coup of 1976, some enterprises with strong export capability in basic industry sectors such as aluminium, steel-making, chemistry and petrochemistry, pulp, metal-mechanic, electronic, among others, were created in Argentina. Some of them were encouraged by the state, which assumed strategic significance as an



National Cases of Industrialization: Argentina, Fig. 6 Imports of capital goods and investment in durable production equipment over GDP, 1950 = 100 (1930–1976). (Source: own elaboration based on data from Ferreres (2010))

entrepreneur in the steel-making and petrochemical industries (especially through companies owned by the military forces) and others were undertaken by the private capital with strong support from the public sector by different mechanisms of industrial promotion. In fact, the major industrial company of that period was the steel company SOMISA, inaugurated in 1960 but fostered since the 1940s by the industrialist militaries led by General Manuel Savio, whose name was chosen to designate the plant.² Given this strategy, the industrial exports growth allowed the diversification of the export basket. For the first and last time, agricultural products and their derivatives, such as meat, flour, oil and leather, lost relative importance (Fig. 7). The participation of the food industry in the overseas manufactures sales went from 90% in 1960 to less than 50% in 1975 while machinery and equipment increased from insignificant values to represent 30% of the total manufacturing exports during the same period.

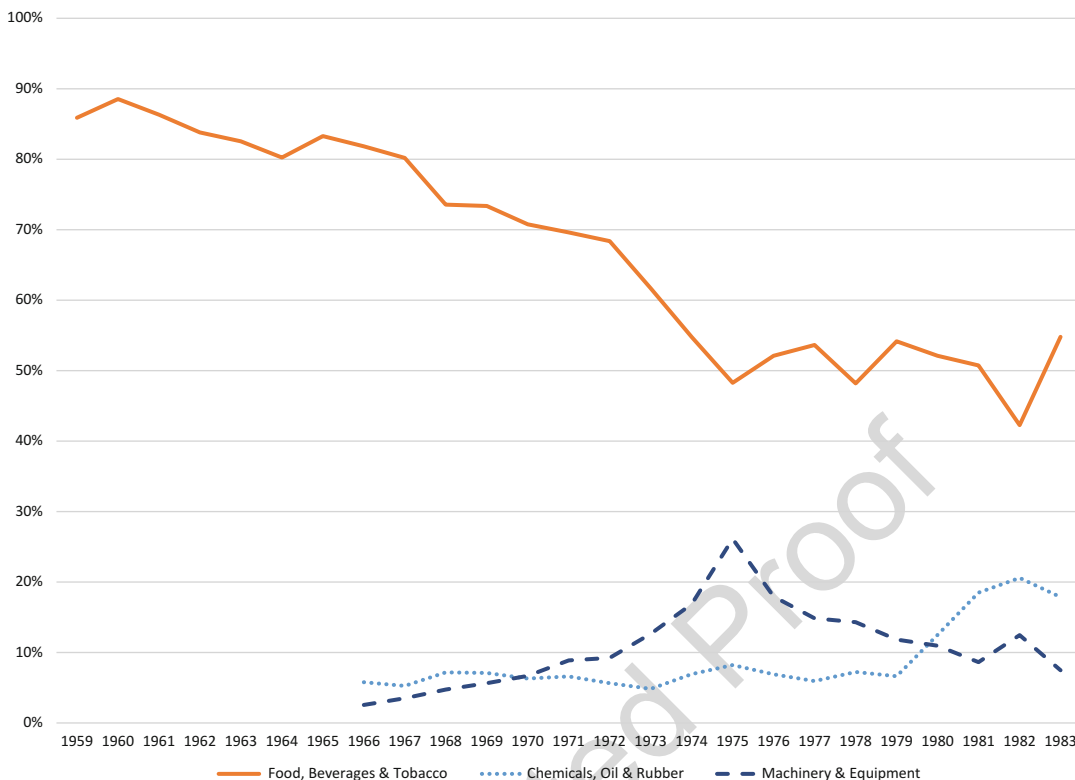
In 1975, when the country had 25 million citizens, the industrial sector was employing one and a half million people in more than 120 thousand industrial establishments (Fig. 8). Broadly speaking, the *trente glorieuses* of western capitalism coincided with the boom in the industrialization model in Argentina; a society that although the deep macroeconomic instability and the political exclusion that prevailed during a significant portion of the twentieth century, held an important social upward mobility and it was one of the most egalitarian -in Latin America.

