

# The Monetary and Fiscal History of Venezuela 1960–2005<sup>†</sup>

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## ABSTRACT

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I document the salient features of monetary and fiscal outcomes for the Venezuelan economy during the 1960 to 2005 period. Using the government budget accounting framework of [Sargent \(1986\)](#), I assess the importance of fiscal balance, seigniorage, and growth in accounting for the evolution of debt ratios. I find that extraordinary transfers, mostly associated with unprofitable public enterprises, and not central government deficits, account for the increase in financing needs in the recent decades. Seigniorage has been a consistent source of financing of public deficits with increases in debt ratios being important in some periods.

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<sup>†</sup>This paper was prepared as part of a large project on the Monetary and Fiscal History of Latin America, coordinated by Tim Kehoe, Juanpa Nicolini, and Tom Sargent. The first version of this paper was presented in August of 2010 at the Minneapolis Fed. Many thanks to several individuals who have provided assistance with data, especially Fernando Alvarez-Parra, Maria Antonia Moreno, Victor Olivo, and Flor Urbina. I am grateful to my discussants Omar Bello, Pablo Druck, Ramon Espinasa, Pedro Palma, Felipe Perez, Cheo Pineda, and Manuel Toledo for useful comments and suggestions. All remaining errors are my own. Contact: Department of Economics, University of Toronto, 150 St. George Street, Toronto, ON M5S 3G7, Canada. E-mail:[diego.restuccia@utoronto.ca](mailto:diego.restuccia@utoronto.ca).

# 1 Introduction

In the post-war era, Venezuela represents one of the most dramatic growth experiences in the world. Measured as real gross domestic product per capita (GDP) in international dollars, Venezuela attained levels of more than 80 percent of that of the United States by the end of 1960. It has also experienced one of the most dramatic declines, with levels of relative real GDP per capita reaching less than 30 percent of that of the United States today. Understanding the features, institutional or policy driven, that determined such dramatic episodes of growth and collapse is of great importance. The purpose of this paper is to take a small step towards understanding some aspects of the institutions and policies that may have contributed to these experiences. The focus is on the monetary and fiscal outcomes during the period between 1960 to 2005. While the connection of monetary and fiscal policies to long-run growth may seem tenuous, in the case of Venezuela, they provide a perspective on the extent to which the government was involved, directly or indirectly, in the determination of prices, the allocation of resources, and therefore, outcomes.

Venezuela became an oil economy starting in the 1920s due to the large endowment of oil reserves. During this time, oil production was an important contributor to Venezuela's development. However, distortions accumulated over time as vast amounts of resources were being allocated by government officials and disparate policies and not by market forces. These distortions were exacerbated with the increase in oil prices in 1974—which led to a windfall in government revenues—and the larger volatility observed in oil prices since then. Oil represents more than 90 percent of all exports and more than 60 percent of

government revenues. But contrary to many theories, such as that of dutch disease, oil is not the problem, the problem lies in how the vast amounts of resources generated from oil are utilized. There have been many attempts to mitigate the effect of volatility in oil revenues on macroeconomic outcomes such as establishing macroeconomic stabilization funds, but all these attempts have been a failure in Venezuela. Other economies, such as Norway, have managed oil wealth properly, with diametrically different economic outcomes.

To make a systematic analysis of monetary and fiscal outcomes, I follow [Sargent \(1986\)](#) and [Kehoe, Nicolini, and Sargent \(2010\)](#) in using the consolidated government budget to account for the events that lead to episodes of substantial inflation or run up in debt. Interestingly and contrary to many other Latin American economies, the contribution to financing needs of the government does not rest with primary deficits (deficit of the government excluding payments of debt interest) or even commitments on government debt. Instead, a large amount of transfers to other decentralized agencies accounts for all the financing needs which paradoxically usually occur during periods of oil revenue booms. During the entire time period between 1960 to 2005, seigniorage is the source of funds that accounts for 86 percent of the total while increases in internal and external public debt account for the rest.

The paper is organized as follows. In the next section I present a background of the macroeconomic history of the Venezuelan economy. Section 3 performs the analysis which includes the accounting framework and a quantitative assessment of a small open economy model of balance of payment crises. I conclude in section 4. The appendix describes in detail the definition of variables and data sources.

## 2 Background

**Historical Perspective** Venezuela represents one of the most interesting growth experiences of Latin America. From the early 20th century Venezuela has experienced both a rapid and sustained period of income growth as well as a prolonged period of economic decline. To put these experiences in perspective, Figure 1 documents the time path of real Gross Domestic Product (GDP) per capita in Venezuela relative to that of the United States from 1900 to 2007. These series are from [Maddison \(2010\)](#). From 1900 to 1920, relative GDP per capita oscillated around 20 percent, but since then increased substantially to hover around 90 percent in the late 1950's. Starting in 1958, relative income per capita declined systematically to levels less than 30 percent nowadays. Many observers associate the decline of the Venezuelan economy with the first oil price shock in 1974, whereas from this perspective the relative decline started much earlier. While the focus of the present study is to document and analyze the history of monetary and fiscal outcomes in Venezuela from 1960 to 2005, it is important to keep in mind the potential relationship between the events, policies, and institutional features that could have partly determined the economic performance of the Venezuelan economy in the more recent past.

**Income Growth and Volatility** The overall process of income growth between 1960 and 2005 has associated with it a noticeable change in the volatility of economic activity. Figure 2 documents GDP per capita in Venezuela (in local currency units and at base 1997 prices). The solid line represents the trend line of the series using the Hodrick-Prescott filter with  $\lambda = 100$  for annual series (see [Hodrick and Prescott \(1997\)](#)). Two points are worth noting.

First, the starting point of economic decline appears different from that conveyed from real GDP per capita from Maddison (2010) in Figure 1. While there is still growth in real GDP per capita in this series the growth is just about around 2 percent per year, so a relative measure of economic performance will indicate stagnant income. A key issue explaining the difference in the time series is that real GDP per capita in Maddison is calculated using international prices. While the growth of individual components of GDP are the same as in national accounts in domestic prices, the aggregate growth is different due to the different weights. Under the perspective of the domestic real measure of economic activity in Figure 2, economic decline starts between 1974 and 1976 which are the dates of the first big oil-price shock and the nationalization of the oil industry in Venezuela. Second, starting around 1974, economic fluctuations, defined here as the difference between actual and trended real GDP, show a substantial increase. Between 1960 and 1974, the standard deviation of de-trended real GDP was 2.1 percent and increased to 5.4 percent for the period 1975 to 2005. To put these fluctuations in GDP in perspective recall that the typical business cycle in the United States amounts to a standard deviation of filtered log real GDP of slightly more than 1 percent for yearly series. Hence, economic fluctuations are orders of magnitude larger in Venezuela than in the United States, specially for the period starting in 1974.

**An Oil Economy** Venezuela has become a fundamentally oil economy. However, oil represents about 20 percent of GDP and almost none of the fluctuations in aggregate GDP are accounted for by fluctuations in economic activity in the oil sector. The transmission

mechanism seems to be an ill suited fiscal policy.<sup>1</sup> To illustrate the importance of oil in the public finances of Venezuela, Figure 4 documents the ratio of government revenues to GDP from 1960 to 2005. The figure also shows the oil and non-oil components of government revenue. In the 1960s government revenues were about 16 percent of GDP, but in 1974 as a result of the first big oil-price shock (prices for crude oil went from a historical 2 dollars per barrel to 7 dollars), revenues increased to more than 30 percent of GDP, and have oscillated around 25 percent since then, with positive and negative variations of more than 10 percentage points in a given year. On average oil represents around 60 percent of total government revenues. Figure 5 illustrates how oil revenues are related to government expenditures. Again, we see a substantial jump in government expenditures in 1974 and substantial fluctuations since then. Contrary to many other economies where government expenditures appear countercyclical, in Venezuela government expenditures are pro-cyclical (this also holds true at a quarterly frequency for a shorter time period that starts in 2001 where quarterly data on GDP is available).

