

Western Hemisphere Department

# Suriname

## Toward Stability and Growth



Bernhard Fritz-Krockow,  
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## Preface

The authors of this paper are International Monetary Fund (IMF) country team members who visited Suriname during 2004–07. Most of the material was prepared specifically for this publication, although some of the material was used previously as background for the Suriname Article IV consultation discussions at the IMF Executive Board. The authors are grateful to the Surinamese authorities for their assistance in providing data and documents and for the extensive discussions and comments that helped clarify and provide focus to the discussions in this publication. The authors are also grateful to the Suriname team of the Inter-American Development Bank.

This paper has benefited extensively from discussions and comments by staff in the Western Hemisphere Department, as well as the staff of the Secretary's Department at the IMF. We also greatly appreciate the outstanding research assistance provided by Genevieve Mendiola Lindow and Usman Khosa and the excellent production assistance provided by Andrea Aquino. Marina Primorac coordinated the production of the publication.

The opinions expressed here are those of the authors and do not necessarily reflect the views of the IMF, its staff or Executive Board, or the authorities of Suriname.

The analysis in this paper reflects the work of the team until mid-2008 and does not cover the sharp fall in commodity prices since then. The paper does not discuss the macroeconomic challenges of these exogenous shocks or their impact on the balance of payments and the fiscal accounts or the possible need for corrective monetary and exchange rate policies.

The authors  
February 2009





## Introduction

During the 1990s, Suriname was subject to exogenous shocks that were exacerbated by inadequate macroeconomic policy responses. During that decade, fiscal and monetary policies tended to vastly amplify the effects of negative shocks to bauxite export receipts, leading to various episodes of near-hyperinflation. Output growth was also highly volatile, reflecting to some extent the country's dependence on mining exports, but more so the highly inadequate macroeconomic policies.

In recent years, the outlook has turned substantively more positive. The favorable external environment and the stability-oriented policies of the Venetiaan administration have boosted confidence in the economy, leading to increased investment, domestic economic activity, and employment. Nonetheless, the economy continues to be based largely on commodity exports, mainly bauxite, oil, and gold, while nontraditional agricultural exports face significant developmental and export hurdles. A detailed description of the structure of the economy can be found in the appendix. The recent boom in commodity prices has helped boost growth, while increased gold production and investment in the mineral industry are projected to support continued growth in the coming years. Inflation has come down in recent years as a result of stability-oriented policies, notwithstanding bouts of price increases from imported inflation—for example, related to the pass-through of international oil and food prices.

This paper describes the two near-hyperinflation episodes of the 1990s and draws policy conclusions aimed at further strengthening Suriname's sustainability and growth prospects. The two near-hyperinflation episodes of the 1990s were the result of inadequate policy responses to shocks. Although policymaking has improved considerably, the institutional and policymaking structures that triggered or proved unable to prevent the crises are largely still in place, with a corresponding high risk of fiscal revenue volatility, a limited capacity to conduct monetary policy, and a high level of dollarization. The paper draws policy conclusions aimed at supporting a medium-term, stability- and growth-oriented policy framework by reducing revenue volatility, facili-

tating a more proactive monetary policy, and managing the risks associated with a dollarized economy.

The paper begins by reviewing in detail the two near-hyperinflation episodes of the 1990s. Chapter 2 describes the country's policy responses to alumina price cycles. A detailed description of two near-hyperinflation episodes in the 1990s demonstrates that these were the result of highly expansionary policies adopted at the time and only marginally related to exogenous price shocks. The chapter also places Suriname's policy outcome in the 1980s and 1990s in a regional perspective, and it analyzes the relevance of terms of trade volatility, real effective exchange rate movements, governance, and real interest rate developments as determinants of policy performance.

This more general assessment is followed by an analysis of the sources of fiscal revenue volatility, and recommendations for a stability- and growth-oriented fiscal policy. Chapter 3 highlights the degree of instability in the public finances arising from developments in the mining sector. The chapter points to the need to establish a nonrenewable resource fund (NRF). Such a fund would absorb revenue from future large-scale mining projects to reduce the public sector's vulnerability to commodity-price fluctuations and to secure a more stable and long-term revenue stream from the extractive industries. Fiscal institutions should be strengthened, and annual budgets should be placed in a medium-term policy framework that relates to the nonextractive sectors of the economy.

Chapter 3 also describes monetary and exchange rate policies, as well as the pillars for a more flexible and stability-oriented policy framework. Chapter 4 highlights the sources of monetary instability in Suriname and the transmission of monetary policy to prices and market exchange rates. The chapter emphasizes the need to implement a more proactive monetary policy to contain cyclical inflationary pressures from the commodity sectors, which will require the development of alternative policy instruments, while moving first to a unified and then—over the longer term—to a more flexible exchange rate regime.

Chapter 5 discusses the sources and consequences of dollarization in Suriname, focusing on the loss of seigniorage and the constraints dollarization imposes on an independent monetary policy. It discusses the effects of dollarization on the development and vulnerabilities of the financial sector. The epilogue presents the most recent economic developments and highlights key policy challenges.

The appendix provides an overview of the main industries of Suriname. It describes the origins, structure, institutional framework, key developments, and outlook for the extractive industries—namely, bauxite, oil, and gold—and the two main agricultural sectors—namely, rice and bananas.

## Volatility and Policy Responses

Suriname's economy underperformed during the 1990s when compared with other countries in the region. The economy was marked by a high degree of volatility, low growth, and high inflation. This comparatively poor performance has often been considered an unavoidable consequence of the country's substantial dependence on bauxite exports and the associated vulnerabilities to exogenous shocks from shifting international alumina prices. This chapter, however, demonstrates that volatility and macroeconomic underperformance were related only marginally to those exogenous shocks and were primarily the result of economic policy responses to those shocks.

The first section of this chapter describes these exogenous shocks and the policy responses by the Surinamese authorities. The section describes in detail the two near-hyperinflation episodes in the 1990s. It argues that the near-hyperinflation episodes were the result of an institutional framework that allowed the full transmission of these exogenous shocks to the domestic economy and, to an even larger degree, a result of macroeconomic policy responses to these shocks.

The second section in this chapter compares Suriname's macroeconomic performance with that of other countries in the region. The assessment suggests that Suriname underperformed in a regional context, particularly during the 1990s when countries in the region adopted more growth- and stability-oriented policies. The section compares Suriname's terms of trade volatility with that of the region, confirming that the shocks that affected Suriname were not different from those affecting the region. The section argues that the high volatility of the real effective exchange rate and the preponderance of highly negative real interest rates undermined economic performance. Governance indicators in Suriname are near the international median and, in fact, compare favorably to the region. Thus, they cannot be considered a leading cause of Suriname's comparably lower growth.

## **The Near-Hyperinflation Episodes of the 1990s**

High rates of monetary expansion—owing to exchange rate losses of the central bank—were the main factor underlying the first near-hyperinflation episode in the early 1990s. During this period, real GDP declined slightly, which reflected a loss in export receipts but also the effects of a severe demonetization of the economy. At the same time, inflation accelerated, reaching almost 600 percent in 1994.<sup>1</sup> This marked increase in inflation resulted mainly from quasi-fiscal exchange losses arising from the massive liquidity injection connected with the official multiple exchange rate system that was in effect between late 1992 and mid-1994, and an expansionary fiscal policy (Box 2.1).<sup>2</sup> Although the cycle began with the alumina price decline in 1990 and the withdrawal of Dutch aid in 1990, these losses paled in comparison to the impact of the central bank losses and expansionary fiscal policy.

The sharp fiscal deterioration in 1998–99 was the main cause of the second near-hyperinflation episode. A limited exogenous shock derived from gradual erosion in alumina prices during 1996–99 contributed to a small degree to the policy imbalance. However, this exogenous shock was small in comparison to the deterioration of the central government overall balance, mainly on account of the reduction of Dutch aid during 1997–98 and a sharp increase in central government expenditure in 1996–98.

### **The First Episode of Near-Hyperinflation**

Public finances deteriorated markedly in the early 1990s. The operations of the central government recorded a deficit of 17 percent of GDP in 1991 (from about 6 percent of GDP in 1990), mainly owing to the sharp increases in outlays for wages, social services, and election-related costs. In comparison, only about 1 percent of GDP of the fiscal deterioration can be attributed to losses from the decline in bauxite export revenues. During 1991–93, central government operations improved somewhat, with budget deficits declining to about 9 percent of GDP. However, central bank quasi-fiscal losses mounted considerably, increasing from zero in 1990 to about 14 percent of GDP in 1994. As a result, the combined public sector balance recorded a deficit of about 21 percent of GDP in 1994.

The large fiscal deficits were financed almost entirely by the central bank and led to a rapid increase in overall bank credit. A large part of the financial

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<sup>1</sup>There were shortcomings in the quality and timeliness of economic statistics in Suriname during the 1990s. Data in this report, and in this chapter in particular, have been put together by IMF staff based on best estimates and are likely to diverge from official data of the period.

<sup>2</sup>For a more detailed description of the exchange rate regime, see Chapter 4.

### Box 2.1. The Exchange Rate System in the Early 1990s

Suriname had a single official exchange rate until October 1992. This rate remained fixed in terms of U.S. dollars from December 1971 to October 1992. As inflationary pressures accumulated during the 1980s and the early 1990s, the exchange rate in the parallel market diverged increasingly from the official rate. In response, the authorities introduced a multiple exchange rate system in October 1992 to support imports. The stated objective was to engineer a gradual reduction and eventual elimination of the large spread between the official and black market exchange rates, but the policy was maintained to facilitate purchases of foreign exchange by key sectors of the economy at appreciated rates. The regime underwent several changes, and at one time included as many as seven separate exchange rates, some of them partly determined by market forces. The official rates ranged from the historic Suriname guilder (Sf) 1.785 per U.S. dollar (in place since 1971) to Sf 87 per U.S. dollar, while the black market exchange rate depreciated to about Sf 215 per U.S. dollar at end-1993. Although most rates were aimed at regulating imports, a special exchange rate was also applied to the tax regime of the mining companies. This special rate, in place beginning mid-January 1993, was part of an investment and taxation agreement with the mining companies. Under the exchange rate system, the central bank incurred massive losses because its average buying exchange rate (measured in Suriname guilders per U.S. dollar) was substantially higher than its average selling exchange rate.

In July 1994, the authorities unified the official exchange market by introducing a uniform fixed exchange rate managed by the central bank. However, the regime was partially eroded during the following 12 months, as the official peg could not be defended. In late 1994, banks were allowed to conduct transactions at a "bank" exchange rate that was substantially more depreciated than the official rate and in May–June 1995, the central bank introduced an "intervention" exchange rate that also was more depreciated than the official rate.

Suriname returned to a unified exchange system in July 1995, with all legal transactions taking place at an official exchange rate and with a negligible spread between the official and the parallel exchange rates.

requirement of the public sector was met by the central bank. By the end of 1991, the central government's net indebtedness to the banking system reached 96 percent of GDP. The expansion in central government credit was not offset by a reduction in private sector credit, and thus monetary aggregates expanded. The authorities placed government bonds of about 20 percent of GDP in 1991–92 to contain the expansion of bank credit,<sup>3</sup> but these bonds were mostly acquired by nonbank financial institutions through a reduction in deposits held at the central bank. Consequently, the bond issue did not have the intended effect of reducing bank liquidity. With real interest

<sup>3</sup>These bonds had a maturity of five years and carried an annual interest rate of 6 percent, which was highly negative even at the time of issuance. Nonbank financial institutions exchanged these bonds against their unremunerated deposits at the central bank.

rates highly negative until 1994, overall bank credit expanded at a much faster rate than banking system liabilities to the private sector, resulting in a depletion of international reserves and the emergence of external payments arrears in 1991.

Inflation and depreciation pressures increased as the authorities attempted to contain imbalances through administrative controls. Besides applying extensive exchange controls, the authorities also maintained controls on prices, employment, investment, and on trade and payments. These measures, in the context of lax financial policies, resulted in repressed inflation, large distortions in relative prices, and a widening parallel economy. While recorded inflation was contained at 30 percent in 1991, there were widespread reports of repressed inflation and movements of goods and services into unregulated parallel markets. While new mining activities boosted output in 1992, the continued loss of confidence in light of the weakening of policies, the pervasive exchange controls, and the prevalence of highly negative real interest rates led to heightened inflation and depreciation expectations. As a result, recorded inflation increased to about 58 percent in 1992. At the same time, the economy exhibited symptoms of a liquidity overhang. Despite the marked expansion of overall bank credit, there was a large accumulation of commercial banks' unremunerated excess reserves at the central bank, as banking system liabilities to the private sector reached almost 130 percent of GDP in 1992. This was due, in part, to the lack of alternative financial assets and the inability of banks to obtain foreign currency. Under these circumstances, banks became increasingly reluctant to accept time and savings deposits.<sup>4</sup>

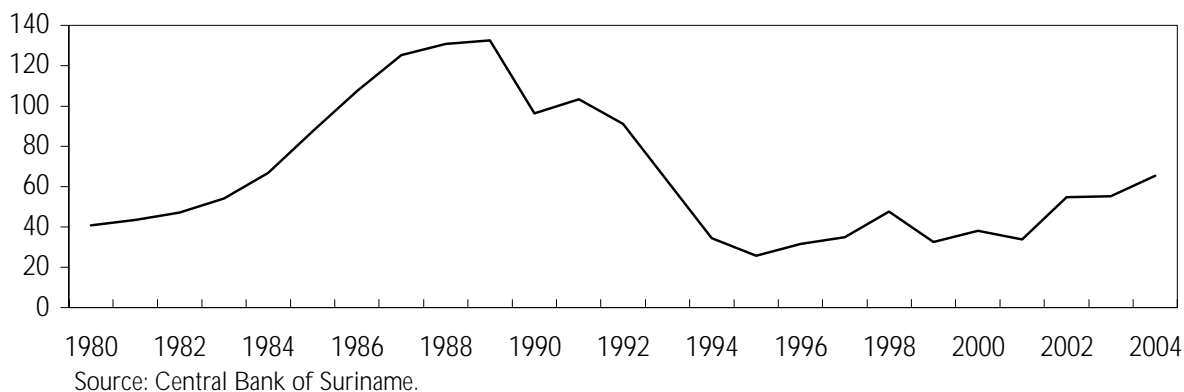
Monetary overhang helps explain the magnitude and persistence of the first near-hyperinflation episode. The authorities established price controls in the early 1980s to curb inflationary pressures. These proved to be effective in the short term, as nine-fold increases in monetary aggregates did not translate into equivalent price increases. It is likely that coercion played a key role, as the military government outlawed price increases on all goods and services in 1984 and imposed harsh sanctions for violators. Nevertheless, the monetary overhang—which peaked in 1989—presaged future inflationary pressures (see Figure 2.1).<sup>5</sup> The new government in 1991 brought about a lessening of price control enforcement, which facilitated the unwinding of the monetary overhang via price increases, particularly during 1992–94.

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<sup>4</sup>With the increased availability of foreign exchange from auctions of Dutch balance of payments support grants in late 1992, private sector demand for credit accelerated, capital flight increased, and excess reserves declined in relation to broad money from 30 percent by end-1991 to 23 percent by end-1992. Similarly, broad money (including foreign currency deposits) dropped to 129 percent of GDP in 1992, possibly in response to increasingly negative real interest rates. In 1991–92, interest rates on deposits averaged 2.5 percent and lending rates averaged 9.8 percent.

<sup>5</sup>See Braumann and Shah (2001) for a political explanation of the monetary overhang of the late 1980s.

Figure 2.1. Money Balances  
(In percent of GDP)



Near-hyperinflation and a decline in activity in the formal sector made adjustment unavoidable in 1993. The government had planned to contain domestic demand in 1992–93 under an IMF-supported program, but few measures were put in place, and the overall public sector deficit in 1992 (including central bank losses) increased to about 21 percent of GDP—or 42 percent of GDP, excluding grants.<sup>6</sup> This was mostly due to income tax cuts and sharp increases in civil service salaries and social benefits following labor unrest in early 1993. As real interest rates declined further, there was a marked shift away from domestic banking assets, with broad money declining by about half in real terms during 1993 (Table 2.1).

Exchange regime and fiscal reforms halted the crisis in mid-1994. The overall balance of the central government improved from a deficit of more than 9 percent of GDP in 1993 to a surplus of about 5 percent of GDP in 1994, reflecting a sharp increase in revenue from taxes paid by the bauxite companies and from higher import duties and fees on international trade. This was the result of applying more market-based exchange rates for the calculations of these taxes. The large losses of the Central Bank of Suriname (CBvS) (about 11–13 percent of GDP in 1993–94) abated only gradually after the unification of the exchange regime in mid-1994, reflecting contracts that had to be carried out at past exchange rates.

<sup>6</sup>In November 1992, the National Assembly approved a policy framework for a structural adjustment program (SAP), which provided for the resumption of Dutch aid. However, most actions, including the prior actions for the resumption of European Commission (EC) support were not completed. As a result, EC monitoring ceased in June 1993 and the Netherlands decided in July to confine its assistance to humanitarian aid.



**Table 2.1. Suriname: Selected Economic Indicators, 1991–95**

	1991	1992	1993	1994	1995
(Annual percentage change, unless otherwise indicated)					
GDP at constant prices	2.9	4.0	-2.2	-7.0	5.0
Consumer prices (end of period)	30.0	57.5	224.8	586.5	36.9
Consumer prices (period average)	26.0	43.7	143.5	368.5	235.5
Black market exchange rate (end of period) <sup>1</sup>	-1.6	83.4	215.6	424.0	-22.2
Black market exchange rate (period average) <sup>1</sup>	6.9	34.9	159.3	283.6	106.5
Index of unit price of alumina export (1996=100)	100.0	87.8	85.2	85.9	108.2
(In percent of GDP)					
Central government					
Total revenue and grants	30.2	31.2	33.1	41.1	45.7
Tax and nontax revenue	28.4	22.9	12.6	23.6	32.3
Of which: income tax from bauxite companies	1.6	0.5	0.9	7.9	8.5
Grants	1.8	8.3	20.5	17.5	13.3
Total expenditure and net lending	47.7	40.0	42.5	36.0	41.4
Current expenditure	46.2	37.6	39.0	31.9	35.9
Of which:	0.0	0.0	0.0	0.0	0.0
Wages and salaries	17.8	17.7	11.2	6.5	8.1
Goods and services	9.9	7.4	16.7	14.2	20.0
Net lending	0.5	0.2	0.1	0.0	0.0
Capital expenditure	1.1	2.2	3.5	4.1	5.5
Overall balance	-17.5	-8.7	-9.4	5.1	4.3
Financing (net)	17.5	8.7	9.4	-5.1	-4.3
Central bank (net)	17.2	5.0	8.4	-1.1	-5.0
Other domestic	-0.1	3.7	0.1	-1.6	-0.3
External	0.5	0.0	0.9	-2.4	1.0
Central bank's exchange losses	0.0	-3.4	-11.9	-13.6	0.0
Overall balance plus central bank exchange losses	-17.5	-12.2	-21.3	-8.5	4.3
Change in currency in circulation	5.1	4.1	12.4	15.0	7.1
(Changes in Surinamese guilders as a percent of broad money of the previous period)					
Broad money	23.4	20.7	66.8	202.9	179.9
Currency in circulation	4.9	4.4	23.1	84.1	52.1
Demand deposits	11.7	3.6	27.4	75.0	78.3
Time, savings deposits <sup>2</sup>	6.8	12.7	16.4	43.8	49.5
(Percentage per annum)					
Real interest rate for domestic currency deposits	-25.4	-53.0	-219.9	-573.6	-16.5

Sources: CBvS; Ministry of Finance; General Bureau of Statistics; and Fund staff estimates.

<sup>1</sup>Surinamese guilders per U.S. dollar.

<sup>2</sup>Includes foreign currency deposits.

The improvements in the economy became evident in 1995. The monthly depreciation of the parallel exchange rate slowed to single digits in January, reflecting the perceived availability of foreign exchange in the market. In March 1995, the CBvS started to issue gold certificates to absorb liquidity and set a floor for interest rates. In mid-May, the CBvS intervened in the foreign exchange market with sharply increased sales to banks. The liquidity absorption halted the parallel market depreciation, triggering a major rebound in confidence.

The improvement in the economic outlook in 1995 coincided with increased international alumina prices. These increased by about 26 percent in 1995, fueled by an international commodity price boom.<sup>7</sup> The price increase also reflected the moderate growth in global aluminum production capacity in 1988–94, the decision by the main producer countries in early 1994 to reduce global aluminum production, and a sharp fall in inventories in early 1995. This supported a strong recovery in the balance of payments, fueled by growing exports and capital inflows, and resulted in a large increase in net international reserves. This, in turn, enabled the CBvS to sell foreign exchange to the private sector and reduce external arrears, thereby strengthening the country's creditworthiness.

With a rebounding economy, domestic demand and real wages increased rapidly. The nontradables sectors of the economy benefited from increased domestic demand, while nonmining tradables sectors, such as export agriculture, recorded only marginal growth.

### **The Second Episode of Near-Hyperinflation**

A change in government in 1996 brought about an abrupt and highly destabilizing policy loosening. The new government increased hiring and raised real public sector wages by 66 percent, which nearly doubled wage expenditure in relation to GDP. In addition, the government embarked on a large-scale capital expenditure program, mainly on a large bridge near Paramaribo. External grants also declined from 17 percent of GDP in 1996 to about 6 percent in 1998, reflecting a decline in aid from the Netherlands.<sup>8</sup> The CBvS freely financed the rapid increase in the central government deficit. At the same time, credit to the private sector grew rapidly, mainly on account of direct central bank lending in support of agriculture and housing. Inflation

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<sup>7</sup>Since the 1980s, alumina prices have closely followed aluminum prices quoted at the London Metal Exchange, and amounted to 11–13 percent of that price.

<sup>8</sup>There are substantial classification and data problems with the fiscal data during this period, in particular the recorded increase in capital expenditure of 6 percent of GDP. In light of the massive increase in domestic arrears to suppliers of goods and services of almost the same magnitude, and the serious governance issues surrounding the administration at the time, these data on expenditures should be interpreted with due caution.

began to accelerate in 1997, although the parallel market exchange rate depreciated only modestly as the central bank intervened in the market through sales of foreign exchange, specifically targeting the tradables sector.

The government maintained its sharply expansionary fiscal policies in 1998. While grant-financed capital expenditure declined considerably—reflecting the decline in Dutch grants—the government increased the public wage bill by almost 80 percent (or almost 6 percent of GDP) and increased domestically financed capital expenditure by an additional 6 percent of GDP in 1998. The increased deficit was financed not only through the accumulation of domestic and external arrears but also through the central bank. To provide support to the ailing economy, the central bank lowered nominal interest rates—despite increased inflationary pressures—and real interest rates turned negative. At the same time, the official exchange rate remained unchanged (Table 2.2).

These expansionary measures set the stage for an abrupt and disorderly adjustment in 1999. The economy contracted by about 5 percent and inflation accelerated to more than 110 percent.<sup>9</sup> Central government expenditure contracted sharply in real terms as financing became unavailable, and with public sector wages unchanged in nominal terms, the wage bill decreased from 19 percent of GDP in 1998 to 14 percent of GDP in 1999. The surge in inflation eliminated the real wage increases granted by the government in 1998. Despite the 12 percent decline of GDP in government revenue, expenditure cuts sufficed to reduce the overall deficit to about 10 percent of GDP. Nevertheless, domestic and external arrears more than tripled during 1999 to about 7 percent of GDP, in addition to about 3 percent of GDP for overdue payments for the new bridge that were converted into a loan.

Monetary and exchange rate policy measures were taken to address macroeconomic imbalances, but were not fully effective. The central bank imposed limits for commercial bank credit to the private sector, although there are strong indications that these distortionary credit limits were circumvented through the use of foreign currency loans.<sup>10</sup> Furthermore, the reduction in declared commercial bank lending was more than offset by the increase in credit to the central government. Also, the CBvS introduced a modified

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<sup>9</sup>The economic contraction was accentuated by a continued unfavorable external environment of low international alumina prices and a slump in demand for aluminum. This also hastened the closure of the aluminum smelter in April 1999, reducing foreign exchange inflows from the sector by about 20 percent and Suriname's overall industrial production by about 8 percent.

<sup>10</sup>To circumvent existing credit ceilings, foreign currency-denominated lending to the private sector was reported as increases in commercial bank other net assets.