Despite the undoubted improvements, there were structural problems in the dynamic of the Argentine industrialization along with blunt external and monetary problems. The substitution of imports tied its evolution to the Balance of Payments. If the available external finance was

scarcer for all Latin America at the time, it was particularly severe in the case of Argentina and, as a result, the industrial cycle was strongly associated to the trade result due to the fact that the manufacturing production demanded foreign exchange that was not generated by the sector given that the export basket of the country continued to be made up, to a great extent, by wage-goods (grains and meat). With the agricultural exports relatively stagnant, the economic cycle and the intensity of the demand for imports established a cyclical pattern of *stop & go* particularly clear between 1949 and 1975. As described by many contemporary economists, the industrial growth generated tensions on the trade balance. After the available reserves were exhausted, a readjustment was imposed by the alteration of the exchange rate. The devaluation, as opposed to the results predicted by the conventional economic wisdom of that time, did not result in an expansionary impulse. The equilibrium of the external accounts was rather reached by the crisis associated to the regressive redistribution of the income. The subsequent fall in consumption released more balance for (primary) exports and, at the same time, contributed to the fall in the demand for imports (of the industrial sector). Moreover, the strong resistance to falling wages and profit margins caused that relative prices shocks into persistent inflationary impulses.

The economic program established by the last civic-military dictatorship (1976–1983) entailed the abandonment of the policy guidelines established over the previous 40 years. Even though the speech was not openly anti-industry but rather opposed to state intervention, the disassembling of the existing structure of regulation and promotion led to the early beginning of the Argentine de-industrialization (Fig. 1). The economic policy was volatile and inconsistent but, in general terms, the economic openness, the fast deregulation and the currency appreciation were factors that made local products loss ground against the imports onslaught. In opposition to the official “efficientist” speech, enterprises did not have real possibilities to restructure themselves, so the smallest ones tended to disappear. The survivors were the big companies, producers of industrial

²In 1941, the efforts from Savio led to the creation of the DGFM (General Directorate of Military Industries), a military-industrial holding that had a preponderant role in the development of the national mining and basic industry. The precedent of SOMISA dated from 1945, when the DGFM inaugurated “Altos Hornos Zapla”, the first steel-making integrated center of the country in the northern province of Jujuy.



