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The Role of the State of Brazil in the Industrialization of São Paulo: 1880-1945

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Abstract: **This research article combines discourse from the perspective of historians, philosophers, economists and political scientists to begin to describe the role of the State of Brazil in the industrialization of São Paulo, Brazil's most industrialized city. The focus of this discussion is limited to the late nineteenth and early twentieth centuries, more specifically between 1880 and 1945. Some of the intersections between the State and industrialization are investigated and discussed by looking at the agendas of different political regimes in Brazil. The role of the State is discussed through the lens of policy efforts including trade regulations, immigrant labor and capital investment. A brief overview of the political structure is also discussed. Inconsistencies are found in policy approaches and political efforts may not have always had the intended economic impact during this period.**

Keywords: **Industrialization, Brazil, Early Twentieth Century, Political Ideology, Economic Growth.**

I. INTRODUCTION

The process of the economic transition from agriculture based production to textile production and manufacturing is commonly known as industrialization. Industrialization has also been used parallel to modernization and, from an economists' perspective, it is the process of moving resources from traditional to modern sectors of an economy. Industrialization also includes the expansion of agricultural capabilities to support a large export sector of certain commodities. Countries experienced the industrial revolution at different times but it was mainly concentrated in the late nineteenth and early to mid-twentieth centuries. The difference in the speed of industry adoption was heavily influenced by public policy, access to resources, the size of the labor force and openness to international trade. Most industry growth was concentrated in certain urban areas that had access to resources, labor and international markets. Brazil, for instance, had a high concentration of its industrialization in the city of São Paulo. There are many arenas where industrialization and public policy intersect, such as, international trade openness, domestic market protection, taxes on capital accumulation, openness to foreign direct investment (FDI) and labor laws, just to name a few. This gives researchers many avenues to explore when investigation the differences in industrialization between countries. For a study to be thorough, it must look at many intersections of policy and business formation.

This study intends to show how the State of Brazil interacted with the industrial sector through policy development that either fostered or impeded the growth of modern industry. As industrialization is often associated with high periods of economic growth, the relationship between these two processes has been studied greatly by academics from all fields. This paper will offer a brief review of the economic literature detailing the relationship between public policy and economic growth by focusing on policies which normally impact industry formation. As the relationship between these policies and economic growth is established, I will then move to present the historical relationship between the State of Brazil and industrialization. This study will specifically focus on this relationship as it is seen through policies that affect industrialization. I will look into the history of this relationship with most of the focus on the period between 1880 and 1945.

II. ROLE OF THE STATE IN ECONOMIC GROWTH AND INDUSTRIALIZATION

Max Weber and Adam Smith had very different views on the role of government in relation to economic growth. Adam Smith saw no role for government and believed that any interference from the government would have a negative impact on economic growth. However, Weber argued that bureaucracy was fundamental for capitalistic growth. Neo-classical political economists and rational choice analysts have provided studies that supported the Smithian view (Colclough and Manor 1991); (Collander 1984); (Krueger 1974). More recently studies have looked into the role of government and found certain aspects of government design and methods of market intervention to be strongly connected to economic growth, lending more support to the Weberian view (Knack and Keefer 1995); (Mauro 1995); (Evans and Rauch 1999). Irrespective of the empirical argument about the role of the State, the State has always made its presence known in economic markets and has played a major role in the development of industry, whether the role was supportive or dampening. The market institutions and the institutions of the State have to work together to create sustainable economic growth. The State cannot work to undermine the strengthening of market structures but it should also create structured public institutions encompassing “their own set of decision-making procedures” that “complement…market-based institutional arrangements” (Evans and Rauch 1999).

Often the *Industrial Revolution* is envisioned by imagining pictures of complex machinery that streamlined work processes. Studies have been conducted detailing the relationship between investment into equipment and economic growth. It is a more specific approach to determine how industrialization interacted with economic growth by using investment as the mechanism of change. One such study finds that investment in equipment accounts for a great deal of the variation in rates of growth across countries. In this study equipment was measured by “the aggregate of electrical and non-electrical machinery excluding producers’ durable transportation equipment” (De Long and Summers 1991). This study intensifies the importance of capital accumulation as compared to some of the earlier economic studies, which downplayed the role of capital accumulation.