Table 2.2. Suriname: Selected Economic Indicators, 1996–2001

	1996	1997	1998	1999	2000	2001
(Annual percentage change, unless otherwise indicated)						
GDP at constant prices	11.2	7.2	4.1	-5.0	-0.1	4.5
Consumer prices (end of period)	0.5	18.3	22.9	112.8	77.1	4.9
Consumer prices (period average)	-0.8	7.3	19.1	98.7	58.6	39.8
Black market exchange rate (end of period) <sup>1</sup>	1.6	7.3	63.1	68.7	88.2	-4.3
Black market exchange rate (period average) <sup>1</sup>	-16.8	5.0	27.5	125.3	55.2	15.6
Index of unit price of alumina export (1996=100)	100.0	99.3	89.8	83.4	95.5	90.3
(In percent of GDP)						
Total revenue and grants	46.7	35.7	36.0	24.0	27.2	38.7
Tax and nontax revenue	30.3	26.7	29.7	21.3	25.3	37.0
Of which: income tax from bauxite companies	5.8	3.5	2.2	1.9	2.3	4.8
Grants	16.5	9.0	6.2	2.7	1.9	1.6
Total expenditure and net lending	44.2	39.7	49.8	34.3	39.3	35.5
Current expenditure	38.1	32.2	34.6	26.8	37.0	32.4
Of which:						
Wages and salaries	10.1	13.0	18.8	13.8	13.1	12.0
Goods and services	19.3	13.4	11.1	9.3	16.3	8.4
Net lending	0.0	2.1	3.7	1.3	0.0	0.7
Capital expenditure	6.2	5.4	11.6	6.1	2.3	2.4
Overall balance	2.5	-4.0	-13.8	-10.3	-12.1	3.1
Financing (net)	-2.5	4.0	13.8	10.3	12.1	-3.1
Central bank	1.3	1.8	1.1	5.2	12.5	-12.9
Other domestic	0.4	1.9	1.7	0.2	3.5	1.9
External	-4.2	0.3	5.5	4.5	-2.4	6.6
Arrears to domestic suppliers	0.0	0.0	5.5	0.4	-1.5	1.3
(Changes in Surinamese guilders as a percent of broad money of the previous period)						
Broad money	35.1	22.3	36.8	35.2	83.8	28.9
Currency in circulation	2.7	4.5	14.0	17.5	28.5	7.2
Demand deposits	-7.4	9.0	3.4	6.3	27.6	18.2
Time, savings deposits <sup>2</sup>	39.8	8.7	19.5	11.5	27.7	3.5
(Percentage per annum)						
Real interest rate for domestic currency deposits	15.9	-1.7	-7.2	-96.9	-61.7	6.2

Sources: CBvS; Ministry of Finance; General Bureau of Statistics; and Fund staff estimates.

<sup>1</sup>Surinamese guilders per U.S. dollar.

<sup>2</sup>Excludes foreign currency deposits.

crawling-peg regime and sharply devalued the official exchange rate in January 1999. This reduced the spread between the official and market rates to less than 10 percent, although discretionary rules quickly widened the spread again and rapidly undermined confidence in the regime.

The new government that took office in August 2000 quickly introduced a series of strong measures to restore macroeconomic stability. In October 2000, the authorities devalued the Suriname guilder by 88 percent and eliminated the special exchange regimes for rice exports, petroleum imports, and commercial bank transactions. They halted all borrowing from the central bank, although they secured legislation to allow borrowing from commercial banks. They removed most subsidies for foodstuff and petroleum, and increased utility tariffs. The authorities introduced several social safety net measures, including lump-sum increases in civil service wages and pensions.<sup>11</sup>

## **Economic Performance in an International Context**

Suriname's macroeconomic performance during 1991–2005 lagged behind the Latin American and Caribbean average. In this period, Suriname's average real GDP growth rate was 2.2 percent, lower than the median for the Caribbean countries (2.7 percent) or the growth rate for Latin America (3.4 percent). Suriname's inflation was the second-highest in the region, with the average annual inflation rate reaching 73 percent during the period. Moreover, the number of months for which the 12-month inflation rate in Suriname exceeded 40 percent rose from 21 months during the 1980s to 87 months during the 1990s (Figure 2.2). This was in marked contrast to the general trend toward lower inflation rates in Latin America and the Caribbean since the beginning of the 1990s (Table 2.3).

### **Terms of Trade Volatility**

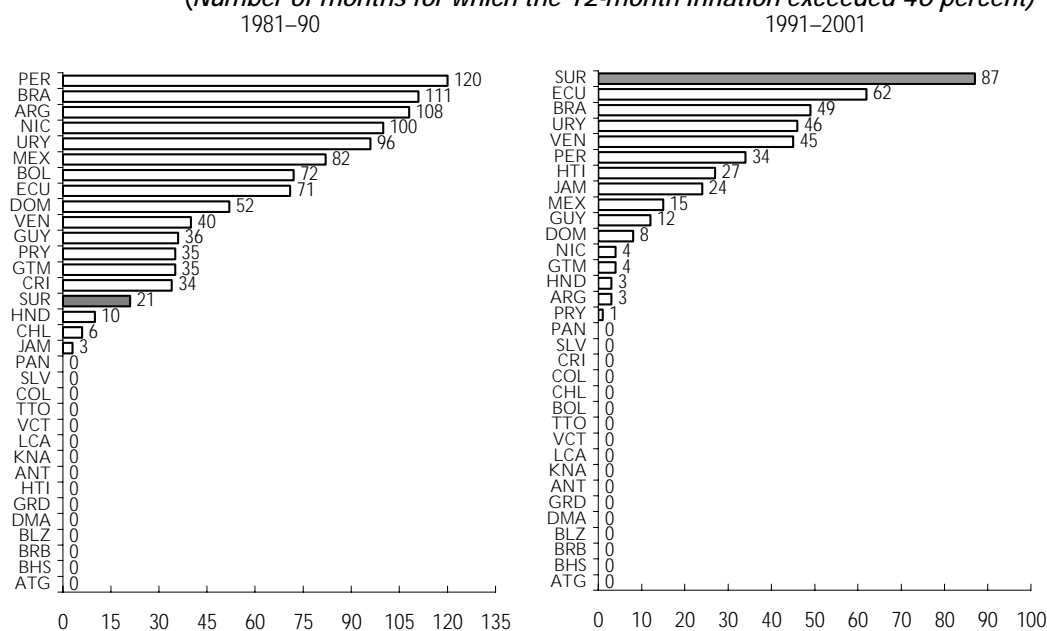
Exogenous shocks do not explain Suriname's weaker-than-average real growth and high inflation. Terms of trade volatility for Suriname was just above the region's average and generally below the volatility experienced by other commodity exporters in the region, particularly countries relying on exports of oil, gas, or their derivatives.<sup>12</sup> These commodity exporters had higher growth rates than Suriname, because of the strong increase in global

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<sup>11</sup>The various large ad hoc wage increases and the lump-sum increases during this period led to an unprecedented flattening of the wage curve in the public sector that persists until today.

<sup>12</sup>Commodity exporters in the region comprise Bolivia, Chile, Ecuador, Guyana, the Netherlands Antilles, Trinidad and Tobago, and Venezuela.

**Figure 2.2. Frequency of High Inflation of Latin American and Caribbean Countries**  
*(Number of months for which the 12-month inflation exceeded 40 percent)*



Source: Reinhart and Rogoff (2002).

demand for commodities since 1990. In the particular case of Suriname, it is noteworthy that the exporting mineral sector recorded strong growth of about 6½ percent per year during the 1990s, while the nontradables sector recorded an average annual real growth rate of only 1½ percent. A number of Latin American and Caribbean countries—marked by an ellipse in Figure 2.3—experienced relatively stronger terms of trade shocks and managed to contain the inflationary consequences of such shocks.

### Vulnerability to Exogenous Shocks

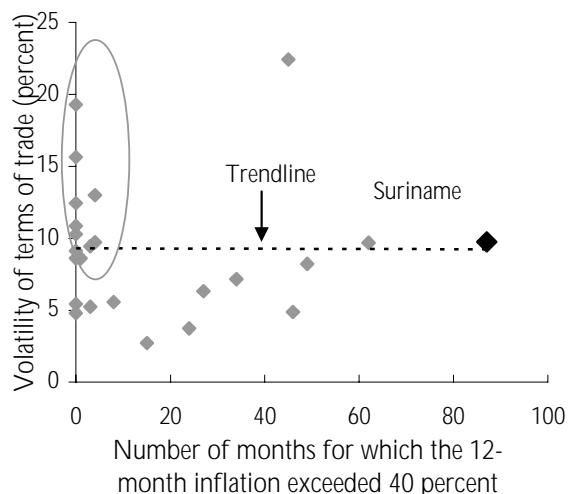
In a similar vein, Suriname's vulnerability to external shocks does not appear to be a leading cause of its relatively high inflation. In fact, Suriname's openness and terms of trade volatility are only slightly above the Latin American average (Figure 2.4). During the 1990s, high inflation (with a 12-month inflation rate exceeding 40 percent) was more frequent in Suriname than in countries with higher degrees of openness (such as Barbados, Costa Rica, Paraguay, and Trinidad and Tobago) or in countries with highly volatile terms of trade (such as Chile, El Salvador, or Trinidad and Tobago). In fact, the scatter plot in Figure 2.4 shows an inverse correlation between trade openness and high inflation, as all the countries with a high degree of trade openness—marked by an ellipse in the figure—managed to contain inflationary episodes better than countries with lower degrees of trade openness.

**Table 2.3. Latin America and Caribbean: Selected Economic Indicators,  
1991–2005  
(In percent)**

	Annual Ave. for 1991–2005		Volatility for 1991–2005	
	Real GDP Growth	Inflation	Real Effective Exchange Rate	Terms of Trade
<b>Suriname</b>	<b>2.2</b>	<b>73.2</b>	<b>12.5</b>	<b>9.7</b>
<b>Caribbean</b>				
Antigua and Barbuda	3.4	2.2	3.4	...
Bahamas, The	2.1	2.3	3.6	...
Barbados	1.5	2.7	3.4	4.8
Belize	4.9	2.0	2.0	...
Dominica	1.0	1.9	2.4	...
Dominican Republic	5.1	13.8	11.3	5.6
Grenada	2.7	2.4	2.4	...
Guyana	3.4	14.7	6.3	...
Haiti	-0.1	19.7	12.7	6.3
Jamaica	0.8	21.0	9.6	3.7
Netherlands Antilles	1.1	2.2	6.6	15.6
St. Kitts and Nevis	3.7	2.9	3.7	...
St. Lucia	2.3	2.6	2.4	...
St. Vincent and the Grenadines	3.1	2.1	3.5	...
Trinidad and Tobago	5.6	5.1	4.0	19.3
<b>Caribbean Median</b>	<b>2.7</b>	<b>2.6</b>	<b>3.6</b>	<b>5.9</b>
<b>Latin America</b>				
Argentina	3.7	17.8	19.0	5.2
Bolivia	3.5	7.2	4.3	9.1
Brazil	2.5	376.7	13.6	8.2
Chile	5.7	7.2	5.2	10.8
Colombia	2.9	15.6	8.1	8.6
Costa Rica	4.7	14.3	3.6	5.4
Ecuador	2.9	33.3	14.2	9.7
El Salvador	3.8	6.7	4.0	12.4
Guatemala	3.6	10.4	5.9	9.7
Honduras	3.4	15.1	6.1	9.4
Mexico	3.0	14.1	11.9	2.7
Nicaragua	3.4	17.1	22.9	13.0
Panama	5.0	1.1	3.4	10.3
Paraguay	2.1	11.9	6.2	8.6
Peru	4.1	40.7	4.5	7.2
Uruguay	2.5	29.0	10.0	4.9
Venezuela, Rep. Bol.	2.4	36.9	14.7	22.4
<b>Latin American Median</b>	<b>3.4</b>	<b>15.1</b>	<b>6.2</b>	<b>9.1</b>

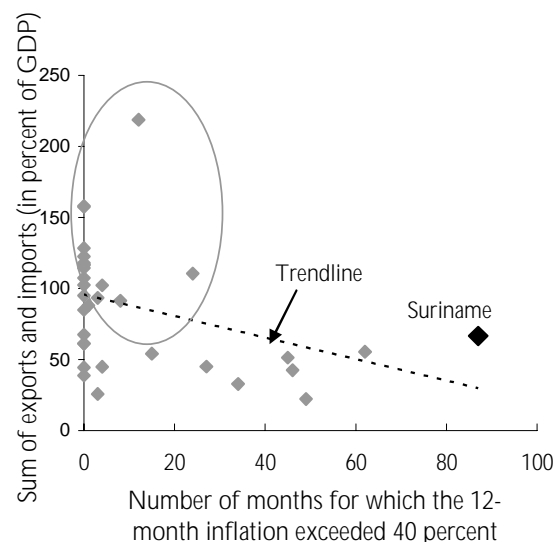
Sources: IMF, World Economic Outlook; Information Notice System; and World Bank.

Figure 2.3. Terms of Trade Volatility and Frequency of High Inflation, 1991–2005



Sources: World Bank; IMF, World Economic Outlook; and Reinhart and Rogoff (2002).

Figure 2.4. Openness and Frequency of High Inflation, 1991–2005



Sources: World Bank; IMF, World Economic Outlook; and Reinhart and Rogoff (2002).

A comparison with other resource-based economies also suggests that the exogenous shocks confronted by Suriname were less severe than average. Although Suriname is more open to external trade and has had higher current account deficits than other natural resource exporters, real GDP growth and the volatility of terms of trade are broadly similar with the comparator group average (Table 2.4). Nevertheless, broad money growth, average inflation, and the volatility of inflation and the exchange rate are significantly higher in Suriname. This underscores the fact that exogenous factors were not the primary cause of macroeconomic instability in Suriname.

### Governance

Finally, governance indicators, while pointing to some weaknesses, do not appear to be a leading cause of unfavorable macroeconomic performance during the 1990s. The quality of a country's institutions can be measured by governance indicators designed by Kaufmann, Kraay, and Mastruzzi (2005). These indicators provide rankings of 209 countries from all regions of the world for six governance indicators and have been updated biannually since 1996. Suriname's scores in the 1990s were at or below the median of all countries (value of zero in the charts). Suriname's rank was similar to other Caribbean countries at the time, except for government effectiveness, regulatory quality, and rule of law. Suriname ranked higher than Latin American



**Table 2.4. Macroeconomic Performance by Region, 1995–2004**

	Suriname	Fuel Exporter <sup>1</sup>	Nonfuel Primary Exporter <sup>1</sup>	Nonfuel Primary o/w Mining Exporter <sup>1</sup>	Caribbean <sup>1</sup>
(Annual percentage change, average for 1995–2004)					
GDP at constant prices	2.6	4.1	3.4	3.1	3.2
Broad money	58.3	13.0	16.0	11.6	9.0
(In percent of GDP, unless otherwise indicated, average for 1995–2004)					
External current account	-8.7	3.1	-5.5	-5.4	-11.9
Export of goods and services	68.6	44.7	29.4	30.8	48.1
Import of goods and services	77.8	38.8	33.7	35.0	63.9
Central government balance	-3.9	0.1	-3.7	-3.1	-3.6
Gross international reserves minus gold (in months of imports)	1.7	3.3	3.1	2.6	2.4
(Annual percentage change)					
Consumer price index					
Average for 1995–2004	50.6	4.1	8.3	8.3	2.1
Standard deviation for 1995–2004	71.4	4.4	5.0	4.9	1.9
Exchange rate (national currency per U.S. dollar)					
Average for 1995–2004	47.7	4.3	8.6	10.1	0.0
Standard deviation for 1995–2004	74.9	10.3	10.4	10.4	0.0
Terms of trade					
Average for 1995–2004	5.0	9.1	-0.4	-0.5	0.8
Standard deviation for 1995–2004	11.9	23.7	12.4	12.0	7.6
Real effective exchange rate					
Average for 1995–2004	7.5	0.7	0.3	-0.2	-0.3
Standard deviation for 1995–2004	14.7	6.4	6.5	7.5	4.4

Sources: IMF, World Economic Outlook; and Information Notice System.

<sup>1</sup>Data shown are the median across countries in each category. Each category comprises as follows:

**Fuel exporters:** Algeria, Angola, Azerbaijan, Bahrain, Republic of Congo, Equatorial Guinea, Gabon, Iran, Kuwait, Libya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkmenistan, United Arab Emirates, Venezuela, and Yemen.

**Nonfuel exporters:** Bolivia, Burundi, Chile, Ghana, Niger, Papua New Guinea, Togo, Zambia, Botswana, Burkina Faso, Chad, Democratic Republic of Congo, Cote d'Ivoire, Ethiopia, Guinea, Guinea-Bissau, Guyana, Malawi, Mali, Mauritania, Namibia, Rwanda, Sierra Leone, Solomon Islands, Tajikistan, and Zimbabwe.

**Nonfuel exporters, of which mining exporters:** Bolivia, Burundi, Chile, Ghana, Niger, Papua New Guinea, Togo, and Zambia.

**Caribbean:** Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago.

countries, except for regulatory quality, for which Suriname was positioned around the 30th percentile of the world.<sup>13</sup> In light of this mixed picture, it is not possible to conclude that lags in governance played a large role in Suriname's growth performance (Figure 2.5).

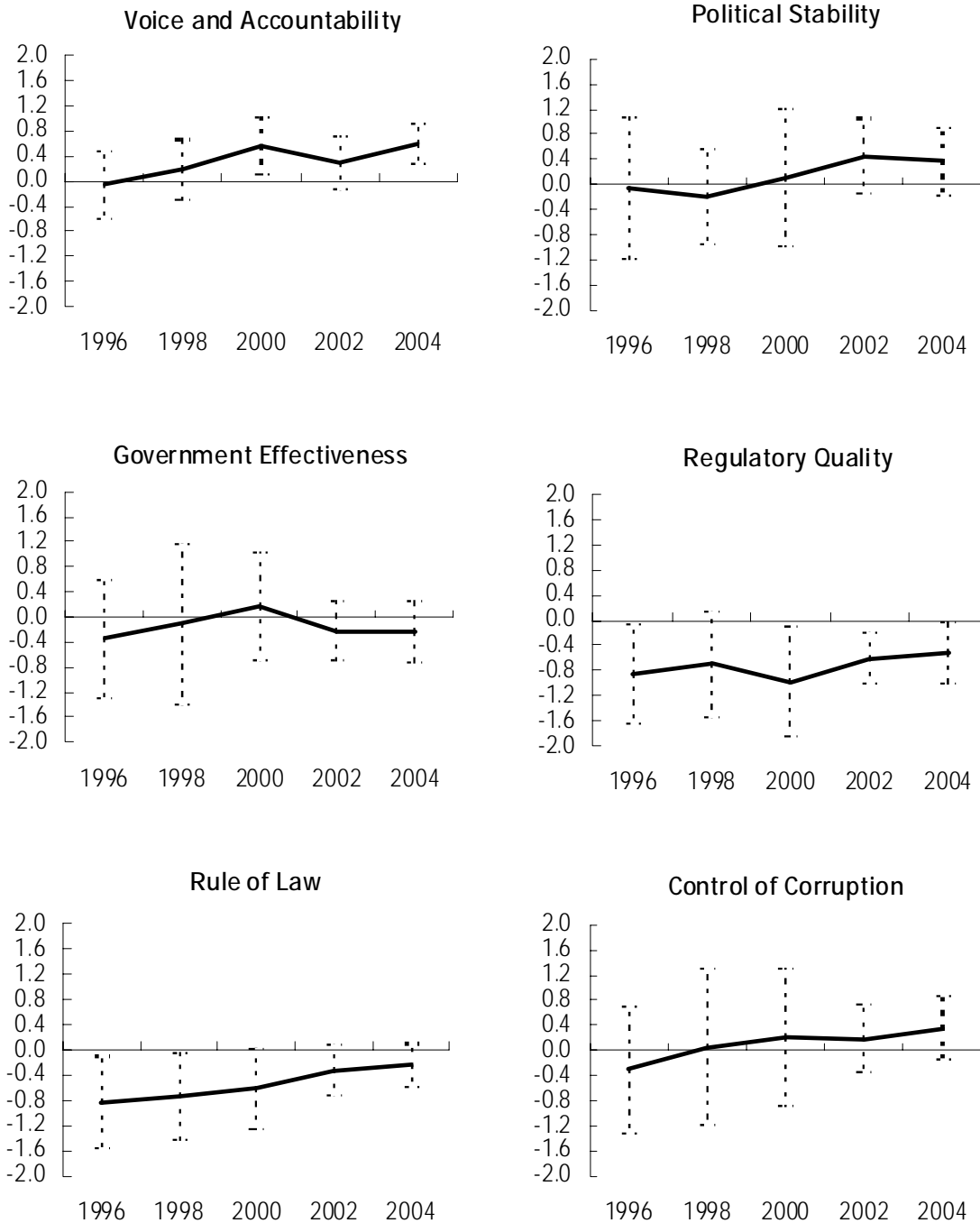
The governance indicators in detail are as follows:

- **Voice and accountability:** An indicator to measure the degree of effective political process, civil liberty, and human rights. This indicator was at around the median for all countries in the sample in 1996 and has improved almost continuously in the years since then.
- **Political stability:** This measures the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and violent means. The electoral transition at the end of the 1990s and the stable political environment under the present coalition government have improved the country's relative standing in comparison with other countries.
- **Government effectiveness:** This measures mainly the quality of public services. Suriname has scored below average on this governance indicator. It is worthwhile to note that this indicator has improved only temporarily with the change of government at the end of the 1990s, pointing to the need for fundamental civil service and institutional reforms to improve the effectiveness of public services.
- **Regulatory quality:** This measures mainly the incidence of market-unfriendly policies such as price controls. Suriname scores particularly low in this category, pointing again to the use of distortionary interventions in markets.
- **Rule of law:** This measures the extent to which economic agents have confidence in and abide by the rules of society. The indicator has consistently improved, particularly since 1999.
- **Control and corruption:** This indicator measures the perceptions of corruption, conventionally defined as the exercise of public power for private gain. Although this indicator was somewhat below the median in the 1990s, it has also improved compared with other countries.

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<sup>13</sup>There are no comparative governance indicators for Suriname for the complete period of the two near-hyperinflation episodes, although indicators cover the second near-hyperinflation episode. However, governance indicators tend to fluctuate only to a limited extent and are likely to have been similar during the early 1990s.

**Figure 2.5. Governance Indicators**



Sources: Kaufmann, Kraay, and Mastruzzi, "Governance Matters IV: Governance Indicators for 1996–2004" (2005), World Bank Policy Research Working Paper Series No. 3630.

Note: For each variable, higher scores indicate better governance. The dashed lines indicate the 90 percent confidence interval.

## Real Effective Exchange Rate

The volatility of the real effective exchange rate (REER) has contributed to Suriname's underperformance on growth. Econometric studies have confirmed the negative effect of REER volatility on capital formation in Latin America and east Asia (Serven and Solimano, 1994). Moreover, a simple scatter plot for selected regional countries during 1981–90 points to a negative correlation between the volatility of the real effective exchange rate and average real GDP growth, with Suriname displaying a high degree of REER volatility (Figures 2.6 and 2.7).<sup>14</sup> While the negative relationship became weaker during 1991–2000, Suriname's REER volatility (horizontal axis) remained among the highest in the region.

The negative effect of real effective exchange rate volatility on growth can be attributed to uncertainty about future competitiveness.<sup>15</sup> Uncertainty can act as a powerful deterrent to investment, because delaying an investment and waiting for new information has a value that increases with uncertainty. In the case of Suriname, it is likely that the pronounced volatility of the REER in the 1980s and 1990s compounded impediments to investment, employment, and growth. This was particularly the case for the nonmining sector, because investment in the bauxite mining sector was partially sheltered from REER uncertainty as local wages for bauxite mining and processing were contracted in U.S. dollars and paid out in local currency.<sup>16</sup> This also helps explain the significantly higher growth rate of the bauxite-mining sector compared with the rest of the economy. Similarly, this helps explain the tendency toward dollarization to reduce uncertainty.<sup>17</sup>

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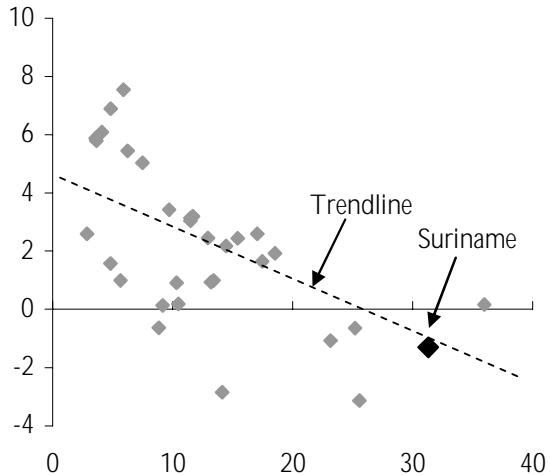
<sup>14</sup>REER volatility is measured as the standard deviation of the year-on-year growth rates of the annual average real effective exchange rate indices. The parallel market rate is used in Suriname, which has a substantially lower degree of REER volatility than the official rate. While the  $R^2 = 0.41$  for the 1980s, there was no noticeable correlation in the 1990s, which is also evident in Figure 2.7. Calculations are based on International Financial Statistics (IFS) data; the sample comprises developing countries for which free market exchange rate data was available during the period.