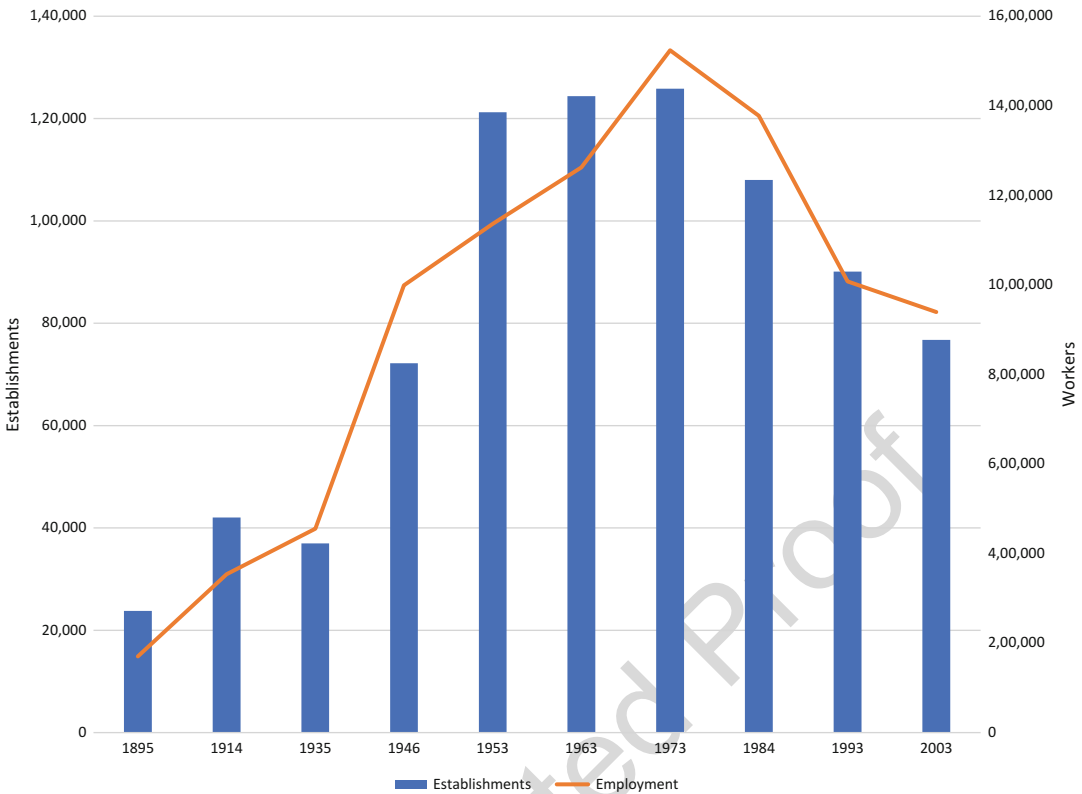
National Cases of Industrialization: Argentina, Fig. 7 Exports of goods from the manufacturing industry; contribution to the sectoral total of selected categories (1959–1983). (Source: own elaboration based on data from ECLAC (1986))

commodities, which had the possibility to place their products in international markets as a way to face the fall in the domestic demand and, as foreign exchange suppliers, were also privileged intermediaries of the government.

These characteristics were even strengthening after the return of the democracy in 1983, with a macroeconomy pressed by the external debt burden, with adverse terms of trade and international financial conditions. The local economic discussion, from both the academic and the political sector, left aside the necessity of industrialization in line with the progressive desertion of “classic” theories of development at a global level. The bank runs and the hyperinflations of 1989 and 1990 placed the problem of inflation at the top of economic concerns. In 1991, a program of strong neoliberal “structural reforms” was established, with even more depth than proposed in the “Washington Consensus” and with measures that

implied the settlement of a currency board, among others. The new currency appreciation and the end of the last mechanisms of tariff and non-tariff protection of local production deepened the de-industrialization. The “convertibility” of the Argentine peso lasted while the privatizations and external credit markets provided foreign exchange. At the end of 2001, a deep financial crisis ended the monetary experiment.

As a consequence of the policies that prevailed from 1976 onwards, the GDP grew slowly as opposed to the rates obtained in the previous term (Fig. 1). In 1999, the Argentine GDP *per capita* hardly exceeded the level reached in 1974. The virtual stagnation of the Argentine economy between 1976 and 2001 coexisted with strong fluctuations of the product, marked by crisis and deep recessions. What is even more serious is the fact that the industry, which had driven



