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ECONOMIC DEVELOPMENT AND GLOBAL VALUE CHAIN INSERTION:

A VIEW FROM **BRAZILIAN** AND **SOUTH KOREAN** LENSES

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INTRODUCTION

In the past three decades, the global economy has been through a profound transition. It has drastically reshaped trade and production, changing the structure of industries and even national economies. As it was in the beginning of the 20th century – when Henry Ford began separating production in stages – fragmentation gained a global proportion when firms began not only to fragment their processes, but also to distribute them throughout many different countries, where they could enhance process efficiency and reduce production costs.

As supply chains became global, a remarkable set of changes began to influence the global market. One of the first and most evident symptoms was the proliferation of trade agreements that reduced tariffs and facilitated the movement of goods and investments between countries. A second interesting and more specific impact was the "de-verticalization" of production processes and the increasing importance of trade in intermediate goods. In 2009, for the first time, the world export of intermediate goods exceeded the exports of non-fuel final products and capital goods (WTO and IDE-JETRO, 2011).

Currently, the East Asian region is considered the home of the most advanced production networks. Most countries in the region have experimented an incredible level of development, as they managed to promote both industrial agglomerations and production fragmentation at the same time. South Korea is a glaring example of those East Asian countries that achieved a rapid development, due to its strong engagement in a set of horizontal policies (such as education, infrastructure, and R&D investment) that supported its bet on an export-led economy.

On the other hand, regions like South America have been charting a different path. South American countries, as the Brazilian example shows, have been mostly engaged in traditional infant industry protection through import substitution and local content policies, in order to strengthen its industrial base. Moreover, the South American region, as opposed to the East Asia, has shown lower levels of integration both in trade and in production sharing.

Comparing both paths has become the subject of a vast literature. South Korea and Brazil have been a model case for each path. Numerous researchers have used several approaches to continuously study the developmental trajectory and its policy choices toward international trade, both in comparative perspective and separately. Many others researchers also try to use a 'good practices' approach, by trying to map the experiences that given country had that could be replicated or inspire other countries policies.

Nonetheless, understanding the basics of a country developmental experience requires numerous approaches because it is a broad and complex process. It encompasses historic background, cultural features, geographical landscape, natural resources, a number of policies for labor, industry, economy, and foreign affairs, just to mention a few. For example, Masiero (2000) and Domjahn (2013) pointed out the socio-cultural aspects of the Korean development, such as the contribution of the Confucian set of values in the Korean society.

That said, development should be understood as a byproduct of the sum of formal and informal institutions with historical context. This equation is unique to each country, which is why emulating someone else's trajectory is not a recipe to success. Historical and social values are very hard (if possible) to reproduce, so formal institutions are the most "replicable" element in the development equation. And that is the focus of this Report. Understanding the role of formal institutions in the South Korean development could shed some light on strategies that other countries could adopt.

To that aim, this Report will go over the developmental trajectory from Brazil and South Korea. To do that it shall offer an overview on their main developmental plans and some of the most pertinent sectoral economic policies in order to allow us to try to understand the importance from each of them. On the following section we will briefly examine each country major efforts to direct its developmental strategy toward the global value chains. The last section will be dedicated to an analysis from a comparative perspective, in which we aim to put 'side-by-side' some of the historical contexts and policy decisions that had shaped the trajectory from Brazil and South Korea.

ECONOMIC DEVELOPMENT AND GLOBAL VALUE CHAIN INSERTION:

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01

DEVELOPMENTAL AXIS

DEVELOPMENTAL AXIS

SOUTH KOREAN SECTION

Historical Context

South Korea's history as a country started in the wake of the Cold War, just after Japan's defeat in the East Asia front of the Second Great War and the division of the Korean Peninsula along the 38th Parallel. After the division, the Southern part was occupied by the United States, which became a guarantor of the new South Korea.

The first landmark event in this stage was the Korean War, which began when the North Korea – supported by the Soviet Union – invaded the Southern part of the peninsula seeking its reintegration. Soon after the invasion and almost destruction of the Southern capital, Seoul, the US led a United Nations sanctioned mission to aid South Koreans. The war proceeded until 1953, when both sides signed a Cease Fire Agreement that not only ended the hostilities, but also defined the border between the two Korean countries back in the 38th Parallel.

From this point, South Korea effectively started its march to development. After a predatory rule from Japan and two wars in a short period of time, the country came out very poor and nearly destroyed. By the time the armistice was signed, the South Korean gross national product (GNP) was about US$ two billion, and the GNP per capita was only US$ 134 (Yoo, 2008). Despite the massive amount of resources poured by the US in the form of aid for South Korea, it took almost a decade before its economic and social indicators started to show a consistent improvement.

In the 1950s, the Southern Korean economy was based in agriculture, and its incipient industry was mostly focused on textiles. During the Japanese colonial rule, South Koreans benefited quite little from the Japanese development strategy for the Korean Peninsula, as nearly all industries belonged to Japanese firms. Before the Second Great War, Koreans owned roughly 1.5% of the industrial capital. After independence, the Koreans "inherited" all the Japanese assets and properties. The government retained most of public utilities (communication, transportation, electric power, etc.) and sold or "handed over" (transfers made at bargain prices, way below the market price) business facilities to the private sector, nearly inexistent until that point (Chung, 2007).

This movement was conducted under the Divestiture of Enemy Property (1947) and the Repatriated Property Liquidation Law (1949) which was pivotal for the private capital formation in the country. According to Chung (2007), the repatriation policies were key to enable the private sector to rapidly escalate and meet the demands for the country's reconstruction and development in a relatively short period. In fact, by the end of the 1960s, when the divestiture polices ended, roughly 75% of the business capital in South Korea were in the private sector, which was a central player in the country's development strategy.

With Rhee Syngman (1948 to 1960), ROK's first president, the country underwent a very turbulent period. Anti-communist and pro-American stances resulted in a strong political repression that persecuted and killed hundreds of suspected communists. A second political event that marked the period was the already mentioned Korean War.

TABLE 1: **SOUTH KOREAN PRESIDENT LIST**

PRESIDENT	TERM OF OFFICE	SEASON
Rhee Syngman	1948-1960	First Republic
Yun Bo-Seon	1960-1962	Second Republic
Park Chung-Hee	1963-1979	Third Republic / Fourth Republic
Choi Kyu-Hah	1979-1980	Fourth Republic
Chun Doo-hwan	1980-1988	Fourth Republic / Fifth Republic
Roh Tae Woo	1988-1993	Sixth Republic
Kim Young-sam	1993-1998	Sixth Republic
Kim Dae-Jung	1998-2003	Sixth Republic
Roh Moo-hyun	2003-2008	Sixth Republic
Lee Myung-bak	2008-2013	Sixth Republic
Park Geun-hye	2013-2017	Sixth Republic
Moon Jae-in	2017 - present	Sixth Republic

Source: Original table by the author

Despite the political turbulence, two major developments laid the foundations for the ROK's economic growth (Masiero, 2000). The first was the expansion of education. Under Rhee's government (1948-1960), the enrollment in the primary and secondary school became mandatory, increasing the percentage of the population in schools. In addition, education policies fostered the enrollment of students in higher education – increasing the number of students in universities by tenfold between 1945 and 1960 (Seth, 2017) – and strongly stimulated exchange programs. Given their close political ties, most South Korean students went to United States to acquire world class education, especially in the fields of science, engineering, public administration, education, and economics.

Those education policies were key to create the best-educated workforce in developing countries by that time (Seth, 2017). The exchange programs had a particular positive impact in the formation of a body of public technocrats, who helped design the plans for the ROK's economic development.

The second major development was the Land Reform. Until 1940, landowners were considered one of the most powerful groups in Korea, as they drew considerable wealth and political power from their extensive properties. By mid-1940s, only 3% of landowners owned 64% of the land, and merely 14% of farmers owned their own farms (Masiero, 2000).

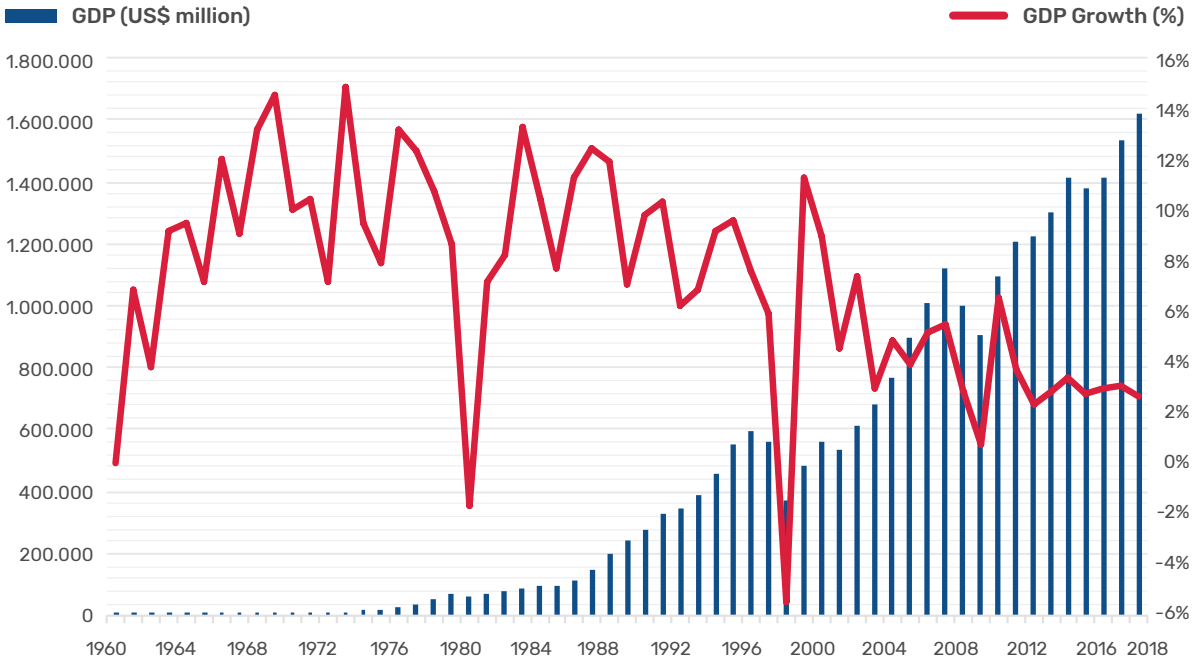
THOSE EDUCATION POLICIES WERE KEY TO CREATE THE BEST-EDUCATED WORKFORCE IN DEVELOPING COUNTRIES BY THAT TIME.

The Land Reform of 1949/50 caused a major impact on this structure. The reform determined that the government would limit the size of proprieties and buy the rest through Land Bonds. The government then would have sold the land to farmers at a fixed price of 150% of the average value of the annual crop. The reform succeeded in distributing land: it weakened a powerful player (landowners) and brought stability to the countryside. By the end of the 1950s, 6% of the greatest landowners had 18% of proprieties, and over 80% of the farming population owned their farms (Chung, 2007; Seth, 2017.)

The government had also a parallel objective with the Land Reform. The Land Bonds used to compensate the original landowners had several restrictions to be redeemed, unless they used it to acquire former Japanese business. The core idea was to convert old landowners into businessmen and industrialists. Although some authors (for instance Chung, 2007) have questioned the effectivity of the reform in transforming landowners in entrepreneurs, the reform did manage to redirect capital from the countryside towards other sectors that played a significant role in the country reconstruction.

In 1960, as a result of the April Revolution, President Rhee resigned from power, bringing an end to the First Republic. The Second Republic was troubled from the beginning by an intense political instability and resulted in a military coup, which led to the autocratic Third Republic.

GRAPHIC 1: **SOUTH KOREAN GDP EVOLUTION BY VALUE AND GROWTH (1960-2018)**



Source: Original graphic with data from World Bank

General Park Chung-hee governed the Korean Third Republic from 1963 to 1972. The literature considers it was the starting point of the Korean "economic miracle." Under the motto "Development First, Unification Later", President Park pushed forward major developmental policies, which resulted in the Korean fast growth. His most important movements were the following:

REORIENTATION OF THE ECONOMY

Between the 1930s and the 1970s, one of the most popular policies toward industrialization in developing countries was import substitution. And South Korea under President Rhee was not different. Under President Park, the import substitution changed to an export-oriented industrialization approach, which came to be one of the hallmarks of the South Korean development model.

INDUSTRY-ORIENTED AND SECTORAL FOCUS

Although President Rhee had concerns about building a strong private business, it was under President Park that this issue became the cornerstone of the economic policy. His strategy was focusing most of the country's resources in key sectors – more specifically in the industry. This movement allowed some national champions to escalate, become competitive, and positively affect the country's economy.

BUREAUCRACY PROFESSIONALIZATION

The public bureaucracy underwent an important restructuration under President Park. The bureaucracy reform established good salaries, benefits, and security for the civil service. It also determined competitive examination to enter the public career and a promotion scheme based on merit. The bureaucracy reform managed to transform the public service and creating a body of highly qualified public officers, who were responsible for the planning and execution of the country's development policies.

GOVERNMENT AND BUSINESS RELATIONSHIP

Initially, president Park conducted a significant campaign against corruption that targeted especially the illicit relationship between business and government. This campaign led to the prison and fining of leading executives. However, this crackdown was short-lived, and soon the government became closer to business leaders. The newly established partnership between the government and the business elite was consolidated with the creation of the Promotion Committee for Economic Reconstruction, which allowed the participation of the private sector in advising the government on its development and economic policies.

ECONOMIC PLANNING BOARD (EPB)

Created under the regime of President Park, the EPB was directly responsible for the government's planning, economic management, and budgeting. It conducted the Five-Year Economic Plans and strongly coordinated the other ministries. The power of the EPB was clear in the status of its head as Deputy Prime Minister.

From the international perspective, South Korea normalized its relationship with Japan, which enable the influx of Japanese funds (in the form of loans and compensation for the colonial era), which were key to finance the developmental effort.

In 1967, President Park managed to be reelected to a second term, which was the constitutional limit. In 1969, a constitutional amendment was introduced in the National Assembly to allow President Park to run for a third term. In light of these events, major public demonstrations erupted. In 1971 president Park was reelected to a third term, but the public dissatisfaction reflected in the parliamentary elections: the opposition got a big win and even had the numbers to pass a constitutional amendment.

The international environment was not very favorable for President Park, since the Nixon's doctrine lowered the tension with USSR. Since the Park regime was based on the fight against communism, the president had to find a new justification. He released a communiqué indicating the reunification with North Korea to diverse the attention and soon after declared martial law, dissolving the National Assembly and suspending the constitution.

President Park inaugurated the Fourth Republic (1972-1979) by adopting a new constitution, which gave the president wide powers, allowing him to control both the Congress and the Judiciary branch and end the limit of reelections (permitting him to stay in the presidency indeterminably).

Encouraged by the success of the first and second Five-Year Plans, president Park launched the third and fourth plans, deepening the industrialization process and driving the economy to exports.

The Fourth Republic was a continuous political turmoil. As part of the new constitution, the government also placed the educational guidelines under its supervision and even intervened in the content of textbooks to support the government's ideology. The public unrest with those moves grew larger in number and in scope. By 1979 mass demonstrations spread across the country, and President Park was assassinated.

The Fifth Republic (1979-1987) also started amidst confusion. After President Park died, the Prime Minister, Choi Kyu-hah, took office, but he only managed to stay six days, because Major General Chun Doo-hwan removed him from office and took the presidency. President Chung's arrival to office also prompted massive public demonstrations, which were faced with violence. The highlight of the crackdown on the protests was the Gwangju Massacre, in which nearly 200 people died and over 800 were injured. Soon after the coup, a new constitution was enacted, and Major General Chung was conducted to the presidency trough an indirect election.

President Chung oversaw the continuation of the Five-Year Plans by closing the fourth and pushing forward the fifth and sixth plans. The plans managed to keep the industrialization process on track and the economy growing steadily. The rapid growth, nonetheless, had a strong impact on inequality: it widened the gap between rich and poor, especially between urban and rural areas.

In 1985 the opposition won the National Assembly elections by gaining more seats than the government party. By 1987, public demonstrations grew stronger against the military regime. At first, the government gave signs that it would budge, but in June the government's presidential nominee for the elections, Roh Tae-woo, announced that direct elections would take place, and civil rights would be restored.

The 1987 direct elections inaugurated the Sixth Republic, which persists until today. Roh Tae-woo (1988-1993) won the elections despite his military background and participation in the Fifth

Republic. President Roh implemented a number of social reforms to conduct a transition from the authoritarian regime to a new democratic moment. President Roh established relations with the Soviet Union and East European countries and strengthened ties with North Korea, under his new plan for reunification.

Economically, the growth process slowed down. Some of the new reforms, specially relating to the fortification of labor unions and increase in wages, reduced the competitiveness of the South Korean industry. In addition, the increase in the price of commodities took a toll in industries' budget, reducing the exports to stagnation.

After the "Development Plans Era," the government engaged in a policy transition. On one hand, this change reduced its grip on the economy and reduced its support for the chaebols, focusing on small and medium businesses. On the other hand, the new developmental strategy moved away from heavy industries and low-skilled manufacturing production to concentrate on knowledge economy and more innovative sectors.

The 1992 election led the first civilian president to power since 1962: President Kim Young-sam (1993-1998). President Kim accepted a popular demand and charged former presidents Chung and Roh with several corruption activities and the Gwangju Massacre. He also carried out important financial and economic reforms and joined the OECD (Organization for Economic Cooperation and Development) in 1996. By the end of his term, the country was engulfed in the 1997 Asian Financial Crisis.

In the context of the financial crisis, the opposition won the 1987 presidential election. President Kim Dae-jung's (1998-2003) first challenge was to take the country out of the financial crisis. For that purpose, he sought to secure foreign investment and funds and worked with the industrial sector to sail out of the crisis, which the country managed to do in a relatively short period.

President Kim also tried to revamp the industrial sector, aiming to reconstruct the chaebols, to develop a national pension system, and to carry out an educational reform. In the international arena, he launched the "Sunshine Policy" to reconcile with the North Korea, an effort that granted him the Nobel Peace Prize in 2000.

The fourth president of the Sixth Republic was President Roh Moon-hyun (2003-2008). President Roh took office under promises to empower the civil society and tackle corruption, especially between politicians and businessmen, and to promote long-term market-based reforms.

However, in 2004 he was indicted of corruption by the National Assembly, which initiated an impeachment process. His reforms also scratched his popularity, especially with the labor unions, which allowed the opposition to gain ground in the parliamentary elections and resulted in a discontinuation of President Roh's reforms. As the impeachment process did not take place, President Roh finished his term.

Winning the 2007 election, President Lee Myung-bak (2008-2013) oriented his presidency by the "Creative Pragmatism" motto. His idea was to revitalize the economy, enhance the social welfare, reinsert the country in the international arena, and reconstruct the diplomatic ties weakened by his predecessor. His presidency had a difficult start because of political controversies and the 2007-2008 Financial Crisis. To tackle both challenges, President Lee reorganize his cabinet to deal with political issues, implemented an administrative and industrial reform and began to negotiate a Free Trade Agreement with the USA.

In 2013, after winning the 2012 election, President Park Geun-hye (2013-2017) took office as the first woman to achieve the presidency. From 2013 to 2016, the government emphasized the creative economy. It launched the "Three-Year Plan for Economic Innovation" in 2014, which resulted in the creation of the Center for Creative Economy and Innovation. This effort continued in the following years in the form of the government's R&D Innovation Plan (2016) and the Future Growth Engine Comprehensive Action Plan (2016), which determined the main strategies to promote new knowledge-based industries. These initiatives aimed to develop a set of actions to enhance the country's standing in this new scenario. Among others, the government sought to call for more international investment and joint research to create a robust ecosystem that could support technological development and innovation.

President Park's term staged a series of political scandals of corruption and ended up with her impeachment in 2017.

In 2017 President Moon Jae-in (2017) assumed the presidency. The major highlight of his term has been his attempts to reconcile with North Korea by means of a series of summits between both leaders.

ECONOMIC PLANNING BOARD

Founded in 1961 the Economic Planning Board (EPB) was an agency responsible for undertaking the economic development policies manifested in the five-year development plans. The EPB was in charge of defining economic plans, managing the government's budget allocation, and attracting foreign capital. The central role of this department stood out when, in 1963, the head of the EPB also accumulated the position of Deputy Prime Minister, which symbolically and officially raised the board's prestige, allowing it to coordinate a vast range of economic policies related to economic development. This proposal created a 'development superministry', who superimposed other core economic departments, such as Commerce, Treasury, Agriculture, Transportation, and even some competences of the Financial Ministry, such as the power to encourage and approve incentives to foreign direct investments. Aside from its core task of establishing and implementing the development policies, the cabinet was responsible for designating specific projects to other ministries, auditing the loans provided to borrowing firms, and analyzing the domestic and international economic trends through the support of private and state-owned economic institutes, such as Korean Development Institute (KDI). The increasing complexity of the Korean economic, the social contexts and the increasing skepticism of a government-led economic approach, prompted criticism against the excessive control of the EPB over the matters of other ministries. This pressure resulted in the abolition and subsequent fusion of the EPB with the Ministry of Finance, creating the Ministry of Finance and Economy in 1994.

Major Developmental Plans

As mentioned before, the period under President Park administration marked a profound shift in South Korea's strategy and goals of development policy. The new military government, and its subsequent leaders, carried out a developmental strategy in the format of a series of Five-Year Economic Plans. Those plans aimed to create and maintain an accelerated and sustainable growth through goals of economic expansion. However, even though the Five-Year Plans "proposed" goals relatively broad in scope – such as poverty reduction and improvement of the quality of life –, they ended up neglecting, to a certain degree, those "lateral" intents to emphasize economic developmental goals (Chung, 2007).

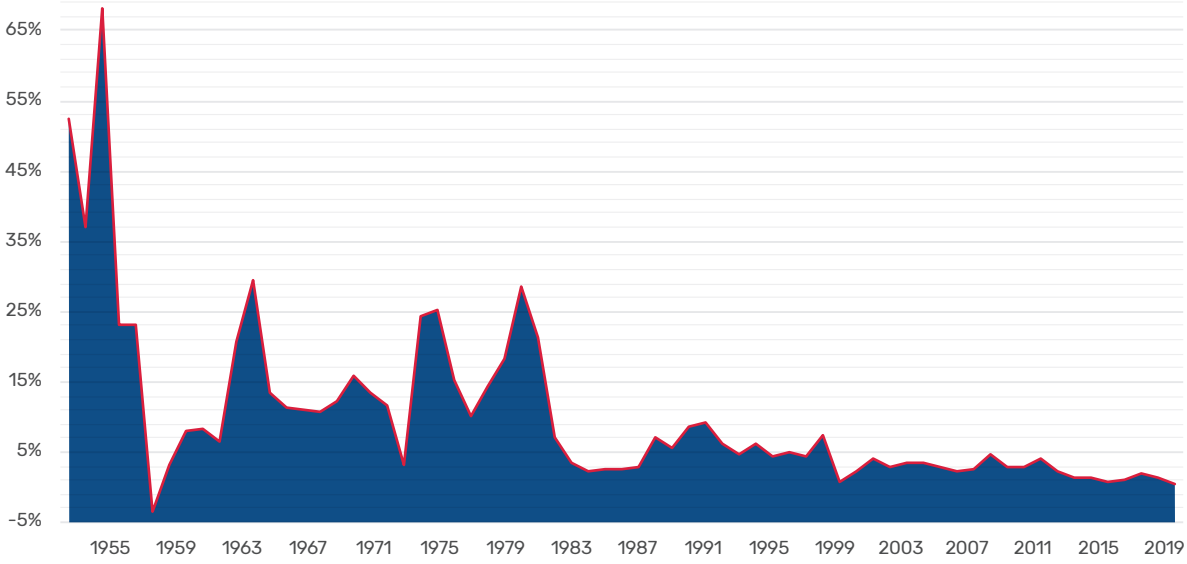
FIVE-YEAR ECONOMIC PLANS

The Five-Year Economic Plans were economic development plans implemented and led by the South Korean government, from 1962 to 1996. The core elements of all the seven economic plans were the development of the Korean economy through the incentive of creation and subsequent modernization of the Korean industry. The Economic Planning Board designed each framework for action in close contact with chaebol leaders, who helped draft the economic areas and goals of the industrial expansion. To achieve the plans' objectives, the government formulated a wide set of policies to foster the development of the country, mainly through industrialization. The plan also went beyond the economic sector and heavily invested in horizontal policies, such as education, innovation and infrastructure. This approach characterized the Korean economy as a 'guided capitalism', with some freedom to conduct a business, as a consequence of the direct and indirect top-down government management in a few sectors of the economy.

While certain sectors of economy concentrated efforts and resources, other areas were neglected. Social policies, such as income distribution and social welfare, were only mildly implemented, and collateral externalities that resulted from the plans' policies, such as high inflation and income concentration, were not dealt properly, at least not until the 1980s (Yoo, 2008).

Despite the criticism and some early skepticism – especially from American advisors, who thought that those plans were unrealistic –, the Five-Year Plans exceeded their expectations regarding economic growth (Seth, 2017). Their success could be measured by the average GDP growth: for instance, the first two Five-Year Plans had a target of 7% growth on average, but the first plan reached an actual growth of 8.5%, and the second plan, 9.7%.

GRAPHIC 2: **SOUTH KOREAN INFLATION RATE TRAJECTORY (1953-2019)**



Source: Original Chart with data from OECD, Korean Statistical Information Service and World Bank

DESPITE THE CRITICISM AND SOME EARLY SKEPTICISM – ESPECIALLY FROM AMERICAN ADVISORS, WHO THOUGHT THAT THOSE PLANS WERE UNREALISTIC –, THE FIVE-YEAR PLANS EXCEEDED THEIR EXPECTATIONS REGARDING ECONOMIC GROWTH.

FIRST FIVE-YEAR PLAN (1962-1966)

The main objective of the first Five-Year Plan was to transform the South Korean economy, which relied heavily on agriculture and textiles until then.

The government intended to convert South Korea into an industrialized country. Among its major objectives, the plan sought to 1. build the base of an industrial infrastructure, focusing on specific industries, such as energy, oil refining, fertilizers, synthetic fibers, and cement; 2. build infrastructure; 3. mobilize capital; 4. improve the balance of payments; and 5. invest in technology (especially that related to privileged sectors in the plan).

The first plan, as the subsequent ones, focused on a series of reforms, which covered a set of different policies, such as fiscal, monetary, industrial, foreign trade, among others, which will be addressed below. These profound reforms had a shared goal determined by the plans. This convergence allowed the policies to reinforce themselves in order to gain efficiency. Probably one of the fundamental elements that helped harmonize and converge these policies was the centralization of the planning under the Economic Planning Board and its role as a coordinator among the other ministries.

SECOND FIVE-YEAR PLAN (1967-1971)

The second plan was built upon the first, and it aimed to modernize the country's industrial structure. Here the government focused on industries that would guarantee its autonomy, such as food production, fishery, and forestry.

In parallel, there were heavy investments in industries to replace some imports; steel, chemicals, and machinery gained especial attention. Along with the industrial policy's objectives, the plan had also other priorities, for example, job creation, family planning (population control), promotion of technology, and increase in productivity. It continued the government's efforts to improve the balance of payments and tried to tackle the high inflation resulted from the first plan.

THIRD FIVE-YEAR PLAN (1972-1976)

The third Five-Year Plan marked an important trend, which became a hallmark of the South Korean economy.

This plan had two major objectives: the first was to foster an export-led economy, and the second was to promote heavy industries. Once again, a set of industries gained particular attention: iron & steel, non-ferrous metals, machinery, chemical, shipbuilding, and electronics. This plan particularly focused on the capital formation of these industries, seeking to diminish or even eliminate the foreign capital dependence. To reach this goal, the plan enacted a number of policies to facilitate/promote a rapid growth in a restricted number of companies in those industries.

The third plan also focused on mitigating some asymmetries that the previous plans did not properly address, such as development centralization. To do so, the government directed the construction of its new industries in the Southern regions of the country to improve the economy of less developed regions (especially through job creation).

FOURTH FIVE-YEAR PLAN (1977-1981)

The fourth Five-Year Plan deepened the major directives of the previous one. In line with the export-led efforts, the fourth plan aimed to strengthen national champions and make them internationally competitive – they ought to compete with the global leaders in their industries.

For this purpose, the plan singled out, from the traditional privileged industries (heavy industries, metal, steel, chemicals, etc.), a number of segments that were now considered strategic: machinery, shipbuilding, and electronics, which shared important features, such as reliance on high technology and need of qualified labor.

The 1970s were a complex decade, especially its final years, due to the world recession and the oil crisis. Those events also took a toll on the South Korean economy. Despite the impact, the government managed to keep its overall goal in place, while it enacted several policies to counter the negative effects of the crisis. It sought to mitigate especially the inflation, the imbalance of payments, and the production cost of its leading exporters. The government also created Special Economic Zones (to support exports) and General Trading Companies to expand South Korean exports in global markets.

Domestic problems also affected the period covered by the fourth Five-Year Plan. In 1979 the assassination of President Park led to a brief period of political instability. Soon after his death, his Prime Minister, Choi Kyu-Há, ascended to the presidency. His term short-lived because, a military coup removed him from power in 1980 and placed General Chun Doo Hwan in the presidency, who established the South Korean Fifth Republic.

President Chun (1980 to 1988) implemented significant political reforms. He introduced several democratic elements, such as fixed mandates for presidents and the guarantee of certain civil rights (privacy in communications, prohibition of torture, among others).

In 1983, the Japanese Prime Minister, Nakasone Yasuhiro, visited South Korea. In this occasion, President Chung managed to secure a significant aid package: a low-interest loan that represented almost 13% of South Korea's net external debt, which was important to finance the next Five-Year Plan.

FIFTH FIVE-YEAR PLAN (1982-1986)

The fifth Five-Year Plan marked a significant reorientation of the South Korean economy.

Although the government maintained its focus on exports (especially to revert the country's continuous deficit and to counter the mounting external debt), it shifted its attention from heavy industries to technology-intensive industries, such as electronics, precision machinery, and information. The emphasis here was to foster the production of high-technology products and durable goods, which had an increasing demand worldwide and a higher aggregate value.

SIXTH FIVE-YEAR PLAN (1987-1991)

The sixth Five-Year Plan had basically the same development goals of its predecessor, but it also presented a major change in the logic of the South Korean economy.

The sixth plan was marked by liberalization reforms, which aimed to limit the government intervention in the economy. Its major policies and reforms included a large deregulation effort, the liberalization of the exchange rate and financial markets, the reduction of public subsidies, monetary control, and the privatization of State-owned companies. These policies were part of a larger goal to increase companies' efficiency and, therefore, their competitiveness in global markets. The sixth plan also maintained the focus on technology-intensive industries and its heavy investments on technology.

Political instabilities also marked the beginning of the sixth plan. By 1987 the country witnessed a series of protests asking for further democratization reforms, better living standards, and reduction of income inequalities. The direct outcome of those events was a direct presidential election in 1987, which was won by Roh Tae Woo (who belonged to the ruling party), stablishing the current Sixth Republic of Korea. President Roh's (1988-1993) major promises were related to land proprieties, financial transactions, and decentralization of the major business conglomerates.

SEVENTH FIVE-YEAR PLAN (1992-1996)

The seventh Five-Year Plan's main goals were to enhance the public administration and the living standards of the population.

The plan aimed to modernize the education sector, renovate public transportation, expand the country's infrastructure, increase the efficiency of the public administration, and support small and medium enterprises (SMEs). The seventh plan short-lived though. In 1993, it was substituted for a new plan.

NEW SOCIAL DEVELOPMENT PLAN (1993-1997)

Soon after taking office, the newly elected (in 1992) President Kim Young Sam (1993-1998), discontinued the seventh Five-Year Plan and implemented his New Social Development Plan.