<sup>15</sup>This is discussed in the literature in the context of the application of option pricing models to investment decisions. The underlying theoretical framework is developed in Dixit and Pindyck (1994); for an introductory exposition, see Dixit (1992).

<sup>16</sup>A detailed description of the history and structure of the main economic sectors of Suriname can be found in the appendix.

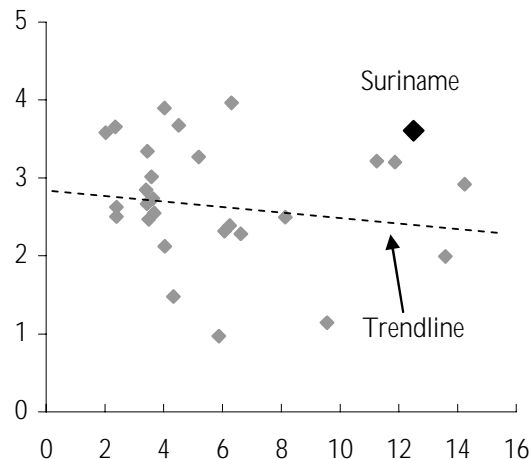
<sup>17</sup>For a discussion of the determinants of dollarization in Suriname, see Chapter 5.

**Figure 2.6. Real Effective Exchange Rate Volatility and Growth, 1981-90**



Sources: IMF, International Financial Statistics, and Fund staff estimates.

**Figure 2.7. Real Effective Exchange Rate Volatility and Growth, 1991-2000**



Sources: IMF, International Financial Statistics, and Fund staff estimates.

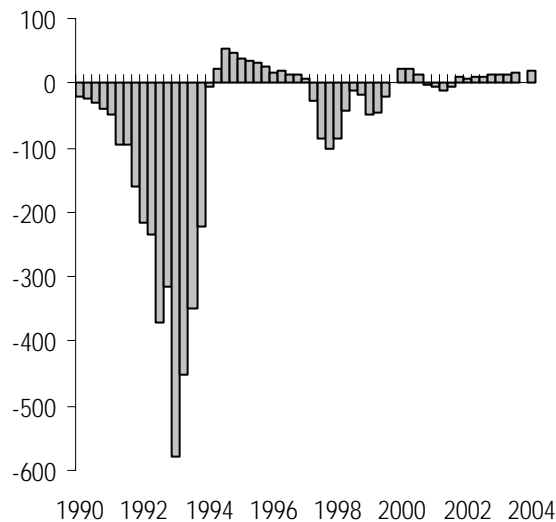
## Real Interest Rates

The episodes of negative real lending rates affected the Surinamese economy in a number of ways.<sup>18</sup>

- Banks lowered their demand and time deposit rates, which acted as a disincentive to savings in domestic currency. In addition to leading to increased dollarization (see Chapter 5), this also led to a demonetization of the economy. The ensuing financial disintermediation can be associated with lower investment and growth.
- Nominal rates did not increase, owing to existing credit ceilings and moral suasion. The negative real rates implied large subsidies for those sectors that had access to bank funds and came at the expense of other productive sectors that had only limited or no access to the banking system and that had to rely on alternative, more expensive, and uncertain forms of financing. Coupled with the directed lending activities of the government, this undermined the efficient allocation of credit in the economy and fostered rent-seeking behavior.

<sup>18</sup>Cross-country evidence suggests that prolonged episodes of negative real interest rates are negative for growth (Easterly, 1993). In Suriname, the average real lending over the period 1991–2004 was –57 percent.

Figure 2.8. Ex-Post Real Lending Rates, 1990–2004



Sources: Central Bank of Suriname, and Fund staff estimates.

- Negative returns on deposits encouraged the development of near-banking activities, whereby private investors were lured into Ponzi-like schemes with promises of very high returns. These became quite prevalent by the mid-1990s, with total amounts invested reaching 25 percent of total bank deposits by 1996. More often than not, these schemes led to substantial losses for participants and further distorted the allocation of credit in the economy.

The existence of negative real interest rates in Suriname can be attributed to the underdeveloped banking system and regulatory controls. Episodes of negative real interest rates occurred during the near-hyperinflation periods in Suriname (Figure 2.8). Deposit and lending rate ceilings in place until 1993 explain the nominal rigidity of lending rates for most of the first inflationary episode. However, the stickiness of nominal rates after 1993 was likely due to some degree of monetary illusion among borrowers and the lack of alternative financial vehicles in an oligopolistic banking system (there are only three major banks), which allowed banks to avoid having to increase nominal deposit rates to maintain market share. Finally, moral suasion by the authorities was also a critical factor, amplified by the fact that the government, as a major shareholder in four out of the eight banks, promoted subsidized lending rates at some of the banks.

Similarly, episodes of excessively high real lending rates undermined growth and investment in Suriname. Real lending rates increased substantially during 1995–96 and again in 2000 during periods of rapid disinflation. In both episodes of rapid disinflation, nominal interest rates remained very close to their

pre-disinflation levels for several quarters. The downward stickiness can be traced back to limited competition in the banking system. In addition, with a history of extremely high inflation volatility, it is likely that inflation expectations were predominantly backward looking and nominal rates reflected the large inflation rates from the past, even in a low-inflation environment. Also, the credit ceilings established by the authorities limited the use of deposits for lending, acting as a tax on the banking system and adding to the real lending rate charged by banks. While high real rates helped to remonetize the economy, they also affected the profitability of investment opportunities and may have led to credit rationing.<sup>19</sup>

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<sup>19</sup>For a description of credit rationing when interest rates are high, see Stiglitz and Weiss (1986).

## Coping with Fiscal Revenue Volatility

This chapter analyzes the sources of revenue volatility in Suriname and recommends measures to reduce the impact of exogenous price shocks on the fiscal position. As discussed in the previous chapters, the episodes of near-hyperinflation primarily can be traced back to the inadequate policy response to external shocks, including through their effects on fiscal revenues. This chapter focuses on these revenue shocks and the ensuing policy responses. It argues that an improved institutional framework could reduce the public sector's vulnerability to commodity price fluctuations and secure a more stable fiscal revenue flow.

The first section of this chapter provides an overview of the public sector in Suriname and traces its unique structure and functioning to its social and political roots. The public sector in Suriname is relatively large compared with the regional average and is concentrated in Paramaribo. Its structure and size have been marked by a political system that has used public sector employment as an avenue for political consensus-building in a multiethnic society. The civil service in Suriname is marked by a low and unusually compressed wage scale, and substantial scope exists to improve the productivity of public services.

The second section of this chapter highlights the main components of revenue volatility in Suriname. The shocks to the revenue base during the 1990s can be traced back to bauxite export-related revenue, although revenue volatility related to the taxation of imported oil products and gold mining also played a role.

The final section of this chapter presents proposals to stabilize the fiscal position in light of high revenue volatility. This section argues for the establishment of a nonrenewable resource fund (NRF) whose assets would be invested abroad to absorb revenue from future mining projects. In this context, the section discusses the general principles underlying NRFs, including a few examples and country experiences. The section also argues for the need to strengthen fiscal institutions and to place annual budgets in a medium-



term policy framework, particularly in relation to the nonextractive sectors of the economy.

## The Public Sector

### Size of the Public Sector

Suriname's public sector is large by regional standards.<sup>20</sup> Although general government spending during 2001–05 is in line with the Latin American average, Suriname's government wage bill, at 38 percent of total expenditure, is significantly above the 31 percent average (Table 3.1). The size of the public sector reflects its importance as an employer. Including state-owned enterprises, it is estimated that the public sector accounts for about 60 percent of formal sector employment. Most public sector employment resides in the central government in Paramaribo, and recorded local government employment is small. The high degree of centralization of employment in the urban Paramaribo area has heightened regional economic disparities.

Suriname maintains a large number of parastatal institutions and public enterprises. A 2005 inventory by the Ministry of Trade and Industry identified around 120 partially or totally state-owned enterprises. Because of data inaccuracies at the public enterprise level, a lack of adequate reporting requirements, and budget allocation rules that do not always identify the ultimate recipient of subsidies, it is likely that some of these entities are no longer commercially active and may or may not be receiving subsidies. Although some entities are defunct, public enterprises play an important role in most strategic sectors of the economy, including oil, banking, agriculture, energy and utilities, transportation, and tourism.<sup>21</sup> Government agencies, even those that perform functions traditionally associated with central administration, are often set up as quasi-autonomous foundations (*stichtingen*), a legal form that allows them to operate outside the central government's rigid civil service labor code and wage scale, but also with a substantially decreased amount of oversight.

The wage bill absorbs a large share of current expenditures and has compressed public investment. Current expenditures, net of interest payments, averaged nearly 25 percent of GDP during 2001–05.<sup>22</sup> At the same time,

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<sup>20</sup>This section draws on estimates carried out in the context of various IMF Article IV consultations and several studies undertaken by the Inter-American Development Bank (IDB), in particular a comprehensive analysis and description of Suriname's public sector in IDB (2001).

<sup>21</sup>A list of public commercial and noncommercial enterprises as well as publicly funded social organizations and foundations can be found in IMF (2007).

<sup>22</sup>Available data do not allow for a reliable breakdown of expenditures by sector.

Table 3.1. Selected Fiscal Indicators in Latin America  
and Caribbean Countries  
(Average 2000–05)

	Total Expenditure (In percent of GDP)	Government Wage Bill (In percent of total expenditure)
<b>Latin America</b>	<b>28.8</b>	<b>30.5</b>
Argentina	32.9	27.1
Bolivia	32.7	32.8
Brazil	49.0	27.7
Chile	23.2	24.5
Colombia	32.4	33.7
Costa Rica	26.5	39.5
Ecuador	23.7	41.2
Mexico	24.8	40.5
Nicaragua	27.5	30.7
Panama	25.7	21.5
Paraguay	21.4	42.4
Peru	19.2	29.1
Uruguay	31.6	19.9
Venezuela	32.1	16.1
<b>The Caribbean</b>	<b>36.5</b>	<b>37.9</b>
Barbados	44.8	...
Belize	31.2	...
Dominican Republic	18.0	...
Guyana	50.6	...
<b>Suriname</b>	<b>37.7</b>	<b>37.9</b>
<b>LAC Average</b>	<b>30.7</b>	<b>31.0</b>

Sources: World Economic Outlook; and Fund staff estimates.

public investment remained relatively low by international standards, with capital expenditures averaging only about 3 percent of GDP during the same period (Table 3.2). Large current expenditures constrained the level of public investment that could be financed from domestic sources. At the same time, lack of planning and implementation capacity appears to have held back capital-spending projects even though external financing was, in principle, available. Compounding the problem, chronic public underinvestment has created infrastructural bottlenecks that act as a drag on private sector-led

**Table 3.2. Suriname: Central Government Expenditure**  
(In percent of GDP)

	2001	2002	2003	2004	2005	2006
<b>Total expenditure</b>	<b>32.0</b>	<b>31.2</b>	<b>27.6</b>	<b>28.6</b>	<b>29.7</b>	<b>28.3</b>
<b>Current expenditure</b>	<b>29.2</b>	<b>28.4</b>	<b>24.4</b>	<b>24.9</b>	<b>25.2</b>	<b>24.7</b>
Wages and salaries	11.0	13.2	12.2	10.7	10.9	10.3
Current transfers	8.3	5.6	4.2	3.5	3.2	3.7
Interest	2.2	2.3	2.0	1.7	2.4	1.8
Goods and services	7.7	7.2	6.1	9.1	8.7	8.9
Net lending to public entities	0.7	0.2	0.3	0.1	0.1	0.2
<b>Capital expenditures</b>	<b>2.2</b>	<b>2.6</b>	<b>3.0</b>	<b>3.6</b>	<b>4.4</b>	<b>3.4</b>
Externally financed	1.5	1.2	2.8	0.9	3.4	1.7
Domestically financed	0.6	1.5	1.1	2.2	1.0	1.6
<b>Memorandum item:</b>						
Current expenditure, net of interest	27.0	26.1	22.4	23.3	22.8	22.9

Sources: Ministry of Finance; Central Bank of Suriname; Embassy of the Netherlands in Suriname; and Fund staff estimates.

growth. However, the current administration has significantly increased public sector investment without incurring potentially destabilizing levels of external debt (Table 3.2).

### Civil Service

Public sector employment in Suriname has been a tool for political consensus building. Since independence, the integration into the political process of ethnic groups—in particular, urban Creoles, Hindustanis, Javanese, and more recently Maroons—was achieved through the creation and maintenance of ethnically dominated government agencies or ministries. This inclusion mechanism, as well as being a consequence of a lack of job opportunities in the private sector, has been perpetuated in the multiethnic society by a societal standard of consensus building that favors creating public sector jobs as a form of conflict resolution or avoidance.

The civil service in Suriname is marked by a low level of efficiency. The politicization of public sector employment in the context of ethnic and political consensus building has led to the duplication of government functions through different agencies and weak coordination between institutions. Absenteeism is high, and checks and balances among institutions are underdeveloped.

The efficiency of the public sector is further undermined by low civil service wages and a highly compressed wage scale. Wage compression in the civil

service has been the result of civil service wage increases during the near-hyperinflation episodes that provided larger percentage increases to lower-paid workers or, in some cases, provided the same nominal lump-sum increase to all civil servants. Based on 2002 data, the highest civil service salary (requiring a master's degree) was two and a half times that of the lowest civil service salary (the cleaning staff) (IMF, 2003a). There is widespread consensus among public sector labor unions and the administration that this unusual flat wage curve has hampered the public sector's ability to attract and retain talented public servants, especially the highly skilled.

Absenteeism in the public sector is severe in Suriname. A lack of appropriate pay, highly restrictive dismissal rules in the civil service, a lack of oversight, and a culture of tacit acceptance of absenteeism have been named as reasons for the high degree of absenteeism, particularly in central government in Paramaribo. Dismissals from the civil service are rare in Suriname, in part owing to the highly restrictive labor code. As an example, changes in political regimes have led to civil servants being asked to refrain from coming to work and to their being replaced by new political appointees. Those civil servants continue on the public sector payroll indefinitely.

## Fiscal Revenue Instability

Revenue volatility triggered the inadequate policy responses of the 1990s. As evidenced in Chapter 2, inadequate policy responses to export and fiscal revenue shocks—rather than the shocks themselves—led to the near-hyperinflation episodes of the 1990s. During the past decade, world market price changes for bauxite and oil have caused significant volatility in tax revenues.

Revenues from bauxite, gold, and oil have been especially volatile:<sup>23</sup>

- **Bauxite and alumina:** The revenue volatility of this major export commodity became the trigger of the near-hyperinflation episodes of the 1990s.
- **Gold:** Gold has only recently become a significant export commodity and is already adding volatility to the fiscal revenue base.
- **Oil sector:** The taxation of the national oil company and the taxation of imported gasoline and diesel both add to volatility.

Revenue volatility during the 1990s was related to substantial tax and exchange rate regime changes. The substantial tax regime changes put in place

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<sup>23</sup>For a detailed description of the gold and bauxite mining and oil sectors in Suriname, see the appendix.

at various times during the 1990s and the revenue impact of the multiple exchange rate regimes added substantial volatility to the revenue base. At the same time, grant revenue, almost entirely from Dutch grants, provided a countercyclical revenue element. Conversely, the suspension and reintroduction of those grants during some years in the 1980s and 1990s added to revenue volatility. The substantive tax and exchange rate regime changes of the 1990s make it difficult to discern the underlying noncommodity tax base of the period. However, the more stable taxation regime that has been in place during this decade has allowed for a more stable noncommodity revenue base, which should be a central element in medium-term budget planning within a stability- and growth-oriented fiscal policy.

## **Toward a Stability- and Growth-Oriented Fiscal Policy**

### **Public Sector Reform**

The size and inefficiency of the public sector weighs heavily on development prospects for the private sector. A road map for public sector reform would need to undertake a strategic reassessment of the priority areas of involvement for the state and then organize a well-coordinated retreat from nonessential areas. This approach would allow the state to enhance the quality of public services and create a social infrastructure that would—over time—render it unnecessary to rely on the state as an employer of last resort. For this purpose, it would be necessary to reform the parastatal sector through divestment, liquidation, or restructuring. A number of international donors and lenders have been engaged in providing financial and technical support to the government of Suriname to reform the parastatal sector to increase its efficiency. In this context, it is worthwhile to note that the current administration has also advanced proposals to decentralize Suriname's public sector institutions.

A successful reform of the state will require a profound and comprehensive civil service reform. Labor unions and the administration agree that a gradual reduction in the workforce is necessary and can be supported through migration to the private sector. At the same time, a correction of the unusually high degree of wage compression will be necessary to enable the public sector to attract and retain sufficiently qualified staff. Finally, a reform of the labor code will be necessary to address absenteeism.

The current administration has implemented significant measures to reduce the incidence of governance problems. In particular, institutional, regulatory, and oversight measures to reduce the risk of misuse of public finances and central bank funds have been adopted. These measures include the State Debt Act and the amendments to the Central Bank Act.

## Nonrenewable Resource Funds

Suriname could benefit from establishing a well-designed nonrenewable resource fund. Many countries that similarly rely on revenues from extractive industries have established NRFs to stabilize the fiscal position and to ensure that at least a portion of the wealth derived from domestic extractive industries is saved for future generations.<sup>24</sup> Not all countries have been equally successful in using such funds, and a careful design based on international best practices is needed for Suriname to ensure its lasting success.

The issue not only is related to the use of windfall revenue by governments, but also should be seen as a more long-term decision about the use of recurring revenue from the exploitation of nonrenewable resources. Windfall profits can be used by governments for consumption, investment, asset accumulation, or debt repayment. It can be argued that the current lack of essential infrastructure in Suriname requires spending windfall revenue to advance high productivity infrastructure projects, because these could have a significant impact on the income of future generations. However, infrastructure investment requires continued maintenance investments, which can create a problem as windfall revenue declines. Spending decisions based on windfall revenue also carry a significant risk of being shortsighted, as international experience has amply demonstrated. Finally, spending windfall revenue is essentially procyclical and negates the implicit macroeconomic stabilization effect of an NRF.

### *International experience with nonrenewable resource funds*

Revenue stabilization funds have been used in a number of countries to help stabilize fiscal revenues and safeguard resources for future generations. Design and rules of operation vary widely, but successful cases of NRFs are characterized by careful design, a strong medium-term fiscal framework with an associated prudent fiscal and monetary policy stance, close integration of the fund's operations in the budgetary system, transparency of rules governing the fund, and professional and transparent asset management.

- **Chile:** Chile's copper stabilization fund—which is more oriented toward stabilizing the fiscal position—is widely credited with having successfully allowed the Chilean authorities to manage fiscal policies in the face of commodity price shocks (IMF, 2003b, p. 27). Estab-

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<sup>24</sup>In principle, there is a trade-off between achieving both goals. Revenue stabilization typically chooses a long-term benchmark world price for mining output, and complete revenue stabilization may end up depleting the fund in case of a durable downward shift in world market prices. The nonstationary behavior of prices for mining output, resulting in sudden but long-lasting shifts in the price structure, has indeed contributed to the breakdown of many stabilization funds (see the discussion in Davis and others, 2001, p. 4). To account for such regime shifts, successful stabilization funds would need to incorporate a forward-looking policy rule.

lished in 1985, Chile's copper stabilization fund operates on the basis of a reference copper price, which is determined by the authorities and has in the past followed the 10-year moving average of global copper prices. Transfer rules are symmetric around the reference price and copper export earnings and expenditure are negatively correlated (Davis and others, 2001). However, the importance of the revenue stabilization functions of the fund has decreased in light of the comparatively strong fiscal framework and budgeting process in Chile.

- **Norway:** Since 1995, Norway has operated a petroleum fund that had accumulated external assets of about 114 percent of GDP by 2006. All fiscal revenue from oil is transferred to the State Petroleum Fund (SPF), which, in turn, transfers back financing to cover the overall fiscal deficit. The SPF operates without oil benchmark prices for determining net transfers, and asset management has been delegated to a separate unit within the central bank, which relies on professional investment companies to manage the equity portfolio of the fund. This design allows for a substantial degree of fiscal flexibility, but it both requires and facilitates a medium- to long-term budgeting process. A transparent asset management policy facilitates public assessment of the fiscal stance and fosters confidence in the fund and in public finances.
- **Botswana:** Botswana maintained large budget surpluses, in particular during the 1990s, and deposited a substantial part of mineral revenues with the central bank, which manages the country's external assets in a long-term and a short-term fund. The budget surpluses effectively sterilize the monetary impact of the external reserves accumulation by the central bank. The banking system's net external assets exceeded monetary liabilities by a factor of three in 2006.

There is ample evidence that revenue stabilization funds require careful design and implementation to avoid failure. Some revenue stabilization funds have been less successful owing to the inconsistency of the fund's objectives with the underlying fiscal policy regime, inflexible rules that were overridden frequently, or a failure to adjust benchmark prices to lasting changes in world prices. For example, Papua New Guinea's mineral resource stabilization fund was abandoned in 2000, after failing to accumulate external assets and to stabilize the revenue stream.<sup>25</sup> Oman's state general reserve fund fell short of expectations, because the fund suffered from frequent rule changes

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<sup>25</sup>Frequent rule changes for the operations of the fund led to transfers from the fund that varied almost as much as the resource revenues themselves. In addition, the fund was not well integrated with overall fiscal policy, because budget expenditure was partly financed with debt operations outside the fund (see Davis and others, 2001, p. 26).

and failed to stabilize procyclical expenditure changes (Davis and others, 2001, p. 25).

### **Medium-Term Budget Framework**

Suriname needs a medium-term fiscal framework to compensate for the influence of volatile fiscal revenues. Such an institutional framework would reduce the public sector's vulnerability to commodity price fluctuations by limiting incentives for immediate consumption of windfall gains from positive external shocks. Such a framework would also provide for automatic stabilizers that would dampen domestic demand in times of favorable external conditions, while shoring up spending and protecting important public investment projects in times of negative external shocks.

The medium-term budget framework and its longer-term revenue stream plan would provide annual guidance for the budget process. Annual expenditure plans would be guided by the policy objectives and the stable revenue streams of the medium-term budget framework. In this context, the various links between the NRF, medium-term fiscal management, and annual budget cycles may provide synergies in planning and execution and help establish solid fiscal planning and budgetary management. The medium-term budget framework should consider the underlying activity and revenue stream from the nonextractive industries.

Stronger fiscal institutions are needed. The establishment of a medium-term budget framework will require better planning and forecasting capabilities and a close integration between different institutions and agencies. In this context, the establishment and operation of a medium-term budget framework will facilitate improved cooperation, data provision, and task delimitation between different entities in the central government. It will also strengthen the internal controls that have been put in place to avoid the misuse of public funds, such as the State Debt Act or the amendments to the Central Bank Act.

Some progress already has been made in establishing a medium-term budget framework. The International Monetary Fund (IMF) and Inter-American Development Bank (IDB) undertook a needs assessment in 2006. In addition, the IMF-led Caribbean Technical Assistance Center (CARTAC) has been providing assistance to set up such a framework, trained staff in the Ministry of Finance in revenue-forecasting techniques during 2007, and plans to expand technical assistance to include expenditure-forecasting techniques.



## Monetary and Exchange Rate Policy

The inflation performance of Suriname reflects the pervasiveness of monetary financing of fiscal needs and the absence of appropriate monetary and exchange rate policies. As documented in Chapter 2, average inflation was among the highest and most volatile in Latin America and the Caribbean during the 1990s. This chapter will demonstrate that in Suriname, as in other countries, episodes of very high inflation are always and everywhere a monetary phenomenon.

