

The Fiscal and Monetary History of Colombia: 1963-2012*

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Abstract

In this paper we characterize the joint history of monetary and fiscal policies in Colombia after 1963 following the general framework by Kehoe et al. (2013). We identify three cycles in the financing of the fiscal deficit, each of which is characterized by a different main source of financing: 1963-1975: foreign debt; 1976-1991: monetary emission; and 1991-2012: domestic debt. We observe that large fiscal or monetary imbalances were rare in Colombia, but this was not necessarily the consequence of prudent policies. This is consistent with the fact that Colombia had low macroeconomic volatility, but average growth compared to other Latin American countries that experienced large swings in their economies.

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1 Introduction

The objective of this paper is to characterize the joint history of monetary and fiscal policies in Colombia after 1963 following the general framework by Kehoe et al. (2013). In doing so, we aim to shed light on the historical relationship between monetary and fiscal imbalances, on the one hand, and macroeconomic instability and long-term macroeconomic performance, on the other.

The paper builds from earlier, scattered work on the evolution of primary deficit finance and the joint determination of fiscal and monetary policies in Colombia. Earlier attempts to study the so-called problem of the “monetary implications of the budget deficit” were particularly important during the 1980s (see, for example, Clavijo Vergara (1982) and Wiesner (1982)) in a context of low coffee prices, financial crisis and hardship in international debt markets. This paper presents the first attempt at offering a long-term (half a century) perspective on the question of deficit finance in Colombia.¹

Our analysis gravitates around the evolution of the primary deficit of the Colombian central government and its sources of financing during the period between 1963 and 2012. The paper identifies three periods in which primary deficits were financed mainly with foreign debt (1963-1975), monetary emission (1976-1991) and domestic (other than Central Bank) debt (1991-2012). A detailed analysis of these periods will serve as the thread of the discussion of the paper.

Our main observation is that, for the period of analysis, large fiscal or monetary imbalances in Colombia, relative to other Latin American countries, were extremely rare in at least two aspects. First, budget deficits (see Figure 1) were generally small and peaked at only around 6% of GDP at the end of the 1990s. Second, the use of money emission to finance the government was also the exception rather than the rule²: monetary emission to finance budget deficits was more than 1% of GDP only during a small time window (1981-4) in the context of financial and international debt crisis. Apart from this period, deficits were predominantly financed with debt (foreign and/or domestic, other than the Central Bank). Remarkably, the government did not default on its foreign or domestic debts during the period of study.

¹Existing papers with a historical perspective focus separately on the history of debt, fiscal policy, or monetary policy: Junguito and Rincón (2007) constructed long-term data series to study the history of fiscal policy and debt in Colombia since 1900; Lozano (2002) and Lozano et al. (2007) analyze how public debt evolved in the late 1990s; work by Avella Gómez (2007a) and Avella Gómez (2007c) contains extensive research on the cycles of foreign indebtedness in Colombia since its Independence in the early XIXth century; Avella Gómez (2009) and Sánchez et al. (2007) study the history of monetary policy in Colombia, together spanning the period between 1886 and the present day.

²The same cannot necessarily be said about the period prior to 1963.

The rarity of large fiscal or monetary imbalances or extended periods of large monetary emission for budget finance purposes in Colombia could have contributed to a relatively stable macroeconomic environment during the period of analysis. Figures 2 and 3 present the evolution of real GDP growth and CPI inflation in the period of analysis. The first observation that stands out is that the Colombian economy has been relatively less volatile than several of its Latin American peers: during this period there has not been hyperinflationary episodes (although inflation was high and persistent during the seventies and the eighties) and growth has been relatively stable: The worst recession since records began occurred in 1998-1999, with a trough real growth of -4.2% in 1999, a relatively small contraction compared to other Latin American economies.

A more stable macroeconomic environment did not, however, foster long-term macroeconomic performance in Colombia relative to the rest of Latin America. Figure 4 shows that the economic performance of Colombia during this period, measured as real GDP per capita, was worse than average among comparable Latin American economies. Additionally, Colombia barely caught up with its peers either (see Figure 5). Relative stagnation in Colombia amidst a stable macroeconomic environment can be understood better by considering the complex relationship between financial repression and fiscal or monetary imbalances throughout the second half of the XXth century. Prior to 1991, as discussed, budget deficits and monetary finance were small and rare but existing evidence indicates that policymakers routinely employed heavy financial repression to control key monetary aggregates (see Hernández and Jaramillo (2015)). After 1991, although financial repression was gradually abandoned, macroeconomic imbalances began to build up, creating the conditions for the financial crisis of the late 1990s.

Naturally, given the fixed (or heavily managed) exchange regime that prevailed for most of the period, the nominal exchange rate will play a key role in the analysis of the joint determination of monetary and fiscal policies. More specifically, after a short period of flexibility in the late 1950s, the nominal exchange rate in Colombia was fixed from 1963 until the early 1990s. For most of this period, the fixed nominal exchange rate followed a predetermined upward trend (a so-called "crawling peg"). During the early 1990s a system of "crawling bands" was adopted to allow more flexibility to the exchange regime. Finally, in September 1999 the system of bands was abandoned in favour of a (mostly) flexible regime with occasional interventions from the Central Bank designed to mitigate the volatility in the foreign exchange market. As will be described, there seems to be a close relationship between the size of the budget deficits and future nominal depreciations for the period with a more rigid exchange rate regime (i.e. prior to 1991). As will be seen, the (often political) decision to keep a given level for the nominal exchange rate had strong implications for the

size of the balance sheet of the Central Bank and the use of monetary emission for budget finance purposes. After 1991 and the progressive liberalization of the exchange rate regime, the link between budget deficits and nominal depreciation seems to have broken, and the decision to allow the nominal exchange rate to respond mostly to market forces in 1999 was only taken after a standby agreement with the IMF was signed, thus alleviating pressure on fiscal authorities in a context of sizeable public and private external indebtedness.

The paper unfolds as follows. Section 2 presents the main focus and characteristics of our data, which is also innovative as we focus only on effective operations of the central government. This allows us to determine the exact finance structure of the primary deficit at annual frequency. Section 3 shows the theoretic framework we use to analyze the financing of the deficit. Section 4 presents the evolution of finance sources for the three subperiods of analysis. Finally, section 5 analyses the interaction of financial repression and monetary and fiscal policy to discuss what might make Colombia different to other Latin American countries.

2 Data

To understand the role that monetary and fiscal policy have played in Colombia, we focus on how the national central government financed its primary deficit since 1963; that is, ministries, Congress, judiciary system, National Police, administrative departments, superintendencies and other supervisory bodies, among others. We exclude local governments and government-owned firms from our analysis for three main reasons: First, Colombia has a centralized government where local governments finance their expenses mostly with transfers from the central government. Since 1968 the central government is required by law to transfer resources from value added tax and social security to local governments and with the new Constitution of 1991 transfers increased. There are particular local taxes that local governments can levy, and some local governments even issue bonds that are publicly traded, but the latter sources are not the most important sources for financing.³

Additionally, the national central government is in charge of shaping fiscal policy and is the only government body that may be able to influence monetary policy. Finally, we are able to collect consistent data for how the national central government finances its fiscal deficit that goes back to 1963. Therefore, when we refer to debt, deficit, expenditures, income, etc we are referring to claims on the central national government.

³According to the Comptroller General of Colombia by 2014 the debt of local governments represents around 3% of the debt of the national central government. Additionally, local governments are restricted in how much debt they can issue, as explained thoroughly in Sandoval et al. (2000). See Iregui et al. (2004) for an analysis of local taxes in Colombia and Lozano (1998) for an analysis of transfers to local governments.

In this project we will focus on the effective operations that the national central government carried out to finance its deficit. That is, we analyze how each peso of the fiscal deficit was financed. To the best of our capacities we are able to identify the exact sources of financing for every year since 1963. Not only are we able to explain how the fiscal deficit evolved since this year, but with our data we are also able to analyze explicitly the role played by fiscal and monetary policy in financing this deficit.

We rely on various sources to compile data. We use data from García García and Guterman (1988) for the period between 1963 to 1985. We rely on Banco de la República Colombia (1989) and Banco de la República Colombia (1991) to get information for government financing from 1986 to 1989. For the data from 1990 to 2002 we use government financing as calculated by the Technical and Economic Information Department of the Banco de la República Colombia.⁴ They rely on information supplied by the Ministry of Finance and Public Credit and calculate back government financing such that it is consistent with the accounting procedure agreed with the IMF since 2001. Finally, since 2003 the Ministry of Finance and Public Credit shows in its webpage detailed information regarding the financing of the fiscal deficit following international standards.

There are a couple of issues that we address when compiling the data. One very important source of financing is debt. We can only discriminate between debt issued in Colombia, which we denote domestic debt, and debt issued abroad, which we denoted foreign debt. We assume that foreign debt is issued in US dollars and domestic debt is issued in Colombian pesos. This assumption is not as strong as it might seem at first: Du and Schreger (2014) estimate that the share of sovereign debt in issued in Colombian pesos and owed to nonresidents, regardless of the country of issuance, was 15.1% in 2012, slightly higher than the share of 2006.⁵

Figure 6 shows the evolution of debt in constant US dollars. Three things are worth noticing: First, since around 1970 foreign debt was greater than domestic debt, up until the 1990s. At that point domestic debt surpassed foreign debt. This point marks the launch of the market for bonds issued by the government. Second, this point also coincided with a big increase in both domestic and foreign debt. Finally, during the last 10 years foreign debt has decreased, while domestic debt has continued increasing. When analyzing debt as a fraction of GDP (see Figure 7), we can observe a similar pattern: Debt increased in the 1990s at a faster rate than the economy. However the decrease in foreign debt in the last 15 years also caused total debt to decrease as a fraction of GDP. In Figure 8 we adjust foreign

⁴We thank Johanna López Velandia for giving us access to this data.

⁵The Colombian government issues bonds abroad, known as *TES Global*, that are denominated in Colombian pesos. Similarly, there have been bonds issued in Colombia that are indexed to US dollars. Unfortunately we can only identify the currency of the bonds issued until very recently.

debt by changes in the real exchange rate. It is worth noticing that in the first years of the XXth century a depreciation of the real exchange rate caused debt to reach more than 50% of GDP.