The colonizers’ intentions in Brazil were to use local production of cotton, precious metals and minerals to supply European markets with said goods. Therefore, the economy of Brazil was originally an export economy. The Portuguese crown “extracted monopoly profits from the colony; the promotion of exports had therefore been their central concern” (Bethell 1989, 218). After independence, there was a large period of economic stagnation in Brazil where in the early nineteenth century Brazil’s export of cotton and sugar began to face international competition. One of the main problems for Brazil in the early nineteenth century was a lack of capital and a low supply of labor.

Therefore, it was important for Brazil to find products that were land intensive to produce because land was Brazil’s most abundant resource (Furtado 1968, 134). Land was so abundant that it was nearly approaching the characteristics of a free good. It was quite inexpensive and there was not foreseeable shortage in the supply. Most of the labor force during the mid-nineteenth century was comprised of a slave population and this labor force was not expanding. The birth rates were lower than the death rates for the slave population in Brazil and abolition lowered their labor force participation. In the 1870s and 1880s in Brazil, “[i]ntellectuals, professional men, military officers…joined associations for the abolition of slavery and organizations for the promotion of mass European immigration” (Bethell 1989, 161). Slavery was finally abolished in 1888 and at that point the percentage of slave population had fallen to about 5% from 15.8% in 1822. Policy makers listened to the public discourse and decided that the best solution at the time *was* to encourage European immigration into Brazil. During this period, the immigration to the United States from Europe was happening at a high rate and the State of Brazil took note. Brazil would then be able to increase the amount of labor available to work the agriculture plantations. Most of this labor went to the Southeast region in Brazil, particularly to the coffee plantations in the state of São Paulo, where the population growth rate during this period was about 3.5%. This helped remediate the labor problem in that region but now in the North region, particularly the states of Amazonas and Pará, the expansion of the rubber market left this region needing more laborers. Brazil began to see accelerated population growth in this region, about 3%, in the late nineteenth century and this was mainly attributed to domestic migration of workers from the Northeast region.

Between 1870 and 1889 was a period of dramatic idealistic change in Brazil and some historians believe this was due to the import of foreign ideas such as Abolitionism, social Darwinism, positivism, etc. Bethell states that there are two different explanations for this wave of change that are presented by historians. One is the previously mentioned influence of foreign ideas and the other belief is that the change was a “product of a generational conflict, often described as a conflict between urban and rural groups, or between modern and traditional more” (Bethell 1989, 162). She suggests that these two approaches could even be considered complementary.

The Empire did not adopt policy approaches that were ultimately drivers of economic development. The State, during the Empire, "was in general mildly hostile to capitalistic entrepreneurship" (Bethell 1989, 220). However, despite some of the barriers to growth in Brazil during the early to mid-nineteenth century they experienced a relatively high rate of growth at the end of the nineteenth century, after the end of the Empire. A main driver behind this economic growth can be attributed to international trade (Furtado 1968, 155). Furtado presents a few statistics that show a trade expansion during this period. For example, Brazil saw a 214% increase in their export quantam between the 1840's and 1890's and this increase was coupled with an increase in the world price for many of their exports and a decrease in the relative price of imports. All of these factors combined to a large improvement in Brazil's terms of trade and this improvement led to a 396% increase in real income generated by the export sector. The domestic capital accumulation fell into the hands of the coffee planters and merchants and this capital was in turn invested into railways, banks and industries. This was a "peculiar way in which capital accumulation" and "as a result not only of its position in the international market, its subordination to foreign markets and foreign capital, but also of the decisions made by the ruling classes" (Bethell 1989, 165). This type of growth led to concentration of capital in urban centers and the rural areas that were tied to the import-export sector of the economy.

Investment in the infrastructure of the economy and the improvement of transportation coupled with the capital penetration, market growth and higher import taxes led the State to acquire higher revenues (Bethell 1989, 167). This was a recipe for industrialization. In the late 1800s, the number of factories increased in Brazil by a multiple of 5, at least and the number of registered industrial workers increased by a multiple of 2.5 in a ten year span. The growth and change of the economic situation in Brazil during this period led to conflicts between industrialists and the central government. However, the industrialists had conflicting requests themselves where on the one hand they "demanded protectionist tariffs and government support" but on the other hand "they resented political interference and government control" (Bethell 1989, 168). The industrialists in the late nineteenth century believed that the government was favoring the coffee planters and the free trade approach during them time worked against the growth of industry. The industrialists believed that the working or "productive class" were underrepresented in Parliament. Also, during that period there were other factors throughout the capitalist world that would lead to disgruntled industrialists. The instability in financial markets in London and New York caused prices of exports to fall and many firms had to be dissolved. This also fueled the fire for the industrialists to attack the international policies of the State.