The new plan was born under the assumption that South Korea was in transition to become a developed country. At this point, the GDP per capita was significantly rising over the past decades and was on its way to achieve the level of developed countries. Therefore, the new plan aimed to deepen some of the policies proposed in the seventh plan regarding the reform of public finances and administration, and the fight against corruption. It also focused on improving the standard of living and preparing the country for a possible reunification with North Korea.

Sectoral Policies Overview

Industrial Policies

Soon after the Second World War and the Korean War, one of the major objectives of the Korean leadership was to rebuild the country, especially its economy. As mentioned before, by that time, the basis of the Korean economy was agricultural and the majority of its incipient industry was dedicated to textiles. As many developing countries, South Korea followed the industrialization path for its economic modernization plan. For that purpose, likewise most of its peers, the country adopted the "import substitution" approach.

The import substitution approach had at least two major objectives: to foster industrialization and to reduce the dependence of imports, which had considerably affected the country's balance of payments (Chung, 2007). The South Korean import substitution policy relied on a considerably high protective tariff wall, import quotas, and permit systems (restricting or even banning the imports of given goods). The policy targeted specific sectors: metals, chemicals, and machinery. By investing in those sectors, the country aimed to gain relative autonomy in the production of most basic goods.

Industrialization by import substitution played an important role during the first two Five-Year Plans; the government sought to expand its domestic industry. The transition of the second Five-Year Plan to the third Five-Year Plan meant an import shift on South Korea's strategy. The continuous focus on heavy and chemical industries did not allow the government to abandon completely the import substitution mode, but, from now on, its grand strategy aimed to promote the export industry.

This aggressive turn meant that the government would now focus nearly all its attention on the development of a strong and very competitive export industry. The government established an environment of strong protection and regulations and issued a set of supporting policies to foster the nascent sector (Yoo, 2008). The new plan followed the previous logic, by focusing on a small group of industries: steel, non-ferrous metals, industrial machinery, shipbuilding, petrochemicals, and electronics. In fact, the "restriction" of the government supporting policies went beyond the assistance to only a few sectors; the bulk of the government support was allocated for a group of selected companies (from the previous mentioned sectors) (Amsden, 1989).

This selectiveness in the South Korean economic development policy relied on a very important aspect of the Korean industrial policy: the national champions approach and the government's relation to business. As we will see later on, the principle of national champions was pivotal for the Korean strategy. The chaebols were massive firms that rocketed growth throughout the decades with a heavy support of government policies (Kim, 1991).

CHAEBOLS

Chaebol is the name given to South Korea's big conglomerate groups with a central role in the Korean economy and society. They are a collective of formally independent companies in different industries, generally owned and ruled by a single family. Although a few chaebols originated during the Japanese colonization period, most of them appeared after the Second World War, within Syngman Rhee's (1948-1960) and Park Chung Hee's government (1963-1979). The common element of both administrations, which enabled the development of the conglomerates, was the close relationship between the government and the private sector. This connection began in the 1950s, when the govern sold, at a very low price, former Japanese properties and industries to a few families, along with the formulation of policies to protect the early industries and to allocate the foreign aid, allowing them to form capital fast. This *modus operandi* deepened with the development of the Five-Year Plans in Chung Hee's administration and the government acquisition of the bank system. In addition, it allowed the discretionary allocation of credit to the companies that followed the administration's development guidelines and had an elevated efficiency rate. The incentive provided to entrepreneurial and pioneer firms stimulated the chaebols to diversify their participation in the economy, mainly because the money provided by the government reduced the risk of such investments.

The export-led policies had two important aspects. The first was the establishment of a comprehensive array of measures to support the targeted industries, as we will see in the following topics. The second was meritocracy; as export policies were generally performance-based, only best-performing companies were eligible to apply to certain government programs (concessional loans, tax cuts, permits, licenses, etc.). The meritocracy approach also allowed the government to play a central role in planning the economy: it encouraged/convinced companies to enter in new risky industries by rewarding them with licenses and permits to other highly lucrative sectors. At the same time, the government was in a position to discipline companies by penalizing bad performers, limiting their access to governmental policies, and even refusing to provide bailout in case of bankruptcy (Amsden, 1989).

The strong public support of the Korean industrial policy permeated the first five Five-Year Plans. By the late 1980s, during the sixth Five-Year Plan, the government changed directions and started to reduce its support to specific industries. This liberalization process marked a shift from the selective approach (which even resulted in the suspension of the selective industrial promotion laws) to a more comprehensive set of horizontal policies, which aimed to expand labor training and R&D for all industries – with a specific focus on small and medium companies (Chung, 2007).

This new approach resulted in the Industrial Development Law (and its subsequent laws), which substituted the promotional laws. The major innovation of this shift was the rationalization programs. They were "custom-designed to the needs of individual industries and aimed at providing temporary boosts to industries that need import substitution, capacity upgrading and improvement in international competitiveness, on the one hand, and temporary protection to declining industries that need a smooth phasing-out, on the other hand." (Chang, 1996, p. 114)

The turn of the century witnessed an acceleration of the ongoing transition in the South Korean economy. On one hand, it meant a strong push toward liberalization, strongly supported by the proliferation of Free Trade Agreements and the new slogan of "Global Korea"; on the other hand, it meant a strong support to the information technology industry and other new technologies,

such as biotechnology, nanotechnology, environment technology, space technology, and cultural technology. To that end, the government directed a number of policies and funds to basic and applied research and to R&D activities. Currently, South Korean ranks among the top investors in R&D among the OECD members, marking a new era in the South Korean Economy.

An important element of the course of the Korean industrial policies was the political institutional design that produced and managed the developmental policies. The centerpiece was the Economic Planning Board. Established in the early 1960s, during the military regime, it was the coordinating center amidst the other related ministries. In fact, the EBP minister also accumulated the Deputy Prime Minister position, which guaranteed a higher status. The EPB had under its responsibilities the development of the economic plans, the supervision of the government annual budget allocation, and the task of attracting foreign resources. Its ascendency over the other ministries was largely considered as a key positive lesson from the "Korean economic miracle," because it provided a central authority to determine policy priorities and budget allocation, thus curbing possible (and quite common in other countries) power struggles between ministries and limiting the influence of competing economic elites (Han, 2014). The EPB functioned until 1994, when it merged with the Ministry of Finance, resulting in the Ministry of Finance and Economy. This new structure short-lived, because soon after the 1997 economic crises, it was dismembered to avoid an overconcentration of economic decisions under one ministry. The current Ministry of Economy and Finance managed to regain some of the planning and budget supervision.

Foreign Trade Policies

Access to foreign exchange has been an important obstacle for the South Korean economy, especially for its nascent industry, which needed to import capital goods and foreign technology. By the 1950s and 1960s, the major source of foreign capital was the US foreign aid. Foreign loans and foreign direct investment for different purposes, as we will see later, were not a major source of foreign currency.

Against this backdrop, the South Korean's strategy was twofold. First, it bet on the import substitution approach, in order to diminish its dependence on certain capital goods for its new industry. Second, the government started to move nearly all its weight to the export industries (Kim, 1991), by designing a large array of policies to foster exports. These policies ranged from direct and indirect incentives in taxation, licensing, financing, public guarantees and insurances, external promotion, among others.

Apparently the most effective measure was the interest subsidies to the export industry. The group of industries covered by the selective promotion laws had access to heavily subsidized loans. The credit to fund their activities came generally through a number of specialized institutions, such as the Korea Development Bank, the Export-Import Bank, the Technology Development Corporation, and the National Investment Fund.

Another important effort taken to foster the export industry was the creation of the Korea Trade Promotion Corporation. It functioned as an "intelligence" agency for trade, providing information about global markets, organizing trading missions, and providing services to export

companies. This initiative was supported also by the establishment of trading companies, which were agencies specialized in export promotion. Trading companies quickly built a complex, wide commercial network across the globe, aiding South Korean exporting companies to penetrate many foreign markets.

If on the exports front the government offered its full support, on the import side it took a dual approach. Generally, to protect the domestic industry, the government exerted a tight control on imports. It enacted a number of policies that determined quotas, and even banned certain products, and imposed considerable high tariffs to imports. At the same time, the government fostered the imports of a selected group of goods. To execute the industrialization plan, the country sorely needed to import raw materials, capital, and intermediate goods. Therefore, to incentive the exports industry, the government determined a group of measures that facilitated the access of those "strategic" raw materials and goods: it elaborated a positive list system with a number of products that would be eligible to have its license "automatically approved" and/or have tariff reduction or exemption. Some industries could also take out loans on soft terms to acquire certain goods necessary to their processes.

However, this dual approach to imports was short-lived. Upon the South Korean entry in the GATT (General Agreement on Tariffs and Trade) in 1967, the country suffered a lot of pressure to abandon its restrictive approach to most imports, and in the early 1970s, it began to ease its restrictions. From the late 1980s onwards, South Korea started to implement a more liberal policy agenda, and the protection policies to its industry lost their strength. The fact that by the 1990s the country began to generate trade surplus also favored this shift (Baumann, 2002).

After the 1997 economic crisis, the South Korean government reintroduced several export incentives. Those particular incentives were more focused on the technology industry and on companies located in the Special Economic Zones. But despite this move, another event caused a profound transformation in the Korean economy: the profusion of Regional Trade Agreements in Asia, which affected even the mindset of the Korean policymakers.

In that context, South Korea changed nearly completely its approach toward foreign trade. Especially during President Roh Moon-Hyun's government (2003-2008), the country began to pursue Free Trade Agreements (both regionally and globally) as a strategy to push its exports (Kim, 2004). Until that point, the South Korean government had reservations in engaging in Regional Trade Agreements, mainly because it believed that they could harm the country's multilateral trade efforts.

This new phase of the South Korean foreign trade also meant an interesting change in its profile. During the 20th century, Korea's main trading partners were developed nations, but since the 2000s the share of the developing world has drastically increased, as the proliferation of Regional Trade Agreements indicates (Kim, 2004).

TABLE 2: SOUTH KOREAN TRADE AGREEMENTS

PARTNER(S)	PROCESS	CURRENT STATUS
	FREE TRADE AGREEMENT	
Chile	Signed in October 2003 / Last reunion for Update Agreement in June 2019	In force since April 2004 / Update Agreement currently under revision
Singapore	Signed in August 2008	In force since March 2006
EFTA	Signed in December 2005	In force since September 2006
ASEAN	Trade in Goods - Signed in August 2006	In force since June 2006
	Trade in Services - Signed in November 2007	In force since May 2009
	Investments - Signed in June 2009	In force since September 2009
India	Signed in August 2009/ Last reunion for Update Agreement in June 2019	In force since January 2010 / Update Agreement currently under revision
Gulf Cooperation Council (GCC)	Third Roud of Negotiation in 2009	Suspended
European Union (EU)	Signed in October 2010	In force since December 2015
Peru	Basic Agreement Signed in Mach 2011	In force since August 2011
	Trade in Goods - Signed in August 2012	In force since May 2013
	Trade in Services and Investments - Signed in May 2015	In force since August 2018
United States	Signed for the first time in June 2007 / Renegotiated version signed in September 2018	In force since January 2019
Turkey	Signed in August 2012	In force since May 2013
Australia	Signed in April 2014	In force since December 2014
Colombia	Signed in February 2013	In force since July 2016
Canada	Signed in September 2014	In force since January 2015
New Zeland	Signed in March 2015	In force since December 2015
Vietnam	Signed in May 2015	In force since December 2015
China	Signed in June 2015	In force since December 2015
Ecuador	5th Negotiation Round in November 2016	Under Negotiation
Eurasian Economic Union (EAEU)	Establishment of a joint working group for FTA in September 2017	Under Negotiation
Central America	Nicarágua - Signed in February 2018	Partially in force since October 2019
	Panama - Signed in February 2018	In force since 2019
	Costa Rica - Signed in February 2018	Partially in force since November 2019
	Honduras - Signed in February 2018	Partially in force since October 2019
	El salvador - Signed in February 2018	Partially in force since January 2020
China - Japan	15th negotiation in April 2019	Under Negotiation
Mercosur	3rd negotiation in July 2019	Under Negotiation
Israel	Conclusion of Negotiations in August 2019	Ratification Process
Russia	3rd negociation in January 2020	Under Negotiation
United Kingdom	Signed a Continuity Free Trade Agreement in August 2019	Ratification Process
RCEP *	28th negotiation in September 2019	Under Negotiation
MERCOSUR	5th negocitation in March 2020	
Philippines	5th negotiation in January 2020	Under Negotiation
Malysia	3rd negotiation in September 2019	Under Negotiation
Pacific Alliance (PA)	Agreement Update negotiations since May 2018	Under Revision
India	7th negotiation in May 2020	Under Negotiation
	PREFERENCIAL TRADE AGREEMENTS	
Indonesia (Preferencial Trade Agreement)	9th negotiation in August 2019	Under Negotiation

* Regional Comprehensive Economic Partnership = ASEAN countries + China, Japan, India, Australia and New Zeland.

Sources: Korea Ministry of Foreign Affairs; Invest Korea.

Foreign Exchange Policies

In its early days, the South Korean government maintained foreign exchange under a tight control due to its considerable scarcity and limited sources. Trading foreign exchange was prohibited, unless if it was for approved business purposes. The government also controlled the access to foreign loans – which were offered only to good performing companies from selected industries – and foreign direct investment – which suffered a number of limitations according to industries (Chang, 1996).

During the import substitution phase, the government managed to keep the Korean Won considerably over-valued, which benefited the imports but impaired the nascent export industries' competitiveness. Until the 1960s, the government practiced several foreign exchange rate systems as a tool to support its promotion policies.

With the new military government in the early 1960s, the strategy changed. In 1961, the artificial hold on the Won was relaxed toward market levels. Also, the government made an effort to abandon the multiple exchange rate system towards a unitary approach, which short-lived, because of the reduced influx of foreign exchange from the American aid. This reduction resulted in a considerable deficit in the balance of payments, which required the government to reintroduce, in 1963, the multiple exchange rate system. This return served once again as a support to promotion policies, but this time to favor the export industries, which benefited from lower rates (Chung, 2007).

In 1965, the government slowly began to lose its grip on the exchange rate towards market levels and tried to reconsolidate the unitary system. This "transition" lasted until 1981, when the government abandoned entirely its control over the exchange rate and opened the market to free competition. In the following years, it also relaxed and abandoned several other foreign exchange regulations that monitored transactions and still imposed some restrictions. Although the foreign exchange was largely used as a tool in the South Korean economic promotion policy, its real impact, especially on imports, was considered weak or irrelevant (Amsden, 1989). On the contrary, its liberation may have fostered the competitiveness of the domestic business and contributed to the Korean new trade agreement phase (Chung, 2007).

Monetary and Lending Policies

Soon after the beginning of the South Korean military regime, most of banks were nationalized. While having a tight control of the Bank of Korea (the central bank), the new regime enacted a rule that established the government as the largest shareholder of nearly all private banks (Yoo, 2008).

This move was a defining moment for the South Korean development process, since the selective and subsided loans were the most powerful tool for the Korean policy (Amsden, 1989; Chang, 1996; Yoo, 2008).

Managing the interest rates became a central piece of the South Korean development policy. The recently nationalized banks began their new phase with a complex challenge: How to raise enough capital to fund the government's development effort? The government then created a combined approach. First it borrowed capital from abroad – the government even acted as guarantor of some of these operations to mitigate the risks of default and exchange rate volatility. In parallel, it determined a high commercial interest rate (around 1965), which mobilized capital by stimulating savings and curbing high inflation rates. At the same time, the government created a number of instruments to channel those funds at considerably low interest rates to a number of industries, which were the great, famous **Policy Loans**. Besides all the nationalized banks, the government established a number of institutions that worked as "development banks" to operate those loans.

The importance of policy loans was in their rate of discount vis-à-vis commercial interest rates. By 1965, "when commercial interest rates reached 26%, export enterprises financed as much as 78% of their operating budgets from bank loans at 6.5%" (Kim, 1991).

POLICY LOANS

Policy Loans were selective government loans provided to strategic industries and companies during the implementation of the Five-Year Plans with the aim to expand production facilities and to purchase equipment needed to export activities, enhancing companies' competitiveness in the domestic and international markets. These loans were characterized by a large amount of money in transference (between 1977 and 1980, South Korea allocated 50.2% of all domestic credit in these procedures), a high degree of selectivity of firms, and the provision of preferential interest rates much lower than those practiced in the ordinary market. This strategy of government investments had its heyday during the 1970s, when the government focused on developing the heavy and chemical industries (HCIs) to construct the backbone of a modern economy and stimulate exports. The direct consequence was the appearance of new chaebols and their expansions, which concentrated the majority of the policy loans and could diversify their industries, gaining market share in new industries. This policy remained as the main driver of the Korean economy until the 1980s, when the process of financial liberalization reduced the government control over the allocation of credit and changed the pattern of investments, evidenced by the increase in loans extended to small and medium enterprises (SMEs) and the decrease to large companies.

During the 1970s, in parallel with the decrease in the foreign aid, the South Korean government created the National Investment Fund (NIF). The NIF aimed to provide resources for those industries/companies that needed a continuous flow of cheap capital to fund their expansion, since commercial loans would hinder their competitiveness. The NIF, in contrast with the Policy Loan scheme – which mostly aimed to assist export industries –, focused on supporting heavy and chemical industries, which were considered the fundamental base for the expansion of the industrialization project.

Those schemes endured until the 1980s, when some of the nationalized banks were privatized, and the government loosened its grip on interest rates in theory. The government also took steps to unite and liberalize interest rates, especially to ease the significant financial burden provoked by the preferential loans (Chung, 2007). Nonetheless, according to some authors, the effect of privatizations was limited, at best. According to Chang (1996), the governmental control over the central bank and the existing lending structure to high-borrowing large companies did not leave much room for the new private banks to "innovate" in this area.

Fiscal Policies

The fiscal policy was one of the major parts of the South Korean developmental policy. Despite its importance, it was an auxiliary measure in the lending policies. In the beginning, the tax system was relatively fragile, because of the economic fluctuations of the 1940s, 1950s, and 1960s and the incipient domestic capital market. Throughout the decades, the South Korean tax system underwent significant changes, especially regarding the legislation that fostered the domestic industry and exports.

Taxes were also an instrument to promote select industries through specific legislation, such as the Tax Incentives Law, the Tariff Law, and the Government Budget and Accounting Law, which allowed several industries to pay lower taxes, get investment tax credit, exempt part of their ordinary depreciation of taxes (for industries with more than 50% of their revenue based on foreign exchange), and access several production inputs and capital goods.

This large array of policy tools aimed to foster some industries, or even companies, as long as they performed well according to the government's metrics. It means that the fiscal policy was also used as a "disciplinary tool" to punish bad performers – which lost their significant tax benefits if they did not achieve the government's objectives.

Major tax reforms only took place in the late 1980s and early 1990s. Their first move was to try to combat land speculation (which was a significant issue in South Korea) and later on to reorganize the taxation logic – a system that supported a relatively low tax rate by broadening its tax base. Despite the reform, the corporate tax remained at a considerable low rate to increase its competitiveness toward the global market. (Yoo, 2000)

The tax system went through a second period of transformations in the wake of the 1997 financial crisis. This phase promoted a wide financial restructuring (since debt, especially owned by chaebols, was one of the main root causes of the crisis) in the business and financial industry. The reforms also hit many recently enacted tax breaks and exemptions, since the government had to increase even further its tax base to meet the crisis obligations (to increase social benefits spending and to reduce revenues). Another interesting change was the Foreign Investment Promotion Act, approved in 1998. It aimed to attract foreign direct investment (FDI), which was heavily regulated until the crisis.

Following the crisis period, the tax system has not suffered majors reforms, with the exception of the Comprehensive Real Estate Holding Tax, imposed by Roh Moon-hyun's government (2003-2008), and the Small Government and Tax Cuts policy by Lee's government (2008-2013), which reduced the individual and corporate tax rate in order to decrease the tax burden (Jeong, 2015).

Foreign Direct Investment Policies

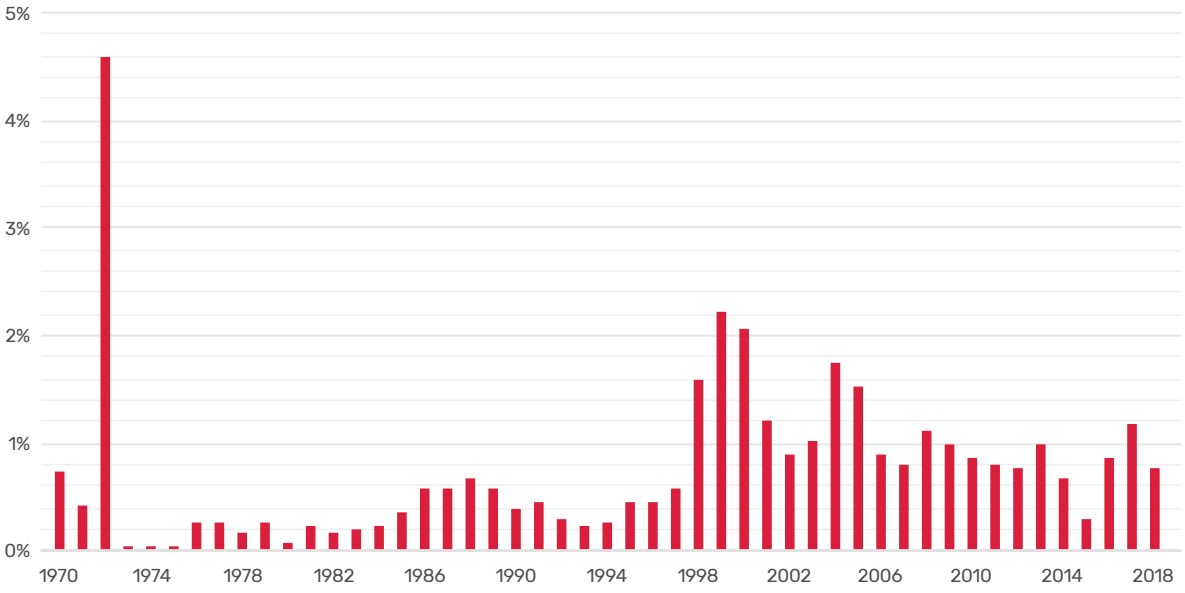
Despite some government efforts and incentives in the early 1960s to attract FDI, it was always a field of major government intervention. The government generally considered FDI an instrument to bring and assimilate new technologies to South Korean companies. But, at the time, the government kept a tight grip on FDI usage.

FDI was basically targeted to selected companies in the manufacturing industries. To enter the country, it generally had to be related to technology transfer and include certain options, such as equity participation in technology transfer, technical services, management consultancies, licensing, engineering data, among others (Chung, 2007). The government also designed many constraints to allow ownership of most Korean companies by foreign capital, except for a few companies located in the Special Economic Zones.

FDI is not widely considered a major force in the South Korean development miracle. Most of the foreign capital that arrived in South Korea came through foreign aid and then via foreign loans, both of them via government or at least under its strict supervision. This tendency contrasted with most developing countries, which heavily relied in FDI for their developmental strategies, such as Brazil, Mexico, and India. As an example, in South Korea between 1962 and 1983 FDI accounted for around 5% of the total foreign capital inflow (Chang, 1996).

This reality changed by the end of the 1980s and especially after the 1997 economic crisis, when the government tried to deregulate the field and enacted the Foreign Investment Promotion Act to facilitate the entry of foreign capital in the South Korean economy, which has remained to date.

GRAPHIC 3: **SOUTH KOREAN FOREIGN DIRECT INVESTMENT, NET INFLOWS FROM 1970 TO 2018 (% OF GDP)**



Source: Original Chart with data from World Bank

Foreign loans were one of the main sources of capital investment for the South Korean development trajectory, especially regarding the country's industrialization process. During the first decades, domestic savings were quite limited, combined with the restrictions to FDI and with the diminishing volume of foreign aid in the 1970s (although concessional soft loans were very important during the 1960s); thus, foreign loans started to increase their participation among sources of investment.

Considering that domestic loans were expensive and scarce (particularly if not covered by the promotion policies), many companies went abroad to find more favorable conditions of credit. This tendency, especially during the 1970s and 1980s, resulted in a huge accumulation of debt, which peaked at nearly 50% of the GDP in 1985 – placing South Korea as the fourth biggest debt holder among developing countries and putting a significant pressure on the country's economy (Chung, 2007).

South Korea's main lenders were the United States, Japan, West Germany, the World Bank, the Asian Development Bank, the International Economic Cooperative Council, among other countries and institutions. The foreign loans were divided in public and commercial loans. Public loans were in general concessional loans with considerably variable interest rates, length of time and terms – ranging from very favorable soft loans to hard loans closer to the international market standards. Public loans were mostly directed to social expenditures and promotion policies – especially industrial projects and capital goods, raw materials, and input purchases.

Commercial loans, in turn, were used for commercial transactions and practiced in market format (non-concessional terms). Although generally used by companies (borrowing from foreign, public or private sources), the South Korean government exerted a tight control on this type of loan. The Foreign Capital Inducement Promotion Act (from 1960) regulated foreign loans contracted by private companies by creating conditions to determine which companies or projects qualified and were eligible to access those funds. Later on, the government loosened its grip on foreign loans. However, since the 1990s the government has discouraged unnecessary foreign loans in order to avoid budget vulnerability, especially since the 1997 crisis (Chung, 2007).

FOREIGN AID

From 1945 to 1971 foreign aid was a major source of investment and foreign capital in South Korea. The foreign aid influx started soon after the end of World War II, with a vast amount of resources coming from the US to assist the country in the beginning. As Young-Iob Chung (2007) argued, foreign aid directed to South Korea had three phases.

The first phase consisted in the relief aid and lasted between 1945 and 1952. The resources received within this period came in the form of grants and aimed to provide food, medicines, clothes and other basic goods. The second phase consisted in the reconstruction aid, which covered the period from 1953 to 1961. These resources assisted in the reconstruction of a war-torn country. Large-scale programs were carried out to provide the South Koreans with commodity imports, which ranged from agricultural products to fertilizers and oil products. The amount of resources was so significant that it accounted for roughly 15% of the South Korean GDP in the period. Regarding the format of the assistance, once again the bulk of resources came as grants and, in a smaller amount, as soft loans.

The third phase was the development aid, which occurred between 1962 and 1971. The considerable growth observed in South Korea during the 1960s led North Americans and South Koreans to the conclusion that the foreign aid had to be redirected to address the new scenario. Therefore, instead of receiving grant packages for relief and reconstruction purposes, the foreign aid was converted to aid loans (which were mostly soft loans at first, but over time the conditions of interests and methods of repayment "hardened") to assist the expansion of the industrial sector. The resources acquired with foreign loans financed mostly raw materials and intermediate goods required by manufacturers.

This massive influx of foreign capital did not mean a huge financial burden to the economy, because most of the foreign aid, nearly 80%, was in the format of grants and soft loans; only a small amount comprised harder loans (Chung, 2007). This situation differs from that of most developing countries in the period, which also did manage to access concessional loans as aid, but generally not with such favorable conditions.

The absolute majority of foreign resources received by South Korea came from the United States. It had a very important role in the investment in the country: together with the domestic savings, it formed basically the only source of investment in the country during the first couple of decades.

DEVELOPMENTAL AXIS

BRAZILIAN SECTION

Historical Context

By many standards, the history of development and industrialization in Brazil began in the 1930s. Before that, the country underwent a period of economic crisis and political unrest. Brazil became a Republic in 1889, after a coup that exiled the Imperial family and established a Constitutional Republic. Between 1889 and 1930, the country was mostly ruled by a sequence of presidents coming from two states, São Paulo and Minas Gerais.

Despite the apparent stability, dozens of localized insurrection movements took place in the country in this period. All of them were controlled by the central government, and their recurrence served to increase the political pressure, which culminated in the 1930 Revolution. A provisory government then paved the way for the leader of the 1930 Revolution to secure power until 1945.

Before the 1930s, the Brazilian economy was mainly based on agricultural and mineral exports, and coffee was the flagship product. Therefore, most of the economic policies were destined to support this export drive. After 1930, growth became more inward-oriented. This period was driven by expansionist monetary and fiscal policies, increments in credit policies, and a harsh control on imports (Pinheiro, 2004). Another significant change concerned the foreign exchange control. Until that period, the main aim of the foreign exchange control was to deal with the servicing of foreign debt. The government created a monopoly on foreign exchange in Banco do Brazil (the national bank), which would receive all export revenues. Additionally, Brazil had several exchange rates, which were applied to different industries, products, and even actors.

The Second World War initially put the country in a difficult situation, since it practically lost its major export markets and access to foreign capital. Later on, after another set of expansionary fiscal, monetary and credit policies, the economy regained momentum. Economic policies began to prioritize the industrialization effort, and the governments[1] of the 1940s began to use foreign exchange to increment the competitiveness of the Brazilian business. Import licenses and incentives to FDI in industries complemented the Brazilian set of policies directed to foster the industrialization in the country.

1. President Getulio Vargas stepped down in 1945 and gave way to elections, which Eurico Gaspar Dutra won. Dutra remained in power between 1946 and 1950, when Getulio Vargas returned to power through the 1949 elections.

During the 1940s, several important organizations were founded, such as the Brazilian Air Force, the National Oil Council, the Vale do Rio Doce mining company and several large hydroelectric power plants. Moreover, the government pushed forward important policy innovations, such as establishing minimum wages and consolidating the Labor Laws, the Labor Justice Court, and the Criminal Code.

These two waves of policies, in the 1930s and 1940s, aimed to develop and strengthen the Brazilian nascent industry and inaugurated the import substitution model in Brazil. It was the beginning of the developmental state and could be considered the "pre-industrialization period" of the country. The country began to explore this array of economic policies to foster the national industry only in the late 1940s (Malan, Bonelli, et al., 1980). However, despite this initial effort, the industrialization occurred in a rather disconnected and unarticulated fashion. Only in the 1950s the government began its developmental drive focusing on industrialization.

Despite rising to power via elections, the second Getulio Vargas's government was far from stable. He suffered enormous pressure, which resulted in his suicide. However, his developmental drive did not end with his unfinished term. The next elected president, Juscelino Kubitschek, doubled down on this strategy and gave body to an ambitious plan, the *Plano de Metas*, which considerably boosted the economy.

Before going further, some considerations are in order. The shift in the orientation of the economy, from an agricultural export-led model to an inward industrialization developmental model, has affected several new social dynamics. First, the birth rate sharply increased. In 1950, Brazil had a little more than 50 million inhabitants. This figure jumped to over 110 million in the 1980, and over 190 million in 2010. Second, millions of workers left the countryside and the agro economy

TABLE 3: **BRAZILIAN PRESIDENT LIST**

PRESIDENT	TERM OF OFFICE	SEASON
Getúlio Vargas	1930-1945	The Vargas Era
Eurico Gaspar Dutra	1946-1951	Fourth Republic
Getúlio Vargas	1951-1954	Fourth Republic
João Café Filho	1954-1955	Fourth Republic
Nereu Ramos	1955-1956	Fourth Republic
Juscelino Kubitschek	1956-1961	Fourth Republic
Jânio da Silva Quadros	1961-1961	Fourth Republic
João Goulart	1961-1964	Fourth Republic
Castello Branco	1964-1967	Militar Regime
Artur da Costa e Silva	1967-1969	Militar Regime
Emílio Garrastazu Médici	1969-1974	Militar Regime
Ernesto Beckmann Geisel	1974-1979	Militar Regime
João Baptista Figueiredo	1979-1985	Militar Regime
José Sarney de Araújo Costa	1985-1990	New Republic
Fernando Collor de Mello	1990-1992	New Republic
Itamar Augusto Cautiero Franco	1992-1995	New Republic
Fernando Henrique Cardoso	1995-2003	New Republic
Luiz Inácio Lula da Silva	2003-2011	New Republic
Dilma Rousseff	2011-2016	New Republic
Michel Temer	2016-2019	New Republic
Jair Messias Bolsonaro	2019 - present	New Republic

Source: Original table by the author

to go to the cities and work in the nascent industry, urbanizing the country. In the 1950s, the occupation rate in the agricultural sector was about 60%, and it dropped to 30% in the 1980s and to nearly 18% in 2008 (IBGE, historical statistics). These two phenomena combined resulted in a continuous and large flow of workers.