When we analyze the role that monetary policy played in financing the fiscal deficit, we are in fact analyzing how independent the central bank has been. In our analysis monetary emission is not the change of money stock, since this doesn't necessarily correspond to the exact source of financing. In our work monetary emission comes from three sources: net credit from the central bank to the government, profits from the central bank and some components from the Special Exchange Accounts (CEC, for its name in Spanish). The importance of each of these components in the monetary emission changed across time, depending on the degree of independence of the central bank.

According to the law, the central bank of Colombia (Banco de la República) has had some degree of independence from the government since its creation in 1923. Even though there was a cap in the financing that the government could get directly from the Central Bank through monetary emission, the Central Bank indeed financed the government by buying government debt in primary emissions.⁶

In 1963 there was a law reform that established a board of directors, called Monetary Board, so that the Central Bank could be the monetary, credit and foreign exchange authority. Nonetheless, all but one of the members, the manager of the central bank, were members of the government. One of the consequences of this was that the central bank lent directly to the government. In fact, in the 1980s, debt to the central bank represented half of the total domestic public debt (Banco de la República Colombia, 2013). This lasted until a new political constitution was written in 1991 that explicitly established an independent central bank.⁷

Monetary emission prior to 1991 also includes some components from the CEC. These accounts were established in 1938 to use fiscal resources to balance losses due to movements in the exchange rate. They included taxes on coffee and remittances, as well as profits or losses derived from management of foreign exchange and from foreign exchange reserves.⁸ García García and Guterman (1988) recalculate the fiscal deficit taking into account that the first component of the CEC should be accounted for as income for the government, while the second component is a way to finance the fiscal deficit that can be classified as monetary emission. We use their calculations for the fiscal deficit and its financing from 1963 to 1985, as well as their calculations of monetary emission. The CEC ended in 1993; however, as

⁶We thank Mauricio Avella Gómez for pointing this out.

⁷According to the law the central bank can still lend to the government, but this has to be decided unanimously of its board of directors. This has not occurred since 1991.

⁸Jaramillo and Montenegro (1982) include a thorough explanation of how CEC work.

Steiner Sampedro (1991) mentions, in the last years the CEC only include the monetary emission component.

Since 1991, the central bank has been independent from the government. From that year on, monetary emission refers exclusively to the profits of the central bank, that are transferred to the government at the end of the fiscal year.

Finally, we are able to gather information regarding the fiscal deficit, not the primary deficit. To analyze the primary deficit we use interest payments on public debt compiled by Junguito and Rincón (2007). This information discriminates between interest payments on foreign debt and on domestic debt. It is worth mentioning that domestic debt includes loans by the central bank to the government before 1991. However, we are not able to discriminate this data any further. Similarly to how we deal with domestic and foreign debt, we assume that interest payments on foreign debt are indexed to US dollars, while interest payments on domestic debt are in Colombian pesos.

3 Conceptual framework

We start with the budget constraint of the government as portrayed in Kehoe et al. (2013). Given data availability for Colombia, we modify it slightly. That is, our starting point is given in equation (1):

$$B_t - B_{t-1} + b_t^* - b_{t-1}^* + M_t - M_{t-1} + T_t = D_t + B_{t-1}R_{t-1} + b_{t-1}^*r_{t-1}^*, \quad (1)$$

where B_t denotes the outstanding stock of debt issued in Colombia, which we will refer to as domestic debt, b_t^* is the outstanding stock of debt issued abroad, which we call foreign debt, M_t stands for monetary emission used to finance the government, T_t denotes net transfers to the government, D_t is the primary deficit and R_{t-1} and r_{t-1}^* are the interest rates on previously acquired domestic and foreign debt, respectively.

We normalize (1) by the nominal GDP at t , which we denote by Y_t . The right hand side of the resulting expression, shown in equation (2), is the fiscal deficit as a percentage of GDP. The left hand side shows how the government finances the deficit.

$$\frac{\Delta B_t}{Y_t} + \frac{\Delta b_t^*}{Y_t} + \frac{\Delta M_t}{Y_t} + \frac{T_t}{Y_t} = \frac{D_t}{Y_t} + \frac{B_{t-1}R_{t-1}}{Y_t} + \frac{b_{t-1}^*r_{t-1}^*}{Y_t}. \quad (2)$$

As we mentioned in the previous section, we analyze monetary emission, instead of the change in money supply. The main reason for this is that the fact that the central bank prints bills does not necessarily imply seigniorage for the government. The presence of seigniorage depends on how the central bank uses the money supply. We believe that our data allows

us to understand the role of seigniorage in the financing of the government deficit beyond what the change in money supply might suggest.

We identify two main channels through which an increase in money supply will result in seigniorage: First, if money supply is used to buy foreign exchange in the market, and this results in a profit for the central bank. Prior to 1991, we capture this information through the CEC. After 1991, this would correspond to the central bank having higher profits.

A second source is if the central bank uses the additional money supply to buy government debt, at non-market prices. For instance, if the central bank lends to the government at a subsidized rate. If the central bank buys government bonds at market prices, then there is no seigniorage. We can account for this source of seigniorage in our data since we have the credit flow from the central bank to the government before 1991. Since 1991 there have not been any loans from the central bank to the government.

4 Periods of analysis

We identify three main stages, or periods, in the finance structure of the budget deficit in Colombia, which are clearly differentiated as to the predominant source of financing for the government. The first stage covers the period from 1963 to 1975; the second stage covers the 25 years from 1976 to the promulgation of a new constitution in 1991; and the third and final stage spans from 1991 to 2012, which is the final year in our analysis. Together with variations in the predominant source of finance, there are also changes over time as to the main components of the budget deficit. More specifically, it is observed that until the early 1990s most of the budget deficit was accounted for by the primary deficit. Beginning in 1992, interest payments on domestic debt as a share of the deficit increased, as did the share of interest payments on foreign debt a few years later (see Figure 9). Additionally, we observe that the maximum deficit reached in each of the three periods is increasing over time, which suggests increasing macroeconomic imbalances, although smaller than those observed elsewhere in Latin America. In this section a detailed analysis of each of these periods is provided. Before proceeding, some elements of the historical background of the joint determination of monetary and fiscal policies prior to 1963 is provided.

4.1 Historical Background: Before 1963

4.1.1 Monetary Financing of Budget Deficits Prior to 1963

Since the creation of the Central Bank of Colombia in 1923, the Law opened the door to the possibility of the Central Bank extending direct loans to the Central Government. The

Law that created the Bank (25/1923) explicitly authorized these operations and introduced a borrowing limit as a bulwark against the abuse of monetary emission for budget purposes (30% of the capital of the Bank).

Despite the nominal independence of the Central Bank (the Minister of Finance only became a member of the Board of Directors in 1931, and even then without the right to vote), in practice the borrowing limit was customarily bypassed by informal agreements between the Government, Congress and the Central Bank to enact laws that would allow the latter to directly purchase public debt instruments issued by the Government (not included in the category of direct loans).

This tradition persisted after the Central Bank was reformed in 1951, particularly after the Minister of Finance acquired veto power in the Board at the same time as the composition of the latter was altered to include representatives from the productive sectors of the economy. The tradition also continued after 1963, when the Board of Directors was replaced by the Monetary Board, in practiced composed fully by members of the Government (see Hernández and Jaramillo (2015)).

4.1.2 1963 and All That

Before proceeding, it is worth noting that during 1963 inflation reached the maximum level within the period of analysis of this paper (see Figure 3). Given that the latter starts precisely in 1963, some comments on the causes of this temporary spike in inflation are in order.

Colombia decided to float the peso against the dollar on a temporary basis in June 1957 as part of a macroeconomic stabilization plan agreed with the IMF. This experiment would only last until March 1958, when it was abandoned to avoid a large depreciation of the peso. Downward pressures on the domestic currency would continue until November 1962, when a devaluation of more than 30% was enacted.

After the decision to devalue the peso, according to Gómez-Pineda (2015), the government was subject to huge pressures from trade unions, who feared an erosion of real wages under the maintained assumption of a high pass-through from the nominal exchange rate to domestic prices. The response of the government was an increase of 40% in the nominal minimum wage, to which several other wages were indexed. The analysis of Gómez-Pineda (2015) indicates that this decision configured a strong, temporary cost-push shock which had a sizeable impact on inflation given the decision of the government to allow prices to increase and avoid the downward spiral of price controls-budget deficit-money finance that characterized similar wage policies carried out in several other Latin American economies. Although the nominal devaluation had some impact on inflation as well, Gómez-Pineda (2015) calcu-

lates that the pass-through effect was relatively weak compared to the cost-push shock from the increase in nominal wages. Once real wages adjusted (somewhat quickly given the hike inflation), inflationary pressures subsided rapidly.

Nonetheless, Sánchez et al. (2007) claim that the spike in inflation in 1963 came after a short period in which the government relied heavily on monetary emission to finance its deficit. This might be a reason why monetary emission was not the primary source of financing during the period 1963-1975.

4.2 1963-1975

The first cycle we analyze begins in 1963 and ends in 1975. This one is the smallest of the three cycles we analyze, in the sense that at its peak the deficit reached only 1.24% of GDP. Similar to what occurred in other emerging markets, during this period the government financed using mainly foreign debt.

Since 1963 the Monetary Board was in charge of foreign exchange, monetary and credit policy in Colombia. Until 1967 the exchange rate had a fixed price. In that year, the Colombian Government approved a new law: law 444 of 1967. This law ruled the foreign exchange policy and trade policy until 1991. Among other things, this law established that the Central Bank was in charge of determining the exchange rate on a daily basis by means of a crawling peg (See Figure 11). One of the motives for this was to stimulate exports. However, the Central Bank needed a tight control of all transactions in foreign currency.

As a result of the fixed exchange rate, a black market flourished. Figure 12 shows both the official and the black market rate, according to data compiled by Herrera (1990). Interestingly enough, except for a brief period in the early 80's, there does not seem to be major differences between the official and the black market rates.⁹ In fact, Herrera (1990) claims that the both series share a long term relationship. However, as expected, the black market rate seemed to do a better job at adjusting, as Figure 13 portrays.

