



Considerations for a Sustainable Development in Paraguay

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Abstract

Background: In the last several decades, Paraguay has experienced a remarkable degree of economic and political stability that has enabled the country to achieve important levels of growth and development in several fields. This indeed is not negligible in the context of a traditionally unstable Latin American region, but also because Paraguay itself has rarely benefitted from such a long period of soundness across its more than 200 years of independent—yet convulsive—history. **Objective:** As expected, this situation provides a more than valuable opportunity for the country to ensure that such economic growth and concomitant development are not temporary but can be sustainable in time, hence continuously improving the welfare of the Paraguayan population without jeopardizing its environment and intrinsic (natural) resources. **Method:** Any opportunity then brings about several aspects and challenges that policymakers will have to consider and eventually address in order to effectively materialize such a chance for real and long-lasting development. **Results:** This study intends to share relevant thoughts and considerations about the current state of the Paraguayan development process, while attempting to identify some crucial policy actions that can maximize the probabilities of successful development for this country or, to put it differently, to reduce the risk of falling into a middle-income trap that perpetuates the characteristically Latin American vicious circle of poverty and inequality.

Keywords Socioeconomic Development, Paraguay, Policymaking, Long-Term Growth, Sustainability

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Introduction

Economic theory has often argued that macroeconomic stability is a necessary, although not always sufficient, condition for growth and eventual development of a particular country (Ames et al., 2001). Being familiar with the historically volatile Latin American context, one could certainly add that political stability is also a fundamental pre-requisite for public policies to be effectively implemented within a nation and hence potentially contribute to a sound socioeconomic performance over time (Carmignani, 2003).

Paraguay, a landlocked developing country in the middle of South America, is of particular interest as it has been able to obtain and preserve an unusual relative steadiness in both economic and political stability for the last several decades. This has consequently been translated into some reasonable levels of continuous growth that eventually allowed the country to develop itself on different fronts, probably like never before in its rather turbulent history (Borda and Masi, 2021). Yet significant challenges remain and might sooner or later deter this promising development story, as evidenced more than once across the Latin American continent.

Given this unique opportunity that currently exists in Paraguay, the research question asks, “What can policymakers do to actually secure a long-lasting and environmentally sustainable development of the country?”

To undertake this certainly complex and extensive problem, this research will provide several useful considerations and policy recommendations that focus mainly on some areas or sectors that are deemed crucial for the nation to succeed in its development quest.

The study is a qualitative Historical Case Study research design. A historical case study is a hybrid research strategy intended to accomplish what a historical study and case study alone cannot. It analyzes data from the past to the present, using eclectic data sources (Widdersheim, 2018). This study utilizes explanatory topologies based on a descriptive-explanatory analysis of major economic, political and social features of the country, while concentrating chiefly in the 2003-2023 period. This design approach allows for an in-depth examination of the complex interconnections between different aspects within the specific context of the country being studied.

The research is significant not only by the relevance of Paraguay’s current development path but also by some of the new grounds in which policy recommendations are being formulated. At the same time, and considering the extent of the problem at hand, this study embeds the logical limitation of not covering other fields or domains that may also contribute in one way or another to Paraguay’s sustainable development.

In addition to the normal literature review process that is intrinsic to social science studies, this research has also conducted several discussions and exchanges with a pool of experts listed in the acknowledgment section, so as to gather valuable information and comments that might not be contained in formal documentation.

Nevertheless, and given the sensitivity or potential conflict of interest regarding some of the collected arguments, the confidentiality of such opinions and information will be respected by refraining from mentioning any names beyond the acknowledgment section, upon request of the experts.

It is noteworthy that this study will follow a simple, yet effective structure based in four sections. First, it will provide a succinct synopsis of the main economic, political and social events that took place before 2003, to facilitate the reader's understanding of the context that Paraguay had to deal with before attaining macroeconomic and political stability. Second, this researcher will focus on the fruitful 2003-2023 period by examining its major features, outcomes and corresponding policies. Third, the study will focus on the main risks and remaining challenges that could hinder Paraguay's growth and development in the near future. Finally, and in light of this, it shall be able to provide hopefully sound policy recommendations in key sectors and areas that may contribute policymakers' efforts to ensure a sustainable development path for Paraguay.

Historical Background

As indicated in the Introduction, this first section aims to highlight major economic, political and social facts or events that shaped most of Paraguay's history. The purpose of such retrospective is simply to better comprehend the country's context before centering attention in the 2003-2023 period, as it will clearly facilitate the analysis of the following sections.

Like many nations in Latin America, Paraguay used to be a Spanish colony for several centuries before becoming an independent state in the early eighteenth century. Located roughly in the middle of South America, the capital city of Asuncion initially gained certain importance to the Spanish conquistadors in their efforts to expand their territories (Kruger, 1981). Many exploring groups, troops and contingents would start their journeys from Asuncion in order to found new forts and towns, especially in those lands that were comparatively richer in terms of natural resources.

As stated in Roper and Van Ruymbeke (2007), the Spanish crown was particularly interested in gold and silver during the early stages of the colonial period. Asuncion in that sense may have helped the establishment of new colonies in Upper Peru for example, where precious metals were located. But the Province of Paraguay itself, as it was known at the time, was lacking such precious metals, plus it did not have access to any oceans or seas, thus considerably limiting its potential growth and development through commerce with the Iberic Peninsula as well as with other Spanish colonies of the time.

The Spanish crown logically ended up concentrating its efforts in developing other so called more promising areas and regions across the continent, although it still decided to replicate in Paraguay an exploitation model that was widely used in Latin America known as the "encomienda". Reyes and Sawyer (2020) describe the encomienda as large pieces of land that are entrusted by the crown to a few Spanish citizens so that it could be cultivated, while typically using indigenous people as cheap or free labor for such endeavors.

This historical fact is important according to Ortiz (2016) and Rojas (2012), in the sense that such a widespread and long-lasting model is seen by many as the origin of Paraguay's and Latin America's in general stark poverty and social inequality. Eslava and Valencia (2023) highlight that this is true not only in terms of wealth and land distribution but also regarding the impetus for privileged families or influential elites with considerable economic and political power over the country.

From 1811 onward, it is noteworthy that Paraguay has traditionally been politically unstable, while also characterized by a large number of authoritarian regimes during several periods of time. Starting with its first ruler, Dr. Jose Gaspar Rodriguez de Francia, who eventually was named "Supreme and Perpetual Dictator" of the nation from 1816 until his death in 1840, leading a totalitarian and self-sufficient regime designed to consolidate power and isolate the newborn country from external conflicts (Cooney, 2005).

At the other end of the timeline is Gral. Alfredo Stroessner, last dictator of Paraguay and also known for holding the longest dictatorship in Latin American modern history (1954-1989). During the Cold War, he was part of the infamous Operation Condor to prevent communism and socialism from expanding in the Southern Cone of the continent, therefore leading state terrorism and open repression against opponents, agitators and left-wing sympathizers (Zoglin, 2001).

In between both leaders, a countless number of revolts, coups d'état, uprisings, and other sort of rebellions took place in Paraguay, with violence and brutality usually being the common denominator (Pangrazio, 2008). In fact, one can count at least 35 different presidents between 1870 and 1924, plus 11 other presidents in the period from 1936 to 1954, which then yields an effective presidential term of only 1.5 or 1.6 years on average during these periods of time (Espinola, 2010).

This reveals not only the political instability that defined the country through several periods of independent history, but also the difficulty to effectively carry out—under those circumstances—any public policy or deep reform oriented to a long-term socioeconomic development of the nation. Economically speaking for example, Paraguay had two missed opportunities for economic "takeoff" that occurred precisely in moments of great internal stability and solid government rule.

The first case occurred during the period 1844-1862 under the presidency of Carlos Antonio Lopez. Considered as the first constitutional President of Paraguay, he opened the country to foreign trade and fostered its development by importing technology, sending government staff abroad for higher education and training, while also bringing foreign experts to help replicate an Industrial Revolution process in this traditionally agrarian state (Espinola, 2010).