The first two sections of this chapter describe the current monetary and exchange rate policy framework in Suriname. Although the monetary authorities have a mandate of price stability, the conduct of monetary policy has been hampered by the lack of central bank independence and inadequate policy instruments. The second section describes the current structure of the exchange rate regime and the country's varied history of exchange rate arrangements.

The third section analyzes the sources of monetary instability in Suriname and the transmission of monetary policy to prices and market exchange rates. Monetary developments in Suriname have been determined by the fiscal dominance of monetary policy. Monetary policy, in some cases, provided an additional impulse to monetary expansion and played an important role during the first near-hyperinflation episode. Finally, the section documents the role of inflationary expectations in the transmission of monetary policy in Suriname.

The last section presents a series of recommendations to improve the monetary and exchange rate policy framework. Building on the need for more effective monetary policy, as evidenced in this and previous chapters, this section calls for a clear separation between money creation and government funding needs, and the development of market-based policy instruments. The section makes the case for a unified exchange rate system and a move toward greater exchange rate flexibility in Suriname over time as the supporting financial institutions and policies are developed.

## The Financial and Monetary System

### Institutional Framework

Monetary policy is governed by the Central Bank of Suriname Act.<sup>26</sup> The law defines the purpose of the Central Bank of Suriname (CBvS) as promoting the stability of the Surinamese currency and achieving “balanced socio-economic development.” In pursuit of these goals, the CBvS is required to conduct monetary policy to achieve a low and stable rate of inflation. Although not mentioned explicitly in the Central Bank Act, developments in the foreign exchange market are an important factor in the formulation and implementation of monetary policy, particularly given the sensitivity of domestic prices to exchange rate movements.

Historically, the CBvS has been unable to conduct an independent monetary policy. A statutory cumulative ceiling for the central bank financing of the government deficit—set at 10 percent of budgeted revenues for a fiscal year—has been in place since 1981. However, in the past, the CBvS was often required to issue reserve money to finance the government budget well in excess of the statutory limits or levels consistent with low inflation. A new amendment to the Central Bank Act enacted in May 2005 has strengthened the central bank president’s authority to limit financing in excess of the lending limit and establishes severe penalties for central bank officials found in dereliction of their duties.

### Monetary Policy Instruments

Suriname is in the early stages of money market development. The CBvS relies on reserve requirements and moral suasion to conduct monetary policy and has not adopted a formal, preannounced operational framework or target for monetary policy.

Monetary policy relies mostly on reserve requirements, which were instituted in 2001. Before May 2001, monetary policy was conducted mainly through monthly adjustments to credit ceilings. Ceilings were placed on incremental domestic and foreign currency lending by commercial banks.<sup>27</sup> These ceiling were not strictly observed, however, and there were no penalties for a breach

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<sup>26</sup>The act was promulgated in 1956 and last amended by Decree No. 94 on September 19, 1983.

<sup>27</sup>The credit ceilings were established annually using formulas based on the composition of individual banks’ nonsight deposit liabilities as follows: (a) 90 percent of the increase in savings deposits, (b) 75 percent of the increase in time deposits with a maturity of less than one year, and (c) 100 percent of the increase in time deposits with a maturity of one year and over. In addition to deposit liabilities, increases in the bank’s capital and reserves also determined the ceilings.

of the ceilings before January 2005.<sup>28</sup> A single unremunerated reserve requirement on domestic currency deposits of 27.5 percent was introduced in May 2001, while reserve requirements on foreign currency deposits were instituted in February 2003. The reserve requirement on domestic currency deposits has been gradually lowered since October 2004, as the exchange rate stabilized and inflation fell to single digits. One small state-owned bank benefits from lower reserve requirements, which will gradually be raised as its liquidity conditions improve until they reach the uniform ratio that applies to all banks. The CBvS checks the banks' compliance with the reserve requirements on a weekly basis.

The reserve requirement scheme has two significant distortions:

- **Foreign currency intermediation is favored.** There were no reserve requirements on foreign currency deposits until the CBvS imposed a 17.5 percent requirement on February 12, 2003. With a view to eliminating the gap between the treatment of domestic and foreign currency deposits, the CBvS gradually lowered reserve requirements on domestic currency deposits, which reached 30 percent in October 2004, while reserve requirements on foreign currency deposits were increased from 17.5 percent to 22.5 percent in November 2004 and to 33½ percent in February 2005. However, the required reserves for foreign currency deposits are remunerated and can be held abroad at correspondent accounts of foreign commercial banks, whereas required reserves for domestic deposits are unremunerated. Furthermore, the authorities extended the range of liquid foreign currency asset that qualify as foreign reserves in January 2006 and banks can now invest part of their reserves in negotiable bonds from issuers with high ratings (Table 4.1).
- **Domestic currency reserve requirements are used to promote the housing sector.** On February 12, 2004, the CBvS allowed commercial banks to use up to 7 percent of the deposit liabilities (reserve base) to finance low-interest mortgages. This was gradually raised to 10 percent in January 2007, which corresponds to a reduction of the effective reserve requirement to about 17 percent. Banks used the entire scope of the facility by mid-2006, before the facility ceiling was increased.

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<sup>28</sup>Enforceable penalties were introduced in January 2005. These included blocking the bank's reserves at the CBvS in an amount equal to the excess credit, and interest payments on the blocked reserves at an interest rate of 2 percentage points above the highest lending rate of the bank concerned.

**Table 4.1. Reserve Requirements on Domestic and Foreign Currency Deposits**  
(In percent)

Date of Implementation	Domestic Currency			Foreign Currency		Low-interest Mortgages (In percent of deposits, average for the system)	Effective Reserve Requirement
	DSB, RBTT, HKB, SBSP, FNB	VCB	LBB	DSB, RBTT, HKB, SPSB, LBB, VCB			
August 7, 2002	35.0	...	...	...	...	...	35.0
February 12, 2003	...	...	...	17.5	...	...	35.0
July 14, 2004	...	12.5	5.0	...	...	1.4	31.1
July 21, 2004	32.5	...	...	...	...	1.4	31.1
October 20, 2004	30.0	13.0	6.0	...	...	2.5	27.5
November 3, 2004	...	...	...	22.5	...	3.0	26.9
February 1, 2005	...	...	...	33.3	...	4.1	25.9
November 30, 2005	...	...	...	...	...	7.3	22.7
January 6, 2006	27.0	...	...	...	...	7.5	19.5
August 1, 2006	27.0	...	...	...	...	8.6	18.4
January 1, 2007	25.0	...	...	...	...	9.0	16.0

Source: Central Bank of Suriname.

There has been limited use of alternative instruments to conduct monetary policy. In March 1995, the central bank issued certificates denominated in gold to cope with exchange rate instability. These certificates were redeemable on demand, were indexed to the international price of gold, and paid interest of 5 percent a year. The attractiveness of these certificates was limited because their value was converted into local currency at the official exchange rate, which at times was substantially more appreciated than the parallel market rate. The central bank is authorized to use other instruments, including rediscount facilities, open market operations in treasury bills, and liquidity ratios, but these have not been used.

### The Financial System

The total assets of the banking system amounted to about 45 percent of GDP in 2006, with commercial banks holding about 70 percent of the total assets of the financial system. The rest of the financial system consists of 31 pension funds, 10 insurance companies, and 29 credit unions, which are all under the supervision of the central bank (Table 4.2). There are also 22 foreign exchange houses (*cambios*), most of which operate import businesses and use most of the foreign exchange that they purchase for their own import requirements. Financial data on *cambios* are not available.

The banking system is highly concentrated. There were seven commercial banks until September 2005, when the Surichange Bank started its operations as the eighth commercial bank. The three largest banks accounted for 84 percent of total assets as of end-2006 (Table 4.3). Of these banks, one is a

**Table 4.2. Financial System Assets**  
(In percent of total)

	2000	2001	2002	2003	2004	Estimates	
						2005	2006
Assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Banks	67.3	70.1	67.7	68.9	79.3	68.1	71.1
Large banks	54.6	56.8	57.3	58.3	66.8	57.1	59.5
Small banks	12.7	13.4	10.4	10.7	12.4	11.0	11.6
Pension funds	25.2	21.5	23.3	21.8	10.2	21.6	18.1
Insurance companies	6.4	7.1	7.7	7.7	8.3	8.3	8.7
Credit unions and cooperatives	1.1	1.3	1.4	1.6	2.2	2.0	2.1

Sources: Central Bank of Suriname, Supervision Department; and Fund staff estimates.

**Table 4.3. Market Share of Commercial Banks**  
(In percent of total)

	2000	2001	2002	2003	2004	2005	2006
<b>Total</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Small banks</b>							
Total assets	18.8	19.1	15.3	15.5	15.7	16.2	16.4
Net loans	31.3	26.8	20.9	21.4	21.2	19.3	17.2
Total deposits	17.7	17.7	15.7	21.5	21.7	21.6	21.8
<b>Large banks</b>							
Total assets	81.2	80.9	84.7	84.5	84.3	83.8	83.6
Net loans	68.7	73.2	79.1	78.6	78.8	80.7	82.8
Total deposits	82.3	82.3	84.3	78.5	78.3	78.4	78.2

Sources: Central Bank of Suriname, Supervision Department; and Fund staff estimates.

fully owned subsidiary of an international bank and the other two have partial government participation. Three small banks are state-owned and specialize in sectoral lending with a social objective. In addition, there is a state development bank, which does not take deposits from the public, and a very small privately owned full-service bank. The government of Suriname insures the savings deposits of one state-owned bank.

The balance sheets of the largest banks appear relatively strong, but there are unresolved difficulties at the three small state-owned banks. There is no deposit insurance system. Reflecting the lack of competition and depth in the banking system, there is only a narrow market for government and other securities.

In 2003, new bank supervision regulations were enacted to help move toward meeting the Basel Core Principles for effective bank supervision. The new banking supervision act of January 2003 enhanced the supervisory powers of the central bank, while the central bank issued five new prudential regulations in line with the legislation's provisions. These included regulations covering (1) capital adequacy (minimum capital requirement of Suriname dollars SRD 4.5 million and risk weighted capital ratio of 8 percent); (2) classification of loans and provisioning (adoption of credit policy and minimum accounting standards for outstanding loans); (3) large exposures (limit on single large exposure and related parties of 25 percent of the bank's capital, and aggregate exposure to capital of up to 600 percent of the bank's capital); (4) insider lending (limit of 25 percent of capital to single insider and 100 percent for aggregate loans to insiders); and (5) investment limits (limit of 100 percent of the capital base on bank's fixed asset investment). However, implementation has been difficult, because of delays in data reporting and lack of staff.

## Exchange Rate Regime

The current foreign exchange system comprises the official market and the commercial bank–*cambio* market. The official exchange rate is pegged to the U.S. dollar at a rate announced by the CBvS and is used for specific transactions (see more below). Other legal private sector transactions are carried out through the commercial bank–*cambio* market.<sup>29</sup>

The official market is small and largely segmented from the commercial market. The official market accounts for less than 20 percent of all foreign exchange transactions. The supply of foreign currency in this market comes from donor funds and the partial surrender of proceeds from mineral exports. For this latter element, the tax code requires that companies pay tax liabilities in foreign currency if they maintain their accounting records in foreign currency. In addition, mining companies have traditionally purchased their local currency needs from the CBvS and not in the commercial market. The demand for foreign exchange in this market comes from the government, because it uses the official market to purchase foreign currency for all its foreign transactions, most notably the purchase of fuel and the repayment of debt. The balance is accumulated as foreign reserves by the CBvS. There are no intermarket transactions between the official and the commercial markets, as the CBvS has not traded foreign exchange with commercial banks in recent years. However, since July 2007, the CBvS started with cur-

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<sup>29</sup>There is a special exchange rate for infant formula imports, but it is macroeconomically unimportant. A black market was important at times when the CBvS restricted transactions in the official and commercial bank and *cambio* markets.

rency repos. Commercial banks can use this facility as a means to cover a short position.

Suriname's exchange rate regime can be characterized as a de facto peg. The de jure rate is not officially pegged to the U.S. dollar, but it is rarely adjusted. The last noticeable, albeit temporary, exchange rate movement was the depreciation of the exchange rate during June 2005. Since that time, the nominal exchange rate vis-à-vis U.S. dollar has remained remarkably stable. The CBvS does not intervene directly in the bank-*cambio* market, although it exerts moral suasion to limit minor fluctuations of the Suriname dollar.

### **History of the Exchange Rate Regime**

The history of exchange rate arrangements over the past 25 years reflects fiscal and monetary developments. As inflationary pressures often built up due to the monetary financing of fiscal needs, the authorities relied on exchange rate restrictions and multiple exchange rate arrangements to curb inflationary expectations. These restrictions had little success and proved costly in terms of quasi-fiscal deficits, price distortions, income distribution, and the production of export and import substitutes.

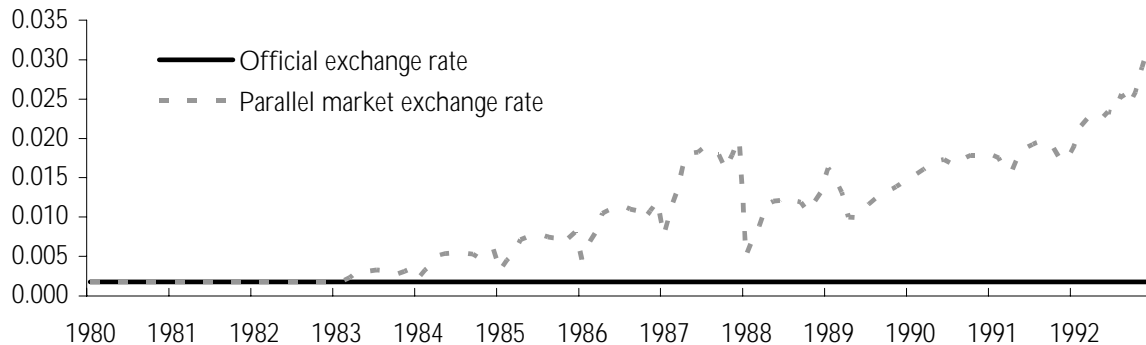
#### ***1975–October 1992***

Following independence in 1975, the Suriname guilder was fixed at the rate of Sf 1.785 per U.S. dollar. This rate was maintained until the early 1990s. As inflationary pressures intensified in the 1980s, a parallel market emerged. The market rate reflected both the scarcity of foreign exchange, caused by the substantial decline in export earnings and the suspension of development assistance from the Netherlands in 1982, as well as the large monetary expansion of that decade. By September 1992, the parallel rate had reached Sf 24 per U.S. dollar, about 13 times the official rate (Figure 4.1).

#### ***October 1992–June 1994***

The authorities established a multiple official exchange rate regime in October 1992. The system initially included seven rates, some of which were pegged to the dollar, some of which were flexible. There were three fixed rates: the *official rate* was limited to debt service payments and imports of consumer goods, the *bauxite rate* for tax liabilities and local expenses of the bauxite companies, and the *tourist rate* for foreign exchange sold by tourists. The flexible rates included an *auction rate* (for imports of raw materials, capital goods, and other “productive” inputs), a *banana rate*, a *rice rate*, and another *exports rate*. The latter three were set as weighted sums of the official rate and the auction rate. The authorities also introduced a *fuel rate* in June 1993 for the imports of gasoline and diesel.

Figure 4.1. Evolution of Exchange Rates, 1980-92  
(Surinamese dollars per U.S. dollar)



Source: Central Bank of Suriname.

Although the auction rate was supposed to reflect market forces, certain restrictions limited its use. The source of currency to be auctioned was limited to the proceeds of balance of payment support from the Netherlands and the auctioned funds could be used only for certain imports (“productive” inputs and basic consumption goods). The auction rate was finally merged with the official rate in June 1993, and its applicability was broadened to include other sectors and transactions. A *free interbank-market* rate was also introduced at that time, with the participation of six commercial banks and five *cambios*. However, the market’s limited source of foreign exchange and moral suasion by the CBvS impeded its development. For these reasons, the parallel market rate persisted as the relevant price signal during this time.

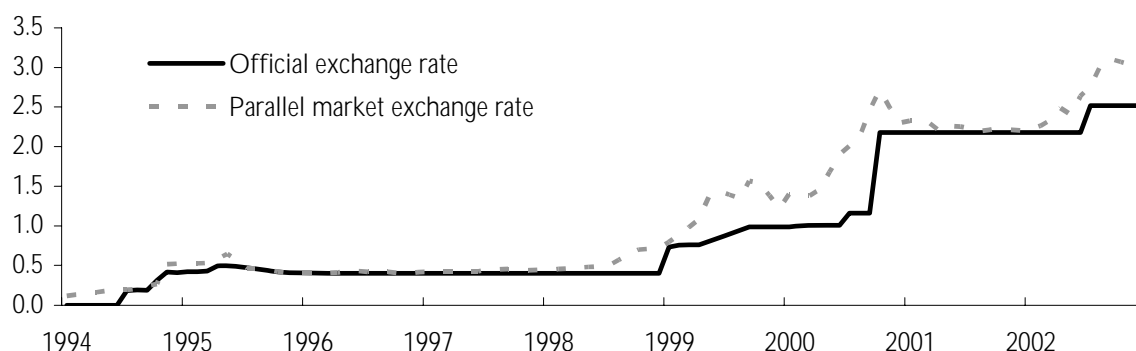
The existence of multiple exchange rates entailed massive quasi-fiscal taxes and subsidies. For example, the rate applicable for tax liabilities and local expenses of the bauxite companies was about seven times more appreciated than the auction rate, which was used for most imports, and about ten times more appreciated than the rice rate. Furthermore, as the average selling rate was much lower than the average buying rate, the CBvS incurred substantial losses that subsequently were monetized. These amounted to 11 percent of GDP in 1993 and 7 percent in 1994. The multiple official exchange rate regime was abandoned in mid-1994.

### ***July 1994–August 2002***

The authorities reestablished a unified official exchange rate in July 1994 at a rate of Sf 180 per U.S. dollar. This market was limited to importers holding foreign exchange licenses. In addition, a legal parallel market was introduced for commercial banks and *cambios*. Supply for foreign currency came primarily from remittances and tourism, whereas importers who did not have access



Figure 4.2. Evolution of Exchange Rates, 1994-2002  
(Surinamese dollars per U.S. dollar)



Source: Central Bank of Suriname.

to the official market were the main source of demand. Finally, there was also a black market for all other transactions. This market was illegal but tolerated, and its supply of foreign currency was thought to come from proceeds from the informal economy. During 1995, the CBvS often intervened in the bank-*cambio* market and used moral suasion to limit the depreciation of the currency. Because of this, the bank-*cambio* market was smaller in terms of trading volume and reportedly had higher buy-sell spreads than the black market (Figure 4.2).

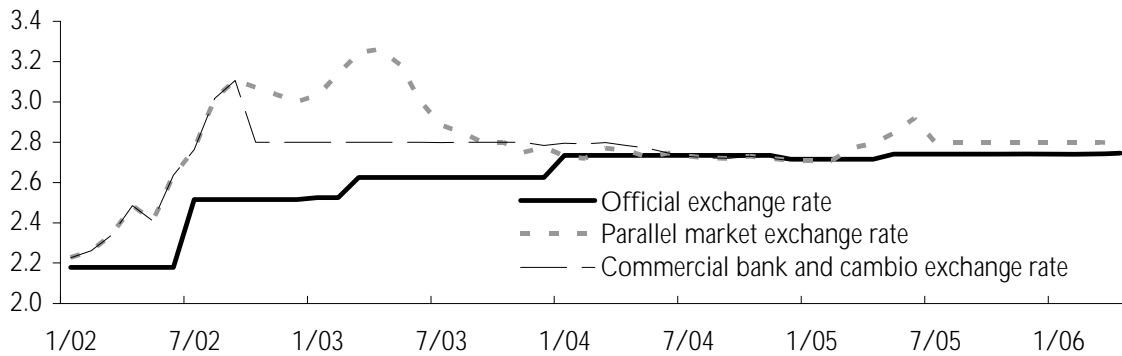
This period is characterized by several episodes of growing spreads between the official rate and the parallel rate, followed by large devaluations of the official rate. There were large devaluations in October 1994, January 1999, October 2000, and August 2002. The episodes of growing spreads were associated with a loose fiscal stance, such as in 1999 and 2000, whereas a tighter fiscal policy contributed to lower spreads in 1995, 1996, and 2001.

The CBvS gradually reduced exchange rate restrictions. First, it stopped foreign exchange rate interventions in 1995. Second, it eliminated the obligation to surrender foreign exchange earnings to the CBvS at the official rate in the second half of 2000, and it also eliminated the surrender requirement for all sectors but mining in 2002. Combined with a more moderate policy stance, this led to an increase in the availability of foreign exchange to the bank-*cambio* market.

### ***September 2002–present***

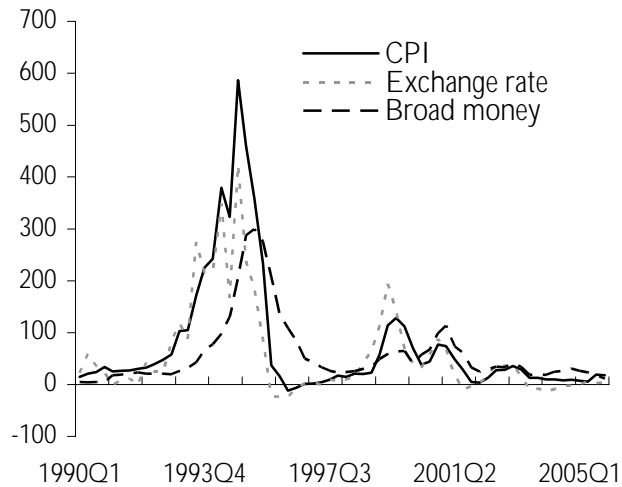
The exchange rate has stabilized since 2002, and the authorities have moved toward unifying the exchange rate regime. Stabilization policies since late

Figure 4.3. Evolution of Exchange Rates, 2002-06  
(Surinamese dollars per U.S. dollar)



Source: Central Bank of Suriname.

Figure 4.4. Inflation, Depreciation,  
and Money Growth  
(Annual percentage change)



Source: Central Bank of Suriname.

2002 helped to reduce the pressures on the currency and with the partial elimination of restrictions on the bank-*cambio* rate in mid-2003 and complete elimination in mid-2004 (Figure 4.3). In January 2004, the CBvS introduced the Suriname dollar to replace the Suriname guilder at a rate of 1:1,000. At the same time, the CBvS devalued the official exchange rate by about 4 percent to SRD 2.735 per U.S. dollar, reducing the spread with the parallel rate to less than 2½ percent (Figure 4.4). At the same time, the CBvS

adopted a policy of maintaining an official exchange rate as a tool to reduce exchange rate fluctuations in the bank-*cambios* rate. The policy of adjusting the official exchange rate to more permanent changes in the bank-*cambios* rate has remained more a matter of principle than practice.

## The Monetary Policy Transmission Mechanism

The inflationary experience of Suriname finds its roots in the fiscal dominance of monetary policy. Suriname's fiscal stance has been sensitive to external shocks. As fiscal deficits—massive at times—were monetized, monetary policy became accommodative and the authorities lost control over the central bank's balance sheet and monetary aggregates. Suriname is thus a case of fiscal dominance, where changes in the central bank credit to the government accounted for a large fraction of the variation in monetary aggregates.

This section documents the transmission of monetary developments to prices and the parallel exchange rate in Suriname since 1990. It elaborates on the sources of monetary instability and the policy responses that aggravated these effects on inflation and the exchange rate. The section also describes changes in the transmission of monetary impulses over time. Understanding the specific sources of monetary expansion can provide valuable insights and help support the central bank's efforts to fulfill its mandate of price stability going forward.

### Inflation, Nominal Depreciation, and Money Growth

There is a strong positive correlation between broad money growth, inflation, and exchange rate depreciation. The contemporaneous correlation between year-on-year inflation and money growth is 0.71, while the correlation between money growth and exchange rate depreciation is 0.5. Furthermore, Figure 4.4 shows that the two near-hyperinflation episodes are associated with substantial contemporary monetary expansions.

Expectations drive monetary policy transmission in Suriname, as inflation and exchange rate movements lead to changes in monetary aggregates. This can be explained by the fact that shocks to the terms of trade or to the level of government spending are known well before their effects on fiscal deficits and therefore are reflected in higher prices before they affect money growth:

- **Inflation leads monetary expansion:** During the two near-hyperinflation episodes, inflation reached its highest level at least six months before the monetary expansion reached its peak (almost a year earlier during the first episode). Although the details vary by episode (see next section), this indicates that inflation stabilized before money growth did so.