In the first half of the 1960s, Brazil was engulfed in a political e economic crisis. Elected in the 1960 elections, President Janio Quadros took office, replacing President Juscelino Kubitccheck. Quadros's term was particularly short. He resigned in only seven months. In his place, the Vice President João Goulart took office. Goulart was a left-leaning representative of the Brazilian Labor Party and was seem with great suspicion by the military, because he represented a "communist threat".

During this period, Brazil was also in a delicate economic situation. In the early 1960s, the policies enacted in the 1950s lost momentum, and growth decreased significantly. Inflation accelerated, reaching 100% between 1963 and 1964, and the balance of payments had a substantial deficit. This context resulted in a brief shift in the trajectory of the economic strategy. Succeeding the Plano de Metas by President Kubitschek, President Goulart launched his Social and Economic Development Three-Year-Plan. Although it conserved a developmental ethos, it focused more deeply on controlling the public deficit, the inflation, and the foreign investment, proposing a fiscal reform and increasing the state control over the economy.

In March 1964, Goulart's government met its end. A number of events culminated in a military coup: two demonstrations by low-ranking soldiers of the Armed Forces (which Goulart failed to punish, angering high-ranking officers), a large public demonstration in support of Goulart and his ambitious policies, his attempt to enact a Land Reform, and his harsh rhetoric. The military's main argument was that they were preventing a communist coup that was being prepared by the president himself with the support of insubordinate low-ranking soldiers and other left-wing forces.

THE SHIFT IN THE ORIENTATION OF THE ECONOMY, FROM AN AGRICULTURAL EXPORT-LED MODEL TO AN INWARD INDUSTRIALIZATION DEVELOPMENTAL MODEL, HAS AFFECTED SEVERAL NEW SOCIAL DYNAMICS.

The military rule in Brazil lasted from 1964 to 1985. In this period, the country had five presidents, all of them generals chosen by indirect vote – either by the Congress or Electoral Colleges. The country underwent deep political changes and entered a continuous environment of political unrest. The period was also marked by an intense centralization of power and radicalization towards opposition. The Constitution changed in 1967 to further institutionalize the new regime, the political parties were banned (except for two, which had authorization to function), and the Congress was closed for nearly a year between 1968 and 1969. The political unrest was characterized by several left-wing armed groups and large popular demonstrations, which concentrated on demanding the end of the military regime.

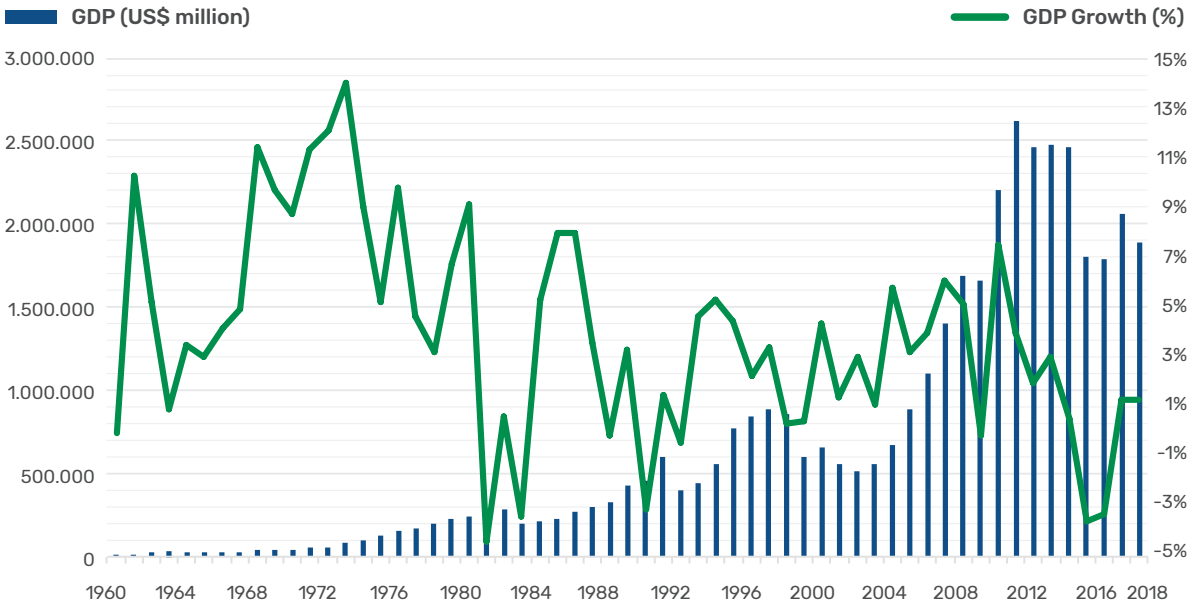
Despite the political rupture of the 1964 military coup, it "corrected" the developmental strategy trajectory. By that, we mean the military governments doubled down on the developmental bet and used it as the main drive towards their growth strategy. This period staged a number of reforms, development plans, and policy innovations that resulted in a significant boost in the industrialization process and a rapid growth.

The first period of the military regime was under General Castelo Branco (1964-1967). His government attempted to defeat the economic crisis, especially inflation and the fiscal deficit, and set the stage to resume the growth of the 1950s. The government's strategy was laid out in the Government Economic Action Plan[2], which resulted in a number of measures, such as the creation of parafiscal funds (FGTS and PIS-Pasep), in order to finance future development initiatives.

Some of the highlights of the first years of the military regime are the following: a comprehensive tax reform, which resulted in a significant increase in revenues (the tax burden decreased from 15% of the GDP in 1950 to 25% by the late 1960s); a reform in the financial system, which created a number of specialized agencies and introduced monetary mechanisms, such as monetary correction, to control and reduce the inflation; and the creation of several important State-owned enterprises to channel investments into strategic sectors – Telebras (telecommunications), Eletrobras (electric power) and Housing National Bank (construction), for example.

By the end of the 1960s, the inflation and the fiscal deficit were reasonably under control, and the following governments under the military regime continued to pursue a rapid growth strategy – clearly present in the subsequent development plans (Strategic Plan for Development[3] and National Plan for Development I and II[4]). A key element of the plans was capital formation. To build Brazil's capacity to invest heavily in infrastructure and industrialization, the government relied on the fiscal expansion of its reform, expanded credit (short through the new specialized financing agencies, and long through national development banks), enacted incentives and subsidies, and contracted large sums of foreign debt. These measures combined resulted in an explosion of public and private investment in the Brazilian economy, but the government was not always very selective in terms of sectoral priorities, according to some experts (Suzigan et al., 1974).

GRAPHIC 4: **BRAZILIAN GDP EVOLUTION BY VALUE AND GROWTH (1960-2018)**



Source: Original Chart with data from World Bank

2. Plano de Ação Econômica do Governo (PAEG).
3. Plano Estratégico de Desenvolvimento.
4. Plano Nacional de Desenvolvimento I e II.

Two events in the 1970s severely affected the development plans of military governments: the first (1973) and second (1979) Oil Shocks. By that time, Brazil was heavily dependent on oil exports, and this dependence grew rapidly due to the country's fast growth since the 1930s. The impacts of the first shock was mitigated by foreign debt, especially due to a substantial liquidity in the international markets. The second shock had a harder impact because it combined with the US's decision to raise interests and the international liquidity drought. These two events resulted in a considerable foreign debt, an increase in the foreign trade deficit, and pressure on inflation and on the exchange rate.

The 1980s started with an economic crisis and increasing tensions in the Brazilian society, which demanded the end of the military regime. This context put the government in a delicate situation, especially regarding the International Monetary Fund (IMF), which began to demand a harsh package of economic adjustment known as the **Washington Consensus**. The debt crisis and the IMF's demands halted the economic growth, and the developmental trend saw its last decade. Due to the small growth in the period, the 1980s became known as the "lost decade."

THE WASHINGTON CONSENSUS

The end of the Cold War were marked by the expansion of neo-liberal principles around the world. In this scenario, the Washington Consensus was an international recommendation developed in late 1980s that contained a set of economic principles and measures aimed at overcoming the socio-economic crisis in developing countries, especially in Latin America. The reform package consisted of adopting the following measures:

- Economic openness: which consisted in significantly reducing protectionism and promoting a greater opening for the entry of foreign investment, in addition to increasing imports and exports by reducing tariffs, increasing specialization, reducing prices and expanding the international circulations of goods and services;
- Fiscal austerity: which means a greater efficiency in public accounts, with debt control and reduced government spending, mass employee cuts, and outsourcing of services;
- Privatization policy: aiming to minimize the State's participation in the economy and to increase competitiveness and efficiency in commercial and infrastructure areas;
- Tax reform: in which the government should adjust its tax collection system, reducing the taxes of large companies in order to enable profit increases and competitiveness gains;
- Progressive deregulation of economic control and labor laws: that is, a simplification of government rules and bureaucracies in banking operations, with financial flexibility, and in labor market forces, letting employers and employees negotiate their job relations

It was stipulated that countries refusing to comply with these standards would have great difficulties in receiving new loans and economic cooperation from the United States, the IMF and the World Bank, which made adherence to neo-liberal principles a prerequisite for receiving aid and international investment.

From the political perspective, the 1980s presented an important development. Since the mid-1970s, the military government declared their intention to start a slow transition to democracy. This trend gained traction in the last military administration, under General Figueiredo, which lifted the restriction on political parties, reverted the exile policy, and set the stage for the transition to a civil government after the 1984 indirect elections. In 1985, Jose Sarney[5] took office as the first civil president after the military rule. A second important political development in the 1980s was the constitutional process that resulted in the 1988 Constitution, which replaced the previous one, designed by the military regime in 1967 and effectively restored the democratic regime.

From the economic perspective, the 1980s saw a considerable shift in the government's economic strategy. To comply with the adjustment policy, the government drastically reduced public investment and spending, abandoned the import substitution approach and the industrialization drive, and began to focus on the trade balance deficit, the mounting debt, and the spiraling inflation, which reached over 1000% in the late 1980s.

An interesting way to illustrate this point of inflexion is by observing the nature of the economic plans implemented before and after the 1980s. From the 1950s to the 1980s, nearly all economic plans had a developmental drive, aimed to accelerate growth, and focused on heavy infrastructure investments and industrialization. From the 1980s to 1994, all economic plans had a macroeconomic stabilization spirit, focusing on cutting spending, reverting the trade deficit, and above all controlling the hyperinflation. Several stabilization plans were implemented between 1986 and 1994 with little success. During this period, public and private investments plunged, and, despite the monetary correction, the population lost purchase power due to the inflation.

FROM THE 1950s TO THE 1980s, NEARLY ALL ECONOMIC PLANS HAD A DEVELOPMENTAL DRIVE, AIMED TO ACCELERATE GROWTH, AND FOCUSED ON HEAVY INFRASTRUCTURE INVESTMENTS AND INDUSTRIALIZATION. FROM THE 1980s TO 1994, ALL ECONOMIC PLANS HAD A MACROECONOMIC STABILIZATION SPIRIT, FOCUSING ON CUTTING SPENDING, REVERTING THE TRADE DEFICIT, AND ABOVE ALL CONTROLLING THE HYPERINFLATION.

An important development of this period was the commercial opening and the economic integration. In 1991, the Brazilian government, together with its Argentinian, Paraguayan and Uruguayan partners, signed the Treaty of Asunción, originating the **Mercosur** Economic Bloc, which functioned as a common market to substantially increase the trade flows among its partners. In parallel, the role of the State in economy significantly reduced. Brazilian governments lifted restrictions to foreign trade, slashed subsidies, and reduced fiscal and financial incentives to the national industry. Those policies were in accordance with the adjustment policy defended by the IMF and foreign creditors.

Most of this process took place in the beginning of the 1990s, which also saw a political turmoil. Succeeding President Sarney, Fernando Collor took office in 1990, after winning the 1989 elections, the first direct election since the end of the military rule. President Collor's term was

5. Tancredo Neves won the 1984 indirect presidential elections, but due to health complications, he was not able to attend his inauguration ceremony. Mr. Neves died weeks later, so Jose Sarney, his Vice President, took office.

short, though. In 1992, he underwent an impeachment process due to corruption schemes and was removed from office. President Collor's Vice President, Itamar Franco, assumed soon after to complete the term.

During his short term, President Franco pushed forward an economic plan, the ***Plano Real***, in 1994, which finally managed to quell the hyperinflation and brought stability to the Brazilian economy. In the same year, the second direct presidential election after the military rule elected Fernando Henrique Cardoso. As former President Franco's former Finance Minister, he took advantage of the success of *Plano Real* to win. President Cardoso stayed in power from 1995 to 2003, serving two terms[6].

THE REAL PLAN

The Real Plan was a successful economic plan that managed to end Brazil's hyperinflation. The plan was implemented in 1994 by the Itamar Franco government. Since the late 1980s, Brazil had been experiencing an economic crisis which was marked by a spiral increase in inflation. Several plans prior to the Real failed the attempt to control it - all of them attempted to contain inflation by artificially freezing prices, which only increased people's rush to consume in an attempt to protect themselves against price spikes after 'price defreezing', forcing further price increases. The government confiscation of savings and wage restraint during the Collor Plan also severely damaged the country's economy, resulting in the bankruptcy of several companies. The poorest sections of the population were particularly affected by the crisis, as they had no way of protecting themselves against hyperinflation, further increasing socioeconomic inequality in the country in this period.

The devaluation was so abrupt that the currency had to be changed several times, including the Cruzado (1986), Cruzado Novo (1989), Cruzeiro (1990) and Cruzeiro Real (1993) before the Real became the official Brazilian currency in July 1994. Without using price freezing mechanisms, the Real Plan was implemented in three stages:

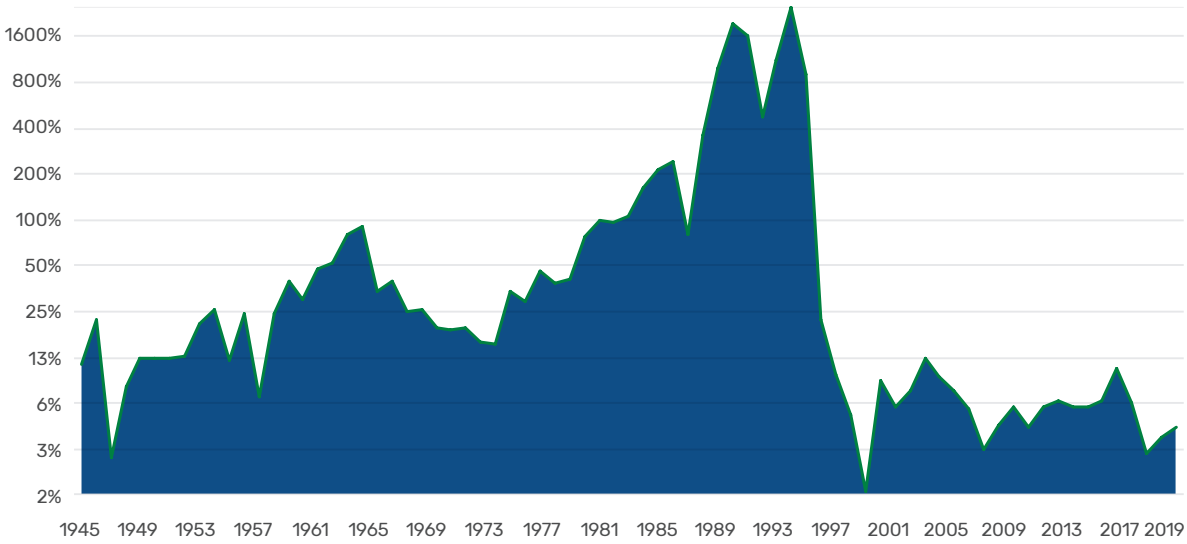
i. Immediate Action Program (PAI), which consisted of the fiscal adjustment of the economy. In this phase, there was a big cut in government spending and investments in order to reach the primary surplus, that is, obtain a level of revenue that is higher than the expenditures;

ii. Implementation of the Real Value Unit (URV), which consisted of the deindexation of the economy. In this phase, the government interrupted the currency adjustments based on the previous inflation and began adjusting the units in which commodity prices were measured (URV) based on the exchange rate of the previous day's commercial dollar, bringing an end to the vicious cycle of loss of purchasing power; and

iii. Launch of the Real monetary standard, which consisted of the inauguration of the current currency. In addition to these phases, other important tactics for stabilizing the Real Plan were the privatizations and economic opening that followed.

6. Originally, the 1988 Constitution did not contemplate the possibility of reelection for the executive branch. During his first term, President Cardoso manages to pass a constitutional reform, allowing him to serve a second consecutive term, which he manage to do, by winning the 1998 election.

GRAPHIC 5: **BRAZILIAN INFLATION RATE TRAJECTORY (1945-2019)***



* The y-axis of the chart is on a base 10 logarithmic scale.
Source: Original Chart with data from IPEA Data (Based on Fundação Getulio Vargas from 1945 to 1979, and on IBGE IPCA from 1980 to 2019).

Despite the Mexican Crisis in December 1994, the first years of Cardoso's government showed signs of economic recovery. It presented higher growth rates comparing with the previous period, although not as high as those of the "developmental years" – in the first Cardoso's term, the average growth rate was 3.3%, against 1.6% in the 1981-1994 period and 7.4% in the 1950-1980 period. Also during these first years, inflation continuously declined, although the balance of payments and the fiscal condition further deteriorated.

From a strategical perspective, President Cardoso, still pressured by the IMF and foreign creditors, maintained the adjustment agenda. He considerably pushed the privatization policy. Especially in his first term, he privatized State-owned companies in important industries (such as telecommunications and electric power distribution), opened highways to concessions to the private sector, and ended the monopoly on oil extraction.

During Cardoso's second term (1998-2003), the economic context worsened considerably due to a combination of domestic and foreign events. On the international level, the late 1990s saw a succession of crises: the Asian Financial Crisis, the Russian Crisis, and the Argentinian Crisis. The immediate effects of these crises included a reduction in the international liquidity and a significant capital withdrawal from emerging markets. This sequence of crises aggravated the situation in Brazil and demonstrated the fragility of the Brazilian economy towards external shocks.

The domestic context also experienced several difficulties. The government introduced several economic measures with an important impact on the future *modus operandi* of the Brazilian economy. First, it adopted a regime of "inflation targets." Taking into account several indicators, the Brazilian Central Bank (which became responsible for controlling the inflation) determined the inflation target for each year. To control the inflation, the government relied mainly on monetary policies, especially the interest rate. Second, the government adopted the transition of the fixed exchange rate regime to a floating regime. This transition generated a steady appreciation of the exchange rate until late 2002.

In the last couple of years of President Cardoso' second term, two unrelated events aggravated the economic context, increasing uncertainty. The first was the energy crisis. A combination

of poor weather conditions with lack of planning and investments caused energy shortage and blackouts in Brazil's major cities. This scenario resulted in energy rationing from mid-2001 through the beginning of 2002. The energy rationing had a deep impact on the economy and investments in 2001.

The second event was the 2002 elections and the uncertainty behind it. After three frustrated attempts, the left-wing candidate Luis Inácio Lula da Silva led the election pools. Due to his past radical positions, investors began to react to Lula's favoritism. The uncertainty behind Lula's policy, if elected, resulted in a sharp depreciation of the exchange rate and a spike in the inflation. In light of the events, Lula drafted a manifesto called "A Letter to Brazilians"[7], in which he pledged not to introduce any drastic policy changes, if elected. The manifesto had a positive effect, and he won the election.

The 21st century started with a stable scenario and a favorable economic environment. Between 2003 and 2008, a number of world events had a very positive impact on Brazil. Probably the main event was the commodities supercycle. The Chinese rapid growth and the consumption expansion in developed countries favored many developing countries, especially their mineral and agriculture commodities. Oil exporting countries were particularly favored by this context, as the record high oil prices strongly increased their revenues. At the time, Brazil was part of this group, since it became an oil exporting country after the discovery of the pre-salt oil reserves.

The commodities supercycle also affected many developing countries. This new context allowed most of them, Brazil included, to improve their balance of payments, reduce their trade deficits, and, in some cases, even balance their foreign debt. For Brazil, it was especially important because it allowed the country to not only pay its debt against the IMF, but also become a creditor due to its foreign reserves.

President Da Silva also served two terms. He stayed in office from 2003 to 2010. During most of his first term, he did followed through the promises in his manifesto and carried out an orthodox economic policy. His fiscal and monetary policies only shifted to an expansionist nature by 2005 and 2006 due to the necessity of public investment and the favorable international scenario. President Da Silva also relied on the interest rate as a mechanism to keep the inflation under control and to attract foreign investment.

An important highlight of this period was income distribution. At least since the late 1960s, the distribution of wealth had worsened. By that time, the military regime introduced a number of mechanisms to contain the rise in the inflation rate. Among other things, the mechanisms adopted to correct wages had an import contribution to the concentration of wealth (Bielschowsky and Mussi, 2013). During Da Silva's term, a number of policies had an impact on reducing this inequality. From enacting income distribution policies such as Bolsa Família to significantly expanding credit and to incrementing the minimum wage, President Da Silva established a new growth model driven by internal mass consumption.

The period under President Da Silva staged an important shift in the character of its growth model. The 1950s (and possibly the 1930s) followed a pattern of growth focused on the domestic market. It contrasts with the context observed during Da Silva's term. Since the crisis of the agro-export model in the 1920s, the Brazilian exports and imports rarely surpassed a double-digit growth rate until the 2000s. Since mid-2000s, exports and imports escalated rates between 20% and 30%.

This phenomenon represented an important change in behavior. According to Bielchowsky and Mussi (2013), market studies in the late 1990s indicated that businessmen from the industry sector

7. Carta aos brasileiros.

expected to make 80% of their business in the domestic market – therefore roughly 20% of their industrial investment was destined to exports. In the early 2000s, exports considerably expanded.

Despite the strong growth of the international trade in the Brazilian economy, it is hardly possible to determine that this trend is a result of a planned strategy; it seems more a reflection of the international context and the voracious Chinese demand. In addition, this context strongly affected the organization of the Brazilian economy. On one hand, the agribusiness sector represented the lion's share of exports and received investments and public incentives. On the other hand, the industry, despite its increasing representation in the export sector, faced several challenges due to the exchange rate appreciation, the high interest rate (used as a mechanism to control inflation), the competition with the Chinese manufacturing powerhouse, and the lack of competitiveness of the Brazilian economy (in terms of taxation, unskilled labor, poor infrastructure, lack of investment in innovation, among others). This situation led to the belief that Brazil could be facing a gradual deindustrialization process.

This overall positive scenario was struck hard by the 2007-2008 financial crisis. The crisis was an inflection point for the international economy. On one hand, it drastically reduced the international liquidity and limited the action of developed countries; on the other hand, the so-called emerging countries (Brazil included) managed to bounce back from the crisis considerably rapidly. In the Brazilian case, despite the GDP growth of -0.13% in 2009 because of the crisis, in 2010 and 2011 the GDP grew 7.53% and 3.97%, respectively. This "bouncing back" was supported heavily by the recovery of the commodities price, which remained high at least until 2014.

In the 2010 elections, Brazil met its first woman president. Ms. Dilma Rousseff, former minister of President Da Silva's government, won the vote strongly supported by the manner that the country exited the crisis. Following the example of her two predecessors, President Rousseff was reelected in 2014 for a second term, but her term ended prematurely by an impeachment process. During her first term, President Rousseff put in place a set of measures known as the New Economic Matrix (*Nova Matriz Econômica*). This initiative moved away from the economic paradigm initiated by President Cardoso, known as Macroeconomic Tripod (*Tripé Macroeconômico*), which relied on a floating exchange rate, an inflation target, and fiscal equilibrium.

President Rousseff' New Economic Matrix represented a strong intervention of the government in the economy, which included reducing the exchange rate, publicly intervening in the prices to control the inflation, increasing the public expenditure, expanding subsidies, and directing public investments to specific sectors.

After 2014, it is very difficult to analyze government plans and strategies for the development and economic growth. From 2014 to the present date, the country has been entangled in what this report calls a Crisis Supercycle, which has many features and has hindered the country's ability to find political and economic stability to reinitiate a planning process of recovery.

FROM 2014 TO THE PRESENT DATE, THE COUNTRY HAS BEEN ENTANGLED IN WHAT THIS REPORT CALLS A CRISIS SUPERCYCLE, WHICH HAS MANY FEATURES AND HAS HINDERED THE COUNTRY'S ABILITY TO FIND POLITICAL AND ECONOMIC STABILITY TO REINITIATE A PLANNING PROCESS OF RECOVERY.

The Crisis Supercycle began in 2014 with two crises. The first is the economic crisis. The level of importance of conditioning factors that caused the Brazilian 2014 economic crisis are still a matter of debate, but two major causes have been present in nearly all analyses: the failure of the New Economic Matrix and the sharp decline in the commodities prices. The economic crisis has been so intense that it resulted in an economic depression, as the GDP contracted 3.55% in 2015 and 3.28% in 2016.

A second crisis initiated in 2014 hardly hit economy: the legal crisis. The core of the legal crisis is a police operation led by the Brazilian Federal Police called Operation Car Wash, which has investigated a corruption scheme of money laundering and foreign exchange evasion. The investigation eventually led the policy to a huge bribe scheme centered in the giant Brazilian oil company, Petrobras, and implicated hundreds of politicians and most of the largest construction companies of the country. This policy operation gained such proportion that a number of other policy operations spread all over the country.

As a result, from the economic perspective, the Operation Car Wash heavily affected investments in entire economic chains, halted the construction sector, and provoked significant layoffs in the companies implicated and others that depended on their business. The estimated economic impact of the Operation Car Wash may have contracted the GDP in 2.5% in 2015 according to some consulting companies[8].

The sum of the economic crisis and the legal crisis led to a political crisis. In the background of the political crisis, there were the large popular demonstrations of 2013. At the time, hundreds of thousands of people went to the streets to protest about many different demands, but all of them complained about the country's political class. Even pressured by these demonstrations, President Rousseff managed to be reelected in 2013. Soon after the election, in early 2014, President Rousseff changed her rhetoric and admitted the fragility of the economy and the possibility of a crisis. She began her second term adopting austere measures to contain the mounting fiscal deficit, the increasing inflation, and the exchange rate escalation.

In parallel, the legal crisis represented a big toll on the President Rousseff's party and on the political parties that composed her political base. Former President Da Silva, also former mentor of President Rousseff, was severely affected by the investigations. The first effect of the political crisis for President Rousseff was the huge loss of support from both the population and her political base in the Congress. In this context, the Congress initiated a process of impeachment against President Rousseff, in 2015/2016, on the charges of mismanagement of public funds.

President Rousseff was removed from office in mid-2016, when her Vice President, Michel Temer, took office. The nature of the impeachment was a matter of great discussion, since considerable segments of the society have argued that President Rousseff suffered a "Legislative Coup". Political polarization remained plaguing the political debate and fueled the 2018 elections, which resulted in the victory of Jair Bolsonaro, a right-wing former military officer and congressman. The political polarization has persisted until the next crisis, the health crisis, centered on the COVID-19 pandemic.

8. Source: Valor Econômico – 15/08/2016. Avaliable at: https://www.valor.com.br/valor-investe/casa-das-caldeiras/4672327/o-efeito-da-lava-jato-no-pib-se-confirmou-diz-gesner-olivei

Major Economic Plans

The successive Brazilian governments have relied on their own economic plans throughout the period analyzed. That trend indicates that most of the plans either had a personalist approach, reflecting the president that enacted it, or had a reactive nature, aiming to react to a given crisis. This trend is also reinforced by the fact that the economic plans are rarely connected to each other, or are simply a consequence of the achievements of the preceding administration.

The trajectory of these economic plans begins with plans with a developmental nature, with several stabilization plans in between. The cycle of developmental plans ended in 1980 with the debt crisis, leading to the cycle of stabilization plans, which ended with the Real Plan in 1994. Since then, the succeeding administrations did not, or were unable to develop an overarching strategy to foster development, growth and the Brazilian insertion in the international economy.

SALTE PLAN (1950-1953)

Developed by President Dutra, the plan had four main pillars. It aimed at tackling some of the major socioeconomic problems: Health, Food, Transportation and Energy.

In the Health sector, the plan's objective was to increase the level of sanitation both in cities and in the countryside and combat the surge of endemic diseases. In the Food sector, the government focused on the facilitation of consumption and trade. To achieve this goal, the plan presented a number of subsidies and credit to food producers. The transportation sector had a chronic problem derived from the country's poor infrastructure. The plan was to target the expansion of highways and railways along with the modernization of ports. On the energy sector, the plan sought to diversify the energy matrix in order to reduce its vulnerability.

TARGET PLAN (1956-1960)

The Target Plan was the first comprehensive industrialization plan. It was put forward by President Juscelino Kubitcheck. The plan represented his motto, which stated that, under his term, Brazil would grow fifty years in five.

The Target Plan also meant a significant push in the industrialization substitution strategy. Its main objective was to foster industrialization in the country. To that end, the plan identified several sectors that were considered 'bottlenecks' limiting growth, namely: Transportation, Energy, Food, Education and Basic Industry.

To achieve its objectives, the plan established a number of targets for each sector covered by the plan and channeled heavy public investments into those sectors. Due to the small level of domestic savings, the government relied heavily on foreign investments, especially in the industrial sector. The Plan resulted in an important turning point for the industry in the country that would lay the foundations for future industrialization plans.

THREE-YEAR ECONOMIC AND SOCIAL DEVELOPMENT PLAN (1962-1964)

The Three-Year Plan was a reactive stabilization plan. Confronted by mounting inflation and increasing deficit, President Goulart launched the plan to control the inflation, refinance the foreign debt, reorganize public spending especially regarding social development policies and balance the public accounts.

The plan also had a social development nature, seeking to increase governmental action in sectors such as education and health and in rural areas. This last aspect aspired to implement a comprehensive land reform, which was the topic of intense controversy within the elite and in the military.

GOVERNMENT ECONOMIC ACTION PLAN (1964-1967)

Despite the developmental drive of the military regimes, the first plan sought to enact a number or reforms that could deal with the economic crisis and allow the industrialization process to resume.

To that end, the first military government, under General Castelo Branco, put forward a Tax Reform (through the optimization of the tax code, but also raising taxes, considerably increasing the government's revenues), a Financial Reform (creating a number of specialized agencies), and a Monetary Reform (creating the Brazilian Central Bank and the National Monetary Council to regulate the financial system and support monetary policies).

The plan also created a number of policy innovations, such as parafiscal funds (FGTS and PIS-PASEP) seeking to both flexibilize the labor market and generate savings in order to supply 'cheap money' for investments. Another policy innovation were the mechanisms to 'correct' the value of wages compared to the inflation.

STRATEGIC PROGRAM FOR DEVELOPMENT (1968-1970)

The second military president, General Costa e Silva, resumed the developmental drive and used his term to bring back incentives to the national industry.

For that, the government aimed to foster and modernize basic industries, especially in sectors such as steel, iron, chemicals and capital goods. It also tried to reorganize traditional strategic industries (energy, transports, telecommunications, etc.) and increase agricultural production.

Although President Costa e Silva followed the reforms enacted by his predecessor, he changed the way to deal with inflation. To balance the expansionist monetary policy, the government adopted price-freezing mechanisms to control the inflation.

FIRST NATIONAL DEVELOPMENT PLAN (1972-1974)

The plan launched by the third military president, General Emílio G. Médici, built upon his predecessor's plan and continued many of his initiatives. The motto behind the plan was that these plans would allow Brazil to become a developed country within one generation.

In line with the major initiatives of the Strategic Plan for Development, the First National Development Plan had a special focus on the naval, steel and petrochemical industries, which were considered the base for future development.

