IMPACT OF DOLLARIZATION ECUADOR'S ECONOMIC PERFORMANCE

Sonia A. Carpio Vinueza

Master of Science in Finance Candidate

Master's Thesis

May 17, 2022

Saint Peter's University

Dedication

To my relatives and especially to my husband and my daughter who have given me the support to stay in an unknown country, providing me with security and motivation to fulfill one more goal in my life that will be our well-being.

Brief Author Biography: Sonia A. Carpio V. was a Commercial Engineering who graduated in 2010. She is graduating from the Master's of Science in Finance from Saint Peter's University in May and 2023 with a concentration in Quantitative.

Table of Contents

INTRODUCTION

Ecuador is a country that supplies many raw materials such as bananas, cocoa, and oil, all through exports. It is important to mention that Ecuador has a small economy, which depends highly on international trade and is highly inequitable due to the mismanagement of the governments in power. The Ecuadorian economy has undergone a series of evolutions and transformations.

However, easily the most important economic change that Ecuador has recently undergone was to change its currency from "el sucre" to "the dollar". Ecuador has been a dollarized[1] country since June 9, 2000, the day on which the President of the Republic Jamil Mahuad announced the adoption of the dollar, to save its economy from the worst crisis that was to come. Despite causing criticism and affection in the Ecuadorian people at that time, from then until today several questions arise.

There are many debates that are ongoing about the economic growth of Ecuador and the influence of the dollar on it. In addition, there are open questions about what has happened in the country for the adoption of this currency and what consequences has it had since then? There is even uncertainty in maintaining this currency in the country because it brought stability since 2001

[1] LeBaron and McCulloch (2000) According to their criteria, they found that dollarization is a positive monetary arrangement for nations whose anti-inflationary policies lack the credibility necessary to be effective. They also argued that emerging economies that have fixed exchange rates or currency boards can benefit more effectively from dollarization, especially if other variables, such as seigniorage sharing agreements, are considered.

in certain macroeconomic variables, yet there are also many inconveniences such as the depreciation of the dollar in relation to other foreign currencies in certain periods of Presidential administrations. For example, Rafael Correa, ex-president of the republic, said in one of his speeches that dollarization was a terrible decision.

It is essential to mention that in Ecuador there are political parties of both sides the left and the right, which has led to the formation of populist[2] and non-populist political interest groups, generating as a result the desire to reach the presidency of the republic for political interests and profit of each party but not for the interest of an administration without corruption. In turn, this problem causes disinterest in foreign multinationals and other private companies to invest in Ecuador despite having a dollarized economy.

As an additional consideration, it is essential to mention that within the political interests maintained by the political parties in Ecuador, basically the populist parties who are supposed "to seek economic equity in the population", is to manage their own monetary policy to print their currency and leverage with devaluation, causing inflation and causing public spending. Based on this, the temptation of the ex-president Rafael Correa to remove this limitation and reintroduce domestic currency is very understandable, which is why Ecuadorians ask themselves whether it is a good or bad idea to keep dollarization. Edwards says the following in his book published in 2010: "What makes the case of Ecuador particularly interesting is that because it uses the US dollar as its currency, it cannot resort to inflationary financing to deal with constitutional obligations. This

[2] **Populism** with dollarization make Ecuador a unique case study. While populism rejects the rule of law, dollarization is the adoption of it in the monetary sphere. In other words, it takes away from politicians the ability to manipulate the value of the money we Ecuadorians use.

suggests that the current monetary regime of dollarization could be abandoned in the future" (Edwards, 2010, 58).

Twenty years after renouncing its currency (the sucre), the country is experiencing weak economic growth, increasing external debt, and reduced international reserves. Furthermore, the country's political and social problems intensify economic conditions, so the government has tried to implement austerity policies in wage, tax, and government subsidies levels.

Despite maintaining a dollarized economy, Ecuador has not increased its sources of income, due to the above, causing a limit in national economic growth. Therefore, it is important to know the impact of the dollarization in Ecuador to know the reality of the country with the dollar, given that by having a stronger currency, apparently more stability should be generated, causing more strength in other sectors to have long-term sustainable growth in the country's economy.

The methodology of this thesis is based on analyzing two periods of time in Ecuador. The first period is from 1990 - 1999, a time when it is not a dollarized country, and a second period from 2000 to 2021, a time when it is dollarized. This comparison is carried out to identify the effect that the dollar has had on certain economic indicators that will be explained later. It is the thesis of this essay that the dollarization of Ecuador has had the impact on the economic performance.

That is why it is important to search whether the dollar has been an influential factor for economic growth in Ecuador over the past two decades and especially these last two years of the pandemic, considering that the country has adopted full dollarization. It is essential to mention that Ecuador did not have a close relation with the United States, neither boundary nor economically, despite this, the country adopted the dollar.

This analysis is structured as follows. Chapter One discusses the economic background of Ecuador. Chapter Two analyzes the reasons for adopting the full dollarization. Chapter Three explains the way that dollarization works in Ecuador and the impact on it.

CHAPTER ONE: ECONOMIC SITUATION IN ECUADOR

a) Historical Background of Ecuador's Predollarization Crisis

Before the discovery of its oil reserves in the late 1960s, Ecuador was an agricultural economy with a small industrial participation. During this period, government policy had a small impact on the economy.

a. The oil boom, 1972 – 1982

Important oil reserves were discovered in the Amazon region in the late 1960s, allowing Ecuador to start oil exports in 1972. The economy of Ecuador changed incredibly, and it began to export oil, which eventually represented 50% of exports and 25% of total output of the country. The export of bananas, which was previously the main product, took a backseat, which is a fortunate thing for the nation since the world price of bananas has declined since the mid-1960s.

The oil boom [3]was taken advantage of by the governments in power at the time. As a coincidence they were a military regime, who used the revenue of oil for government expenses such as wages, infrastructure improvements in highways and hydroelectric construction. Nonetheless, the revenue obtained from oil was not enough to cover public expenses, which is why the government increased its public debt through borrowing. The fiscal deficit before the oil boom represented 1% of GDP, however for this period the fiscal deficit became 2% of GDP. The government borrowed money from abroad to cover its expenses. Due to the financial liquidity and

[3]Cueva, S., & Díaz, J. P. (2018). The Case of Ecuador. The oil boom provided a boost for the Ecuadorian economy

low interest rates that existed at that time in foreign entities, it allowed an immediate loan. Its public foreign debt increased from 248 million in 1971 to 4.416 million by the end of 1981.

Additionally, the increased income from oil production likely contributed to an increase in inflation since the demand for goods and services rose.

b. The debt crisis 1982 – 1999

The favorable conditions enjoyed by the Ecuadorian economy during the 1970s would not last indefinitely. The growth in oil prices stagnated in 1981 and started a continuous decline throughout the remainder of the decade, falling from an average price of $36.7 USD per barrel in 1981 to $19.6 USD per barrel in 1989. Interest rates, which had been low, and even negative in real terms in some cases, began to rise in 1981, reflecting the policies implemented by the Federal Reserve. This would eventually lead to the Mexican government's decision to default on its foreign debt, triggering a freeze on new loans to all countries in the region. This decision was particularly painful for the Ecuadorian government, which had been taking large loans from abroad to finance its expenses.

On the domestic front, a border war with Peru in 1981 created an additional burden on the fiscal accounts and spread uncertainty and panic in the economy. Moreover, severe floods caused by the El Nino weather phenomenon [4] in 1982 and 1983 destroyed agricultural crops, thus hurting primary exports, and destroyed the country's infrastructure, compounding the fiscal difficulties. Facing this complicated scenario, in 1982 the government implemented a stabilization program that increased the prices of gas and public services, eliminating subsidies and reduced spending.

[4] El Niño weather phenomenon, which wrecked the country's infrastructure and had a profoundly negative effect on other key exports such as shrimp and bananas.

This economic plan was part of the requirements in exchange for stand-by loans and foreign debt restructuring required by the International Monetary Fund and other multilateral organizations that, due to the freezing of loans from private lenders, had become the only source of loans for the Ecuadorian government.

In addition, the official exchange rate that had been fixed since 1970 depreciated from 25 to 33 sucres per dollar in May 1982. These depreciations had multiple objectives: one was to correct the real appreciation of the sucre due to the prolonged pegged exchange rate coupled with persistently high inflation since the 1970s; another was to provide the government with more sucres per barrel of oil exported; finally, they also aimed to discourage imports due to the need to generate current account surpluses.

Fearing generalized bankruptcies and an eventual financial collapse, the government decided to implement "the sucretización" mechanism of private foreign debt. According to this arrangement, private foreign debt was converted in sucres, and was to be paid to the Central Bank, which assumed the responsibility to pay foreign creditors in dollars. As a result, by the end of 1984 the stock of private foreign debt fell to $227 million, with most of the reduction becoming public foreign debt.

Leon Febres Cordero took office in August 1984. His administration brought about a change in economic policy, promoting the implementation of market-oriented reforms, the reduction of the role of the State in the economy in favor of the private sector, the elimination of price controls and favoring private investment.

However, the most severe blow to the economy was dealt by the earthquake of March 1987, which destroyed the only oil pipeline in Ecuador and stopped oil exports for almost six months. The fiscal deficit went up to 3.4% of GDP, the highest percent in the nation's history.

Subsequently, Ecuador stopped paying its external debt, and the interest rate on its debts rose from 30% to58%. Government spending increased as the elections for the new president approached. The central bank stopped the credit to private banks but continued to extend credit to public banks.