Despite promising initial success, as evidenced by the emergence of one of the first railways in the region; the Triple Alliance War (1864-1870) against Brazil, Argentina and Uruguay ended up devastating the economy as well as destroying most of the infrastructure and industry that had been created (Espinola, 2010). In terms of population, some studies suggest that about 90% of the male population was killed in battle (Alix-Garcia et al., 2022), with many of them being children who were also sent to the front in a desperate attempt to change the course of the war.

Much closer in time, the other eventual missed opportunity refers to Gral. Stroessner's regime. Having consolidated his power through the military and the Colorado political party, he was able to prevent, or eventually suppress, any insurrections during his 35-year totalitarian rule. Although attained by force i.e., non-democratically, this political stability did enable Stroessner's government to pursue biennial and subsequently five-year development plans, with the most important involving the construction of a binational dam with Brazil called "Itaipu" (Espinola, 2010).

Such a colossal infrastructure project, considering Paraguay's small population and the fact that Itaipu would end up being the most powerful dam in the world (only surpassed by China's Three Gorges dam in the early 2010s), implied a significant impact in Paraguay's Gross Domestic Product (GDP) mainly during the time of its construction: 1974-1981. As indicated by Rojas (2001) and Espinola (2010), the country averaged an economic growth of 9.7% during such period and even attained double-digit rates between 1977 and 1980. The completion of the project however and a coincidental fall of international commodity prices at that time marked the end of this second opportunity for economic takeoff.

From then on, Paraguay experienced rather sluggish economic growth until the beginning of the next century. As Borda and Caballero (2020) state, the roughly called Latin American "lost decade" of the 1980s actually lasted for about 19 years (1984-2002) in the case of Paraguay, with the country generally suffering from deteriorating terms of trade, volatile weather conditions including droughts and floods, monetary and fiscal disequilibria, as well as a deep financial crisis that originated in 1995 and officially came to an end in 2003.

It is noteworthy however, that Paraguay did not fully commit to the Import Substitution Industrialization (ISI) model of economic development that was so trendy in the region, particularly during the 1960s and 1970s. Thus, the indebtedness of the state never reached the astronomical levels experienced by many Latin American nations during the 1980s, and therefore no hyperinflation has ever been recorded to date. As a matter of fact, Paraguay's currency named "Guarani" is considered to be one of the oldest in Latin America with 80 years in circulation as of 2023 (Carvallo Spalding et al., 2023).

Similarly, the liberalization wave that followed in the late 1980s and 1990s, reflected in the economic policy prescriptions fostered by the Washington Consensus across the region e.g., privatization of state-owned enterprises, reduction of fiscal deficits, etc., were only partially implemented in Paraguay (Masi, 2010), as no last resort loans from the International Monetary Fund (IMF) -or other international financial institutions- were needed in those times.

Dealing now with the social aspects the same argument can be derived from the previous economic discussion. Paraguay has not actually stood out in terms of social policies or reforms, partly because of the authoritarian and/or politically unstable scenarios that have depicted a considerable part of its history (Rojas & Acosta, 2022). In fact, some of the country's early social protection policies were actually carried out in periods of stable governments and relative internal (and external) peace.

For example, even though the Ministry of Public Health was created in 1936, a period of considerable political turmoil in Paraguay, Garcia (2017) stated that it only started to effectively deal with contributory social security and welfare since the more stable 1940s, particularly in collaboration with the by-then newly established Instituto de Prevision Social (1943) and its social legislation. The field of non-contributory social programs however would not arise until the early 2000s in Paraguay, as we will reveal in the next section of this study.

The Period 2003-2023: A Concrete Chance for Growth and Development

Having missed two opportunities in the past, a number of internal and external factors would lead Paraguay into a third promising chance for long-term growth and sustainable socioeconomic development. This section explores which main elements or conditions enabled the country to attain both political and macroeconomic stability, while also providing details of the major outcomes and achievements obtained in the past twenty years.

As described in the previous section, authoritarianism has been a constant feature throughout a considerable part of Paraguay's history. More recently, the longest dictatorship in Latin America, directed by Gral. Stroessner, only came to an end in 1989 when his own son's father-in-law, Gral. Andres Rodriguez, organized a plot to remove him from power. This meant that the nation still had a long way to go in terms of a real democratization process.

Events highlighted by Lopez (2011) such as a failed coup attempt in 1996 by Gral. Lino Oviedo or even the assassination of Vice-President Luis Maria Argana in 1999, with the subsequent violent political crisis that forced incumbent President Raul Cubas to resign, prove that it would certainly take several years, or even decades, for the democratic system to fully consolidate in Paraguay. While far from perfect, sufficient gains were made by 2003, with a newly and democratically elected government that would benefit from relative political stability to carry out some most-awaited economic reforms needed at that time.

As stated, macroeconomic stability is a necessary, yet not always sufficient, condition for sustained growth and development in any country (Ames et al., 2001). But the "lost decade" outlined in the previous section meant that Paraguay was facing several challenges in the economic front until the early 2000s. Such worsening conditions eventually translated into fiscal and monetary imbalances that would require serious reforms at some point to correct them.

A selective default finally took place by the end of 2002 when the country was not able to cover some treasury-bond payments, while also having difficulties paying for its own civil servants' salaries (Charotti et al., 2019). With few options on the table, the new government, in consensus with several stakeholders across society, decided to carry out a series of deep structural reforms to stabilize the economy in the short run and lay the groundwork for a sound macroeconomic growth in the middle and long run (Borda, 2006).

To support those reforms and maximize the odds of success, the government ended up signing a standby arrangement with the International Monetary Fund (IMF) at the end of 2003. This proved to be key not only as a political shield but also regarding technical cooperation offered to public institutions e.g., Central Bank of Paraguay (BCP) and Ministry of Finance of Paraguay (MoF), which was deemed necessary for such policies to be effectively implemented.

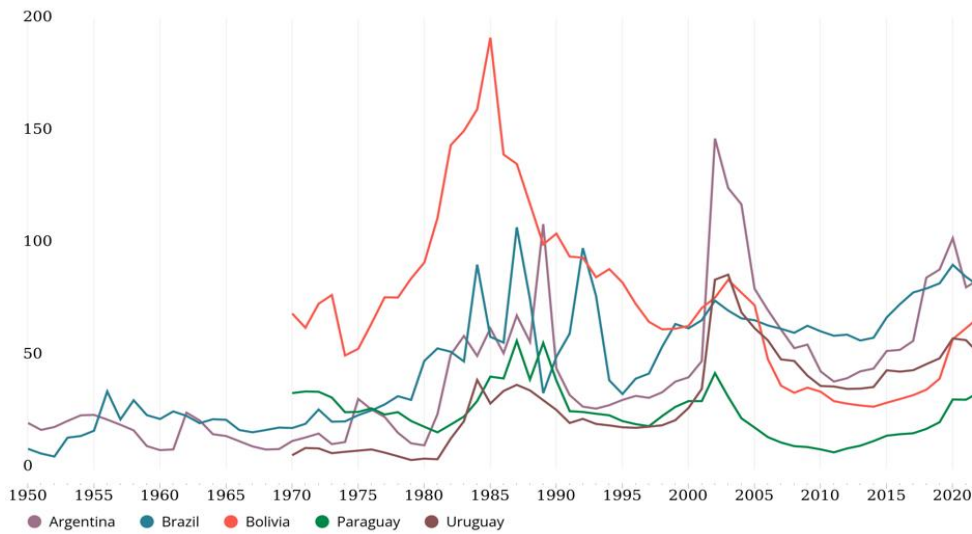
In fact, the previous stand-by arrangement signed with the IMF dated back to 1969. Even though several loans have been approved by the organization during Paraguay's membership, the country has never withdrawn any amount as of June 2022 (IMF, 2022).