The plan also had two important particularities. First, it also sought to foster the Brazilian business sector through a program to promote large enterprises. The idea was to bring more private investment to strategic sectors. The core of the program was to provide long-term credit through state banks such as the national development bank. The second initiative aimed to foster large national integration projects, especially in the transportation and telecommunication sectors.

SECOND NATIONAL DEVELOPMENT PLAN (1975-1979)

The Second National Development Plan, launched by President Ernesto Geisel, was a reaction to the first Oil Shock of 1973. Unlike the other 'reaction' plans, this plan did not have a stabilization nature, but sought to provide a developmental reaction to the crisis.

To counter the effects of the crisis, the plan put forward a number of public investments while also fostering private investments in the economic sectors identified as economical 'chocking points', especially in production goods, infrastructure and energy.

The Brazilian industrialization process rapidly increased the demand for oil. By the 1970s, nearly 80% of the oil consumed was imported. The dependency on foreign oil made the country extremely vulnerable to the Oil Shock. To react to that, the plan sough to provide large investments in the national oil industry (from prospecting to extracting and refining).

In parallel, the government also gave a strong push to the ethanol industry in order to provide an alternative to oil, and sought to diversify the country's energy matrix, especially through investing in hydroelectric plants. The sudden hike in oil prices had a significant impact on the balance of payments. To counter the increasing deficit, the plan also fostered the exports sector.

The large scale of the plan required a vast amount of resources in order to finance its initiatives. Most of the resources came from foreign debt, given the international liquidity provided by the new 'petrodollars'.

The Second National Development Plan is considered the last plan in the developmental cycle in Brazil. The plans in this cycle allowed the Brazilian industry to dominate the production cycles and become an industrialized nation. However, this came at a considerable cost, as the amount foreign debt used to finance the industrialization, combined with the second Oil Shock, put the country in a very vulnerable position, which led to the so-called 'lost decade' and the beginning of the stabilization cycle.

THIRD NATIONAL DEVELOPMENT PLAN (1979-1985)

Despite its name, the Third National Development Plan did not have a developmental drive.

It was a reaction plan designed by the last military government under President Figueiredo. It focused on implementing strong adjustment measures to deal with the explosion of foreign debt, reduce the public deficit and control the inflation. It also promoted a strong devaluation of the exchange rate in order to increase the competitiveness of Brazilian exports.

CRUZADO PLAN (FEBRUARY 1986); CRUZADINHO (JULY 1986); CRUZADO II (NOVEMBER 1986)

The Cruzado Plan was the first plan launched by a civilian government after the military regime.

The new democracy inherited the country under significant economic distress. The foreign debt crisis and the mounting inflation put the country in a very vulnerable situation. Since the 1960s, the monetary correction and indexation of the economy were widely used to mitigate the effects of the inflation, maintaining purchase power. Eventually, the indexation of the economy began to feed the inflationary trend and even prevented the government from using other traditional methods to quell the inflationary spiral.

The Cruzado Plan aimed to deindex the economy. For that, the plan devised the creation of a new currency – the Cruzado –, ended mechanisms of monetary correction, froze prices, and created a new mechanism to adjust salaries.

The plan failed to achieve its goal. The frozen prices reduced the supply of numerous products and generated great dissatisfaction within many economic sectors that were losing money with the frozen prices. In parallel, the fear of a sudden 'defreeze' of the prices generated an explosion on the demand side. The plan also generated a high demand for imported products, due to the supply shortage, which put even more pressure over the balance of payments.

Confronted with the problems of the Cruzado Plan, the new Cruzadinho plan aimed to slow down the economy. By raising the price of several products, the government wished to both increase revenues and reduce consumption.

As the fiscal deficit remained uncontrolled, the government enacted a new plan, the Cruzado II, now aiming to further increase revenues. To achieve that, the plan raised taxes, increased the prices of some products and created incentives for savings.

BRESSER PLAN (1987)

Combining orthodox and heterodox mechanisms, the 1987 plan devised a number of measures to deal with the issues that the 1986 plans failed to address.

From the orthodox perspective, the main measures were raising interest rates (to reduce the speculation on consumption), increasing taxes (to increase revenue), and reducing public spending and subsidies (to balance the fiscal deficit). From the heterodox perspective, the government enacted a wide freezing of prices and wages for three months, so it could enter a gradual unfreezing process and create a reference unit to index the wages adjustment.

RICE AND BEANS PLAN (1988); SUMMER PLAN (1989)

The inability of the last plans to control the inflation and the fiscal deficit gave rise to a new wave of stabilization plans. In 1988, the Rice with Beans Plan focused on maintaining the inflation below the 20% mark.

It also sought to reduce the public deficit by reorganizing some tax schemes and avoiding freezing the exchange rate. The Summer Plan in 1989 adopted a strict monetary policy by increasing interest rates and raising taxes. It created a new currency, the Cruzado Novo, one unit of which had the value of 1,000 old Cruzados. The Summer Plan also ended all indexation mechanisms, and froze prices and the exchange rate.

COLLOR PLAN I (1990); COLLOR PLAN II (1991); MARCÍLIO PLAN (1991)

In 1990, the first president elected after the military rule, President Collor, enacted a new plan the day after his inauguration.

It was a comprehensive plan that sought to replace the Cruzado Novo with a new currency, the Cruzeiro, freeze private assets for 18 months, drastically increase financial transactions taxes, index taxes, further reduce fiscal incentives, adopt a floating exchange rate, begin offering privatization incentives, freeze wages and prices, reduce the number of state agencies, and gradually open the economy to foreign competition.

The plan also failed to achieve its goals. The Plano Collor measures, resulted in a drastic slowdown of economic activity. Although inflation dropped considerably over four months, the attempt to re-monetize the economy in an uncontrolled fashion hindered the other measures and their ability to control the inflation, which climbed back rapidly. Confronted with the plan's shortcomings, the government launched an adjustment, the Collor Plan II.

The new plan enacted more price freezes for new products and introduced financial instruments to calculate the yields of private and public papers. A second adjustment was made with the Marcílio Plan, which was more 'gradual' than its predecessors. This new plan introduced a restrictive fiscal policy and raised interest rates. Prices were unfrozen and the plan helped secure a large loan with the IMF to strengthen the currency reserves.

REAL PLAN (1994)

The last stabilization plan was launched in 1994.. At that time, the country had just gone through a phase of political turmoil with the impeachment of President Collor.

The new plan, enacted by President Franco, determined that the root cause of the Brazilian inflation was 'inertial inflation', and where the last plans tried to control inflation, the new plan sought to stabilize the currency in nominal terms.

The Real Plan created a new currency, the Real. However, instead of making a direct transition from the old currency to the new one, it created an intermediate unit of valor (URV) that would serve as a buffer for the transition.

Alongside the transition to the new currency, the plan also devised a number of austerity measures, contracting fiscal and monetary policies, raising interest rates and containing public spending. The new currency started strong in relation to the dollar, which made imports cheaper and forced local producers to reduce prices in order to compete. The high interest rates also managed to maintain a high influx of foreign capital into the economy to finance the Brazilian expenditures.

Sectoral Policies Overview

Industrial Policies

Before the mid 1940s, the industrialization process in Brazil had a 'semi-spontaneous' character. With the Great Depression in 1929 and later the Second World War, the nascent Brazilian industry spontaneously developed an import substitution process as a way to compensate for the lack of available goods, which stopped coming from the Northern countries. In this context, the country began to internalize the production of non-durable goods. However, this phase rapidly reached a bottleneck and required the input of intermediary goods to expand the production.

The government started to intervene to deal with this situation and began to 'direct' the process by creating initial conditions to foster industries. These processes began under President Dutra with his Salte Plan, which initiated a program of government spending. Eventually, due to difficulties to secure funds to finance the plan, it was discontinued.

This process gained momentum under the term of President Kubistchek and his Target Plan. The Plan had some advantages compared to the previous attempts; it had a well-defined qualitative and quantitative goal from the start as well as monitoring mechanisms. The Target Plan benefitted from a cooperation initiative between Brazil and the US, which established the Brazil-US Joint Commission in the early 1950s, with the development of a report defining sectoral economic projects, priorities and an investment plan. The work of the commission, combined with another cooperation initiative between the UN ECLAC and the Brazilian Development Bank, resulted in the Development Council – a structure created by President Kubitschek to coordinate the developmental effort of the Target Plan.

The Target Plan focused on creating capacities to produce durable goods and capital goods and heavily invest in infrastructure projects. State Owned Enterprises had a pivotal role in the process, such as the oil company Petrobras, which was founded in 1953 to prospect the national oil reserves.

The import substitution process of the developmental era was organized around three main policies. The first was the establishment of a set of benefits that included tax cuts and subsidies. The second set of polices had a protective nature; by raising tariffs on external products and enacting tight regulations, the government sought to maintain high entry costs for foreign competition. Finally, the third set of policies had a macroeconomic nature, providing a favorable exchange rate for the national industry in order to increase its competitiveness.

The sequence of developmental plans during the military regime shared some important characteristics regarding the industrial policy. They differed, most of the times, on how to achieve their goals, which macroeconomic policies each plan sought to implement and how to react to exogenous events (i.e. Oil Shocks). However, the industrialization drive was similar in

each plan. The main goal was to develop the national industry, dominating its whole cycle and dealing with the bottlenecks of the economy. To achieve that, the plans focused on building the necessary infrastructure and fostering the production of capital goods. The key sectors that received most of the protection, subsidies and investment were energy, transportation, and communications, as well as basic and heavy industries, such as steel, heavy chemicals, non-ferrous metals, and non-metallic minerals, among others. The last developmental plan, the Second National Developmental Plan, had the added challenge of dealing with the energy issue due to the constraints imposed by the Oil Shock, therefore having to develop rapidly (further developing the national oil industry, investing in hydroelectric power, ethanol and later nuclear power).

The capital formation for this endeavor also had a similar nature, taking into consideration the context of each plan. The main source of financing came from fiscal and parafiscal sources (especially regarding initiatives under the responsibility of the government). The long-term financing of SOEs also had a pivotal role, considering both the state owned banks and sectoral SOEs such as Petrobras (oil) and Eletrobras (power). From abroad, direct foreign investment and foreign debt were the main sources of financing. Those last cases were more inconsistent and had their 'ups and downs' due to domestic and international particularities; for instance, foreign debt was largely used during the Target Plan and was only heavily accessed by the mid 1970s, after the first Oil Shock. The periods of the early 1960s and after the second Oil Shock, foreign debt was not a feasible alternative due to the high level of indebtedness and the low international liquidity.

By late 1970s, the national growth model began to show signs of exhaustion. The high interest rates, increasing inflation and decreasing domestic consumption began to reduce the level of investment, especially coming from abroad. On the other hand, the accelerated pace of industrialization experienced from the 1950s until the late 1970s kept expanding the production and increased the demand for intermediary goods and energy (oil), which the Brazilian industrial park was struggling to access and provide. That situation increased the national dependency on imports, which became an even bigger issue with the economic crisis and adjustment policies of the 1980s.

During the 1980s, there was a sharp decline in the role of the state in coordinating and fostering the developmental drive. The whole focus of the succeeding plans was macroeconomic stabilization, and the series of adjustment policies they enacted either reduced or eliminated most of the subsidies and concessional credit to the productive sector. In fact, after the 1990s, primary goods began to 'gain ground' over manufactured goods in the national export portfolio, reaching a peak in the 2000s. This situation combined with the low growth of the national industry raised concerns about a potential deindustrialization.

The 1990s saw a shift in the approach to the industrialization policy. Under President Collor, the new rationale was that, instead of focusing on expanding production and reducing dependence through the import substitution model, the government believed that companies should increase efficiency and invest in trading goods and services – which required a modernization of the industry. To achieve this view, the government enacted its Industrial and Foreign Trade Policy, which promoted a rapid exposure of the national companies to the international competition. This was done through a gradual reduction of tariffs over four years and elimination of national non-tariff subsidies (Cano and Silva, 2010). In parallel, the National Development Bank also launched the Corporate Restructuring and Rationalization Program, which aimed to aid mergers and acquisition initiatives.

After the 1994 Real Plan and the economic stabilization, the Cardoso government also fostered initiatives directed towards the industrial sector. His Competitiveness Forum sough to coordinate actors to strengthen productive chains. The government also created several Sectoral Funds for Scientific and Technological Development, mostly funded by the private sector. During the Cardoso years, the government's industrial initiatives suffered internal opposition coming mostly from the Ministry of Finance, which was more committed to the adjustment agenda (Cano and Silva, 2010).

The logic of state participation in the industrialization drive returned only during the 2000s, under President Da Silva. During his term, the government adopted a double strategy: first, it sought to prioritize the technological sector; secondly, it identified a number of companies in sectors with comparative advantages and invested in their international competitiveness – the sectors chosen were steel, mining and agribusiness.

To further that goal, the government enacted three policies over both of Da Silva's mandates. The first was the Industrial, Technological and Foreign Trade Policy, which aimed to add value to the Brazilian exports. The second program was the Productive Development Policy, which focused on promoting investment in the domestic productive sector in order to stimulate growth. The third program was the Great Brazil Plan, whose goal was to develop capacities inside the national companies in order to consolidate the development of its value chains, increasing competitiveness.

In a way, those programs were also a tentative response to the increasing penetration of import goods into the domestic market, which became attractive due to the strong exchange rate. The package of incentives included subsidiary credit, tax cuts and exemption from social security contributions. Combined with the programs directed at the productive sector, the government also launched the Growth Acceleration Program, which focused on infrastructure, also trying to deal with bottlenecks.

By 2012, the model began to show signs of exhaustion. The effectiveness of the programs was diminished due to several factors, such as the strong exchange rate, the high interest rates and the price control policies applied to certain goods and services (fuel and electricity), which affected several important companies, most of which were SOEs that were unable to keep up with investments. This analysis illustrates that the industrial policy in this period was an auxiliary piece of the macroeconomic objectives, since several measures of the industrial policy sometimes conflicted with the macroeconomic determinants. The economic depression that followed heavily affected those industrial programs, which eventually either failed or were discontinued by succeeding governments.

Foreign Trade Policies

In the period analyzed, we divided the Brazilian trade into different phases in which the strategies adopted reflected the domestic and international context. The first phase started with an inflection point. Before the developmental era, the Brazilian economy was heavily dependent on a select group of agricultural commodities, coffee being the most important product. Beginning in the 1930s, this logic started to change (mainly due to the coffee price crisis), and the succeeding governments began pursuing a developmental model focused on industrialization. This inflection point marked an important shift in the Brazilian economic model. While until that period the Brazilian economy was focused on the international market, from that point on, the developmental strategy started focusing on the domestic economy.

To continue its industrialization drive, the Brazilian government adopted an Import Substitution strategy, which had two important components: first, it directed production into the domestic market; second, it started to produce products domestically that the country needed and traditionally had to import. This strategy gained momentum with the 1956 Target Plan.

The 1960 economic crisis marked an important point for the foreign trade policy. Confronted with the economic crisis, President Castelo Branco launched the Government Economic Action Plan, whose many measures included rescuing the economy while also focusing on fostering the Brazilian exports. Seen as a channel to balance the trade deficit, the government promoted a number of tax incentives, offered credit and modernized its specialized agencies such as the Customs Policy Commission (CPA) and the Bank of Brazil's Foreign Trade Department (CACEX) (Nunes and Morais, 2015).

The success of the Government Economic Action Plan in dealing with the economic crisis set the stage for the developmental plan period. In order to achieve high growth rates, the succeeding administrations developed comprehensive policy plans. Foreign trade was an important component of these plans, as they would not only be able to generate revenues and strengthed the Brazilian industry, but also help equalize the balance of payments.

Among the policies directed at the export effort were the concession of subsidized credit for exporters, a tax incentive program for exporting companies, reduction or removal of direct taxes, and development of simplified administrative processes. The direct impact of those measures was a substantial increase in exports, whose growth rates jumped from 5.4% in the period of 1950-1962 and 0.3% in 1963-1967 to 12.7% in 1968-1980. The efforts of the developmental plans also brought changes in the profile of Brazilian exports – the weight of basic goods in the export basket steadily declined during the 1970s and 1980s, whereas manufactured goods saw a relative increase, going from 23% in 1973 to 56% in 1984 (Castro, 2011). Although the plans achieved their objective in promoting exports, the imports also increased considerably, especially in light of the price hike caused by the two Oil Shocks.

The following phase happened during the 1980s and 1990s period, when the country had to deal with a staggering economic crisis. The period was characterized by adjustment policies that had a considerable impact on the enabling policies practiced in the development era. That is,

to control the public spending and balance the fiscal deficit, the succeeding stabilization plans either reduced or removed a number of tax exemptions, concessional credits and subsidies.

Two other events greatly affected the Brazilian foreign trade. The first was the foreign trade policies adopted by President Collor, which significantly reduced the trade barriers to foreign products and extinguished special import regimes (except for the Manaus Free Trade Zone). Nearly all the regimes that controlled foreign trade (imports) were substituted by tariffs, which were gradually reduced in order to give domestic producers enough time to adapt to the competition (Hermann, 2011).

The second event was the creation of the Mersocur trade bloc. It created a favorable environment for Brazilian companies to export their goods, especially in the manufacturing sector, which lost most of its protection in the domestic market due to the new foreign trade policy. The Mercosur countries were to be the major destination for the Brazilian manufacture exports.

The last phase of the Brazilian foreign trade marked an important shift in the rationale of the Brazilian economy. Up to this point, the government's economic plans and the national businesses had focused their efforts on the domestic market. Even after the commercial opening in the 1990s, the bulk of business investment was aimed at the domestic market. This inward looking approach gradually shifted in the 2000s as the international environment changed dramatically. Supported by the growing consumption coming from developed countries and the great Chinese appetite for commodities, the Brazilian exports exploded, growing more than 20% during the 2004-2008 period.

However, the export basket went through a new change. The manufactured products that gained space in the 1970s and 1980s gave way for the agricultural and mineral commodities to dominate the country's exports.

Regarding foreign trade strategies, the governments in the period of 2003-2016 favored multilateral international agreements, more specifically the Word Trade Organization Doha Round. This decision prevented the country from pursuing an aggressive strategy to form free trade agreements, such as the Free Trade Agreement of the Americas (FTAA), which the negotiators collapsed in 2005. Through Mercosur negotiations, the country only managed to sign FTA agreements with Israel, Egypt and Palestine, and some special agreements with South American countries. Since 2016, the country has engaged in a number of trade negotiations with countries such as Canada, Japan, South Korea and the European Union, the last one in advanced stages (after over twenty years of negotiation).

TABLE 2: **BRAZILIAN TRADE AGREEMENTS**

PARTNER(S)	PROCESS	CURRENT STATUS
CUSTOMS UNION (MERCOSUR MEMBERS)		
Argentina	Signed in March 1991	In force
Paraguay	Signed in March 1991	In force
Uruguay	Signed in March 1991	In force
FREE TRADE AGREEMENT		
Chile	Signed in June 1996	In force since October 1996
Bolivia	Signed in December 1996	In force in February 1997
Peru	Signed in November 2005	In force since January 2006
Plestine	Signed in December 2011	Ratification Process
Israel	Signed in December 2007	In force since April 2010
Egypt	Signed in August 2010	In force since September 2017
Andean Community	Signed in April 1998	In force in August 2000
Central American Integration System	Joint Declaration to start a formal negotiation in February 2005	-
Dominican Republic	Signed of a Joint Statement of Intent to negotiate a FTA in December 2005	-
Panama	Realization of a Technical Meeting in April 2006	-
Israel	Signed in Dezember 2011	Ratification Process
Tunisia	Trade and tariff data exchange, 2016	Under Negotiation
Singapore	First Round of Trade Negotiation in April 2019	Under Negotiation
European Union	Signed in June 2019	Ratification Process
European Free Trade Association (EFTA)	Conclusion of the negotiations in substance in August 2019	Under Negotiation
Canada	Seventh round of trade negotiations in August 2019	Under Negotiation
Republic of Korea	Review meeting in March 2020	Revision of status for signing
Lebanon	First Round of Trade Negotiation in October 2019	Under Negotiation
PREFERENTIAL TRADE AGREEMENTS		
Uruguay	Signed in September 1986	In force since October 1986
Colombia	Signed in July 2017	In force since December 2017
Guyana and Saint Kitts and Nevis	Signed in June 2001 with Guyana and in May 2012 with Saint Kitts and Nevis	In force since May 2004 and In force since February 2014 with Saint Kitts and Nevis
Mexico	Signed in July 2002 and an automotive agreement signed in September 2002	In force since May 2003 and the Automotive in November 2002
Colombia, Ecuador and Venezuela	Signed in December 2003	In force since 2005
India	Signed in January 2004	In force since June 2009
Suriname	Signed in April 2005	In force since July 2006
Peru	Signed in August 2005 with na Ampliation Treaty signed in April 2016	In force since February 2006 and the Ampliation Treaty Under Ratification Process
Cuba	Signed in July 2006	Effectuted in July 2007
Southern African Customs Union	Signed in December 2008	In force since April 2016
FRAMEWORK AGREEMENTS		
Mexico	Signed July 2002	In force since January 2006
Morocco	Signed in November 2004	In force since April 2010
Gulf Cooperation Council (GCC)	Signed in May 2005	Under Tehcnical Negotiation to stablish a FTA
Turkey	Signed in July 2008	Under Negotiation
Jordan	Signed in October 2008	Under Negotiation

Sources: Organization of American States (OAS) Foreign Trade Information System; Brazilian Ministry of Economy, Industry and Foreign Trade, Executive Secretariat of the Foreign Chamber of Commerce (CAMEX); Latin American Integration Association (ALADI); European and Latin American Business Services (ELAN)

Foreign Exchange Policies

Although the exchange rate had already been used in the 1940s as a tool to protect several sectors from import competition, it became part of a wider strategy to promote development during the Target Plan. In 1953, immediately before President Kubitschek's term, a new system for the exchange rate was introduced. This reform reestablished the Bank of Brazil's monopoly over the exchange rate, eliminated the quantitative control of imports, and created a bonus system for exports based on the official rate. This new system then introduced three different exchange rates, the first one being the official rate with no surcharge for selected imports, the second one being the official rate with fixed surcharge for direct imports from federal and subnational governments, and the third one being the official rate with variable surcharge for all remaining imports.

This system lasted until a new incremental reform came in 1961. Essentially, the change allowed the importation of capital goods without the exchange coverage, or without the use of foreign exchange, enabling the internalization of capital through machinery and equipment. This measure became an important mechanism of attraction of FDI to the country. A second important element of the 1961 reform was the transition from the multiple system into a unified system. In fact, until 1964, the country had two official rates, one for coffee and cocoa exports and another for the rest of imports and exports, before the exchange rate was finally unified.

During the economic crisis of the early 1960s, the Government Economic Action Plan used the exchange rate to balance the foreign trade deficits by fostering exports and making imports less competitive. That intensified during the late 1960s, when the government further devaluated the exchange rate in order to control inflation as well.

From 1968 to 1990, the succeeding governments adopted a strategy of currency devaluation. During this period, the administrations adopted a policy of mini-devaluations alternated with eventual maxi-devaluations. The policy aimed to avoid speculation of the national currency and secure exports revenues. This period is characterized by three elements: first, the short interval between devaluations; second, the small percentage value in each devaluation; and third, the eventual suspension of the devaluations.

In March 1990, a new major change in the exchange rate system was introduced under President Collor. This new system was called 'dirty fluctuation'. The change established two exchange rates: one called administrative or commercial rate and another called the floating rate, applied to sales and tourism. Essentially, the exchange rate would now be determined by the market, although the Central Bank would be allowed to intervene by buying or selling to influence the price.

That system changed again in 1994 in the context of the Real Plan. Between 1994 and 1995, while the government was operating the currency transition, it stopped using the exchange rate as a mechanism to stabilize the economy and let the market forces determine value. In 1995, in the context of the Mexican crisis, the widespread uncertainty towards the developing markets resulted in a substantial outflow of capital from the country. To deal with this situation, the government introduced a 'band system', which established high and low limits (or bands). The

exchange rate was allowed to float within these bands, and if it gave signs of exceeding the limit, the Central Bank would intervene to push it back inside the bands.

In 1998, the international context of uncertainty towards emerging markets deepened in the wake of the Russian and Asian financial crisis. The capital fight became an issue once again, as the outflow of foreign capital increased. To deal with the situation, the government brought back the 'dirty fluctuation' system, allowing it to intervene in the exchange rate, either by buying or selling dollars or by increasing taxes for financial operations.

During the favorable context of the 2000s, a number of elements affected the exchange rate. While the dirty floating system remained, elements such as the thriving economy, the high expectations for the country and the high interest rates made Brazilian economy a prime destination for foreign capitals, which led to a considerable appreciation of the currency.

That context persisted until the 2011-2012 period. In the wake of the financial crisis, the implementation of the New Macroeconomic Matrix enacted by President Rousseff increased the regulation of capital flows and foreign exchange derivatives aiming to increase the competitiveness of national companies. The economic depression that followed also depreciated the exchange rate, with an outflow of foreign capital, an economic slowdown and a context of uncertainty regarding the country due to the crises.

Monetary and Lending Policies

Before 1945, monetary and fiscal policies used to be addressed in tandem, with no clear separation between them. That is because the government treasure had the power over currency issuance, via the Bank of Brazil, which not only held a monopoly over currency but also served as a bank for the government, a commercial bank and even a developmental bank. This situation changed in 1945 with the creation of the Superintendence of Money and Credit (SUMOC), which would control the monetary policy from that point on. The Brazilian Central Bank, who would control money issuance, was created only in 1964 under President Castelo Branco's reforms.

In order to finance the first large Brazilian developmental plan, the Target Plan, the government sought in 1950 to secure funds from both domestic and foreign sources. From abroad, the government encouraged foreign investment in the industrial effort. Domestically, the government adopted a monetary expansion as the main mechanism to fund public spending and to increase credit – to make the private investments viable (HERMANN, 2011).

In the early 1960s, the country was facing not only a political crisis, which resulted in the military coup of 1964, but also an economic crisis. The mounting inflation of the period, the increase in foreign debt and the fiscal deficit led to the creation of the Three-Year Economic and Social Development Plan (1962-1964), which was interrupted by the military coup, and the Government Economic Action Plan (1964-1967), enacted by the first military government. The Government Economic Action Plan was responsible for a wide fiscal and financial reform, which

also established important financial institutions such the Brazilian Central Bank and the National Monetary Council.

As the international financing markets were restricted in that period, the government had to find other ways to deal with the economic crisis and set the stage for resuming the developmental drive. One way the government financed its expenditures was through the expansion of the monetary base and seigniorage revenues. Another important source of revenue was through raising taxes. One more important element of the Plan was the introduction of monetary correction, which indexed the economy, enabling the circumvention of legal limits on nominal interest rates.

The creation of the Brazilian Central Bank was an important move that would separate commercial banks from non-bank policy institutions. Nonetheless, it is important to highlight an innovation introduced by the government: the Conta de Movimento, which was an account established between the Central Bank and the Bank of Brazil. In that account, the Bank of Brazil could withdraw resources to finance the government's economic and credit policies, and the Central Bank would replenish this account whenever it was negative. That way, the Bank of Brazil retained an indirect power to issue money.

The following period was dedicated to a considerable developmental effort, which ended in the 1980s after the second Oil Shock. Given the scope of the developmental plans, there was a need for long-term loans, which were practically inexistent in the private sector. Therefore, the bulk of the funding to finance the efforts of the National Development Plan came mostly from public spending and foreign debt. Regarding the latter, it is important to emphasize the role of the State Owned Enterprises (SOE) and the Development Bank. Since those institutions had the Brazilian State backing them, they were able to access foreign credit better than private companies were. To illustrate the importance of the SOEs in financing development, in 1981, they accounted for 72% of the national foreign debt (Ayres et al., 2018).

Apart from the period immediately after the first Oil Shock, when the government implemented a contractionary monetary policy, the 'developmental era' had a more relaxed monetary policy in general, with periods of expansion of the monetary base, abundant credit and provision of a wide range of subsidies for the targeted sectors.

The period from 1981 to 1994 was characterized by severe economic instability. The second Oil Shock, the hike in the US interest rates, the high inflation rates, the growing trade deficit and the mounting foreign debt caused a perfect storm for the Brazilian Economy. The 1982 Default and the need to request aid from the IMF put the country in a very vulnerable position, which inaugurated the adjustment phase.

The adjustment phase was composed of a number of stabilization plans in which the monetary policy had an important role. One of the main characteristics of the plans was the change in currency. The Cruzado Plan changed the currency from Cruzeiro to Cruzado in 1986, then from Cruzado to Cruzado Novo in 1989, then back to Cruzeiro in 1990, until finally in 1994 the Cruzeiro went through a transition phase before becoming the Real. Alongside the change in currency, the governments also introduced a freezing policy to lock product prices, services and wages, with the recalibration and unfreezing of prices representing a key component of many plans. Another important component present in some of the plans were the interest rates. They were increased several times to hold back consumption and, with that, control the inflation.

Throughout the period, many very contractionary (sometimes even recessive) monetary policies were implemented. An example of the aggressiveness of some measures was the

attempt of reduce the money supply by confiscating private savings for 18 months, which was done during Collor Plan I.

The Real Plan became an inflection point when it was successful in controlling the inflation. In addition to the introduction of a new currency and the control of the inflation, an important element of the plan was the creation of a new rationale to conduct the economic policy, called the Economic Tripod, which consisted of maintaining a floating exchange rate, and having fiscal and inflation targets.

The rest of the 1990s remained under the adjustment logic, with tight monetary control and high interest rates. The period saw considerable economic instability due to the series of financial crisis and later due to the speculative attack on the wake of the 2002 elections.

The first term of the President Da Silva was well aligned with the economic policies of his predecessor. However, in light of the favorable international environment, the substantial increase in revenues due to the commodity super cycle, and the expansion of the international trade, the country managed to balance its foreign debt, accumulate international reserves and reach a trade surplus. This new environment enabled President Da Silva to pursue a different path, leading to an increase in the role of the government's participation in the economy from 2006 onwards. Part of this move happened through large initiatives such as the cash-transfer program Bolsa Família and infrastructure programs.

To boost the economy, the government greatly increased credit, particularly to enable a high level of mass consumption that would play a central role in the economic growth. Conversely, despite the government's intentions to boost consumption, the interest rate remained considerably high in order to control the inflation.

The economic environment took a turn after the Financial Crisis. Soon after a bounce recovery in 2010, the economy started to show signs of exhaustion due to the expansionist policies, which were deteriorating the fiscal situation rapidly. President Da Silva's successor, President Rousseff, doubled down on the government's intervention in the economy and in expansionist policies. To deal with the first signs of trouble, she started to control the prices of several goods and services, and used public banks to finance government expenditures temporarily to hold the fiscal deficit – a maneuver that eventually led to her impeachment.

Fiscal Policies

Fiscal efforts in the developmental era had already begun in the 1940s under President Vargas and President Kubitschek. President Vargas enacted a tax raise to both cover the war effort and promote the development of the basic industry, as agreed upon in the cooperation agreement with the US. President Kubitschek also raised taxes in order to finance his Target Plan and tried to secure foreign investment for the development of industrialization.

The developmental effort of the 1950s left a considerable foreign debt, which was critical in an environment of considerable financial instability, leading to a recession in the 1960s. Two stabilization plans were enacted in the early 1960s to deal with the crisis. While the first plan

was not fully implemented, the second one, the Government Economic Action Plan, introduced a number of important reforms, including enacting an important fiscal reform to reduce the government deficits. Key components of the fiscal reform were the optimization of the tax code, the creation of new taxes and the increase in existing taxes - the tax burden went from 15% of the GDP in 1950 to 25% by the late 1960s.