The elected president was Rodrigo Borja, and he received the country with high percentages in fiscal deficit, inflation rates, low oil prices, negative international reserves, among others. To stabilize the economy, the government applied certain severe measures, including cutting public spending, increasing the price of oil, and suspending loans from the government to the central bank. The government introduced a crawling peg for the exchange rate, in order to lower the inflation rate, yet it did not work and inflation remained high. Since then, Ecuador is known as a country that has had chronic inflation rates.

In May 1992 a new Monetary Rule of Law (LRM) was approved which gave autonomy to the central bank, even though they still had some executives elected by the president of the republic.

In 1993, there was another president of the republic and his name was Sixto Duran Ballen. This government sought to stabilize the macroeconomic rates, however the problems continued. They abandoned the crawling peg in order to reduce inflation, (they established a 35 percent depreciation of the sucre, with the commitment to keep the exchange rate fixed for a long period), this suddenly worked and the inflation rate went to 27%. The lowest inflation rate in the period.

They improved a new banking law that allows people to manage their checking and saving accounts in dollars by accepting foreign banks into the country.

Moreover, also in 1994, the government finalized a Brady agreement [5]that restructured its foreign debt, which it had defaulted on in 1987, by acquiring new debts, with a new interest rate and for more period.

This improved macroeconomic performance for a while, but in 1995 things turned sour again. from a series of inconveniences , such as a new war with Peru over territory, which caused an increase in government spending since weapons were purchased for the military confrontation; a drought which caused hydroelectric problems at the national level, and a loss in the reserves from future uncertainty. The exchange arrangement was changed to the crawling band system with upper and lower bounds in order to defend the exchange rate. In addition, the vice president Alberto Dahik was accused of embezzlement in late 1995, as a result, he left the country. The uncertainty in the country and in foreign countries had increased.

Abdala Bucaram was the elected president in 1996, and tried to tackle the inflation, as a result, he created a new currency. This one was supposed to start operating in 1997. The nominal exchange rate was expected to start at 4.000 sucres per dollar, yet since Bucaram did not finish his term, this project was abandoned.

The inflation rate increased to 43%. Moreover, the banks started to indicate fragility. At the beginning, the financial crisis was attributed to the people who could not pay their debt to the banks, but some financial analysts had discovered that there were some inconveniences with the law of banks. There was a deficient supervision in the operations in banks, the lack of adequate

[5] Staff, L. A. D. B. (1999). Ecuador Defaults on Brady Bonds.

instruments to deal with bank failure resolution, and moral hazard combined with the currency mismatch and fraudulent operations of the bank owners.

c. ***Ecuador worst economic crisis (1999)***

The worst year of Ecuador's economy was 1999 because the country had suffered an impact of some shocks of both an endogenous and exogenous nature, among them armed conflicts with Peru (1995) that ended with the signing of the Peace Agreement in 1999; the natural disasters such as the El Niño Phenomenon (1993 and 1997) on the coast; the Josefina landslide (1993) in the highlands; and political instability and a financial crisis that led to a high inflation rate. Among the external events with the highest incidence can be considered: the crisis in Mexico (1994); Asian crisis (1997); Russian crisis (1998). Consequently, there was total chaos for the country, and the combination of these factors perennially affected Ecuador.

"El Niño" phenomenon destroyed the shrimp farms, the banana plantations and the roads that went to the ports bringing the products to be exported, so Ecuador was relying only on oil export. The Ecuadorians were only hoping for oil exports and foreign loans, but the price of oil fell too low ($7 usd per barrel), becoming the lowest price that Ecuador had had since 1972, however in the annual budget, the dollar was estimated to be at $14 USD by the congress, so Ecuador was getting half of it. Therefore, the government had no money to pay salaries and people left to the streets to protest.

Half of the banks shut down or were nationalized, individual accounts were moved to other banks, and people reverted to going to the bank to make three transactions. The first transaction was to withdraw their money from the accounts, the second transaction was to change their money into dollars and the third one was to send their money abroad. The president of the republic had to make a terrible political decision. He froze the bank accounts for a year in March 1999. He did it because he had the hope to halt a run on deposits, which raised the fiscal deficit to 4.9 percent of GDP. The government also decided to stop paying the Brady arrangement at this time, which was rearranged five years ago. The exchange rate was without any system to regulate so it started floating freely, and the sucre depreciated by 180 percent over that year.

d. The final decision to "Fully Dollarized"

The IMF was not in favor of dollarization; rather, they were planning to have another option for the country. The minister of Argentina Domingo Cavallo indicated the plan that he did with Argentina, he pegged the Argentinnean peso to the dollar.

The Interamerican Development Bank said that they had a person who thought that Dollarization was the best option for the country named Ricardo Hausmann[6]–the former IDB chief economist. Hausmann traveled to Ecuador as a person and not as a member of IDB, because the IDB was not in favor of dollarizing the country. Hausmann thought that the best option to pursue from the economic crisis was to dollarize. He said that the government was in a trap, people did not trust the government, and the only way to keep people's money in the country was because of high interest rates but the government did not have money to pay interest rates. The people knew this situation, so they wanted to leave the country. Hausmann helped draft the rule in law to go to Congress, which took around six months.

[6] Hausmann, R., & Powell, A. (1999). Dollarization: issues of implementation. *BID*.

The President Jamil Mahuad went to a meeting with Bill Clinton in December 1999, to research for some help. President Clinton offered a loan, but it could not be implemented. Because of that, the president Jamil Mahuad took the decision to dollarize. [7]

With the output problem, a high hyperinflation, and the high exchange rate, President Jamil Mahuad went on TV to announce his decision on January 9, 2000 that the country was dropping their local currency and adopting the dollar as the Ecuadorian currency. The exchange rate at which the government made the conversion from sucres to dollars was set at 25.000 sucres per 1 USD in order to ensure that the central bank had the reserves necessary to perform the money swap.

This is how the president of the republic of that period made the decision to fully dollarize despite having several organizations against it and even the Ecuadorian population itself. The streets of Quito were full of people who did not understand what was going on and claimed to the government, reasons that led the president of the Republic to resign from the presidency. After this presidential period, Gustavo Noboa took office and continued with the idea of dollarizing the country. Therefore, by the end of that year the country had implemented the new monetary arrangement.

[7] Fischer, S. (2000). Ecuador and the IMF1.

CHAPTER TWO: WHY THE BEST OPTION WAS TO BE DOLLARIZED

It is important to discuss the myth of dollarization since, according to several criteria, it is to blame for all the problems that afflict the country today.

For many people, dollarization represents a straitjacket because it prevents politicians from issuing money to support external necessities, such as those experienced during the 2008 financial crisis, or as there may be.

The basis is that some economists use to propose that dollarization is or was a political measure and not technical decision, it is clear that the president of that time, Jamil Mahuad, faced a chaotic political situation and after many pressures from technicians and businessmen opted for dollarization; this option was taken suddenly, that is, there was no analysis, no in-depth study, it was more an emergency measure, a way to save the moment, so from that point of view, if it is true it was a political measure.

During 2000, the majority of Ecuadorians, frightened of the country's economic situation, lost faith in the sucre, opting to carry out transactions in dollars before the government made the formal change. Ecuadorians sought individual sovereignty over their money. Ecuador had two options: Full adoption of the dollar or fight against hyperinflation. Dollarization was the government's last desperate attempt to stabilize the economy after many other policies had been tried and failed over a long period.

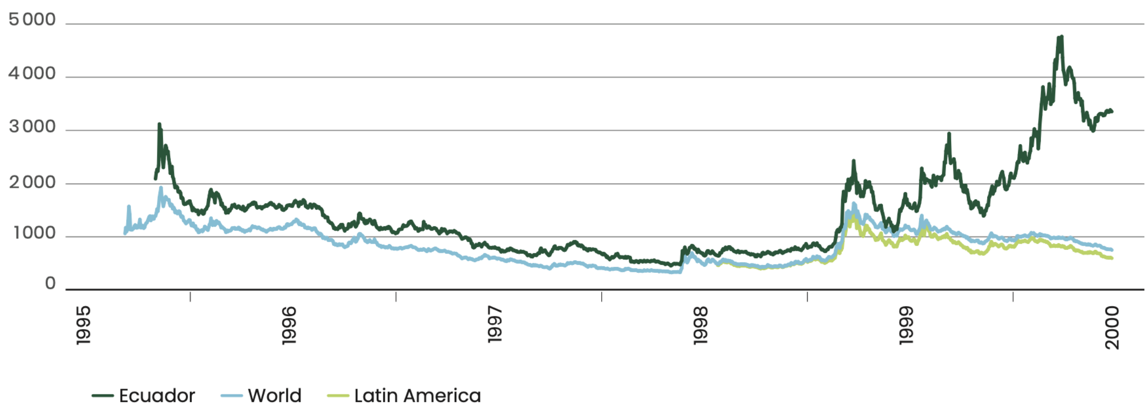
This is how two decades ago the political class lost the power to manipulate the value of money. The power of the Ecuadorian political class is unlimited while the constitution and legislation reflect that power. It is important to consider that the function of the state once it had the power to issue money was to attest to the metallic content of the currency (Hayek 1976, 26).

Ecuador is also at the bottom of the ranking of the most corrupt countries. Corruption [8]is also a systemic phenomenon, which means that its criminal typologies will be registered to illicit association, influence peddling, organized crime, illicit enrichment, forgery, or fraud because they are crimes that are committed with the complicity of other people who act with different degrees of responsibility. Ecuador is on the 105 positions from 180 countries that are corrupted. Since 2000, 5 out 7 presidents have been involved in corruption lawsuits produced by their administration. As a result of this, dollarization reduces the rate of corruption.