**Fiscal Deficit** In the 1960s and early 1970s government budget deficits or surpluses represented around 2 percent of GDP, but starting in 1974, movements in government deficits were as high as 6 and 7 percent of GDP, with year to year variations of around 5 percentage points. What is interesting is that in part the larger fiscal deficits observed since 1974 are related to the larger interest payments involving public debt. Figure 6 reports the pri-

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<sup>1</sup>It is interesting to note that since 1974 there have been several attempts to set up forms of macroeconomic stabilization funds with no effective success. It will be interesting to contrast the economic performance of Venezuela with other economies such as Norway that successfully implemented stabilization funds to isolate fluctuations in oil revenues to the overall economy. There are recent successful experiences with stabilization funds in Latin America such as Peru and Chile, although perhaps the nature of fluctuations in their primary industries may not be as severe as with oil.

mary deficit, the difference between expenditures excluding interest payments on debt and revenues.

**Debt Process** The larger income proceeds from oil generated a rapid increase in government expenditures and public expenditures more broadly defined. Many of the large public expenditure projects were long term, such as the establishment of mineral industry public enterprises. The instability in the oil revenues lead to a rapid rise in public debt. Figure 7 reports the nominal stock value of debt to GDP. The debt in Venezuela is classified in two forms, internal and external. The distinction mainly rests with whether the debt is with foreign or domestic residents and the denomination of the debt. But in many periods domestic residents have bought debt that is classified as external since this has represented a way to bypass foreign exchange controls. The figure also documents the internal debt as a proportion of GDP. As it is clear from the Figure, the large increase in debt during the early 1970s and mid 1980s is mostly through external debt. (Note that there are many periods where it is an issue how to value the external debt in domestic currency since in some periods there is an official exchange rate and a market exchange rate, with the market exchange rate being 2 or 3 times the value of the official rate. Since interest payments of external debt in these periods are accounted using the official exchange rate, the figure here values external debt using the official exchange rate. If the market exchange rate is used, the debt to GDP ratio reaches more than 150 percent in 1986.) To give a better illustration of the size of external debt, Figure 8 shows the end-of-period stock of external debt in US\$ and the end-of-period stock of international reserves also in US\$. In the 1960s and early

1970's external debt represented around 50 percent of international reserves, increasing to more than 100 percent in the 1980s. The external debt reached more than 2 times at the end of 1986 and more than 3.5 times by the end of 1988. This substantial run up in debt by the government affected government finances due to the heavy load that the payments of principal and interest represented of the overall income. Figure 9 shows the value of government debt service as a proportion of government revenue. Debt service represented less than 5 percent of income between 1960 and 1974, increasing systematically after 1974 to reaching levels of 70 percent in 1986 and 90 percent in 1995. Figure 10 shows the burden of external debt service as a proportion of total exports and international reserves. The figure shows the extent to unsustainable levels of debt payments were reached in 1983 and subsequently in 1986 and 1988. These lead to crises that involve devaluation and changes in exchange rate systems that I discuss below.

**Exchange Rate** Venezuela has experienced several exchange rate systems, from long periods of fixed exchange rates to some periods of floating exchange rate. A key feature of the exchange rate market in Venezuela in the last 4 decades is the fact that most of the supply of foreign currency is in the hands of the central bank since the state oil company is required by law to sell foreign currency to the central bank in exchange for local currency. This implies that even in periods of exchange rate flexibility, there is substantial discretion in the hands of public officials to determine exchange rates. Figure 11 shows the official nominal exchange rate at the end of the period between 1960 and 2005. Until February of 1983 there was a fixed exchange rate system with a single rate against the U.S. dollar. This rate changed



marginally from 4.5 to 4.25 to 4.3 Bolivares per US dollar at different times. In February of 1983, what it is now called “Viernes negro”, the government was forced to recognize the misalignment in exchange rate valuation and devalued the exchange rate to 7.5 Bs./\$. The government maintained the fixed exchange rate system but established capital controls and multiple rates with some activities remaining at the rate of 4.3 Bs./\$. From February 1989 to September of 1992 a floating exchange rate system was established. By February of 1989 the country had essentially lost all liquid international reserves (after taking into account short term obligations of the country) so there was very little intervention from the central bank and the exchange rate experienced substantial devaluations. From 1994 to 2003, several systems were tried, multiple exchange rates with capital controls, exchange rate bands, but in February of 2003 a fixed exchange rate system with a single rate was established. Strict capital controls were also established.

**Money and Inflation** Figure 12 reports the yearly inflation rate for the Venezuelan economy. It is important to note that in many respects the Venezuelan economy was during the sample period (and continues to be) a heavily regulated economy, including the implementation of price controls, specially for basic food and other essential products, interest rates, exchange rates, among many others. Specifically related to inflation, there have been many episodes where price controls originated severe shortages of essential food products in supermarkets. As a result, the spikes in inflation rates in some years have more to do with relaxation of price controls (repressed inflation) than to current monetary and fiscal policies. There are two noticeable features of Figure 12. First, from 1960 to about 1974, the pattern

of inflation resembles that of the United States, the country with which Venezuela has the highest share of imports and the country against which Venezuela fixes its currency. Second, with the exception of big spikes in inflation rates and some short lived reduction in inflation during the recent years, inflation has been persistently above 30 percent. Figure 13.

## 3 Analysis

### 3.1 The Budget Equation

Since there are two main classifications of debt for Venezuela, internal and external, I modify the budget equation in [Kehoe, Nicolini, and Sargent \(2010\)](#) to incorporate those two classes of debt. Indexed debt has not been used in Venezuela. The lack of data on the maturity structure of debt prevents a disaggregated analysis. However, while in some periods short term debt was used, the majority of debt issuance was long term (more than a year). In addition, available data from the World Bank's World Debt Tables indicates that the average maturity of Venezuelan external debt was fairly constant around 10 years.

The period by period budget constraint of the government in nominal domestic currency is:

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

where  $B$  is internal debt held by the public and  $R$  its nominal gross return,  $b$  is external debt to the public in US\$ and  $r$  is the gross return in US\$,  $E$  is the nominal exchange rate,

$M$  is the monetary base,  $D$  is the government's primary deficit (government expenditures excluding interest payments minus revenues), and  $T$  are transfers. In the analysis that follows  $T$  is an important component of the budget equation and represents more than just extraordinary transfers. Part of these transfers include discounted debt issuance or repurchases that should be included in  $R$  and  $r$ . It also includes a wide array of transfers between the central government and the non-financial public sector. Lack of disaggregated data prevents me from allocating these individual components into the appropriate terms in the budget equation. The approach that I follow is to calculate these transfers as a residual, essentially the residual that validates the budget equation every period.

The budget constraint can be written in terms of real GDP. Rearranging terms we obtain:

$$\begin{aligned}
 (\theta_t - \theta_{t-1}) + \xi_t(\theta_t^* - \theta_{t-1}^*) + (m_t - m_{t-1}) + m_{t-1} \left(1 - \frac{1}{g_t \pi_t}\right) = \\
 d_t + t_t + \theta_{t-1} \left(\frac{R_{t-1}}{g_t \pi_t} - 1\right) + \theta_{t-1}^* \left(\frac{r_{t-1}^*}{g_t \pi_t^W} - 1\right), \quad (1)
 \end{aligned}$$

where  $\theta$  is real internal debt to real GDP,  $\theta^*$  is real external debt to real GDP,  $\xi$  is the real exchange rate calculated as  $EP^W/P$ ,  $m$  is the ratio of monetary base to GDP,  $d$  and  $t$  are the primary deficit and transfers to GDP,  $\pi$  and  $\pi^W$  are the gross domestic and imported inflation, and  $g$  is the gross real GDP growth. The first four terms in the left hand side of equation (1) represent the sources of financing for the consolidated government: internal debt, external debt, money issuing, and seigniorage, whereas the four terms in the left hand side represent the obligations: the primary deficit, transfers, internal debt payments, and external debt payments.