In terms of legislation, a major breakthrough consisted of the approval by Congress of Law 2421 of "Administrative Reorganization and Fiscal Accommodation" in 2004. As Borda (2006) suggested, this legal text gave real incentives to economic agents to reduce informality e.g., formalizing firms and decreasing tax evasion, while ensuring at the same time fiscal sustainability and pushing forward a less regressive tax system, particularly with the introduction for the first time of the Personal Income Tax in Paraguay.

Together with other important public policies and reforms in fields as distinct as: customs, pensions, public administration efficiency, public institutions strengthening, civil service competency, or even public procurement transparency (just to cite a few); the government was eventually able to improve the population's trust in at least some public entities, promote the participation of civil society in the formulation of public policies and control of public resources, foster economic growth and employment, while ultimately attaining to reduce poverty and inequality, among other significant achievements (Borda & Masi, 2021).

In numbers, the intended changes had an immediate impact on the fiscal side by obtaining consecutive surpluses since 2004 and for eight years in a row. This logically also had a positive effect in the levels of public sector debt, with the debt-to-GDP ratio going down from about 50% in 2002 to a record low of 11% in 2011, while remaining as one of the lowest rates in the region (see Figure 1).

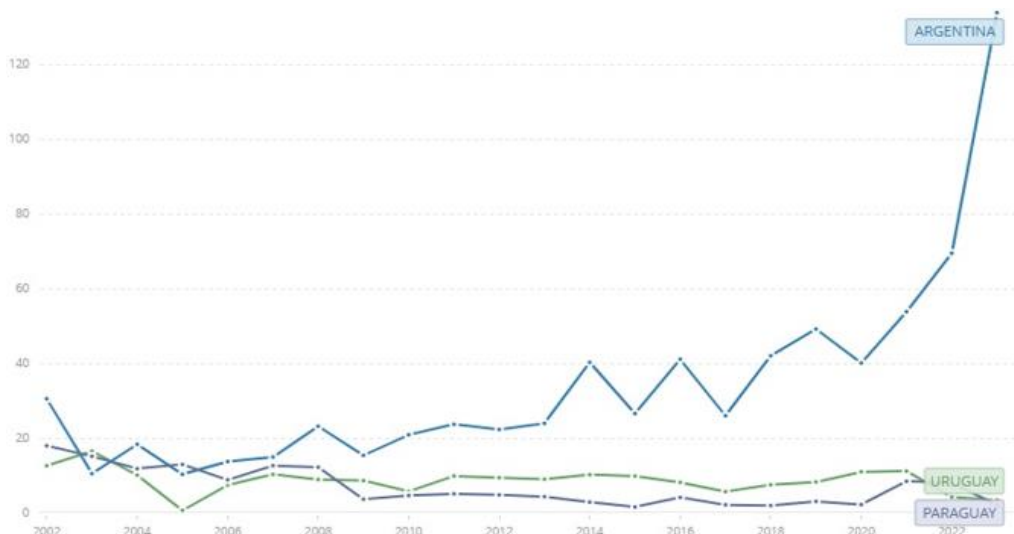
Figure 1
Central Government Debt (percent of GDP, period 1950-2022)



Note. Adapted from the Global Debt Database (GDD), International Monetary Fund.

On the monetary side, inflation decreased from 14.6% at the end of 2002 to only 2.8% by December 2004, while averaging 5.4% during the whole period 2003-2023, hence lower on average than neighbouring countries such as Uruguay or Argentina (see Figure 2). Central Bank of Paraguay (BCP) estimates an inflation rate of 3.7% for 2023.

Figure 2
GDP Deflator (annual %, period 2002-2023)



Note. Adapted from the World Development Indicators (WDI), World Bank Group. Data estimated for 2023.

It is important to highlight that BCP has decided to move to an inflation targeting framework since 2011 (Cuevas, 2016), thus allowing the entity to better control this variable over time i.e., 6.9% in 2003-2011 versus 4.2% in 2012-2023 on average. At the same time, the institution was able to build on international reserves through time, jumping from only USD 600 million in 2002 to around USD 10 billion twenty years later, i.e., about 25% of the country's (GDP) in 2022. This is higher than many countries in the South American landscape, as displayed in Figure 3 below.

Figure 3
Total Reserves (% of total external debt, period 2003-2022)



Note. Adapted from the International Debt Statistics (IDS), World Bank Group.

The financial sector in turn has benefitted from this more stable and predictable setting. Having strengthened its regulatory framework, while boosted by the creation of a Deposit Guarantee Fund (Law 2334 of December 2003) as well as of a second-tier development bank named Development Finance Agency (AFD), via Law 2640 of July 2005, the banking sector experienced solid conditions for operations in Paraguay (Cantero et al., 2018).

This resulted in lower interest rates and longer maturities over the years, deepening the access to credit and savings through financial inclusion, while also providing a wider range of financial products e.g., “first house” soft loans via AFD and even greater liquidity levels to the market. In fact, only two financial entities went bankrupt after 2003 in Paraguay, with the default rate being only 3.4% for banks as of October 2023 (BCP, 2023).

All these sound macroeconomic conditions then helped support Paraguay's continuous growth in the coming years, until achieving the upper-middle income status in 2014 according to World Bank Group (WBG, 2014) member countries classification. In fact, Gross National Income in 2022 was approximately USD 5,920 per capita (current US dollars), while BCP (2023) estimates a real GDP growth of 4.5% for Paraguay in 2023. Data from the latter institution also reveals that GDP expanded at an average rate of 3.7% during the period 2003-2023, characterized by a faster pace

in 2003-2017 (4.5%) as compared to 2018-2023 (1.8%). All in all, these results outperform most countries in the South American region as well as the Latin American continent on average, as it can be observed in Table 1 below.

Table 1

GDP growth rate (annual %, period 2003-2023)

Country/Region Name	Average Growth Rate (%)
Argentina	2.9
Brazil	2.2
Chile	3.4
Ecuador	3.5
Paraguay	3.7
Uruguay	3.2
Latin America and the Caribbean	2.5

Note. Adapted from the World Development Indicators (WDI), World Bank Group. Data estimated for 2023.

Part of such a dynamic first subperiod is related to the favorable commodities “supercycle” led by China. As explained by Gallagher (2016), China’s own industrialization and fast development process led to a boom in commodity demand that raised prices of natural resources worldwide during 2003-2013, therefore leading to higher revenues in Latin American agro-exporting countries such as Paraguay.

Furthermore, this South American nation had been continuously expanding its agricultural frontier during such years which, combined with favorable weather and sanitary conditions in general, resulted in continuously increasing outputs over time, particularly soybean, beef, wheat, and maize, and eventually becoming in 2022 the world’s third and eighth largest exporters of soybeans and beef respectively (MoF, 2023-b). The second subperiod however (2018-2023) was marked with severe external shocks such as the COVID-19 pandemic and the subsequent shutdown of the Paraguayan economy in 2020; and the extreme droughts that affected crops in 2018-2019 and 2021-2022.

In addition to agriculture and livestock, the country began in the 2010s to diversify its production of goods and services as well as its export destinations. Paraguayan economy has traditionally been very dependent on Brazil and Argentina, meaning that decoupling from those historically unstable markets would therefore imply a lesser degree of volatility.

Based on the incentives embedded in the Maquila Regime for example, the industrial sector started to substantially develop itself in areas as diverse as textiles, plastics, metallurgy, and even auto parts, with almost 300 firms generating formal employment and over USD 1 billion in investments as of October 2023 (Ministry of Industry and Trade of Paraguay, 2023).