The political structure of the Empire was characterized by centralization and underrepresentation for the masses of the population, which was despised by the ruling elite. There was obvious favor for landowners and merchants. This type of system "was not flexible enough to adjust to the changes in the economic and social structure during the second half of the nineteenth century" (Bethell 1989, 171). Without being present and listening to the experience of the mass of the population the Empire was vulnerable to shocks in the world economy, especially in the financial sector. Representation was not an issue until certain areas began to experience high rates of economic development. This was coupled with the establishment of regional elites and these elites did not agree on policy initiatives. They disagreed about tariffs, labor and land policies and subsidies (Bethell 1989, 175). Bethell believes that this conflict was fueled by the centralistic power exertion by the State. More autonomy for the regional provinces would have created a mechanism for dealing with the local disputes.

As Brazil faced international competition in the coffee industry the world price of coffee began to fall. In response to this fall in prices producers decided to artificially restrict the supply of coffee in order to put an upward pressure on prices. This was accomplished by building inventories of coffee that would not be supplied on the market. These inventories could be saved to show market strength and could also be used to compensate during times of shortages. However, the price of coffee continued to fall dramatically and now there was obvious overproduction in the marketplace. This downward trend on coffee prices gartered the attention of the ruling class, "whose political and financial power had considerably increased as a result of republican decentralization" (Furtado 1968, 195). In 1906, a price-boosting policy known as the Taubaté Agreement was implemented. Under this agreement, the government purchased a large amount of the surplus of coffee stocks. They hoped that this would help balance the supply and demand which could put an upward pressure on the price. These purchases were to be financed by foreign loans which would be paid off by an increase in taxes. This policy was coupled with state government discouraging the expansion of plantations. The Agreement created inflationary pressure but at the same time there was an influx of foreign private capital. The "inflow of private capital and the arrival of loans…gave rise to an extremely favorable situation and induced the Brazilian government to embark upon a policy of convertibility" (Furtado 1968, 202). The convertibility policy[1] ultimately led to the flight of capital and the depletion of reserves. I mainly focused here on the coffee market because that was the main export that was driving the public policies of the time. During the Empire, sugar exports briefly took rise in Brazil but they soon declined because of international competition and the arrival of beet sugar. Cotton has also been a commodity that has seen moments of increased export from Brazil but no other good has seen the attention or success that has been realized by coffee. Brazil was domestically producing beans, manioc and other food stocks but they never reach international markets. It is quite astounding that the economy of such a large, climatically diverse land mass could become dependent on the success of the one good, coffee. Coffee, as a percentage of exports rose from 56% in 1919 to more than 75% in 1924 (Baer 2001, 32).

The Republic placed economic growth in the center of their policy agendas and potential capitalists and industrialists began to promote an interventionist economic approach. The Republic allowed for the creation of banks, joint stock companies and other financial development schemes. However, Brazil was still struggling to create a national marketplace even as these developmental economic policies were implemented. Around 1900, the majority of Brazil's population still lived along the coast and clustered around certain port cities. The state of Minas Gerais was an example of interior population clustering because of the mining industry but this was not a common scene in Brazil during this time. Therefore, for Brazil to support their development policies they had to attempt to unite their domestic marketplace. Although investment into railways and roads were increasing, the development of transportation methods were not very well organized and sparsely located. There could be hundreds of miles between transportation networks (Bethell 1989, 223). There were also very few deepwater ports that could receive ocean-going vessels. Increasing funding for the deepening of other ports was impeded through local competition because Salvador and Recife wanted to squash the efforts of port development to keep the stronghold on the market. Domestic rivalries, sparsely developed means of transportation and isolated population growth were not the only obstacles to the objectives of the Republic. Beginning during the Empire inter-state and inter-municipal tariffs also impeded the adoption of a cohesive national market. States such as São Paulo supported legislation in the republican constitution that created "a federalist charter, import tariffs were exclusively levied by the central government, but export duties were granted exclusively to the states" (Bethell 1989, 224). These types of policies were implemented and it certainly gave priority to states with large export revenues and states importing into São Paulo were taxed. Even though the nationalist republican's political rhetoric echoed with support for a national market, the implementation of policies obviously favoured regional upper classes' business.

