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The Case of Colombia

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The Monetary and Fiscal History of Colombia, 1960–2017*

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Abstract

In this chapter, we characterize the joint history of monetary and fiscal policies in Colombia since 1960. We divide our analysis into three periods, which are differentiated by the financial structure of the fiscal deficit, the institutional setup of monetary and fiscal policies, and the levels of inflation. We name the periods divergent fiscal dominance (1960–1970), when both inflation and the fiscal deficit were low on average but Colombia diverged from its peers; convergent fiscal dominance (1971–1990), when both inflation and the fiscal deficit increased and Colombia converged toward its peers; and monetary dominance (1991–2017), when despite the highest average fiscal deficit and the worst recession of the century, inflation kept a downward trend in the context of a newly independent central bank and increasingly flexible exchange markets. We observe that although large fiscal deficits, macroeconomic swings, and monetary imbalances were rare in Colombia, average economic growth was comparable to other Latin American countries that experienced higher macroeconomic volatility.

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1 Introduction

In this chapter, we characterize the joint history of monetary and fiscal policies in Colombia since 1960 following the framework presented in chapter 2. Our analysis focuses on the joint evolution of inflation, economic performance, and the fiscal deficit of the Colombian central government and its sources of financing in the period between 1960 and 2017. As a first examination of our objects of interest, figures 1, 2, and 3 present the evolution of the total fiscal deficit of the central government (as a percentage of GDP), CPI inflation in Colombia, and real GDP per capita (against a counterfactual trend of 2 percent growth). With regard to the fiscal deficit, three periods can clearly be identified. In the first period, between 1960 and 1970, fiscal deficits were relatively small, averaging 0.43 percent of GDP. In the second period, between 1971 and 1990, fiscal deficits doubled on average (1.05 percent). Finally, during the third period, between the early nineties and the latest data available, deficits were the largest on average (3.27 percent between 1991 and 2017). We highlight the fact that the fiscal deficit peaked in the years during which banking crises occurred: 2.75 percent in 1982 and over 6 percent of GDP in 1999, during the year of the worst economic crisis since the beginning of the twentieth century.

These three periods also translate into the evolution of inflation: between 1960 and 1970, inflation was low on average (excluding the unusual peak of 1963, inflation averaged 8.4 percent); between 1971 and 1990, average inflation persistently increased to an average of 23.1 percent; and finally, after 1991 inflation gradually and persistently decreased, reaching an average level of 3.9 percent after 2010, the lowest levels of our time window. Significantly, the recession of 1999 coincided with a rapid decrease in inflation.

Finally, real GDP per capita grew at an average pace of 2.16 percent for the period of analysis. This number, although above a benchmark rate of 2 percent for the United States, was not sufficient to allow the economy to achieve a perceivable degree of convergence. Figure 3 highlights the two major banking crises that Colombia experienced in 1982 and 1999.

Following from the previous analysis, we divide the Colombian experience after 1960 into three periods, which are differentiated by the financial structure of the fiscal deficit, the institutional setup of monetary and fiscal policies, the levels of inflation, and the relative economic performance against Latin American peers. The first period, from 1960 to 1970, was characterized by both a low average inflation rate and a low average fiscal deficit. During this period, monetary emission, through both increases in the monetary base and seigniorage, was the main source of financing. Foreign debt also played a role in financing toward the end of the period.

During the second period, 1971–1990, the Colombian economy experienced high and per-

sistent inflation and higher fiscal deficits, this time in the context of frequent use of monetary emission to finance government expenditures and heavily controlled foreign exchange markets, particularly after international finance dried up in the wake of the Latin American debt crisis of the early eighties. Throughout this period, the nominal exchange rate was heavily controlled, following a government-predetermined upward trend (crawling peg).

The third period, from 1991 to 2017, registered the highest average fiscal deficit, the highest peak in the deficit, and the worst economic recession since the early twentieth century, the peak in the deficit and the recession occurring in 1999. Despite high deficits and a severe crisis, inflation kept a persistent downward trend, back to one-digit levels after 2010. This event occurred in the context of a newly independent central bank, increasingly flexible exchange markets, and a reorientation of deficit finance toward the domestic capital markets.

The division of our time window into three separate periods also allows us to illustrate the use of the conceptual framework in chapter 2 to understand the evolving relationship between monetary and fiscal policies in Colombia. Specifically, the first two periods were characterized by fiscal dominance, institutionally defined as a nonindependent central bank. In the first period, fiscal discipline allowed inflation to be kept at relatively low levels. In the second period, an expanded fiscal deficit led to increased inflation under the frequent use of monetary emission to finance government expenditures.

In 1991, a new constitution enshrined monetary dominance via an independent central bank in charge of reducing inflation and accountable to Congress. Significantly, from 1993 to 1999, the central bank kept a managed floating scheme of currency corridors. In this context, the increased fiscal deficits of the early nineties did not lead to increased inflation (monetary emission to finance the fiscal deficit all but disappeared after 1991). Instead, large deficits created relatively large external imbalances, leaving the economy vulnerable to a sudden-stop shock of the sort that occurred in the late nineties, which drove the economy into a harsh recession without an easy resort to nominal depreciations or monetary finance. Since then, monetary independence, together with increased fiscal discipline and the adoption of a floating exchange rate, allowed the economy to recover a certain degree of persistent macroeconomic stability, as evidenced by low historical inflation and fiscal deficits close to the average of our time window.

A key 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, fiscal deficits were generally small and peaked at only around 6 percent of GDP at the end of the 1990s. Second, although the use of monetary emission to finance the government was frequent, it was never sizable compared to other countries: monetary emission to finance fiscal deficits was more than 2 percent of GDP only during two small

time windows, 1977–1978 and 1991–1992. Remarkably, the Colombian government did not default on its foreign or domestic debts during the period of study.

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. The Colombian economy has been relatively less volatile than several of its Latin American peers: during this period, it has experienced no hyperinflationary episodes (although, as discussed, 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 1999, with a trough in real growth of -4.2 percent in 1999, a relatively small contraction compared to other Latin American economies.¹

A more stable macroeconomic environment did not, however, foster long-term macroeconomic performance in Colombia relative to the rest of Latin America. As discussed before, real per capita GDP growth in Colombia was only slightly above the reference rate of 2 percent during the period. Figure 4 shows that the Colombian economy did not significantly outperform comparable Latin American economies. The growth experience reflected in figure 4 also coincides with the division of our time window: During the first period, the Colombian economy diverged from other Latin American economies; by 1970, Colombian GDP per capita reached a minimum of slightly less than 0.8 times that of the region. We name this period divergent fiscal dominance. During the second period, the Colombian economy converged relatively quickly, especially during periods of coffee booms, and after avoiding negative economic growth during 1980s. We name this period convergent fiscal dominance. Finally, the experience during the third period has been mixed: divergent during the first year and rapidly converging afterward (a trend that continues to this day). We name this period monetary dominance.

Relative stagnation in Colombia amid a stable macroeconomic environment can possibly be understood if we consider the complex relationship between financial repression and fiscal or monetary imbalances throughout our period of analysis. Prior to 1991, as discussed, fiscal deficits and monetary finance were small but frequent. At the same time, existing evidence indicates that policymakers routinely employed heavy financial repression to control key monetary aggregates (Hernández Gamarra and Jaramillo Echeverri 2017). Convergence was thus a matter of commodity price shocks. After 1991, although financial repression was gradually abandoned, macroeconomic imbalances began to build up, creating the conditions for the financial crisis of the late nineties. Afterward, the solid and stable macroeconomic framework has allowed the economy to reach a relatively rapid degree of convergence.

¹Bértola and Ocampo (2012) and Kodama (2013) highlight the low macroeconomic volatility that Colombia has experienced.

2 Data

To understand the role that monetary and fiscal policy has played in Colombia, we focus on how the national central government has financed its fiscal deficit since 1960. We exclude local governments and government-owned firms from our analysis for three main reasons. First, Colombia has a centralized government in which local governments finance their expenses mostly with transfers from the central government. Since 1968 the central government has been 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. Local governments can levy particular local taxes, and some local governments even issue bonds that are publicly traded, but the latter sources are not the most important for financing.²

Additionally, the national central government is in charge of shaping fiscal policy and is the only governmental body that may be able to influence monetary policy. Finally, we are able to collect consistent data on how the national central government finances its fiscal deficit that go back to 1960. Therefore, when we refer to debt, deficit, expenditures, income, and so on, we are referring to claims on the central national government.

We use data from Junguito and Rincón (2007) for most data series since 1960. We are not able to identify indexed debt, so we can only discriminate between debt issued in Colombia, which we denote as domestic debt, and debt issued abroad, which we denote as foreign debt. We assume that foreign debt is issued in US dollars and that domestic debt is issued in Colombian pesos, since debt issued in different currencies has little relevance.³ Our data allow us to discriminate between interest rate expenditures on domestic debt and those on foreign debt. It is worth mentioning that interest on domestic debt includes interest on loans by the central bank to the government before 1991. Similarly to how we deal with domestic and foreign debt, we assume that interest payments on foreign debt are in US dollars, while interest payments on domestic debt are in Colombian pesos.

We update most series from Junguito and Rincón (2007) using data from Banco de la República Colombia (the central bank). We also use data from the central bank for inflation

²According to the comptroller general of Colombia, by 2014 the debt of local governments represented around 3 percent of the debt of the national central government. Additionally, local governments are restricted regarding how much debt they can issue, as explained thoroughly in Sandoval, Gutiérrez and Guzmán (2000).