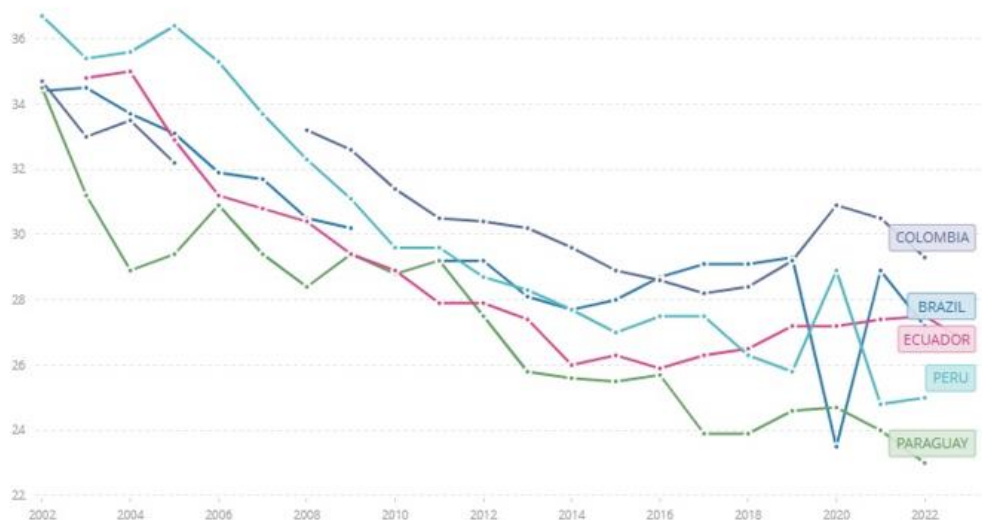
To sustain this countrywide economic expansion, successive governments have also made significant efforts to narrow the large infrastructure gap in Paraguay by continuously increasing investment in public works e.g., improving the population’s

access to basic utility services, roads system expansion, etc. Data from Paraguay’s National Institute of Statistics (INE, 2023) reveals that access to sewage, water and electricity in Paraguay respectively increased from 59.3%, 60.7% and 90.6% in 2000 to 89.5%, 91.2% and 99.7% in 2021.

As for national paved roads, this indicator went up dramatically from only 3,886 kilometers in 2003 to over 12,000 as of June 2023. Indeed, physical investment undertaken by the central government has raised from only 1.9% of GDP on average during 2003-2011 to over 3.1% in the period 2019-2022 (MoF, 2023-c). A larger investment from 2020 onwards is also explained however by counter-cyclical measures and public health strengthening due to the COVID-19 pandemic.

As could be expected from several years of economic growth, poverty and inequality indicators have improved substantially in the last several decades. According to Paraguay’s National Institute of Statistics (INE), poverty was in fact cut by almost half between 2002 and 2022, hence attaining a lower poverty than many countries in South America (see Figure 4). While less evident to the naked eye, the degree of inequality as reflected by the income Gini coefficient (i.e. a statistical measure of income inequality by summarizing the distribution of income across a population) did ameliorate during the same time period from 0.57 in 2002 to 0.45 in 2022, producing an even sharper decline than other emerging countries like Brazil or Colombia (see Figure 5).

Figure 4
Poverty Headcount Ratio at National Poverty Lines (% of population, period 2002-2022)



Note. Adapted from the World Development Indicators (WDI), World Bank Group.

Figure 5
Gini Index (period 2002-2022)



Note. Adapted from the World Development Indicators (WDI), World Bank Group

It is noteworthy that non-contributory social programs e.g., conditional cash transfers, also played a part, to a greater or lesser extent, in assisting vulnerable groups of the population since they were first implemented in Paraguay in 2005 (Serafini, 2019). “Tekopora” program for example is a conditional cash transfer scheme that was introduced back in 2005 and has been considered the flagship of non-contributory social programs in Paraguay since then.

Dealing with education, it is praiseworthy to highlight the implementation and continuation of the Carlos Antonio Lopez Scholarships (called BECAL in Spanish language acronyms) since 2015. This higher education program sponsored by the government enables hundreds of professional Paraguayans each year to undertake graduate studies i.e., Master’s, Doctoral, and postdoctoral degrees, in top universities around the world, with the purpose of improving human capital and help with sustaining Paraguay’s own development process (Amarilla, 2023). It is important to mention in that sense that BECAL is the first education program of such type since former President Carlos Antonio Lopez decided in the mid-1850s to send civil servants abroad for higher education and training.

In terms of public planning, a major step forward took place with the design and approval in 2014 of the National Development Plan Paraguay 2030 (PND). This was the first time that such a strategic document for long-term development has ever been developed and executed. In other words, this ended up being a state plan rather than just a government program, as it was implemented in consensus with the main stakeholders across society i.e., the private sector, non-governmental organizations (NGOs), cooperation agencies, civil society, academia, etc., and well beyond a 5-year presidential term.

Considerable efforts in wider transparency, public information and accountability have also been made by successive governments in Paraguay during the past twenty years. As Achar et al. (2021) and Vargas Ferreira et al. (2022) suggest, major

accomplishments such as the approval in September 2014 of Law 5282 of Free Access to Public Information and Government Transparency, together with Law 5189, approved in May 2014, that deals with Compulsory Provision of Information Regarding Public Payrolls, made it possible for ordinary citizens to gain open data access in a variety of fields, such as public budgeting, public debt, legislative activity, procurement contracting or even civil servants salaries.

There are several additional positive aspects that also should be pointed out in the environmental sphere. One of these positive aspects is that Paraguay already has an energy matrix that is clean and nearly 100% renewable, mainly due to the powerful Itaipu and Yacyreta binational hydroelectric plants, which are contributing positively to the planet as a whole (Llamosas et al., 2021). The other feature is that policymakers have become more and more conscious in recent years about the sustainable aspect of any serious economic development process.

Some relevant proactive actions have been made lately in Paraguay, as illustrated by the legal creation in 2018 of a Ministry of Environment and Sustainable Development (MADES), the approval of a Carbon Credits legislation in 2023 (Law 7190), and the incorporation within the Paraguayan stock market, since 2020, of an innovative financial instrument named Sustainable Development Goals (SDG) Bonds, developed by the Securities and Exchange Commission of Paraguay (2021). In spite of such progress, further work still needs to be done in this and other fields if the state truly wishes to continuously improve its population's welfare without jeopardizing the country's resources and natural environment.

Main Risks and Challenges to Overcome

Despite the significant progress attained in the last decades, Paraguay's development course still faces significant risks, obstacles and challenges in numerous areas that could hamper such a promising path experienced to date. The purpose of this section is then to identify the main threats and enduring hurdles within the socioeconomic, political, institutional, and environmental spheres, which will later facilitate a discussion of sound policy advice before concluding this study.

Starting with politics in Paraguay, major gains have certainly been made in terms of democracy since 1989. The process however is still some steps away from being fully consolidated, as revealed for example by the two impeachment attempts that former President Abdo had to face in 2019 and 2021, or even the actual impeachment of former President Lugo in a legally dubious 24 hours record-time procedure back in 2012 (Szucs, 2013).

At the same time, it must be mentioned that political alternation is virtually non-existent in Paraguay. The Colorado Party has dominated the political scene for about 75 consecutive years as of 2023, with a single exception for the period 2008-2013, when such political body lost presidential elections against a coalition of multiple opposing parties. This long-lasting reign, together with common Latin American bad practices that include influence peddling, nepotism, bribery, extortion, or even vote buying for election day, suggest that public institutions and entities in Paraguay might *de facto* be intrinsically tied to the interests of a political party's affiliates and other groups of influence (Konovalova, 2020).

As a matter of fact, Paraguay is widely perceived as a very corrupt country, ranking 137 out of 180 nations according to Transparency International's (2022) *Corruption Perceptions Index*. Paredes (2018) and Vargas Ferreira et al. (2019) point out that such corruption is then mostly translated into weak institutions, deficient law enforcement, inefficient public entities, loose controls and regulation, unclear property rights, lack of legal certainty and fragile physical safety, among other undesirable outcomes.

On the national security front, a sharp rise of organized crime in recent years, related mostly to arms and drug-trafficking, has considerably increased the risk that Paraguay might eventually become a "failed state" or a "narco state" (Ramos, 2023), particularly given the economic power, high-level political connections and violent attacks displayed by transnational criminal organizations, such as Comando Vermelho or Primeiro Comando da Capital, as well as by local guerrillas that include the Ejército del Pueblo Paraguayo. As a matter of fact, the Global Initiative against Transnational Organized Crime (2023) has ranked Paraguay as the leader in arms trafficking within Latin America together with Jamaica, while being number 4 worldwide in terms of overall organized crime.