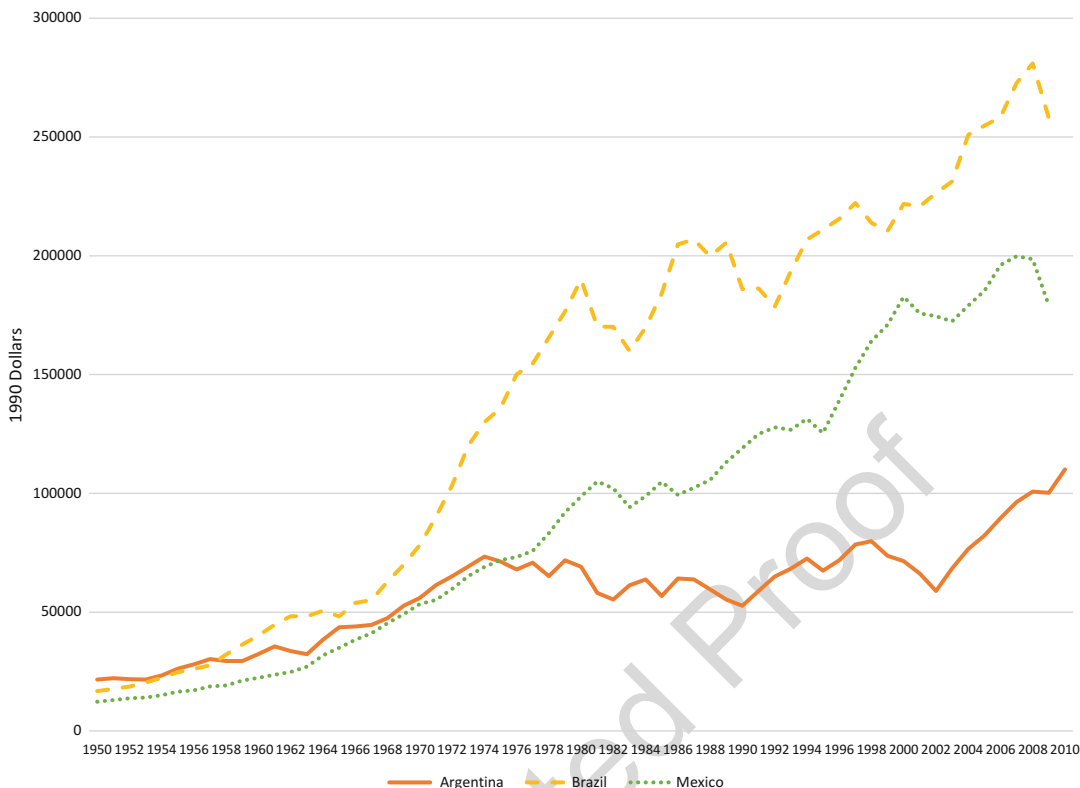
National Cases of Industrialization: Argentina, Fig. 8 Industrial Employment and Establishments according to economic census (1914–2003). (Source: own elaboration based on data from Kulfas and Salles (2019–2020))

growth previously, increased by a meagre rate of 0.4% annually in the neoliberal period.

The transformations were particularly remarkable in the manufacturing industry since its participation in the production of the GDP fell from 33% to 16% in those years. The fact that developed countries also registered a noticeable deindustrialization is true, but it was a result of different factors: changes imposed in the demand composition, the increase in the productivity of the whole economy, the progress, integration and transformation of the industrial activity and changes in the international division of labour. Instead, in Argentina, the factors were related to the dismantling of the production system, the growing “structural heterogeneity” and the interruption of accumulation in a wide sense. The national manufacturing sector lost ground even in the regional context (Fig. 9). While the industry in Brazil and Mexico managed to continue

growing (although with undeniable difficulties), in Argentina the sector stagnated completely for decades after 1975.

The changes inside the manufacturing sector were even more dramatic than the absolute loss of importance. The more affected branches were the ones vulnerable against external competition and those more sensitive to abrupt changes in the domestic demand. The necessity of reducing costs and improving the quality local production to face the growing external competition resulted in the substitution of investment in domestic equipment for imported capital goods; in the incorporation of imported parts instead of using national inputs or in the direct importation of goods and the discarding of production by local companies that tried, in that way, to maximize their market knowledge and power, their trade networks and their ability to provide technical support. These strategies disassembled the



National Cases of Industrialization: Argentina, Fig. 9 Industrial GDP of Argentina, Brazil and Mexico, in 1990 PPP dollars (1950–2010). (Source: own elaboration based on data from MOxLAD and the World Bank)

productive structure by losing economies of specialization and disrupting the network of independent subcontractors developed by the national industry in the previous decades.