## 3.2 Accounting Results

In each year, I compute the terms in equation (1). Figure 14 reports the time path for each of the 4 terms on the left hand side of equation (1). For comparability, I make the scale in each graph the same. Panel A and panel B report the change in internal and external debt ratios. Panel C and D report the change in monetary base and seigniorage. While there are important variations in money and internal debt, changes in external debt represent the most important source of variation of funds. Looking at the individual series, the time paths can be subdivided into three periods. From 1961 to 1974, the financing needs were small, an average of 0.5 percentage points (p.p.) and all of these needs were covered by seigniorage (see Table 1). Note that on average money growth was slightly negative, but inflation was driven mostly through changes in prices of imports since during this period there was a fixed exchange rate regime and the nominal exchange rate was roughly constant. Growth in real GDP was also an important factor. The period from 1975 to 1986 represents a major change in the financing needs, with an average of more than 5 p.p., with two thirds of these needs financed with external debt issuance. The inflation tax accounted for a much smaller proportion than in the previous period but still accounted more than 25 percent of the overall needs. The third period is from 1987 to 2005 where financing needs have declined substantially in average relative to the previous period to 0.2 p.p. However, there are important variations across years with increases of up to 9 p.p. in 2003 and decreases of -8 p.p. in 1992. Seigniorage represented the only positive source of financing on average, more than 2 p.p.

Table 1: Accounting Results across Sub-periods

	1961-1974	1975-1986	1987-2005	1961-2005
Sources:				
(1) Internal debt	0.01	0.64	-0.04	0.16
(2) External debt	-0.02	3.11	-1.73	0.09
(3) Money issuing	-0.04	0.13	-0.13	-0.03
(4) Seigniorage	0.57	1.43	2.07	1.43
Total	0.53	5.31	0.17	1.65
Obligations:				
(1) Internal return	-0.17	-0.46	-1.09	-0.63
(2) External return	-0.12	0.97	0.66	0.50
(3) Primary deficit	-0.91	-0.45	-0.85	-0.76
(4) Transfers	1.71	5.25	1.45	2.55
Total	0.53	5.31	0.17	1.65

Note: Numbers represent percentage points of items in equation (1).

To analyze the elements explaining the changes in financing needs, Figure 15 reports the time path of each of the terms on the right hand side of equation (1). Overwhelmingly, real transfers  $t_t$  are the most important source of financing needs for the government. On average, they represented more than 2 p.p. of financing needs, while the overall deficit, including transfers was slightly above 1 p.p. Across sub-periods, during the 1961 to 1974 period, 1.7 p.p. of transfers were compensated by a close to 1 p.p. of surpluses and negative returns to debt of 0.3 p.p. to reduce the overall financing needs to only 0.5 p.p. (See again Table 1.) In the 1975 to 1986 period, the large financing needs of 5 p.p. points are accounted for by transfers (5.3 p.p.) and positive real returns on external debt (1 p.p.) and partly mitigated by primary surpluses of the central government (0.5 p.p.) and negative returns on internal debt (-0.5 p.p.). During the 1987 to 2005 period, the much smaller financing needs are explained by smaller transfers (1.4 p.p. versus 5.3 p.p. in the previous period), primary

surpluses (0.85 p.p.), and roughly offsetting real returns on government debt.

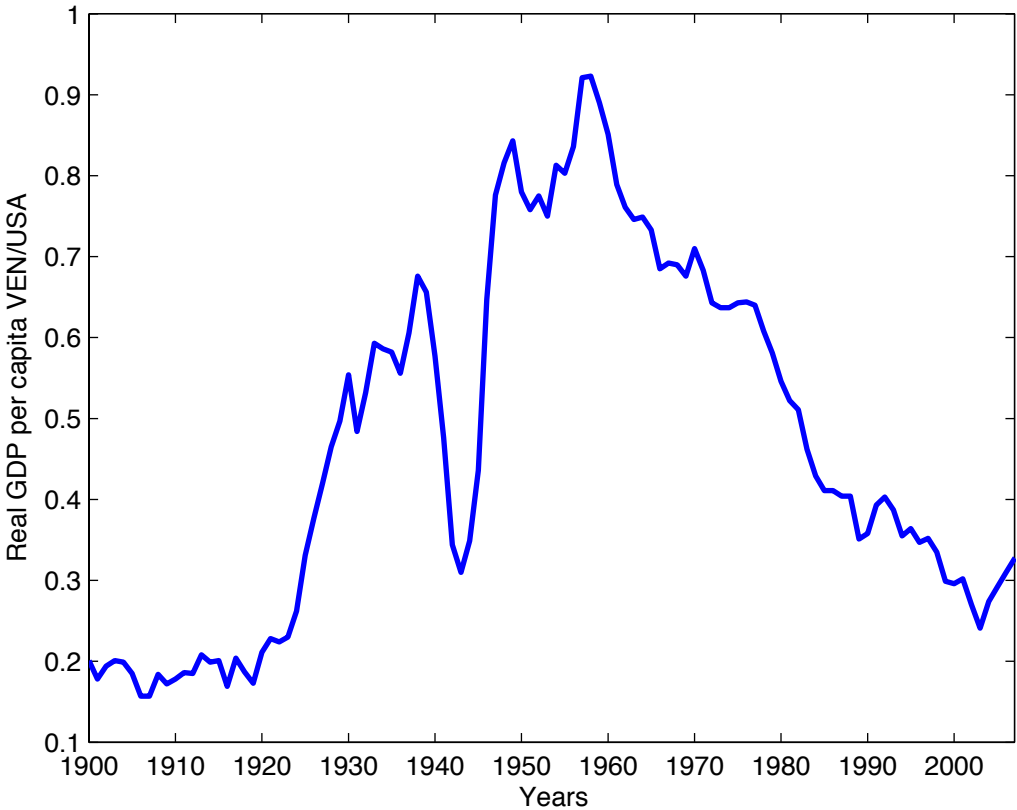
## 4 Conclusions

I documented the salient features of monetary and fiscal outcomes for the Venezuelan economy during the 1960 to 2005 period. Using the government budget accounting framework of [Sargent \(1986\)](#), I assessed the importance of fiscal balance, seigniorage, and growth in accounting for the evolution of debt ratios. I found that extraordinary transfers, mostly associated with unprofitable public enterprises, and not central government deficits, account for the increase in financing needs in the recent decades. Seigniorage has been a consistent source of financing of public deficits with increases in debt ratios being particularly important in some periods. Interestingly, debt exposure has increased in periods of oil booms.

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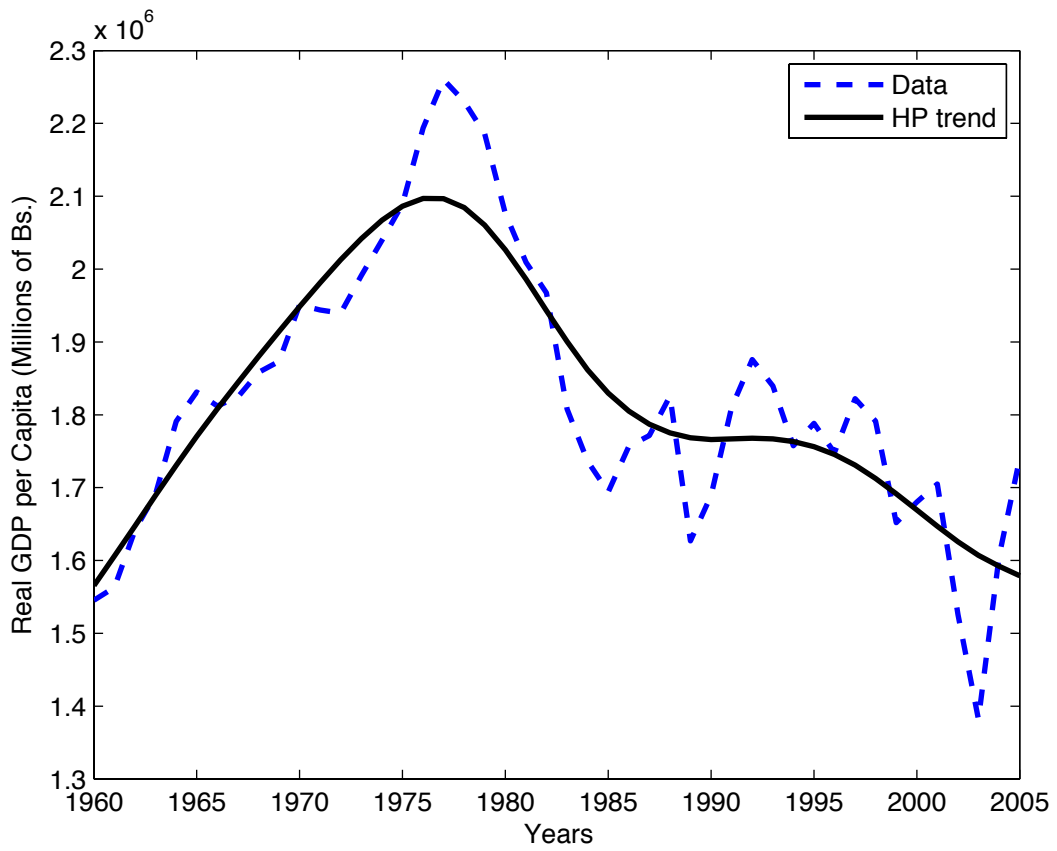
Figure 1: Venezuela Real GDP per Capita (relative to USA)