The use of the American dollar as the country's official currency generated a stable monetary base, resulting in positive economic effects. By imposing a conservative monetary policy, it became possible to control hyperinflation. The adoption of the dollar in the Ecuadorian economy generated magical results to return the economy to normality. In general, the adoption of the dollar helped to increase the economic and financial stability. In the first instance, it put an end to the dual currency system in the market, it put an end to the depreciation of the exchange rate and it regulated liquidity problems. In addition, it is important to consider that it reestablished confidence in the banking system, which the people had lost. Once the accounts of the population were unfrozen, it did not result in a massive withdrawal of people's money, on the contrary, the deposits gradually increased. It is important to keep in mind that bonds improved the international capital market.

[8] Doig, A., & Riley, S. (1998). Corruption and anti-corruption strategies: Issues and case studies from developing countries. *Corruption and integrity improvement initiatives in developing countries*, *45*, 62.

EMBI Global Government bond Spreads (all maturities)



SOURCE: JP MORGAN

Depending upon who is spoken to the dollarization is said to have many pros and cons. They are as follows:

BENEFITS OF DOLLARIZATION

The benefits that dollarization has for the nation is difficult to quantify, however I will detail the benefits that are most accepted by experts both at the political and economic levels.

Macroeconomic Stability

Ecuador has historically struggled with corruption and weak government transparency. It has been argued that the implementation of dollarization could improve the country's economy through legal stability and political credibility[9]. An expert noticed that policymakers in Latin America generally have non-credible macroeconomic policies, which generate volatile and high interest rates (Calvo 2001, 312 - 338).

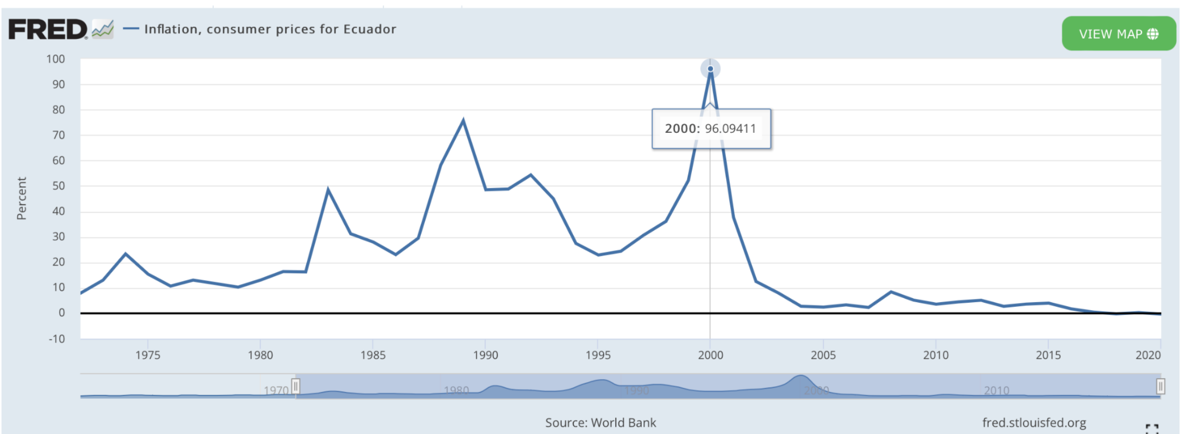
---

[9] Acosta, A. M., Albornoz, V., & Araujo, M. C. (2007). The political economy of the budget process: Political credibility.

Once the dollar (currency of the United States) was adopted, credibility was created in monetary policy, which, in turn, stabilized many macroeconomic indicators such as inflation, GDP, and unemployment.

Reduction of Inflation

Dollarization was expected to control the rate of inflation, since the monetary authority would no longer be able to influence the money supply. By adopting this international currency, inflation would be controlled by the US Federal Reserve and the price changes in the dollarized economy would be tied to US monetary policy, so the success of controlling inflation would depend on this decision.



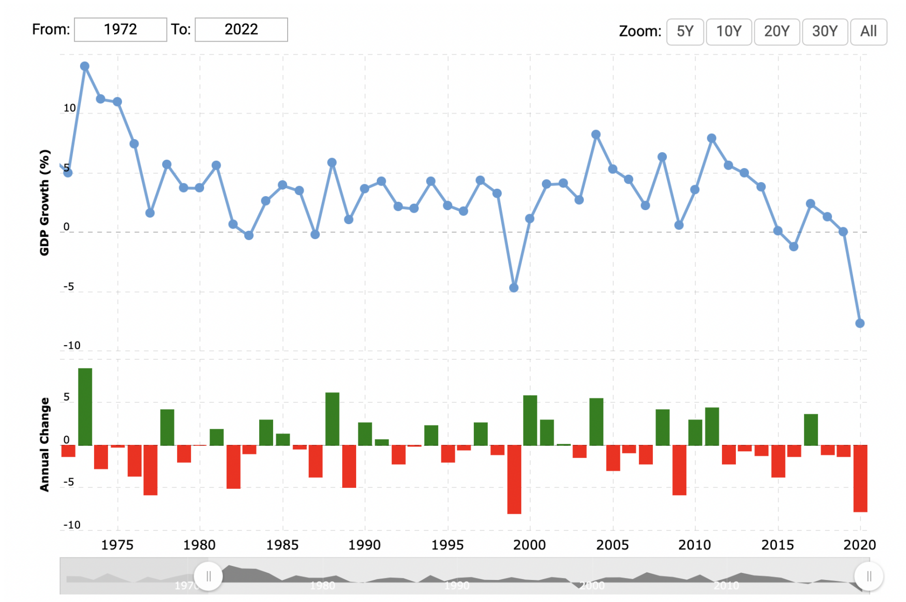
Source: FRED

If this policy choice was unsuccessful, a persistently high level of inflation would lead to well-known negative consequences such as a loss of purchasing power, loss of real value of savings, a potential rise in interest rates, and likely a loss of competitiveness.

The chart above highlights that after dollarization began inflation remained high in the economy at 96.09% by 2000. However, it is commonly understood that at the same time fiscal policy was likely too expansionary during the transition, which delayed adjustment. Nonetheless, by 2001 inflation fell 37.68%, and by 2003 it reached the single digit goal of 7.93%, in which since then its upper and lower bounds have remained.

One of the biggest reasons that the inflation rate dipped was because the exchange rate eliminated exchange risk. Hence, dollarization was a tool that, in the medium term, stabilized inflation, which led to a sense of economic stability. Controlling inflation under full dollarization allowed businesses and households to operate in a stable macroeconomic framework and benefit from a reliable store of value, which also allowed for a longer time horizon for economic decisions and credit. All things considered, defeating hyperinflation and ensuring price stability are among the best benefits of dollarization in Ecuador.

GDP Growth



Source: World Bank

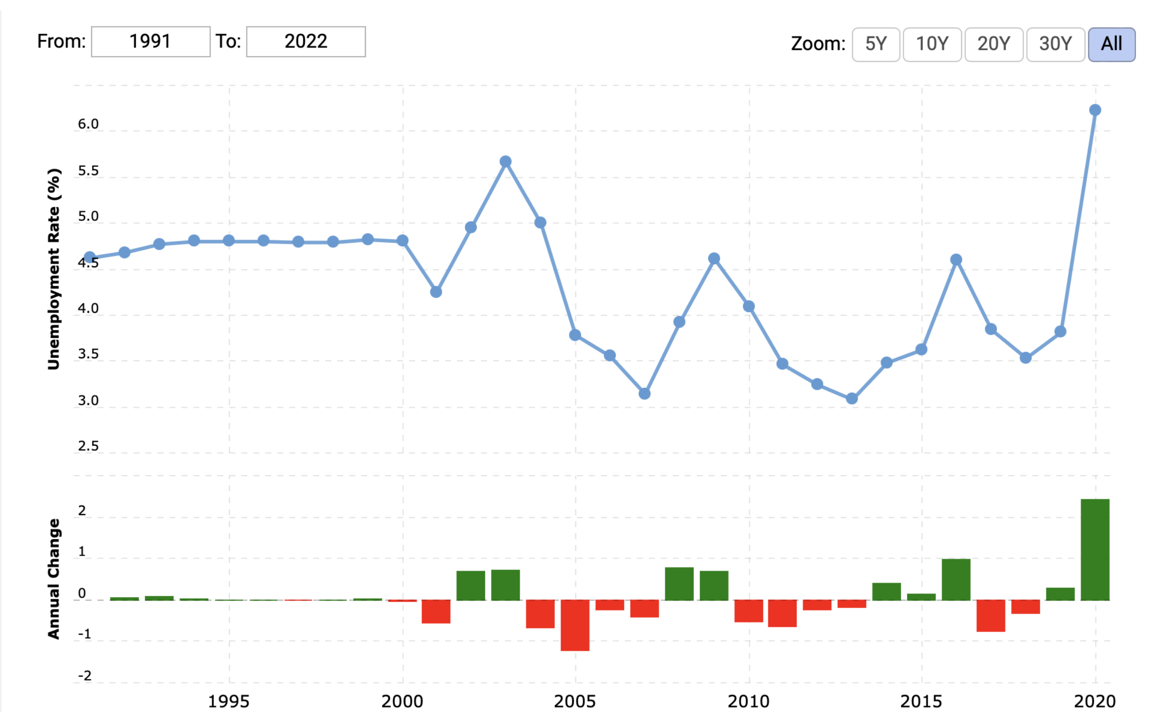
Given that nominal GDP is simply the monetary value of all finished goods and services produced within a country's borders in a specific time period, GDP is affected by both inflation and interest rates (Vasquez 2018,10). That is why in an indirect way, dollarization has helped in the economic growth of GDP.