³The Colombian government issues bonds abroad, known as TES Global, that are denominated in Colombian pesos. Similarly, bonds have been issued in Colombia that are indexed to US dollars. Unfortunately, we can only identify the currency of the bonds issued until very recently. Even so, since 2001 the share of domestic debt indexed to US dollars was always below 9 percent and as of August 2009, all domestic outstanding debt has been in Colombian pesos. Foreign debt in Colombian pesos was first issued in November 2004 and has never represented more than 15 percent of the total. Also, since 2001 the share of foreign debt in US dollars has averaged more than 80 percent of the total outstanding debt.

and exchange rates. To update the series for interest payments on debt, we rely on the Ministerio de Hacienda.

Figure 5 shows the evolution of debt as a fraction of GDP. Three things are worth noting. First, since 1970 foreign debt has been 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 ten years, foreign debt has decreased, while domestic debt has continued increasing, although during the last five years, foreign debt has increased. As seen in one of the simulations below, this increase is not the result of a real exchange devaluation.

3 Periods of analysis

We identify three main periods in Colombia since 1960 that correspond to different dynamics in inflation, the fiscal deficit, the structure of financing of the deficit, and the institutional structure of monetary policy. The first period, divergent fiscal dominance, covers the window from 1960 to 1970; the second, convergent fiscal dominance, period covers the nineteen years from 1971 to just before the promulgation of a new constitution in 1991; and the third and final period, monetary dominance, spans from 1991 to 2017, which is the latest data point in our analysis.

Table 1 summarizes the budget accounting for the three periods that we analyze. The economic institutions mainly determined the main source of government financing of its deficit: monetary emission in the first two periods and domestic debt in the final ones. Together with variations in the predominant source of financing, changes in the main components of the fiscal deficit took place over time. More specifically, we observe that until the early 1990s, most of the fiscal 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 6). 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. Both the primary deficit and the fiscal deficit peaked in 1999. Figure 7 shows the evolution of the fiscal deficit and its main sources of financing throughout our time window.

Before proceeding to a detailed analysis of the three periods, we provide some elements of the historical background of the joint determination of monetary and fiscal policies prior to 1960. Since the creation of the Banco de la República Colombia in 1923, the law opened the

door to the possibility of the central bank extending direct loans to the central government. Despite the nominal independence of the central bank (the minister of finance only became a member of the board of directors of the central bank 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 practice composed fully by members of the government, and lasted until the constitution of 1991 made it harder for the central bank to make loans to the government (Hernández Gamarra and Jaramillo Echeverri 2017).

3.1 1960–1970: divergent fiscal dominance

The first period had the lowest average fiscal deficit of the three periods under analysis: 0.43 percent of GDP. Although characterized by fiscal dominance, inflation was also relatively low during this period, mainly because throughout the decade, the size of the government was small: its expenditures fluctuated between 5 and 7 percent of GDP. One reason why financing needs were small throughout this period was the steady increase in tax revenues (see figure 8).

A notable exception to the low inflation during this period is 1963, a year that saw a one-off spike in inflation that reached the maximum observed for our sample (33.6 percent). This is also the year with the highest fiscal deficit: 1.2 percent. However, this deficit was financed mainly by foreign debt, and the monetary base even decreased.

During this period, a key change in the institutional structure of monetary policy was put into place. Specifically, the monetary reform of 1963 created the monetary board, which was in charge of monetary, credit, and exchange policy, aimed at contributing to the financing of those sectors of the economy considered crucial for long-term economic development.⁴ The monetary board would remain in charge of monetary policy until the constitution of 1991. The switch toward a monetary policy with functions akin to those of a development bank and more directly controlled by the government naturally had implications for the financing

⁴According to Hernández Gamarra and Jaramillo Echeverri (2017), from 1951 to 1963, monetary policy was under the control of private entities (among them, private banks), delegated by the government to administer monetary and exchange policy in the interest of an “ordered development of the Colombian economy.”

of the fiscal deficit, as will be seen more clearly in the next subsection.

In terms of exchange policy, prior to 1967 Colombia had a complex system of multiple fixed exchange rates, which were often adjusted (figure 9). This system was abandoned in 1967 in favor of a single, tightly controlled crawling peg with a positive slope. The change responded not only to the exchange anarchy of the previous period but also to a textbook first-generation balance of payments crisis in 1966: an increase in the central bank's credit to the government and a relative stagnation in foreign exchange reserves (see figure 10). Naturally, a key ingredient of the regime was tight control of all transactions in foreign currency. This exchange regime lasted until the early nineties after the promulgation of a newly independent central bank.

3.2 1971–1990: convergent fiscal dominance

The second period of our analysis was characterized, first, by larger and more persistent inflation and fiscal deficits. During this period, average inflation increased to 23.1 percent and fiscal deficits doubled on average compared to the previous period (1.05 percent). Given the institutional structure brought about by the monetary board, this period can be understood as one in which fiscal dominance prevailed: increasing fiscal deficits during specific periods (particularly around the financial crisis of the early eighties) were matched by heavy use of credit from the central bank and high average inflation. During this period, monetary emission rose to prominence as the main instrument to finance the fiscal deficit, followed by foreign debt (0.31 percent).

Contrary to other emerging economies, foreign borrowing was not the rule during the second half of the seventies. There is a clear reason for this. After decades of stability around US\$1 per kilo, the price of Colombian coffee rose almost six times in real dollars over the course of just two years, from 1975 to 1977 (see figure 11). These developments helped to bring about a period of fast economic growth (see figure 12) and reduced external financing needs, for coffee was at the time the most important export commodity produced in a relatively undiversified Colombian economy. Figure 13 illustrates this fact: coffee exports accounted for over 10 percent of GDP in some years. At the peak of the boom in 1977, the economy grew at almost 8.5 percent in real terms. The coffee boom increased the tax revenue for the government via taxes on coffee exports.

After the coffee boom ended, the government resorted to international capital markets to fund increased government expenditures. From 1977 until 1982, government expenditures grew quickly, increasing the relative size of the state almost by half (the ratio of government expenditures to GDP grew from 5.6 percent to 8.2 percent during these five years). The

main reason for this increase in government expenditures was the deep financial crisis that hit the Colombian economy in 1982, which led to the nationalization of banks and to the central bank using monetary emission to finance loans to credit-choked productive sectors.

According to Caballero Argáez and Urrutia Montoya (2006), the financial crisis was the result of increased financial repression during the coffee boom years, which led to financial innovations oriented toward speculative investments and occasionally evading regulatory controls.⁵ When the Banco Nacional was intervened by authorities in June 1982 (and the Banco del Estado in October of the same year), the ensuing loss of public confidence in the financial system forced the central bank to use its lender of last resort facilities, in a first stage, eventually followed by the decree of outright nationalization powers to the central government. In early 1983, the monetary board used monetary emission to provide discount credit to credit-choked productive sectors as well, in a context in which the default of domestic banks to international financial institutions created additional hardship for the ability of the central government to obtain financial support abroad. In 1985, the government created the National Fund for the Guarantees of Financial Institutions (Fondo de Garantías de Instituciones Financieras—Fogafín), in charge of administering the deposit insurance fund and a resolution fund for financial institutions. Through Fogafín, the government nationalized, among other institutions, the largest bank of the system.⁶ The nationalization operations consisted mostly of a bailout of financial institutions funded with monetary emission through the injection of fresh capital and the assumption (by the government) of earlier debts of banks with the central bank.

The financial crisis helps to explain the increase in both the fiscal deficit and the stock of debt. The combination of these elements forced the Colombian government to rely heavily on monetary emission from the central bank as its main source of financing after 1982. After 1982, there was a prevalence of direct loans from the central bank to the government in the financing of the fiscal deficit: during the period between 1982 and 1986, an average fiscal deficit of 2.26 percent of GDP was mostly financed with credit from the central bank. Despite the financial crisis, it cannot be said that the decade of the 1980s was a lost decade for the Colombian economy, insofar as economic growth between 1980 and 1991 averaged 3.31 percent per year (more than double that of Latin America as a whole).

⁵A favorite mechanism for regulated institutions to evade controls was the use of complex operations between financial and real sector firms belonging to the same financial conglomerate. Later in this chapter, we will elaborate on the relationship between financial repression and monetary policy in Colombia.

⁶At the end of 1983, the crisis hit the largest bank of the system (Banco de Colombia) after years of mismanagement, complex lending operations to firms belonging to the Banco's conglomerate funded with deposits, illegal foreign currency loans to the same firms through the Banco's branch in Panama, nonperforming loans, and default to international financial institutions. The Banco de Colombia was finally nationalized in January 1986.

It is interesting to note that, even though fiscal deficits were relatively low, inflation averaged over 20 percent during this period. A possible explanation is related to the institutional setup at the time. The resources that the central bank generated (growth of monetary base and seigniorage) did not necessarily correspond to what it transferred to the government. To analyze this point further, we rely on García García and Guterman (1988) to account for the resources that the government used to finance its deficit, instead of implicitly deriving them from the series of monetary base and debt. Comparing figures 7 and 14, we conclude that the actual resources that the government received from the central bank were greater than what was implied by the growth of monetary base. This is consistent with the fact that the central bank lent directly to the government, besides transferring seigniorage.