With respect to credit policy, the Monetary Board made the Central Bank to be effectively a development bank. This might explain the lack of this type of banks in Colombia. The financial sector in Colombia was underdeveloped, and, as a consequence, some economic sectors relied on loans given through the Central Bank. Of course, this affected monetary policy. Interestingly, inflation seemed to be under control, although at high levels.

One of the consequences of an underdeveloped financial system was that there were no long term loans available. To address this, in 1974 the Colombian government established

⁹The short period when they seem to diverge corresponds to the aftermath of the financial crisis that hit various Latin American countries, and of which Colombia was not the exception. We expand on this in the next section.

special financial institutions whose objective was to supply mortgages. These loans were not issued in pesos, but rather in real units called *UPAC*'s (constant power purchasing units). The establishment of this system was one of the causes of the financial crisis that Colombia suffered in 1999.

1963-1975 is characterized by a series of fiscal reforms aimed to counteract the fact that the government relied heavily on the income generated by exports, and especially from coffee. As shown in Figure 14, during this period the price of coffee (in nominal terms) was low relative to our sample. In part due to this, the Special Exchange Accounts (CEC, for its name in Spanish) were used to balance fiscal losses in coffee exports due to movements in the exchange rate. The government hired two economic missions in 1965 and 1968 to get advice on how to implement a fiscal reform that could increase its revenue. These missions were known as Taylor mission and Musgrave mission, since they were led by professors Milton Taylor and Richard Musgrave. Due to this, revenue from income tax increased during these years. Nonetheless, the fiscal deficit increased since government expenditure did as well (see Figure 15). One of the reasons for this was the establishment in 1968 of a law that required the national central government to transfer to local authorities resources aimed for primary education and health.

The primary deficit in Colombia increased from -0.01% of GDP in 1968 to 1.24% four years later. As seen in Figure 9, this increase was mostly due to a higher fiscal deficit. Figure 10 shows that the main source of financing of the primary deficit was net foreign debt.

Colombia was not the exception among emerging economies in taking advantage on foreign financing opportunities during these years (see Avella Gómez (2007a)). The early 1970's witnessed an increase in foreign flows to emerging markets, especially from foreign banks. In fact, during this time long term bonds and foreign direct investment were replaced by intermediation by international banks. This came at a cost of exchanging long term fixed-rate bonds with short term loans with floating interest rates. Among the reasons for this increase in flows are the development of new foreign capital markets, as the eurodollar market. Additionally, floating exchange rates, due to the end of the Bretton-Woods system allowed new investment opportunities in foreign currencies.

Avella Gómez (2007a) mentions that Colombia had similar cycles in foreign lending as other emerging markets. Nonetheless, contrary to other emerging economies, the boom in lending by foreign banks reached Colombia only in the early 1980's, right before lending to Latin American countries began decreasing. In 1974 the stock of public foreign debt lent by foreign banks accounted for only 13% of total foreign debt. Most of the stock of foreign debt was in the form of bonds, or loans from multilateral entities, such as the Development Bank of Latin America (CAF) or the Inter-American Development Bank (IDB). This helps

to explain why interest rates on foreign loans received during these period were below 6% on average for most of the 1970's. Also, the implicit interest rate paid on foreign debt was even lower (see Figure 16). Additionally, before 1974 Colombia also took advantage of the nascent eurodollar market to finance public investment.

During 1975 economic growth decreased to 2.3% in real terms. This was the lowest number in over 10 years. Also, the government wanted to tackle what was considered a large fiscal deficit. For this reason a law reform was approved by which tax exemptions for big firms were lowered. Additionally the government considered that foreign debt could increase inflation. Therefore it aimed to rely on domestic debt as an alternative to finance its deficit by issuing short term bonds, which were known as Economic Emergency Promissory Notes (PAS, for its name in Spanish). Nonetheless, at the same time the government removed tax exemptions on domestic bonds. Therefore it ended relying on loans from the central bank to finance its deficit, as discussed in the next section.

4.3 1976-1991

The second period of interest starts in 1976 and finishes with the promulgation of a new Constitution in 1991. Its main characteristic is the predominant use of monetary emission to finance increasing primary deficits in a context of economic boom, subsequent financial crisis and expansion.

From a macroeconomic perspective, this period starts with the most spectacular increase in the global price of coffee in history. After decades of stability around US\$1/kilo, the price of Colombian coffee would rise to slightly more than US\$7/kilo in the course of just two years, from March 1975 to March 1977 (see Figure 14). These developments would help to bring about a period of fast economic growth (see Figure 2), for coffee was at the time the most important export commodity produced in a relatively undiversified Colombian economy. At the peak of the boom in 1977, the economy grew at almost 8.5% in real terms. A financial crisis hit the economy in 1982 (coinciding with the Latin American debt crisis), reducing real growth to just 1%, but the economy would recover swiftly (with the help of a short-lived hike in the price of coffee at the beginning of 1986). In fact, it cannot be said the decade of the 1980s was a "lost" decade for the Colombian economy, insofar as economic growth between 1980 and 1991 averaged 3.31% per year (more than double that of Latin America as a whole).

At the same time, this period witnessed the consolidation of high and persistent levels of inflation, which fluctuated around 25% until the beginning of the 1990s. The persistence of inflation during this period can be explained by both the coffee boom and the predominant

use of monetary emission. Regarding the nominal exchange rate, although the increase in inflation might have been mitigated through a fall in the nominal exchange rate, the government made the political decision to rule out a nominal revaluation (specifically to protect the interests of coffee growers: “the boom is owned by the coffee growers”, according to then President Alfonso López). In the context of a heavily controlled exchange regime, this implied both a real appreciation (See Figures 18 and 19) and a rapid accumulation of international reserves. Additionally, the high inflow of dollars caused the black market dollar to have a negative premium over dollars bought through official channels (see Herrera (1990)).¹⁰

From 1977 until 1982, government expenditures expanded quickly, increasing the relative size of the state almost by half (the ratio of government expenditures to GDP grew from 5.32% to 7.72% during these 5 years). Given that this occurred with falling tax revenues, the Colombian government ran increasing primary deficits, which would reach 2.6% of GDP in 1984. After the financial crisis of 1982, though, the government adjusted both by increasing tax revenue and by reducing expenditures, thereby reducing primary deficits to almost zero in 1987-1991.

The keys to understanding the financing of primary deficits during this period are the following: First, since 1977 the Colombian government faced increasing interest rates in the international capital markets (see Figure 16). Despite the fact that the government did not default on its obligations throughout the 1980s, both the marginal and implicit interest rate on external public debt more than doubled from 1977 (4.5%) to 1982 (9.7%), and it would remain at historically high levels throughout the 1980s. Second, the institutional design of the Central Bank since 1963 and the composition of the Monetary Board caused that the government and private sector officials to give monetary policy an inflationary bias. Finally, a shallow domestic financial market prevented the use of domestic debt instruments at large scale.¹¹

The combination of these elements forced the Colombian government to rely on money emission from the Central Bank as its main source of finance during the period between 1977 and 1984. Interestingly, it is possible to distinguish two stages in the use of monetary emission

¹⁰Herrera (1990) documents that the premium of the black market rate was negative between 1974 and 1982. However, in 1977 the central bank started to charge a 10% discount over the official rate of the dollars it bought. This charge stopped in 1982.

¹¹Some authors have analyzed the possible impact that drug dealing might have had on the economy during this period and early 1990s. Urrutia (1990) estimates that revenue from drug dealing accounted for between 1.8% and 10% of GDP during the 1980s. He claims that the possible increase in demand caused by these resources would be greatly counterbalanced with the negative effects on industry, inflation and investment. Steine and Corchuelo (1999) claim that the actual income received by Colombian drug dealers is much smaller since they only controlled production and exports, but not retail, and the margin between wholesale and retail prices can be as high as 600%.

to finance budget deficits. In the initial stage (1977-1982), the main source of money emission was the transfer of profits from the CEC to the Government. This was a natural result of the rapid accumulation of international reserves and the subsequent increase in accrued interest income from the investment of reserves abroad, given the increase in international interest rates discussed above.¹² The second stage (1982-1985) is characterized by the prevalence of direct loans from the Central Bank to the government as a consequence of the hardship created by the domestic financial crisis and the need to nationalize troubled banks during this period. This was also a natural consequence of international capital markets drying up in the wake of the Latin American debt crisis. In that year, monetary financing reached 2.46% of GDP (the primary deficit that same year amounted to 2.36% of GDP).

With regard to the nominal exchange rate, this period is also characterized by a positive correlation between nominal depreciation and lagged budget deficits (see Table 3). It is worth mentioning that this correlation is not found to be as strong throughout the whole sample (Table 1) and it's even negative in the first period that we analyze (Table 2). Interestingly, the political decision to not allow a nominal revaluation in the wake of the coffee boom, and the subsequent predominance of money emission to finance the budget deficit had a delayed consequence on the exchange rate: the authorities were forced to increase the slope of the crawling peg in such a way that nominal depreciation reached a maximum for our period of analysis in the mid-1980s.

In summary, during the period between 1976 and 1991, the Colombian economy experienced a relatively volatile macroeconomic and international environment. The consequent difficulties to finance increasing primary deficits using foreign or domestic debt forced the government to turn to monetary financing sources. The prevailing institutional arrangement at the Central Bank at the time facilitated this, as the Monetary Board decision-making structure was not independent from the central government. The heavy use of primary emission sources could have been the driving force behind the increase and the persistence of inflation throughout this period.

4.4 1991-2012 via 1999

The final period of interest in our story begins in 1991, with the promulgation of the new Political Constitution of Colombia, and finishes in 2012. This period was mainly characterized by the predominant use (for the first time) of domestic debt instruments to finance primary deficits and the virtual disappearance of monetary financing sources. Also during this period the Colombian economy experienced the worst economic and financial crisis of

¹²During 1977-1982, the accumulated flow of profits from the CEC amounted to 95.3% of total monetary emission finance of the budget deficit.

the XXth century, a result of the financial crisis engulfing emerging economies after 1997 in a context of a heavily managed exchange rate and large primary deficits.