Considering the country's economic stability, several indicators have deteriorated over time and may therefore put some pressure on the successful macroeconomic stability gained since 2003. The latter has in fact enabled the country to improve its credit rating since 2004 until attaining BB+ in 2015. The score however saw no further progress as of 2023, implying that there are still considerable challenges to be overcome, such as weak institutions, rule of law, low human development, and high levels of corruption (Fitch Ratings, 2023).

On the fiscal side, data from MoF (2023-a) reveals that deficits have been occurring continuously since 2012 in Paraguay, breaching the Fiscal Responsibility Law limit of 1.5% of GDP every single year since 2019. Consequently, the debt-to-GDP ratio has been rising permanently from 2012 onwards until stabilizing around 40% since 2020, which is basically the ceiling estimated by the IMF (2017) for such country.

Additionally, and despite having achieved some diversification in terms of production as well as export destinations, the country's economic performance is still very dependent on a few primary commodities including soybean, beef, wheat, and maize, while also particularly vulnerable to external shocks such as droughts, floods, plagues, oil price changes, international interest rates movements, etc., as is characteristic by a small and open developing economy (IMF, 2022).

The resulting volatility in growth is exacerbated by the deficit of adequate infrastructure across the nation, both in urban and rural areas. Despite the efforts undertaken in recent years to raise physical investment in public works such as energy, water, sanitation, and transportation, the infrastructure gap in Paraguay is still huge as it represents about USD 36 billion according to official estimates, with roads alone exceeding USD 17 billion in the views of Jara and Vera (2018). For comparison purposes, the nominal Gross Domestic Product (GDP) for this country attained USD 41.7 billion in 2022 (WBG, 2023).

At the same time, the quality of such investments and of public spending should be considered. Besides the low credibility derived from the already mentioned widely perceived corruption, the Paraguayan State is also criticized for being highly inefficient regarding its administrative functions as well as in the provision of goods and services. From poor quality roads and bridges to unreliable electricity and water distribution, together with overruns in infrastructure projects, overpriced public procurement, and the heavy weight of civil service salaries within public budgets (they represented 70% of all tax revenues in 2021), all these factors end up having a major impact in government spending (Izquierdo et al., 2018).

Another relevant challenge regarding the State's functioning in Latin America is its own capacity to plan, lead and effectively articulate its own entities as well as other stakeholders, including the private sector, civil society, cooperation agencies, and academia for the design and implementation of public policies (Scartascini et al., 2010). Despite some praiseworthy actions illustrated in the previous section, such as the socially agreed structural reforms in the early 2000s or the long-term development of the National Development Plan Paraguay (PND) 2030, the culture of policy-making in Paraguay is still mostly confined to the public sphere, which tends to generate skepticism among the population in terms of the projects' transparency and their expected results.

This in turn creates a dilemma when dealing with the current tax scheme in Paraguay, which basically involves flat rates of only 10% applied as (1) Value Added Tax, (2) Personal Income Tax and (3) Business Income Tax (MoF, 2023-a). Despite its attractiveness in terms of simplicity and low costs for investors, the system is still regressive and clearly insufficient to provide more and better goods and services to the population (Ortiz, 2020). Nevertheless, it might not be easy to convince any taxpayer about raising levies until more efficiency and better spending quality is demonstrated by the Paraguayan State (Borda and Caballero, 2018).

Likewise, taxpayers might be unwilling to pay higher taxes knowing that many their fellow citizens are not contributing to the State coffers. In fact, estimates for 2021 suggest that over 70% of laborers in the country are working in informal conditions (Union Industrial Paraguaya, 2022), typically including precarious jobs of low productivity in micro, small, and medium enterprises (MSMEs). The latter usually involve no written employment contracts, lower than minimum salaries, no social security contributions and so forth. For instance, less than a quarter of the total workforce in Paraguay contributed to a retirement system in 2022 according to INE (2023).

At the same time, the shadow or underground economy was estimated at 46% of the GDP (PRO Desarrollo Paraguay, 2021), which involves not only illegal activities such as smuggling, forgery, and money-laundering, but also legal businesses (IMF, 2022), where many of the firms producing those goods and services are unregistered MSMEs. In fact, more than 95% of firms are considered to be MSMEs in Paraguay, while only 26% of them comply with all formality standards (Insfran, 2021).

In the long run, the abovementioned context puts extra pressure on the middle-income trap risk for Paraguay. The latter case is understood as a situation in which a low-income economy rapidly achieves middle-income levels but then fails to attain a developed status, which in the case of Paraguay translates into a large informal sector

and concomitant shadow economy that imply a generalized low productivity derived from an already low-skilled labor force (Alarco & Castillo, 2018; Paus, 2017).

Recent results from the Program for International Student Assessment (PISA) tests undertaken in 2022 reveal that basic education in Paraguay is crudely dismal, as it ranked 80 out of 81 countries, meaning for instance that 7 out of 10 students at school cannot understand what they read (Organization for Economic Cooperation and Development, 2023). Besides the poor quality, Paraguay's public spending on education is also relatively low, even when comparing to the Latin American average: 3.6% Vs. 3.8% of GDP in 2022, respectively (WBG, 2023). The situation is even more worrisome when considering that most of the population in the country is still young, with people between 15 and 29 years old representing 27% of the total population in Paraguay (INE, 2023), thus implying that the current demographic bonus or dividend is being "wasted" in informal low value-added activities.

The problem of productivity is also closely linked to poverty and to a rather precarious healthcare system in Paraguay. Indeed, poverty levels may have been reduced by half since 2002, but they still affect a quarter of the nation's population. Even worse, one out of ten individuals in rural areas does not get enough earnings to cover basic food necessities (INE, 2023). Additionally, only 27% of the population has medical insurance while just 57% of pupils at school present an adequate nutritional status (Sistema de Vigilancia Alimentaria Nutricional, 2022).

Dealing now with the environmental challenges, it must be said that although Paraguay does fully produce clean and renewable energy, its consumption however is still highly dependent on 100% imported fossil fuels (Llamosas et al., 2021). Both public and private transportation are mostly moved on diesel and gasoline, thus generating poor air quality standards in main cities like Asuncion or Ciudad del Este. In addition, the traditional practice of slash-and-burn farming is still widely used in the Latin American countryside, including Paraguay, particularly during dry seasons, which results in entire South American regions occasionally covered in smog (Mielnicki et al., 2005).

Linked to the infrastructure gap presented earlier, water and sewage coverage might have increased considerably in the last two decades, but there are still critics about the reliability and quality of the services. In numbers, merely 15% of the total population has access to sanitary sewage systems and only 64% of the drinkable water consumed by households is actually considered to be free of pollutants (World Bank Group, 2020). Another major issue in main Paraguayan cities is the scarcity of rainwater drainage systems, as suggested by the scarce 25% coverage in the country's capital of Asuncion (INE, 2023). Furthermore, the structural deficit regarding proper waste collection and management translates into a third of Paraguayan families that end up burning their own garbage according to INE (2023), attaining a rate of almost 70% in rural areas.

Lastly, deforestation constitutes another matter of concern for Paraguay's sustainable development challenges. Large exports of timber in the past together with a continuous expansion, mainly since the early 2000s, of the agricultural frontier for farming and livestock activities, have resulted in forest coverage area decreasing from around 51.8% of the territory in 1990 (Zanetti et al., 2017) to 44.3% in 2022 (National Forestry Institute of Paraguay, 2023). Despite a constant deceleration of deforestation rates in

recent years, increasing holistic efforts will need to be made by public authorities in liaison with other stakeholders to ensure ecosystem preservation and gradually restore the degraded environment in the long run.

Policy Recommendations for a Sustainable Development Path

The previous sections have provided valuable political, economic, and environmental knowledge of Paraguay as well as its development process, while focusing chiefly on the major features, outcomes and remaining challenges that stem from the prosperous past several decades. This last part of the study is intended to provide some useful considerations and policy recommendations for a long lasting and environmentally sustainable development in Paraguay.