Before proceeding to the next period of analysis, an important legacy of this period needs to be mentioned. An important consequence of an underdeveloped financial system was the absence of a well-developed mortgage credit market. To address this, in 1974 the Colombian government established special financial institutions named CAVs (savings and home corporations), whose main goal was to supply mortgages. To address the negative effects of inflation, CAVs were authorized to issue loans denominated in UPACs (constant purchasing power units), indexed first to inflation and eventually to a measure of the nominal interest rate of the economy. CAVs funded these loans through deposits, whose return was also indexed to UPACs. At a point in time when deposit rates were capped, CAVs were able to increase their market share considerably. By 1985 they held 14.5 percent of all financial assets, just eleven years after coming into existence (Hernández Gamarra and Jaramillo Echeverri 2017).

3.3 1991–2017: monetary dominance

The third period in our story begins in 1991, with the promulgation of the new political constitution of Colombia, and includes the worst economic and financial crisis since the early twentieth century. This period was mainly characterized by the predominant use of domestic debt instruments to finance primary deficits, the virtual disappearance of monetary financing sources, and the gradual disinflation of the economy. Average inflation throughout this period fell to 10.12 percent (4.87 percent after 2000) despite fiscal deficits ballooning to an average of 3.27 percent. This period is characterized by an institutional switch of the Colombian economy to monetary dominance: larger fiscal deficits forced the government to resort to domestic and international capital markets and to respect a certain degree of fiscal sustainability, especially after the fiscal crisis of 1999. During this period, monetary financing was mostly in the form of transfers of profits from the central bank.

The promulgation of a new political constitution of Colombia in 1991 radically changed 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 chapter. First, the constitution entailed a new arrangement between the central and the regional governments regarding 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 on 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 any time 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 in which the minister of finance had only 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 under this guise. To date, the independent central bank has never granted any direct loans to the central government.

One major change was the foreign exchange policy. After twenty-four years, the foreign exchange rate was allowed to be partially determined by market forces. Additionally, Colombia opened its borders to goods (import tariffs were lowered from an average of 43.7 percent in February 1990 to 11.7 percent by March 1992) and capital flows (Ocampo G. 1998). An important degree of exchange control was kept by the central bank in the form of crawling corridors for the nominal exchange rate, within which the nominal exchange rate was market determined, and the central bank intervened only in case the rate got close to the corridor limits. Originally bands were specified to have a width of 7 percent relative to a medium level established by the central bank, as it was believed that this width was enough to adjust to shocks to the real exchange rate. The medium level was specified to crawl upward over time, according to the difference between expected domestic inflation and foreign inflation. In June 1999, the width of the bands was increased to 14 percent, a few months before the band system was abandoned in September 1999 (see figure 15, where the band is depicted by a dotted red line). Since that time, 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 8), mostly in social security (Ocampo Gaviria 1997). The size of the government almost doubled between 1991

and 1999, as the ratio of central government expenditures to GDP increased from 8.9 percent to 16.9 percent. Tax revenues did not increase at the same pace, though, thereby generating an increasing primary deficit. In 1999 the fiscal deficit reached 6.4 percent of GDP, the highest mark in our sample.

During this period, inflation went from almost 30 percent to the low single digits (figure 16). The fastest decreases in inflation occurred during the 1990s. The foreign exchange policy played a role in these dynamics. As figure 17 shows, during the first years of the 1990s, the exchange rate bands caused expected devaluation to decrease. The nominal exchange rate followed this path as well. During the second half of the decade, this pattern reversed, but at this point, inflation was already in a decreasing pattern. In 2000, after the worst economic crisis in record (to be discussed shortly), inflation reached the single digits for the first time since the 1970s.

Figure 7 documents the financial structure that characterizes this period. First, as a result of the constitutional reform to the central bank, monetary financing decreased. According to the law, seigniorage financing is 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 privatize key industries (mainly energy and coal), thus obtaining temporary financing worth up to 1.6 percent in 1996.

Last, 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 boosted the development of domestic money markets and became the predominant source of government finance until the present (by 2005, TES net emissions reached 3.7 percent 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 percent implicit in 1995) in a context in which financial repression in the form of forced investments in public debt was gradually being abandoned. The increase in the stock of domestic debt came hand in hand with a sustained increase in foreign exchange reserves in the early 1990s (figure 18).

In the transition between a fiscal deficit predominantly financed with monetary 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 indicate that the stock of government debt was progressively (that is, as payments to the central bank became due) swapped with TES, with which the central bank could perform monetary operations with financial intermediaries. As can be seen in figure 19, 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 1991.⁷

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 and a consequent increase in interest payments to international capital markets (figure 6). The dramatic fiscal consequences of the eventual sudden stop are evident in figure 20, with an abrupt reversal of the current account deficit. In fact, by the second quarter of 1999, there was a current account surplus.

The recession lasted from 1998 to 2000; real GDP fell by 4.2 percent in 1999, the worst contraction since records began. The central government entered a standby agreement with the International Monetary Fund, which forced a macroeconomic adjustment via the gradual reduction of the primary deficit. This was achieved through a reform of the transfers arrangements to regional governments and a series of tax reforms starting in April 2000, which gradually increased tax revenue (the effect of this reform on tax revenue is evident in figure 8 as a change in the slope of the ratio of revenues to GDP). Both the interest expenditure and the stock of foreign debt fell gradually, whereas the interest expenditure and the stock of domestic debt stabilized, with net TES emissions fluctuating around 2.5 percent of GDP in subsequent years.

An important component of the recession was its coincidence with the deepest financial crisis in Colombian history. Because of the exchange rate bands, monetary policy naturally was partially subordinated to foreign exchange rate policy. The sudden stop that the country endured came hand in hand with devaluation pressures. The reaction of the central bank was twofold: first, it shifted upward the exchange rate bands (figure 15), arguing that the fundamentals of the economy had changed because of the Southeast Asian and Russian crises of the late 1990s; second, the central bank defended the exchange rate band by intervening heavily in the foreign exchange rate market, which led to an important decrease in foreign exchange reserves (figure 18), and, crucially, by increasing the nominal interest rates of the economy.

As briefly discussed in the previous subsection, most of the mortgage credit market used loan instruments indexed to the nominal interest rate. The rise in real interest rates (accompanied by higher inflation and nominal depreciation) induced a large increase in nominal rates, leading to a sharp increase in the debt service ratios of a large number of Colombian households. The ensuing increase in the default rate of mortgage loans (the largest since records began) hit CAVs especially hard, leading to the bankruptcy of several

⁷The ability of the central bank to purchase TES in secondary markets does not constitute seigniorage or monetary emission to finance the fiscal deficit inasmuch as interest rates are market determined.

of them, their acquisition by larger banks, and their disappearance as a class of financial institutions. To this day, mortgage credit as a share of GDP has not reached the levels observed previous to 1999.

The financial crisis of 1999 was thus fundamentally different from the crisis of 1982. It was especially different in a key aspect: in 1999, the central bank also heavily used its lender of last resort facilities, but unlike in the eighties, it was not allowed to finance bailout operations with monetary emission. The nationalization of banks (among them, Granahorrar—the largest CAV) was administered on this occasion by Fogafín, which capitalized troubled banks issuing bond instruments backed by the government.⁸

In 1999 the exchange rate was allowed to float (almost freely). The benefits of this floating have been twofold: monetary policy could focus on controlling inflation instead of reacting to the exchange rate, and the nominal exchange rate could respond to foreign shocks (figure 15).⁹

After 1999, with an exchange rate that could adjust to market conditions, monetary policy could focus on achieving a low level of inflation. Beginning in 2001, the central bank adopted a full inflation-targeting scheme, established an explicit inflation target, and stated a long-term inflation goal of 3 percent. At the dawn of the twenty-first century, the Colombian economy entered a long expansionary period. Unlike the previous booms discussed in this chapter, on this occasion, economic growth was not accompanied by increasing primary deficits. This was 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 to a ten-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) amid the global financial crisis of 2008–2009 and the continued ability of the central government to finance primary deficits throughout the period. In fact, for the first time ever, the central bank was able to implement a countercyclical policy and lower its policy rate as the growth of the economy decreased.

⁸The government also promulgated laws to alleviate the debt service ratio of mortgage borrowers. According to Caballero Argáez and Urrutia Montoya (2006), the total cost of the crisis to Fogafín reached 9.7 percent of the GDP in 1998. A total of thirty-five financial institutions were intervened for liquidation by the authorities.

⁹It is interesting to note, though, that in 2016 the central bank had to increase its policy rate in part because of an important devaluation in the nominal exchange rate that resulted in a pass-through in inflation, even as the real growth of the economy was low.

4 Debt simulations

In analyzing how the government financed its fiscal deficit, we treat transfers as a residual. In this section, we analyze the role that these transfers played in the dynamics of debt. Figure 21 contrasts the observed evolution of debt to GDP with the implied evolution of debt had transfers equaled zero every year. The cumulative effect of transfers accounts for close to slightly over 60 percent of GDP by the end of the period of analysis, which implies average transfers of 1 percent of GDP.