The promulgation of a new Political Constitution of Colombia in 1991 would radically change the set of institutions governing the design of and interaction between fiscal and monetary policies. Among these institutional reforms, the following two stand out as the most important for the topic of our paper. First, the Constitution entailed a new arrangement between the central and the regional governments as to their economic and political role. In particular, the Constitution committed the central government to transfer increasing resources to the regional governments, who would in turn spend them in public goods and services at the local level. Second, the Constitution changed the nature and structure of the Central Bank, making it far more independent from the central government than at anytime in its previous history. The Central Bank was given technical independence as to the instruments employed to achieve its main task, which was defined solely as the control of inflation. In addition, the Monetary Board was replaced by a Board of Governors where the Minister of Finance only had one vote (of seven) and no veto power. Finally, the Constitution prescribed that any direct loan from the Central Bank to the central government would require unanimous approval by the members of the Board, thus all but forbidding monetary financing in this guise. To date, the independent Central Bank has never granted any direct loan to the central government.

One major change was the foreign exchange policy. After 24 years, law 444 of 1967 ceased to govern foreign exchange policy. Instead, the foreign exchange rate was progressively allowed to be determined by market forces. In a first stage, since 1992, the Central Bank established "crawling bands" for the nominal exchange rate. Originally bands were specified to have a width of 7% relative to a "medium" level established by the Central Bank. This medium level was specified to crawl upwards over time. In June 1999, the width of the bands was increased to 14%, a few months before the band system was abandoned in September 1999 (see Figure 20, where the band is drawn as the red, dotted line). Afterwards, the exchange regime has been (mostly) flexible, with occasional interventions from the Central Bank to mitigate excessive volatility in the foreign exchange market.

The transfers commitments provided by the Constitution to the regional governments caused a rapid increase in central government expenditures (see Figure 15). The size of the government increased by more than half between 1991 and 1999, as the ratio of central government expenditures to GDP increased from 7.7% to 12.8%. Tax revenues did not increase at the same pace, though, thereby generating an increasing primary deficit. In 1999 the primary deficit reached 3.6% of GDP, the highest mark in our sample.

Figure 10 documents the finance structure that characterizes this period. First, as a result

of the Constitutional reform to the Central Bank, monetary financing virtually disappeared. According to the law, seigniorage financing would be limited to the transfer of the profits of the Central Bank to the central government, which became positive (if small) only after 1998. Second, and especially during the first half of the 1990s, the government decided to privatise key industries (mainly energy and coal), thus obtaining temporary finance worth up to 1.6% in 1996 (see the line $\frac{T}{Y}$ in Figure 10). Lastly, and perhaps most important of all, early in the decade of the 1990s the government decided to turn to the domestic financial market to finance its increasing primary deficit through the use of debt securities (TES). These securities would give a boost to the development of domestic money markets and would become the predominant source of government finance until the present (by 2005, TES net emissions reached 3.7% of GDP). Given the high inflation prevailing at the time, the government had to pay a relatively high interest rate on domestic debt (26.7% implicit in 1995) in a context where financial repression in the form of forced investments in public debt was gradually being abandoned (see Figure 16). Foreign debt finance would lag behind domestic debt until 2000.

In the transition between a budget deficit predominantly financed with money emission to one predominantly financed with domestic debt instruments, there is an important question with regard to the fate of the debt stock of the government to the Central Bank. In the case of Colombia, data from the balance sheet of the Central Bank indicates that the stock of Government debt was progressively (that is, as payments to the Central Bank became due) swapped by TES, with which the Central Bank could perform monetary operations with financial intermediaries. As can be seen in Figure 17, the swap was completed in such a way that the participation of government debt securities in the assets of the Central Bank came to resemble almost exactly the share of outstanding government debt prior to 1991¹³.

Since 1996 the symptoms of a massive crisis in external funding were being observed at the same time that a number of emerging economies were encountering difficulties in international capital markets. In particular, the government experienced an increase in the interest rate of foreign debt (see Figure 16) and a consequent increase in interest payments to international capital markets (Figure 9). The dramatic fiscal consequences of the eventual sudden stop are evident in Figure 10 as a sharp reduction in foreign debt finance from 1999 to 2002. The recession would last from 1998 to 2000; real GDP would fall by 4.2% in 1999, the worst contraction since records began. The central government entered a stand-by agreement with the International Monetary Fund which forced a macroeconomic adjustment

¹³As was discussed above, the ability of the Central Bank to purchase TES in secondary markets does not constitute seigniorage, or money emission to finance the budget deficit inasmuch as interest rates are market determined.

via the gradual reduction of the primary deficit. This would be achieved through a reform of the transfers arrangements to regional governments and a series of tax reforms starting in April 2000, which would gradually increase tax revenue (the effect of this reform on tax revenue is evident in Figure 15 as a change in the slope of the ratio of revenues to GDP). Both the interest expenditure and the stock of foreign debt would fall gradually, whereas the interest expenditure and the stock of domestic debt would stabilize, with net TES emissions fluctuating around 2.5% of GDP in subsequent years.

During this period, the correlation between nominal depreciation and the lagged budget deficit becomes statistically not significant (see Table 4). This is perhaps consistent with the progressive flexibilization of the exchange rate regime. However, this does not mean the exchange rate regime did not have an impact on the joint determination of fiscal and monetary policies. On the one hand, in accounting terms, the decision of the Central Bank to defend the band system in 1998 and early 1999 implied the reduction of international reserves (22% between September 1997 and September 1999) with the consequent reduction in profits of the Central Bank. On the other hand, and consistent with this, the decision to allow the nominal exchange rate to float (almost) freely in 1999 was initially constrained by the potential effects of nominal depreciation on the solvency of both the government and private agents which maintained external indebtedness. The decision to float was facilitated by the stand-by agreement with the IMF signed in September 1999, which perhaps prevented a huge nominal depreciation after the band system was abandoned (see Urrutia and Llano (2012)).

A side effect of the recession was the sharp decline in inflation, from 31% in 1990 to 9% in 2000, thereby reducing also the implicit interest rate on domestic debt (Figure 16) to around 10%, from where it has fallen even further until the present day. After the crisis, the economy entered a long expansionary period, which lasts until today. Unlike the previous booms discussed in this paper, in this occasion economic growth was not accompanied by increasing primary deficits. This is probably the direct consequence of a new institutional arrangement introduced at the end of 2003, namely, the commitment to an explicit fiscal rule that constrains the exercise of fiscal policy on a 10-year horizon and presents the government with a debt ceiling. The success of this arrangement in ensuring the stability of public finance is perhaps evident in the stability of the implicit interest rate on public debt (domestic and foreign) amidst the global financial crisis of 2008-9 and the continued ability of the central government to finance primary deficits throughout the period.

5 Discussion

We conclude our paper by discussing the role of financial repression in Colombia. Even though macroeconomic imbalances were not large prior to 1991, this was not necessarily because policies were prudent. We posit that financial repression helped to avoid poor policies to cause macroeconomic volatility. This is consistent with the fact that macroeconomic volatility was low, but this did not lead to growth relative to the observed in other Latin American countries. In particular, we will discuss the role that reserve requirements played.

From 1963 to 1991 the Monetary Board was the credit, monetary and foreign exchange authority. Although its members were from the government, and although inflation was high during this period, there were no episodes of hyperinflation. For this period, Hernández and Jaramillo (2015) find a negative correlation between the growth of the monetary base and the money multiplier. This suggests that as the monetary base increased, the growth of credit did not follow it. This might be a reason why inflation in Colombia never went beyond 30% per year during this period. To analyze this data we calculate the annual percentage growth of the monetary base and we denote it by \widehat{MB} . We estimate the money multiplier as the ratio of M1 to the monetary base and we calculate its annual change, Δm . Figure 22 shows how these two numbers evolved from the first quarter of 1961 to the last quarter of 1991. Their comovement is evident. In fact, the correlation of \widehat{MB} and Δm over this period is -0.76.

The reason for this negative comovement is consistent with the active use of reserve requirements. In fact, the (inverse of the) money multiplier moves hand in hand with the reserve requirements (see Figure 23).¹⁴ Together Figures 22 and 23 suggest that when the monetary based increased, the monetary authorities also increased reserve requirements. In this way the extra cash that was printed by the Central Bank did not necessarily translate into more loans.

In particular, reserve requirements were actively used to counteract economic events which caused a rapid accumulation of foreign exchange reserves. For instance, during the coffee boom of late 70's, foreign reserves doubled in 1975-1976 and reached US\$1.0 billion (b). Two years later they reached US\$2.5 b. In 1977 the Monetary Board imposed a marginal reserve requirement of 100% on deposits over the level observed by January 31st, 1977. Additionally reserve requirements increased from 34% to 46.5% in various reforms in the following two years ((Avella Gómez, 2007b))

Avella Gómez (2007b) states that monetary authorities used reserve requirements actively

¹⁴Colombian regulation has stated different reserver requirements for different types of deposits. Figure 23 shows reserve requirements for private savings accounts. See Avella Gómez (2007b) for a recount of how reserve requirements for all types of deposits have evolved since the 1940's.

for two main purposes: As a monetary policy instrument and as a way to redirect credit. We already discussed the first purpose. The second one reinforced one of the objectives of the Central Bank at the time. For instance, in 1980 banks that invested in assets of the Industrial financial fund were exempted from reserve requirements on term deposits.

Since 1991 the government has find it more difficult to finance its deficit through monetary emission. A new Constitution was needed to accomplish this. However, this did not prevented the economy from suffering macroeconomic instability during the early 1990's. The worst economic crisis in over a century was needed to adapt monetary and foreign exchange policy to have a more resilient economy. The fact that GDP growth in Colombia was positive during the worst global financial crisis since 1929 is consistent with more responsible monetary and fiscal policies. We hope that our analysis of the history of monetary and fiscal policy in Colombia contributes to keep it this way.