Before dollarization, in 1973 Ecuadorian GDP was 13.95% due to the oil boom which boosted exports, and subsequently remained in stable, positive ranges until 1998. However, in 1999 Ecuador's GDP was -4.74% and the nation entered a recession, only to find that in 2000 its growth went back up to 1.09%, and since then it has been positive, though with ups and downs.

In 2020, GDP went negative -7.75% due to COVID-19, but in 2021 it recuperated to 0.73% The country was affected due to the strict curfew restrictions from March 2020 until June 2020.

As GDP is commonly used as an indicator of economic health, it can be used to make assumptions about the standard of living among the population (Keeley and Kees 2013, 28).

Unemployment rate

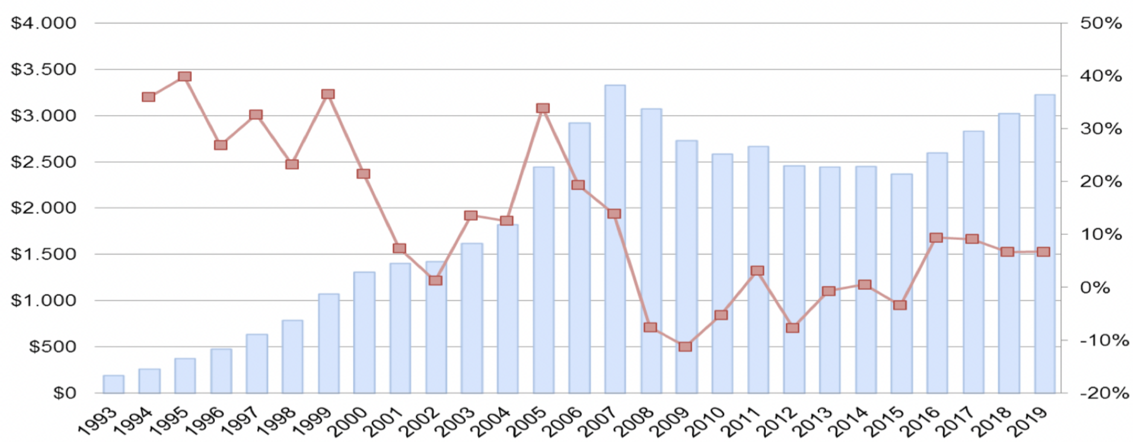


Source: World Bank

Notice that unemployment is correlated with GDP. The mean rate of unemployment from 1991 to 2000 was 4.70%, but in 2003 it jumped to 5.66%, which was the highest. In turn, the central bank froze bank withdrawals, and companies had no method of liquidating assets to pay debts outside of altering production levels. Consequently, migration increased until 2004 when the exchange rate began depreciating because of an exogenous shock of increased investors and companies that required the service of Ecuadorian people.

Due to COVID-19 unemployment increased in 2020 because of a law created by the government to favor companies and not the employee, however, it has no influence with dollarization directly in this period. Based on the Central Bank and Ecuador Census (INEC) data, it concluded that dollarization has positively impacted GDP.

Remittances



Source: Central Bank

The Bank Holiday caused the largest migratory wave that Ecuador [10]has suffered in its history. The provinces that were most affected by migration were Azuay, Cañar and Loja. In 1998,

[10] Ledesma, N. (2019). Ecuador migration trends. The Dialogue. However, the most significant wave of international migration occurred after a much larger economic crisis.

was around 40 thousand people; in 1999, approximately 91 thousand Ecuadorians migrated; and in the year 2000, more than 175 thousand people traveled abroad. The main destinations of this migratory wave were Spain and the United States. 47% of Ecuadorian boys and girls were left without one of their parents or without a close relative and remittances became the largest source of foreign currency in Ecuador, that is why it is important to analyze. As a result of migration, remittances were generated one of the most important after the oil export. The Central Bank of Ecuador reports that in 2021 it received 4'262.63 millions of remittances. This has been the highest in history despite the pandemic.

Foreign Direct Investment

Source: FED

The interest in analyzing the impact of foreign direct investment in a dollarized economy [11]is since the currency exchange risk was eliminated, so there is an attraction of foreign investors into the country due to the stability of the dollar, which, over time, led to the elimination of historical issues concerning political and economic instability discouraging foreign investment. Moreover, economic openness, measured as imports plus exports as a percentage of gross domestic product, has increased reflecting strong export growth.

Generalities: Because of dollarization, the central bank adopted new measures, keeping a different system from the previous one, which limited monetary financing to the central government. In the period 2008-2014 there was an increase in the holding of government bonds by the central bank. Financing of public debt by the central bank allowed for a strong fiscal expansion between 2008 and 2014, while the budget deficit grew continuously. The financing of the debt could also have been carried out with a non-dollarized economy, but it would probably have continued with the inflationary problems.

By having a dollarized economy, the possibility of currency devaluation is excluded save for a shortage of dollar reserves, which is a *very real threat to Ecuador's exchange rate*. Thus, at least theoretically, dollarization enhanced financial stability and mitigated the risk of sudden capital controls (Berg and Borensztein 2000, 25).

COSTS OF DOLLARIZATION

This section will now proceed to analyzing the costs of dollarization.

---

[11] Camacho, F. R., & Bajaña, Y. S. (2020). Impact of foreign direct investment on economic growth: comparative analysis in Ecuador, Peru and Colombia 1996-2016. International Journal of Economics and Financial Issues, 10(4), 247-257.

Absence of a monetary policy and lender of last resort

The nation's sovereignty and its ability to use the powers of the state to shape the nation's economic development was one of the most important costs of dollarization. As a result of adopting another currency, a nation effectively relinquished control of its monetary policy to the US Federal Reserve, making the country “in effect, a currency dependency, a client of the United States” (Cohen 2002, 45).

After the dollarization came, there were a lot of questions about the Central Bank's role. Dollarization essentially removed key monetary power from the central bank. The Central bank is not able to print money anymore, and it cannot manage monetary and exchange rate policy, two critical tools that a country can use to manage an economy during a crisis. Hence, domestic policy space to pursue development objectives is extraordinarily limited, and there is no lender of last resort should a financial and/or economic crisis develop.

Loss of seigniorage

The concept of seigniorage[12] dates to the benefit received by the mint's authority for minting a piece with a lower intrinsic value than the nominal value. Now, the concept is essentially the same but applied to paper money: aside from the lower cost of printing it, seigniorage is understood as the fact that the right to "produce" money can be a source of income for the issuer - Central Banks or issuing organizations.

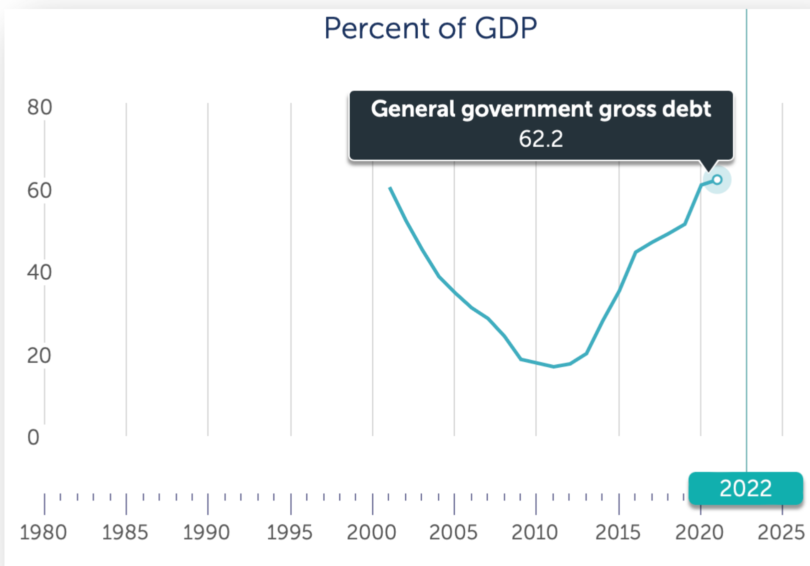
---

[12] Bogetic, Z. (1999). Seigniorage and Dollarisation. Central banking, 10(4), 77. This loss in revenues from printing domestic currency

The loss of seigniorage revenues for the central bank from the issuance of a domestic currency is one of the most direct costs of full dollarization. This cost includes not only one-off "stock" costs incurred by replacing the national currency in circulation with foreign banknotes and coins, but also "flow" costs linked to the loss of the future earnings generated by the flow of new currency printed every year.

Public Debt

It has been observed that the option of dollarizing the economy was to solve serious macroeconomic imbalances such as inflationary outbreaks, disorderly exchange rates, fiscal and current account imbalances, and unemployment (Sierra and Lozano, 2010).



Source: IMF

Simultaneously, the national debt grew rapidly, becoming practically unsustainable. The current public debt is 62.2 million dollars (45% of GDP). This debt acquired in recent years is expensive, of the order of 10%, as is the case of the debt with the Chinese economy, whose debt service is equivalent to 10% of GDP, 50% of the exports, reaches a third of the general budget of the state Ecuador, in this last government, since 2018, has increased indebtedness and has continued to be a constant in the decisions to finance the State budget, consequently persisting fiscal imbalances and high public indebtedness so that it totals more than 10 billion dollars exceeding the national standard of public indebtedness.

As a result, the Fund recommends that "a prudent debt ceiling in Ecuador should not exceed 40 percent of GDP, and it would be ideal to reduce the debt ceiling to around 30 percent in the long term."