We also analyze the role played by the real exchange rate in debt dynamics. In figure 22 we compare the observed dynamics of debt to GDP with the implied evolution of debt with a fixed real exchange rate. The real exchange rate of 2007 is close to the average real exchange rate across our sample, so the implied evolution of debt keeps the real exchange rate fixed to the observed real exchange rate of that year. It is worth noting that both lines follow essentially the same path for most of the period, and at low levels. This is consistent with the fact that debt was low up until the early nineties. Episodes such as the real exchange rate appreciation of the late seventies and the real exchange rate devaluation of the mid-eighties are evident, but the disparity is not considerable.

The real exchange rate appreciation of the early nineties is not perceptible since this event coincides with a surge in domestic debt. The real exchange rate devaluation after the economic crisis of the late nineties is evident, however, and accounts for slightly more than 6 percent of GDP in 2002.

5 Discussion

One implication of the framework in chapter 2 is that inflation will naturally result as a consequence of fiscal deficits when there is fiscal dominance. When there is monetary dominance, fiscal deficits need to be relatively controlled, otherwise risking costly fiscal or financial crises. In the end, the question of fiscal or monetary dominance is a question about the institutional structure (determined by historical, economic, and political factors) of a given country.

In the case of Colombia, the period between 1960 and 1990 is one in which the institutional structure of monetary policy clearly configured an equilibrium of fiscal dominance, chiefly through the lack of independence of the central bank from the government and its goal of promoting economic development in a context of heavily controlled foreign exchange markets. Within this period (1960–1970), inflation was relatively low when fiscal deficits were low and duly increased under the expectation of widened fiscal deficits in the late seventies and

early eighties. In contrast, the institutional reforms created by the constitution of 1991 promulgated monetary dominance in the form of a newly independent central bank. In this context, larger fiscal deficits could not be financed by monetary emission and left the economy exposed to external financing shocks. Since 2000, an equilibrium with monetary dominance and enhanced fiscal discipline mechanisms has allowed the Colombian economy to maintain macroeconomic stability and gradually lower inflation.

It has been argued elsewhere that a reason for the macroeconomic stability that Colombia endured throughout its history is the memory of a hyperinflation episode at the beginning of the twentieth century, during a civil war. In four years (1900–1903), inflation was over 50 percent per year, and in 1901 it reached 327.6 percent. This led the economic authorities of the time to create a new currency, also named the peso, by slashing two zeros from the previous currency. With this change, the new peso was at parity with the US dollar (Junguito and Rincón 2007). A practical question that is left to be addressed is why and how, during the prolonged period of fiscal dominance between 1960 and 1991, inflation never increased to levels remotely comparable to those of other Latin American economies that suffered recurrent hyperinflationary episodes.

One potential explanation in this respect has been proposed by Hernández Gamarra and Jaramillo Echeverri (2017) in the form of the dynamic relationship between monetary discipline and financial repression in Colombia. Even though macroeconomic imbalances were not large prior to 1991, this was not necessarily because policies were prudent. Financial repression may have helped to avoid large, undesirable macroeconomic fluctuations. This is consistent with the fact that although macroeconomic volatility was low, the Colombian economy did not catch up perceptibly faster than other Latin American countries. It is also consistent with the fact that the Colombian experience of fiscal dominance only yielded convergence to other comparable Latin American economies as a consequence of commodity price shocks (particularly coffee booms).

Specifically, Hernández Gamarra and Jaramillo Echeverri (2017) argue that there is a historical, 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 necessarily follow suit, which might help to explain why inflation in Colombia never went beyond 30 percent per year during this period. The reason for this negative comovement is consistent with the active use of reserve requirements throughout the period. In fact, the (inverse of the) money multiplier moves hand in hand with the reserve requirements (see figure 24). Together, figures 23 and 24 suggest that when the monetary base increased, the monetary authorities also increased the reserve requirements. In this way, the extra cash that was printed by the central bank did not necessarily translate into more loans.

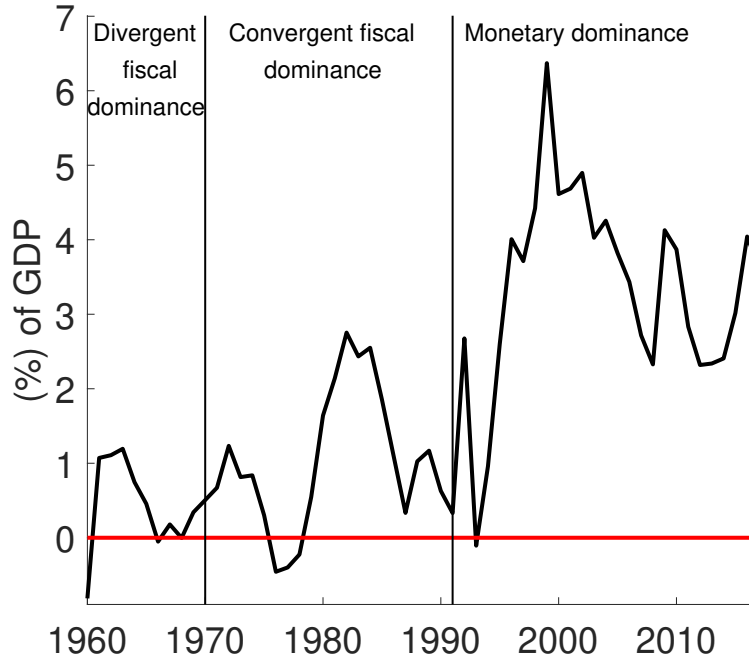
In particular, reserve requirements were actively used to counteract economic events, which caused a rapid accumulation of foreign exchange reserves. For instance, during the coffee boom of the late 1970s, foreign reserves doubled from 1975 to 1976 and reached US\$1.0 billion (b). Two years later, they reached US\$2.5 b. In 1977 the monetary board imposed a marginal reserve requirement of 100 percent on deposits over the level observed by January 31, 1977. Additionally, reserve requirements increased from 34 percent to 46.5 percent in various reforms in the following two years (Avella Gómez 2007). Consistent with this argument, the short-lived spike in inflation during the early 1980s may have been related to the fact that higher growth in monetary emission was not immediately accompanied by either rises in the reserve requirement or reductions in the money multiplier.¹⁰

Since 2000, the combination of monetary dominance and fiscal discipline has allowed the economy to achieve macroeconomic stability without the need for financial repression. The fact that GDP growth in Colombia remained well above zero during the global financial crisis of 2008–2009 is indicative of the increased resilience of the economy to external shocks. Together with fiscal discipline, an enhanced prudential financial regulation since 1999 has also been a key factor behind the macroeconomic stability in Colombia, and behind a relatively rapid convergence to the GDP per capita of other Latin American economies.

¹⁰The argument proposed here of a policy mix of money growth and financial repression implies a broader understanding of money supply in the context of a simple government budget constraint, as detailed in earlier sections. In this case, seigniorage revenues would be interpreted as also including those earned as credit expansion from a repressed banking system. In this sense, with higher financial repression, monetary emission would correspond to a larger share of seigniorage revenues.

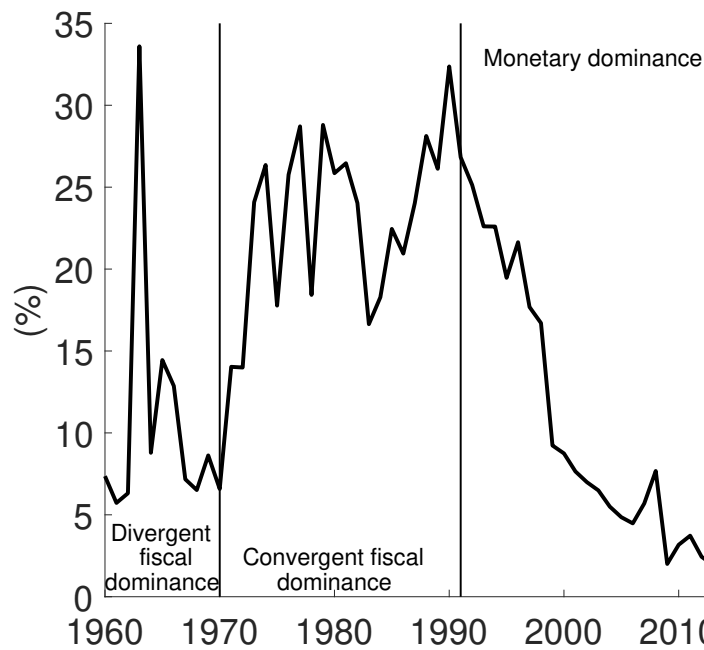
Table 1: Summary of Budget Accounting (%)

	$\Delta\theta^N$	$\xi\Delta\theta^*$	Δm	Seigniorage	Return on domestic debt	Return on foreign debt	T	D
Divergent fiscal dominance	0.25	0.28	0.07	0.83	-0.52	-0.19	2.01	0.15
Convergent fiscal dominance	-0.17	0.00	-0.09	1.48	-0.61	-0.32	1.65	0.50
Monetary dominance	0.97	0.30	0.16	0.79	0.19	0.14	1.11	0.78
1960–2017	0.44	0.19	0.06	1.04	-0.22	-0.09	1.47	0.56

Figure 1: Fiscal deficit, 1960–2017

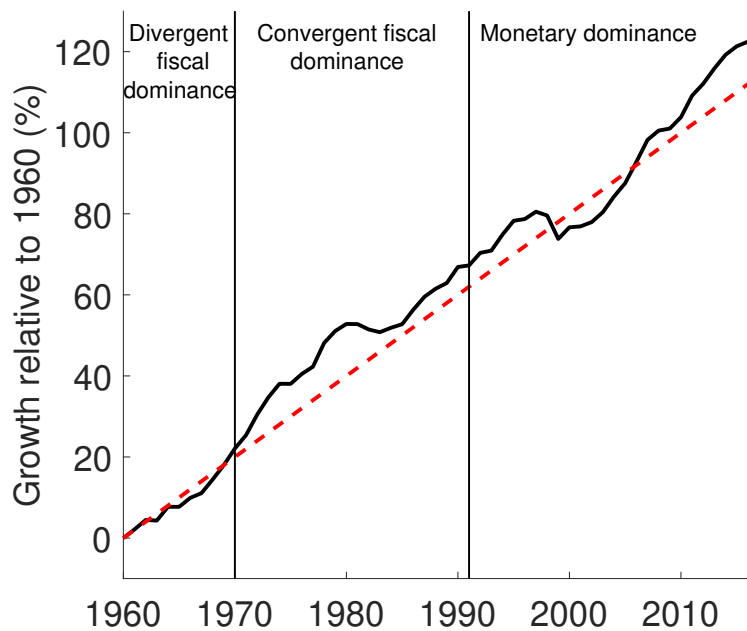
Sources: Junguito and Rincón (2007), Banco de la República Colombia.