Note: Real GDP per capita from [Maddison \(2010\)](#).



Figure 2: Venezuela Real GDP per Capita



Note: Real GDP per capita base prices 1997.

Figure 3: Growth in Real GDP (%)

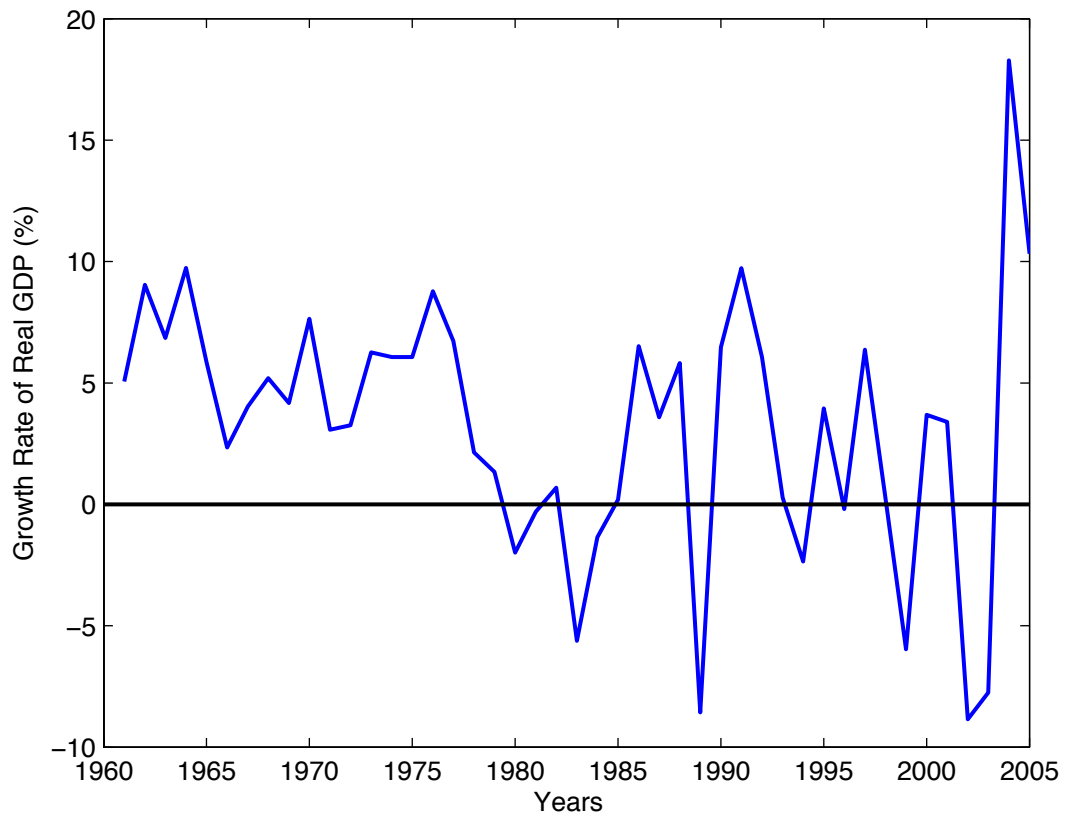
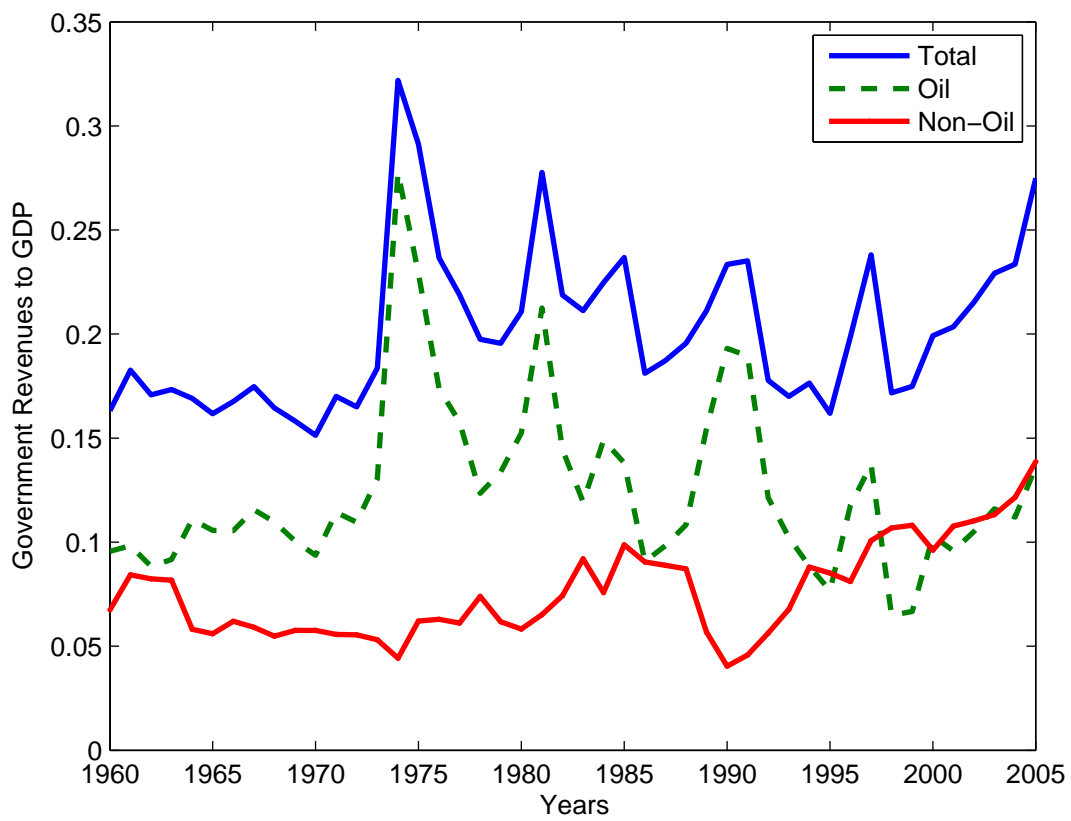
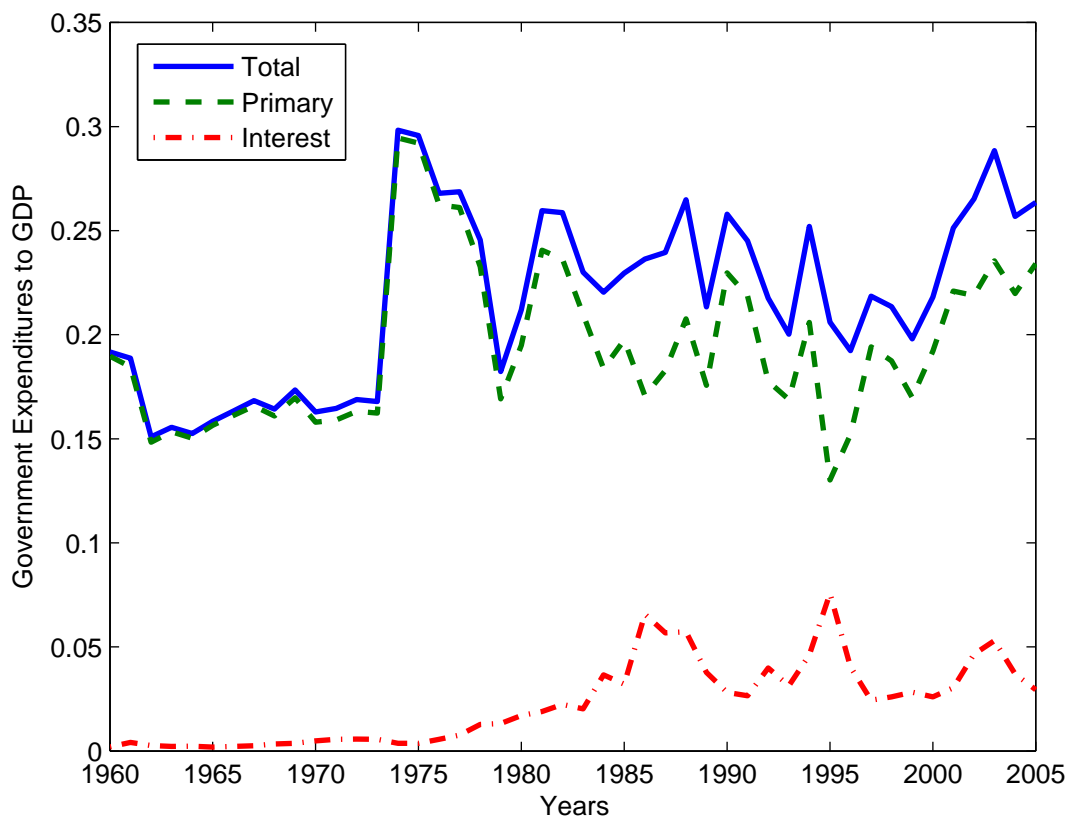