- **Lagged correlation:** The correlation between money growth and inflation and nominal depreciation is stronger when inflation is lagged by one or two quarters.
- **Inflation is a good money growth predictor:** Empirical tests fail to reject that inflation and depreciation Granger-cause money growth, which indicates that current inflation is a good predictor of future money growth.<sup>30</sup> Under the expectation channel, prices and exchange rates are forward-looking variables that respond in advance to future expected changes in monetary aggregates.

The importance of inflation expectations appears to have increased since the mid-1990s. Using data from 1995 onward, IMF (2003a) finds that money fails to Granger-cause inflation and nominal depreciations, that is, lagged money growth does not help predict future movements in prices and exchange rates. However, these results do not hold when a longer data set is used (starting in 1990 instead of 1995). These findings indicate that the forward-looking nature of inflation has strengthened and that nominal variables are now more sensitive to future rather than past monetary developments. It also indicates that the stabilization of inflation going forward will require the anchoring of inflationary expectations, which is only possible when the authorities' commitment to price stability is perceived to be credible.

### Sources of Monetary Volatility

Fiscal dominance of monetary policy was a key determinant of monetary fluctuations in Suriname. Most changes in broad money are accounted for by fluctuations in the monetary base, but changes in net credit to the government were the monetary base's main source of volatility, especially when there were inflationary pressures. In addition, policy mistakes—such as substantive unsterilized reserve accumulation or a distortionary exchange regime—added further monetary stimulus during the first near-hyperinflation episode.

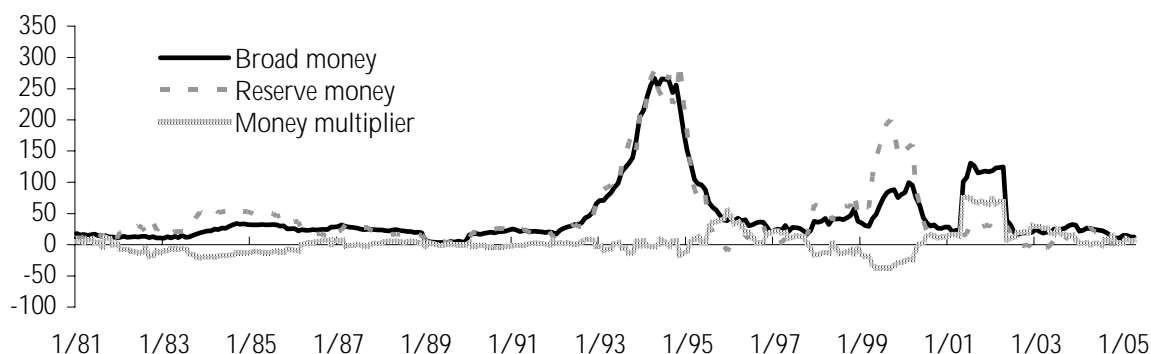
#### ***Fiscal dominance***

Both near-hyperinflation episodes are mostly accounted for by the monetization of fiscal and quasi-fiscal losses. During the first episode, as inflation peaked at almost 600 percent in mid-1994, fiscal and quasi-fiscal losses were the main source of monetary expansion. Once the fiscal and quasi-fiscal posi-

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<sup>30</sup>Granger tests were undertaken using a vector autoregression (VAR) with three lags. The VAR included three variables: inflation, money growth, and exchange rate depreciation. The data frequency is monthly and the sample covers January 1990 to October 2005.

Figure 4.5. Broad Money, Reserve Money, and Money Multiplier  
(In monthly percentage change)



Source: Central Bank of Suriname.

tion improved and the monetary overhang unwound, inflation started decreasing, reaching less than 40 percent by end-1995.<sup>31</sup> The second inflationary episode was also driven entirely by fiscal developments.

Large fluctuations in base money accounted for most of the volatility in broad money. Figure 4.5 shows a near-perfect correlation between base money and broad money until 1996. Since then, there has still been a strong co-movement between these two variables, although there have been larger movements in the money multiplier. This was particularly the case during the 1996–97 period of remonetization, when the multiplier increased, and during the second near-hyperinflation episode, when the multiplier declined significantly. These changes in the multiplier likely reflected an endogenous response of the banking system to monetary conditions, particularly as reserve requirements were not in place until 2001.

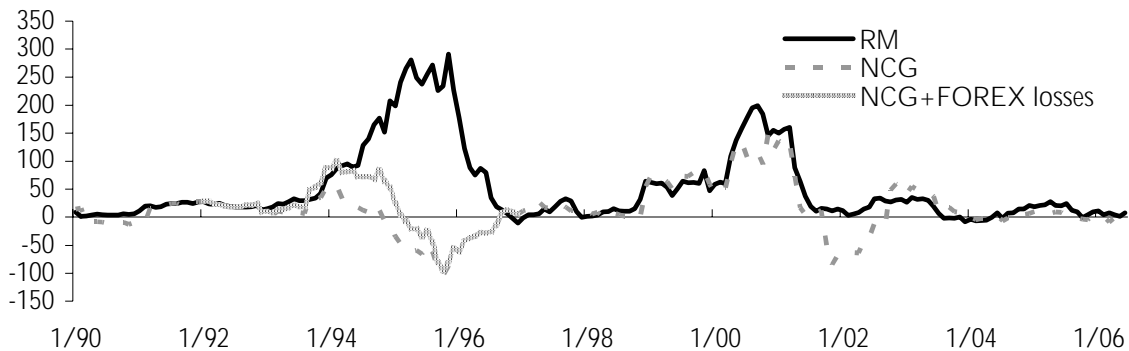
Most of the changes in base money reflect movements in net credit to the government. The contribution was the greatest from 1991 to the first quarter of 1994 and during 1997–2000, both of which were periods of high inflation (Figure 4.6). Furthermore, the two periods with a rapid decrease in inflation (1995–96 and 2001) were associated with a large decline in net credit to the government.

### ***Unsterilized reserve accumulation***

Unsterilized reserve accumulation prevented a more rapid decline in inflation in 1995. The unsterilized accumulation of foreign reserves accounts for the

<sup>31</sup>For the impact of monetary overhang resulting from price controls, see Chapter 2.

Figure 4.6. Growth in Net Credit to the Government and Reserve Money  
(In annual percentage change)



Source: Central Bank of Suriname.

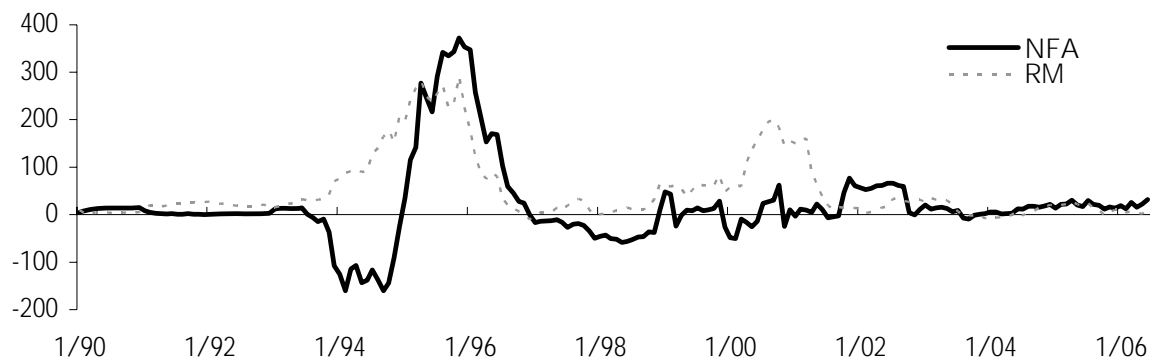
entire monetary expansion during 1995. Inflation fell to 40 percent in 1995, although the monetary base grew by 225 percent during that year, following the accumulation of central bank reserves. Two factors explain the rapid increase in net foreign assets. First, the central bank decided to accumulate foreign currency and gold to replenish its reserves. In the absence of adequate sterilization instruments, this strategy resulted in a rapid expansion in the monetary base. Second, Suriname's terms of trade improved substantially during 1995. Owing to the structure of the official exchange rate market, the improvement in the current account led to an automatic and unsterilized increase in foreign reserves. Such reserve accumulation may have prevented a faster decline in inflation.

More generally, the accumulation of foreign reserves has been an important source of growth in the money base during commodity price booms. The failure to sterilize large accumulations of foreign reserves has undermined the capacity of the CBvS to contain inflation. During these times, soaring export-based tax revenues reduced fiscal deficits significantly, which tended to more than counter the effect of reserve accumulation on the monetary base. This was the case in 1995–96, 2002, and 2005. However, this was not the result of a deliberate monetary policy, but tended to counter fortuitously the detrimental effects of the absence of a forward-looking and active monetary policy.

### ***Distortionary exchange rate regime***

The quasi-fiscal losses stemming from the multiple-exchange rate regime were an important source of monetary expansion during 1993 and especially 1994. As Figure 4.7 illustrates, the monetization of exchange rate losses

**Figure 4.7. Growth in Net Foreign Assets and Reserve Money**  
(In annual percentage change)



Source: Central Bank of Suriname.

accounted for the bulk of money base growth during 1994, which was the year with the highest inflation level. This underscores the fact that the exchange rate controls were the main source of inflation in that year and that they had the opposite effect from what was intended.

### **Toward a Stability-Oriented Monetary and Exchange Rate Policy**

Suriname's experience in the 1990s highlights the need to establish a clear separation between money creation and government funding needs. As shown in Chapter 2, the pervasive use of monetary financing of fiscal deficits resulted in large growth in reserve money, which accounted for most of the expansion in monetary aggregates during the 1990s. Furthermore, unsustainable fiscal policies were not conducive to the establishment of a government securities market, which has further complicated the conduct of monetary policy and has delayed financial market development. This section suggests several avenues of reform that can increase the effectiveness of monetary policy and improve financial stability.

Recent developments in central bank legislation have moved Suriname in the right direction. The amendment to the Central Bank Act in 2005 has strengthened the central bank's president's authority to limit government financing in excess of the lending limit (10 percent of budgeted revenues) and establishes severe penalties for central bank officials found in dereliction of their duties. As a result, fiscal authorities have gradually relied on treasury bills as a source of financing.

Further measures would strengthen the central bank's ability to fulfill its mandate for price stability and improve the effectiveness of monetary policy. As a first step, CBvS could encourage the further development of an inter-bank liquidity market (money market) and the treasury bill market. Over the medium term, the CBvS should put in place additional policy instruments, especially market-friendly instruments, such as open market operations and rediscount facilities.

Suriname has made progress in moving toward a free and market-determined exchange rate. The present section argues for the adoption of the bank-*cambio* rate as the official rate and a more gradual and sustained increase in exchange rate flexibility. In a unified and more flexible exchange rate market, the authorities could rely more heavily on sterilized intervention, rather than moral suasion.

### **New Monetary Policy Instruments**

The absence of an interest rate channel and the lack of adequate monetary policy instruments undermine the effectiveness of monetary policy. The stickiness of nominal interest rates described in Chapter 2 implies that interest rates respond very slowly to monetary developments, including the relative availability of liquidity in the banking sector. This can be attributed to underdeveloped financial markets, money illusion (upward stickiness), and a history of high inflation episodes (downward stickiness). It limits the effect that monetary policy can have on aggregate demand. Furthermore, the authorities rely exclusively on reserve requirements to limit growth in monetary aggregates, which distorts financial intermediation and does not allow for effective day-to-day liquidity management.

The development of a competitive money market and a treasury bill market would contribute to the effectiveness of monetary policy. It would allow interest rates to reflect both macroeconomic and liquidity developments and would help the monetary authorities assess current monetary conditions. In addition, the establishment of competitive money and treasury bill markets would facilitate the establishment of a functioning yield curve. This would greatly improve the effectiveness of monetary policy, as policy-led developments in the very short end of the curve (in the money market) would be transmitted to the short and medium term (in the treasury bill market) and to the longer term (in the domestic market for government bonds). It also would provide the adequate setting for future open-market operations (see Laurens, 2005).

The central bank should gradually introduce market-friendly policy instruments. The use of alternative instruments would encourage the development of liquidity markets and enhance the interest rate channel of monetary policy



transmission. It would also allow the authorities to reduce the frequent use of blunt tools, such as reserve requirements:

- **Overdraft and rediscount facilities:** The CBvS should encourage banks to use its overdraft and rediscount facilities. The interest rate spread between the deposit and the lending facility provides a corridor that would encourage interbank liquidity trading in the money market.
- **Open-market operations:** The CBvS should rely on open-market operations to influence liquidity conditions in the banking system. This can be done through the development of repurchase operations (repos), using treasury bills as collateral. A more specific proposal in this direction is described in Box 4.1. The CBvS could issue its own paper if treasury bills are insufficient to control liquidity or if the interbank market is too shallow. A first step in this direction was undertaken with the issuance of gold certificates, which was intended to act as an open market operation. The sale of these certificates was discontinued in 2001.

### **Exchange Rate Policy**

In recent years, authorities have made some progress toward unifying the exchange rate regime and introducing greater exchange rate flexibility. The elimination of restrictions on the bank-*cambio* rate in mid-2003 and the devaluation of the official rate to reduce the spread in relation to the bank rate in January 2004 have reduced exchange rate distortions and eliminated the black market. While the spread between the official and the bank rate has fallen to less than 2½ percent, multiple currency practices persist.

The current system still allows the possibility of large spreads between the official and the bank market rate. Because the two exchange rate markets are segmented, developments in the bank-*cambios* market need not affect the official rate. Although the authorities have adjusted the official rate whenever there have been persistent spreads between the two rates, there is no legal obligation to do so. In addition, the stated policy of the central bank is to adjust the official rate to changes in the bank-*cambio* rate that are deemed permanent, which is open for interpretation as to what constitutes a permanent variation in the rate. Finally, each adjustment of the official rate can be scrutinized publicly and the CBvS could be pressured to apply extraneous political considerations to the timing and size of the exchange rate adjustments. The current political environment has allowed for necessary adjustments of the official rate within a de jure managed float regime, but there is still a risk of prolonged periods of large spreads that would entail substantial subsidies or taxes on specific sectors of the economy.

### Box 4.1. The Domestic Treasury Bill Market

#### The existing treasury bill market

- **Holdings.** Most treasury bills are held by commercial banks (almost 90 percent). The rest are held by pension funds, insurance companies, and corporations.
- **The treasury bills are structured as zero coupon bonds.** The treasury bills are sold at a deep discount and the market value of the bill is due at maturity. There are no formal interest payments. However, holders have often been paid accrued interest at maturity and the treasury bills have been rolled over.
- **The current terms are a 12.5 percent interest rate and a maturity of six months.** These terms are set by the CBvS and have not changed for a long time. The terms do not reflect the changing demands for liquidity in the financial system and limit the function of interest rates as a signal of monetary and macroeconomic conditions.
- **The terms of the treasury bills are defined in a letter of agreement between the Ministry of Finance and its counterpart.** The letter specifies the amount, the interest rate, and the maturity. The letter also includes a provision that allows the provider of the funds to sell its bill to the central bank with no delay and no penalty, at the discount value plus the accrued interest payment. The absence of delays or penalties renders the treasury bills extremely liquid and unsuitable as a monetary policy instrument.
- **There are no formal auctions of treasury bills and the central bank acts as an intermediary between the Ministry of Finance and the financial system.** The CBvS inquires about possible demand for treasury bills among market participants and coordinates their emission with the Ministry of Finance.
- **Treasury bills can be used by commercial banks as collateral to borrow funds at the central bank.** The interest payment on these funds is set at 14 percent. This borrowing window is rarely used by market participants, because they opt to deliver them to the CBvS without a penalty. The possibility of delivering treasury bills without penalty to the CBvS has undermined the development of an interbank market.

**Commercial banks have only limited interest in intermediating treasury bills to their retail customers.** The limited availability and the complete liquidity of the treasury bills make them so valuable to commercial banks that they are reluctant to intermediate them, despite the generous fees this could provide.

#### Reform proposals

- **Auctions:** The CBvS should sell treasury bills at periodic auctions. This would allow the treasury bill value (and its implicit interest rate) to reflect the liquidity needs of the financial system and the relative value of government paper.
- **Securitization:** The treasury bills should be securitized. This would allow for the development of a secondary market and would improve the marketability of these instruments to a wider investor base. It would also open the bill market to new participants (including small holders). Banks would act as intermediaries for their clients.

**Box 4.1 (concluded)**

- **Discount window:** There should be a penalty interest rate (defined as a spread above the latest auction interest rate) for sales of treasury bills to the CBvS. This would be a key element to reduce the complete liquidity of treasury bills. The variation of the spread by the CBvS would also change the degree of liquidity of treasury bills and set the basis for open market operations. The penalty spread would create an incentive for the development of a secondary market for treasury bills. Combined with the more market-determined interest rate of treasury bills derived from the auctions, this would render treasury bills somewhat less attractive for commercial banks and create an incentive for banks to begin intermediating them to retail customers.
- **Repo operations:** The CBvS should replace the current collateralized loans with commercial banks with repurchase agreements (repos). Market participants would buy or sell treasury bills to the CBvS with an agreement to reverse the transaction at a later point. On average, the repo-financing rate should be set as a spread above the auction rate of treasury bills. This would further create an instrument of monetary policy.
- **Reserve requirements:** When these measures are in place, the CBvS could lower current reserve requirements.

The authorities should adopt the bank-*cambio* rate as the official rate. The adoption of a single exchange rate for all transactions would end Suriname's multiple currency practices. It is unlikely that such a move would affect the exchange rate level or the pace of reserve accumulation by the central bank, given the large relative size of the bank-*cambio* market. It accounts for more than 80 percent of all foreign exchange transactions, while the official rate is used solely for the government debt service and tax payments by some companies. Furthermore, eliminating the official rate-setting process by the central bank will not be perceived as a lack of market guidance, because the central bank could temporarily continue to use moral suasion to reduce short-term market fluctuations, pending the full establishment of effective market-based policy instruments.

Although the current high degree of exchange rate stability might be appropriate at this stage, over the long run, a more flexible exchange rate would be more appropriate. There are advantages to a more flexible exchange rate regime for countries like Suriname (Box 4.2). Given the challenges associated with exchange rate flexibility, it is important that both the authorities and private agents "learn to float" (see Rogoff and others, 2004). For the authorities, this requires learning how to conduct monetary policy under flexible exchange rates, and for private agents, it implies managing the risks associated with greater exchange rate flexibility.

In a unified and more flexible exchange rate market, the authorities could intervene but should eventually refrain from moral suasion. The authorities

### Box 4.2. Benefits and Challenges of Greater Exchange Rate Flexibility in Suriname

There are advantages and disadvantages of greater exchange flexibility and there are no simple prescriptions.

- **The main argument for greater exchange rate flexibility is that it allows countries to partially insulate against external shocks.** Under flexible exchange rates, the effects of real shocks are partially offset by the adjustment of domestic relative prices brought about by movements in nominal exchange rates. Broda (2004) finds that shocks to the terms of trade have greater impact in countries with pegs than in countries with floats. This channel is particularly relevant in Suriname because of the relative inflexibility of its domestic labor and product markets.
- **The main argument for less exchange rate flexibility is that it allows developing countries to use the exchange rate as a monetary anchor.** However, this requires consistent, sound macroeconomic policies, which in the past have not always been implemented in Suriname. More recently, however, with much-improved macroeconomic policies, the nominal anchor provided by the exchange rate policy has been an important factor in Suriname, especially in light of the absence of alternative, adequate monetary policy instruments, and the very low financial sector development.
- **Rigid exchange rate regimes encourage dollarization.** With stable exchange rates, market participants find incentives to incur foreign currency debt without currency hedging. Furthermore, the history of successive devaluations in Suriname encourages depositors to accumulate foreign currency assets as it allows for a one-sided bet on the currency. Conversely, greater flexibility discourages dollarization, as nominal appreciations alert economic agents of the risks from holding dollar assets, while price signals and arbitrage will reduce the need for foreign assets as a hedging instrument.

**Greater exchange rate flexibility in partially dollarized countries requires a strong prudential framework in the financial sector.** Given the potential currency mismatch of agents' assets and liabilities, banks need to internalize fully the risks of lending in foreign currency to unhedged borrowers (see Gulde and others, 2004). This indicates that the gradual increase in exchange rate flexibility must be accompanied by a strengthening of financial supervision.

could intervene in the foreign exchange rate market to change the size or the composition of its balance sheet for the purpose of monetary policy implementation. This would provide an additional policy instrument. The authorities could also intervene in currency markets to limit exchange rate volatility, but they should refrain from targeting an unsustainable exchange rate level through direct or indirect exchange rate intervention. Within a functioning flexible exchange rate market and with a more proactive monetary policy based on the use of indirect instruments, it will become unnecessary—and

even counterproductive—to use moral suasion to limit the role of exchange rates as informative signals on the macroeconomic and monetary stance. Therefore, although moral suasion to limit short-term volatility in the foreign exchange market might be used during a transition period, it should be discontinued in due course.

## Dollarization in Suriname

Suriname has experienced substantial financial dollarization since the late 1990s. Foreign currency deposits as a percentage of total deposits rose from about 20 percent in 1996 to 57 percent in 2005, while foreign currency loans as a percentage of total commercial bank loans followed a similar path. More recently, the pace of dollarization has subsided, probably signaling a gradual restoration of confidence in the domestic currency and economic policy. This chapter reviews the factors that have contributed to these trends and discusses their potential consequences. The next section provides an overview of dollarization in Suriname, followed by a discussion of the consequences of dollarization, focusing on the loss of seigniorage and the constraints it imposes on an independent monetary policy. The final sections discuss the effects of dollarization on the development and vulnerabilities of the financial sector and derive lessons learned from Suriname's dollarization.

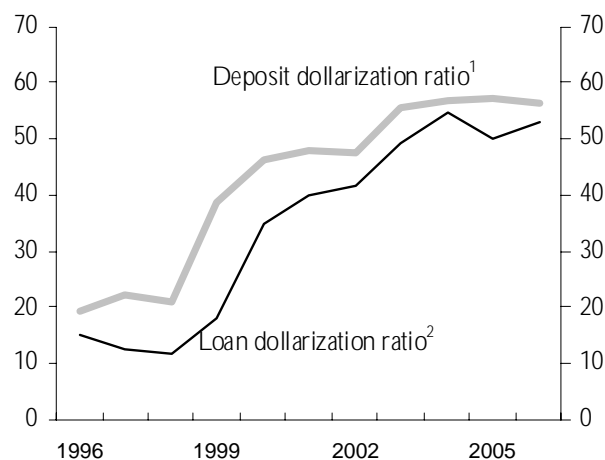
### Overview of Dollarization in Suriname

Suriname has exceeded the regional trend toward dollarization. With the acceleration in dollarization since 2001 (Figure 5.1), Suriname has become one of the more highly dollarized economies in the region. The deposit dollarization ratio exceeded the average for countries in Latin America by 14.6 percentage points in 2005 (Table 5.2). The fact that only a few countries have succeeded in de-dollarizing their economies suggests that high dollarization in Suriname could prove persistent and challenging for policymakers over the medium term.<sup>32</sup>

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<sup>32</sup>Reinhart, Rogoff, and Savastano (2003) studied 84 dollarized countries and found that only 4 succeeded in reducing dollarization during 1980–2001. The four countries are Israel, Mexico, Pakistan, and Poland.

Figure 5.1. Financial Dollarization, 1996–2005  
(In percent)



Source: Central Bank of Suriname.

<sup>1</sup>Foreign currency deposits in percent of total commercial bank deposits.

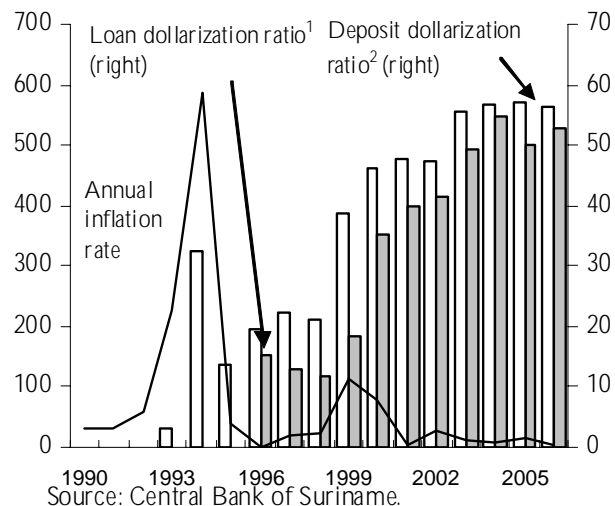
<sup>2</sup>Foreign currency loans in percent of total credit to the private sector by commercial banks.