Figure 2: Inflation, 1960–2017



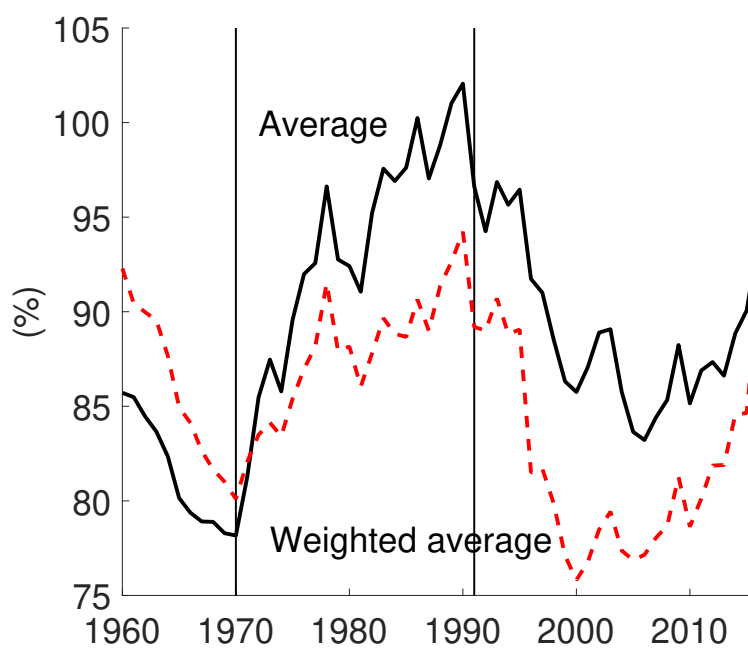
Sources: Banco de la República Colombia, authors' calculations.

Figure 3: Real GDP per capita versus 2 percent counterfactual, 1960–2017



Sources: World Bank, authors' calculations.

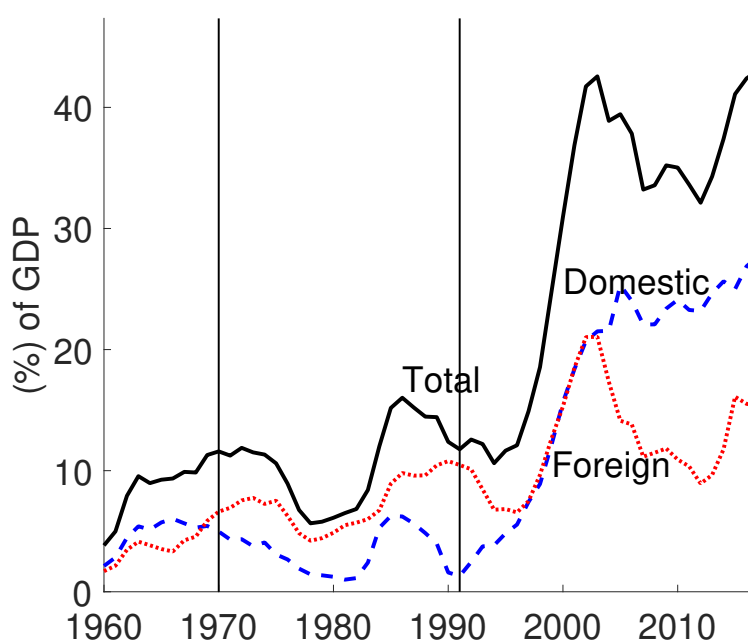
Figure 4: Relative GDP per capita



Source: Bolt et al. (2018)

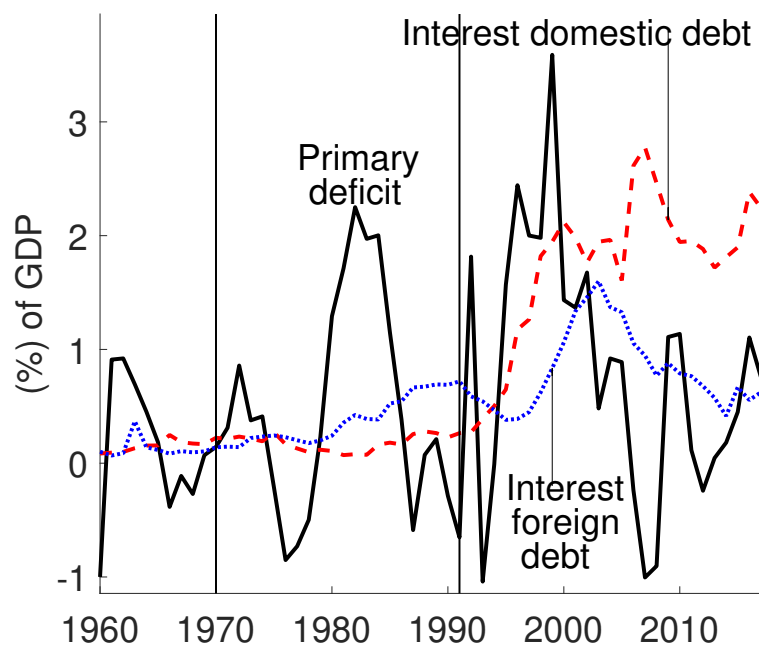
Note: “Weighted average” is the average of GDP per capita for Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Paraguay, Uruguay, and Venezuela, in 2011 dollars, weighted by population.

Figure 5: Debt to GDP



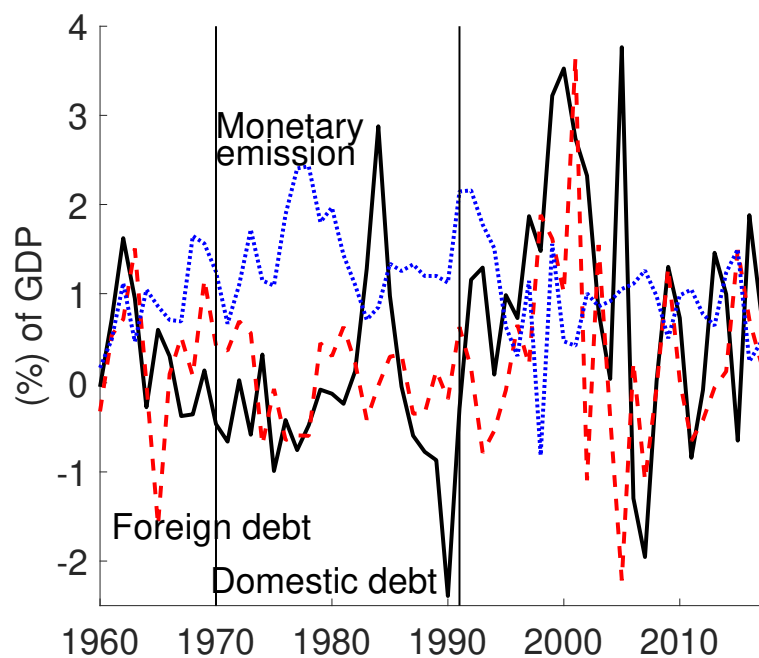
Sources: Junguito and Rincón (2007), authors' calculations.

Figure 6: Primary deficit and interest payments



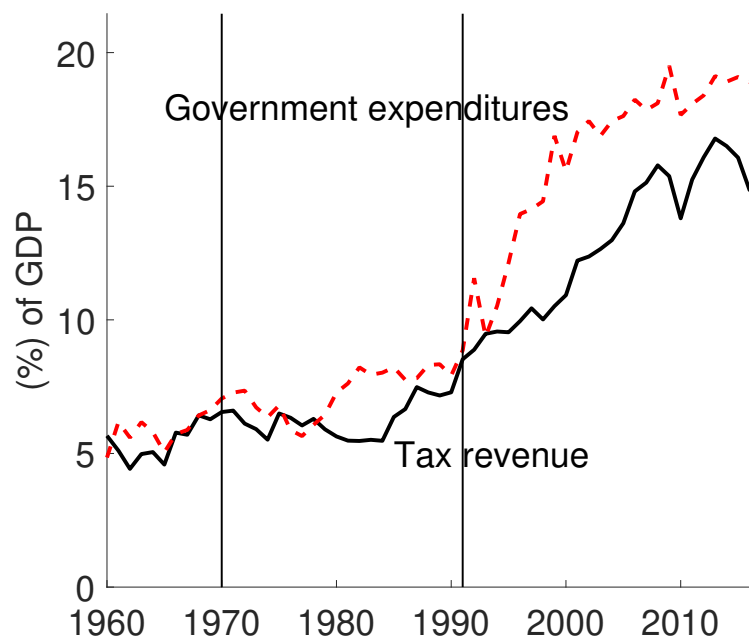
Sources: Junguito and Rincón (2007) and Banco de la República Colombia, authors' calculations.