Start Up Cost

The cost of having a dollarized economy[13] is high due to the change of coins and bills to the new adopted currency. In other words, it is not only the cost of the loss of senioriage but also the costs that are generated by applying to ensure the proper functioning of the dollar in the economy. Thus, costs are also generated in the change of cash registers, computers, and accounting systems–what are commonly known as menu costs, which ended up totaling 534 million dollars to transition from sucres to dollars.

Trilemma of open economies applied in the dollarized economy of Ecuador

Ecuador, as a dollarized economy, lost monetary policy to pursue of macroeconomic stability, so fiscal policy became the primary tool for macroeconomic adjustment. Since 2002, the Organic Law on Fiscal Responsibility, Stabilization, and Transparency has established limits on the fiscal deficit (maximum 3.5 percent) and a ceiling on public debt (maximum 40 percent of GDP), but these objectives have gone unfulfilled. According to the trilemma of open

[13] Jameson, K. P. (2003). Is It Possible to De-Dollarize?: The Case of Ecuador. International Journal of Political Economy, 33(1), 42-60.

economies, giving up sovereignty in this area would allow for the preservation of capital mobility as well as exchange rate stability. However, under Ecuador's Tax Equity Law, approved in December 2007, a tax of 2% of the total value of transfers, transfers, or shipments of foreign currency abroad, known as Income Tax, Outflow of Foreign Exchange, has been in effect since January 2008. (ISD). The ISD was raised to 5% in 2011, and the Internal Revenue Service of Ecuador (SRI) claims that the tax serves a macroeconomic function by encouraging foreign exchange generated by economic activities to be invested in the country. The increase in its rate shifted the development model inward and penalized the entry of speculative capital. In other words, a tax has been imposed that, while not prohibiting capital mobility, does discourage and condition it.

The implemented model pointed out the incentive for local industry to switch from basic goods with low added value, to secondary and tertiary industry, which also triggers positive externalities such as innovation and research.

Remembering that the Ecuadorian economy has traditionally been in deficit, the implementation of the ISD became a fiscal policy instrument that sought to reduce the balance of payments deficit and has also a significant importance in tax collection.

Therefore, for the Ecuadorian case, the trilemma of open economies was partially fulfilled. With dollarization, sovereignty in monetary policy was lost, it made it possible to have a stable exchange rate, but the free mobility of capital, although it was not eliminated, mechanisms were sought to limit or discourage. The international capital mobility was not full.

CHAPTER THREE: POLICY IMPLICATIONS

It is essential to go into detail about the mechanisms that Ecuador uses in an officially dollarized economy, but it is also necessary to consider what it means by international reserves. [14]

Reserves in a nation with its own currency are foreign currency liquid assets deposited in the central bank, such as bonds as well as treasury bills. As a result, international reserves are used to support foreign currency debt and, in extreme cases, to defend the local currency exchange rate. Even though the central bank's entire total balance sheet is denominated in US dollars, international reserves in an officially dollarized economy such as Ecuador's correspond only to credits from liquid sources of non-residents. Credits in national entities, in other words, are not counted.

Lender of last resort

As Ecuador has dollarized, the central bank could no longer print money and act as the economy's lender of last resort. However, the ability to print money ensures that all national currency credits are guaranteed in full in the event of a financial crisis. However, in a fully dollarized country such as Ecuador, the government and banks are forced to accumulate significant reserves to deal with liquidity constraints. This is one of the reasons why Ecuadorian banks are subject to stringent liquidity requirements, which can sometimes impede their financial intermediation activity.

Ecuador is a country that for many years promoted its own industry, protected it, and failed to achieve the desired levels of competitiveness to achieve full trade liberalization.

Ecuador operates two last-resort institutions:

---

[14] López, F. A. (1981). The effects of government policies on international reserves: the case of Ecuador. Tulane University. This dissertation examines the impact of government policies on the international reserves of Ecuador.

- The Liquidity Fund
- The Deposit Guarantee Scheme

The Deposit Guarantee Scheme, which was based on the Deposit Guarantee Agency established in 1998, was implemented in 2008. It guarantees the funds that would be available to depositors if a financial institution could not meet its obligations. Furthermore, the majority of the insurance plan's assets are invested in government bonds, limiting access to liquidity in difficult times.

In 2009, the Liquidity Fund was established. This Liquidity Fund serves as a lender of last resort, responding to the liquidity needs of financial institutions.

In short, in addition to absorbing balance of payments shocks and acting as lenders of last resort, international reserves in fully dollarized countries play a key role in mitigating fiscal and financial shocks. Therefore, fully dollarized countries should create adequate liquidity buffers to cushion large budgetary fluctuations and protect the stability of their financial system.

The Fund's main sources of funding are contributions from financial institutions, investment returns, annual cash gains, grants, loans, and contingency lines. It is essential to note that these resources should be invested in how international reserves operate.

The Liquidity Fund [15]is an important source of liquidity for banks. It also provides financial institutions with one-year loans.

[15] Weisbrot, M., & Arauz, A. (2019). Headwinds to Growth": The IMF Program in Ecuador. Center for Economic and Policy Research (CEPR).

Given that it resulted in widespread loss of confidence and a massive and sudden withdrawal of bank deposits, the Fund's ability to ensure the stability of all payment systems and the full support of bank deposits could be severely compromised.

International reserves in fully dollarized countries play an important role in mitigating fiscal and financial shocks, as well as absorbing balance of payments shocks and acting as lenders of last resort. As a result, fully dollarized countries should establish adequate liquidity buffers to cushion large budgetary fluctuations and maintain financial system stability.

Ecuador's Law for Economic Transformation, implemented at the time of official dollarization in 2000, restructured the central bank into four "systems."

- The exchange rate system
- The financial reserve system
- The trading system
- The system of other operations

The law empowered the central bank to keep assets of sufficient quality and liquidity to effectively support the systems' liabilities.

As a result, the structure of these balance sheet category systems is justified by the goal of ensuring that the central bank's liabilities to the general public, the financial system, and non-financial public sector institutions are adequately supported by international reserve liquid assets, given that the central bank cannot issue a legal tender on its own.

Notably, Ecuador's Law for Economic Transformation developed a robust and transparent central bank balance sheet system. The law empowered the central bank to maintain the quality and liquidity of assets in order to effectively support the systems' liabilities. Ecuador's international reserves, by this law, would include the central bank's net foreign exchange capital, gold reserves, the central bank's reserve position in international monetary agencies, and all liquid and low-risk investments in foreign financial instruments.

Beginning in 2008, in the context of deteriorating public finances, a series of legal changes gradually altered the structure of four central bank systems. More specifically, these regulatory changes gradually lost the central bank's independence and made it possible for the central bank to finance public debt in the coming years.

The new constitution of 2008 eliminated the central bank's autonomy and transferred responsibility for monetary, credit, exchange rate, and financial policy to the government. Which should be held through the central bank.

The Organic Monetary and Financial Code of 2014 created the Monetary and Financial Policy and Regulation Board. As part of the Executive Branch, this new board was in process of developing, controlling, and supervising monetary, credit, exchange, financial, and securities policies.

The Junta was formed by three ministers appointed by the President (Finance, Economic Policy, and Production), the head of development planning, and a presidential delegate.

In short, in the surroundings of strong fiscal dominance, central bank financing of the government and restricted access to organization by international organizations such as the IMF or the World Bank became main drivers of reserve fluctuation in Ecuador.

Deposits of public sector entities with the central bank remained relatively high until 2014, as high oil prices and sustained internal activity boosted public service revenues during the parallel commodity boom. Tax revenues were severely hit in the event of the 2015 commodity slump, but tax expenditures were not greatly decreased until 2017. This was made possible through a combination of external financing via bond issuance, commercial loans, and an IMF quickfinancing loan of 364 MUSD linked to the 2016 earthquake, as well as increased use of social security and central bank financing for the current administration.

The improvement of the link between the banking sector and sovereign debt has impacted Ecuador's money issues.

Considering these defects, rebuilding Ecuador's international reserves would imply a gradual reduction in the government's negative position with the central bank. Surely, this will only be possible if the fiscal position is slowly reinforced and a banking supervision framework that supports both liquidity and intermediation activity in the banking sector is applied.

Ecuador's international reserves are now well below the recommended levels for dollarization and minimizing potential economic shocks (IMF, 2019b).