Dollarization began with the deregulation process in the early 1990s and accelerated during the near-hyperinflation episodes in the 1990s. In June 1992, residents were allowed to open and maintain foreign currency deposits at commercial banks and, in July 1995, to receive foreign currency loans from commercial banks. Dollarization accelerated in particular during the near-hyperinflation episode in 1999, when the central bank's ceilings on private sector credit in local currency and the loss of confidence in the currency prompted commercial banks to discourage domestic currency deposits and to revert to foreign currency lending (Figure 5.2). As observed in many other countries undergoing a process of dollarization, foreign currency loans increased in tandem with foreign currency deposits (Tables 5.1 and 5.2).<sup>33</sup>

Dollarization has not simply been the by-product of valuation effects from currency depreciation. Although the rapid depreciation of the local currency explains part of the rise in foreign currency deposits as a share of local currency GDP, foreign currency deposits have grown much faster than real GDP. Similarly, foreign currency deposits in real terms (deflated by U.S. inflation) increased by more than eight times during 1995–2005, compared with only a 33 percent increase of domestic currency deposits in real terms.

<sup>33</sup>This pattern has been observed in other dollarized economies; see Savastano (1996) and IDB (2004). See Ize and Levy Yeyati (2003) for a theoretical model under which both deposit and loan dollarization ratios are related to uncertainties about inflation and the real exchange rate.

Figure 5.2. Financial Dollarization and Inflation, 1990–2005  
(In percent)



<sup>1</sup>Foreign currency credit in percent of total credit to the private sector by commercial banks.

<sup>2</sup>Foreign currency deposits in percent of total commercial bank deposits.

Reserve requirements have tended to favor foreign currency intermediation. In December 2002, the Central Bank of Suriname (CBvS) abolished a regulation that prohibited banks from lending to borrowers that had no foreign currency income sources and established a minimum reserve requirement for foreign currency deposits at 17.5 percent. This reserve requirement was kept significantly below the reserve requirement for domestic currency deposits, which until early 2006 was between 30 and 35 percent. This differs from the majority of dollarized countries, which typically maintain higher reserve requirement ratios for foreign currency deposits (see Baliño, Bennett, and Borensztein, 1999, p. 22). The reserve requirement for foreign currency deposits began to exceed that for local currency deposits only in 2005. This has not necessarily eliminated the bias in favor of foreign currency intermediation, because reserves for foreign currency deposits can still be kept at interest-bearing accounts at foreign banks, whereas reserves for domestic currency deposits must be kept as unremunerated deposits at the CBvS.

Loan dollarization was extremely rapid during 2000–05, mostly reflecting the relaxation of institutional constraints. Over this period, foreign currency loans quadrupled in real terms, while interest rates on U.S. dollar loans declined from 12 percent to 10 percent (Figures 5.3, 5.4, 5.5, and 5.6). This increase in foreign currency loans occurred as credit ceilings on U.S. dollar or euro lending were eliminated, and restrictions on the holding of foreign



**Table 5.1. Dollarization by Region**

	Foreign currency deposits as percentage of broad money		Number of Countries <sup>2</sup>
	Average 1988–93 <sup>1</sup>	Average 1996–2001	
Africa	2	7	48
Emerging Asia	8	11	26
Middle East	20	21	14
Transition economies	17	29	26
Western Hemisphere	13	23	29
<i>Of which:</i>			
Caribbean	4	11	12
Central America	11	24	6
South America	23	35	11
<b>Suriname</b>	<b>12</b>	<b>26</b>	<b>...</b>

Sources: Reinhart, Rogoff, and Savastano (2003); and Central Bank of Suriname.

<sup>1</sup>For Suriname, average for 1993–95.

<sup>2</sup>Number of countries over which an average for 1996–2001 is calculated. Non-dollarized countries are also included.

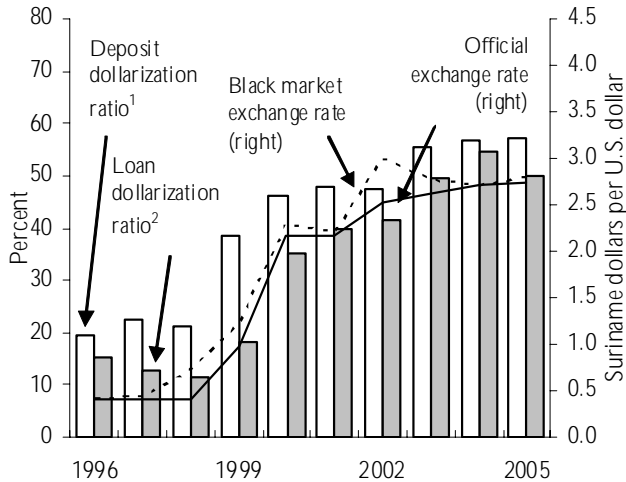
**Table 5.2. Foreign Currency Deposits for Selected Latin American Countries, 2005**  
*(In percent of total deposits)*

Argentina	9.1	Guatemala	15.2
Bolivia	84.2	Honduras	32.0
Brazil	0.0	Mexico	8.1
Chile	10.1	Nicaragua	70.6
Colombia	2.0	Paraguay	52.0
Costa Rica	48.5	Peru	66.7
Dominican Republic	27.6	Uruguay	83.7
Ecuador	100.0	Venezuela	0.3
El Salvador	100.0		
<b>Suriname</b>	<b>57.2</b>	Average <sup>1</sup>	42.6

Sources: Central banks; and IMF staff estimates.

<sup>1</sup>Unweighted average for the listed countries.

Figure 5.3. Financial Dollarization and Exchange Rate, 1996–2005

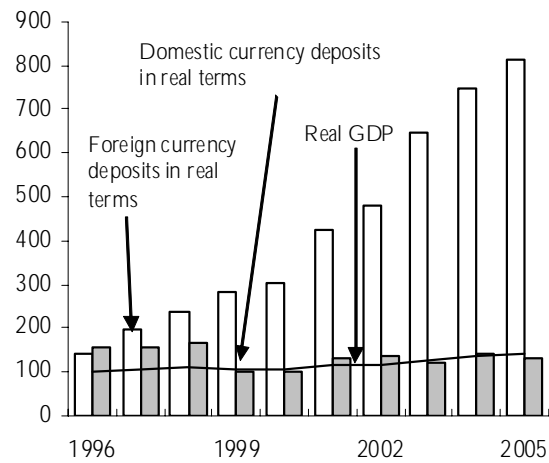


Source: Central Bank of Suriname.

<sup>1</sup> Foreign currency deposits in percent of total commercial bank deposits.

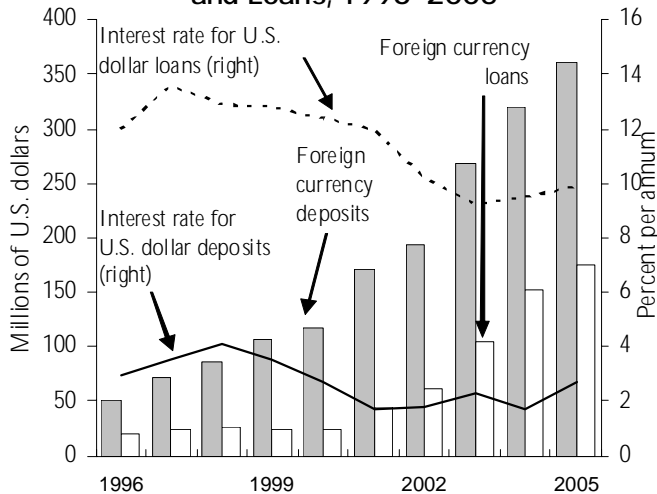
<sup>2</sup> Foreign currency credit in percent of total credit to the private sector by commercial banks.

Figure 5.4. Foreign and Domestic Currency Deposits in Real Terms, 1996–2005 (Index: 1995=100)



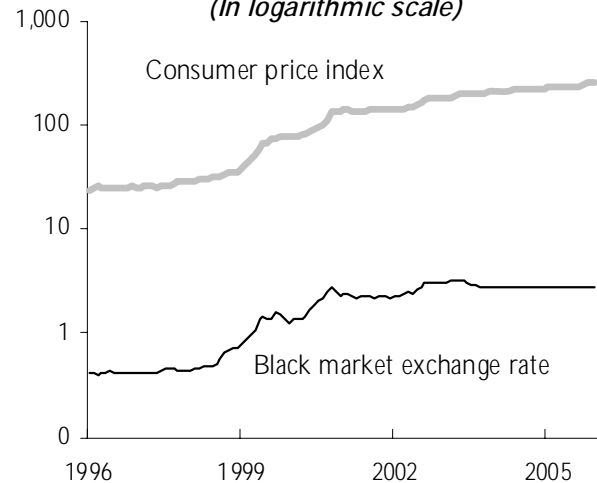
Sources: Central Bank of Suriname; and IMF staff estimates.

Figure 5.5. Foreign Currency Deposits and Loans, 1996–2005



Source: Central Bank of Suriname.

Figure 5.6. Consumer Price Index and Exchange Rate, 1996–2005 (In logarithmic scale)



Sources: General Bureau of Statistics; and Central Bank of Suriname.

currency deposits were effectively relaxed.<sup>34</sup> Even with the introduction of the reserve requirement on foreign currency deposits, the effective spread on dollar lending remained favorable relative to lending in domestic currency.<sup>35</sup> The lower spread for foreign currency transactions can be explained by the lower reserve requirements for foreign currency deposits until 2005 and the remuneration of reserves on foreign currency deposits.

The deregulation in gold trade may have contributed to rising dollarization. In September 2002, a change in the central bank regulations abolished the mandatory sales of gold to the CBvS and allowed the private sector to engage freely in gold trade. This deregulation almost tripled the officially recorded gold exports from 4.3 tons in 2001 (equivalent to about US\$35 million) to 12.6 tons in 2004 (equivalent to about US\$167 million). Before the regulatory change, small gold producers were obliged to sell gold to the central bank and were paid in foreign currency. It is likely that foreign currency proceeds from the surging gold exports led to increased intermediation in foreign currency and to an increase in foreign currency instruments in the banking system.

Signs indicate that dollarization has increased outside of the banking system. A distinction can be made between financial dollarization—when financial intermediation occurs in foreign currency—and “real” dollarization—when foreign currencies begin to be used as a medium of exchange and a unit of account.<sup>36</sup> In Suriname, there is evidence of real dollarization—for example, car and real estate prices are usually quoted in foreign currency, as are wages in certain industries. Interestingly, real dollarization in Suriname encompasses two foreign currencies: (1) high-end real estate is quoted in euros, and (2) wages in some industries are quoted in U.S. dollars.<sup>37</sup> Real dollariza-

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<sup>34</sup>In May 2002, foreign exchange surrender requirements for all exporters except from the mining sector (alumina, gold, oil) were abolished, enabling them to hold export proceeds in foreign currency deposits. Non-mineral exporters are still obliged to repatriate export proceeds, but are allowed to hold these proceeds in foreign currency accounts at local commercial banks. Mining sector exporters are still required to surrender foreign exchange to the central bank. These transfers include, among other things, taxes, wages, and in the case of oil, dividends. Thus, in the case of the mining sector, export values do not equal foreign exchange transfers. As of August 30, 2002, a change in foreign exchange regulations also allows some gold exporters to hold export proceeds in foreign currency deposits at local commercial banks.

<sup>35</sup>The interest rate spread between U.S. dollar loans and deposits shrank from 10 percent in 2001 to 7 percent in 2003 onward, whereas the spread between domestic currency loans and deposits remained unchanged at about 12 percent through 2003, but afterward declined to 9 percent in 2005.

<sup>36</sup>See Feige and others (2003) for Latin American countries' experience. Fritz-Krockow (2001) analyzed the ratchet effect for dollarization in Haiti.

<sup>37</sup>The informal gold sector also uses gold as a substitute currency (see the section in the appendix on gold).

### Box 5.1. The Exchange Rate Pass-Through to the Price Level

Statistical analysis suggests a high degree of the pass-through from the exchange rate to the price level in Suriname. Depreciation of the black market exchange rate is positively correlated to inflation, as shown by the estimate of the correlation coefficient between depreciation and inflation at various lags. In particular, the correlation coefficient estimates of about 0.6 for lags of one to two months suggest a quick pass-through from changes in the exchange rate to prices. In addition, a bivariate vector autoregression analysis suggests that the pass-through is almost complete: A 1 percent depreciation is estimated to increase the price level by about 0.6 percent within four months and about 1 percent within 12 months.<sup>1</sup>

Correlations between Exchange Rate Depreciation and Inflation<sup>1</sup>

	1992-2004	
0 month lag	0.67	*
1 month lag	0.64	*
2 month lag	0.41	*
3 month lag	0.27	*
4 month lag	0.19	*
5 month lag	0.25	*
6 month lag	0.31	*
7 month lag	0.25	*
8 month lag	0.18	*
9 month lag	0.20	*
10 month lag	0.17	*
11 month lag	0.09	
12 month lag	0.02	

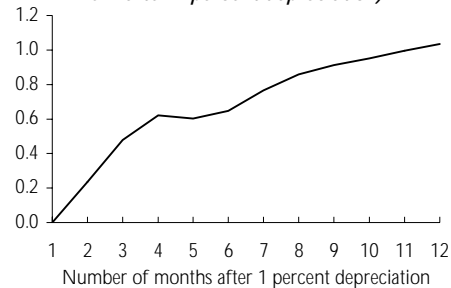
Source: Fund staff estimates.

<sup>1</sup>Correlation coefficient between monthly percentage changes in the black market exchange rate and lagged monthly percentage changes in CPI.

\* Significant at a 5 percent confidence level.

Response of CPI to Exchange Rate Depreciation<sup>1</sup>

(Accumulative percentage change of CPI after 1 percent depreciation)



Source: Fund staff estimates.

<sup>1</sup>Based on a bivariate monthly vector-autoregressive estimation for CPI and the black market exchange rates, with the sample period of 1992-2004.

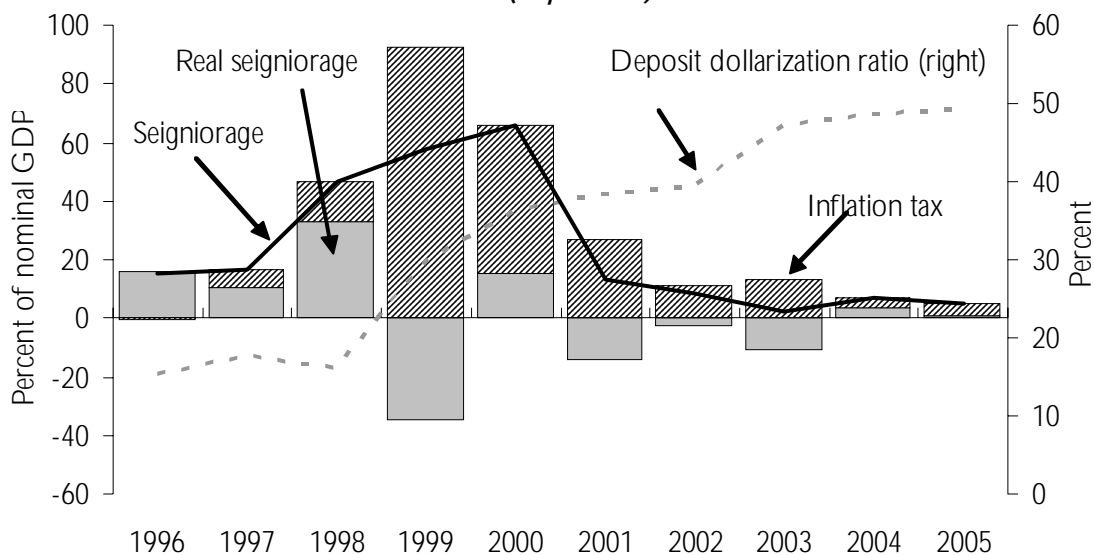
<sup>1</sup>These responses are statistically significant. The statistical inference would be strengthened if more variables, such as an index of economic activity, the interest rate, and monetary aggregates, were available and included in the regression.

tion is evident from the high degree of pass-through from movements in the exchange rate to the consumer price index (CPI) (Box 5.1).<sup>38</sup>

The episodes of near-hyperinflation in the 1990s provided a strong incentive for real dollarization. The rapid and unexpected changes in the exchange rate

<sup>38</sup>Cross-country studies found that the higher the dollarization, the more intense the pass-through. See Reinhart, Rogoff, and Savastano (2003) and Honohan and Shi (2002).

Figure 5.7. Seigniorage and Dollarization, 1996–2005  
(In percent)



Sources: General Bureau of Statistics; Central Bank of Suriname; and Fund staff estimates.

and domestic prices (expressed in domestic currency) created a powerful incentive for economic agents to switch units of account to a foreign currency. To be effective, this switch had to be fairly generalized in the population, which could come only at the time when the use of the Suriname guilder as a unit of account or medium of exchange became cumbersome. This process of real dollarization is difficult to reverse. Once established, economic agents have little incentive to return their unit of account to the domestic currency, which explains why real dollarization tends to ratchet up during episodes of high inflation and uncertainty and persist after uncertainties have eased (see Fritz-Krockow, 2001).

## Consequences of Dollarization

Dollarization has reduced the authorities' access to seigniorage. Revenues from seigniorage reached about 5–6 percent of nominal GDP during 1998–2000, equivalent to about 25 percent of annual tax revenue of the central government.<sup>39</sup> Real seigniorage—that is, the seigniorage that was over and above the amount simply gained from inflation—was also substantial during 1996–98, ranging from 1 to 4 percent of GDP (Figure 5.7). However, seign-

<sup>39</sup>Although commercial banks' domestic currency deposits at the CBVs are a component of reserve money, they have been highly volatile and hence excluded from the estimation of seigniorage.

### Box 5.2. Seigniorage

Seigniorage is a source of revenue that a national government can raise by issuing a currency. It is usually defined as an increase in the monetary base divided by the price level. Specifically, seigniorage is defined as

$$S_t = \frac{M_t - M_{t-1}}{P_t},$$

where  $M_t$  is the monetary base at period  $t$  and  $P_t$  is the price level at period  $t$ .

Seigniorage can be decomposed into two components: real seigniorage and the inflation tax. To see this, let  $m_t = M_t/P_t$  be the real holding of the monetary base by residents (i.e., real balances). Then, seigniorage  $S_t$  can be transformed as follows:

$$S_t = (m_t - m_{t-1}) + m_{t-1} \frac{P_t - P_{t-1}}{P_t}.$$

The first term on the right-hand side is referred to as *real seigniorage*, because it equals the increase in residents' money holdings originating from their money demand. The second term is referred to as *inflation tax*, calculated as real balances times the inflation rate. This resembles regular tax revenue, because it equals a tax base times a tax rate. The inflation is regarded as "tax" because it reduces the government's liability to residents with respect to issued domestic currency. Accordingly, if real balances are small, higher inflation is needed to raise the inflation tax.

In Suriname, high dollarization has eroded revenue from seigniorage. The negative effects of dollarization on seigniorage are related to a fall in both real seigniorage and the inflation tax. Seigniorage was generated mainly from the inflation tax during 1999–2001, when inflation averaged 66 percent a year. This was followed by a pickup in dollarization and a decline in the real demand for the domestic currency during 2001–03. The contraction in real demand, in turn, reduced real seigniorage, and thereby the base on which an inflation tax could be levied. Inflation therefore brought about a *temporary* increase in seigniorage. At the same time, it also created an incentive for dollarization, which in turn reduced the demand for domestic currency and eroded the future tax base for seigniorage.

Seigniorage has declined in recent years, falling from 6 percent of GDP in 2000 to 0.3 percent in 2003, with an even more pronounced decline in real seigniorage (Box 5.2).

Dollarization could reduce the scope for the exchange rate to buffer the effects of external shocks. With a flexible exchange rate, changes in the nominal exchange rate can offset the effects of adverse external shocks—including declines in world commodity prices—by crowding in external demand. Dollarization limits the scope for this type of adjustment device, because domestic prices are denominated in foreign currency.

Dollarization implies a loss of monetary policy independence, but may increase policy credibility. The monetary authority in a fully dollarized economy can influence neither domestic interest rates nor the quantity of money

circulating in the economy, limiting the scope for policy action.<sup>40</sup> At the same time, however, the reduced access to seigniorage and countercyclical policy may improve the perceived credibility of the authorities' commitment to low inflation.

## Dollarization and the Financial System

Dollarization coincided with a deepening of financial intermediation. During 1996–2005, there was a clear trend toward financial deepening, defined as a rising ratio of broad money to GDP (Figures 5.8 and 5.9). This trend almost entirely resulted from growth in foreign currency deposits, with a similar trend in commercial banks' assets.

Dollarization creates unique liquidity and solvency risks in the banking system. Liquidity risks arise from the central bank's reduced capacity to act as a lender of last resort, given its limited access to foreign exchange. It is therefore crucial that a dollarized banking system holds sufficient international reserve assets to cover deposit liabilities.<sup>41</sup> Solvency risks stem from the impact of changes in the exchange rate on banks' balance sheets, either through a currency mismatch between bank assets and liabilities or through the effect on foreign currency borrowers whose income stream is denominated in domestic currency. In Suriname, these risks are mitigated by the fact that bank supervisors require that bank clients provide evidence to commercial banks of their ability to repay the loans in foreign currency.

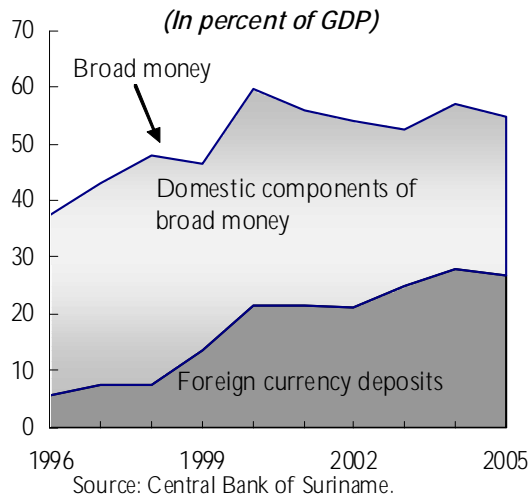
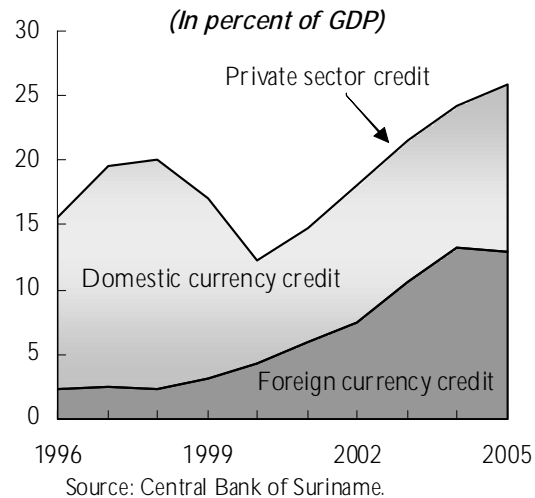
In recent years, the liquid reserves coverage of foreign currency deposits has declined. International liquid reserve assets of commercial banks include deposits held with correspondent banks abroad and include the required minimum reserves' holdings on foreign currency deposits. As a share of foreign currency deposits, these assets decreased from 194 percent in 1996 to 67 percent in 2005. However, total banking system international reserves—including CBvS reserves—still exceed 100 percent of foreign currency deposits (Table 5.3). Although this is more than sufficient to prevent a liquidity crisis, there would be little margin in case of a sustained shock to the balance of payments.<sup>42</sup>

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<sup>40</sup>Adhin (2000) suggests that dollarization might promote fiscal discipline in Suriname.

<sup>41</sup>Broda and Levy Yeyati (2003) explore alternative approaches to substituting the lender of last resort with private insurance, international bank branching, or an international lender of last resort.

<sup>42</sup>The actual international reserve coverage of foreign currency deposits during 1997–2001 was lower than the ratios indicated in Table 5.4, which includes foreign currency on blocked deposits at foreign banks and gold reserves used in gold swaps, and exclude several short-term liabilities. This boosted the international reserve position artificially. The foreign reserves on the blocked deposits and the gold reserves used in the gold swaps were not at the disposal of the CBvS.