Figure 4: Government Revenue to GDP



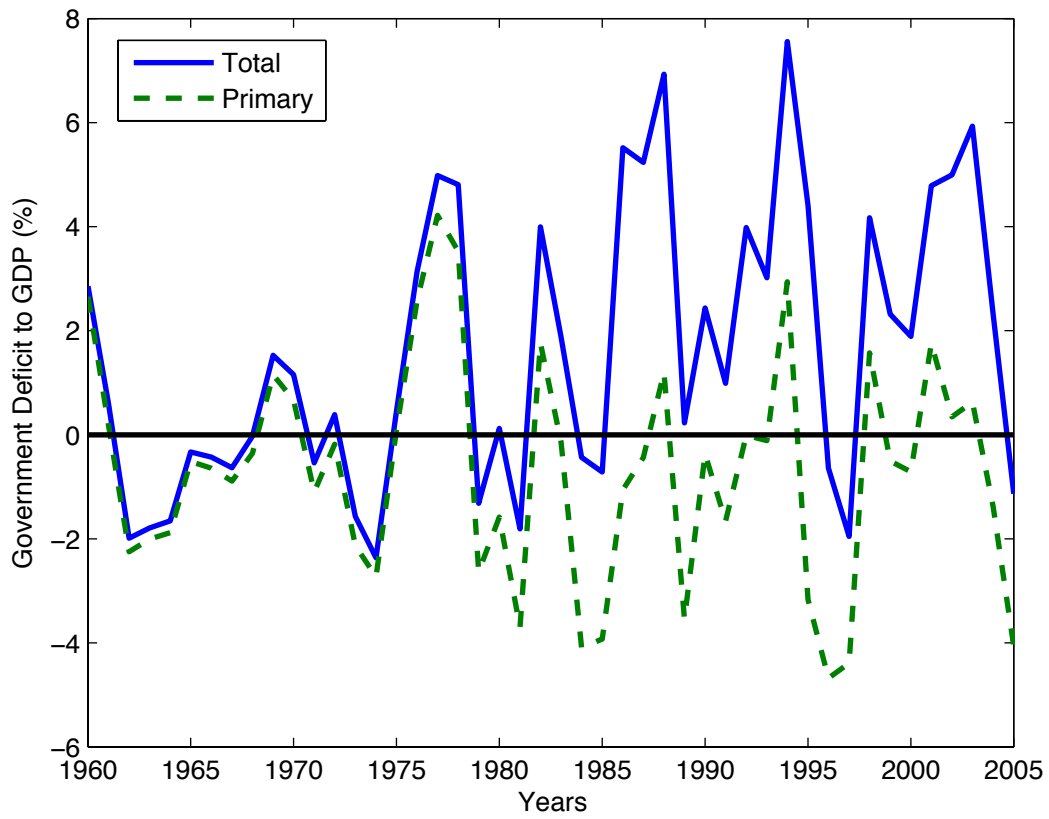
Note: Revenues of the Central Government.

Figure 5: Government Expenditure to GDP



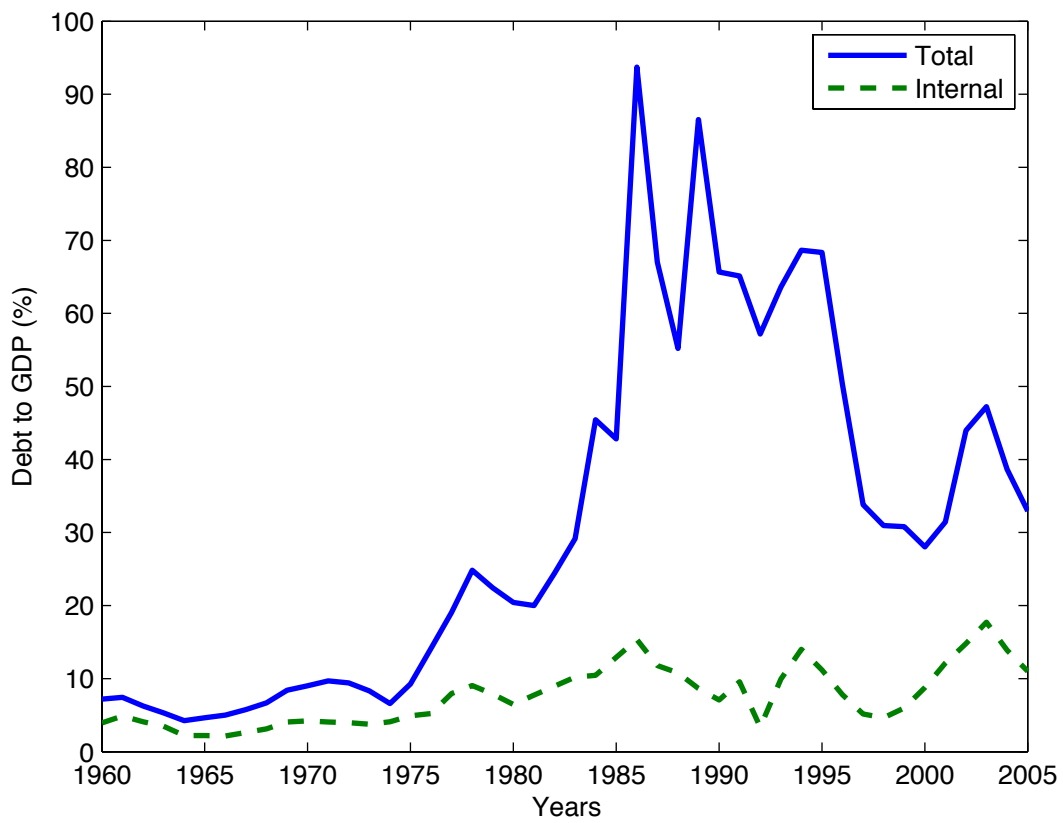
Note: Expenditures of the Central Government. Primary expenditures exclude interest payments on public debt.