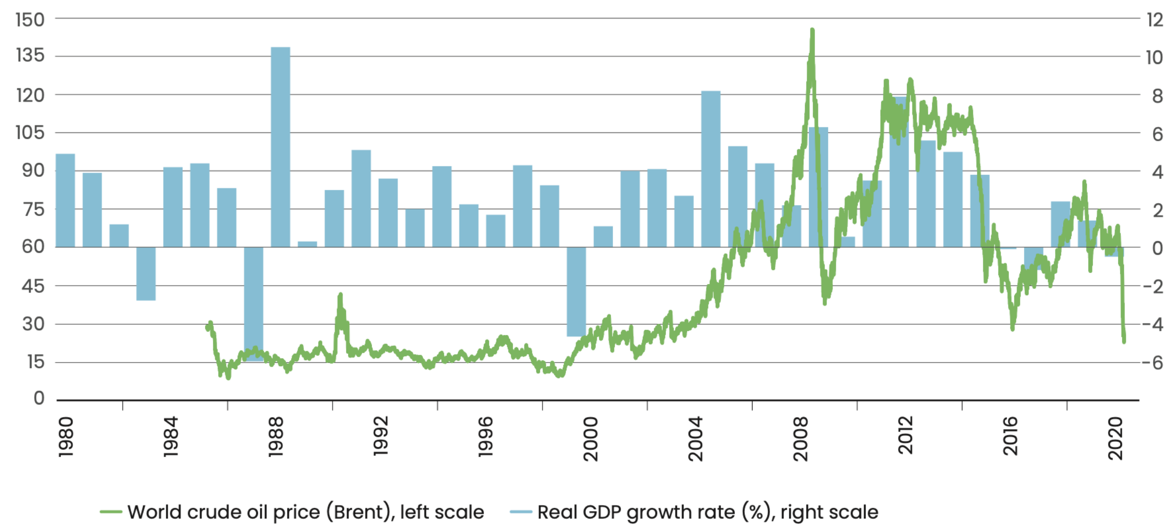
Thinking forwards, the government's existing macroeconomic program, which is supported by an IMF Extended Facility Agreement (March 2019), has prioritized the renewal of international reserves through the following channels:

1. Make sure that the central government progressively pays back central bank financing.
2. Establish fiscal mechanisms to account for fluctuations in oil prices in order to defend international reserves and the central bank's balance sheet from the fiscal cycle.
3. Progressively restore adequate reserve coverage for private sector assets.
4. Reestablish central bank independence and the structure of four central bank systems to enable for further transparent reserve regulations and priorities.

A new law “the Productive Development Law”, enacted in May 2018, prohibits the central bank from acquiring bonds or other financial instruments issued by the Ministry of Finance or any other public institution. This law eliminates the possibility of the central bank becoming a major lender to the central government in the future, while all existing bonds are predicted to be repaid at expiration.

External Sector Implications

Real GDP growth rate vs. oil price



Source: IMF

Low competitiveness after 2008.

Ecuador is economically vulnerable to the development of the oil market because it is a small oil exporting country. The economic growth of the country is risky because of its heavy dependency on oil exports. Ecuador primarily exports goods and services and commodities that are sensitive to changes in international prices, in addition to oil.

The exchange rate regime is another significant aspect of Ecuador's external accounts.

Because it is not exposed to a "monetary mismatch" in international transactions, the country cannot address a balance of payments crisis with traditional tools in the context of total dollarization. A sharp deterioration in trade terms, on the other hand, would make dollar export earnings impossible, reducing the domestic money supply and putting the financial system under liquidity pressure.

A dollarized economy's pressure-relevant indicators seem to be very different from that of an economy with its currency. Policymakers could only rely on the central bank's fiscal policy, external financing, and liquidity management through foreign exchange reserves to limit the effects of exchange-side impacts and manage the associated liquidity pressures in the absence of monetary policy and a "lender of last resort."

When we look at the external account adjustment, the case of Ecuador stands out for three reasons:

1. Dollarization absolves the country of the ability to have an adjustment factor to influence exchange rate movements, thus also disadvantaging competitiveness.
2. The nation's external accounts are strongly dependent on oil revenues, which fluctuate in combination with volatile oil prices.
3. Fiscal changes in the last decade have placed external accounts at risk due to increased imports, which has deteriorated the trade balance and increased the external debt due to foreign investors' high public debt. Each of these factors provides a challenge for Ecuador.

Ecuador certainly benefited from the dollarization of its exchange rate regime at first. Although the early 2000s were highly favorable for a fully dollarized oil-exporting economy, today's developments have shown that dollarization may represent a harder task in a more adverse international environment.

After a negative shock, the exchange rate depreciates in countries that issue their currency, causing a change in relative prices and favoring domestic production and exports. In a dollarized economy, on the other hand, the exchange rate no longer serves as a buffer, and economic activity must absorb the full impact of external shocks (De la Torre et al., 2020). For example, when commodity prices fell in other Latin American commodity-exporting countries in 2014-2015, their exchange rates depreciated due to flexible exchange rates.

Ecuador, as an officially dollarized country, lost the capacity to devalue its currency in strategies to succeed with Colombia or Peru.

The following alternatives are designed in a fully dollarized economy with no ability to influence the exchange rate: wage and profit margin reductions, as well as significant productivity gains, can be acquired through large-scale structural reforms.

To make that possible, the first option is to consider a flexible labor market and products; however, labor rigidity is too high in Ecuador.

Where spending reorientation is adversely affected by structural issues, external adjustments could take place through expenditure reorientation, through a reduction in aggregate demand leading to a sharp contraction in imports.

This adjustment generally results in a severe economic recession, as was the case in Ecuador in 2016 - 2017.

The second clue for Ecuador is an absence of export diversification. Because the country is heavily dependent on oil revenues[16], it is vulnerable to oil market shocks that cause oil prices to fall or reduce demand. The Ecuadorian economy is very volatile due to the large share of oil production in GDP, and business cycles are exacerbated by oil price fluctuations.

Furthermore, because the price of oil has historically been inversely related to the value of the US dollar, Ecuador, as a dollarized economy, must deal with cycles of amplification in oil prices.

---

[16] COUDERT V., V. MIGNON and A. PENOT (2008), “Oil Price and the Dollar”, Energy Studies Review, 15

The final specific challenge for Ecuador is the need to rebuild fiscal sustainability. Since 2008, fiscal policy in Ecuador has actively contributed to the accumulation of external imbalances. The increase in public spending, in particular, has directly increased imports of services destined for large projects in the oil and mining industries, contributing to the deterioration of the external current account. Furthermore, in a dollarized economy, fiscal imbalances translate into a decrease in international reserves, which, if excessive, can lead to a liquidity crisis.

As indicated above, increasing credit to the public sector through the use of holdings of government bonds has systematically undermined the central bank's international reserves. Whatever the cause of an external imbalance, fiscal policy frequently plays an important role in the external adjustment process. This trend becomes even more important in a dollarized economy, where fiscal policy is critical to maintaining a sufficient level of international reserves to ensure the financial system's viability. Because monetary financing of public debt is impossible, the fiscal balance remains critical to ensuring a well-functioning system that preserves the economy's liquidity.

In this regard, having a sovereign wealth fund actively fed with oil revenues during "good times" (when prices are high) would definitely represent a significant change for Ecuador in the event of an economic recession. However, with hardly fiscal cushion, Ecuador must undergo a rigorous fiscal adjustment process at a high social cost. The failed drastic elimination of fuel subsidies in October 2019, which caused significant social and political destabilization, highlights the importance of achieving social consensus for difficult fiscal measures that take into account the impact on the affected segments of society in a country with a high element of injustice.

This implies that fiscal adjustment must be based on the appropriate balance of spending cuts and income measures. Diversifying tax revenues, applying programs to improve their stability, and minimizing the volatility of cyclical developments are all important checks to protect the sustainability of public finances.

CONCLUSIONS

Dollarization is a topic that has been analyzed in Ecuador since 2000 by several economist analysts, however, it is an issue that has marked Ecuadorian society, hence the importance of analyzing twenty-one years of this period even to analyze issues such as sustainability of public finances and external accounts is considered a short period anyway relevant information and data are obtained to contribute with general analysis.

The Ecuadorian government adopted dollarization without the necessary instruments to ensure subsequent economic and financial stability; thus, before making such a huge decision in monetary policy, all environments must be evaluated.

After dollarization was incorporated, it took three years to recover from the financial crisis, which caused anguish, indebtedness, and money loss in society, leading to the creation of confidence and credibility in the currency. Ecuador currently has an acceptance rate of 88.70 percent.

The immediate benefits of full dollarization have helped to preserve the country's economy. Dollarization occurred between 2000 and 2008 as a result of high oil prices, adequate budgetary control, an independent central bank, and a stable and reliable exchange rate. These conditions were modified and changed beginning in 2008.

From 2009 until now, the central bank lost its independence and began with loans to governments based on the small reserves obtained, as well as increased public spending based on the country's structural improvement, but without future execution, public revenues were maintained. Furthermore, Ecuador's appreciation of the US dollar altered the competitiveness of the outside world, causing the price of oil to plummet and other export products to lose market share. It causes imbalances in the public sector, resulting in increased indebtedness, a lack of liquidity in the country, and an increased need for financing.

It is important to note that the country's current economic situation cannot be blamed on dollarization. Once the country was dollarized, it was unable to attract large amounts of investment due to regulatory and political barriers that prevented it from getting the benefits.

It is important to note that Ecuador does not diversify its export products, so it is more dependent on oil, and an increase in the current exchange rate has a direct impact on Ecuador's GDP. Because oil is a non-renewable resource, it poses a significant problem for the country, and there is currently no product that can replace that income.

As discussed in the previous chapter, in fully dollarized economies, these problems can be addressed in three ways: a) by expanding the export base, (b) by making labor and product markets more flexible to allow relative price adjustments through internal devaluation, and (c) by implementing a prudent monetary policy to avoid liquidity crises without increasing indebtedness to foreign lenders, which generates interest payable at the time of neoliberalism.

Therefore, it is necessary to mention that dollarization helped to overcome a serious financial crisis in 1999, given its rapid contribution to the financial and exchange rate instability of that time, since it avoided hyperinflation. A current pause must be made and the country's economy systematically organized to generate economic momentum leading to fiscal discipline.

It is indisputable to emphasize that official dollarization has great support from the Ecuadorian people, since the idea that the country issues its currency refers to instability in the currency, hyperinflation, and loss of savings and income.