This effort had a considerable impact on the fiscal deficit and managed to control the government debt. It allowed the succeeding governments to launch a sequence of developmental plans. To reach the goals of the developmental plans, the military governments considerably expanded their spending to finance development. Allied with public spending, the governments used alternative mechanisms to boost the economy, such as vast subsidies, concessional credits and foreign capital.

The developmental effort took its first hit with the first Oil Shock of 1973. Due to the exceptional liquidity of the international markets flooded with petrodollars, the government's way out of the crisis was through increasing its foreign debt considerably. This measure managed to 'mask' the ongoing problem of the country's fiscal deficit. By that time, the administration of the government budget was quite confusing, since it included many 'off-budget' transactions. That is, the government operated three different budgets: the official one that was regularly approved by the Congress, a monetary budget controlled by the National Monetary Council and the SOEs Budget (Ayres et al., 2018).

The rapid accumulation of debt and the fragility of the government fiscal budget were hit hard by the second Oil Shock. That event had numerous crippling impacts on the economy: first, it drastically deteriorated the balance of payments due to the dependency on imported oil; second, the debt services became a huge burden due the hike in interest rates enacted by the US government; third, the crisis also dried up the international liquidity.

The country's ability to react to the crisis was very limited. Unable to secure reasonable foreign loans and confronted with high levels of tax exemptions or evasion, the country was unable to build a fiscal basis to further finance its expenditures (Weyland, 1998). This context led the country to the adjustment phase, in which the country fostered restrictive fiscal policies until the 1990s.

The 1980s, as mentioned, inaugurated the era of stabilization plans, in which fiscal policies had a central role in trying to deal with the economic crisis. The debt service and the limited tax base due to the recession consistently drained resources from the federal budget throughout the following two decades. The spiking inflation rates posed a considerable challenge to stabilize the economy. Despite the logic of adjustment, many economic sectors and business organizations managed to evade the subsidy cuts and strongly opposed tax increases.

Most of the stabilization plans in this period followed a number of similar measures, although their emphasis and strength varied. From the fiscal perspective, they consistently tried to cut government spending, reduce subsidies, freeze wages and prices, increase taxes (or at least correct them according to the indexation), and privatize SOEs (or extinguish governmental agencies).

The economic stabilization came with the 1994 Real Plan, which managed to control the inflation. Nonetheless, the fiscal deficit and the foreign debt still put the government in a vulnerable position, especially due to the demands of the IMF and foreign creditors to further the adjustment agenda.

The Cardoso government remained in line with the adjustment agenda. The government maintained an active fiscal policy, even considering the fiscal balance, by announcing its

fiscal targets, which is one of three macroeconomic pillars. Regarding fiscal policies, his administration put forward a privatization plan, conducted a banking reform and maintained a tight public spending.

The 1990s financial crises and the speculative attack before the 2002 election put pressure on the balance of payments and on the government budget, and eroded the international reserves, which in the end resulted in the need for another rescue package from the IMF. An important highlight in this period was the 2000 Fiscal Responsibility Law, which imposed strict fiscal limits on both federal and subnational units. The initiative aided in creating fiscal surpluses in the following years.

President Da Silva's administration considerably changed the fiscal scenario. With the influx of revenues, direct foreign investment, an increase in exports, and fiscal surpluses, the government was able to balance the foreign debt and accumulate international reserves. Encouraged by the positive scenario, President Da Silva put forward an ambitious agenda of social policies, a major infrastructure plan and an expansive credit policy (both to increase the competitiveness of the national champions and to increment the administration's policy of growth through mass consumption).

The combination of those policies started to put pressure on the government budget, whose magnitude became difficult to assess due to innovative budget measures, which became known as 'creative accounting' (Ayres et al., 2018). The situation deteriorated further in the wake of the financial crisis. To navigate out of the crisis, President da Silva enacted a number of countercyclical measures that relied on public spending and large subsidies to foster consumption. Initially, this policy achieved its goal and the country managed to bounce back and register a GDP growth of 6.52%.

However, this model began to show signs of exhaustion soon after. The policies carried out by President Da Silva were boosted further by his successor, President Rousseff. Under her term, she further increased the role (and size) of the State in the economy, increased public spending and granted more subsidies to select economic sectors. As a result, the fiscal deficit further deteriorated – although this was, again, difficult to assess since her administration, like her predecessor, also made use of 'creative accounting' mechanisms to hide the mounting deficit. Given the unsustainability of this situation, the debt exploded, resulting in two direct effects: the first one was a deep economic depression, which is being dealt with until the present date; the second one was the impeachment of president Rousseff, who was accused of mismanagement of the public budget.

Foreign Directed Investment Policies

In the begging of the developmental years (1930-1940), foreign direct investment (FDI) had a secondary role in financing industrialization. The capital formation to finance the national industry came mostly from the State and from national private capital, albeit with considerable support from governmental policies (Curado and Cruz, 2008). This particular scenario changed with the Target Plan in 1956, when the government found a strong ally in the form of FDI to advance in its industrialization drive.

In order to attract foreign companies, the government issued a number of policies that created favorable conditions for investment and profit generation. The government implemented a protective customs tariff and complemented it with a special exchange rate regime that subsidized capital goods and basic inputs for the national industry. With that, the capital from foreign companies was internalized in the form of equipment and converted at a given exchange rate, and the remittances abroad were sent at a favorable exchange rate, making it more advantageous for those companies.

In the early 1960s, just before the military regime, the resolution 4.131, called the Remittance Law, was enacted. It was an attempt to impose limits for capital shipments from foreign companies. The aim was to induce the foreign firms to reinvest their profits into the country, instead of simply converting them into profits. Although the law managed to halt remittances, it also considerably reduced the inflow of FDI into the country.

In order to push the developmental drive forward, the military regimes once again had to rely on foreign capital to complement the government's effort. One of the early measures was to adjust the Remittance Law, creating loopholes that enabled remittances from international companies to resume.

Due to the new incentives provided to foreign capital, FDI flows increased considerably during the 1970s. Despite the welcoming posture, the government acted to direct these flows into strategic sectors within its plans. There was a concentration of FDI in heavy industries, manufactured goods, and technological areas, while infrastructure and public services remained controlled by the state. In fact, the technological sector in fact had a mixed approach in which, despite the fact that the sector had restrictive measures such as quotas, licenses and subsidies, the government fostered joint ventures with domestic companies – as long as several requirements such as technology transfers were observed.

Foreign capital had a pivotal role in consolidating the national heavy industries, providing not only financial resources for their financing but also the technology for their development. During the developmental years, the US capital had a predominant role in the country, along with a considerable increase of Japanese capital during the 1970s (Curado and Cruz, 2008).

During the 1980s, there was a sharp decline in FDI inflows in the country. Part of the explanation for that was the slowdown of the economic activity during the 'Lost Decade', in which the country was facing a severe economic crisis and the succeeding governments were either cutting or reducing subsidies and concessional credit for companies. A second part of the explanation was the uncertainty behind the stagnation plans. The measures implemented by the plans did not create a favorable environment for investment as they repeatedly created new currencies and froze and unfroze prices to contain the rampant inflation. The repeated failure of the stabilization plans led to an atmosphere of significant insecurity that was only lifted in 1994.

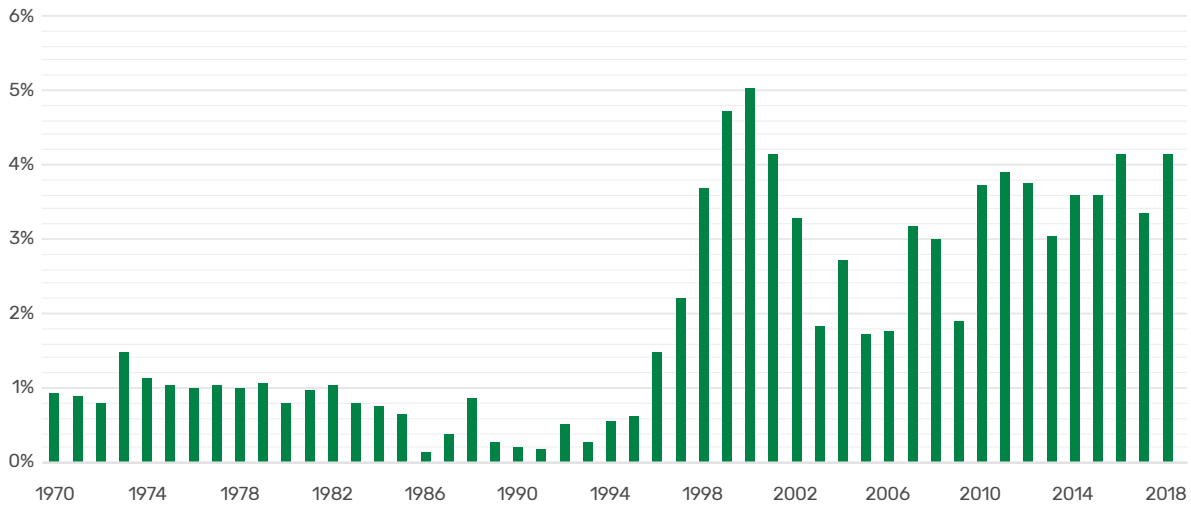
After the Real Plan, despite the stabilization of the economy, the government was still adopting a strict agenda of economic and administrative adjustment, which contributed for the modest growth in the period. Nevertheless, there was a substantial increase in the inflows of foreign capital into the country. Two reasons help explain this phenomenon. The first has an external nature: since the 1990s, the international financial system had undergone a significant liberalization under the context of Globalization, with the flexibilization of FDI regimes and an increasing trend of mergers and acquisitions around the globe. Another external element was the creation of the Mercosur. The agreement turned Brazil into a gateway for three other markets, making the country more attractive to foreign companies.

The second reason is domestic. In spite of the low growth and the restrictive fiscal policy, the context of economic stability, combined with later policies such as the Fiscal Responsibility Law, managed to cast away much of the uncertainty that plagued the previous period. Another important domestic element that invited substantial volumes of FDI were the privatization and deregulation policies enacted by President Cardoso, with foreign capital present especially in the telecommunication and electric sectors.

From an FDI perspective, Brazil became one of the top destinations for foreign capital. From the late 1990s onwards, the country experienced economic stability, attractive regulations and policies, increased transparency, and reduced insecurity. In the 21st century, the country showed a strong economy, a massive domestic market armed with a wide range of incentives for consumption and the prospect of development, which was 'granted' to Brazil when it was considered one of the BRICS, receiving the title of an emerging economy. This attractive scenario combined with big expectations made Brazil a great option for foreign capital.

The FDI influx reached record high levels during the 2000s, increasing from a participation of 0.5% to 1% in the GDP during most of the period from 1950 to 1990, to over 4% in the early 2000s. The influx of foreign capital had a sharp decline in 2008 and 2009 during the Financial Crises, bounced back up in the beginning of the 2010s, and then fell again in the context of the political and economic crises.

GRAPHIC 6: **BRAZILIAN FOREIGN DIRECT INVESTMENT, NET INFLOWS FROM 1970 TO 2018 (% OF GDP)**



Source: Original Chart with data from World Bank

ECONOMIC DEVELOPMENT AND GLOBAL VALUE CHAIN INSERTION:

A VIEW FROM **BRAZILIAN** AND **SOUTH KOREAN** LENSES

02

GLOBAL VALUE CHAIN AXIS

Introduction

Since the end of the 20th century, international trade has been undergoing a profound transformation, one that is not only affecting its rules and norms, but also its geography, logic, and even the orientation of developmental policies implemented by countries to adapt to it. These transformations are based on and were allowed by the extraordinary evolution in technology (the edging evolution), especially concerning communication, transportation and information.

The internationalization of productive chains, breaking down production across various locations, aiming to achieve efficiency by lowering the cost of production and at the same time accelerating it, has been the new frontier.

The global value chains are a step further in the economic integration trend we have observed in the last decades. It does not only represent an opening of markets and trade relations; by developing global supply chains, it is building productive relations and economic development integration, in which all those within the supply chain are a part of the process, becoming co-responsible and interdependent. We are moving towards a world wherein it hardly makes sense to say, "Made in China", "Made in South Korea" or "Made in Brazil" – we are approaching the idea of "Made in the World".

It is not hard to observe this phenomenon. Beyond the more visible movement of outsourcing production, in which Multinational Companies ship their production abroad, those 'international factories' rely on input from all around the world. The better illustration of this event is the rapid and significant increase in the international trade of intermediate inputs. According to the OECD, they represent more than half of the imported goods in OECD economies and nearly 75% of the imports from countries like Brazil and China (WEF 2012).

Global Value Chains (GVCs) are the combined effort of companies in different countries, each responsible for one or more stages of the production, from design to the production of parts, assembly, branding and sales of the final product. GVCs are the coordination of those multinational players providing products, production and services – doing what used to be done inside a single country in a global scale and more efficiently, despite its complexity.

The liberalization of trade and the proliferation of trade agreements, combined with the technological advances, has created a favorable environment wherein companies have identified the advantages of importing inputs for their production from other countries, sometimes literally across the world. These new production arrangements, as mentioned, have not only affected the production and trade relations, but also 'allowed' other players to integrate the chain and challenged the traditional developmental rationale of vertical integration or developing a completely domestic production process that some countries still pursue.

The traditional rationale worked under assumptions derived from a pre-globalization moment, which Richard Baldwin (2013) calls the 'first unbundling', in which free trade led to the consolidation of production in specialized industrial districts. Due to the complexity of the production process and the decrease in transportation prices, it made more sense to import raw materials into a central place, with well-developed capacity, and develop all stages of the production in the same region for better coordination.

The evolution of this process, the 'second unbundling', according to Baldwin (2013), was enabled by the revolution in information and communication technologies (ICT). These technological developments made it possible to coordinate the production process, significantly reducing the costs and risks of outsourcing production states to other countries. While ICT made it possible to coordinate and control a decentralized production, the wage differences between developing and developed countries, says Baldwin, made it profitable.

Moreover, GVCs go beyond simply combining the technology from developed countries with the labor from developing countries. They have also offered the opportunity for developing countries to find their way into global supply chains by specializing in certain products. This specialization could give those countries the scale and efficiency necessary to increase their comparative advantages. The route of 'join-instead-of-build' is considerably faster and cheaper than the alternative. Developing a comprehensive industrialization process to vertically integrate and control the full cycle of production, as the import substitution implies, is an extremely costly and lengthy process, unfeasible for many developing countries. Therefore, GVCs offer the opportunity for developing countries to join international supply chains and further develop specialized capacities.

WE ARE MOVING TOWARDS A WORLD WHEREIN IT HARDLY MAKES SENSE TO SAY, "MADE IN CHINA", "MADE IN SOUTH KOREA" OR "MADE IN BRAZIL" – WE ARE APPROACHING THE IDEA OF "MADE IN THE WORLD".

A change in strategy and rationale is necessary in order to achieve that. Countries that have undergone the traditional development path have done nearly everything possible to export more and import less. However, exports are only one side of the story, especially in the context of GVCs. Imports are also a necessary element to achieve efficiency of production. Therefore, a new understanding of the process is required, not only looking at the final product imports and exports, but also measuring exports in relation to their imports content in order to better understand the domestic value added by a given country's production. The goal here is to climb towards the higher stages of production, adding more value to the final product in terms of both production inputs and services.

Participating in Global Value Chains also creates indirect opportunities for countries in terms of job creation, identification of new economic vocations and improvement of labor skills, potentially resulting in learning from technology transfer and knowledge diffusion. It may also help domestic companies to be exposed to international standards generally applied to global business, improving their competences and enabling them to find more opportunities in other value chains.

However, Global Value Chains should not be considered a panacea. They should not be deemed the only or the best path to development. While they currently do offer a very appealing alternative to the traditional development process for many countries, developing a GVC strategy should include considering many different particularities of each country.

For small countries, GVCs might offer more advantages and opportunities for development, since these countries have limited domestic markets, which creates more challenges to diversify input production; it would be more difficult for small countries to absorb a dense industrial production.

Larger countries, conversely, are in a different position. Given the size of their domestic markets, they may invest in diversifying their production base, producing a larger array of intermediate goods. That possibility enables larger countries to implement policies that are more restrictive in order to protect segments of their national industry.

Joining GVCs also entails some risks. According to Callegari, Melo and Carvalho (2018), countries that engage in the lower levels of the supply chain (providing low value-added inputs) are at a considerable risk of never managing to develop competences to have their own leading companies creating, commercializing and providing services of their own. This could lead those countries to a stagnant position in which they are unable to access the higher states of the value chain; therefore, they would be outside of the more lucrative, innovative and intellectually advanced activities. That is because the opportunities for higher profits and innovation are generally concentrated around the leading companies of the chain.

Therefore, engaging in trade facilitation regimes and joining Global Value Chains is not enough. For countries to take advantage of their insertion into GVCs and mitigate the risks associated with joining the lower levels of the chain, it is paramount that they also invest heavily in horizontal policies such as education, infrastructure, and technology innovation. Only by building a robust 'supporting base' will a country be able to obtain better returns from their developmental strategy.

Global Value Chains are evolving rapidly. Despite the fact that they have revolutionized trade and production relations in the last three decades, they have also revolutionized themselves within the context of the Fourth Industrial Revolution. The fantastic technological advancement in several cutting edge technologies such as Artificial Intelligence, Internet of Things, Blockchain, Robotics, Nanotechnology, 3D Printing, just to name a few, is threatening to (re)transform those relations.

The digital economy is even allowing us to rethink the way Global Value Chains operate today. These technologies are not only adding technology to the inputs, but also changing production systems by streamlining activities, adding new ones and removing others, changing the developing countries low-wage advantages by incorporating robotics, and changing the way we operate services, creating new possibilities as technology transforms even social relations.

Countries that have been leading the pack in GVCs are already conscious of those transformations. To remain ahead, most of them have already created programs to foster the development of digital technologies and prepare their economies and labor force to adapt and remain competitive. The most ambitions programs worth highlighting are the German 'Industry 4.0 Initiative', the US 'Advanced Manufacturing Partnership', the Chinese 'Made in China 2025', the Spanish 'Industria Conectada', the Italian 'Fabbrica Intelligente', the Swedish 'Produktion 2030, the French 'Nouvelle France Industrielle', and several projects in Japan, such as the 'IoT Accelaration Consortium' and the 'Robotics Revolution' (Frederick, Bamber and Cho, 2018).

Recent Trends in Global Value Chains

Rationalization

One of the main trends in the current GVCs is the rationalization of processes, which means the consolidation of supply chains – driven by scale – within cost and technological capabilities. South Korea is particularly well positioned to take advantage of this trend. Its large business conglomerates, the chaebols, can verticalize several production process more easily than SMBs due to their scale, better access to global markets, and capacity to invest.

However, rationalization raises several problematic development issues. The process of verticalization tends to generate two negative outcomes – one internal and one external –, and both are related to the limited access of small firms to GVCs. Externally, the centralization of production processes within lead companies hollows out many SMBs and new startups, weakening them and threatening their viability, since they see their reduced role in GVCs. Internally, lead companies may reduce their capability of innovation due to its lack of openness.

For several years now, many startups have been transforming several industries with their innovative ideas and processes, even challenging some traditional companies consolidated in their industries. Those small companies managed to refresh the market by bringing new, crucial ideas to advance innovation, even though the rationalization process created a challenging environment for those SMBs to develop.

Servicification

Probably one of the major revolutions in the economic realm is the rise of the services sector. In the past couple of decades, we have witnessed a strong expansion of the servicification phenomenon, which has increased its share of the GDP in most countries, even displacing the industry and agriculture sectors. This logic also applies to the GVC domain. Currently, in many GVCs, services comprise the highest-value segments, instead of production activities (Youn, 2016).

In GVCs, services generally represent pre and post-production activities, which include product design and development, marketing, retail, and insurance. With the addition of emerging technologies, even the service sector has been through a significant transition (Chen, 2018). On one hand, the new "pay-per-use" approach has revolutionized the way society relates to products,

so manufactures has had to adapt to new consumption trends in order to remain competitive. On the other hand, the advent of artificial intelligence and big data has elevated the information and knowledge segments to a new level by connecting products – such as information harvest platforms – to companies, which have used this incredible amount of data to fuel and enhance their economic activities.

South Korea is currently a leading country in GVCs of the electronic industry, thus occupying a strong position to engage in the servicification trend, given the adherence of electronics to a wide range of services. The country is still lagging behind in services if compared with its main competitors, but the government (together with the leading companies) seems to be focused on advancing its knowledge economy and emerging technology frontier (Frederick, Bamber, Brun, Cho, Gereffi and Lee, 2017).

Given its distinct characteristics, servicification heavily relies on human capital and the support of technology. It demands a different set of skills: while manufacturing depends more on technical skills, services require a composition of technical and soft skills. This distinction requires that companies and governments reallocate their investments to cover not only emerging technology breakthroughs, but also human capital, which goes beyond the traditional engineering and hard sciences.

Automation and Labor

Emerging technologies that lead to production automation are considered the main source of efficiency and competitiveness in the manufacturing sector. The incorporation of emerging technologies in GVCs will probably improve significantly the productivity and enable further upgrades in the chain.

This change leads to an important transition from a labor-intensive to a capital-intensive approach in the manufacturing sector, which has some implications. Traditional manufacturing generally relies on semi-skilled, or even unskilled, workforce. This contrasts with the new types of human capital required for higher-value segments of the chain, which is likely to be knowledge-intensive.

This transition requires a shift in education and training, but also prompts a set of social policies to support those who will be unable to reinsert themselves in the new economy. Here again South Korea is in a good position to take advantage of this new trend, because the country already has strong technological capabilities, a high labor cost, and a dwindling workforce. These elements combined stimulate the automation transition.

A second implication of the automation phenomenon is the possibility of reshoring and attracting companies to the country. For several reasons, high labor costs encourage several companies to “export” their manufacturing production to more competitive countries. However, emerging technologies and automatization reduce the competitiveness gap between cheap and expensive labor countries, and these new dynamics boosts the government’s capability to attract companies to produce domestically.

GLOBAL VALUE CHAINS AXIS

SOUTH KOREAN SECTION

Historical Context

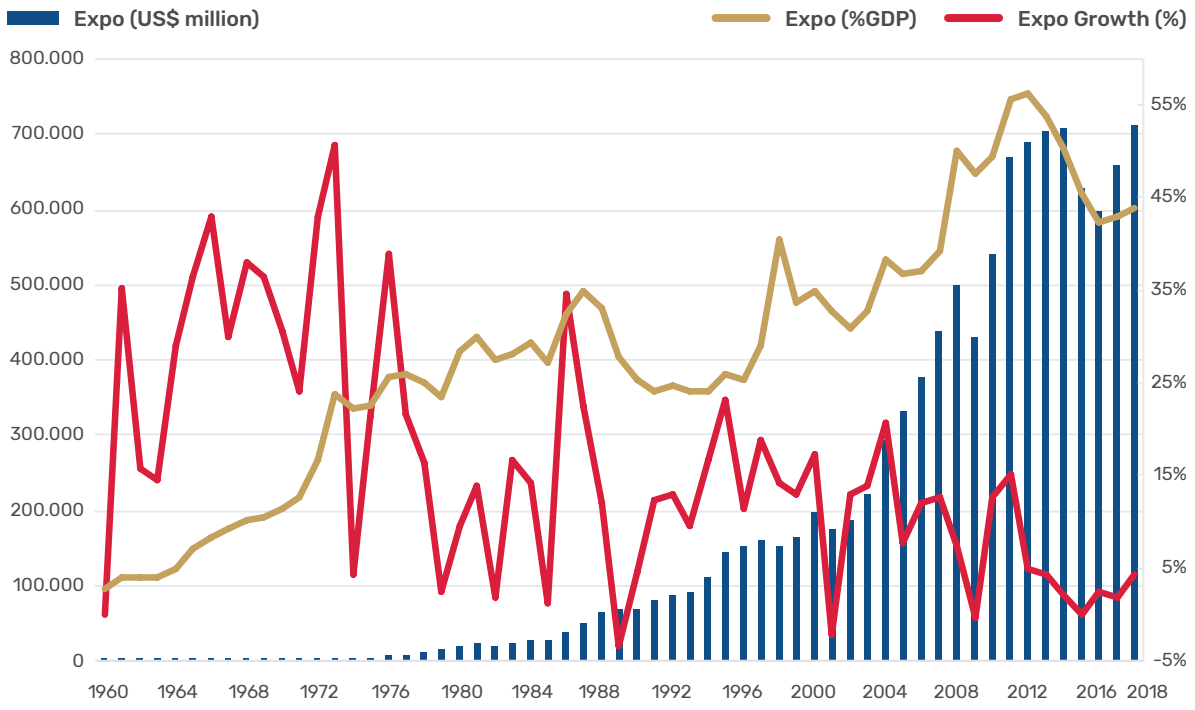
Since redemocratization, the South Korean approach to the industrial sector has shifted considerably. The country's development policy until that point overly relied on a State-led approach that went beyond providing incentives to industries. The South Korean government not only determined an overall development strategy, but it also compelled companies to follow it. During the 1990s, the government shifted its approach and started to reduce its role, thus giving the private sector more room to perform an active role in economy.

Then, the government started to focus on global integration and post-industrial transformation, with emphasis on knowledge economy and research and development (R&D), especially on Fourth Industrial Revolution's technologies. It also shifted its attention from large corporations (chaebols) to small and medium companies.

This shift to the new industrial policy is one of the main elements of the background that helps us explain the South Korean insertion in the global value chains. A second element of this background is the export-led orientation. Since the 1970s, South Korean companies, pressed by the government, have begun to focus on global markets. Through the following decades, South Korea rapidly became an active global trader, figuring as one of the world's largest importers and exporters. This performance gained further strength with the country's entry in international agreements and Free Trade Agreements, such as the Asia-Pacific Economic Cooperation (APEC) in 1989, which deeply integrated South Korean in the global markets.

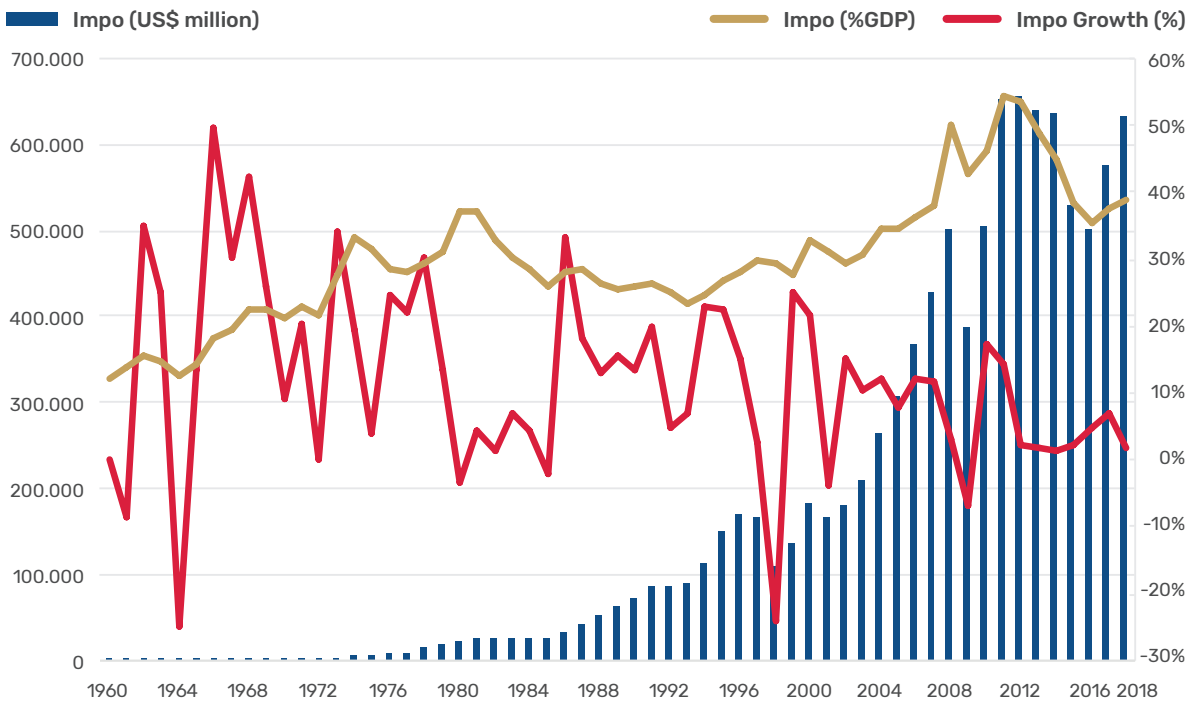
The last element of this background is a deep globalization effort taken by successive governments, especially after the 1997 economic crisis. This move may have found its apex during Lee Myung-bak's term (2008-2013), which promoted the idea of "Global Korea". This move was part of a broader internalization effort, which increased the South Korean international participation in many different levels, from politics to economy. During this period, the government expanded liberalization and "free market" policies.

GRAPHIC 7: **SOUTH KOREAN EXPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**



Source: Original Chart with data from World Bank

GRAPHIC 8: **SOUTH KOREAN IMPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**



Source: Original Chart with data from World Bank

During their recent development trajectory, South Koreans have experimented two “big jumps”, which placed them among the top players in GVCs. The first jump was in the end of the 1980s and early 1990s, when the country saw a transition from a labor-intensive manufacturing to a technological and capital-intensive economy. The second jump was in the early 2000s, when the government began to focus on the knowledge-based economy. Both transitions were vital to allow South Korean companies to add value to their manufactured products and consequentially move up in the GVCs (Chen, 2017).

The combination of this outward-looking approach with a strong industrialized manufactured industry, large, competitive multinational companies, and a government emphasis on R&D and technology allowed South Korea not only to enter in multiple GVCs, but also to engage in an upward trajectory within them (Frederick, Bamber, Brun, Cho, Gereffi, and Lee, 2017).

These trends in the South Korean new industrial policy inserted the country in a larger context: the “Asian Way”, which was characterized by an intensive production-sharing network that managed to improve the productivity of its participants with a wider “market”, provided by production fragmentation. The fragmentation and integration did not result in simple trade diversion; it delivered trade creation and made room for comparative advantages.

THE COMBINATION OF THIS OUTWARD-LOOKING APPROACH WITH A STRONG INDUSTRIALIZED MANUFACTURED INDUSTRY, LARGE, COMPETITIVE MULTINATIONAL COMPANIES, AND A GOVERNMENT EMPHASIS ON R&D AND TECHNOLOGY ALLOWED SOUTH KOREA NOT ONLY TO ENTER IN MULTIPLE GVCS, BUT ALSO TO ENGAGE IN AN UPWARD TRAJECTORY WITHIN THEM.

Regional Context

According to Kowalski et al. (2015), "location" is an important element in a GVC strategy, especially because GVCs commonly originate in a regional level. The GVC activity tends to concentrate around manufacturing hubs – which are robust economies with a well-developed industrial sector that is well connected with its neighboring countries, forming a supply chain.

In East Asia, this role was originally played by Japan. According to many experts, Japan was responsible for initially creating a regional production network, which fostered further integration initiatives. This first movement was deepened, in a second moment, by the Chinese rapid development, which also became an integrative force in the region. Indeed, the East Asia region offer us a very interest paradigm to analyze regional dynamics and how it could impact the global value chains. One of the most famous theories that had helped many of the initial analysis was Flying Geese theory developed by Kaname Akamatsu. It has determined a hierarchical structure for the countries in the region. All began with Japan, whose 'broke the wind" to the first tier newly industrialized countries (NIEs), also known as the Four Asian Tigers (South Korea, Taiwan, Hong Kong and Singapore), whose was, in its turn, "breaking the wind" for the second tier of NIEs: Malaysia, Thailand and Indonesia. China had an interesting role in leap frogging the Flying Geese tiers and challenging the Japanese dominance and its leading role in promoting the regional production networks (Kasahara, 2004).

Despite the Flying Geese theory suffered many critics and has been extensively challenged, it provided an important contribution in identifying a collective catch-up movement in the East Asia region, enabled by a central manufacturing hub, which by being upgraded, gave space to others. It has strengthened the intra-region linkages and created an environment for a near irreversible trend in regional integration.