Secure Long-run Macroeconomic Stability

The prosperous period 2003-2023 is mainly founded on a well-achieved macroeconomic and political stability in Paraguay. Successive fiscal deficits in the last 12 years however and the concomitant and dangerous increase of public debt to near-limit ceilings suggest that real adjustments, in both income and government spending, must be made in the short- and middle-run, in order to return to fiscal equilibrium. The Fiscal Responsibility Law in that sense has proven to be not robust enough to prevent large and sustained deficits over time, which implies that an eventual reform of this legislation or search for more effective fiscal anchoring must take place. A Policy Coordination Instrument (PCI) for Paraguay was approved by the IMF in 2022, with one of the pillars being ensuring macroeconomic stability and resilience by rebuilding fiscal buffers and securing fiscal sustainability. At the same time, the exploration and eventual creation of a countercyclical fiscal fund could help mitigate macroeconomic shocks and reduce volatility as a whole.

Build up Public Policies Based on Transparency and General Consensus

Besides being a good practice *per se*, previous experience in Paraguay has demonstrated that agreed public policies are possible and tend to work much better when previously debated with main stakeholders across society. Involving and having open discussions with other participants not only lowers resistance towards a certain plan, project or reform, but also maximizes the chances for its successful implementation and follow-up, while improving at the same time public institutions' credibility. Risk of corruption diminishes with sufficient transparency and empowerment by civil society. For the public institutions' credibility to occur, the government should ensure data transparency as well as fluent and continuous communication channels with the press and civil society, about both its ongoing actions and future intentions, so that information is transmitted accurately, and citizen oversight becomes more effective in practice.

Propel State Reform and Strengthen Civil Service

The existence of over 400 public entities in Paraguay is widely viewed as excessive by scholars and the country's population, with several of them considered to have no significant functions or even overlapping some of their intended roles with other existing bodies. It has also been a common practice in Paraguay that some public entities are created or enlarged just to generate new positions that can be occupied by the dominant political party's affiliates or other influential group members.

The high cost of sustaining such a heavy apparatus, added to the complicated coordination among all these numerous public agencies, suggest that a reduction of the State should eventually take place. The current government's majority in both chambers of Congress, together with the favorable political cycle that usually accompanies a new head of state in Paraguay during the first two years of administration, insinuate that at least some of the State reforms might be politically feasible within this presidential term.

Performance evaluations at the entity and public servant level, together with a reform of civil service that encourages competency for access and promotion, would certainly contribute to reduce costs, mitigate corruption and improve efficiency in most layers of public administration.

Keep Promoting State Planning and Strengthen Project Management Capacities

Successive governments have learned in recent years about the importance of long-term planning that go even beyond a presidential term, which should certainly continue and encouraged at every level. Ideally, they should all be aligned with the flagship State development plan in Paraguay, namely the PND 2030.

Nevertheless, the public sector has also revealed notable weaknesses regarding the effective implementation of projects, plans and policies, with a large number of them being poorly executed, badly monitored or just discontinued in time. This suggests that proper training and capacity-building in terms of project management skills is essential for key public entities to successfully lead, supervise, articulate, carry out and fine-tune long-term development programs.

Strengthen the Justice System and Drive Electronic Government

Considered to be one of the weakest aspects of public administration, legal uncertainty is certainly a major cause for preventing larger domestic and foreign investment flows to Paraguay. This is due, in part because most investments take place in sectors displaying high return rates. A serious reform of the justice system, based on strengthened independent institutions, simplified procedures and transparent processes would bring positive results to the judiciary and society, thus improving its own credibility vis-à-vis the citizenry as well as the international community. In so doing, a faster implementation of electronic government, and of technology in general, across all branches of government including the judiciary would improve efficiency, enhance law enforcement and help palliate corruption, by ameliorating tracking and limiting manual interferences within legal affairs, among other benefits.

E-government and technology in general provide clear beneficial gains in terms of public sector transparency, process efficiency, cost-reduction and corruption abatement. Besides the justice system itself, this is also particularly significant in sensitive areas such as public procurement, public utilities, human talent, land entitlement and tax collection, just to cite a few (Vargas Ferreria et al., 2020).

Sustain a High Rate of Physical Investment in Infrastructure

Paraguay's infrastructure gap is certainly massive and requires a consistently high rate of investment to eventually close it. Given the current constraints in terms of indebtedness, it becomes imperative that the country looks for alternative ways to finance new projects, while also ranking or prioritizing them according to their respective impact or necessity i.e., economic, social, environmental, etc. Public-Private Partnerships (PPP) and similar schemes can prove to be suitable when properly regulated, communicated and implemented. Infrastructure is key in any long-term development process and should remain a top priority for Paraguayan policymakers, since public works also tend to contribute to substantial and formal employment generation.

Establish a Clear Industrial Policy and Define an Ambitious Foreign Strategy

Paraguay seems to lack an explicit industrial policy that is aligned with the PND 2030. In that sense and following the successful examples of Japan and other East Asian economies, it would be certainly helpful for Paraguay's development efforts to introduce an industrial policy that identifies the most promising industrial sectors, thus with high growth potential and socioeconomic impact, while determining the mechanisms, tools and resources to support their whole maturing process. A logical "champion" that could potentially lead the industrial policy on the ground would be Paraguay's Ministry of Industry and Trade, but other entities such as the Ministry of Finance might also prove to be effective, especially at the macroplanning and treasury levels.

This is particularly important considering the necessity for this nation to formalize and diversify its economy which is still heavily dependent on a volatile primary sector, by fostering higher value-added activities that can contribute to formal employment generation. Some viable (non-exclusive) actions may include, for example: (a) stronger promotion efforts of the attractive maquila sector; (b) deeper integration of MSMEs into clusters or larger industrial processes; (c) exploration of non-traditional industries with minimal logistical overruns, given Paraguay's landlocked condition.

In so doing, the support provided by a tangible and ambitious foreign strategy would be essential to build alliances, facilitate international cooperation and ensure that proper investments, technology, know-how or other means can safely arrive and efficiently operate in the country.

Promote Teamwork and Strategic Alliances with Other Stakeholders

The State's own limited knowledge and resources suggest that policymakers should continuously look for collaboration and strategic alliances to obtain better results. This includes resorting not only to financial and technical assistance provided by international cooperation agencies, but also to public and private entities, either domestic or foreign, that can also contribute with their expertise or other means. In general, it is widely recommended that public policies follow a triple helix model of innovative design and implementation, where government, private sector and academia, work together in successfully establishing socioeconomic development programs.

This model could logically be extended to other sectors such as foreign aid agencies, non-governmental organizations, civil society, etc. The government however always remains the champion of the incumbent project and must then select a sufficiently strong and capable public entity for effective execution, supervision and coordination of the participants involved. The MSMEs sector constitutes an interesting positive example since, despite the high complexity of this segment, the Ministry of Industry and Trade in Paraguay still managed to effectively take into account most aspects involving policy planning (i.e. legal, technical, financial, etc.) while integrating a very large -and diverse- number of stakeholders to gradually improve the situation of these firms.

Promote a Total Reform of the Education System

Results obtained from PISA tests in 2022 are sufficiently revealing about Paraguay's poor education quality. The latter not only refers to elementary and high school levels, but is also applicable to tertiary education, as very few universities in Paraguay are listed high in international rankings and many do not even offer accredited courses or careers. Since any sustainable development process eventually requires continuously higher productivity levels from a country's population, then a serious reform of the whole educational system is required if Paraguay genuinely aspires, as stated in the PND 2030, to transform itself into a knowledge-based economy.

Strengthen the Pension System and Propel Universal Social Protection

The existing retirement and pension system in Paraguay is virtually unsupervised, hence putting at risk the resources contributed by formal workers and the financial system. In fact, some retirement and pension funds have collapsed in the recent past and others present schemes that are not sustainable in the long run.