Figure 7: Financing



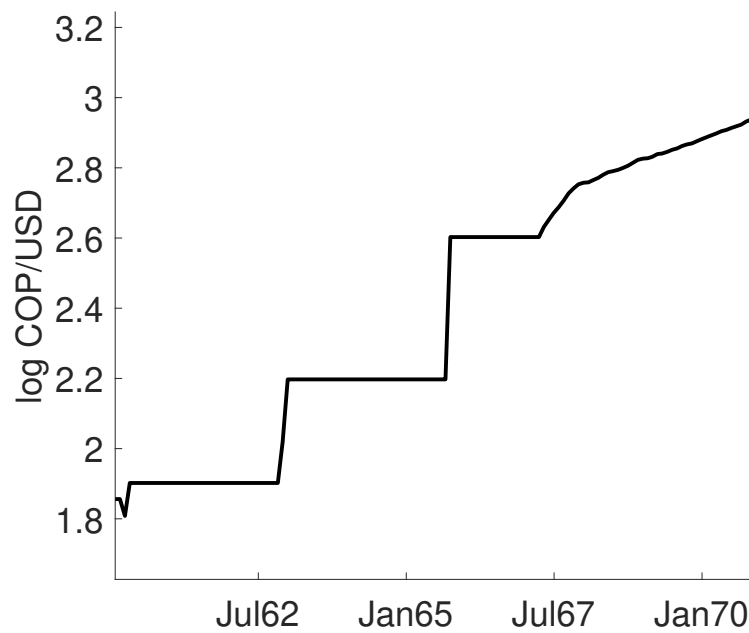
Sources: Junguito and Rincón (2007) and Banco de la República Colombia; authors' calculations.

Figure 8: Government expenditures and tax revenue



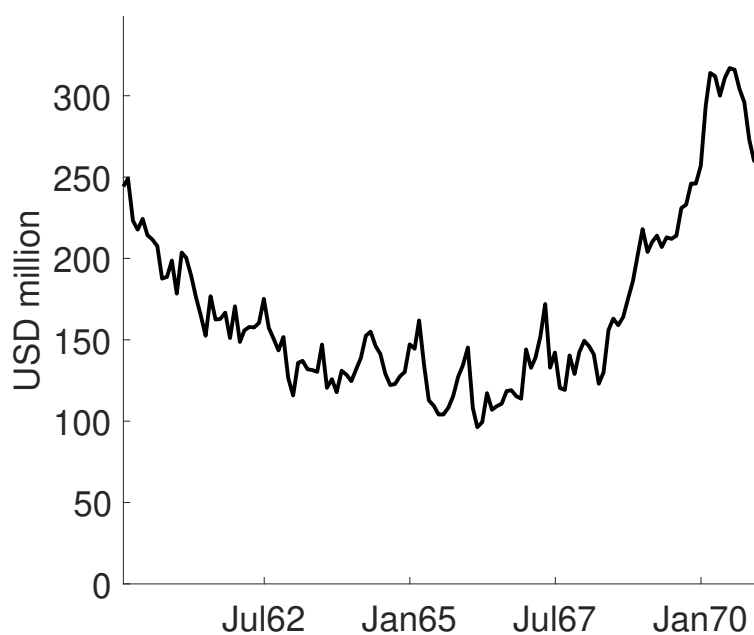
Sources: Junguito and Rincón (2007) and Banco de la República Colombia; authors' calculations.

Figure 9: Nominal exchange rate, 1960–1970



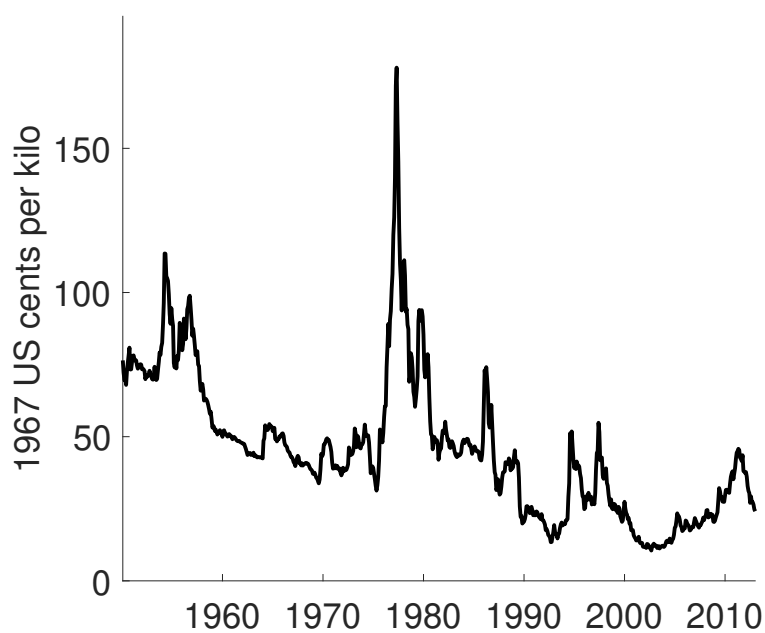
Source: Banco de la República Colombia.

Figure 10: Foreign exchange reserves, 1960–1970



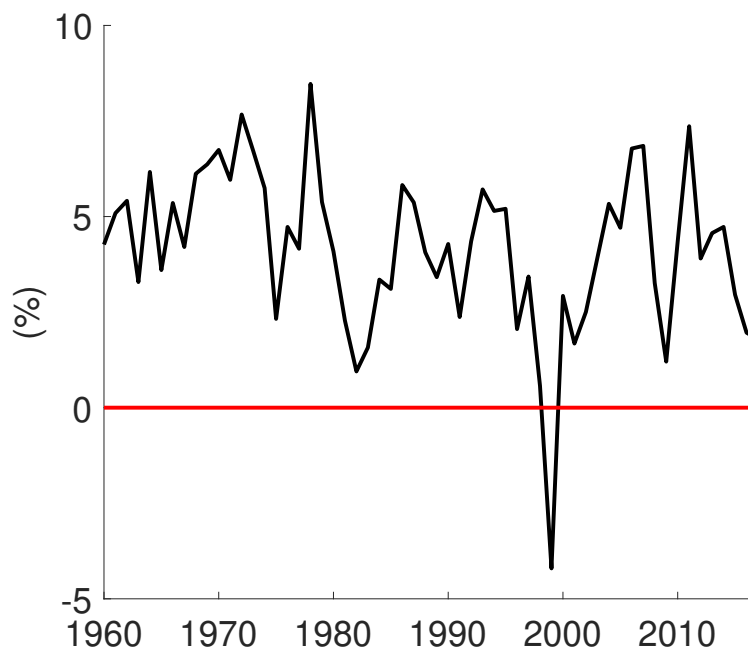
Source: Banco de la República Colombia.

Figure 11: Price of Colombian coffee



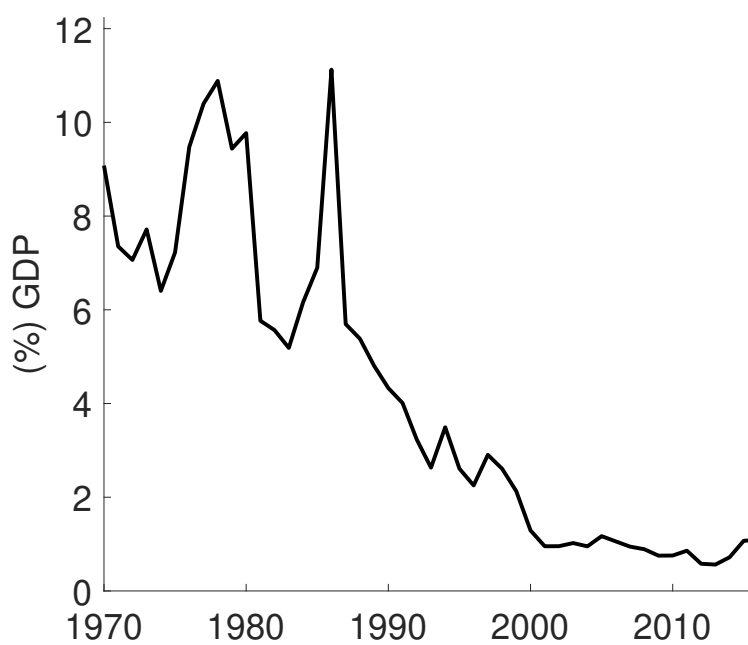
Sources: Colombian Coffee Growers Federation, authors' calculations.