Figure 6: Government Deficit to GDP (%)



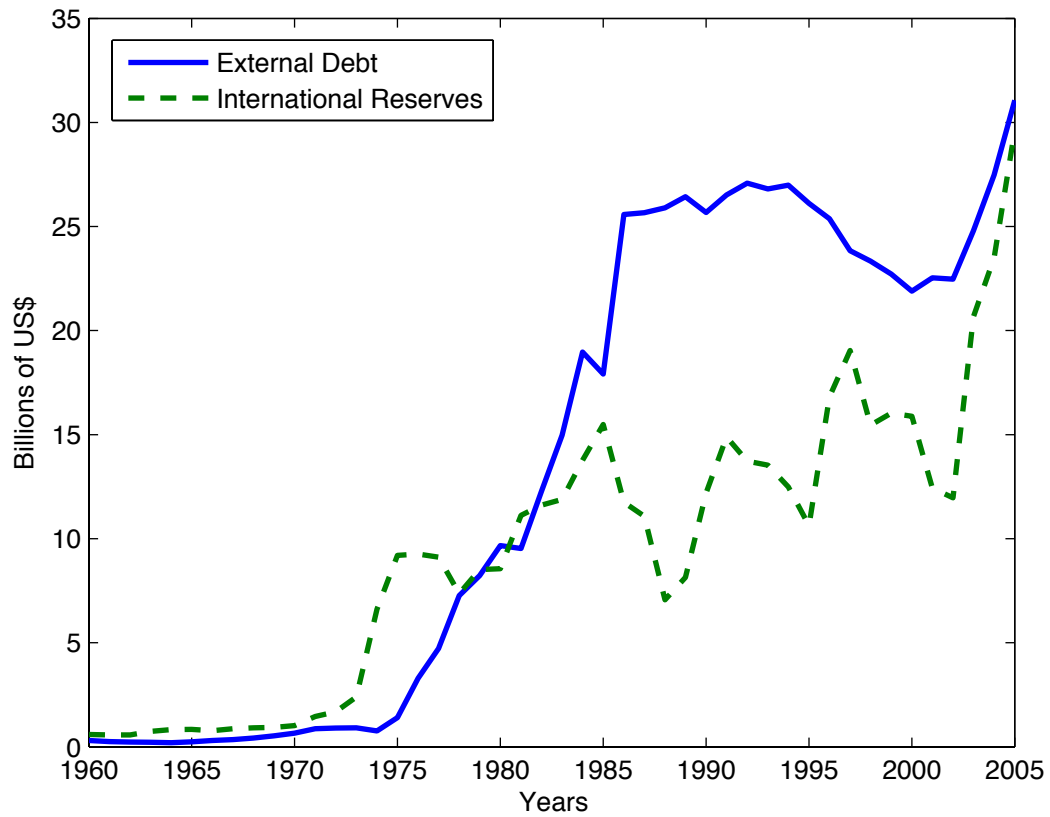
Note: Positive numbers represent a deficit and negative numbers a surplus. The primary deficit is the deficit minus the interest payments of public debt.

Figure 7: Debt to GDP Ratio (%)



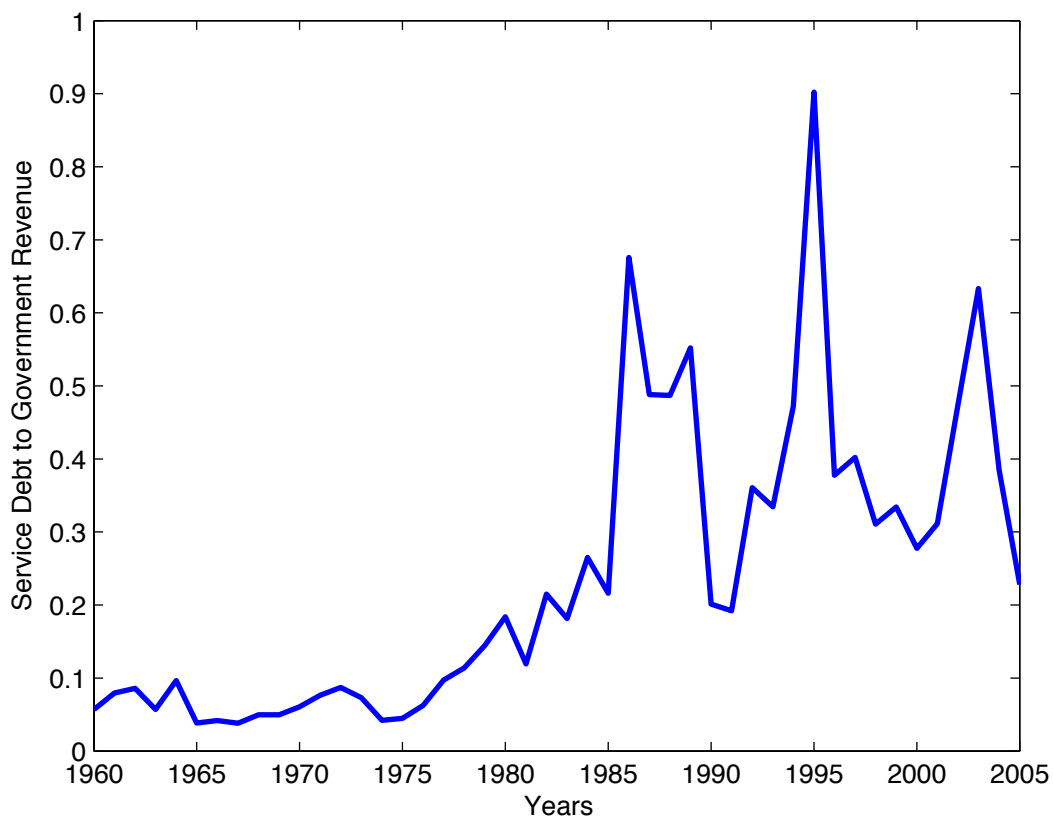
Note: External debt is valued at the official exchange rate at the end of the period.

Figure 8: External Debt and International Reserves



Note: External Debt and International Reserves at the end of the period in billions of US\$.

Figure 9: Debt Service to Government Revenue



Note: Debt service includes all payments related to internal and external debt that include payments of principal, interest, and commissions. External debt service payments are valued at official exchange rates following the reporting of the interest payments in the government fiscal statistics.