Table 1: Correlation between change in exchange rate and primary deficit

Lag	Pearson	Spearman
0	0.264 (0.064)	0.269 (0.059)
1	0.386 (0.006)	0.394 (0.010)
2	0.386 (0.008)	0.342 (0.018)
3	0.374 (0.010)	0.338 (0.205)

p-value in parenthesis

Table 2: Correlation between change in exchange rate and primary deficit: 1963-1975

Lag	Pearson	Spearman
0	-0.195 (0.523)	-0.159 (0.604)
1	-0.014 (0.966)	0.175 (0.588)
2	0.428 (0.189)	0.555 (0.082)
3	0.743 (0.014)	0.721 (0.024)

p-value in parenthesis

Table 3: Correlation between change in exchange rate and primary deficit: 1976-1991

Lag	Pearson	Spearman
0	0.173 (0.522)	0.171 (0.527)
1	0.521 (0.046)	0.471 (0.078)
2	0.665 (0.009)	0.552 (0.044)
3	0.707 (0.007)	0.632 (0.024)

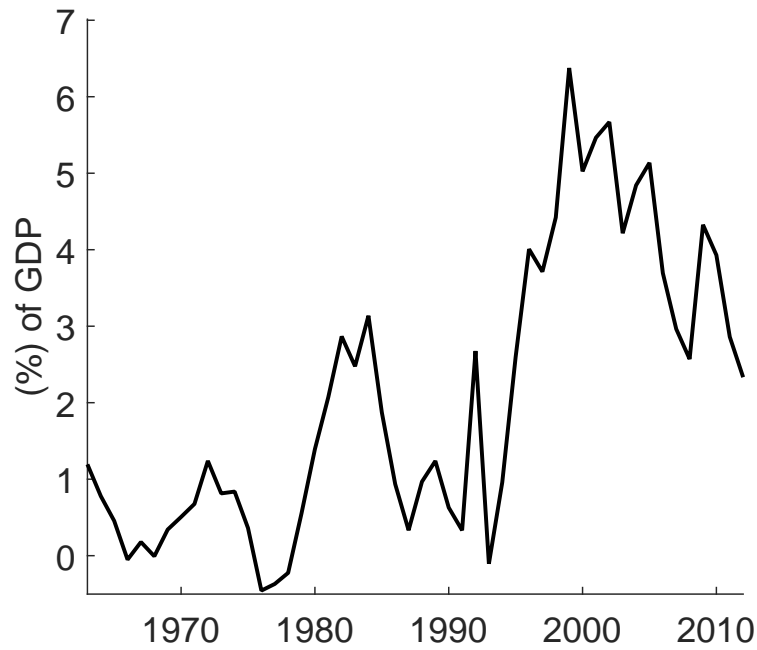
p-value in parenthesis

Table 4: Correlation between change in exchange rate and primary deficit: 1991-2012

Lag	Pearson	Spearman
0	0.414 (0.056)	0.403 (0.064)
1	0.475 (0.030)	0.555 (0.010)
2	0.296 (0.206)	0.341 (0.141)
3	0.257 (0.288)	0.307 (0.201)

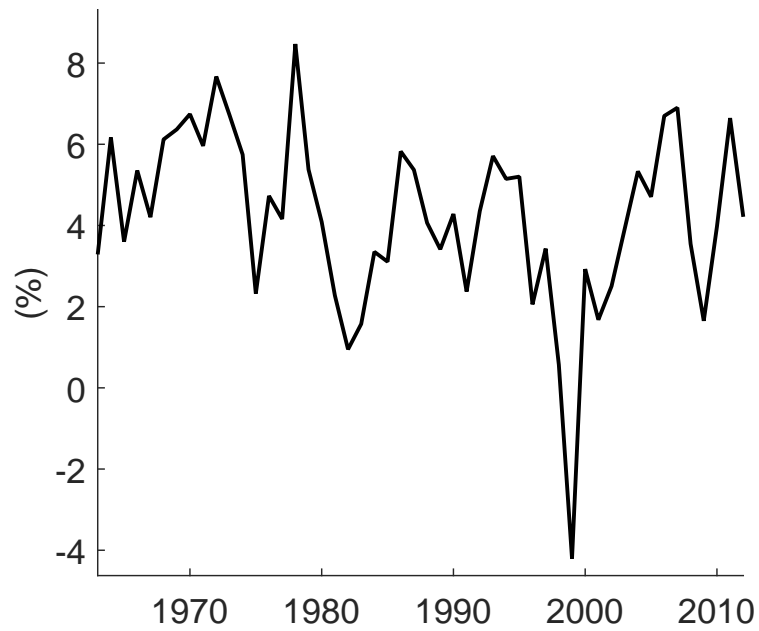
p-value in parenthesis

Figure 1: Fiscal deficit



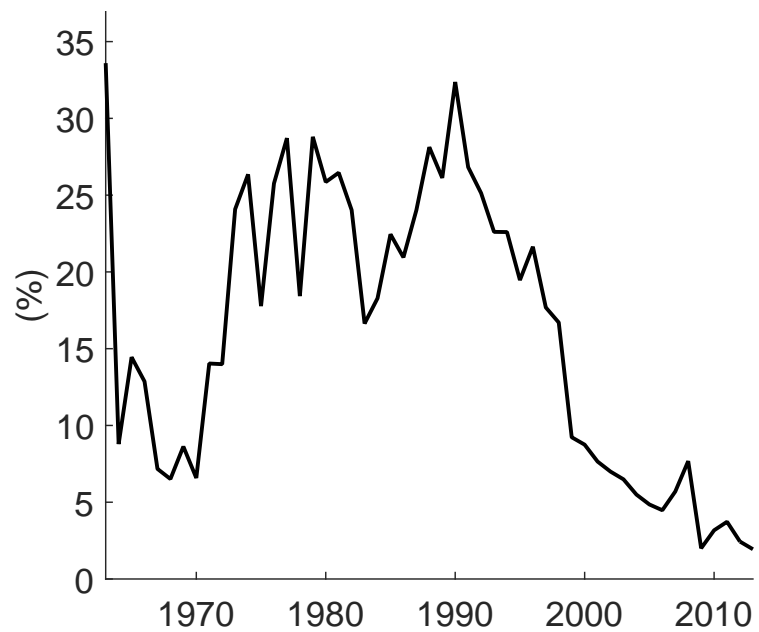
Source: 1963-1985: García García and Guterman (1988); 1986-1987: Banco de la República Colombia (1989); 1988-1989: Banco de la República Colombia (1991); 1999-2002: Technical and Economic Information Department of the Banco de la República Colombia; 2003-2012: Ministry of Finance and Public Credit. Authors' calculations.

Figure 2: Real GDP growth



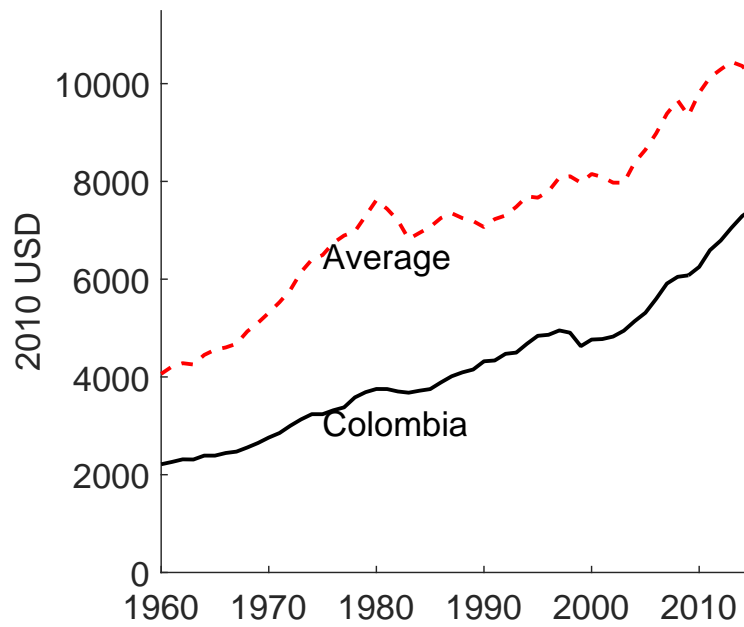
Source: Junguito and Rincón (2007). Authors' calculations.

Figure 3: Inflation



Source: Banco de la República Colombia. Authors' calculations.

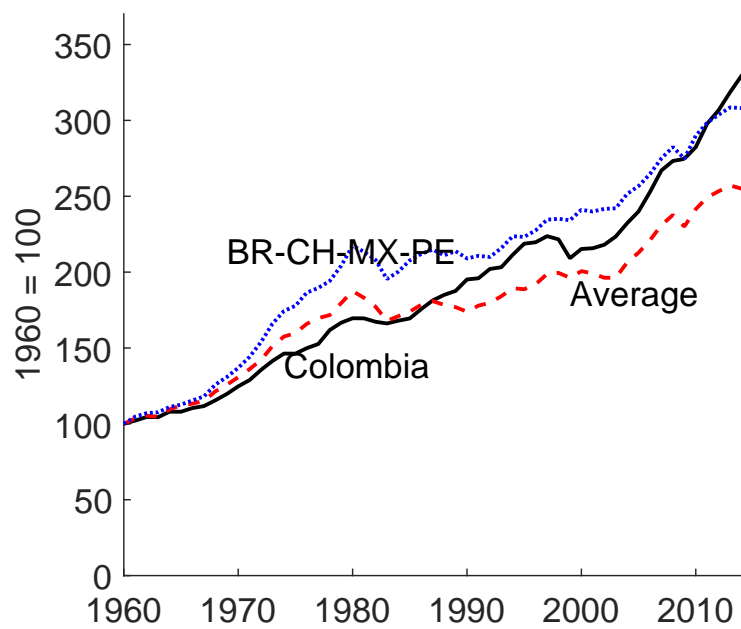
Figure 4: Real GDP per capita



Source: World Bank. Authors' calculations.

Average is the average of GDP per capita for Argentina, Bolivia, Brazil, Chile, Ecuador, Mexico, Peru, Paraguay, Uruguay and Venezuela, in 2010 dollars, weighted by population.