South Korea has a particular history within this context. Firstly, because it has been one of the few countries in the regions that manage to follow the lead of Japan's roadmap for development. For instance, while several countries tried and failed to follow the General Trading Companies model developed by Japan, such as Taiwan, South Korean General Trading Companies exceled and became strong world class conglomerates.

Secondly, that success could have contributed to the path charted by the country in its liberalization process. While most of the Asian Tigers began its liberalization process, South Korea still remained relatively closed, since it relied in a very competitive national industry, not only by their productivity, but also by their capacity in developing technology. That context has held South Korean from deeply integrating itself in most production networks that were being constructed in the 1980´s.

That scenario changed with the 1997 Asian Crisis and by the Chinese rapid industrialization, that posed a significant competition to the Korean production. Since then, the strategy changed and the country began to insert itself in the production networks, especially those that were being built around China, whose became a new manufacturing hub in the region, and more recently in some Southeast countries.

Currently, by following the trade and FDI flows in the region, it is possible to identify how the production networks are being stablished around two major manufacturing poles and how this process has increased the interdependence of the East Asian economies through those production linkages.

Global Value Chain in South Korea

Move up and upgrade within the GVCs is still an essential developmental strategy for South Korea (Chen, 2017), so the government has been developing policies to foster and invest in human capital, infrastructure and to facilitate the access to new technologies. These policies have focused on "catching up" with the global leaders in manufacturing production, with whom the major South Korean companies compete and integrate. In this move, the "Adoption Innovation" policies allow South Korean companies not only to access foreign advanced technology, but also to develop it through domestic and foreign direct investments.

The last couple of decades has shown a deep commitment of South Korean companies (and government) with the GVCs, which we can observe by means of several indicators, such as the VAX ratio. VAX is the ratio of value added exports to gross exports, i.e. the value that a given country adds to the product it exports. In the case of South Korea, the VAX ratio sharply decreased from 75% in 1995 to 59% in 2011 (Chung, 2015).

This significant decrease in the VAX ratio implies that South Korean companies were losing ground to foreign countries as they managed to add value to the South Korean production chain, which may lead to a false assumption that South Korean companies were or have been losing space in the global market as a whole. However, although the domestic production has indeed increasingly relied on foreign inputs to production, the South Korean industry, due to its competitiveness, has also managed to increase its insertion in the production chain of other countries, by exporting intermediate goods.

This dynamic was possible apparently due to the maturity, scale and competitiveness of chaebols and to the government focus on fostering investments in R&D, emerging technologies, and human capital. The emphasis on R&D, particularly on selected industries, allowed the country to secure technological dominance in specific strategic components that are critical for final consumer products (such as displays and semiconductors). Those efforts placed South Korea as a leader of several production chains and as an important supplier to other countries' chains, especially in the electronics, shipbuilding, and automobile industries (Chung, 2016).

Despite the considerable decrease in the VAX ratio between 1995 and 2011, South Korea still has a strong in-house production network. Small and medium businesses (SMBs) are an important element of the value chains led by chaebols, even though they were generally "displaced" from the domestic chains due to the competition of foreign companies, which began to supply intermediate goods to chaebols (Frederick, Bamber, Brun, Cho, Gereffi, and Lee, 2017). Nonetheless, SMBs still have a significant role in the domestic supply chain.

At the same time, the relative strength of the domestic supply chain has exposed South Korean companies to some vulnerabilities. The first vulnerability is the quasi-dependence of SMBs to chaebols. This intense relationship created by chaebols' strategies leaves SMBs with very few market options and a relatively weak export capability (Gereffi, Humphrey and Sturgeon, 2005). The second vulnerability are the limits to innovate and learn independently. It means that the successful participation of South Korea in GVCs has largely relied on the effectiveness of several leading companies (Frederick, Bamber, Brun, Cho, Gereffi, and Lee, 2017).

TABLE 5: **ADVANTAGES AND CHALLENGES OF KOREA'S CURRENT ENGAGEMENT IN GVC**

ADVANTAGES	DISADVANTAGES
Indigenous lead firms not trapped in MNE network structures	The focus on manufacturing misses opportunities for new business models and financing
Vertically integrated: Strong in-house manufacturing and ownership of production technologies	Captive suppliers find it difficult to diversify
Experience in adopting foreign technologies	Vertically integrated: high risk of innovative R&D, poor development of service providers
Strong industry-government linkages for workforce development and applied R&D	Reliant on government support, and willingness of a public support to industry
Ability to develop new technologies in high-tech industries enabled country to create top global brands (but in a narrow range of products)	Concentration on limited number of industries; limited transfer of skills and capabilities across industries
	Relatively isolated supply chains; limited potential of learning from international best practices

Source: Frederick, Bamber, Brun, Cho, Gereffi and Lee, 2017

Despite several potential shortcomings, South Korea is well positioned in the current GVCs it has focused on. Its strong industrial base and its recent investments in R&D and technology, especially from the Fourth Industrial Revolution, have kept an upward trend of upgrade in the GVCs, both domestic and foreign. However, preserving this scenario requires that both government and companies be aware of the most recent trends in GVCs.

GLOBAL VALUE CHAINS AXIS

BRAZILIAN SECTION

Historical Context

The Brazilian Developmental Era comprehended the period beginning in the 1950s to the late 1970s – although the "pre-history" of the 1930s and 1940s also had its contribution. Throughout this period, the industrialization drive successfully developed a diverse and robust industrial park. The effort resulted in a significant push in the sector, increasing its importance in the Brazilian economy, peaking at more than 30% of the GDP in the mid-1970s.

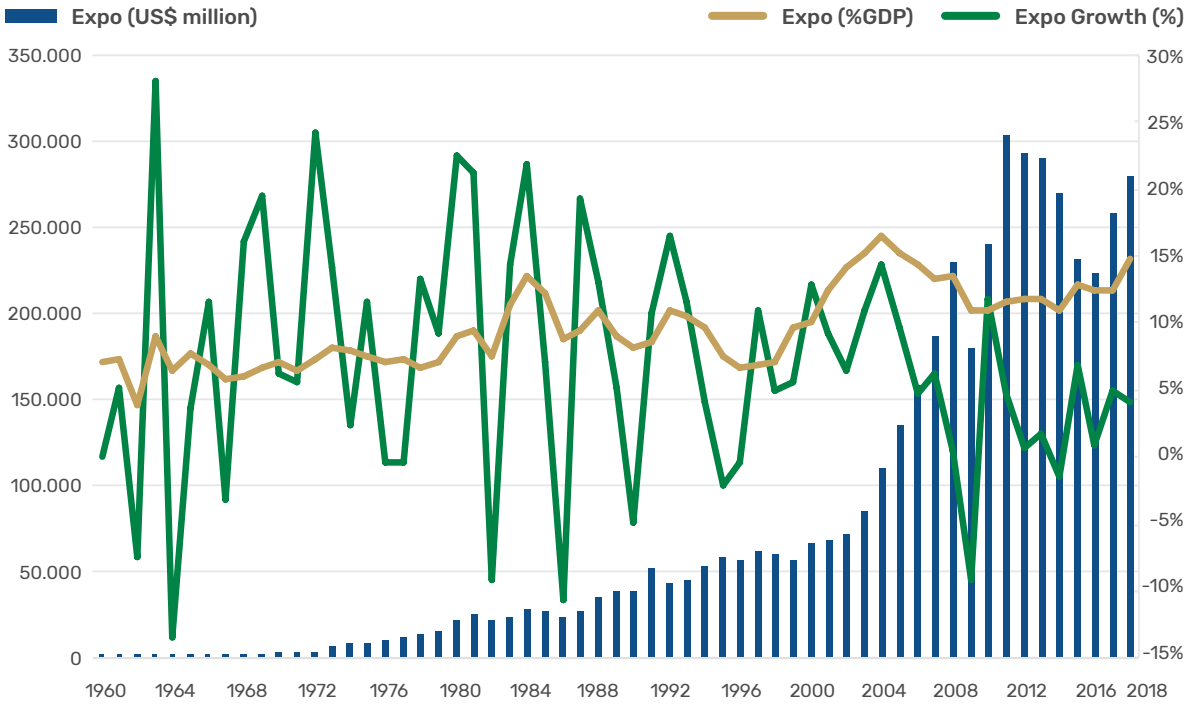
The overall strategy of the industrialization drive was the import substitution model. As described earlier, Brazil focused on the establishment of a set of benefits: tax breaks and subsidies for the national industry; protective policies that raised tariffs to external products and enacted a tight regulation to increase the entry costs for foreign products; and a "fine-tuning" in macroeconomic policies, such as granting a favorable exchange rate to increase the national industry's competitiveness.

The end game objective of the succeeding governments in the Developmental Era was to raise Brazil's status to developed country through industrialization. They believed that the country needed a nearly independent, robust, diversified and vertically integrated industrial park. The country pursued, with its industrialization effort, the idea of producing and exporting a "product totally 'made in Brazil'" (Oliveira, 2017).

The Developmental Era ended in the 1980s during a major economic crisis. The mounting inflation, the escalating foreign debt, the crippling debt servicing, and the economic slowdown made the country to turn away from the developmental mindset and begin to operate solely under a macroeconomic stabilization rationale. The policy framework that allowed the development of the productive sector during the 1950-1980s was mostly dismantled in the 1990s – the "Decade of Liberalization" –, although a few elements survived (Veiga and Rios, 2015).

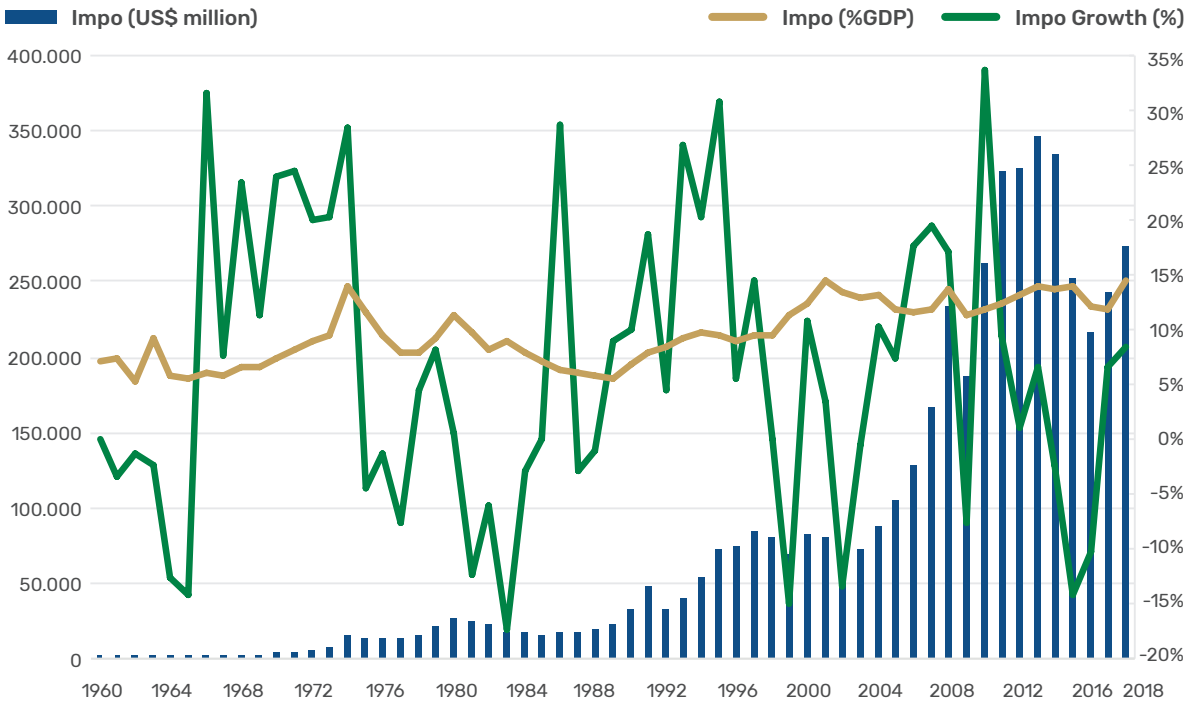
The Decade of Liberalization brought the world in. Especially in the early 1990s, during the commercial opening fostered by President Collor, the new rationale preached efficiency and modernization. For that purpose, the government believed that the national industry needed an "international shock exposure." By exposing the domestic companies to the international market, the government forced them to modernize by becoming more efficient. The move, though, did not contained a package to support the Brazilian companies to go through this transition.

GRAPHIC 9: **BRAZILIAN EXPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**



Source: Original Chart with data from World Bank

GRAPHIC 10: **BRAZILIAN IMPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**



Source: Original Chart with data from World Bank

The industrial policies shifted by 2010, soon after the Financial Crisis. President Da Silva's core policy was growth by the domestic mass consumption. Through a number of measures, he managed to increase consumption considerably during his term – family consumption in Brazil rose 78% from 2004 to 2014. This phenomenon increased the domestic demand, pressuring the productive sector, which was not able to meet it. The industrial sector had been losing its share in the GDP since the 1990s, indicating a possible deindustrialization of the economy – the industrial share in the GDP fell from 31.7% in 1974 to 17.2% in 1995, and 10.1% in 2014 (Callegari, Melo, and Carvalho, 2018). The increasing domestic demand for consumption, the inability of the productive sector to meet the demand, and the strong Real substantially increased imports.

Pressured by the productive sector to act, the government developed a number of protective policies. The rationale adopted in this period revived some of the main tenets of the Developmental Era, although the government remained committed to some Stabilization Era tools, since the prospects of the return of hyperinflation were unconceivable. Following up some industrial policies enacted by President Da Silva, President Rousseff fostered a number of policies, such as increasing tariff and non-tariff barriers, developing a new set of subsidies, enacting regulation at minimum levels of local content, granting concessional credit, and establishing new regulations to benefit national companies in government procurements.

As mentioned before, the set of protective policies towards the Brazilian industry did not fully achieve its aim. The policies that tried to promote the productive sector were, in a way, auxiliary in relation to the importance given to the macroeconomic objectives. While the government offered the aforementioned set of policies, it maintained the exchange rate trajectory and the high interest rate, and failing to act decisively to mitigate the "**Brazil Cost**" phenomenon. In the end, the promotion policies were also victims of the "Crisis Supercycle" that the country has been experiencing.

BRAZIL COST

Translated to "Brazil cost", the expression designates the direct and indirect costs that affect the production of goods and services, making it very difficult or disadvantageous for Brazilian producers to export their products or compete with imported ones. They are the sum of the costs and expenses that make business more inefficient for local producers, inserting great losses into the production chain. Among them are: high taxes, excessive bureaucracy, complex customs operations, amount of red tape in opening and maintaining a company, outdated labor legislation, poor condition of infrastructure (roads, waterways, railways, ports, etc.), expensive and inefficient communication, precarious security, government mismanagement and corruption.

The Brazilian Ministry of Economy, in partnership with the private sector, carried out in November 2019 the first diagnostic study of the "Brazil cost". In its methodology, twelve types of costs were considered: opening a business, financing it, employing labor, availability of infrastructure, access to basic production inputs, costs of the legal and regulatory environment, general integration of global production chains, tax costs, access to public services, business reinvention, competitiveness and the costs of closing or resuming a business. Finally, the research concluded that the "Brazil cost" consumes about R $ 1.5 trillion per year for companies, which was equivalent to 22% of the Brazilian GDP in the year of the publication.

THE SET OF PROTECTIVE POLICIES TOWARDS THE BRAZILIAN INDUSTRY DID NOT FULLY ACHIEVE ITS AIM. THE POLICIES THAT TRIED TO PROMOTE THE PRODUCTIVE SECTOR WERE, IN A WAY, AUXILIARY IN RELATION TO THE IMPORTANCE GIVEN TO THE MACROECONOMIC OBJECTIVES.

Regional Context

Observing the earlier mentioned 'location logic' from Kowalski et al. (2015), the Latin America and Caribbean (LAC) context illustrates the relevance of the regional factor (Callegari, Melo and Carvalho, 2018). The LAC has a set of unfavorable characteristics to the development of this productive network relationship. First, the countries in the region have a highly similar export portfolio, which means a low level of complementarity between the countries. Nearly all the countries export agricultural, mineral and energy commodities.

Second, the region is poorly integrated. The lack of comprehensive trade agreements has hindered the countries' commercial relationships. The region has a number of sub regional trade agreements that, although interconnected by several sub agreements, have multiple trade standards and regulations that pose obstacles to trade. Although most of these agreements cover only traditional aspects of trade, such as tariffs, they generally do not manage to harmonize standards and regulations that deal with intellectual property, services and innovation flows.

The third characteristic is the lack of a manufacturing hub in the region. No country in the region has played a similar role to that of the US, Germany, China or Japan in their respective regions. The presence of a manufacturing hub in the region could have enabled the complementarity between the counties by fostering the specialization in specific products and/or segments of the chain. The hub also has pivotal role in investing in the neighboring countries, by not only opening subsidiary factories but also contributing with infrastructure to enable each country to join the chain.

The combination of these characteristics provides for an unfavorable environment for the insertion of the countries in the region into the GVC, except for Mexico, which is very integrated into the US chain. From the GVC perspective, the region lags behind in comparison to other regions – for instance, the intraregional trade in the region accounts for only 18% of its exports, while this figure is 50% in the East Asian countries and 63% in the European Union. The same is seen regarding the share of parts and components in the intraregional trade, where it accounts to 37% in the East Asian countries, 18% in NAFTA, 17% in the EU and only 9% in LAC.

Global Value Chains in Brazil

As previously mentioned, the Brazilian development process had a particular inward looking approach. In fact, given the size of the country's domestic market and the increasing internal demand for consumption, the investment and strategies used by the national business are mainly concentrated on meeting this demand. Even regarding industrialization policies, the aim has always been to develop full production chains rather than to specialize and join foreign production chains. As mentioned, it was believed that this verticalization of production would reduce the country's vulnerabilities. In fact, until very recently, the idea of relying on imports was considered a weakness in the country.

This is not to say that the country is completely out of the Global Value Chains or that it only relies on primary products. It seems that the insertion in the GVCs in Brazil is a decentralized phenomenon, in which several companies or sectors seek their insertion in spite of governmental strategies. Brazil's policies towards industrial development have been not only complex and instable, but also lacked a clear export drive. On the contrary, their main objective has always been to address its large domestic market. There were exceptions as mentioned before, but those export policies lacked political backing, were not priorities or focused on the development of national champions companies (and not on the industry itself).

These last remarks could be better illustrated by the examples of the automotive and the aerospace industries. Here, Embraer is a case point. As one of the four international leaders in the sector, Embraer is deeply inserted in the Global Value Chains. Currently, in this industry, lead firms manage to outsource most of the production stages, becoming responsible mainly for the design, final assembly and delivery. As Sturgeon and Gerefii (2013) says, they act as "supply chain orchestrators" as they function as systems integrators assembling subsystems produced by a number of others companies.

The decentralization of the industry is so intense that it introduced the 'risk-sharing partnership' model, in which several tier 1 suppliers share with the lead company the investment for the design of a new product. Therefore, distributing the financial risk of a new venture among its main suppliers, but also compensating them according to the financial performance of the product.

That said, Brazil has companies across the chain of the aerospace sector, but only few local companies manage to became tier 1 supplier from Embraer and less than that are able to enter in the risk-sharing partnership. Most tier 1 companies are foreign global suppliers. The main domestic policies for the aerospace industry are designed to support the competitiveness of Embraer and not to foster Small and Medium companies in the sector to became global suppliers. The RECOF[9] customs regime , for instance, signicantly reduce the taxes from Embraer imports, which is key to maintain the competitiveness of the company, but also put a severe pressure on the local SMEs that are not capable to compete in the global market.

In the automotive industry, despite the country is a relevant player in car and car parts production, the country does not have a national lead company in the sector. In the 1990´s the

9. Industrial Bonded Warehouse Regime under Electrical Control System. Its main goal is to suspend federal taxes levied upon in importation of capital goods destined to export production.

sector underwent a wide modernization process in the context of the economic reforms and economic opening. In order to become competitive in the international market, the government enacted the Brazilian Automotive Regime (RAB) in 1996 which aimed to bring newcomers, both automotive lead companies and parts manufactures, to produce in the country. For that the RAB offered several benefits to those companies, as tax incentives. Among the RAB targets were the increase in FDI to the sector, an increase in production and to foster exports.

During the period in which the RAB was active, most its goals were not achieved. Notwithstanding, it had a collateral effect in the industry. The benefit package it offered did attracted a number of newcomers in the car parts sector, which eventually resulted in a denationalization of the segment, since the local SMEs did not manage to compete with the foreign newcomers (Lima, 2016). Since them, other policies were enacted to support the sector directly (specific policies for the sector) or indirectly (horizontal policies)[10]. In fact, the after the 2000´s the automotive sector did manage to enhance its production capacity and its competitiveness, consolidating the country as one of the word top producers.

The denationalization provoked by the RAB enabled foreign companies to near dominate the tier 1 and 2 in the car parts sector. That change, combined with the successive support policies to the sector also resulted in a deeper internationalization of the automotive sector. This internalization was lead basically by the new foreign companies, which had more experience and competence than the national ones to take part in the GVCs.

Nonetheless, the strategies from those companies are mainly focused on the Brazilian domestic market, one of the largest in the automotive sector. Those strategies had shaped a certain 'profile' in the national production. There is a significant concentration on more popular models with low technology. Therefore, the cars produced in Brazil have a restricted market, basically the domestic market, Latin American countries (having Argentina accounting for nearly half of the exports) and few African countries.

According to Lima (2016) most of the directed policies designed to the sector had export and innovation goals, but they generally lack clarity, monitoring mechanisms (to ensure that companies comply with the targets set by the policies) and rarely provided a long term strategy – they usually had an 'emergency' character. In that sense, the domestic industry is still very dependent from the performance of the Brazilian domestic market.

The relative fragility from the Brazilian export promotion policies and instability of its industrial development policies have posed challenges to the local Small and Medium Enterprises in accessing GVCs. Beyond the domestic 'horizontal challenges' such as the already mentioned 'Brazil Cost', SMEs generally have trouble in access financing to reach the necessary scale and achieve the quality standards required to compete in the international market and, therefore, insert themselves in the GVCs. That trend is better illustrated by the country historical share in the international trade.

According to the WTO statistics, the Brazilian share of the international trade was 1.2% in 2018, roughly the same figure the country had in the 1970s and higher than the numbers during the 1980s and 1990s, when the Brazilian share was below 1%. The level of participation of the country in international trade not only is considered extremely low considering the size of its economy, but also has remained stagnant for the last fifty years. Regarding the level of insertion in the GVCs, according to a UNCTAD report (2013)[11], the country ranked 24th among the top 25 global

10. Among the most important are: Industrial, Technology and Foreign Trade Policy (PITCE); Productive Development Policy (PDP); Plan Bigger Brazil; Invar-Auto and several tax cuts for domestic consumers.

11. Available at: https://unctad.org/en/PublicationsLibrary/wir2013_en.pdf

exporters with a rate of integration of 37%. In addition, according to the OECD Trade in Value Added (TiVA), the Brazilian average growth in participation in GVCs between 2005 and 2015 was of less than 6%, below the average of developing countries of 6.5%.

These statistics reflect what Callegari, Melo and Carvalho (2018) called a 'peculiar' insertion of Brazil into GVCs. The authors argue that, in the last couple of decades, the country has been a top destination of FDI and has been importing large amounts of high value added products, elements that are generally present in countries well inserted into the GVCs. Conversely, the Brazilian participation in the international trade is relatively small and its exports have been increasingly dominated by low value added products, especially agricultural and mineral commodities and oil. The authors' explanation for this paradox is twofold: first, although the country has been importing a large amount of high value added products, these products seem to target internal consumption rather than integrating the production chain of the country's exports. Second, despite the considerable inflow of FDI into the country, significant parts of the capital go to the primary sector and low technology sectors (nearly 50% in 2014), with only a small share destined to high technology sectors (approx. 5% in 2014).

Even though the country has enacted several policies under President Da Silva's terms, such as the Productive Development Policy and the Industrial, Technological and Foreign Trade Policy, according to Oliveira (2014), they failed to accomplish their objective to foster competitiveness due the a lack of "understanding of the structural changes in the global production system, increasingly internationally dispersed and fragmented in GVCs". Even the Growth Acceleration Plan with its large focus on infrastructure and on important elements of the Brazilian infrastructure deficit failed to focus on the demands of the exporting sector.

Another central element that has been hindering the Brazilian competitiveness in the international level is the country's lack of incentives to innovation and development of skills. Using the traditional metric regarding the commitment of a country to innovation, the Brazilian R&D expenditures are considered quite low in comparison to its international competitors. In 2017, the country invested 1.3% of its GDP in R&D, a modest increase from the 1.1% in 2007, which is well below the average in other developing nations in East Asia.

Additionally, according to the 2019 Global Innovation Index (GII), the country ranked 66th out of 129 countries, achieving a below-average score. Brazil also lags behind when it comes patents. The country is in the 52nd position in the GII 2019 and had approximately 50 times fewer operating patents than the US (40 times fewer than Japan, 16 times fewer than South Korea and China) in 2015. One reason that helps explain this poor performance is the low participation of the national private companies in financing R&D. Private financing in leading countries is generally higher than public financing, which is not the Brazilian case, where more than 50% of R&D financing comes from public sources. That can be explained by both the lack of public incentives to foster innovation and the lack of interest from the private capital to modernize and increase its competitiveness.

From an international perspective, President Da Silva has undertaken an unprecedented 'commercial diplomacy'. During both his terms, the president engaged in a number of missions to establish new commercial partnerships. This effort was under the umbrella of his vision of a new international moment, in which the international economic axis was gravitating from the North to the South, given the ascension of emerging markets. In line with this logic, the president wished to diversify the commercial partnerships, giving more emphasis to the relation with other developing nations, especially in South America and Africa.

Although there is merit in seeking to diversify the country's commercial partnerships, those efforts were, in a way, disconnected from more modern types of commercial partnership. In other words, the diplomatic effort focused simply on 'traditional commercial partnerships', or increasing exports. Eventually, those missions included the promotion of a national champion, facilitating its investments abroad. However, those missions did not attempt to form supply chains, nor did they seek to insert the country into other global value chains – the logic behind the missions was simply to sell finished "Made in Brazil" products.

That logic was better perceived in the work done by Brazil's Export Promotion Agency and the Ministry of External Relations. As Oliveira (2014) put it, their intelligent tools for commercial promotion and market reports did not focus on production chains or on opportunities to insert leading companies into GVCs.

While this figure is 50% in the East Asian countries and 63% in the European Union. The same is seen regarding the share of parts and components in the intraregional trade, where it accounts to 37% in the East Asian countries, 18% in NAFTA, 17% in the EU and only 9% in LAC.

03

BRAZIL AND SOUTH KOREA FROM A COMPARATIVE PERSPECTIVE

Introduction

The success experienced by East Asian countries in their recent development has inspired a lively discussion towards both understanding their process and comparing it to other countries that have also undergone late industrialization – especially in Latin America. A large part of this literature has being trying, through comparative research, to identify lessons from the East Asian countries that could be used to inspire policies in other countries. The methodology of comparative research is a powerful tool to aid in this effort.

However, this approach must be tempered with caution, since comparing countries is a complex task. Each country has an incommensurable number of particularities that can better explain why a given vision, strategy or policy works in that country, and the absence of some of these characteristics may interfere with the comparison in another context. With that said, once we are aware of the risks in comparing the development processes in two different countries, doing so may provide some interesting insights, since it is the best way to look for alternative models.

In that sense, analyses comparing the Brazilian and South Korean experiences have taken a central place. The comparative analyses of these two models have not only shed some light into potential best practices, but also allowed us to map the persistent vulnerabilities that still have to be addressed by policymakers.

The South Korean case has received the most attention. In the second half of the 20th century, South Korea has undergone an amazing economic development. It managed to transform an impoverished and war-torn country into an industrial powerhouse, technological hub and leading export country. For several decades now, the Republic of Korea (ROK) has been a case model for analysis due to its successful development in a relatively short period of time.

The report 'Catching-up from Behind: Lessons for India' (Nath, 2006) commissioned by the Indian government is an interesting initiative in that direction. It sought to analyze and summarize the Japanese and South Korean development strategies for the consideration of the Indian government as they devised their own future strategies.

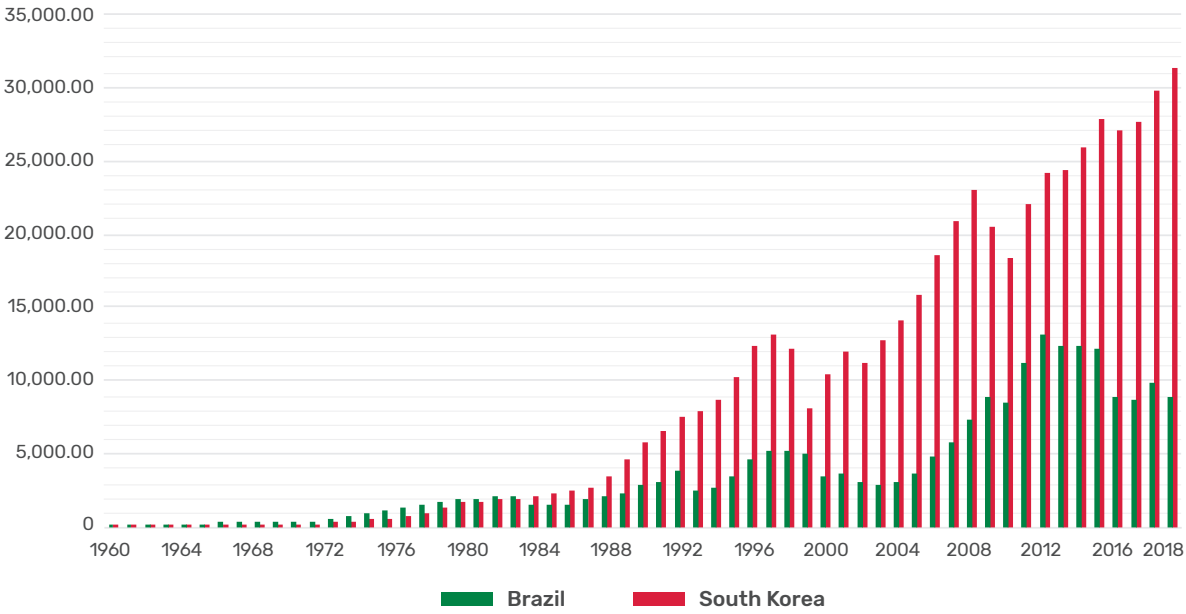
One of the main ways to compare Brazil and South Korea is their historical context, from their colonization experience to their current geopolitical position. Some authors have sought to determine how their experiences as colonies affected their early development. For instance, Dias (2008) argues that the Brazilian past as a colony rich in resources has shaped and still influences its agricultural exporting vocation. Conversely, the colonial experience in South Korea did not shape its economic vocation as much as it did in Brazil.

Most of the analysts who have sought to draw their conclusions from this comparison generally highlight the importance of the social issues intrinsic to each case. The level of inequality plays a particular role in these analyses. One event considered pivotal to the reduction of inequality and, for many, an enabling factor in South Korea and a problematic factor in Brazil, was land reform. In the South Korean case, land reform not only managed to reduce inequality in its society but also was particularly important in reducing the power and influence of the agrarian elite. As Yoo (1990) points out, South Korea has achieved one of the lowest levels of income concentration when compared to developing nations. In contrast, the lack of a significant land reform in Brazil has been considered a key element in maintaining its level of inequality, especially in rural areas,

and has allowed the permanence of a powerful rural elite, which still has considerable sway in the Brazilian political arena.