Figure 12: Real GDP growth



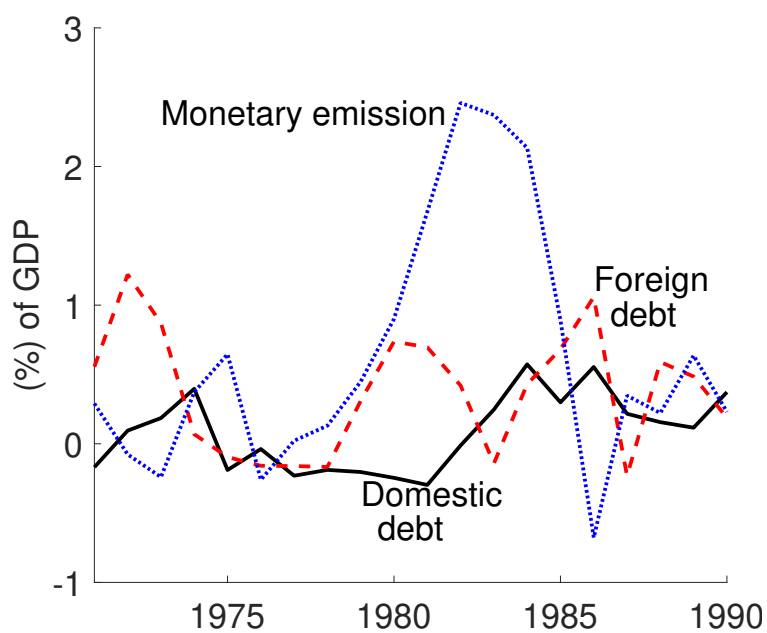
Sources: Junguito and Rincón (2007) and Banco de la República Colombia; authors' calculations.

Figure 13: Exports of coffee relative to GDP



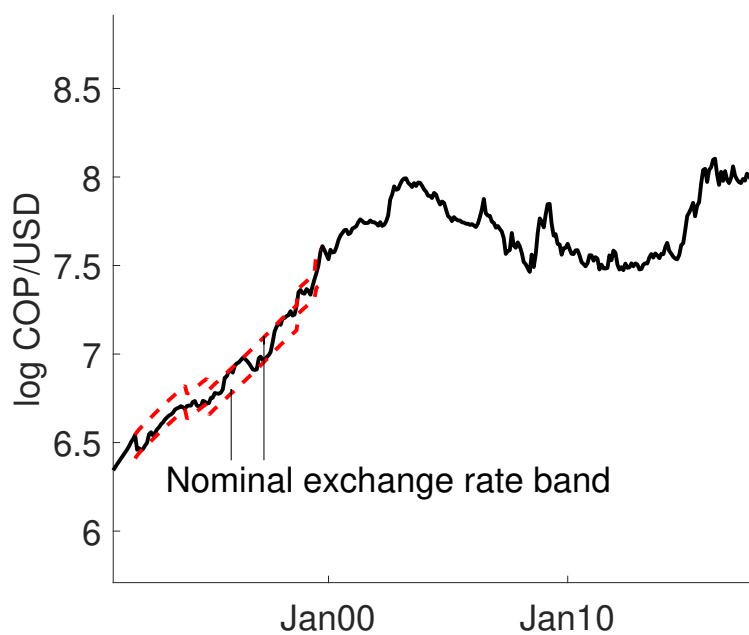
Sources: Banco de la República Colombia and World Bank; authors' calculations.

Figure 14: Alternative measure of financing



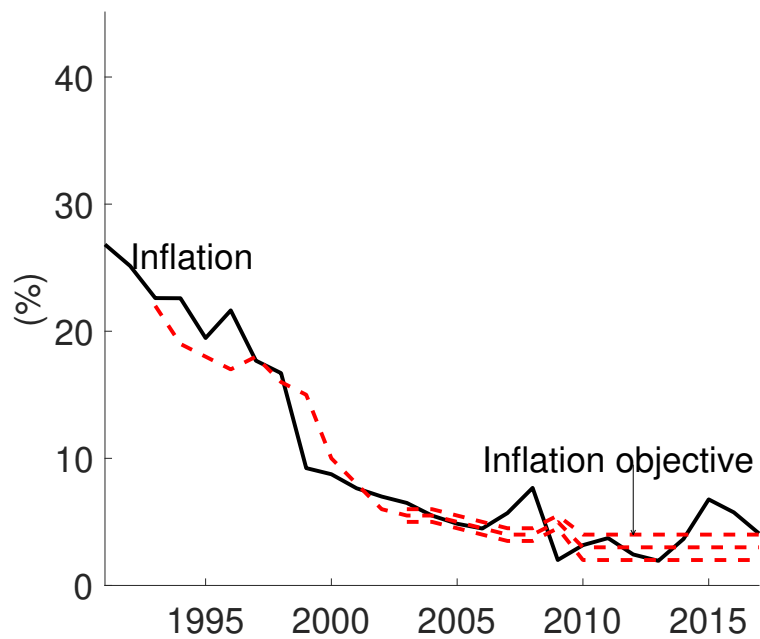
Sources: García García and Guterman (1988), authors' calculations.

Figure 15: Log nominal exchange rate, 1991–2017



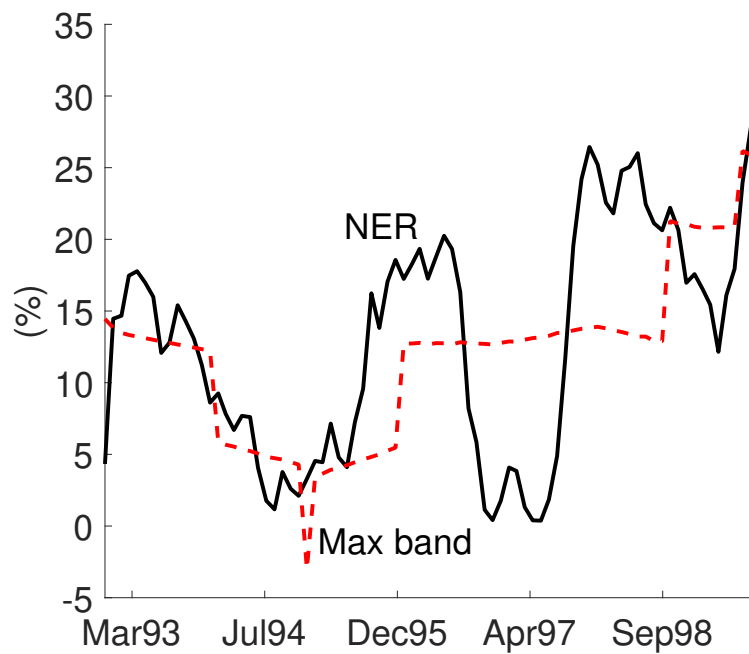
Source: Banco de la República Colombia.

Figure 16: Inflation, 1991–2017



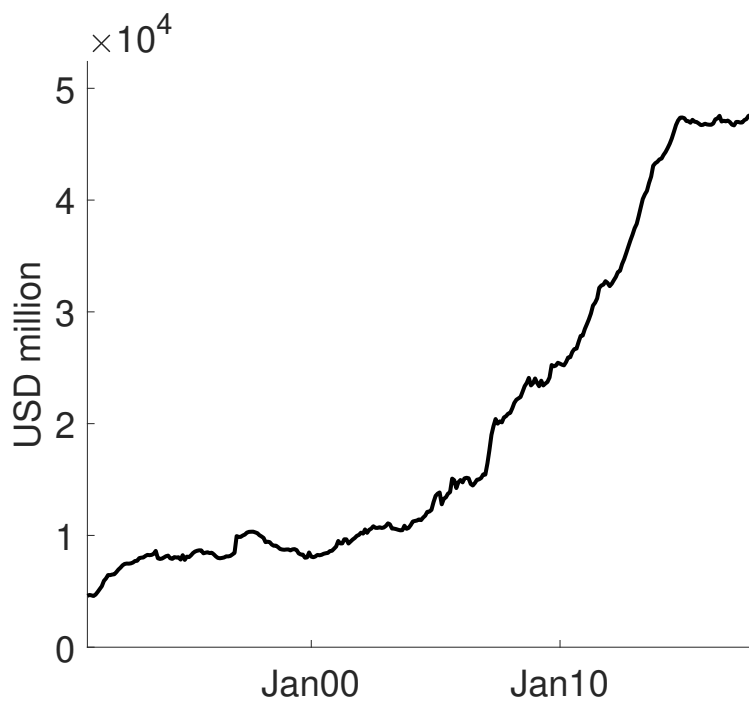
Source: Banco de la República Colombia.

Figure 17: Expected and realized devaluation



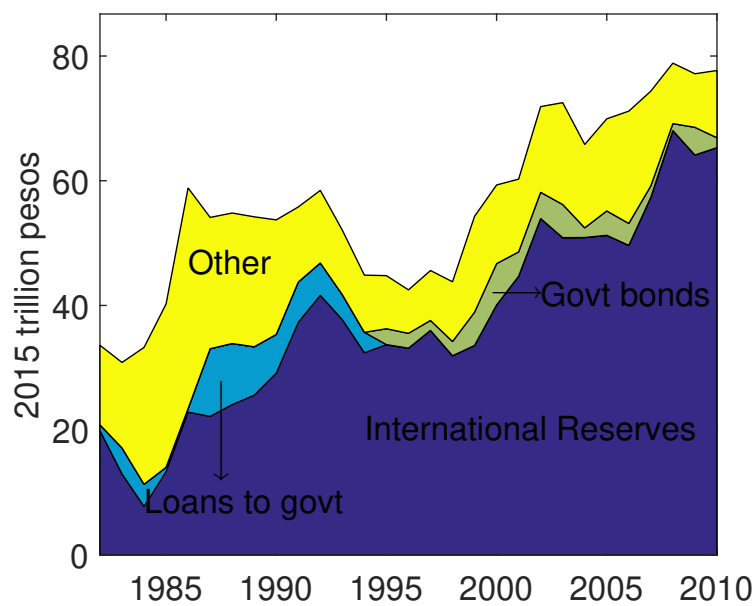
Source: Banco de la República Colombia.