Figure 5: Real GDP per capita growth

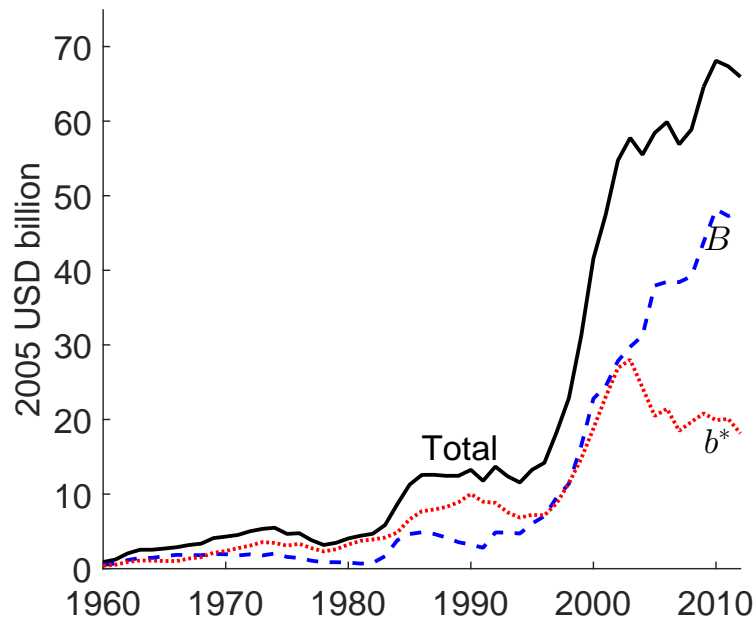


Source: World Bank. Authors' calculations.

Average is the average of GDP per capita for Argentina, Bolivia, Brazil, Chile, Ecuador, Mexico, Peru, Paraguay, Uruguay and Venezuela, in 2010 dollars, weighted by population.

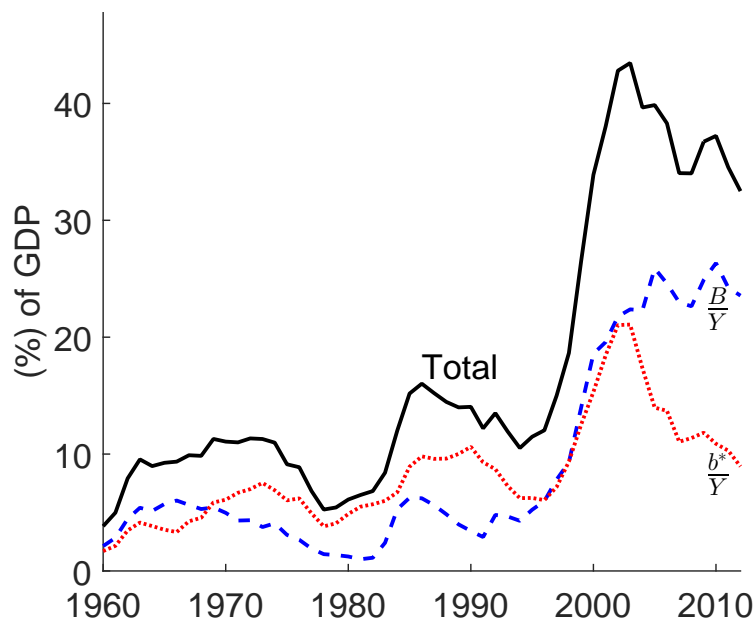
BR-CH-MX-PE is the average of GDP per capita for Brazil, Chile, Mexico and Peru, in 2010 dollars, weighted by population.

Figure 6: Debt in constant USD



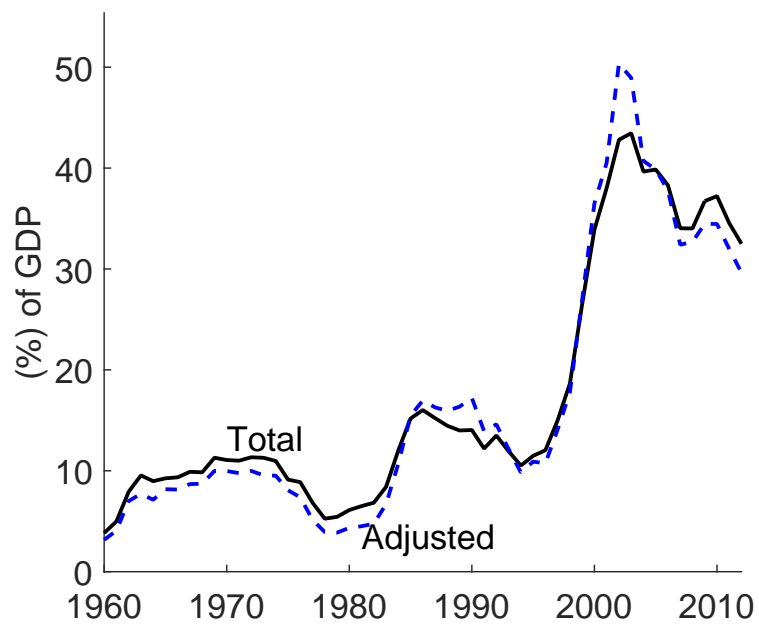
Source: Junguito and Rincón (2007) and World Bank. Authors' calculations.

Figure 7: Debt to GDP



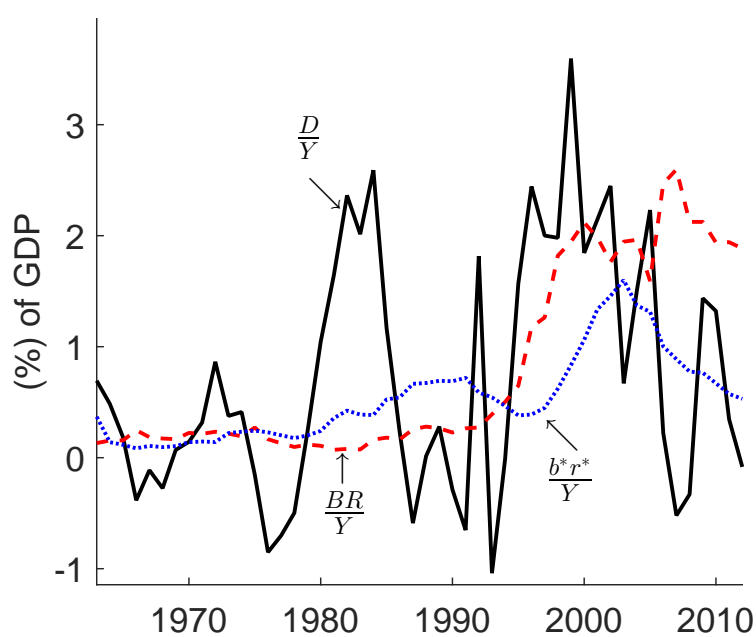
Source: Junguito and Rincón (2007). Authors' calculations.

Figure 8: Debt and adjusted debt by RER to GDP



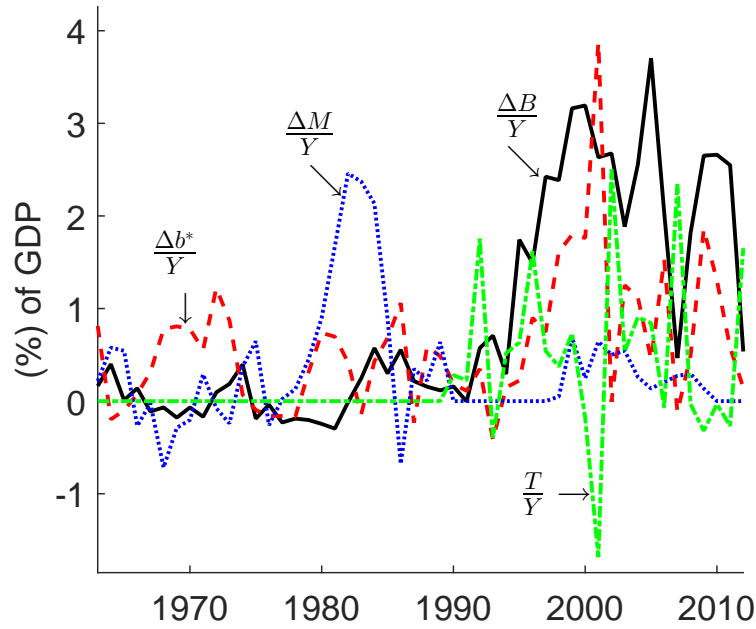
Source: Junguito and Rincón (2007), Banco de la República Colombia, BLS and World Bank. Authors' calculations.

Figure 9: Primary deficit and interest payments



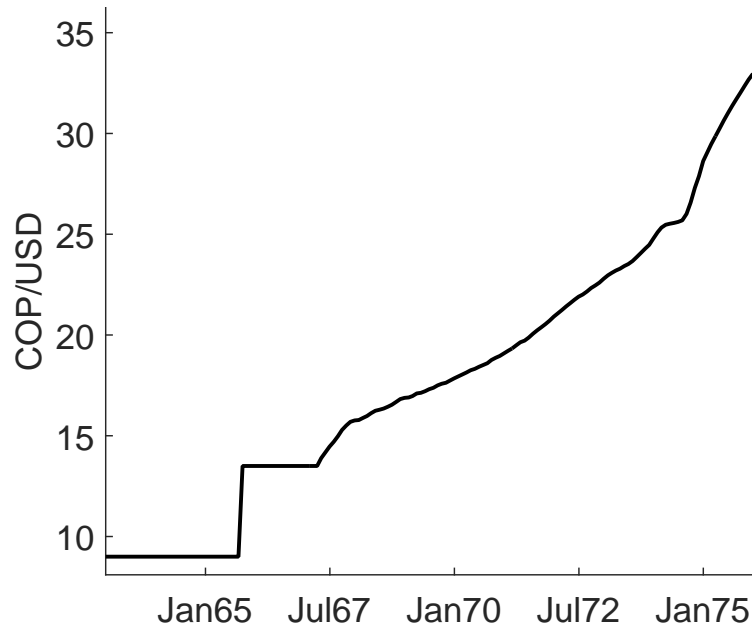
Source: 1963-1985: García García and Guterman (1988); 1986-1987: Banco de la República Colombia (1989); 1988-1989: Banco de la República Colombia (1991); 1999-2002: Technical and Economic Information Department of the Banco de la República Colombia; 2003-2012: Ministry of Finance and Public Credit. Interest payments: Junguito and Rincón (2007). Authors' calculations.