São Paulo was the main example of industrialization in Brazil in the early twentieth century. The state experienced about an 8% growth rate in industry between 1900 and 1920 (Dean 1969, 107). Dean admits that this is a very rough estimate because the state level data available at the time are incomplete. During this period and into the mid-twentieth century, São Paulo began to move from its dependence on coffee and expanded into manufacturing. The international competition in the coffee market was rapidly growing and Brazil was losing market share. Diversification occurred into power companies, iron and cement plants, electrical hardware, electric motors, automobile parts, tools, appliances and weighing devices (Dean 1969, 110). Most of the capital from these new factories was built with foreign capital inflows, mainly from Britain and the United States, in the form of foreign direct investment. Domestic capital was also a source of capital investment growth. It is assumed that planters, which were reducing their plantation sizes, transferred their investment in the coffee trees to industry but this shift was not sudden. However, the investment by planters was probably not as important to growth as reinvestment by industrialists.

By 1940, the stock markets were fairly active in São Paulo and private stock was being sold by medium-sized firms. But the amount of transactions in the marketplace could be misleading at first glance. Many of the stocks that were being sold on the market were nothing more than transfers of ownership from one family member to another. Even though on paper the firms were corporately owned entities if you took off their mask, they were nothing more than family-owned enterprises (Dean 1969, 119). Just as seen earlier in the management and funding of businesses, family members were most trusted to continue operations. This was not always the smartest business decision. Often times, the newly trusted individual was incapable of or too inexperienced to manage a business. Therefore, even though policies were enacted support stock and bond markets, financial intermediaries and industrialization there was a lag time between the passage of legislation and the realization of benefits.

[1] As Furtado notes, previous notes were not convertible and this led to two systems of circulating media in Brazil. One was convertible and the other was not and the non-convertible notes were a large percentage of those that were in circulation in 1929.

The earlier observed success of the coffee market began to decline rapidly around 1930 and this was due to the collapse of international trade, which hit the industries of São Paulo pretty hard (Dean 1969, 181). During the early 1930s, Brazil was feeling the effects of the depression. As Baer (Baer 2001, 35) notes Brazil's exports fell from US$445.9 million in 1929 to US$ 180.6 million in 1932, the price of coffee in 1931 was one-third of the previous 5 year average and the terms of trade fell by 50%. With the international stage set, it is important to take a look at political regimes and how their decisions affected industrialization. Also in 1931, the Republic State was replaced by the Liberal State. Getúlio Vargas was not from an industrial state and he was not very aware of the sheer size of the industrial sector in São Paulo. In turn, manufacturing was of little relevance to his political agenda. He only favored industries that used domestic raw materials and this sided more with the planters than it did the industrialists. However, even this was limited to the "defense of existing interests such as growers of cotton and sugar and the gatherers of rubber, who desired an assured market" (Dean 1969, 183-184). Vargas favored the reimplementation of credits for coffee growers. The president of the Center of Industries, Roberto Simonsen, advised against such actions and thought that the lowering of tariffs to increase international demand for Brazilian coffee was not going to be effective. He believed that investment and support for industrialization would be the best path for the future of the Brazilian economy. Even though most of the industrialists agreed with Simonsen, they did not hesitate to ask for favors from the new revolutionary government. They asked for "warrants against their inventories, easier credit, a reduction in taxes, an exemption from duties on the importation of raw materials", etc. (Dean 1969, 185). Simonsen was an industrialist that had been developing a following since the nineteen-teens. He advocated for efficient production, efficient use of labor, increases in standards of living, and cooperation between business owners and workers (Weinstein 1996, 13). Vargas also separated the department of industry and commerce from the Ministry of Agriculture and was not given much attention afterword. Also, the Vargas administration issued a decree that restricting further immigration.

Much of the labor that supported the industrial sector were immigrant workers and even many of the business owners were immigrants. Vargas also restricted intra-state trade by setting limits on imports. Much of the steel and iron used in the manufacturing sector in São Paulo was imported and this dependence on imported raw materials dampened the growth of industry. Eventually a rebel government was formed and the Federation of Industrialists, led by Simonsen, began to try to ration and mobilize resources in the hope of stimulating production. Other industrialists that supported the work of Simonsen included, Alexandre Siciliano, Jr., A. Dumont Villares, Paulo Álvaro de Assumpção, Mário Whatley and Henrique Jorge Guedes (Dean 1969, 195). Eventually the leaders of the rebellion were exiled but Vargas allowed them to return to their direction of state politics soon after. Although, Vargas continued to push the interests of the industrialists aside in hopes that reviving the free international trade would somehow restore the balance of trade. Vargas insisted that his approach was appropriate and used lower unemployment, increased tax revenues and stable prices as proof but he failed to account for the servicing (or lack of) of foreign debt.