Another indicator that is commonly used to compare both countries and to highlight the success of South Korea in comparison to Brazil is the GDP per capita. What those analyses generally fail to consider is that Brazil and South Korea had a very similar trajectory regarding per capita income from the 1960´s until early 1980´s. In fact, South Korea 'came from behind' considering its context in the 1950´s. According to the World Bank, as mentioned, both countries had a similar level of per capita income until 1982 (when Brazil's GDP per capita was US$ 2,226 and South Korea's was US$ 1,977). Although both countries followed an upward trend following that year, South Korea managed to escalate significantly, reaching US$ 31,380 in 2018, while Brazil's GDP per capita was US$ 9,001 in the same year (the Brazilian per capita income had reached a peak of US$ 13,245 in 2011, but the Super Cycle Crises experienced by the country had a great impact on the economy).

GRAPHIC 11: **BRAZILIAN AND SOUTH KOREAN GDP PER CAPITA FROM COMPARATIVE PERSPECTIVE (1960-2018)**



Source: Original Chart with data from World Bank

This turning point coincides with the change in the strategies adopted in Brazil, marking the Development Era and the Adjustment Era. Nonetheless, there is a need for more research to address this phenomenon.

Another important aspect of the historical comparison comes from the international perspective, especially from geopolitics. In the case of South Korea, the country was in the very center of the forty-year dispute between the US and the Soviet bloc and China. South Korea was a strategic piece on the US Geopolitical board, and had played its role well by galvanizing foreign support, especially from the US, for its own development. That particular situation not only benefited the country with special trade relations, but also turned South Korea into an important recipient of foreign aid. From 1946 to 1980, South Korea received nearly US$ 6 billion from the US, providing a significant source of capital for the country's reconstruction and later to aid in the developmental plans. Woo (1991) illustrates the scale of the US aid in comparison to other regions: "The Korean total of $6 billion in U.S. economic grants and loans, 1946-1978, compares to $6.89 billion for all of Africa, and $14.89 billion for all of Latin America".

Brazil has also received aid from US and other Western countries, although the proportion was considerably lower and the aid was generally associated with conditions or concessional loans. For instance, a significant part of the US aid to Brazil came in the form of food assistance under the Public Law 480 during the 1950´s, which aimed to provide American agricultural surpluses at lower prices. This particular policy had the collateral effect of suffocating the nascent Brazilian wheat production, since the subsidized wheat from the US was more competitive. On the other hand, Brazil did receive some help from the US that had a real impact on the country's industrial capacity in the context of the Second World War, when the US offered assistance to build a steel plant, among other things, in return for Brazilian support in the war effort.

Developmental Trajectories

Another large group of researchers focused their attention on the differences in the developmental strategies and trajectories. Here, the industrialization process takes the central stage. Analyzing and comparing these two processes is a daunting endeavor, given the numerous possible angles of analysis. We will focus on two main elements: the different paths taken for the import substitution strategy and the importance and character of the role of the State role in coordinating the process.

From the perspective of the import substitution strategy, the South Korean path, following the Japanese example, engaged in a number of protective policies, such as special tariffs, quotas, licenses, special exchange rates and concessional credits to protect its national industry. To access those policies, Korean companies had to comply with the strategy and reach the goals set by the government. A key component of this strategy was to orient production towards the international market and have the goals determine the increase in productivity. One of the main ambitions of the strategy was to make the chaebols competitive in the international market. To that end, the protection to industry had the overall objective to internalize technology, enhance capabilities, and add value to production to achieve a level of excellence that could enable the country to play in the international market.

The Brazilian path to the import substitution strategy also had the aim to protect its national industrial sector using similar mechanisms, such as concessional credit, special tariffs, fostering FDI to specific sectors, among others. The strategy of the Brazilian government seemed to be more concerned with reducing its vulnerabilities by becoming more independent, balancing its commercial balance, and the status of the country (aiming to become a developed nation). Therefore, the bulk of the Brazilian industrial production was directed to the domestic market. Although eventually some governments took measures to foster the exports, the aim of those particular actions was generally to address the deficit in the balance of payments.

A striking difference between both developmental trajectories is perceived in the sequence of the developmental plans. In South Korea, not only did the Five-Year Plans manage to become a

series that lasted for seven rounds, but also each new plan was built on the achievements of its predecessor. That event provided a sense of continuation to the developmental process, which seemed to be detached from any particularities of a single government.

In the Brazilian case, the program lacked continuation, with rare exceptions. During the military rule, the Government Action Plan did aim to create the economic conditions for the following plans, but they were focused on reforms that were not specifically related to the industrial process. The National Development Plans I and II did have such a connection, but the Oil Crises heavily affected both plans. Apart from these episodic connections, the Brazilian developmental plans were interrupted several times by reactionary plans for economic stability. In addition, each plan seemed to have a strong association with personality – each president enacted his own personal plan, and no economic plan 'outlived' its creator.

A STRIKING DIFFERENCE BETWEEN BOTH DEVELOPMENTAL TRAJECTORIES IS PERCEIVED IN THE SEQUENCE OF THE DEVELOPMENTAL PLANS.

Another angle that supports the arguments made about this difference is the identification of the 'coordinating body' within the government that took lead of the developmental drive. In the case of South Korea, the leading institution in this process was the Economic Planning Board, which, from 1961 to 1994, developed and implemented the developmental strategy of the succeeding governments. Yet, an illustration of its relevance was that the head of the EPB also accumulated the office of Deputy Prime Minister for nearly its entire existence.

Brazil had a similar experience under President Kubitschek during 1956 to 1960, when he created the Development Council to coordinate his Target Plan. In 1961, the Development Council was overshadowed by the creation of the National Commission of Planning by president Quadros. Both were eventually discontinued during the military regimes, which relied heavily on the Ministry of Planning to coordinate the developmental effort. From the 1980´s onwards, the government ceased to have the same leadership and coordinating role as it used to have during the developmental years.

That difference in the trajectory of each case helps to understand how, in the Korean case, the sequence of events managed to improve the complexity of the country's industrial sector in each plan. In the Brazilian case, the plans generally focused on the same sectors: Transport, Energy, Steel and other heavy industries. The Brazilian plans seemed to be more focused on dealing with (economic and infrastructure) 'bottlenecks' than on upgrading the industrial sector to acquire competences in order to engage in higher valued sectors.

This context also seems to be a reflection of the political support behind the developmental trajectory. In Brazil, the political support behind the developmental drive was relatively uneven throughout the period. There was a stronger support towards industrialization during the developmental years, but this support waned during the 1980´s and 1990´s, when the highest priority of the succeeding governments was to stabilize the economy (Coutinho, 1999). The support for industrialization reappeared during the 2000´s and 2010´s, but it was not as strong as before. The developmental policies were subjected to macroeconomic priorities, and faded once the country entered its Super Cycle Crises.

TABLE 6: **BRAZILIAN AND SOUTH KOREAN ECONOMIC PLANS (1946-1999)**

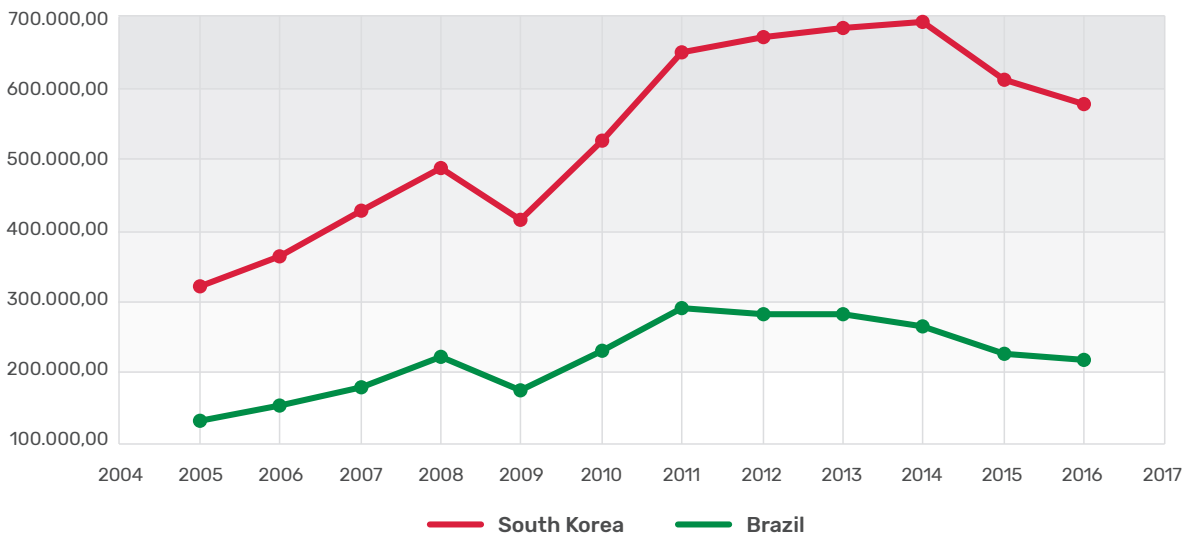
BRAZIL			YEAR	SOUTH KOREA		
FEATURES	PLAN	GOVERNMENT		GOVERNMENT	PLAN	FEATURES
It aimed to tackle some of the major socioeconomic problems. It was organized around four main pillars: health (increase sanitation), food (facilitate consumption and trade), transport (expand highways, railways and modernize ports) and energy (diversify the energy matrix).	Salte Plan	Eurico Gaspar Dutra	1946 1947 1948 1949 1950			
Significant push in the industrialization substitution strategy. Focused in tackles te country major 'bottlenecks' limiting growth: Transportation, Energy, Food, Education and Basic Industry.	Target Plan	Juscelino Kubitcheck	1956 1957 1958 1959 1960			
Economic stabilization plan. It aimed to control the inflation, refinance the foreign debt, reorganize the public spending especially regarding social development policies and balance the public accounts. It also focused in increase the government role in health, education and rural areas (land reform).	Three-Year Economic and Social Development Plan	João Goulart	1962 1963 1964	General Park Chung-hee	1st Five-Year Plan	Aimed to transform the South Korean economy converting it to na industrialized country. The plan sought to: 1. build the base of its industrial infrastructure, focusing in specific sectors: energy, oil refining, fertilizer synthetic fibers, and cement; 2. Build Infrastructure; 3. Mobilize capital; 4. Improve the balance of payments; and 5. Invest in technology (especially those related to the privileged sectors in the plan).
Enacted economic reforms to cope with the economic crisis (tax reform, financial reform, monetary reform) nd allow the resume of the industrialization process. It created a number of policy innovations, such as parafiscal funds to mobilize domestic capital for investment.	Government Economic Action Plan (PAEG)	Marechal Humberto Castelo Branco	1965 1966 1967			
Aimed to foster and modernize basic industries, especially in the sectors: steel, iron, chemicals and capital goods. It also tried to reorganize strategic traditional industries: energy, transports, communications) and increase the agro production.	Strategic Program for Development	Costa e Silva	1968 1969 1970		2nd Five-Year Plan	Focused in modernizing its industrial structure. Government focused in guaranteeing its autonomy in strategic sectors: food production, fishery and forestry. Heavy investments in Import Substitution: steel, chemicals and machinery. In parallel focused in job creation, family planning (population control), promotion of technology and increase of the productivity.
		Emílio Garrastazu Médici	1971			
Deepened the major directives of the previous plan. Gave a special focus on the naval, steel and petrochemical industries. In parallel sought to foster the Brazilian business sector by promoting large enterprises (aimed to bring more private investment to the strategic sectors).	1st National Development Plan		1972 1973 1974		3rd Five-Year Plan	It had two major objectives: first to foster an export led economy and second to promote heavy industries: iron & steel, non-ferrous metals, machinery, chemical, shipbuilding and electronics. in parallel aimed to diminish or eliminate foreign capital dependency, to that began to facilitate/promote the rapid growth in a restricted number of companies in those sectors.
Aimed to invest heavily in the economic sectors identified as economical 'chocking points', especially in production goods, infrastructure and energy. To counter the increasing deficit, the plan also fostered the exporting sector.	2nd National Development Plan	Ernesto Geisel	1975 1976 1977 1978 1979	Choi Kyu-Há	4th Five-Year Plan	Deepened the major directives of the fourth plan. Aimed to strengthen its national champions in order to allow them to become competitive internationally. The plan singled out a number of segments considered strategic: machinery, shipbuilding and electronics - which shared important features, such as reliance on high technology and need of qualified labor, both addressed by the fourth plan. Also created Special Economic Zones (to support exports) and General Trading Companies to expand it exports in the global markets.
Economic stabilization plan. Implemented strong adjustment measures to cope with the explosion of the foreign debt, reduce the public deficit and control the inflation. It also promoted a strong devaluation of the exchange rate in order to increase the competitiveness from the Brazilian exports.	3rd National Development Plan	João Batista de Oliveira Figueiredo	1980 1981 1982 1983 1984 1985	General Chun Doo Hwan	5th Five-Year Plan	Marked a significant reorientation in the South Korean Economy. Shifted attention from the heavy industries to technology intensive sectors: electronics, precision machinery and information. Aimed to foster the production of high-technology products and durable goods, which had an increasing demand worldwide and a higher aggregate value.
Economic stabilization plan. Created new currency.	Cruzado Plan	José Sarney	1986			
Economic stabilization plan.	Cruzadinho					
Economic stabilization plan.	Cruzado II					
Economic stabilization plan.	Bresser Plan		1987			
Economic stabilization plan.	Rice and Beans Plan		1988			
Economic stabilization plan. Created new currency.	Summer Plan	Fernando Collor	1989	Roh Tae-woo	6th Five -Year Plan	Deepened the major directives of the fifth plan. Marked by liberalization reforms, which aimed to limit the government intervention in the economy. Among its major policies and reforms: large deregulation effort, liberalization of the exchange rate and financial markets, reduction of public subsidies, monetary control and the privatization of state owned companies.
Economic stabilization plan. Created new currency.	1st Collor Plan		1990			
Economic stabilization plan.	2nd Collor Plan		1991			
Economic stabilization plan.	Marcílio Plan					
		Itamar Franco	1992 1993		7th Five-Year Plan	Aimed to enhance the public administration and the living standards of the population. Also aimed to modernize the education sector, renovate public transportation, expand infrastructure, increase the efficiency of the public administration and support small and medium enterprises (SMEs). It was discontinued in 1993.
Economic stabilization plan. Created new currency.	Real Plan		1994	Kim Young-sam	New Social Development Plan	Deepened the major directives of the seventh plan. It focused on the reform of public finances, administration and combat corruption.It also focused to improve the standard of living and prepare the country for a possible reunification with North Korea.
			1995 1996 1997 1998 1999			

The political support was more stable in South Korea. The governments continuously had the coordination role in the economy. With a strong leadership, the country disciplined the direction of the investments and government subsidies toward the objectives they laid in the Five-Year Plans. Through these practices and policies, the South Korean governments managed to direct the country's industrial development in order to create a favorable environment to its insertion in the international arena (Canuto, 1993).

The governments in both countries also had a key role in directing foreign capital to strategic sectors of their industries. Both countries identified the need to rely on foreign capital to provide an important push in their industries, though in the South Korean case these foreign investments had to 'move' in line with the priorities of the developmental plan, while in the Brazilian case it was more difficult to manage. In the developmental years, the government did manage to impose restrictions and direct the FDI. During the liberalization years, the government's retraction gave the FDI more freedom, which resulted in (most of) the foreign capital moving to other sectors in which the country had more comparative advantages, such as the agroindustry, mineral commodities and especially energy. The complexity of the Brazilian economy indeed posed a challenge for governments to control it very tightly.

From the perspective of the Global Value Chains phenomenon, the South Korean experience is very telling. Its developmental process was, in a way, the 'prehistory' of the GVCs, since the South Korean industrialization process was well inserted into the international supply chains, and therefore very well aligned with the logic of Global Value Chains. That is because, in the beginning of its developmental years, the South Korean industry functioned as a 'maquiladora' of Japanese companies, and they later began providing inputs for Japanese and American companies. Therefore, one of the reasons that seems to help explain the South Korean successful insertion into the current GVCs is that it was a natural process for their companies, since they already had an export orientation and international standards and were used to the process of adding value to their production.

GRAPHIC 12: **BRAZILIAN AND SOUTH KOREAN TRADE IN VALUE ADDED IN GROSS EXPORTS FROM COMPARATIVE PERSPECTIVE (2005-2016)**



Source: Original Chart with data from OECD.Stat.org (TiVA: Principal Indicators)

Properly comparing the developmental strategies in Brazil and in South Korea requires addressing the relationship between the State and the companies during the process. Collaboration between government and business is generally a key component for creating enabling conditions to rapidly promote and effectively implement the strategic policies, a collaboration in line with what Evans (1995) called 'embedded autonomy'.

The first aspect of this relationship begins in their place within each government strategy. In the Brazilian case, the government's approach generally relied on a mixture of state-owned enterprises and foreign multinational companies. While the SOEs received more strategic roles, such as infrastructure and energy (with Petrobras and Eletrobras representing two of the most prominent cases), the Brazilian government relied on multinationals for the domestic production of capital and durable goods (the automotive industry is a noticeable case here). In South Korea, the governments took a different path; instead of forming SOEs to achieve their developmental goals, they fostered the creation of private conglomerates in strategic sectors.

Another fundamental aspect of this relationship is reciprocity (Amsden, 2001 and Schneider, 2015), which could come in several ways. One way was the access to information. Accessing and processing information from the national industry is a key element to allow the government to assess bottlenecks, problems, and performance, among other issues. This effort allowed government agencies to discuss and develop appropriate policies. In South Korea, famous examples were the Korean Export Council and the Export Association, which were able to monitor all exports and ports activities, enabling them to draw a detailed picture of the process. In Brazil, the government did not have the same practice (Schneider, 2015).

PROPERLY COMPARING THE DEVELOPMENTAL STRATEGIES IN BRAZIL AND IN SOUTH KOREA REQUIRES ADDRESSING THE RELATIONSHIP BETWEEN THE STATE AND THE COMPANIES DURING THE PROCESS.

The second element of reciprocity has to do with to what extent companies were required to comply with the government strategy, which is closely related to the national champion strategies. To become a national champion in South Korea and access the whole package of benefits provided by the government, a given company would have to follow the strategies and achieve the targets set by the government. That means the company would have to increase its production/productivity to achieve export goals or even start to invest in a new sector/segment (despite the risks) to comply with the government's overall strategy in developing this particular new sector/segment. Failure to conform meant the company would be 'cast out' from the government's protection, which could even lead to the 'death' of some companies if they operated in restrictive sectors such as shipbuilding or automotive.

In Brazil, the government did not impose the same level of discipline on its companies due to the path it chose to pursue. The SOEs naturally followed the government's lead more directly to achieve its interests, but in the case of the private sector (including multinationals), the government did not require a tradeoff. That seems to be an important difference from the national champions model. While in South Korea a company would not only have to follow the government strategy but also reach its targets to become a national champion and receive large governmental subsidies. In Brazil, especially in the 2000´s, when the National champions companies model was used more clearly, the government did not require many compensations from the companies.

Regarding the logic of the national champions model followed by each country, it is interesting to highlight the differences in the profiles of the companies elected by each country. The policy towards national champions in South Korea had a central role in its developmental strategy and lasted for decades, with the government carefully selecting company profiles in order to develop strategic sectors of the economy. Nearly all of them were manufacturing companies that produced high tech products, invested heavily in innovation and had a leading role in the economic development of the country. This role included the sustainability of the vast number of medium businesses that composed the chaebols supply chain (which could be a significant vulnerability, since bankruptcy of one leading company could have a shocking chain effect in the country's economy).

In Brazil, the government had different objectives when adopting the national champions policy. It aimed to strengthen several companies so they could reach an international level; they were part of the government's foreign strategy to 'upgrade' the country's status in the international arena. The expected side effect was that by propelling the companies, they would also increase tax revenues and create jobs. To achieve that, the government selected a handful of companies, most of which were already quite large in the domestic market and represented sectors in which the country had comparative advantages. Nevertheless, unlike the South Korean model, the Brazilian companies (with few exceptions such as Petrobras and Embraer) either operated in the services sector or were engaged in low technology activities and had low value added to their production. Therefore, the majority of those companies did not invest in innovation and did not aid with the technological transition of the economy, as the chaebols did in South Korea.

The cooperation between the government and businesses was also paved by their institutional relations. One of the best examples of this cooperation was the establishment of deliberative councils. In South Korea, deliberative councils provided a space for governmental representatives to engage with their business counterparts and discuss multispectral issues or even particular themes regarding a given sector. Those spaces also contributed to increasing the transparency of the interaction and reducing the possibility of rent seeking behavior, increasing the level of collective scrutiny regarding the conversations (Schneider, 2015). Brazil also had many councils, but most of them were restricted to government representatives. According to Schneider (2015) some councils did offer the possibility for business representatives to attend, but when that happened, these businessmen were generally chosen as individuals and not necessarily due to their representability in a given sector.

REGARDING THE LOGIC OF THE NATIONAL CHAMPIONS MODEL FOLLOWED BY EACH COUNTRY, IT IS INTERESTING TO HIGHLIGHT THE DIFFERENCES IN THE PROFILES OF THE COMPANIES ELECTED BY EACH COUNTRY.

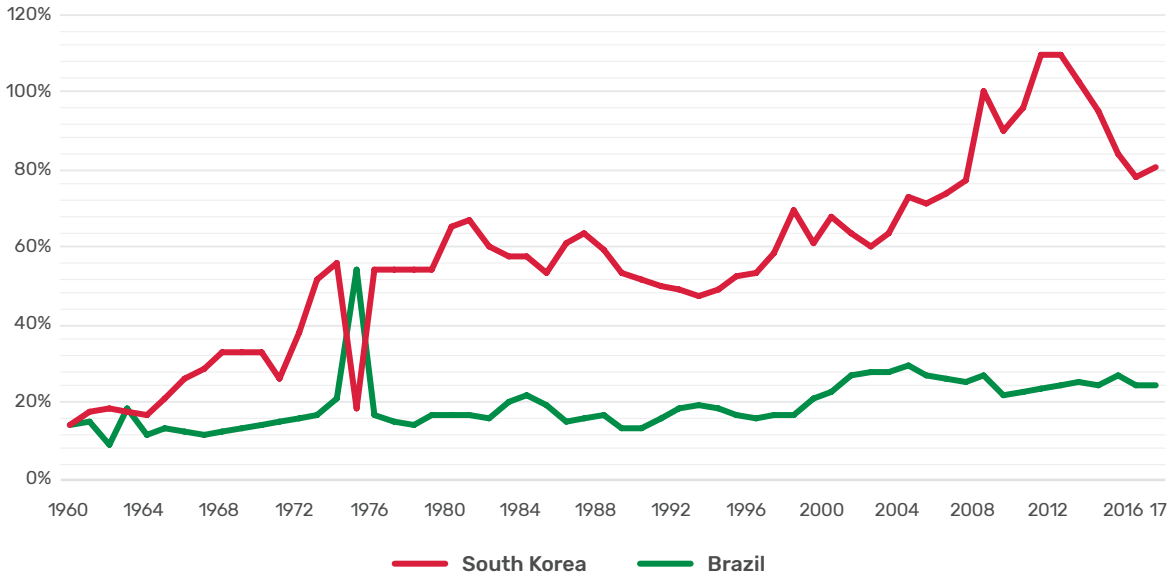
Liberalization Diverging Paths

From a political perspective, both countries underwent significant, even traumatic, changes in the 1980´s, moving from a military rule to a civilian democratic system. Since then, they have deepened their democratic transformation and strengthened their institutions. However, each country had a different experience from an economic perspective, and those experiences greatly affected their development trajectory and insertion into the GVCs.

Both countries went through a liberalization process around more or less the same period. The Brazilian process started in the 1980´s and accelerated in the 1990´s, and the South Korean process began in the 1990´s. However, the Brazilian process was more traumatic, since it involved a correction of trajectory in the economic strategy. This correction literally broke the traditional rationale and established a different path, discontinuing nearly three decades of developmental policies. In the South Korean case, the liberalization process was a smoother, more planned transition.

More importantly, it also had the support of the chaebols. Because they had achieved a high level of development and reached the standards of leading foreign multinational companies, the chaebols began to prefer severing the ties with the government in order to have more freedom regarding their strategies. They had grown to a point where they could find support (credit, financing, suppliers, etc.) in the international market by their own efforts. In fact, after reaching a certain maturity level, liberalization was necessary to access parts of the expanding international capital supply, and it also allowed them to increase their decision power over their strategies.

GRAPHIC 13: **BRAZILIAN AND SOUTH KOREAN TRADE OPENNESS* (% OF GDP) FROM COMPARATIVE PERSPECTIVE (1960-2017)**



* Trade Openness is measured as the sum of a country´s exports and imports as a share of that country's GDP (in %)
Source: Original Chart with data from Our World in Data and Feenstra et al. (2015).

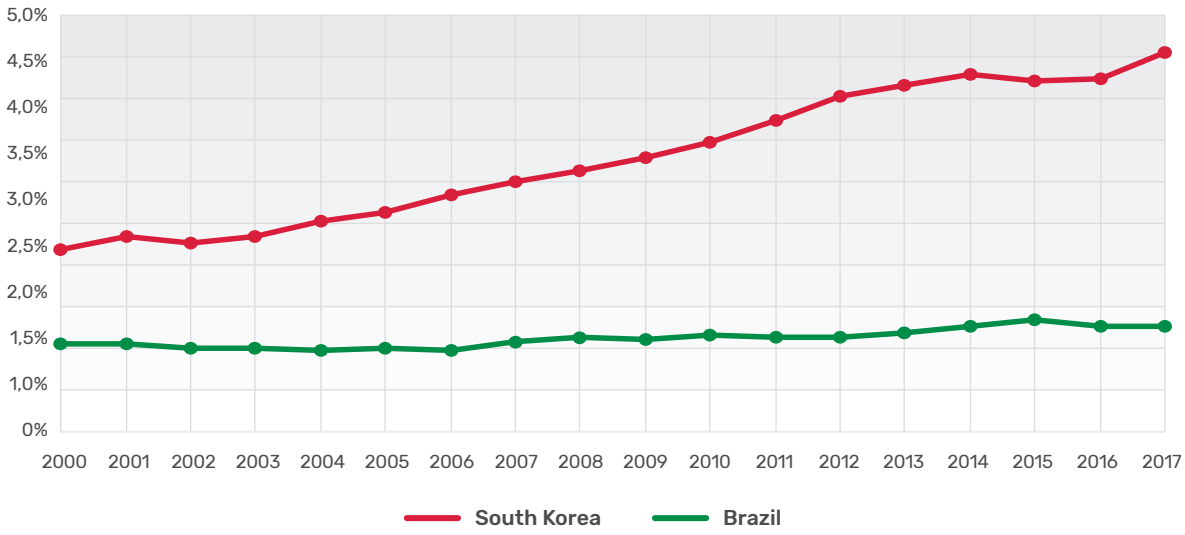
The period ranging from the late 1980´s to the 2000´s marked an important moment in which the South Korean government decided to reorient its economy toward high tech industry sectors and began investing in adding value to its manufacturing production. This was done through several sectoral plans and a significant investment in Research and Development. By upgrading its industry, the country sought to increase its production and move towards higher levels of the Global Value Chain. Despite the proportions of this reorientation and the same level of global-scale economic effort done in the past by the previous developmental stages in the country, this new movement required less interference from the government (Grinberg, 2016).

Conversely, in the Brazilian case, there was not a significant conversion of the national industry towards high tech sectors. The lack of governmental interest in having a leading role, together with the 2000´s commodities super cycle, seemed to divert the attention of the succeeding governments to other areas. That situation changed in the late 2000´s and early 2010´s when the government began designing several policies to foster the industry sector, but those policies encountered several difficulties.

First, they were challenged by the government´s macroeconomic goals, which kept the exchange and interest rates at a high level. Secondly, while those policies did intend to foster a technological transformation in the industry, they did not foster the insertion of Brazilian companies into the Global Value Chains as one of the main goals. As mentioned earlier, the country's imports suffered due to protective governmental measures and the high tech imports were not incorporated into the country's exports to a large extent. That could lead to a conclusion that those policies were mostly aimed at expanding production capacity to supply the increasing domestic demand.

A third challenge was the low level of specialized labor (due to the low investment in education) and the lack of access to technologies (due to the low investment in innovation). Regarding the qualification of the labor force beyond specialized training, a comparison of educational levels could illustrate the gap between both countries. For instance, according to the UNDP Human Development Reports, while in South Korea the average years of schooling are 12.2, the Brazilian average is 7.8. While skilled labor force accounts for 85.7% of the South Korean population, in Brazil it accounts for 64.1%.

GRAPHIC 14: **BRAZILIAN AND SOUTH KOREAN EXPENDITURE IN R&D (% OF GDP) FROM COMPARATIVE PERSPECTIVE (2000-2017)**



Source: Original Chart with data from World Bank

Regarding the investment in innovation, in South Korea the succeeding governments had increasingly invested in the restructuration of its educational systems and in R&D through its many research centers. The country has also provided several tax benefits to the private sector in order to direct resources to the creation of research labs with the goal of ramping up their capabilities in applied research to keep up with the upgrade and expansion of their industry. Conversely, in Brazil, the universities are the leaders regarding research development and technology, although there are a few public and private world-class research centers in the country.

GRAPHIC 15: **BRAZILIAN AND SOUTH KOREAN RESEARCHER IN R&D (PER MILLION PEOPLE) FROM COMPARATIVE PERSPECTIVE (2000-2014)**

Source: Original Chart with data from World Bank

The fourth challenge those policies encountered was the sequence of crises affecting Brazil in the mid 2010´s, particularly the economic and political crises. They had a 'seismic' impact on most policies implemented by the two first governments of the century, and most of those policies were discontinued due to economic constrains or during the political transition to subsequent governments.

In sum, South Korea has been benefited by its long term planning and comprehensive strategy, that not only consisted in strengthening the economy, but also contained horizontal policies, being education and innovation fundamental pillars. It also has shown resilience and the ability to rapid respond to crisis, as it was observed soon after the 1997 Asian Crisis. Pass the crisis, the government was able to engage in the reconstruction of the financial system and to develop a new agenda to its future based in: enhancing its social safety networks and to foster an economy anchored in the knowledge economy.

The Brazilian case offers us a less appealing scenario. The economic imbalance and some policy choices from the past posed a considerable challenge for its development. Its efforts were and still are hindered by the significant lack of attention to horizontal policies, ranging from education going through sanitation, health and notably research and innovation support. The country also was/is unable to implement fundamental reforms that would allow the country 'loose some of its ties' that constrains its development. The current Crisis Supercycle poses a significant and additional obstacle. Brazil still has some 'trumps', such as its natural resource prowess and its massive domestic market with wide room for expansion, among others. But, even to use them to its advantage, the country will have to build something that it has rarely shown: political consensus. Without it, the country will not be able to engage in long term planning, enact essential reforms and chart a sustainable path to its development.