Around 400 companies, mostly from dynamic sectors associated to the processing of natural resources and to the production of basic industrial inputs that had been strongly fostered in the past (such as steel, petrochemistry and aluminium), along with the automotive industry, carried on “offensive restructurings” to face the new domestic and global market changes. In this way, they reached levels of technology and economies of scale and scope close to the most sophisticated ones around the world. Overall, the participation of the value added over the domestic product decreased as a consequence of the opening and the “inverse substitution” of domestically produced goods for imports. Continuous process plants of aluminium, pulp and paper, steelmaking

or petrochemistry started to export as an alternative to maintain the activity in front of a recessive domestic market, but they ended up, in some cases, placing most of their production overseas, therefore stimulating the industrial exports. In the decade of 1990, the increase in industrial exports was strongly connected to the delivery of petrochemical products and cars to the Mercosur (particularly to Brazil).³ In the meanwhile, the export of more complex products declined, especially machinery and equipment, which had experienced a strong expansion in the previous term.

Thousands of small and medium enterprises disappeared and the social outlook was transformed and aggravated, particularly in the big cities such as the Greater Buenos Aires, Rosario

³The Southern Common Market (Mercosur in Spanish) was established in 1991 by Argentina, Brazil, Paraguay and Uruguay.

and Córdoba. The rest of the companies which were around 25 thousand, without including the micro-enterprises, adopted “defensive survival strategies” to adapt to the new scenario.

There were two clear processes in the sector: the concentration of the production and the dominant participation of subsidiaries of foreign companies. A survey of the biggest 500 companies, 300 of which were operating in the manufacturing industry, showed that these companies were generating almost 40% of the industrial GDP. There was also a strong concentration among the biggest companies of the survey (which not only covered the manufacturing industry, but also infrastructure and mining activities). 10% of those companies, around 50 companies, were generating almost 60% of the Value Added and more than 70% of the utilities of the whole group. In steel production, for example, the concentration, which was already noticeable at the end of the previous period, was intensified in the 1980s and was consolidated with the privatization of Altos Hornos Zapla and SOMISA at the beginning of the following decade. As a result, the three major private companies of the sector (Siderca, Acindar and Siderar) came to control more than 90% of the steel production.

In general terms, not only the industry lost relative and absolute significance, but also the productive structure suffered a process of “primarization” by the simplification of previously integrated chains and processes. The result was an industry that started the twenty-first century with a predominant focus on the processing of natural resources, such as the agro-industry and oil refining. As an exception, one of the sectors developed under the substitution of imports that managed to survive later was the automotive sector. The privilege of having a special system established in the Mercosur, allowed the increase in the production of final transportation equipment that were shipped almost exclusively to the regional market. But this agreement also implied a process of breakdown in the production lines and the concentration on the final assembly of cars and trucks.

After 2002, the end of the currency board and some attempts to return to a state with more

intervention capabilities let the Argentine industry grow again. The international conditions, including the ideological ones that arose with the Latin American “pink tide” and also the improvements in trade conditions by the changes imposed by China with its preponderant role in the new international division of labour, helped to maintain a steady economic and industrial growth for many years. It was not until 2004 that the industrial product growth exceeded the level reached in 1974 (in constant prices): the Argentine industry was stagnant for 30 years (Fig. 3).

Then, the impulse from the internal market arisen from the modification of the relative prices (devaluation, freezing of utilities tariffs, fall in both wage and financial costs in foreign currency), a significant idle capacity with unemployment and later improvements in income generated favourable conditions for the impulse of the industrial demand. However, given the structural features acquired after three decades of de-industrialization, a system similar to an assembly industry endured.⁴ From the point of view of the trade balance, those “primarized” branches, raw materials processors, presented surplus while the branches with more complex technologies and productions were in deficit.

Nonetheless, the expansion did not last. After 2011, a period of stagnation began, lasting the whole following decade. The harsh external problems appeared again and the attempts done to limit foreign exchange outflows without access to foreign borrowing, imposed tight limits on the economic policy. Also, inflationary pressures reappeared and were amplified after 2015 when a new liberal government came to power. Similar to what had happened after 1976 and in the 1990s,

⁴Maybe the clearest example was the promotion of assembly plants of electronic products in the far south of the country, where large subsidies had to compensate the expensive logistic and infrastructure costs for the companies located there. The “Special Customs Area of Tierra del Fuego” was created in 1972 and in November 2009, its incentives were updated to maintain a productive circuit that would be other way impossible, with the stated goal of strengthening production capabilities and employment absorption in an area which is remote and distant from other population or economic centers.

the “excesses” of the state were accused of being responsible for the economic disequilibrium and so, the economic policy led the country to repeat a cycle of liberalization and unsustainable external indebtedness that led to a new default, the third one of the current century after 2001 and 2014.