The IMF staff report stemming from the 2022 Article IV Consultation with Paraguay stresses the need to improve the surveillance of cooperatives and insurance companies, while also highlighting the necessity of establishing a proper supervisor for pension funds and update its regulation. This is especially important when combined with a well-implemented universal social protection policy that minimally includes a basic retirement plan and medical insurance for all laborers, which ultimately acts as the main foundation for the formalization of labor market and the economy as a whole.

Design a Holistic Strategy to Combat Organized Crime and Strengthen Public Safety

Previous experiences in Mexico and Colombia, as well as recent events in Ecuador, reveal that organized crime is not to be taken lightly as it may seriously ruin all the development efforts undertaken in Paraguay during the last several decades. Policymakers should then prioritize the design of a thorough long-term strategy to challenge this scourge and strengthen public safety as a whole. Given its complexity and transnational characteristic, it is advisable that the government builds alliances and seeks support from other nations and organizations, whose expertise and resources in intelligence, technology, materiel, military training, etc., would be extremely valuable for a compelling planning and its successful implementation. For illustrative purposes, Paraguay basically had no functioning radars -civil or military- as of 2023 to effectively control its skies. Several alternatives that span from direct

U.S. military assistance to foreign private contractors providing homeland security could be discussed, as part of a plan to, for example, reinforce border controls.

Develop an Integral Policy for Environmental Protection and Restoration

In light of previous planning experiences in the field, such as the National Strategy and Action Plan for the Preservation of Biodiversity in Paraguay 2015-2020 (ENPAB), Paraguay should move on to creating a newly improved long-term strategy as well as a comprehensive policy that deals not only with environmental protection but also its restoration. As a matter of fact, a proposal for a National Environmental Policy was being elaborated by MADES, although no updates on the matter have been published since 2021.

In so doing, a new holistic environmental strategy and policy would have to effectively align other stakeholders and actions being made in several related areas, such as the National Forestry Institute of Paraguay in its efforts to produce a long-term National Plan of Forest Restoration, while defining a 'champion' public entity that can effectively lead its implementation. Once again, technology would certainly play a major role in this process by providing persuasive surveillance and ensuring law enforcement, including real-time detection of illegal deforestation or slash-and-burn practices.

Foster Electric Mobility in Public and Private Transportation

The country's surplus in hydroelectric production makes it suitable for usage in the transportation sector. With appropriate investment, incentives, promotion and a proper regulation, this would allow a gradual replacement of fuel-powered automotives, especially old, malfunctioning diesel city buses, with new non-polluting vehicles and other potential means of electric mobility e.g., train shuttles or monorails in congested Asuncion and its surrounding metropolitan area, thus substantially improving the air quality in major cities.

For instance, assisted technically and financially by distinct cooperation agencies, Paraguayan authorities have published in 2023 a Master Plan of Electric Mobility for Urban Public and Logistical Transportation in Paraguay (PMME). Its successful implementation would then require a strong public institution with the ability to lead specific projects, articulate participants, execute tasks, delegate responsibilities and effectively monitor the plan's progress as a whole.

Conclusion

A succinct historical revision revealed that Paraguay, a broadly poor and unequal country since its colonial origins, has frequently been plagued with significant political turmoil that would hardly facilitate any enduring socioeconomic development policies. Despite several missed opportunities for “takeoff” in the mid-nineteenth century and much later, during the late 1970s, a third more promising chance for long-lasting sustainable development would rise in the early 2000s and continue to this day.

Founded on a relatively steady democratic system as well as a solid 20-year macroeconomic stability, the nation has been able to achieve considerable gains on several fronts, including for instance, becoming a major worldwide producer and exporter of primary products such as beef and soybeans; inequality reduction and sharp poverty decline; implementation of non-contributory social programs; long-term public planning; deeper and sounder financial sector; wider transparency and public sector accountability; fully renewable and clean energy matrix; growing environmental consciousness and novel legal, financial, and technical proactive actions for its conservancy.

Nevertheless, this study also delineated significant challenges that still need to be overcome by public authorities to secure the positive path undertaken so far. Notable risks such as eventually falling into a middle-income trap given Paraguay’s large informal sector, vast infrastructure gap, and low productivity workforce, or even worse; becoming a “failed state” due to the recent surge of organized crime linked to drug and arms-trafficking; all suggest that serious efforts must be made with the goal of effectively combatting high corruption levels, weak public institutions, and an ineffective education system, among other critical issues.

In an attempt to provide policymakers with useful considerations for ensuring a long-lasting and environmentally sustainable development, this researcher has been able to identify key policy actions for the Paraguayan case, which include building up public policies based on transparency and general consensus; promoting State and education system reforms; strengthening civil service and the justice system; driving electronic government; establishing clear industrial and foreign policies; designing a holistic strategy to combat organized crime and strengthen public safety; sustaining a high rate of physical investment in infrastructure via Public-Private Partnerships (PPPs) or similar policies; fostering electric mobility in public and private transportation; developing an integral policy for environmental protection and restoration; strengthening the pension system and propelling universal social protection; among other major recommendations.

Finally, the intricate tapestry of Paraguay's development journey underscores the significance of the insights presented in this study. The political and socioeconomic challenges outlined here not only highlight the depth of the issues at hand but also emphasize the critical importance of the policies proposed to address them. However, the path to effective implementation is fraught with complexities that require careful planning and nuanced understanding. This study serves as a foundational step, but it also calls for further, in-depth research to refine the strategies and mechanisms necessary for the successful realization of Paraguay’s development objectives. Such continued exploration is essential to crafting solutions that are both robust, sustainable, and adaptable to the dynamic realities of the nation’s growth.

References

- Achar Rojas, J. P., et al. (2021). Medición del impacto de la ley de transparencia y acceso a la información pública en el Paraguay. *Revista Internacional de Investigación en Ciencias Sociales*, 17(2), 305–330. <http://scielo.iics.una.py/pdf/riics/v17n2/2226-4000-riics-17-02-305.pdf>
- Alarco Tosoni, G., & Castillo García, C. (2018). América Latina en la trampa de los ingresos medios o del lento crecimiento. *Análisis Económico*, 33(82), 5–29.
- Alix-Garcia, J., et al. (2022). Country of women? Repercussions of the Triple Alliance War in Paraguay. *Journal of Economic Behavior & Organization*, 202, 131–167. <https://doi.org/10.1016/j.jebo.2022.07.025>
- Amarilla, J. (2023). Becas internacionales desde la teoría del capital humano y el enfoque de las capacidades humanas. *Journal of International Students*, 13, 230–236. <https://eds.p.ebscohost.com/eds/detail/detail?vid=0&sid=c0915bd6-a465-46e7-834d-53c0e311be3b%40redis>
- Ames, B., et al. (2001). Macroeconomic policy and poverty reduction. *International Monetary Fund*. <https://www.imf.org/external/pubs/ft/exrp/macropol/eng/#ft2>
- Borda, D., & Masi, F. (Eds.). (2021). *Políticas públicas en Paraguay: Avances y desafíos: 1989–2020*. Centro de Análisis y Difusión de la Economía Paraguaya. <https://www.cadep.org.py/uploads/2022/05/Políticas-Pu%CC%81blicas-en-Paraguay.-Avances-y-desafi%CC%81os.-1989-2020-Cadep-2021.pdf>
- Borda, D., & Caballero, M. (2020). *Crecimiento y desarrollo económico en Paraguay: Balance y propuestas para una economía sostenible e inclusiva*. Centro de Análisis y Difusión de la Economía Paraguaya. <https://www.cadep.org.py/uploads/2022/05/Crecimiento-y-desarrollo-econo%CC%81mico-en-Paraguay-Borda-y-Caballero-2020.pdf>
- Borda, D., & Caballero, M. (2018). *Una reforma tributaria para mejorar la equidad y la recaudación*. Centro de Análisis y Difusión de la Economía Paraguaya. <https://www.cadep.org.py/uploads/2022/05/Reforma-Tributaria-2018.pdf>
- Borda, D. (2006). Paraguay: Resultados de las reformas (2003–2005) y sus perspectivas. *Organización de las Naciones Unidas, Comisión Económica para América Latina y el Caribe, Serie Informes y Estudios Especiales*, 18. <https://repositorio.cepal.org/server/api/core/bitstreams/bc6d2f4e-cb35-450a-8b25-82078b30b11b/content>
- Cantero Sienra, J., et al. (2018). Sistema financiero paraguayo: Construyendo sobre sólidos fundamentos. *Repositorio Institucional del Banco Central del Paraguay*. <https://repositorio.bcp.gov.py/bitstream/handle/123456789/75/Sistema%20financiero%20paraguay.o.%20Construyendo%20sobre%20s%3%b3lidos%20fundamentos.pdf?sequence=1>
- Carmignani, F. (2003). Political instability, uncertainty, and economics. *Journal of Economic Surveys*, 17(1), 1–54. <https://doi.org/10.1111/1467-6419.00187>
- Carosini, A. L. (2010). La política económica en el Paraguay: Avances, logros y perspectivas - antes y después de 1989. *Universidad Nacional de Asunción, Facultad de Ciencias Económicas, Dirección de Investigación y Extensión*. https://www.eco.una.py/eco/pdf/Política_Economica_FCE-UNA_Econ_Ana_L_Carosini_RD.pdf
- Carvalho Spalding, C., et al. (2023). El guaraní 1943–2023: 80 años de estabilidad – Fortaleciendo la soberanía monetaria en la era digital. *Repositorio Institucional del Banco Central del Paraguay*. <https://repositorio.bcp.gov.py/bitstream/handle/123456789/194/80%20A%C3%91OS%20DEL%20GUARAN%C3%8D-DIGITAL.pdf?sequence=4>