In the coup d'état of 1937, Vargas imposed an authoritarian Constitution and shut down Congress and imposed his rule as a make shift dictatorship. This era from 1937-1945 is known as the Estado Nôvo. During this time Vargas began to take into consideration the arguments of the industrialists. With the declining value of Brazil's exports and the constant prices of imports, Vargas admitted that Brazil would need to begin to substitute foreign manufacturers for domestic ones (Dean 1969, 209). In the preceding years, Vargas noted that the domestic market was growing and that industrialization was leading to a more diversified economy and a shifting trend of policies were apparent at the time. In favor of Paulista industrialization "the Estado Nôvo pressed forward with corporative theories that implied a new relationship between the state and industry" and "the state was to have the right to intervene in the economy [though limited intervention]" (Dean 1969, 210). New sources of public financing for industry opened up and imports were licensed according to a scale of priorities, in which machinery was favored. Even more important, a state supported steel mill was constructed in the state of Rio de Janeiro and Vargas declared that the steel industry was a national priority. Even though during this period the government intervention in private business increased, industrialists seemed satisfied with the dictatorship. World War II and the introduction of industry supporting policies by the Estado Nôvo led to rapid growth of industry in São Paulo in the early to mid-1940s.

Although Simonsen had been pushing for the rationalization of industry for years, it was only in the late thirties and into the 1940s that it began to take root. During this time "interest in rationalization" finally took on "institutionalized forms for its dissemination and implementation" (Weinstein 1996, 16). In the early 1940s Vargas formed a commission made up of Simonsen and two supporters of industry and they were tasked with creating training for industry. Simonsen presented the commission's missions and aligned them with the objectives of the Estado Nôvo "calling for accelerated industrial development in Brazil" and this "would require not only the upgrading of the existing workforce but also the training of new technicians, craftsmen and skilled workers" (Weinstein 1996, 96). Weinstein notes that Simonsen emphasized this need to increase the skilled workforce to keep pace with the growth of industry in Brazil, hence he commissioned for the creation of the National Service for the Selection, Improvement, and Training of Industrial Workers (SENAFI). Simonsen stressed the need for such an organization and distinguished its work from that of existing vocational programs. SENAFI would offer a two year apprenticeship for training instead of four years of instruction. This program would be funded by industrialists according to the number of employees in their firm (Weinstein 1996, 97). SENAFI was mainly separate from the control of the State but the government did have to certify the graduates and instructors.

III. CONCLUSION

One of the main policy implications of this study is that empirical studies are not always as clear cut as they may seem. There is not only one way to reach the economic development goals of the State and opposing regimes that cannot meet in the middle does not foster an environment for growth. At times, export stimulating policies have been successful in fostering economic growth and development. But at other times, the import-substitution policy approach has led to increased growth rates. There is a clear difference between political agendas and economic objectives and as long as there is this disparity in goals, there will always be room for negotiation. Economic theory does not know the difference between liberal and conservative or republican and democrat, however the theory may suggest that at certain times a liberal approach to trade is more suited for the economy and suggest the opposite later. Economic conditions are constantly changing and public policy has to change with the tide but not only on political cycles. A long term view of the economy is necessary to ensure that the switching of political regimes does not add shocks to the economy that can have adverse effects on the quality of life of citizens.

In the case of Brazil, policy makers wavered back and forth on their ideas of the role of the State and industrialization. But the industrialists were also ambiguous on their stance on the role of the State and industry, where they believed that for private industry to be successful, the public sector must participate. However, in the same breath, they insisted that "state intervention should not be regarded as a substitute for private business" (Weinstein 1996, 284). Changing your policy approach is not inherently harmful unless they show inconsistencies in values and/or morals. As seen with Vargas, sometimes an initial approach (regardless of the political motivation) to achieving an economic goal may not be the best tactic. Therefore, changing your approach even if it is opposition to your previous discourse need not be looked down upon because as economic conditions change so should policy.

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