In this context, the industrial sector kept its inherited characteristics. Firstly, a great concentration of few companies that produce industrial inputs that have some degree of international competitiveness and – it must be recalled – most of them resulted from the efforts made at the end of the substitution industrialization period. Secondly, a business structure controlled by foreign firms mainly, as a result of the elimination of local companies after the repeated policies of deregulation and economic openness. Finally, there is a major productive disintegration that generates a negative dynamic on the sectoral trade balance when the growth rate raises.

In conclusion, the tendencies that began in the middle of the 1970s are still unbated. The alternatives proposed during the short “neo-developmentalism” period (2003–2015) failed to modify the negative aspects of the operating features of the Argentine industrial sector and could not sustain a steady growth path. Future attempts at this goal will have to consider more ambitious objectives and a more consistent policy: the industrial history of Argentina shows that challenges are not insurmountable if a more complex and competitive productive structure wants to be achieved. Unless a fortuitous discovery radically changes the factor endowment of the country, there is no alternative to guarantee the welfare of its population.

Bibliography

Angueira, M.C., and E. Tirre de Larrañaga. 1995. *Las Fábricas Militares y la industria argentina en el período de entreguerras*. Buenos Aires: Centro Editor de América Latina.

Azpiazu, D., and M. Schorr. 2010. *Hecho en Argentina. Economía e industria, 1976–2007*. Buenos Aires: Siglo XXI editores.

Belini, C. 2017. *Historia de la industria en la Argentina: de la independencia a la crisis de 2001*. Buenos Aires: Sudamericana.

Belini, C., and M. Rougier. 2008. *El Estado empresario en la industria argentina*. Buenos Aires: Manantial.

de Paula, A., M.H. Martín, and R. Gutiérrez. 1980. *Los ingenieros militares y sus precursores en el desarrollo argentino (1930–1980)*. Buenos Aires: Fabricaciones Militares.

Dorfman, A. 1970. *Historia de la industria argentina*. 2nd ed. Buenos Aires: Solar.

Dorfman, A. 1983. *Cincuenta años de industrialización en la Argentina, 1930–1980*. Buenos Aires: Solar.

Ferrer, A. 1989. *El devenir de una ilusión. La industria argentina: desde 1930 hasta nuestros días*. Buenos Aires: Sudamericana.

Ferrer, A., and M. Rougier. 2008. *La economía argentina. Desde sus orígenes hasta principios del siglo XXI*. Buenos Aires: Fondo de Cultura Económica.

Gadano, N. 2006. *Historia del petróleo en la Argentina, 1907–1955: desde los inicios hasta la caída de Perón*. Buenos Aires: Edhasa.

Jorge, E. 1971. *Industria y concentración económica. Desde principios de siglo hasta el peronismo*. Buenos Aires: Siglo XXI.

Katz, J., and B. Kosacoff. 1989. *El proceso de industrialización en Argentina. Evolución, retroceso y prospectiva*. Buenos Aires: Centro Editor de América Latina.

Kosacoff, B. 2000. *La industria argentina: un proceso de reestructuración desarticulado*. Buenos Aires: Eudeba-CEPAL.

Odasio, J., and M. Rougier. 2019. La estrategia exportadora de la industrialización por sustitución de importaciones: debates y resultados entre 1955 y 1975. *Papeles de Trabajo* 23: 137–159. Available via <http://revistasacademicas.unsam.edu.ar/index.php/papdetrab/issue/view/52>. Accessed 4 Jul 2020.

Odasio, J., and M. Rougier. 2020. Los militares y la industrialización en Argentina durante el siglo XX. In *México en el contexto internacional del siglo XX: economía, agricultura e industria*, vol. 2, ed. E. Fujigaki and A. Escamilla. México: FE-UNAM.