Figure 5.8. Monetary Aggregates,  
1996–2005Figure 5.9. Credit to the Private Sector,  
1996–2005Table 5.3. Commercial Banks' Net Foreign Currency Position , 1996–2005  
(In millions of U.S. dollars, unless otherwise indicated)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Net foreign assets	70	90	86	102	92	121	137	186	236	232
Domestic credit in foreign currency	20	23	26	24	23	45	66	107	153	174
Foreign currency deposits (private sector)	-50	-71	-86	-106	-117	-164	-188	-251	-323	-360
Foreign currency deposits (public sector)	0	0	0	0	0	0	-5	-15	-33	-19
Net foreign currency position <sup>1</sup>	41	43	26	20	-2	2	10	27	33	27
In percent of GDP	4.8	4.6	2.3	2.6	-0.4	0.3	1.1	2.7	2.8	2.0

Source: Central Bank of Suriname.

<sup>1</sup>Excludes net unclassified assets.

With regard to solvency risks, Suriname's prudential regulations need strengthening. Lack of effective regulations on open positions in commercial banks' balance sheets and their net foreign currency position, as well as the high degree of foreign currency lending to borrowers without foreign currency income, increases the exposure of bank clients to exchange rate shocks (Table 5.5). This underscores the importance in dollarized economies of prudential regulations that ensure strong risk analysis for foreign currency lending.



**Table 5.4. International Reserve Coverage of Foreign Currency Deposits, 1996–2005**  
(In percent, unless otherwise indicated)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Commercial banks' international reserve assets as percent of foreign currency deposits	194	150	113	147	92	87	75	74	71	67
Central bank international reserves as percent of foreign currency deposits	288	455	168	7	3	27	54	40	42	42
Total banking system international reserve assets as percent of foreign currency deposits	481	605	281	155	95	114	129	114	113	109
<b>Memorandum item:</b>										
Foreign currency deposits (in millions of U.S. dollars)	50.2	71.5	86.7	107.1	118.1	170.6	194.4	268.3	320.2	360.6

Source: Central Bank of Suriname.

**Table 5.5. Sector Decomposition of  
Commercial Banks' Foreign Currency Loans**

	2002	2003	2004	2005
<b>Primary and secondary sectors</b>	<b>23.2</b>	<b>21.3</b>	<b>27.3</b>	<b>24.3</b>
Agriculture	3.1	1.7	4.7	5.5
Fisheries	4.3	3.4	2.8	2.2
Forestry	0.1	0.1	0.1	0.2
Mining	0.7	0.7	0.7	0.7
Manufacturing	11.8	13.6	14.3	11.3
Construction	3.2	1.5	4.7	4.4
Utilities	0.1	0.2	0.2	0.0
<b>Other sectors</b>	<b>76.8</b>	<b>78.7</b>	<b>75.4</b>	<b>75.4</b>
Trade	41.7	44.5	45.1	48.7
Transport, Storage and Communication	2.0	1.7	2.6	2.5
Services	8.5	5.8	8.5	10.0
Housing construction	5.0	7.1	6.2	6.3
Other	19.5	19.7	10.4	8.2

Source: Central Bank of Suriname.

## Lessons from Suriname's Dollarization

Dollarization in Suriname has been a response to episodes of near-hyperinflation and a reserve requirement scheme that encouraged financial intermediation in foreign currency. The process of dollarization has stabilized in recent years as a result of the increase in the reserve requirements on for-

eign currency deposits and the increase in confidence in the currency that resulted from more stable macroeconomic policies. Although these events theoretically should reverse the process of dollarization, other countries' experiences suggest that high dollarization may persist.

Dollarization has consequences for macroeconomic management and the financial system in Suriname. It has reduced exchange rate flexibility and seigniorage revenue. At the same time, there are signs that the liberalization of foreign currency banking transactions, combined with a stable macroeconomic environment, has led to a deepening of financial intermediation. However, dollarization has made the financial system more vulnerable because the central bank cannot function as a lender of last resort for the dollarized component of financial intermediation. In addition, foreign currency lending has increased the possibility of balance sheet shocks in the private sector and the banking system.

## Epilogue

Suriname has emerged from the economically turbulent 1990s with a commitment to implementing policies compatible with durable growth. Between 2003 and 2007, real GDP growth averaged above 5 percent per year, fiscal overall balances on average were positive, and the public debt declined from 50 percent of GDP to 21 percent of GDP. Monetary policy has helped reduce inflation from 98 percent in 1999 to 6.4 percent in 2007, and the favorable external environment has provided space for fiscal consolidation. In recent years, policymakers' attention has focused on consolidating these hard-won gains in macroeconomic stability into durable institutional reforms, including through the implementation of a medium-term fiscal framework.

The political situation has remained stable since 1999. The New Front government, headed by President Ronald Venetiaan, was elected in 1999 after widespread strikes and civilian demonstrations forced the previous government to call early elections. The new government, based on a broad coalition among the main ethnic parties in Suriname, has enabled national consensus building. President Venetiaan's coalition was returned to power in May 2005, albeit with a smaller majority and a more diverse group of political parties.

Since 2000, fiscal policy has largely been consistent with achieving debt sustainability and macroeconomic stability. Fiscal balances weakened early in the decade, with a shift in the central government balance from a surplus of 3 percent of GDP in 2001 to a deficit of 7 percent of GDP in 2002. After this brief setback, the government continued reforms with new determination. Legislation setting limits on total and domestic public debt relative to GDP was enacted in 2002. In 2003, sales tax rates for goods and services were raised; a casino tax and a one-year tax on corporate incomes and the highest personal incomes were introduced; and fuel prices were raised. At the same time, the fuel retail price mechanism was liberalized in 2005 and retail prices have moved with international prices ever since.

Monetary policy has focused on achieving price stability, while regulatory changes in the exchange rate and the financial systems have strengthened resilience. The Suriname dollar was successfully introduced in January 2004 to replace the devalued Suriname guilder. A new banking supervision law was passed in 2003 and the Central Bank of Suriname (CBvS) introduced new prudential regulations, in line with Basel Core Principles. A number of monetary and exchange rate policy initiatives were adopted in recent years, including the Central Bank Act of 2005 and measures to reduce fragmentation of the foreign exchange market.

Progress toward fiscal, monetary, and exchange rate stabilization has given policymakers an opportunity to prepare additional structural reforms. An improved medium-term fiscal framework—with a view to shielding the economy from boom and bust cycles of international commodity markets—has been high on the government’s agenda. This potentially could include a Natural Resource Fund. Although the initial work in these areas is promising, there is a significant challenge ahead to ensure that they become part of the institutional fabric of policymaking in Suriname. The near-term remaining challenges on the fiscal front include improved budget execution and more comprehensive statistical data coverage of the public sector. The authorities continue to make good use of technical assistance to accelerate progress in these areas, including from the IMF’s regional technical assistance center (the Caribbean Technical Assistance Center (CARTAC)). On the monetary front, the gradual unification of the exchange rate market has contributed to the stability of the monetary system. Significant scope remains, however, to improve monetary policy, notably through the introduction and use of market-based policy instruments. At the same time, the weak-performing state banks and a high degree of financial dollarization continue to pose significant challenges.

Macroeconomic stability has come under pressure from the worldwide commodity boom. Although Suriname has been benefiting from world high prices of its primary export commodities, strong economic growth has been accompanied by overheating pressures. As of early 2008, inflation had risen to double digits again, partly fueled by a credit boom. A de facto peg of the Suriname dollar to the U.S. dollar—combined with the global weakness of the dollar—has contributed to inflationary pressures. Addressing these macroeconomic imbalances will be essential for Suriname to conclusively demonstrate that the turbulent economic history of the 1990s is firmly in the past.

## APPENDIX

# Suriname's Economic Structure

Suriname's economic structure has changed over time. Large-scale agriculture brought with it immigration in the early twentieth century, setting the mark for today's diverse and multiethnic society and opening up larger parts of northern Suriname to economic development and settlement. The economy and society shifted markedly with the advent of the dominant bauxite industry, which evolved rapidly after the outbreak of World War II. The bauxite sector created a steady and substantive income for the state, which also led to rent-seeking behavior in large parts of the public sector and government. The rent-generating extractive industry, combined with the consensus approach of a multiethnic society, provided distinct stimuli for the creation of a large public sector, but one that was not fully efficient. The dominance of the bauxite industry also constituted a mixed blessing for the manufacturing and services sectors, which benefited from the sector's demand for goods and services, but which saw their export and earnings potential undermined by the appreciation and real wage pressures emanating from the bauxite sector. In the economic literature, this is a typical case of Dutch disease.

The first section of this appendix describes the main extractive industries—bauxite, gold, and oil. The extractive industries, in particular bauxite, marked Suriname's development in the late twentieth century. Bauxite mining and processing remains at the core of the Surinamese economy, providing a continued resource flow to the economy and the state. Long-term prospects remain favorable for the sector. Gold mining and oil extraction have become increasingly important in the Surinamese economy. Gold mining has a long history in Suriname, but this mainly has been undertaken in the form of informal mining operations in the interior; the formal gold mining industry is only a recent development. Oil extraction has become one of Suriname's largest commercial industries since 1980.

The second section of this appendix describes the main agricultural industries in Suriname. The main agricultural products comprise rice and bananas, both of which have undergone rapid changes in recent decades. Although rice farming continues to dominate agricultural activity in Suriname, it was affected adversely by weak macroeconomic policies in the 1990s, continued infrastructure and organizational problems, and the erosion of preferential

market access to the European Union (EU). Banana production has been carried out by a state-owned company in the past decades. The industry is recovering from a collapse of the state-owned company in 2002, which was brought about by poor management, labor strife, and an erosion of market prices and access.

## Extractive Industries

### Bauxite

In the twentieth century, Suriname's economy was transformed from an agriculture-based economy into a mining economy. In the years following World War I, the Suriname Bauxite Company—now known as Suriname Aluminum Company, L.L.C. (SURALCO) and a subsidiary of the American firm Alcoa—began exploiting bauxite deposits in eastern Suriname. The company has mined and exported bauxite since 1922. Large-scale bauxite mining began in the 1940s, when the company completed the construction of a new plant alongside the Suriname River.<sup>43</sup> The Paranam plant exported initially bauxite and later alumina, mainly to the United States. During World War II, Suriname provided 80 percent of the U.S. raw material requirement for aluminum processing (Box A1).

Suriname was once one of the world's largest producers and exporters of bauxite. Suriname's share rose to more than one-fourth of world production immediately after World War II, but has declined since then. The country lost its leading position in this field to Jamaica in the early 1950s, to Australia in 1969, and to Brazil in the 1980s (Figure A1). Currently, the share of Suriname in world bauxite production is relatively small, accounting for less than 3 percent of the world's production.

### ***The Brokopondo agreement***

The activities of the main bauxite company, SURALCO, are set out in the framework of the Brokopondo agreement.<sup>44</sup> The 1958 Brokopondo agreement signed between SURALCO and the government provided SURALCO with a 10- to 20-year concession for exploration—depending on the progress of exploratory work—in a 500,000-hectare region and rights to exploit 20,000 hectares for 75 years. SURALCO also agreed to build a dam in the

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<sup>43</sup>The plant is named Paranam after the Para and Suriname rivers that border the mining concession areas.

<sup>44</sup>The government agency that oversees bauxite-mining activities in Suriname is the Bauxite Institute of Suriname. The main responsibilities of the institute include conducting research and analysis, providing policy advice, coordinating government activities, and assisting in the enforcement of applicable laws.

**Box A1. Bauxite, Alumina, and Aluminum: A Brief Primer**

**Bauxite:** This is an aluminum ore composed mainly of aluminum oxides, together with oxides of iron and titanium and sodium silicates. After refining bauxite, alumina is the intermediate product, leaving as the main residue an iron-rich red mud.

**Alumina:** This white powdery aluminum oxide results from refining bauxite. A natural form of aluminum oxide is corundum, or rubies and sapphires in their gem-quality form. About 90 percent of all alumina is used for aluminum production; the remainder is used in abrasives, water-treatment chemicals, and fire-retardant coatings. It is also used in toothpastes, lamps, and compact disc cleaning kits.

**Aluminum:** Smelting alumina into aluminum metal is energy intensive and the process is usually undertaken near inexpensive hydroelectric power sources. The process separates the aluminum from the oxygen. Aluminum is highly resistant to corrosion and is lightweight. Aluminum is also highly malleable, a good heat conductor, and easily machined and cast. It is widely used in transportation, beverage packaging, construction, and electrical applications.

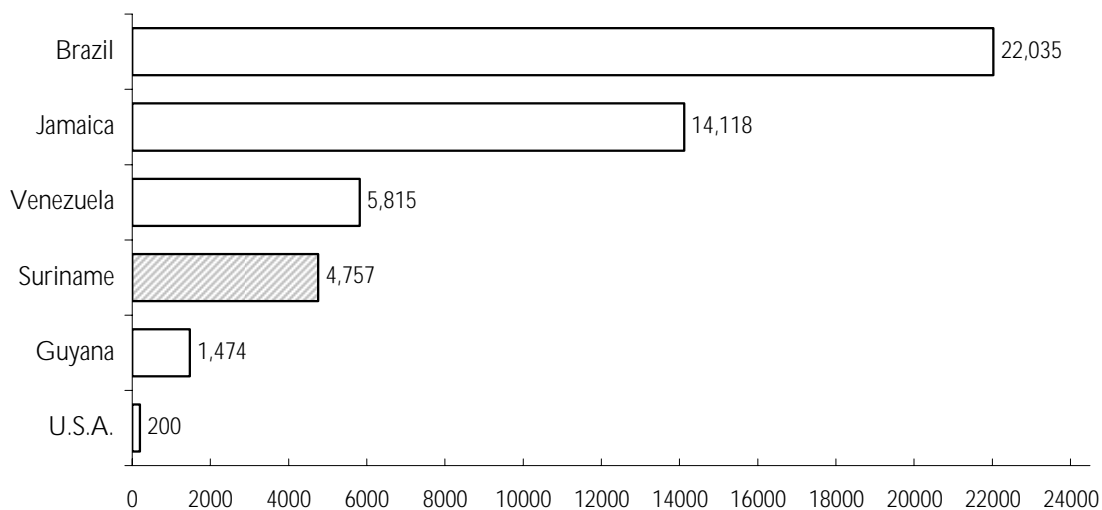
Suriname River with a hydropower plant at Afobakka, an alumina-refining facility, a road between Afobakka and Paranam, and an aluminum smelter at Paranam. The agreement provided fiscal incentives. SURALCO secured exemption from customs duties on imports of materials and equipment for the construction, expansion, and operation of the hydroelectric works, alumina plants, and aluminum smelter for a period of 75 years. Also for 75 years, Suriname would not levy duties on exports of bauxite, alumina, aluminum, and any downstream products from these commodities. At the expiration of the agreement in 2033, the bauxite mines are expected to be depleted, and the power station and the artificial lake will be transferred to the government.

The Afobakka dam was one of the central elements of the Brokopondo agreement. This dam was one of the first major hydropower projects in the world built in a tropical ecosystem. Alcoa invested more than US\$150 million to build the Brokopondo hydropower plant in 1959–64, which started generating power in 1965. However, Brokopondo's installed capacity of 189 megawatts has never been reached. SURALCO used the electricity in its own bauxite production activities, but also sold a portion of the generated energy to the government for use in the national grid. Initially most of the electricity generated at the plant was used by SURALCO in the bauxite refinery and smelter, and all the generated power was sold to the government after the closure of the aluminum smelter at Paranam in 1999.

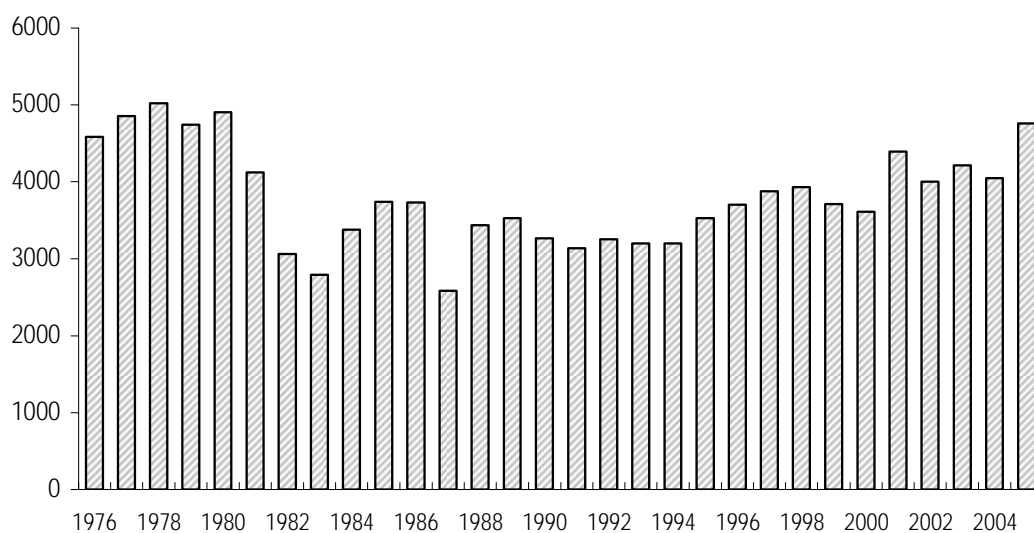
Political developments and corporate investment decisions led to the uneven expansion of the industry. Civil unrest severely disrupted activity in the 1980s (Figure A1). The industry recovered by 1993 in the context of increased po-

Figure A1. Bauxite Production  
(In thousands of metric tons)

Latin America and the Caribbean, 2005



Suriname, 1976-2005



Sources: World Metal Statistics Yearbooks (1986, 1995, 2005).



litical stability, and with a significant expansion in investment by the two mining companies, SURALCO and BHP Billiton. Beginning in 1993, they invested US\$217 million over a five-year period. Of this amount, US\$136 million was invested in 1996–97.

Aluminum production ceased with the closure of the smelter in 1999. The smelter was considered inefficient by international standards, with annual production capacity of about 27,000 metric tons, in an industry in which optimum capacity is about five times as high. Both the short- and long-run marginal costs of the smelter were considered to be higher than those of other smelters owned by the parent company Alcoa. In contrast, Paranam, the alumina-refining facility operated by Alcoa and co-owned by SURALCO (55 percent) and an affiliate of BHP Billiton (45 percent), is operating efficiently by international standards. Continued investment in the refinery has gradually increased output. The expansion of the refinery, completed in February 2005, increased the facility's total capacity to about 2.2 million metric tons per year.

The industry has opened up new mines to maintain and expand production. The old Coermotibo and Lelydorp III mines near Paranam were nearing depletion and new mines came into operation in 2006–07 when SURALCO/BHP began mining bauxite at the Kaaimangrassie and Klaverbad mines in Commewijne. Both companies made a joint investment of around US\$200 million to develop these successor mines and build access roads and a bridge over the Suriname River leading to the new mines. The deposits in the immediate areas are estimated to contain 75 million tons of bauxite and are expected to last until 2010. The access roads and new bridge will be handed over to the government once the mining operations end.

### ***Contribution to the economy***

The sector has been the cornerstone of the Surinamese economy since before World War II. Bauxite mining and processing accounted for about one-third of the country's GDP in the post-World War II period. Despite the industry's expansion—as a result of the Brokopondo agreement—the bauxite sector's contribution fell to about 15 percent of GDP at the end of the twentieth century. The sector has benefited from the creation of a trained workforce and ancillary industries, while the Brokopondo project put in place the main electricity-generating facility of the country.

The sector provides a significant contribution to balance of payments inflows and fiscal revenue. In terms of foreign exchange inflows, the bauxite sector represents about two-thirds of the total value of exports. Direct tax revenues from the bauxite industry for 1996–2005 averaged about 4 percent of GDP,

or about 14 percent of total fiscal revenue.<sup>45</sup> In addition, government revenue benefits indirectly from income and consumption taxes on company workers' salaries and spending and the revenue generated from the activity of local contractors. However, the share of the bauxite industry in total employment is relatively small. The sector employs directly about 1,400 workers, less than 2½ percent of the labor force.

### ***Outlook***

The prospects for Suriname's bauxite sector are promising. Although mining and processing in the current areas of activity around Paranam are bound to reach depletion points over the medium term, there are expansion plans to exploit the extensive bauxite reserves in western Suriname.<sup>46</sup> Exploration for bauxite reserves in the area has identified high-quality ore in a mountainous area of 2,800 square kilometers of tropical rainforests. Bakhuis, the most promising area in the west, is estimated to hold bauxite reserves of about 200–700 million tons.<sup>47</sup> As a further step toward exploiting the area's bauxite resources, the government signed a memorandum of understanding with SURALCO and BHP Billiton. The agreement grants permission to conduct studies for an integrated aluminum industry complex, that is, new bauxite mines and refinery operations, an aluminum-smelting plant, and a hydroelectric dam in the area.

Bakhuis could become a large integrated mining, hydropower, and processing project. This project could require investment of up to US\$3 billion and could include an alumina refinery and, eventually, an aluminum smelter. Exploration and feasibility studies are well advanced and negotiations between the government and bauxite companies SURALCO and BHP-Billiton about specific features of the project are under way. Critical to the exploitation of the resources is the availability of transport infrastructure and energy. For this purpose, the 72-kilometer-long railroad from Bakhuis to the port at Apoera could be rehabilitated. SURALCO will complete a feasibility study for a 400- to 500-megawatt hydroelectric power facility, which would be

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<sup>45</sup>The bauxite industry is taxed as follows: (a) a statistical fee of 2 percent is levied on the f.o.b. value of bauxite exports (whereas other exports are subject to a 0.5 percent fee), although no bauxite has been exported since 1987; (b) a statistical fee is imposed on imports by the bauxite companies at the rate of 2 percent on the c.i.f. value (whereas the general rate for imports is 0.5 percent); and (c) profit income by bauxite companies is taxed at a 36 percent rate.

<sup>46</sup>Before independence, the Suriname government had already decided to undertake a major investment project in bauxite mining in the area, which failed to materialize. In August 1970, the Suriname government and Reynolds Metals Company agreed to form a joint venture for the exploitation of the bauxite reserves in the Bakhuis Mountains of western Suriname and, in a next phase, of the bauxite reserves in the Coppename area close to the coast.

<sup>47</sup>Information provided by Alcoa. Alcoa website: [www.alcoa.com/suriname/en/news/news\\_release/mining.asp](http://www.alcoa.com/suriname/en/news/news_release/mining.asp).

sufficient to operate an aluminum smelter with an annual capacity of 275,000 to 300,000 tons.

## **Oil**

### ***Background***

The Suriname-Guyana basin could become a significant oil producer in the region. In its 2001 report, the U.S. Geological Survey suggested that the Suriname-Guyana Basin was probably one of the last remaining poorly explored regions for oil production in the world. The potential oil reserves in the basin were estimated at about 15 billion barrels. To date, Suriname has extracted only modest amounts of oil from onshore locations, but most of Suriname's oil reserves are likely to be found offshore (Box A2).

### ***Oil exploration and production***

Oil production has become one of Suriname's larger commercial extraction industries. In December 1980, the state-owned Staatsolie Maatschappij Suriname, N.V. (State Oil Company of Suriname) was established and charged with overseeing and developing all oil exploration and production activities in the country. One year later, a commercial oil find was made in the Tambaredjo field in the Saramacca District about 55 kilometers west of Paramaribo. Since extraction began in November 1982, oil production increased steadily, reaching levels of around 4-5 million barrels during 2002–05 (Table A2 and Figure A2). The number of employed staff grew from 340 in 1990 to about 650 by 2005.

In March 2006, Staatsolie started extracting oil from the new Calcutta field to the west of the Tambaredjo field. After exploration and drilling in the area, proven reserves in the Calcutta field are estimated at about 23 million barrels. The new Calcutta field boosted annual production from 4.4 million barrels in 2005 to 4.8 million barrels in 2006, a level that is expected to be maintained over the coming years.

Suriname's oil production and reserves are modest by international standards and is dwarfed by that of its neighbors in the region. Of its regional neighbors, the second-smallest producer, Trinidad and Tobago, extracts about 12 times the oil output of Suriname.<sup>48</sup> Likewise, Suriname's proven oil reserves are limited compared with other regional oil producers. As of 2005, Suriname's proven oil reserves were about one-tenth those of Trinidad and Tobago.

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<sup>48</sup>Despite its geological similarities to Suriname, Guyana does not yet produce oil in commercial quantities.