Figure 10: Financing



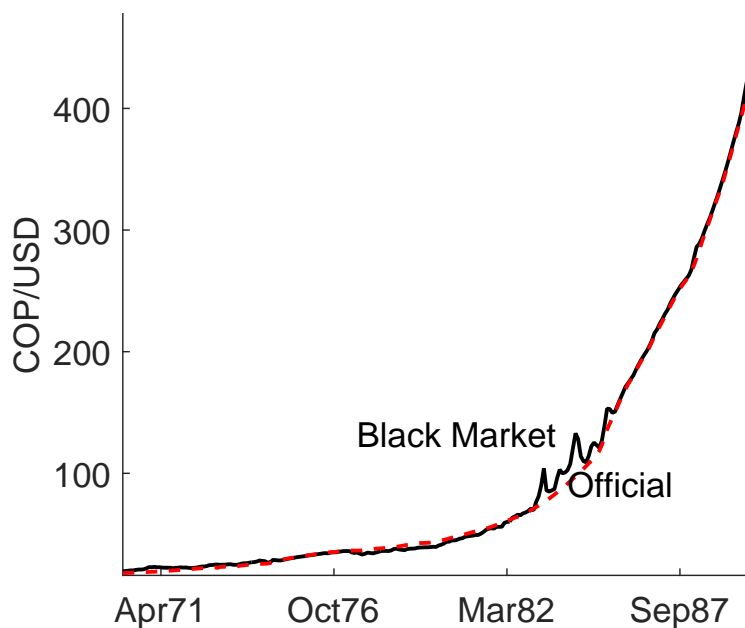
Source: 1963-1985: García García and Guterman (1988); 1986-1987: Banco de la República Colombia (1989); 1988-1989: Banco de la República Colombia (1991); 1999-2002: Technical and Economic Information Department of the Banco de la República Colombia; 2003-2012: Ministry of Finance and Public Credit. Authors' calculations.

Figure 11: Nominal exchange rate: 1963-1975



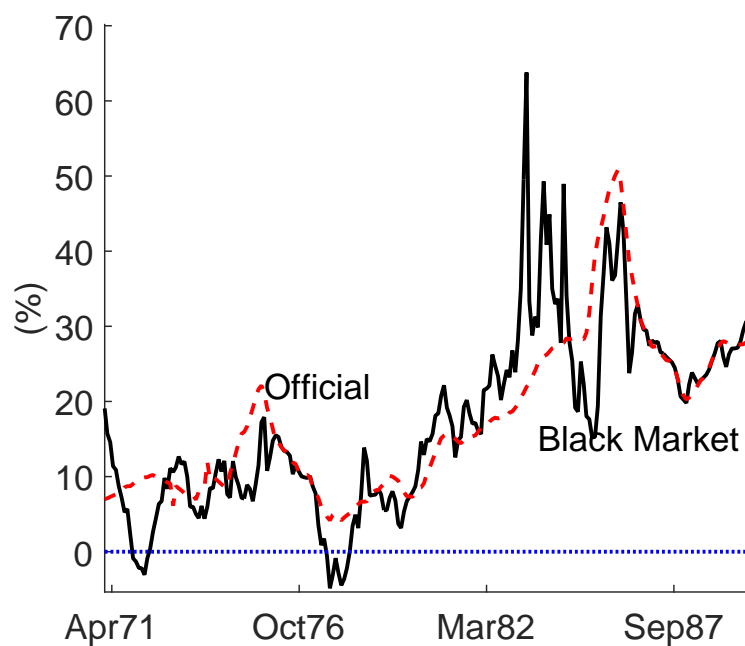
Source: Banco de la República Colombia.

Figure 12: Official and black market exchange rate



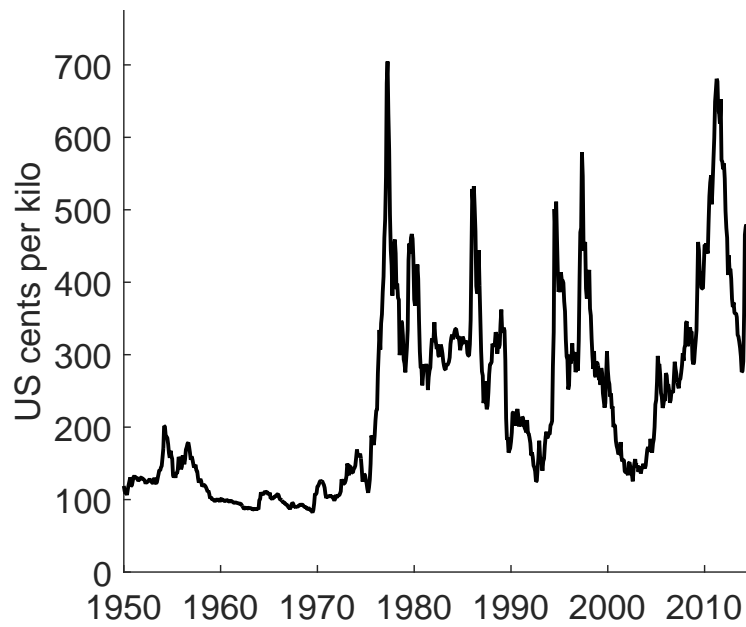
Source: Herrera (1990).
Average rate for each month.

Figure 13: Devaluation of official and black market exchange rate



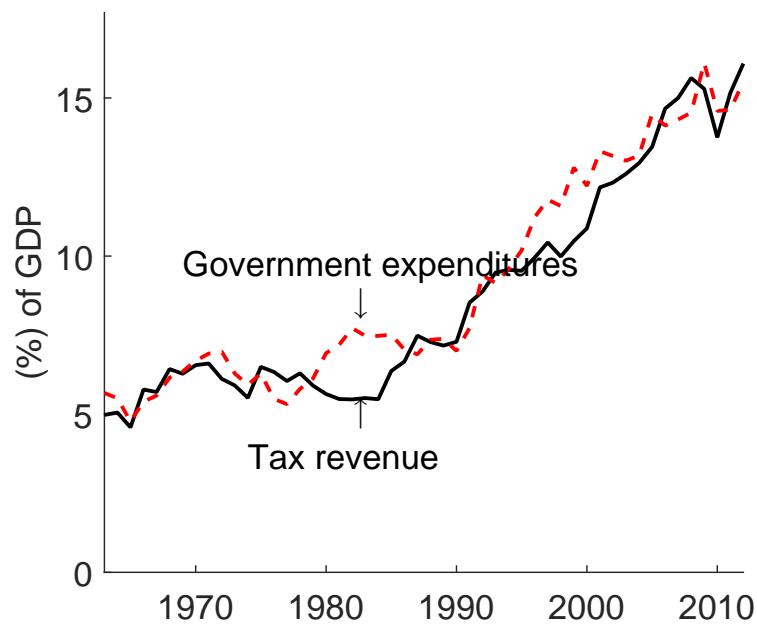
Source: Herrera (1990).
Change in the average rate of each month relative to the average rate of the same month of the previous year.

Figure 14: Price of Colombian coffee



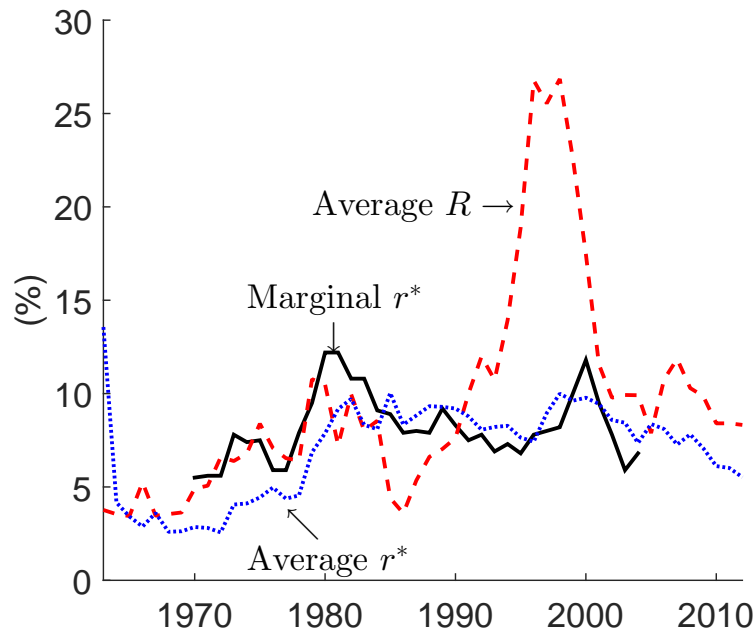
Source: Colombian Coffee Growers Federation. Authors' calculations.

Figure 15: Government expenditures and tax revenue



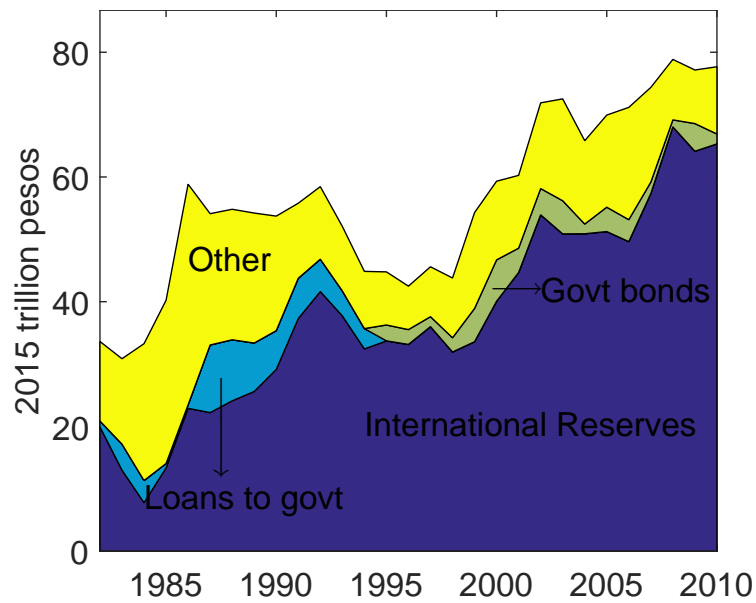
Source: Junguito and Rincón (2007). Authors' calculations.