Figure 10: External Debt Service

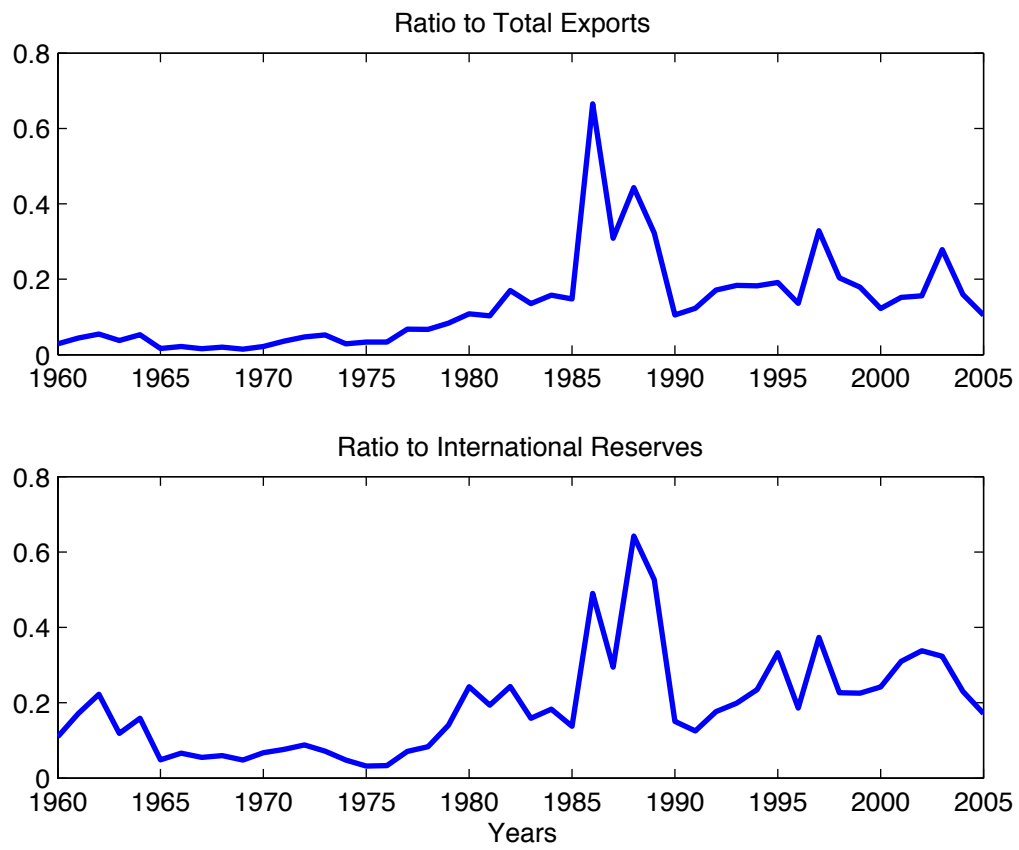
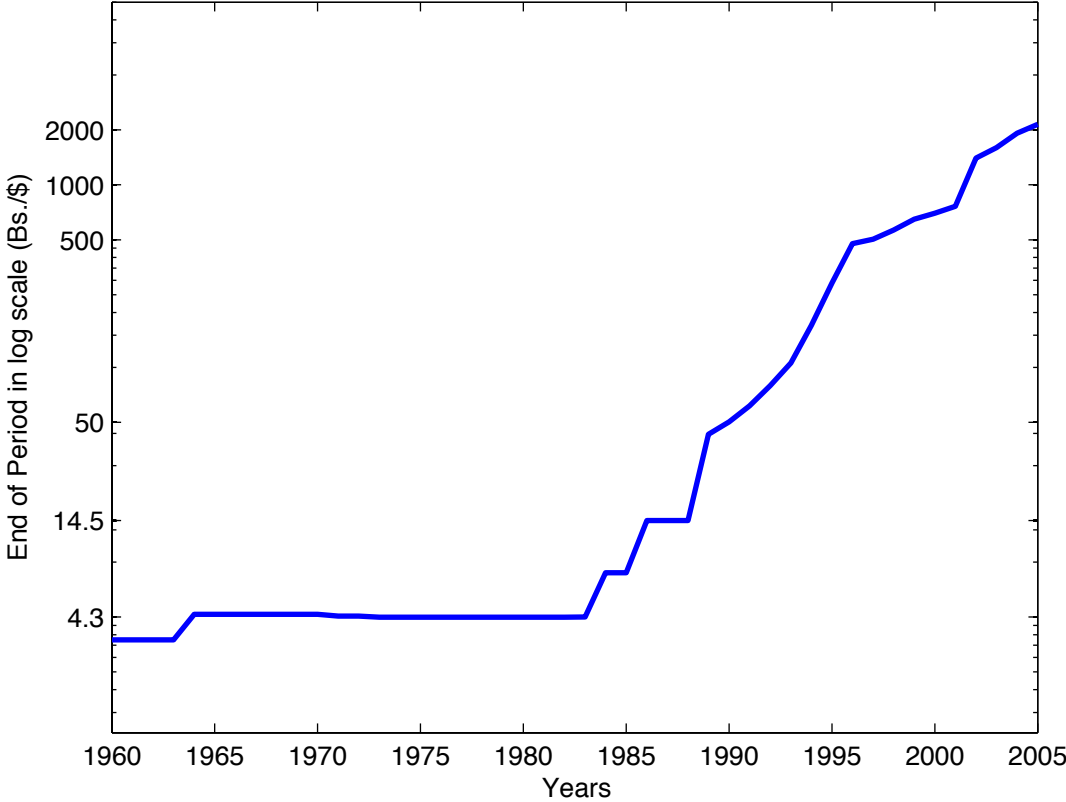
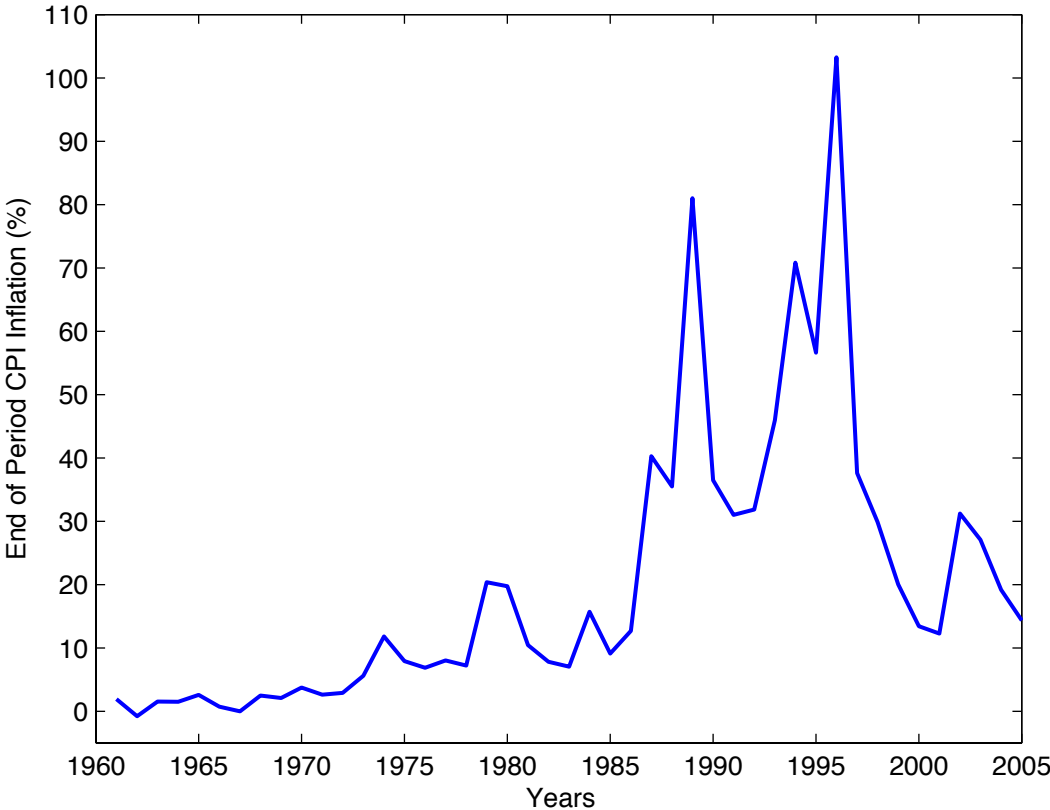


Figure 11: Nominal Exchange Rate (Bs./US\$)



Note: Official exchange rate in Bolivares per US dollar. Exchange rate value at the end of the period.

Figure 12: Rate of Inflation (%)



Note: Inflation rate from the consumer price index.