Works Cited

1. Absher, S., Grier, K., & Grier, R. (2020). The economic consequences of durable left-populist regimes in Latin America. Journal of Economic Behavior & Organization, 177, 787-817. *" We study the economic effects of durable left-populist leaders in Latin America"*.
2. Ampuero, D. (2015). *Ideas Have Consequences: The Case of Dollarization in Ecuador*. Atlas. "Important"
3. Anderson, A. (2016). Dollarization: A case study of Ecuador. Journal of Economics and Development Studies, June, 4(2), 56-60. *"In this paper, it is argued that official dollarization in the short-run has generated benefits to the economic well-being of Ecuador beyond that of an initial stabilizing effect where the costs associated with the regime have had a relatively minor impact thus far."*
4. Andrade, G. S. (2022). La Dolarización y Sus Narrativas.
5. Beckerman, P. (2001). Dollarization and Semi-dollarization in Ecuador. Available at SSRN 632711. *"The move to full dollarization is perhaps best understood as a structural reform to end an unstable dual-currency system"*.
6. Beckerman, P., & Solimano, A. (2003). *Crisis y dolarizacion en el Ecuador: estabilidad, crecimiento y equidad social* (No. 24556, pp. 1-249). The World Bank.
7. Berg, A., & Borensztein, E. (2000). *The Pros and Cons of Full Dollarization*. International Monetary Fund. https://www.imf.org/external/pubs/ft/wp/2000/wp0050.pdf
8. Berríos, R. (2006). Cost and benefit of ecuador's dollarization experience. Perspectives on Global Development and Technology, 5(1-2), 55-68.
9. Bogetic, Z. (2000). Official dollarization: Current experiences and issues. *Cato J.*, *20*, 179. *"Dollarization is a portfolio shift away from domestic currency to foreign currency, to fulfill the main functions of money-store of value, unit of account, and medium of exchange. It is typically a result of unstable macroeconomic conditions and is a rational response of people seeking to diversify their assets in the face of heightened domestic currency risk"*.
10. Borensztein, M. E., & Berg, M. A. (2000). Full dollarization: The pros and cons. International Monetary Fund. "*Analyzes the costs and benefits of full dollarization, or the adoption by one country of another country's currency. Potential advantages include lower borrowing costs and deeper integration into world markets. But countries lose the ability to devalue, and become dependent on the US Compares with currency board option"*.
11. Cachanosky, N., & Ramseur, J. (2020). 20 Years of Dollarization in Ecuador: A Synthetic Control Analysis. AIER Sound Money Project Working Paper, (2020-16).
12. Cachanosky, N., Salter, A. W., & Savanti, I. (2021). Can Dollarization Constrain a Populist Leader? The Case of Rafael Correa in Ecuador. The Case of Rafael Correa in Ecuador (December 17, 2021). "*This paper studies how dollarization constraints a populist leader. We discuss the incentives of a budget constraint immune to monetization and the failed attempt to launch a national digital currency"*.
13. Calderon, G. (2015). Dolarización y libertad: el caso ecuatoriano. El Cato Institute. "Gabriela Calderón de Burgos considers that "in the different spheres of Ecuadorian society a state of legality prevails, but not a rule of law or rule of law... But there is a brilliant exception: the rule of law in dollarization" .
14. Calvo, G. A. (2001). Capital markets and the exchange rate, with special reference to the dollarization debate in Latin America. Journal of Money, Credit and Banking, 312-334.

"The paper reviews the main challenges faced by policymakers in emerging market economies, EMs, in light of recent financial crises, and taking into account salient factors like the existence of partial dollarization, imperfect credibility, weak financial systems, and contagion."

15. Calvo, G. A. (2002). On dollarization. Economics of transition, 10(2), 393-403. *"The paper examines the case for dollarization in emerging market economies. It is claimed that dollarization becomes an attractive monetary regime when account is taken of recent financial turmoil in such economies."*
16. Camino-Mogro, S. (2022). Tax incentives, Private Investment and Employment: Evidence from an Ecuadorian reform. *"This paper estimates the effect of the Organic Law for Productive Development, Attraction of Investments, Generation of Employment and Stability and Fiscal Balance on new investment and employment applied in august 2018 in Ecuador. Using event study designs and difference-in-differences models, I find that the policy implementation does not have an effect on the attraction of new investments and creation of new employment for prioritized sectors compared to non-prioritized sectors over the last quarter of 2018 and the 2019".*
17. Castillo-Ponce, R. A., Truong, B., & de Lourdes Rodriguez-Espinosa, M. (2021). Dollarization and economic interdependence: the case of Ecuador. Revista de Análisis Económico–Economic Analysis Review, 36(1), 85-101. *"The interrelation increased after Ecuador adopted the U.S. dollar. This finding holds true for various Ecuadorian industries. Synchronization for the case of the financial industry is particularly revealing, as it shows how dollarization leads to the integration of financial markets."*
18. Castillo, M. (2017). LIBERALIZATION OR JUST DOLLARIZATION?: Twenty-first-Century Economic Reform in Ecuador. World Affairs, 180(3), 36–52. https://www.jstor.org/stable/26386897.
19. Cevallos, W. E. F., las Fuerzas Armadas, E. S. P. E., & Bazantes, C. C. M. EL BANCO CENTRAL DEL ECUADOR, Y SU ROL EN LA ECONOMIA DEL SIGLO XXI (THE CENTRAL BANK OF ECUADOR, AND ITS ROLE IN THE ECONOMY OF THE XXI CENTURY). "The following article discusses the importance of the Central Bank of Ecuador as an essential part of economic training aimed at the development of the country."
20. Coello, M. R. F., Saltos, R. L. S., & Gómez, L. R. M. (2018). Econometric model to measure the impact of the dollarization of Ecuadorian economy. Reflections from the current perspective. Dilemas Contemporáneos: Educación, Política y Valore, 6(Special).
21. Cordero Velez, V. A. (2020). A Case Study on the Social Impacts of Ecuador's 1999 Economic Crisis (Including a Bank Holiday) and Dollarization (Doctoral dissertation). *"The purpose of my research is to bring light to the fact that economic events such as: economic crises, bank holidays, and dollarization, should not only be analyzed through their economic performance. It is crucial to also analyze these economic events through a social lens in order to truly understand the impacts citizens' experienced in their own flesh"*
22. COUDERT V., V. MIGNON and A. PENOT (2008), "Oil Price and the Dollar", Energy Studies Review, 15(2)
23. CUEVA S., R. MOSQERA, ORTIZ M.C. (2018), "Ciclicalidad de la política fiscal ecuatoriana desde la dolarización", in DIAZ-CASSOU J., M. RUIS- ARRANZ (eds), Reformas y desarrollo en el Ecuador contemporáneo, BID.
24. Cueva, S., & Díaz, J. P. (2018). The Case of Ecuador.

25. Cueva, S., & Díaz, J. P. (2018). The Fiscal and Monetary History of Ecuador: 1960–2017. *University of Chicago, Becker Friedman Institute for Economics Working Paper*, (2018-65).
26. Davidson, P. (2002). Dolarización, las funciones de un Banco Central Lan y la economía ecuatoriana. *Cuestiones económicas*, *18*(3), Paul-Davidson.
27. DE LA TORRE A., S. CUEVA, M.A. CASTELLANOS- VASCONEZ (2020). "The Macroeconomics of the Commodities Boom in Ecuador: A Comparative Perspective", in SANCHEZ F., PACHANO S. (eds) Assessing the Left Turn in Ecuador. Studies of the Americas. Palgrave Macmillan, Cham.
28. Echarte-Fernández, M. Á., & Martínez-Hernández, M. (2018). Analysis of the effects of spontaneous dollarization and officer in latin america: the keynesian perspective and liberal of the monetary system. Revista Lasallista de Investigación, 15(2), 33-48. *"This article analyzes the dollarization process in Latin America from different economic perspectives."*
29. Edwards, S. (2010). Left behind: Latin America and the false promise of populism. University of Chicago press. This books deals with the disappointment with globalization felt in many Latin American countries during the first decade of the twenty-first century and with the ascendance of populist politicians such as Hugo Chavez, Evo Morales, Rafel Correa, and Nestor Kirchner.
30. EICHENGREEN B. (2000), "When to Dollarize?", paper presented at a conference on dollarization hosted by the Federal Reserve Bank of Dallas, 6-7 March 2000.
31. Emanuele, C. J. (2018). Dolarización 2000-2018: Mitos y realidades, competitividad, libertad económica y calidad de vida. El caso de Ecuador.
32. FISCHER S. (1982), "Seigniorage and the Case for a National Money", Journal of Political Economy, Vol. 90 (2), pp. 295-313.
33. FISCHER S. (2001), "Ecuador and the International Monetary Fund", in ALESINA A. and BARRO, R.J. (eds), Currency Unions, Hoover Institution Press Publication, pp. 1–10, Stanford California.
34. Gonzalez-Astudillo, M. (2019). Dolarización: efectos y riesgos en el caso ecuatoriano.
35. Guncay Montero, C., & Gao, Z. " Monetary shocks and demand in a dollarized small open economy: The case of Ecuador. *"This research uses a recursive Vector Autoregression and Bayesian Vector Autoregression model to examine the transmission of monetary shocks to private demand in the context of a dollarized small open economy analyzing the case of Ecuador"*.
36. Gwartney, J., Lawson, R., & Norton, S. (2008). Economic freedom of the world: 2008 annual report. The Fraser Institute. *"The most comprehensive index of economic freedom in the world and the only one that uses reproducible measures appropriate for peer-reviewed research, this annual report ranks 142 countries according to the degree of personal choice, voluntary exchange, freedom to compete, and protection of person and property enjoyed by their citizens"*.
37. Hanke, S. (2003). Money and the Rule of Law in Ecuador. Policy Reform, 6(3), 131-145. *"The rule of law is defined and its implications in the monetary sphere are elaborated. When national monetary arrangements fail to comport with the rule of law, "dollarization" is desirable. That policy provides for more stable money and expectations about its future value. The salutary effects of Ecuador's "dollarization" program of 2000 are reviewed."*