Figure 16: Average and marginal interest rates



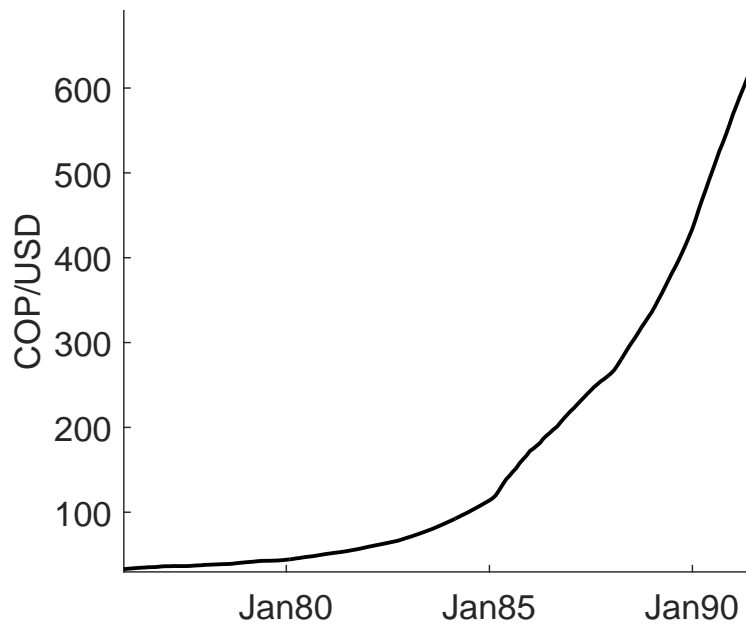
Source: Avella Gómez (2007a) and Junguito and Rincón (2007). Authors' calculations.

Figure 17: Balance sheet of the central bank



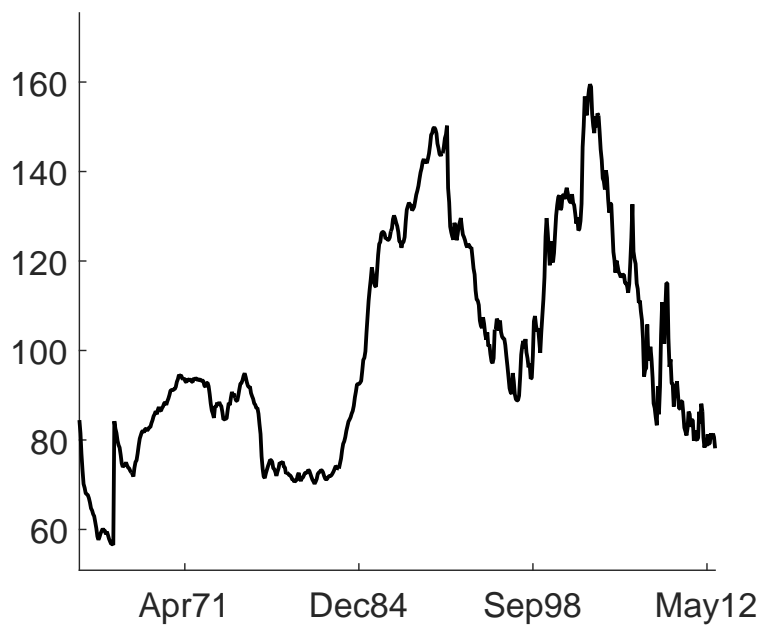
Source: Banco de la República Colombia.

Figure 18: Nominal exchange rate: 1976-1991



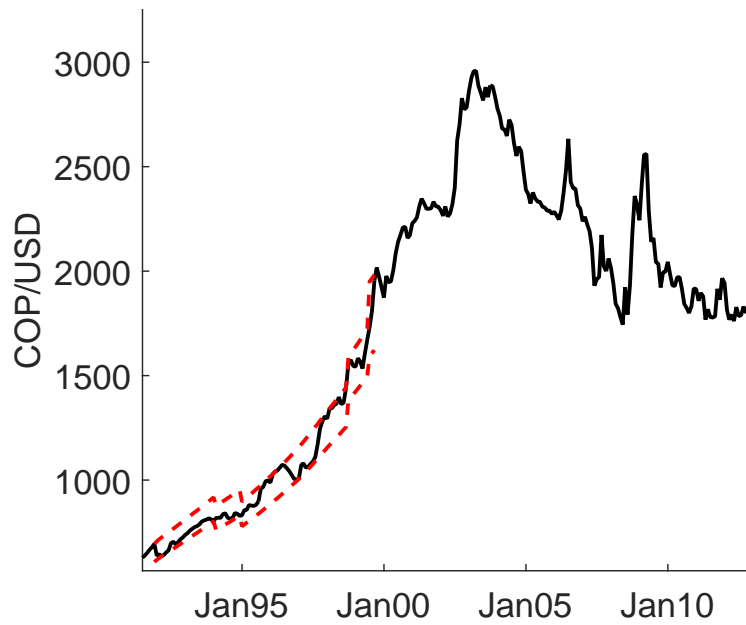
Source: Banco de la República Colombia.

Figure 19: Real exchange rate



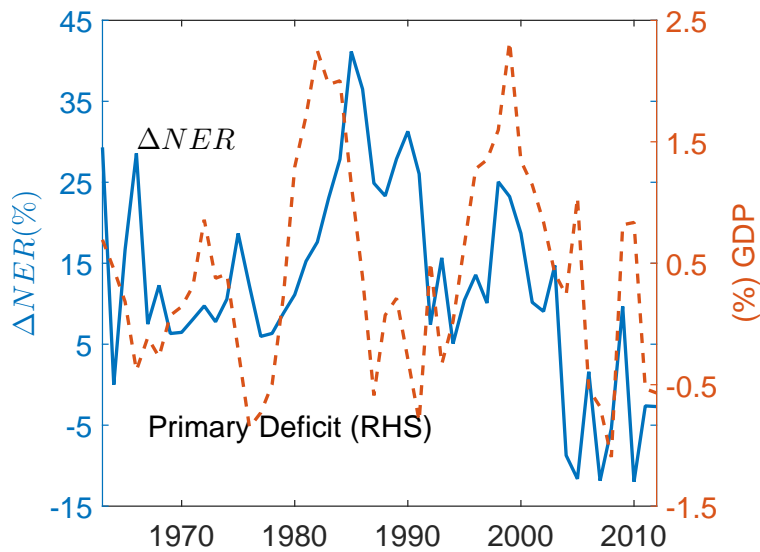
Source: Banco de la República Colombia. Authors' calculations.

Figure 20: Nominal exchange rate: 1991-2012



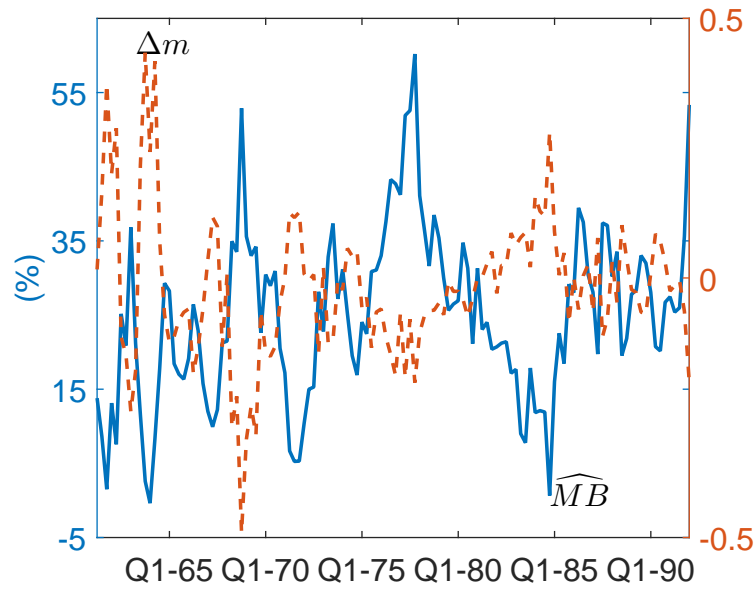
Source: Banco de la República Colombia.

Figure 21: Change in exchange rate and primary deficit



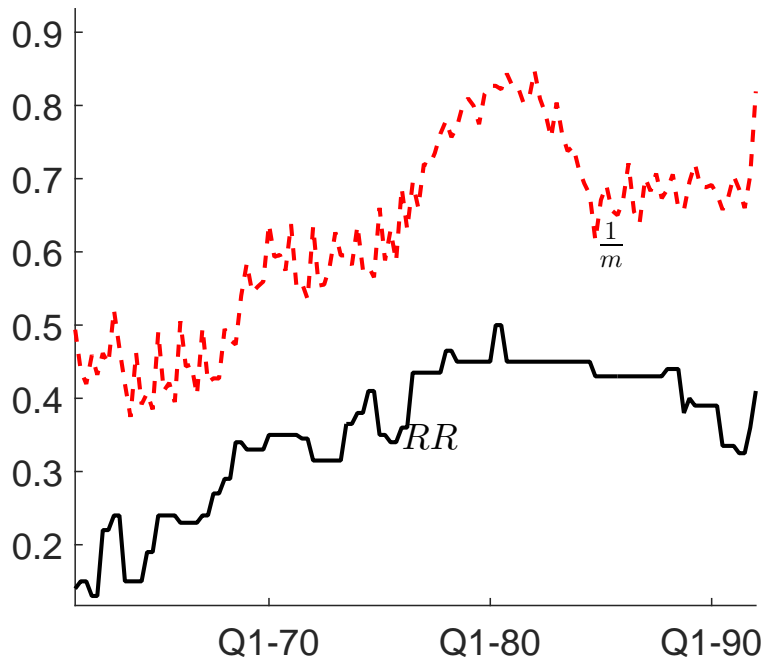
Source: Banco de la República and Junguito and Rincón (2007). Authors' calculations.

Figure 22: Annual growth of the monetary base and annual change of the money multiplier



Source: Hernández and Jaramillo (2015). Authors' calculations.

Figure 23: Reserve requirements and inverse of money multiplier



Source: Hernández and Jaramillo (2015) and Avella Gómez (2007b). Authors' calculations.

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