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ANNEX

GRAPHIC 1 DATABASE: **SOUTH KOREAN GDP EVOLUTION BY VALUE AND GROWTH (1960-2018)**

TIME	GDP (US$ MILLION)	GDP GROWTH (%)
1960	USD 3.957,24	-
1961	USD 2.417,64	6,88%
1962	USD 2.813,86	3,84%
1963	USD 3.988,48	9,19%
1964	USD 3.458,57	9,46%
1965	USD 3.120,50	7,18%
1966	USD 3.928,28	11,98%
1967	USD 4.854,72	9,12%
1968	USD 6.117,12	13,19%
1969	USD 7.675,94	14,54%
1970	USD 8.999,23	10,00%
1971	USD 9.889,96	10,45%
1972	USD 10.842,22	7,15%
1973	USD 13.841,89	14,83%
1974	USD 19.482,04	9,46%
1975	USD 21.704,75	7,86%
1976	USD 29.779,34	13,12%
1977	USD 38.265,08	12,28%
1978	USD 51.700,62	10,77%
1979	USD 66.567,98	8,63%
1980	USD 64.980,82	-1,70%
1981	USD 72.425,59	7,18%
1982	USD 77.773,43	8,27%
1983	USD 87.024,43	13,24%
1984	USD 96.597,43	10,44%
1985	USD 100.273,10	7,75%
1986	USD 115.537,13	11,22%
1987	USD 146.133,34	12,47%
1988	USD 196.964,20	11,90%
1989	USD 243.526,05	7,03%
1990	USD 279.349,36	9,81%
1991	USD 325.734,23	10,35%
1992	USD 350.051,11	6,18%
1993	USD 386.302,84	6,85%
1994	USD 455.602,96	9,21%
1995	USD 556.130,93	9,57%
1996	USD 598.099,07	7,59%
1997	USD 557.503,07	5,92%
1998	USD 374.241,35	-5,47%
1999	USD 485.248,23	11,31%
2000	USD 561.633,13	8,92%
2001	USD 533.052,08	4,53%
2002	USD 609.020,05	7,43%
2003	USD 680.520,72	2,93%
2004	USD 764.880,64	4,90%
2005	USD 898.137,19	3,92%
2006	USD 1.011.797,46	5,18%
2007	USD 1.122.679,15	5,46%
2008	USD 1.002.219,05	2,83%
2009	USD 901.934,95	0,71%
2010	USD 1.094.499,34	6,50%
2011	USD 1.202.463,68	3,68%
2012	USD 1.222.807,28	2,29%
2013	USD 1.305.604,98	2,90%
2014	USD 1.411.333,93	3,34%
2015	USD 1.382.764,03	2,79%
2016	USD 1.414.804,16	2,93%
2017	USD 1.530.750,92	3,06%
2018	USD 1.619.423,70	2,67%

Source: Original graphic with data from World Bank

GRAPHIC 2 DATABASE: **SOUTH KOREAN INFLATION RATE TRAJECTORY (1953-2019)**

TIME	INFLATION
1953	52,5%
1954	37,1%
1955	68,3%
1956	23,0%
1957	23,1%
1958	-3,5%
1959	3,2%
1960	8,0%
1961	8,2%
1962	6,6%
1963	20,7%
1964	29,5%
1965	13,5%
1966	11,3%
1967	10,9%
1968	10,8%
1969	12,4%
1970	16,0%
1971	13,5%
1972	11,7%
1973	3,2%
1974	24,3%
1975	25,2%
1976	15,3%
1977	10,1%
1978	14,5%
1979	18,3%
1980	28,7%
1981	21,4%
1982	7,2%
1983	3,4%
1984	2,3%
1985	2,5%
1986	2,7%
1987	3,0%
1988	7,1%
1989	5,7%
1990	8,6%
1991	9,3%
1992	6,2%
1993	4,8%
1994	6,3%
1995	4,5%
1996	4,9%
1997	4,4%
1998	7,5%
1999	0,8%
2000	2,3%
2001	4,1%
2002	2,8%
2003	3,5%
2004	3,6%
2005	2,8%
2006	2,2%
2007	2,5%
2008	4,7%
2009	2,8%
2010	2,9%
2011	4,0%
2012	2,2%
2013	1,3%
2014	1,3%
2015	0,7%
2016	1,0%
2017	1,9%
2018	1,5%
2019	0,4%

Source: Original Chart with data from OECD, Korean Statistical Information Service and World Bank

GRAPHIC 3 DATABASE: **SOUTH KOREAN FOREIGN DIRECT INVESTMENT, NET INFLOWS FROM 1970 TO 2018 (% OF GDP)**

TIME	FDI, NET INFLOWS (% OF GDP)
1970	0,73%
1971	0,42%
1972	4,57%
1973	0,03%
1974	0,01%
1975	0,03%
1976	0,27%
1977	0,25%
1978	0,17%
1979	0,26%
1980	0,07%
1981	0,21%
1982	0,16%
1983	0,21%
1984	0,23%
1985	0,35%
1986	0,59%
1987	0,57%
1988	0,66%
1989	0,57%
1990	0,37%
1991	0,45%
1992	0,29%
1993	0,22%
1994	0,25%
1995	0,45%
1996	0,47%
1997	0,59%
1998	1,60%
1999	2,21%
2000	2,05%
2001	1,22%
2002	0,90%
2003	1,03%
2004	1,74%
2005	1,52%
2006	0,91%
2007	0,79%
2008	1,12%
2009	1,00%
2010	0,87%
2011	0,81%
2012	0,78%
2013	0,98%
2014	0,66%
2015	0,30%
2016	0,86%
2017	1,17%
2018	0,75%

Source: Original Chart with data from World Bank

GRAPHIC 4 DATABASE: **BRAZILIAN GDP EVOLUTION BY VALUE AND GROWTH (1960-2018)**

TIME	GDP (US$ MILLION)	GDP GROWTH (%)
1960	USD 15.165,57	-
1961	USD 15.236,85	10,28%
1962	USD 19.926,29	5,22%
1963	USD 23.021,48	0,87%
1964	USD 21.211,89	3,49%
1965	USD 21.790,04	3,05%
1966	USD 27.062,72	4,15%
1967	USD 30.591,83	4,92%
1968	USD 33.875,88	11,43%
1969	USD 37.458,90	9,74%
1970	USD 42.327,60	8,77%
1971	USD 49.204,46	11,30%
1972	USD 58.539,01	12,05%
1973	USD 79.279,06	13,98%
1974	USD 105.136,00	9,04%
1975	USD 123.709,00	5,21%
1976	USD 152.678,00	9,79%
1977	USD 176.171,00	4,61%
1978	USD 200.801,00	3,23%
1979	USD 224.969,00	6,77%
1980	USD 235.025,00	9,11%
1981	USD 263.561,00	-4,39%
1982	USD 281.682,00	0,58%
1983	USD 203.305,00	-3,41%
1984	USD 209.024,00	5,27%
1985	USD 222.943,00	7,95%
1986	USD 268.137,00	7,99%
1987	USD 294.084,00	3,60%
1988	USD 330.397,00	-0,10%
1989	USD 425.595,00	3,28%
1990	USD 461.952,00	-3,10%
1991	USD 602.860,00	1,51%
1992	USD 400.599,00	-0,47%
1993	USD 437.799,00	4,67%
1994	USD 558.112,00	5,33%
1995	USD 769.305,00	4,42%
1996	USD 850.426,00	2,21%
1997	USD 883.200,00	3,39%
1998	USD 863.723,00	0,34%
1999	USD 599.389,00	0,47%
2000	USD 655.421,00	4,39%
2001	USD 559.372,00	1,39%
2002	USD 507.962,00	3,05%
2003	USD 558.320,00	1,14%
2004	USD 669.317,00	5,76%
2005	USD 891.630,00	3,20%
2006	USD 1.107.640,00	3,96%
2007	USD 1.397.080,00	6,07%
2008	USD 1.695.820,00	5,09%
2009	USD 1.667.020,00	-0,13%
2010	USD 2.208.870,00	7,53%
2011	USD 2.616.200,00	3,97%
2012	USD 2.465.190,00	1,92%
2013	USD 2.472.810,00	3,00%
2014	USD 2.455.990,00	0,50%
2015	USD 1.802.210,00	-3,55%
2016	USD 1.795.700,00	-3,28%
2017	USD 2.062.830,00	1,32%
2018	USD 1.885.480,00	1,32%

Source: Original Chart with data from World Bank

GRAPHIC 5 DATABASE: **BRAZILIAN INFLATION RATE TRAJECTORY (1945-2019)**

TIME	INFLATION RATE
1945	11,11%
1946	22,22%
1947	2,73%
1948	7,96%
1949	12,30%
1950	12,41%
1951	12,34%
1952	12,72%
1953	20,51%
1954	25,86%
1955	12,15%
1956	24,55%
1957	6,96%
1958	24,39%
1959	39,43%
1960	30,47%
1961	47,78%
1962	51,60%
1963	79,92%
1964	92,12%
1965	34,24%
1966	39,12%
1967	25,01%
1968	25,49%
1969	19,31%
1970	19,26%
1971	19,47%
1972	15,72%
1973	15,54%
1974	34,55%
1975	29,35%
1976	46,26%
1977	38,78%
1978	40,81%
1979	77,25%
1980	99,25%
1981	95,62%
1982	104,79%
1983	164,01%
1984	215,26%
1985	242,23%
1986	79,66%
1987	363,41%
1988	980,21%
1989	1972,91%
1990	1620,97%
1991	472,70%
1992	1119,10%
1993	2477,15%
1994	916,46%
1995	22,41%
1996	9,56%
1997	5,22%
1998	1,65%
1999	8,94%
2000	5,97%
2001	7,67%
2002	12,53%
2003	9,30%
2004	7,60%
2005	5,69%
2006	3,14%
2007	4,46%
2008	5,90%
2009	4,31%
2010	5,91%
2011	6,50%
2012	5,84%
2013	5,91%
2014	6,41%
2015	10,67%
2016	6,29%
2017	2,95%
2018	3,75%
2019	4,31%

Source: Original Chart with data from IPEA Data

GRAPHIC 6 DATABASE: **BRAZILIAN FOREIGN DIRECT INVESTMENT, NET INFLOWS FROM 1970 TO 2018 (% OF GDP)**

TIME	FDI, NET INFLOWS (% OF GDP)
1970	0,93%
1971	0,91%
1972	0,79%
1973	1,49%
1974	1,15%
1975	1,05%
1976	1,02%
1977	1,04%
1978	1,00%
1979	1,08%
1980	0,81%
1981	0,96%
1982	1,03%
1983	0,79%
1984	0,76%
1985	0,65%
1986	0,13%
1987	0,40%
1988	0,85%
1989	0,27%
1990	0,21%
1991	0,18%
1992	0,51%
1993	0,30%
1994	0,55%
1995	0,63%
1996	1,48%
1997	2,22%
1998	3,69%
1999	4,74%
2000	5,03%
2001	4,15%
2002	3,27%
2003	1,81%
2004	2,72%
2005	1,73%
2006	1,75%
2007	3,19%
2008	2,99%
2009	1,89%
2010	3,73%
2011	3,92%
2012	3,76%
2013	3,04%
2014	3,57%
2015	3,59%
2016	4,14%
2017	3,34%
2018	4,15%

Source: Original Chart with data from World Bank

GRAPHIC 7 DATABASE: **SOUTH KOREAN EXPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**

TIME	EXPO (US$ MILLION)	EXPO GROWTH (%)	EXPO (%GDP)
1960	USD 103,76	-	2,62%
1961	USD 97,68	35,37%	4,04%
1962	USD 109,00	15,72%	3,87%
1963	USD 157,39	14,48%	3,95%
1964	USD 171,67	29,04%	4,96%
1965	USD 222,48	36,56%	7,13%
1966	USD 331,69	42,89%	8,44%
1967	USD 442,52	30,00%	9,12%
1968	USD 620,64	37,98%	10,15%
1969	USD 814,72	36,51%	10,61%
1970	USD 1.030,07	30,69%	11,45%
1971	USD 1.254,50	24,10%	12,68%
1972	USD 1.801,27	42,87%	16,61%
1973	USD 3.314,17	50,72%	23,94%
1974	USD 4.336,54	4,31%	22,26%
1975	USD 4.924,79	21,34%	22,69%
1976	USD 7.610,74	38,94%	25,56%
1977	USD 9.958,88	21,61%	26,03%
1978	USD 12.880,37	16,51%	24,91%
1979	USD 15.622,93	2,49%	23,47%
1980	USD 18.490,85	9,51%	28,46%
1981	USD 21.695,81	13,80%	29,96%
1982	USD 21.284,26	1,95%	27,37%
1983	USD 24.357,33	16,66%	27,99%
1984	USD 28.420,68	14,07%	29,42%
1985	USD 27.405,35	1,09%	27,33%
1986	USD 37.521,02	34,72%	32,48%
1987	USD 50.974,02	22,63%	34,88%
1988	USD 65.053,93	12,18%	33,03%
1989	USD 67.839,34	-3,57%	27,86%
1990	USD 70.786,85	4,59%	25,34%
1991	USD 78.673,62	12,39%	24,15%
1992	USD 86.206,11	12,84%	24,63%
1993	USD 93.227,35	9,59%	24,13%
1994	USD 110.482,00	16,56%	24,25%
1995	USD 144.224,00	23,07%	25,93%
1996	USD 151.228,00	11,34%	25,28%
1997	USD 161.548,00	18,83%	28,98%
1998	USD 151.153,00	14,25%	40,39%
1999	USD 162.869,00	13,08%	33,56%
2000	USD 196.621,00	17,17%	35,01%
2001	USD 174.481,00	-2,29%	32,73%
2002	USD 187.742,00	13,03%	30,83%
2003	USD 222.545,00	13,89%	32,70%
2004	USD 292.911,00	20,62%	38,30%
2005	USD 330.601,00	7,82%	36,81%
2006	USD 376.047,00	12,08%	37,17%
2007	USD 439.918,00	12,66%	39,18%
2008	USD 500.723,00	7,50%	49,96%
2009	USD 428.868,00	-0,33%	47,55%
2010	USD 540.896,00	12,70%	49,42%
2011	USD 670.343,00	15,13%	55,75%
2012	USD 688.933,00	5,09%	56,34%
2013	USD 703.396,00	4,26%	53,88%
2014	USD 709.556,00	2,03%	50,28%
2015	USD 626.899,00	-0,13%	45,34%
2016	USD 598.239,00	2,56%	42,28%
2017	USD 659.616,00	1,90%	43,09%
2018	USD 712.711,00	4,20%	44,01%

Source: Original Chart with data from World Bank

GRAPHIC 8 DATABASE: **SOUTH KOREAN IMPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**

TIME	IMPO (US$ MILLION)	IMPO GROWTH (%)	IMPO (%GDP)
1960	USD 474,14	-	11,98%
1961	USD 337,52	-8,63%	13,96%
1962	USD 438,92	34,95%	15,60%
1963	USD 584,54	25,11%	14,66%
1964	USD 428,21	-24,89%	12,38%
1965	USD 447,22	13,45%	14,33%
1966	USD 715,74	49,51%	18,22%
1967	USD 955,60	30,10%	19,68%
1968	USD 1.385,11	42,39%	22,64%
1969	USD 1.723,87	26,07%	22,46%
1970	USD 1.902,05	9,16%	21,14%
1971	USD 2.278,27	20,14%	23,04%
1972	USD 2.327,11	0,09%	21,46%
1973	USD 3.832,85	34,01%	27,69%
1974	USD 6.497,64	19,54%	33,35%
1975	USD 6.810,12	4,11%	31,38%
1976	USD 8.454,55	24,44%	28,39%
1977	USD 10.681,20	22,00%	27,91%
1978	USD 15.122,31	30,27%	29,25%
1979	USD 20.581,20	13,59%	30,92%
1980	USD 24.125,58	-3,44%	37,13%
1981	USD 26.946,24	4,48%	37,21%
1982	USD 25.589,40	1,54%	32,90%
1983	USD 26.156,11	6,76%	30,06%
1984	USD 27.561,48	4,39%	28,53%
1985	USD 25.961,36	-1,94%	25,89%
1986	USD 32.654,72	33,08%	28,26%
1987	USD 41.422,49	18,12%	28,35%
1988	USD 51.915,87	13,09%	26,36%
1989	USD 62.571,86	15,73%	25,69%
1990	USD 72.410,42	13,50%	25,92%
1991	USD 85.461,51	20,00%	26,24%
1992	USD 87.029,14	4,76%	24,86%
1993	USD 90.604,11	6,83%	23,45%
1994	USD 112.196,00	22,75%	24,63%
1995	USD 149.330,00	22,53%	26,85%
1996	USD 168.781,00	15,03%	28,22%
1997	USD 165.333,00	2,49%	29,66%
1998	USD 110.770,00	-23,99%	29,60%
1999	USD 135.248,00	24,91%	27,87%
2000	USD 184.992,00	21,79%	32,94%
2001	USD 166.198,00	-3,64%	31,18%
2002	USD 178.606,00	15,01%	29,33%
2003	USD 208.857,00	10,62%	30,69%
2004	USD 263.624,00	12,32%	34,47%
2005	USD 308.732,00	7,81%	34,37%
2006	USD 368.143,00	12,35%	36,39%
2007	USD 427.273,00	11,64%	38,06%
2008	USD 500.830,00	3,20%	49,97%
2009	USD 386.595,00	-6,76%	42,86%
2010	USD 506.037,00	17,26%	46,23%
2011	USD 652.368,00	14,35%	54,25%
2012	USD 654.764,00	2,40%	53,55%
2013	USD 638.384,00	1,71%	48,90%
2014	USD 635.406,00	1,47%	45,02%
2015	USD 530.642,00	2,09%	38,38%
2016	USD 501.246,00	4,73%	35,43%
2017	USD 576.913,00	7,03%	37,69%
2018	USD 631.474,00	1,72%	38,99%

Source: Original Chart with data from World Bank

GRAPHIC 9 DATABASE: **BRAZILIAN EXPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**

TIME	EXPO (US$ MILLION)	EXPO GROWTH (%)	EXPO (%GDP)
1960	USD 1.070,54	-	7,06%
1961	USD 1.109,15	5,19%	7,28%
1962	USD 770,90	-7,41%	3,87%
1963	USD 2.080,33	28,00%	9,04%
1964	USD 1.354,47	-13,54%	6,39%
1965	USD 1.685,63	3,62%	7,74%
1966	USD 1.846,96	11,63%	6,82%
1967	USD 1.764,83	-3,13%	5,77%
1968	USD 2.032,73	16,13%	6,00%
1969	USD 2.479,93	19,44%	6,62%
1970	USD 2.975,39	6,20%	7,03%
1971	USD 3.155,63	5,51%	6,41%
1972	USD 4.249,45	24,16%	7,26%
1973	USD 6.557,71	14,25%	8,27%
1974	USD 8.424,67	2,33%	8,01%
1975	USD 9.325,92	11,57%	7,54%
1976	USD 10.741,99	-0,32%	7,04%
1977	USD 12.776,59	-0,35%	7,25%
1978	USD 13.404,62	13,25%	6,68%
1979	USD 16.026,61	9,30%	7,12%
1980	USD 21.276,14	22,61%	9,05%
1981	USD 24.828,39	21,32%	9,42%
1982	USD 21.435,13	-9,19%	7,61%
1983	USD 23.221,08	14,33%	11,42%
1984	USD 28.317,69	21,95%	13,55%
1985	USD 27.305,94	7,03%	12,25%
1986	USD 23.640,56	-10,58%	8,82%
1987	USD 27.820,19	19,24%	9,46%
1988	USD 35.974,38	13,08%	10,89%
1989	USD 38.004,00	5,09%	8,93%
1990	USD 37.880,00	-4,92%	8,20%
1991	USD 52.310,00	10,63%	8,68%
1992	USD 43.538,13	16,55%	10,87%
1993	USD 45.983,17	11,68%	10,50%
1994	USD 53.941,81	4,01%	9,67%
1995	USD 57.920,04	-2,03%	7,53%
1996	USD 57.235,48	-0,42%	6,73%
1997	USD 61.679,57	11,02%	6,98%
1998	USD 60.724,08	4,91%	7,03%
1999	USD 57.330,91	5,71%	9,56%
2000	USD 66.774,57	12,86%	10,19%
2001	USD 69.203,92	9,23%	12,37%
2002	USD 72.286,06	6,48%	14,23%
2003	USD 84.757,34	11,02%	15,18%
2004	USD 110.744,00	14,47%	16,55%
2005	USD 135.919,00	9,64%	15,24%
2006	USD 159.216,00	4,84%	14,37%
2007	USD 186.199,00	6,18%	13,33%
2008	USD 229.513,00	0,41%	13,53%
2009	USD 180.895,00	-9,25%	10,85%
2010	USD 240.007,00	11,72%	10,87%
2011	USD 303.022,00	4,81%	11,58%
2012	USD 292.804,00	0,71%	11,88%
2013	USD 290.363,00	1,83%	11,74%
2014	USD 270.453,00	-1,57%	11,01%
2015	USD 232.489,00	6,82%	12,90%
2016	USD 223.864,00	0,86%	42,28%
2017	USD 258.330,00	4,91%	43,09%
2018	USD 280.743,00	4,20%	44,01%

Source: Original Chart with data from World Bank

GRAPHIC 10 DATABASE: **BRAZILIAN IMPORTS BY VALUE, GROWTH AND % OF GDP (1960-2018)**

TIME	IMPO (US$ MILLION)	IMPO GROWTH (%)	IMPO (%GDP)
1960	USD 1.079,38	-	7,12%
1961	USD 1.118,30	-3,49%	7,34%
1962	USD 1.033,97	-1,20%	5,19%
1963	USD 2.097,49	-2,44%	9,11%
1964	USD 1.204,33	-12,50%	5,68%
1965	USD 1.210,64	-14,29%	5,56%
1966	USD 1.621,51	31,67%	5,99%
1967	USD 1.764,83	7,60%	5,77%
1968	USD 2.239,33	23,53%	6,61%
1969	USD 2.454,95	11,43%	6,55%
1970	USD 3.153,30	23,93%	7,45%
1971	USD 4.004,25	24,50%	8,14%
1972	USD 5.177,23	20,03%	8,84%
1973	USD 7.532,76	20,40%	9,50%
1974	USD 14.596,80	28,49%	13,88%
1975	USD 14.233,48	-4,52%	11,51%
1976	USD 14.401,53	-1,24%	9,43%
1977	USD 13.948,80	-7,57%	7,92%
1978	USD 15.791,77	4,58%	7,86%
1979	USD 20.642,23	8,21%	9,18%
1980	USD 26.571,48	0,68%	11,31%
1981	USD 25.827,53	-12,36%	9,80%
1982	USD 23.307,74	-6,03%	8,27%
1983	USD 18.314,36	-17,43%	9,01%
1984	USD 16.563,86	-2,94%	7,92%
1985	USD 15.818,49	-	7,10%
1986	USD 17.038,99	28,68%	6,35%
1987	USD 18.211,64	-2,94%	6,19%
1988	USD 18.808,00	-1,13%	5,69%
1989	USD 23.242,90	8,94%	5,46%
1990	USD 32.160,00	10,07%	6,96%
1991	USD 47.710,00	18,68%	7,91%
1992	USD 33.590,63	4,52%	8,39%
1993	USD 39.822,36	26,78%	9,10%
1994	USD 53.957,45	20,34%	9,67%
1995	USD 72.742,32	30,69%	9,46%
1996	USD 75.733,72	5,59%	8,91%
1997	USD 84.721,45	14,60%	9,59%
1998	USD 81.259,83	-0,06%	9,41%
1999	USD 68.433,80	-15,09%	11,42%
2000	USD 81.611,10	10,80%	12,45%
2001	USD 81.470,19	3,33%	14,56%
2002	USD 68.004,83	-13,31%	13,39%
2003	USD 72.356,03	-0,48%	12,96%
2004	USD 87.897,95	10,36%	13,13%
2005	USD 105.595,00	7,46%	11,84%
2006	USD 129.233,00	17,76%	11,67%
2007	USD 167.160,00	19,56%	11,96%
2008	USD 232.728,00	17,03%	13,72%
2009	USD 187.616,00	-7,60%	11,25%
2010	USD 263.001,00	33,64%	11,91%
2011	USD 323.150,00	9,39%	12,35%
2012	USD 326.310,00	1,13%	13,24%
2013	USD 347.275,00	6,67%	14,04%
2014	USD 335.819,00	-2,27%	45,02%
2015	USD 253.273,00	-14,19%	38,38%
2016	USD 216.687,00	-10,34%	35,43%
2017	USD 243.510,00	6,72%	37,69%
2018	USD 273.547,00	8,34%	38,99%

Source: Original Chart with data from World Bank

GRAPHIC 11 DATABASE: **BRAZILIAN AND SOUTH KOREAN GDP PER CAPITA FROM COMPARATIVE PERSPECTIVE (1960-2018)**

TIME	GDP PER CAPITA (US$ DOLLAR)	
	BRAZIL	SOUTH KOREA
1960	USD 210,11	USD 158,21
1961	USD 205,04	USD 93,83
1962	USD 260,43	USD 106,13
1963	USD 292,25	USD 146,30
1964	USD 261,67	USD 123,59
1965	USD 261,35	USD 108,71
1966	USD 315,80	USD 133,45
1967	USD 347,49	USD 161,12
1968	USD 374,79	USD 198,36
1969	USD 403,88	USD 243,34
1970	USD 445,02	USD 279,13
1971	USD 504,75	USD 300,76
1972	USD 586,21	USD 323,60
1973	USD 775,27	USD 405,88
1974	USD 1.004,10	USD 561,57
1975	USD 1.153,83	USD 615,20
1976	USD 1.390,62	USD 830,70
1977	USD 1.567,01	USD 1.050,90
1978	USD 1.744,26	USD 1.398,48
1979	USD 1.908,49	USD 1.773,53
1980	USD 1.947,28	USD 1.704,47
1981	USD 2.132,88	USD 1.870,34
1982	USD 2.226,77	USD 1.977,64
1983	USD 1.570,54	USD 2.180,49
1984	USD 1.578,93	USD 2.390,67
1985	USD 1.648,08	USD 2.457,33
1986	USD 1.941,49	USD 2.803,37
1987	USD 2.087,31	USD 3.510,99
1988	USD 2.300,38	USD 4.686,14
1989	USD 2.908,50	USD 5.736,90
1990	USD 3.100,28	USD 6.516,31
1991	USD 3.975,39	USD 7.523,48
1992	USD 2.596,92	USD 8.001,54
1993	USD 2.791,21	USD 8.740,95
1994	USD 3.500,61	USD 10.205,81
1995	USD 4.748,22	USD 12.332,98
1996	USD 5.166,16	USD 13.137,91
1997	USD 5.282,01	USD 12.131,87
1998	USD 5.087,15	USD 8.085,32
1999	USD 3.478,37	USD 10.409,33
2000	USD 3.749,75	USD 11.947,58
2001	USD 3.156,80	USD 11.252,91
2002	USD 2.829,28	USD 12.782,53
2003	USD 3.070,91	USD 14.209,39
2004	USD 3.637,46	USD 15.907,67
2005	USD 4.790,44	USD 18.639,52
2006	USD 5.886,46	USD 20.888,38
2007	USD 7.348,03	USD 23.060,71
2008	USD 8.831,02	USD 20.430,64
2009	USD 8.597,92	USD 18.291,92
2010	USD 11.286,24	USD 22.086,95
2011	USD 13.245,61	USD 24.079,79
2012	USD 12.370,02	USD 24.358,78
2013	USD 12.300,32	USD 25.890,02
2014	USD 12.112,59	USD 27.811,37
2015	USD 8.814,00	USD 27.105,08
2016	USD 8.710,10	USD 27.623,29
2017	USD 9.925,39	USD 29.803,23
2018	USD 9.001,23	USD 31.380,15

Source: Original Chart with data from World Bank

GRAPHIC 12 DATABASE: **BRAZILIAN AND SOUTH KOREAN TRADE IN VALUE ADDED IN GROSS EXPORTS FROM COMPARATIVE PERSPECTIVE (2005-2016)**

TIME	TRADE IN VALUE ADDED (TIVA) IN GROSS EXPORTS (US$ MILLIONS)	
	BRAZIL	SOUTH KOREA
2005	USD 131.246,20	USD 321.539,70
2006	USD 153.899,30	USD 365.614,90
2007	USD 179.835,20	USD 427.496,30
2008	USD 222.611,30	USD 485.982,90
2009	USD 173.886,10	USD 414.824,20
2010	USD 230.808,50	USD 526.915,20
2011	USD 292.395,90	USD 650.411,30
2012	USD 282.132,70	USD 669.623,50
2013	USD 280.810,90	USD 684.539,20
2014	USD 264.759,40	USD 691.070,20
2015	USD 227.260,40	USD 612.884,80
2016	USD 216.885,20	USD 578.440,60

Source: Original Chart with data from OECD.Stat.org
(TiVA: Principal Indicators)

GRAPHIC 13 DATABASE: **BRAZILIAN AND SOUTH KOREAN TRADE OPENNESS* (% OF GDP) FROM COMPARATIVE PERSPECTIVE (1960-2017)**

TIME	TRADE OPPENESS*	
	BRAZIL	SOUTH KOREA
1960	14,12%	13,82%
1961	14,73%	17,64%
1962	8,95%	18,74%
1963	18,02%	17,81%
1964	11,98%	16,56%
1965	13,45%	20,97%
1966	12,85%	26,19%
1967	11,29%	28,62%
1968	12,46%	32,65%
1969	13,37%	33,03%
1970	14,47%	32,58%
1971	14,64%	25,72%
1972	16,13%	38,08%
1973	16,85%	51,63%
1974	20,97%	55,61%
1975	54,07%	18,23%
1976	16,42%	53,95%
1977	15,15%	53,94%
1978	14,58%	54,16%
1979	16,57%	54,39%
1980	16,51%	65,58%
1981	16,67%	67,16%
1982	15,63%	60,27%
1983	20,52%	58,05%
1984	21,43%	57,95%
1985	19,28%	53,22%
1986	15,17%	60,74%
1987	15,66%	63,23%
1988	16,65%	59,39%
1989	13,30%	53,55%
1990	13,52%	51,26%
1991	16,17%	50,39%
1992	18,73%	49,49%
1993	19,00%	47,59%
1994	18,12%	48,88%
1995	16,75%	52,79%
1996	15,61%	53,50%
1997	16,57%	58,63%
1998	16,59%	69,99%
1999	21,12%	61,44%
2000	22,68%	67,95%
2001	26,79%	63,91%
2002	27,75%	60,15%
2003	28,11%	63,39%
2004	29,68%	72,76%
2005	27,09%	71,18%
2006	26,04%	73,55%
2007	25,29%	77,24%
2008	27,26%	99,93%
2009	22,11%	90,41%
2010	22,52%	95,65%
2011	23,70%	110,00%
2012	24,77%	109,89%
2013	25,56%	102,77%
2014	24,69%	95,30%
2015	26,95%	83,71%
2016	24,62%	77,71%
2017	24,12%	80,78%

* Trade Openness is measured as the sum of a country's exports and imports as a share of that country´s GDP (in %)/ Source: Original Chart with data from Our World in Data and Feenstra et al. (2015).

GRAPHIC 14 DATABASE: **BRAZILIAN AND SOUTH KOREAN EXPENDITURE IN R&D (% OF GDP) FROM COMPARATIVE PERSPECTIVE (2000-2017)**

TIME	EXPENDITURE IN R&D (% OF GDP)	
	BRAZIL	SOUTH KOREA
2000	1,05%	2,18%
2001	1,06%	2,34%
2002	1,01%	2,27%
2003	1,00%	2,35%
2004	0,96%	2,53%
2005	1,00%	2,63%
2006	0,99%	2,83%
2007	1,08%	3,00%
2008	1,13%	3,12%
2009	1,12%	3,29%
2010	1,16%	3,47%
2011	1,14%	3,74%
2012	1,13%	4,03%
2013	1,20%	4,15%
2014	1,27%	4,29%
2015	1,34%	4,22%
2016	1,26%	4,23%
2017	1,26%	4,55%

Source: Original Chart with data from World Bank

GRAPHIC 15 DATABASE: **BRAZILIAN AND SOUTH KOREAN RESEARCHER IN R&D (PER MILLION PEOPLE) FROM COMPARATIVE PERSPECTIVE (2000-2017)**

TIME	RESEARCHERS IN R&D (PER MILLION PEOPLE)	
	BRAZIL	SOUTH KOREA
2000	295	2.287
2001	337	2.858
2002	398	2.957
2003	423	3.134
2004	483	3.221
2005	509	3.692
2006	543	4.091
2007	555	4.526
2008	591	4.801
2009	626	4.946
2010	686	5.331
2011	738	5.803
2012	788	6.304
2013	838	6.393
2014	888	6.826

Source: Original Chart with data from World Bank

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