Figure 13: Monetary Base to GDP

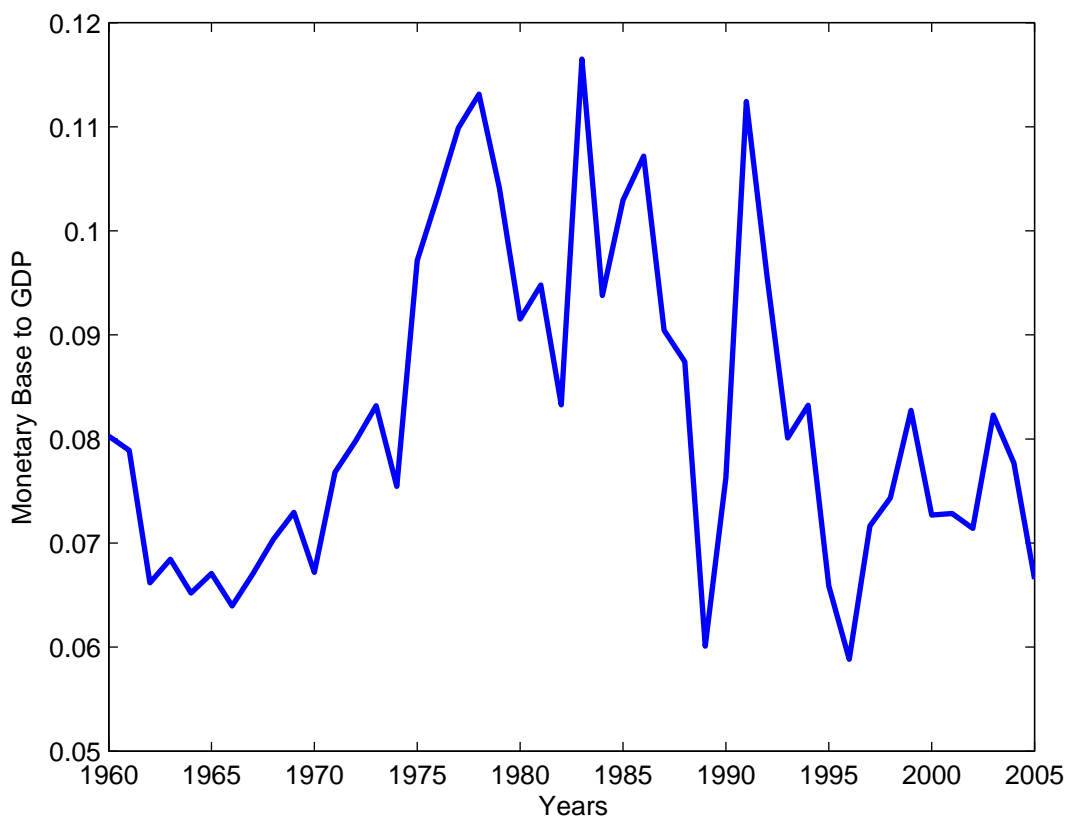
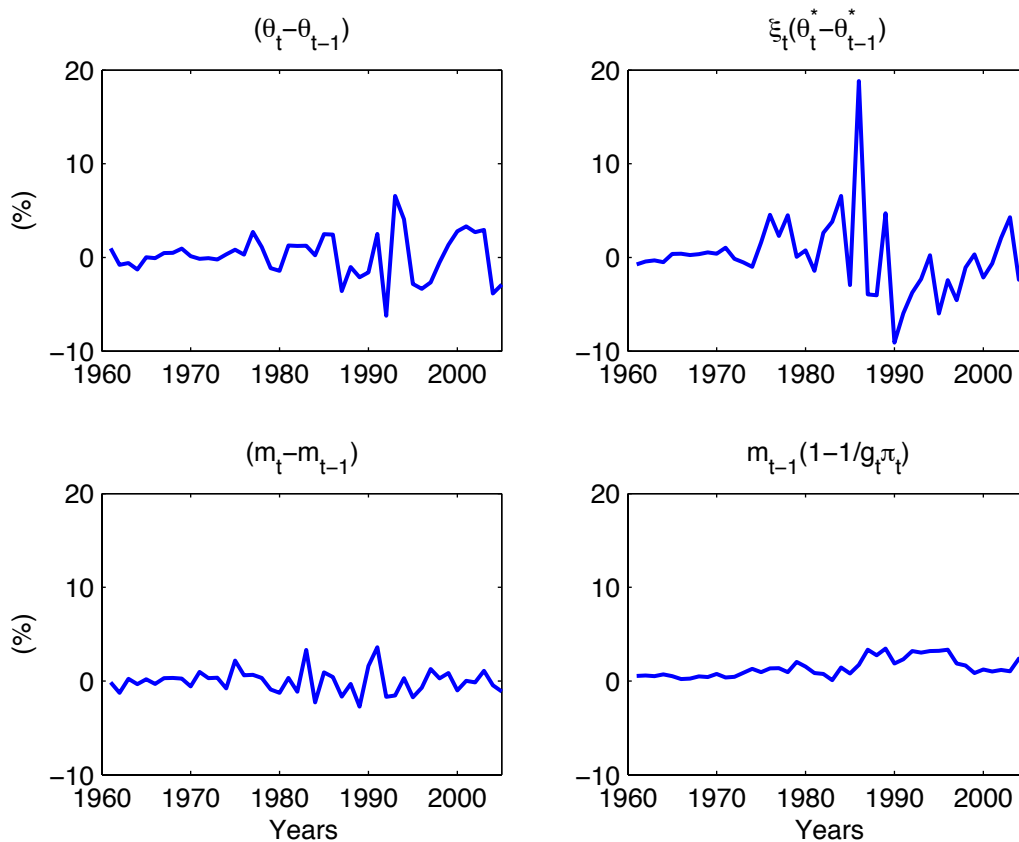
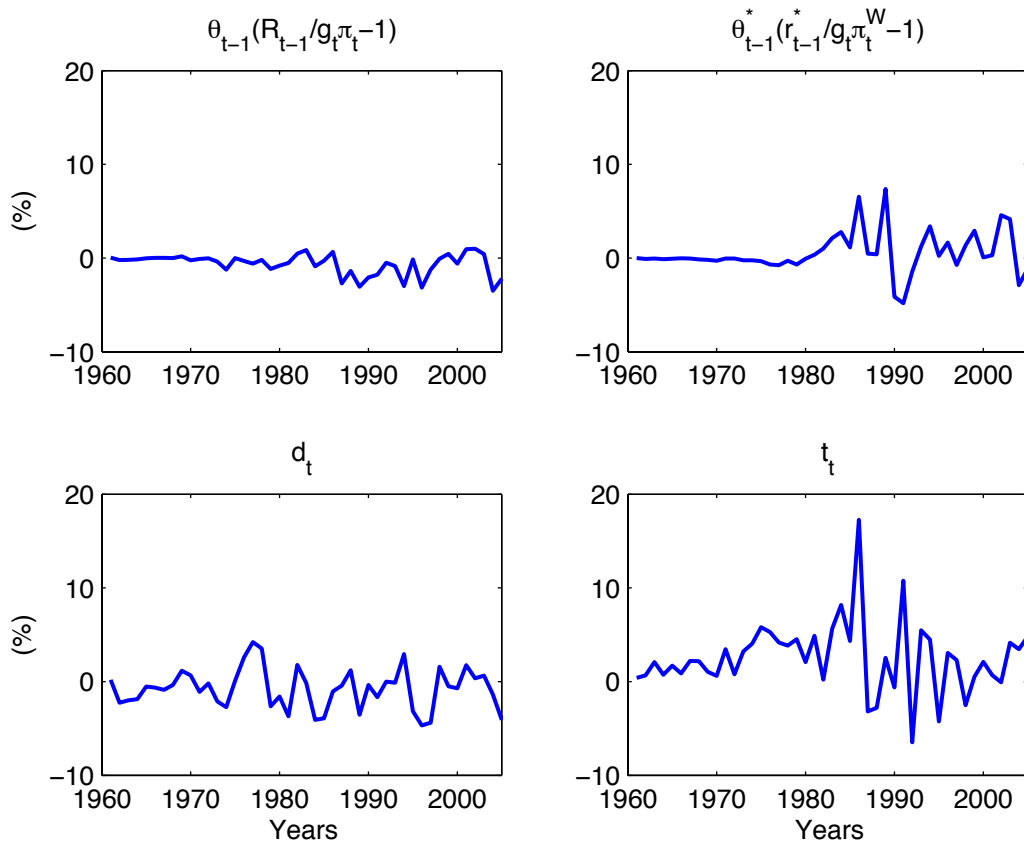


Figure 14: Sources of Government Funds



Note: This Figure documents each element of the left hand side in equation (1). Panel A is the period-by-period change in the ratio of real internal debt to real GDP. Panel B is the change in real external debt to real GDP using the real exchange rate. Panel C is the change in monetary base to GDP ratio. Panel D is the inflation tax or seigniorage.

Figure 15: Contributions to Government Obligations



This Figure documents each element of the right hand side in equation (1). Panel A is the period-by-period real interest payments of internal debt. Panel B is the real interest payments of external debt. Panel C is the real primary deficit to real GDP. Panel D is the ratio of real transfers to real GDP.