38. Hanke, S. (2015). Reflections on the Rule of Law and Dollarization in Ecuador (No. 36). The Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise. *"The rule of law is defined and its implications in the monetary sphere are elaborated. When national monetary arrangements fail to comport with the rule of law, "dollarization" is desirable. That policy provides for more stable money and expectations about its future value. The salutary effects of Ecuador's "dollarization" program of 2000 are reviewed. In addition, a manifesto for economic reform in Ecuador is presented"*
39. Hayek, F. (2011). El ideal político del Estado de Derecho. *Guatemala: Universidad Francisco Marroquín.*
40. International Crisis Group. (2007). A HISTORY OF INSTABILITY. In ECUADOR: OVERCOMING INSTABILITY? (p. Page 2-Page 13). International Crisis Group. http://www.jstor.org/stable/resrep38435.5.
41. INTERNATIONAL MONETARY FUND (IMF) (2019a), IMF Staff Report for the 2019 Article IV Consultation and Request for an Extended Arrangement under the Extended Fund Facility, IMF Country Report No. 19/79, March 2019.
42. Jameson, K. P. (2003). Is It Possible to De-Dollarize?: The Case of Ecuador. International Journal of Political Economy, 33(1), 42-60. *"Most analysts argue that official dollarization is asymmetrical, that once a country adopts the dollar as its domestic currency, it is impossible to reverse course and restore the national money."In a dollarized economy, reintroducing the national currency would be virtually imposible".*
43. Jameson, K. P. (2004). Dollarization in Ecuador: a post-Keynesian institutionalist analysis. Working Pape.–Paper, (5). *"The paper's sections critique three orthodox explanations of dollarization, showing why they are unsatisfactory accounts of Ecuador's experience, examines the heterodox literature on exchange rate issues, introduces the PKI concepts used to explain Ecuador's dollarization, considers the actual dollarization process in Ecuador from a PKI perspective, and finally extrapolates from that treatment to the current situation in Ecuador and the likely future course of this dollarized economy."*
44. Keeley, J., & Kess, A. (2013). Monetary Integration: Thirteen Years of Dollarization on Ecuadorian Economics, 2000-2013. Global Advanced Research Journal of Management and Business Studies, 2(1), 22-36. *"This research paper has analyzed the sustained effects of dollarization on the Ecuadorian economy which began in the year 2000".*
45. Kopar, L. A. (2018). The Macroeconomics of Dollarization: A Cross-Country Examination of the Effects of Dollarization in Ecuador and El Salvador. "*The paper will facilitate a better understanding of how the same alternative to monetary policy was expected to change the macroeconomic situation in two different countries with distinct pre-dollarization circumstances by analyzing the context in which the decision to dollarize was made, what happened before and after each country implemented the USD as official currency, and evaluating dollarization's macroeconomic costs and benefits so as to provide a prescription for countries considering dollarization."*
46. Larrea, C. (2004). *Pobreza, dolarización y crisis en el Ecuador*. Editorial Abya Yala.
47. LeBaron, B., & McCulloch, R. (2000). Floating, fixed, or super-fixed? Dollarization joins the menu of exchange-rate options. American Economic Review, 90(2), 32-37. *"Dollarization Criteria."*

i. Maiguashca, F. (2021). *Cómo entender la economía del Ecuador 1965-2017* (Vol. 2). Universidad San Francisco de Quito USFQ.

48. Marí Del Cristo, M. L., & Gómez-Puig, M. (2016). Fiscal sustainability and dollarization: the case of Ecuador. Applied Economics, 48(23), 2139-2155.
49. Matthews, D. A., Maniam, B., Leavell, H., & Burke, C. (2006). Reassessing the case of Ecuador's Dollarization. In Allied Academies International Conference. Academy for Economics and Economic Education. Proceedings (Vol. 9, No. 1, p. 37). Jordan Whitney Enterprises, Inc. *"The purpose of this paper is to conduct a cost/benefit analysis of Ecuador's decision to dollarize its economy in 2000."*
50. Mauro Toscanini1, María Lapo-Maza1 y Miguel A. (2020). La dolarización en Ecuador: resultados macroeconómicos en las dos últimas décadas.
51. Moncayo Vizcaíno, J. A. (2017). Impacto de la dolarización sobre el crecimiento económico en el Ecuador (Bachelor's thesis, Quito). *"The following work seeks to prove if dollarization influenced economic growth in Ecuador. To achieve this, we analyze variables such as GDP, FDI, inflation and oil prices, in two similar periods of Ecuador's history with high oil prices and economic growth".*
52. Moran, B. P. (2016). Dollarization in El Salvador and Ecuador: A Model Worth Following. NAVAL POSTGRADUATE SCHOOL MONTEREY CA MONTEREY United States. *"It then looks at select macroeconomic indicators in both countries to determine if dollarization has been a beneficial policy decision for each country. The data suggests that dollarization has been a prudent choice for El Salvador and Ecuador. While the macroeconomic success of both countries cannot be wholly attributed to dollarization, it has enabled both countries to have low, stable inflation rates and interest rates that have contributed to positive macroeconomic outcomes. Since this thesis approaches dollarization from a macroeconomic viewpoint, additional research should focus on how dollarization has affected various socioeconomic classes in these societies on a more microeconomic level".*
53. Ontaneda, D. (2017). El impacto de la dolarización oficial en la profundización financiera en Ecuador. Cuestiones Económicas, 27(1), David-Ontaneda.
54. Onur Tas, B. K., & Togay, S. (2014). Efectos de la dolarización oficial en una pequeña economía abierta: el caso de Ecuador. Investigación económica, 73(290), 51-86. *"This article investigates the effects of dollarization on macroeconomic performance of a small open economy, that of Ecuador, using a series analysis of time. Specifically, we explore how the dollarization implemented in this country affected inflation, GDP, inflationary uncertainty and the relationship between money and the level of prices."*
55. Özyurt, S., & Cueva, S. (2020). Twenty years of official dollarization in Ecuador: a blessing or a curse? (No. 19795ea3-88a3-4f85-af90-a512b8ebe33b).
56. Padilla, L. (2022). Reassessing the feasibility of adopting dollarization in Latin America. Journal of Economics, Finance and Administrative Science. *"This paper analyses the possibility of Latin America's (LA) major economies adopting dollarization, considering that in the last decade macroeconomic instability has once again challenged the ability of certain economies to properly manage their own currency".*
57. Paredes, G. J. (2017). Ecuador: why exit dollarization?. COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN, 139. *"Dollarization is a monetary regime that is detrimental to sustained growth and the ability to cope with successive external shocks."*

58. Ponce, J., Sánchez, J. A., & Burgos, S. (2010). Implicaciones de la política macroeconómica, los choques externos y los sistemas de protección social en la pobreza, la desigualdad y la vulnerabilidad: El caso del Ecuador, 1990-2006.
59. Sandoval Vinelli, S. G. (2020). A monetary model for a fully dollarized economy (Master's thesis, Quito). *"The objective of the research is to mathematically determine some important relationships between monetary aggregates and relevant macroeconomic variables"*.
60. Schuler, K. (2005). Some theory and history of dollarization. *Cato J.*, *25*, 115. *"The unfamiliar, however simple, is often hard to understand because it requires a slightly different way of thinking. Official dollarization is a case in point. It is hard to conceive of a simpler monetary system than using somebody else's currency. There is no central bank, no independent exchange rate, and more generally no independent monetary policy"*.
61. Tas, B. K. O., & Togay, S. (2014). Effects of official dollarization in a small open economy: the case of Ecuador. Economic Research, 73(290), 51–86. http://www.jstor.org/stable/24431072. *"As a result of the above, we conclude that dollarization has improved Ecuador's macroeconomic performance, changing the money-price relationship in the country. The results obtained are robust to several empirical specifications"*.
62. The first one a stricter budget constraint, which creates very different incentives than "soft" budget constraints (Kornai 1986). *The second one is Correa's failed attempt to issue a digital currency (Arauz et al., 2021).*
63. Vásquez, C. Á., Sornoza, V. F. G., Ponce, L. D. J. A., Vásquez, A. E. P., Zambrano, D. A., & Chilán, J. H. M. (2018). Cost-benefit analysis of dollarization, Ecuador case. Dominio de las Ciencias, 4(4), 3-24.
64. Villalba, M. (2019). Dos décadas de dolarización,¿ qué hemos aprendido sobre este esquema monetario. Dolarización: dos décadas después, 7-41. *"En el presente texto se explora, de manera general, qué hemos aprendido sobre los elementos clave y las condiciones necesarias para sostener la dolarización en el mediano y largo plazo"*.
65. Wang, S. (2016). Examining the effects of dollarization in Ecuador. *Council on Hemispheric Affairs*, *6*. "Talks about both supporters and opponents of dollarization have overstated the policy's effects on the Ecuadorian economy".
66. White, L. H. (2014). Dollarization and Free Choice in Currency. *"Describe and defend the dollarization of Ecuador in 1999-2000 as a bottom-up phenomenon, an expression of consumer sovereignty by money-users, to which the government finally conceded"*.
67. Yepes, J. P. (2016). Dollarization and growth: a synthetic control approach to Ecuador and El Salvador's cases (Doctoral dissertation).