Regalsky, A., and M. Rougier, eds. 2015. *Los derroteros del Estado empresario en la Argentina, siglo XX*. Tres de Febrero: Eduntref.

Rocchi, F. 2006. *Chimneys in the desert: industrialization in Argentina during the export boom years, 1870–1930*. Stanford: Stanford University Press.

Rougier, M. 2011. *Argentina entre la frustración y el desarrollo. Estado y empresarios en la industria del aluminio. El caso Aluar*. Bernal: UNQUI.

Rougier, M., ed. 2014. *Estudios sobre la industria argentina (3 vols.)*. Buenos Aires: Lenguaje Claro editora.

Rougier, M. 2015a. *La industrialización en su laberinto. Historia de empresas argentinas*. Santander: Universidad de Cantabria.

Rougier, M. 2015b. *Empresarios de uniforme. La conformación de un complejo militar-industrial en la Argentina*. In *La empresa pública en México y América*

- 772 *Latina: entre el mercado y el Estado*, ed. G. Guajardo
773 and A. Labrador, 327–343. México: UNAM-INAP.
774 Rougier, M., and J. Odisio. 2017. “Argentina será indus-
775 trial o no cumplirá sus destinos”. *Las ideas sobre el*
776 *desarrollo nacional (1914–1980)*. Buenos Aires:
777 Imago Mundi.
778 Rougier, M., and J. Odisio. 2019. El “canto de cisne” de la
779 industrialización en la Argentina. Desempeño y
780 alternativas en la etapa final de la ISI. *Revista de*
781 *Estudios Sociales* 68: 51–67. Available via [http://](http://journals.openedition.org/revestudsoc/31728)
782 journals.openedition.org/revestudsoc/31728. Accessed
783 12 Jun 2020.
784 Rougier, M., and M. Schorr. 2012. *La industria en los*
785 *cuatro peronismos*. Buenos Aires: Capital Intelectual.
786 Rougier, M., and J. Schvarzer. 2006. *Las grandes empresas*
787 *no mueren de pie: el (o)caso de SIAM*. Buenos Aires:
788 Norma.
789 Schvarzer, J. 1996. *La industria que supimos conseguir:*
790 *Una historia político-social de la industria argentina*.
791 Buenos Aires: Planeta.
- 792 **Sources of Statistical Information**
793 CEPAL.1986. *Estadísticas económicas de corto plazo de*
794 *la Argentina: Sector externo y condiciones económicas*
internacionales. Buenos Aires: UN. Available via
<https://repositorio.cepal.org/handle/11362/9085>.
Accessed 4 May 2020.
Ferrerres, O., ed. 2010. *Dos siglos de economía argentina,*
1810–1910–2010: historia argentina en cifras. Buenos
Aires: Fundación Norte y Sur.
Indec (Argentine National Institute of Statistics and Cen-
suses), Historical statistics. Available via [https://www.](https://www.indec.gob.ar/indec/web/Institucional-Indec-)
[indec.gob.ar/indec/web/Institucional-Indec-](https://www.indec.gob.ar/indec/web/Institucional-Indec-)
[InformacionDeArchivo-5](https://www.indec.gob.ar/indec/web/Institucional-Indec-). Accessed 10 Jun 2020.
Kulfas, M., and Salles, A. 2019–2020. Evolución histórica
de la industria manufacturera argentina. Un análisis a
partir de la homogeneización de los Censos
Industriales, 1895–2005. *Economía y Desafíos del*
Desarrollo 5: 51–81. Available via <http://revistaedd.>
[unsam.edu.ar/wp-content/uploads/2019/12/3_r5.pdf](http://revistaedd.).
Accessed 20 Jun 2020.
MOxLAD, Latin American Economic History Database.
Available via <http://moxlad.cienciassociales.edu.uy/en>.
Accessed 8 May 2020.
World Bank Databank. Available via [https://data.](https://data.worldbank.org/country/argentina)
[worldbank.org/country/argentina](https://data.worldbank.org/country/argentina). Accessed 4 Jun
2020.

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