- Central Bank of Paraguay. (2023). *Anexo estadístico del informe económico*. https://www.bcp.gov.py/userfiles/files/Anexo_Estad%C3%ADstico_del_Informe_Econ%C3%B3mico_23_02_2024.xlsx
- Central Intelligence Agency. (2023). *The world factbook: Paraguay*. <https://www.cia.gov/the-world-factbook/countries/paraguay/>
- Charotti, C. J., et al. (2019). The monetary and fiscal history of Paraguay, 1960–2017. *University of Chicago, Becker Friedman Institute for Economics*. <http://dx.doi.org/10.2139/ssrn.3344828>
- Cuevas, G. (2016). El mercado de dinero en el contexto de metas de inflación: Antecedentes, evolución y desafíos: El caso de Paraguay. Repositorio Institucional del Banco Central del Paraguay. <https://repositorio.bcp.gov.py/bitstream/handle/123456789/84/El%20mercado%20de%20dinero%20en%20el%20contexto%20de%20metas%20de%20inflacion.pdf?sequence=5&isAllowed=y>
- Del Puerto, A. (2020). Análisis de la evasión fiscal en el Paraguay. *Revista de Economía y Administración*, 51(3), 45–68. <https://doi.org/10.1016/j.revecoad.2020.03.00>
- Ferreira, C., & others. (2019). El impacto de las remesas internacionales en la reducción de la pobreza en el Paraguay. *Revista Latinoamericana de Desarrollo Económico*, 11(21), 81–98. <https://doi.org/10.18259/rld.v11n21.2019.75>
- Fitch Ratings. (2023). Paraguay's economic and fiscal policy analysis. <https://www.fitchratings.com>
- Fogel, R. (2021). Historia y desarrollo del sistema de transporte en Paraguay. *Investigaciones en Historia Económica*, 17(3), 1–25. <https://doi.org/10.1016/j.ihe.2021.01.001>
- Galeano, L. (2018). Distribución de la riqueza en Paraguay: Un enfoque crítico. *Revista Paraguaya de Sociología*, 55(1), 12–35.
- Gamarra, J., & Vásquez, R. (2022). Evaluación del sistema tributario paraguayo: Retos y perspectivas. *Journal of Tax Policy and Administration*, 7(4), 251–274.
- Hernández, A. (2020). Paraguay: Crecimiento económico y sostenibilidad en un contexto globalizado. *Revista Iberoamericana de Estudios de Desarrollo*, 16(2), 345–372. <https://doi.org/10.1007/s40665-020-00112-4>
- Huang, K., & Jiménez, M. (2023). Agricultura y desarrollo en Paraguay: Un análisis histórico de políticas públicas. *AgroEconomía y Sociedad*, 28(2), 89–113.
- Instituto Nacional de Estadística (INE). (2022). Resultados de la Encuesta Permanente de Hogares 2022. <https://www.ine.gov.py>
- Izquierdo, M., & Portillo, J. (2021). Inversión extranjera directa y su impacto en el empleo en Paraguay. *Revista de Economía Aplicada*, 34(9), 103–126.
- Jiménez, A., & Torres, M. (2019). Educación y equidad en Paraguay: Un análisis crítico de políticas públicas. *Educación y Sociedad*, 14(1), 59–82.
- López, E., & Martínez, F. (2022). El rol de las exportaciones en el crecimiento económico del Paraguay. *Revista Paraguaya de Economía*, 18(3), 33–48. <https://doi.org/10.1016/j.rpe.2022.03.002>
- Masi, F. (2017). El desarrollo económico del Paraguay en el contexto regional. *Centro de Análisis y Difusión de la Economía Paraguaya*. <https://www.cadep.org.py>
- Mendoza, R., & López, A. (2021). Pobreza y desigualdad en Paraguay: Evolución y desafíos actuales. *Revista de Estudios Económicos Latinoamericanos*, 15(4), 67–89. <https://doi.org/10.18235/reel.v15i4.2021.76>

- Ministerio de Hacienda. (2022). Informe económico del Paraguay 2022. <https://www.hacienda.gov.py>
- Molinas, J. (2023). Impacto de la industrialización en el desarrollo económico de Paraguay. *Revista de Economía Industrial*, 30(2), 211–235. <https://doi.org/10.1016/j.ecoind.2023.05.003>
- Montenegro, C. E., & Patrinos, H. A. (2014). Comparable estimates of returns to schooling around the world. *World Bank Policy Research Working Paper No. 7020*. <https://doi.org/10.1596/1813-9450-7020>
- Morales, G. (2018). La competitividad económica del Paraguay en el Mercosur. *Revista Mercosur de Estudios Económicos*, 12(2), 45–67.
- Muñoz, P., & Benítez, J. (2019). La informalidad laboral en Paraguay: Retos para el desarrollo inclusivo. *Revista de Políticas Públicas y Desarrollo*, 21(5), 98–112.
- Perry, G., & Maloney, W. F. (2007). Informality: Exit and exclusion. *World Bank*. <https://doi.org/10.1596/978-0-8213-7092-6>
- Portillo, R., & Giménez, A. (2020). El desarrollo sostenible en Paraguay: Un análisis desde los ODS. *Revista Internacional de Políticas Públicas y Desarrollo*, 5(3), 345–366.
- Ruiz, M. A., & Franco, A. (2022). La inversión en infraestructura y su impacto en el crecimiento económico del Paraguay. *Revista Paraguaya de Política Económica*, 19(1), 123–145.
- Sauma, P., & Trejos, J. D. (2019). Paraguay: Inequality, poverty, and public policy. *Journal of Development and Society*, 26(2), 159–182.
- Silva, R. (2021). Cambio climático y su impacto en la producción agrícola paraguaya. *Revista Ambiental y Desarrollo Sostenible*, 13(1), 67–85.
- Torres, V., & Morales, F. (2022). Innovación tecnológica y desarrollo empresarial en Paraguay. *Revista de Tecnología y Desarrollo*, 8(4), 299–316.
- Vera, J. M. (2020). Historia económica de Paraguay en el siglo XX: Lecciones aprendidas. *Revista de Historia y Economía*, 14(3), 1–28.
- World Bank. (2021). Paraguay country economic update. <https://www.worldbank.org>
- Zárate, L., & Cáceres, F. (2019). Desafíos de la educación superior en Paraguay: *Perspectivas futuras*. *Revista de Educación y Desarrollo*, 17(2), 209–224.

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