Figure 18: Foreign exchange reserves, 1991–2017



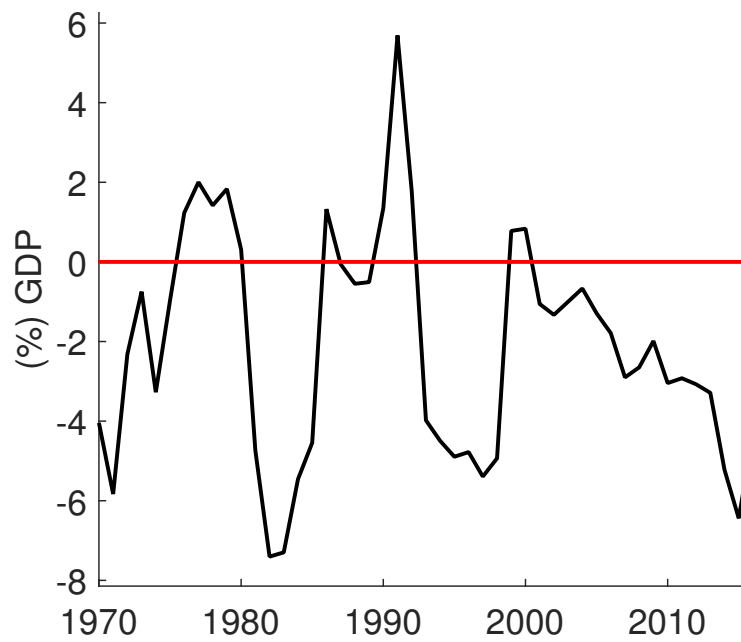
Source: Banco de la República Colombia.

Figure 19: Balance sheet of the central bank



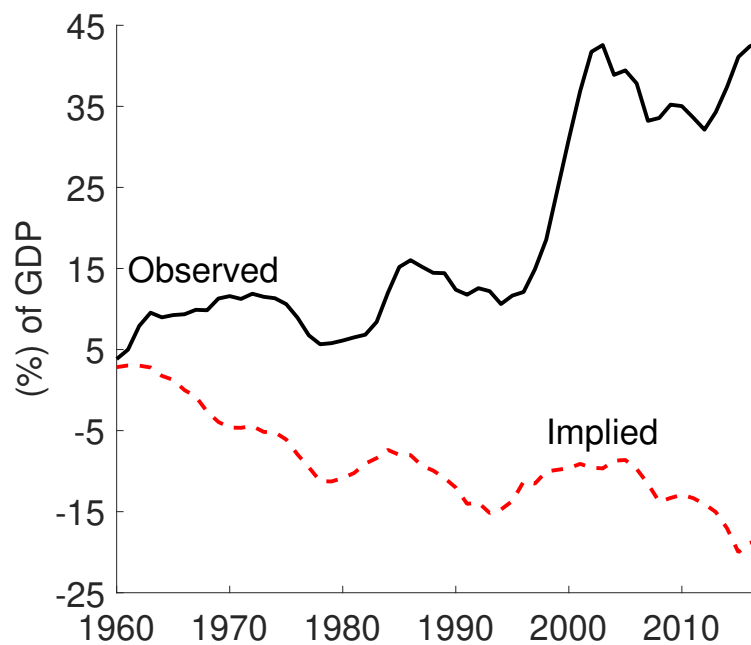
Source: Banco de la República Colombia.

Figure 20: Current account as a share of GDP



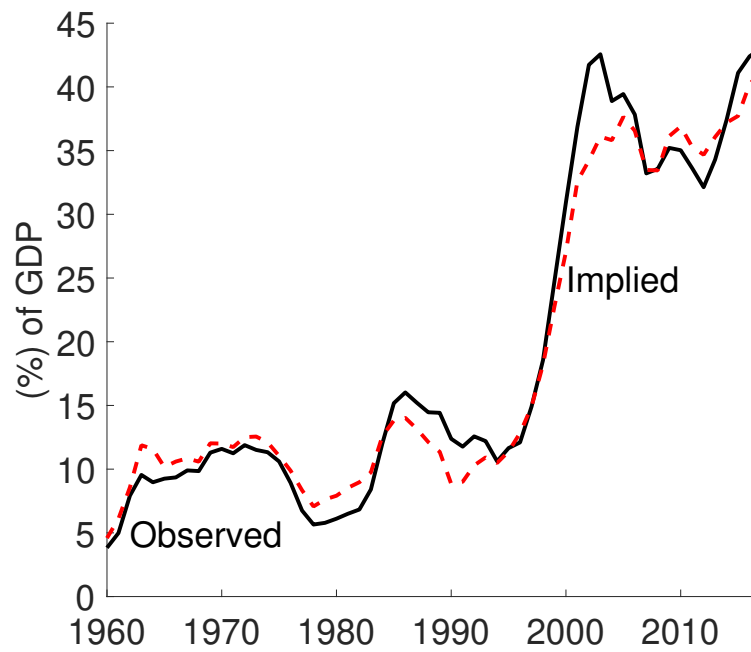
Source: Banco de la República Colombia.

Figure 21: Isolating effect of transfers on debt dynamics



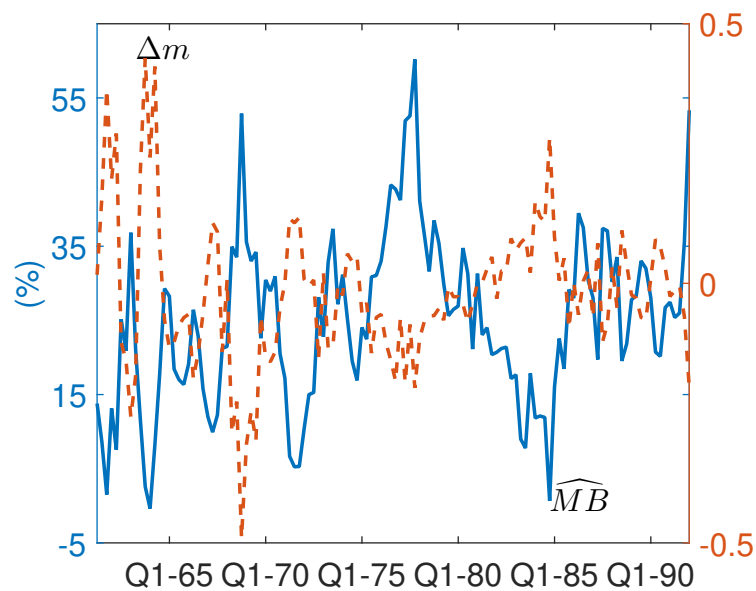
Sources: Junguito and Rincón (2007), Banco de la República Colombia, authors' calculations.

Figure 22: Isolating effect of real exchange rate on debt dynamics



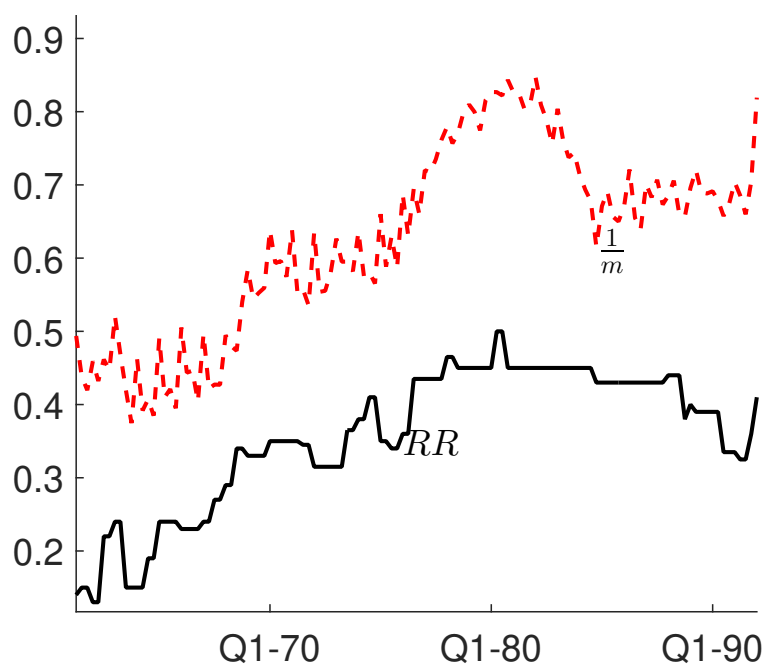
Sources: Junguito and Rincón (2007), Banco de la República Colombia, authors' calculations.

Figure 23: Annual growth of the monetary base and annual change of the money multiplier



Sources: Hernández Gamarra and Jaramillo Echeverri (2017), authors' calculations.

Figure 24: Reserve requirements and inverse of money multiplier



Sources: Hernández Gamarra and Jaramillo Echeverri (2017) and Avella Gómez (2007); authors' calculations.

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