### Box A2. Geology and Oil Exploration in Suriname

**Geology.** The Suriname-Guyana Basin was formed in the Jurassic Age (150–200 million years ago), when Africa and South America drifted apart. The basin's geology contains rock that strongly resemble the oil-rich rock formations in eastern Venezuela and Trinidad. Oil deposits in the onshore Tambaredjo oil field are thought to have migrated some 100–200 kilometers upward and inland from the "Canje Source Kitchen" out at sea into what is now known as the "Tambaredjo Trap."

**Oil quality.** The oil that is currently being extracted from two onshore areas is of a "heavy quality." The older of the two areas is the Tambaredjo production area (Tambaredjo and Tambaredjo North-West fields), 55 kilometers west of Paramaribo, and the younger is the Calcutta field several miles further west. Proven reserves in the Tambaredjo fields are estimated at about 84 million barrels, and in the Calcutta field at 23 million barrels. It is estimated that there are additional probable reserves in these fields of 32 million barrels (Table A1).<sup>1</sup>

**Maritime dispute.** In June 2000, Suriname's navy forced the Canadian oil company CGX Energy to halt operations in an offshore area for which it had signed an exploration contract with the government of Guyana. The CGX Energy concession block is part of a larger maritime area claimed by Suriname and Guyana. In February 2004, Guyana referred the matter for arbitration to the United Nations Law of the Sea Tribunal, and a ruling in favor of Guyana was passed in September 2007.

**Exploration and prospects.** Prospects for new oil finds are most promising in the coast off Suriname and Guyana. Since 2004, after the tension over the maritime dispute with Guyana abated, Staatsolie signed a number of contracts with foreign oil companies for explorations of offshore blocks east of the disputed area and well within territorial waters. Contracts were signed in 2004 with the Spanish company Repsol YPF and the Danish company Mearsk Oil, in 2005 with the U.S. company Occidental Petroleum, and in 2007 with the U.S. company Murphy Oil.

**Exploration contracts.** Staatsolie holds the sole mining rights for oil in Suriname. However, foreign oil companies can participate in Suriname's oil industry by entering production-sharing agreements with Staatsolie. These generally stipulate that the partner company bears the sole exploration risk. In the event of a commercial find leading to oil production, royalty in the form of an agreed percentage of gross production will be paid to the government. In turn, the partner company will be reimbursed an agreed share of gross production to recover its exploration, development, and operating costs (so-called cost oil). Finally, the remaining production after deducting royalty and cost oil will be shared according to a negotiated formula between the contractor and Staatsolie (so-called profit oil). The contractor has to pay (in foreign currency) income tax on profit oil as well as other taxes, fees, or duties. Material and equipment used in petroleum operations are exempt from import duties, and there are no taxes or duties on the export of petroleum products. The partner company is guaranteed contract stability, including fixed income tax rates for the duration of the contract.

<sup>1</sup>Proven reserves of oil have a likelihood of at least 90 percent of being found and extracted. Probable reserves have a likelihood of 50–90 percent of being found and extracted.

**Table A1. Crude Oil Price Comparison**  
(In U.S. dollars per barrel)

	1992	2004	2005	2006
Spot price <sup>1</sup>	19.0	37.8	53.4	64.27
Average realized price "Saramacca"	12.8	28.4	38.6	46.63
In percent of spot price	67.2	75.2	72.3	72.6

Sources: Various Staatsolie Annual Reports; and IMF staff estimates.

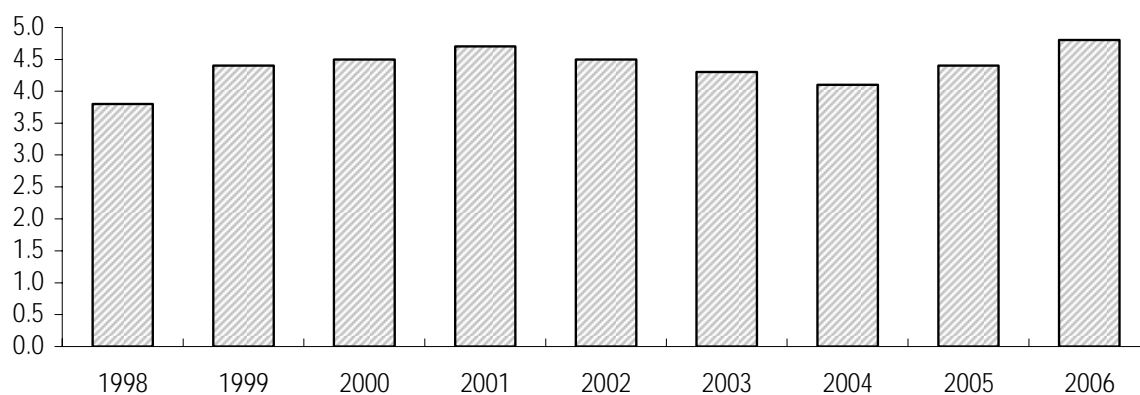
<sup>1</sup>The simple average of U.K. Brent, Dubai, and West Texas Intermediate oil.

**Table A2. Annual Crude Oil Production**  
(In millions of barrels)

	2000	2001	2002	2003	2004	2005
Brazil	463.2	472.7	531.1	546.1	539.2	596.3
Colombia	252.1	228.1	210.6	197.4	193.0	191.9
<b>Suriname</b>	<b>4.5</b>	<b>4.7</b>	<b>4.5</b>	<b>4.3</b>	<b>4.1</b>	<b>4.4</b>
Trinidad and Tobago	44.6	41.4	44.5	48.9	44.9	52.8
Venezuela	1,151.6	1,098.7	950.4	852.3	933.3	936.1

Sources: U.S. Department of Energy, *International Energy Annual 2005*; and Staatsolie Annual Report 2006.

**Figure A2. Petroleum Production**  
(In millions of barrels)



Sources: Staatsolie Annual Reports, 2000-06.

The outlook appears promising. In addition to the numerous oil exploration contracts signed or under consideration with foreign firms, Staatsolie is actively investing in exploration activities. Seismic data in the offshore area showed promising results and are being analyzed to determine locations for additional and targeted seismic tests and drilling.

### ***Refining and marketing***

Staatsolie built an oil refinery in 1995–97. During 2004–06, the refinery processed on average about 2.6 million barrels of crude oil annually, producing diesel, asphalt bitumen, and various fuel oils. After an overhaul of existing facilities in 2005, a US\$300 million expansion is planned that would increase processing capacity by 40 percent.

Staatsolie sells most of its crude oil production domestically. About two-thirds of petroleum sales go to SURALCO, which pays in U.S. dollars and uses the heavy crude to generate electricity at its alumina refinery in Paranam. In addition, more than 30 percent of Staatsolie's sales are exported or sold as bunker fuel to vessels that call on Suriname's ports, bringing its total foreign exchange earnings in 2006 to around US\$240 million (or about 92 percent of sales), while local sales amounted to the equivalent of about US\$21 million in 2006 (Table A3).

### ***Staatsolie's financial position***

Staatsolie is the most profitable state-owned enterprise in Suriname. Over the first 25 years of its existence, Staatsolie produced 57 million barrels of crude oil with sales totaling US\$1.2 billion. During this period, Staatsolie earned about US\$470 million in net profits and paid about US\$150 million in income taxes, while transferring another US\$175 million in dividend payments to the government. However, Staatsolie was also affected by the turbulence of the 1990s (Box A3).

**Table A3. Key Oil Indicators**

	1992	2002	2003	2004	2005	2006
Staatsolie's net income (millions of US\$)	12.0	23.9	28.4	35.5	67.8	98.5
Crude oil productions (millions of barrels)	1.6	4.5	4.3	4.1	4.4	4.8
Average realized crude oil price (US\$ per barrel)	12.8	21.7	26.3	28.4	38.6	46.4
Total sales revenue from oil products (millions of US\$)	20.2	104.1	114.7	117.7	173.7	240.5
In percent of GDP	4.9	10.9	11.2	10.3	12.7	15.1
Proven reserves (end of year, millions of barrels)	43.5	111.0	110.0	85.0	107.0	88.0

Sources: Various Staatsoilie Annual Reports.

### Box A3. Staatsolie during the 1990s

Staatsolie's profits turned negative in 1991. The income position became untenable in the early 1990s, as annual inflation and depreciation accelerated and Staatsolie was forced to use the pegged official exchange rate of Sf 1.8 per US\$1 for its export earnings, whereas its foreign exchange needs had to be met at the much-depreciated parallel exchange rate. In October 1992, a new foreign exchange regime was introduced that granted Surinamese export companies, including Staatsolie, access to a special and more favorable "auction exchange rate." Consequently, Staatsolie's fourth quarter sales (October–December 1992) were more than 66 percent higher than the total sales in the preceding three quarters.

#### Staatsolie's Income Position

	1989	1991	1993	1995
(In thousands of SF)				
Operating revenues	22,926	34,569	576,556	...
Operating costs	17,746	36,876	224,876	...
Income before taxes	5,180	-2,307	351,680	...
Income taxes	2,319	0	160,494	...
Net income after taxes	2,861	-2,307	191,186	...
Average exchange rate used (guilder per US\$)	1.8	1.8	39.1	451.2
Average CPI inflation rate (in percent)	0.8	26.0	143.5	235.6
(In thousands of U.S. dollars)				
Gross sales and income	12,953	19,531	14,738	34,513
Operating costs	10,026	20,834	5,748	22,116
<b>Profit before taxes</b>	<b>2,927</b>	<b>-1,303</b>	<b>8,990</b>	<b>12,397</b>
Income taxes	1,310	0	4,103	6,396
<b>Net profit after taxes</b>	<b>1,616</b>	<b>-1,303</b>	<b>4,887</b>	<b>6,001</b>

Sources: Various Staatsolie Annual Reports.

Near-hyperinflation forced Staatsolie to denominate all its accounts in U.S. dollars in 1995. As inflation accelerated rapidly in 1994–95, Staatsolie's accounting system in local currency became meaningless. Also, most revenue and loan repayments were denominated in U.S. dollars. Consequently, in 1995, the company formally introduced the U.S. Generally Accepted Accounting Principles (US-GAAP) and denominated its accounts in U.S. dollars.

### ***Impact on the economy***

Despite its small size by regional comparison, Suriname's oil sector is quite substantial relative to the country's GDP. In 2006, gross proceeds from crude oil production, refining, and trading totaled US\$240 million (15 percent of GDP). Although the rise in gross proceeds during the past few years reflected to a large extent the recent increase in oil prices, the increase in production volume also provided an additional boost to gross revenue.

In recent years, revenues from oil production have overtaken those from the bauxite sector. The oil sector has become the largest single contributor to government revenue from the mining industry. In 2005, the revenue from the oil production sector amounted to 3½ percent of GDP or about 13 percent of total revenue collection, compared with 2½ percent of GDP and less than 9 percent of total government revenue in 2002. In 2005, most of the revenues collected by the government from the oil production sector were in the form of dividend payments (54 percent), followed by corporate income taxes by Staatsolie (about 37 percent). Revenues from the oil sector increased by 30 percent to US\$79 million in 2006 as a result of higher production levels and higher average oil prices.

### ***Balance of payments***

The oil sector's importance to the balance of payments is masked by its modest direct contribution to exports (only about 6–8 percent of total merchandise exports). Its much larger role becomes evident when Staatsolie's crude oil deliveries to SURALCO are taken into account. These import-substituting local deliveries constitute a key component for SURALCO's alumina exports and amount to around US\$144 million or nearly 15 percent of merchandise exports in 2006.

### **Gold**

Gold mining has become increasingly important in the Surinamese economy. While small-scale gold mining activities became significant in the 1980s, large-scale gold mining started only in 2004. This section describes the background of the gold sector in Suriname, its regulatory framework, the status of gold mining concessions and illegal mining activities, and implications for fiscal revenue volatility and vulnerabilities arising from this sector.

### ***Background***

Gold production in Suriname represents a relatively small share of world production (Table A4). Gold mine production in the Western Hemisphere was approximately 800 metric tons in 2005, representing a third of the world total production. The top three gold producers—the United States, Peru, and Canada—accounted for about three-fourths of the total gold production in the region, while Suriname production represented only 2½ percent of the total.

Gold mining has a long history in Suriname. Gold deposits in Suriname are located in the Guianas Shield,<sup>49</sup> as part of a metamorphic rock formation that

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<sup>49</sup>The shield stretches from the Amazon River in Brazil to the Orinoco River in Venezuela.



Table A4. Western Hemisphere: Gold Production, 2006

	Tons	Percent of Total
<b>Total</b>	765.8	100.0
U.S.A.	251.8	32.9
Peru	203.3	26.5
Canada	104.2	13.6
Chile	40.8	5.3
Brazil	38.4	5.0
Mexico	38.2	5.0
Argentina	30.0	3.9
Colombia	15.7	2.1
Bolivia	9.6	1.3
<b>Suriname</b>	<b>9.4</b>	1.2
Venezuela	8.2	1.1
Ecuador	5.2	0.7
Guyana	4.1	0.5
Honduras	4.1	0.5
Nicaragua	2.8	0.4

Sources: World Metal Yearbook 2007; and Suriname authorities.

cuts through the Guianas from east to west. Gold deposits occur in primary form (mostly in and around reefs formed through the filling of cracks in the surface stone) and in secondary form (as gold nuggets or dust formed as a result of erosion on hill slopes or in local rivers and creeks). Gold mining started in the Sara creek area in 1876 and later in the Mindrineti and Brownsweg areas. The rich Lawa alluvial deposits were mined extensively starting in 1885, reaching 1,200 kilograms per year in 1908. Subsequently, gold production declined when most deposits were exhausted and artisanal mining replaced mechanized commercial operations. In the late 1960s, gold mining was virtually nonexistent.

Informal gold mining in the interior has increased rapidly since the 1990s. Gold mining became an important source of income for the population in the interior after the end of the civil war in 1992.<sup>50</sup> In addition, Brazilian gold diggers, who had expertise in hydraulic and small-scale mining operations, migrated to Suriname in response to the increasing scarcity of alluvial ores in

<sup>50</sup>Most of the population of Suriname lives in the narrow coastal region. The population in the interior mainly consists of Amerindians (around 10,000) and Maroons (around 50,000), who have only limited contact with the formal and urban sectors of the population.

Table A5. Suriname: Gold Concessions

Type	Number	Area	
		In km <sup>2</sup>	In hectares
Total area in concession	45	5,568	556,765
Reconnaissance	0	0	0
Exploration	20	4,199	419,941
Exploitation	15	1,348	134,824
Small-scale mining	10	20	2,000
<b>Memorandum item:</b>			
Total area of Suriname		162,000	16,200,000

Source: Ministry of Natural Resources, Mining Department.

the Brazilian Amazon.<sup>51</sup> The high international gold prices in recent years have also made this industry more attractive.

### ***Regulatory framework***

Most gold is mined without a legal concession or government control. Holders of large-scale mining concessions have subcontracted gold mining operations, allowing informal miners to use their land for a fee, usually 10 percent of the production, but this constitutes only a small part of informal mining operations. As of January 2005, the government had granted about half a million hectares in concessions for gold exploration, exploitation, and small-scale mining, representing 3½ percent of the total land area, but only 2,000 hectares possess legal concessions for small-scale mining (Table A5).

The government has attracted foreign investment to expand gold production. With the approval of the National Assembly, the government reached agreements with foreign companies granting them mineral exploitation rights. The agreements provide incentives such as (1) exemptions on import duties on equipment; (2) guarantees regarding the unrestricted right to export gold, to repatriate capital and profits, to convert local currency in foreign currency at market rates, and to hire expatriate employees and contractors; and (3) international arbitration of disputes arising in connection with the projects.

<sup>51</sup>The artisan miners in the Guianas have traditionally been referred to as *porknockers*, while Brazilian gold diggers are called *garimpeiros*.

### ***Small-scale gold mining***

Most gold is produced by small-scale artisanal gold mining operations. Suriname officials estimate that there are 10,000–20,000 small-scale miners in an area of approximately 20,000 square kilometers in eastern Suriname. These miners use rudimentary prospecting and extraction techniques and material, including high-pressure hoses and hydraulic pumps along with bulldozers, excavators, and metal detectors.<sup>52</sup> This often entails the use of mercury to bind and purify the gold, which causes substantial health and environmental damage.

The government has virtually no control over the informal gold mining activities in the interior. During the 1986–92 civil war, all but two of the government mining agency's (Geologisch Mijnbouwkundige Dienst, GMD) outposts in the interior were closed and have not been reopened since. In the absence of a government presence, mining takes place with limited oversight and without social or environmental protection and controls. In addition, the government has received only scant income from informal gold exports.

Small-scale miners are recruited mainly from the Maroon population from the interior and Brazilian immigrants:

- After the cessation of the conflict in 1992, Maroons, who fought the central government during the war, moved into small-scale mining as one of the few possible economic activities in the interior. They maintain that their activity does not require government sanction, claiming the use and occupational rights over traditional land granted to them by peace treaties before Suriname independence, and confirmed by a treaty with the government at the end of the civil war.<sup>53</sup>
- About 6,000–20,000 Brazilian *garimpeiros* have no legal residency or work permits in Suriname. Some are employed in the gold fields by Surinamese miners to take advantage of their expertise. The more successful *garimpeiros* have become independent mining operators or suppliers of mining equipment.

Although activities in the informal gold sector are unrecorded, there are indications that the sector's contribution to the domestic economy is significant. Government officials estimate that the industry is the second-largest employer after the public sector and that gold production in the informal sector represented around 15 percent of GDP in 1997–2001. The relative impor-

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<sup>52</sup>Hydraulic gold mining has been outlawed in gold-producing OECD countries owing to the environmental damage it causes.

<sup>53</sup>Treaty for Peace and National Reconciliation and Development, dated August 8, 1992.

tance of small-scale mining on the economy of the country's interior and the pervasive lack of a formal and monetized economy have led to gold assuming the function of currency in this region. As an example, some goods and services have become denominated and paid for in gold: fuel prices range from 20 to 30 grams of gold per container depending on the location, and digger wages are 30 percent of daily gold production.

Spillovers into the formal economy underscore the substantial expansion of gold mining in the interior:

- **Land transportation and heavy equipment.** Imports of trucks and heavy mining equipment accounted for about 11 percent of imports in 2003. This includes equipment to haul spare parts, fuel, and food supplies, and to transport workers to the production areas along the main rivers; and tractors, bulldozers, and excavators to carry cargo and passengers along the trails, to clear land, and to build gravel pits in small rivers to wash out gold.
- **Air transportation.** Miners charter about 75 percent of local airline flights to transport employees, food, equipment, spare parts, and, in the dry season, fuel.
- **Storage facilities for fuel.** Storage and distribution facilities have been established, rebuilt, or enlarged in the interior to facilitate the provision of fuel to gold mining areas. It is estimated that around 15 million liters of diesel fuel and 50,000 liters of lubricant are used annually in small-scale mining operations.

Small-scale gold mining operations have led to severe health and environmental consequences. Informal mining operations have caused soil degradation and deforestation, and the construction of gravel pits in streams has led to high silt content, affecting natural habitats in the rainforest. Mercury used by small-scale miners has led to long-term poisoning and high and persistent concentrations in lakes and streams.<sup>54</sup> Conservation groups have tried with limited success to introduce alternative mining techniques.

The central bank began purchasing gold directly in 1994. The Central Bank of Suriname (CBvS) started a gold purchase program in July 1994, buying gold through licensed private companies that previously had been smuggled to neighboring countries. Through this program, the CBvS increased its gold reserves during the bout of high inflation in August 1994–July 1995, with

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<sup>54</sup>Mercury is used to bind gold and separate it from the dirt by creating a gold-mercury amalgam. Gold is then separated by heating the amalgam. In the process, the mercury evaporates and later condenses, creating a health hazard for workers and contaminating surface waters.

**Figure A3. Recorded Purchases from Small-Scale Mining Operations**  
(In millions of U.S. dollars)



Source: Central Bank of Suriname.

purchases peaking in 1999. The sales of gold to the CBvS declined in 2001 to 98,000 ounces, reflecting a fall in international gold prices, higher costs for diesel and other inputs, and the introduction of a gold purchase program in Guyana that diverted a substantial part of the Surinamese production.

Regulatory changes in 2002 led to a substantial increase in gold purchases (Figure A3). In August 2002, the CBvS eliminated its program of direct gold purchases by licensing it entirely to the private sector. As of end-2004, seven licensed brokers had established facilities to buy gold from the informal sector, process it to separate out impurities and mercury contamination, and export gold. The CBvS also instituted pricing and taxation changes that increased the attractiveness of selling gold in Suriname, rather than smuggling it to Guyana.<sup>55</sup> Combined with the increase in the international price of gold, this resulted in an increase in exports from small-scale mining operations from US\$24 million in 2002 to around US\$160 million in 2005 and a projected US\$210 in 2006. The large increase in gold exports points to a reversal of the gold smuggling flow between the two countries.

<sup>55</sup>In Guyana, sellers pay a 2 percent fee, based on the value of the gold to the Guyana Gold Board plus a royalty fee ranging from 3 to 5 percent based on the international price of gold. If international gold prices are below US\$260 per ounce, the royalty is 3 percent; for prices between US\$260 and US\$285 per ounce, it is 4 percent; and for prices that exceed US\$285 per ounce, it is 5 percent. This royalty fee is earmarked for the Guyana Geology and Mine Commission. In comparison, Suriname charges royalties of 1 percent and an extra royalty of 6.5 percent if the international gold price exceeds US\$425 per ounce.

### ***Large-scale gold mining***

A large gold mine opened at Rosebel in February 2004. The mine is operated by a subsidiary of a Canadian mining company and is located around 80 kilometers south of Paramaribo in an area covering 17,000 hectares. The concession includes exploration rights to 2027. The exploration and feasibility study took about six years and the construction about one year to complete, with total investment of around US\$176 million. The new mine processed around 7¼ million tons of material and produced around 274,000 ounces of gold in 2005, or about US\$140 million.<sup>56</sup>

The economic impact of the gold mine has been significant. The new mine has provided direct employment since 1992, when the planning phase began. After the mine began operations, employment increased to around 1,100 workers in production, exploration, and construction. In addition, local expenditure, including wages, amounted to around US\$30 million in 2004 (3 percent of GDP), while tax and nontax revenue added up to around US\$5.4 million in 2004 and US\$8.5 million in 2005 (Tables A6 and A7). Corporate income tax and dividends become payable in 2007 after the gold company and the government reached an agreement regarding new rules for the depreciation of investment.

Formal large-scale gold mining has growth potential in Suriname. SURALCO has identified various gold deposits at its bauxite mining concessions and has announced a joint venture for further exploration with a U.S. gold mining company. The Canadian Resource Company (CANARC) is also active in its Sarakreek concession near Benzdorp.

### ***Longevity of mining activities***

Revenue from large-scale gold mining is relatively short lived compared with other mining enterprises. The life span of a gold mine is on average between 5 and 15 years, much shorter than the productive life span of mines exploiting other minerals. Bauxite mines, for example, can be operated for extremely long periods, leading to a lower volatility in exports and fiscal revenue. The new gold mine in Rosebel is expected to operate for 15 years, and export revenue is expected to increase rapidly in the first few years of operation to about 11 percent of total exports and decline subsequently. Fiscal revenue is projected to peak at 1 percent of GDP in 2008 and then to start falling gradually, absent new deposit discoveries.

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<sup>56</sup>The operation uses cyanide in a recirculated process instead of mercury, substantially reducing the environmental impact.

Table A6. Government Revenue from Mining Sector  
(In millions of U.S. dollars, unless otherwise indicated)

	2002	2003	2004	2005
<b>Contribution from oil</b>				
Income tax	9.0	21.6	21.5	22.5
Dividend	11.9	14.2	16.9	33.1
Personal income tax	3.8	4.3	5.0	5.4
Turn over tax	0.0	0.0	0.0	0.2
Total	24.7	40.1	43.5	61.3
In percent of GDP	2.3	3.1	2.9	3.4
In percent of total government revenue	8.9	11.3	11.1	12.4
<b>Contribution from gold</b>				
Total revenue	0.0	0.0	8.0	12.7
In percent of GDP	0.0	0.0	0.5	0.7
<b>Contribution from bauxite and alumina</b>				
Total revenue	42.0	46.6	63.7	57.3
In percent of GDP	3.8	3.6	4.3	3.2
<b>Memorandum item:</b>				
Nominal GDP	1,095	1,284	1,490	1,801

Sources: Suriname authorities; and IMF staff estimates.

Table A7. Exports of the Mining Sector  
(In millions of U.S. dollars, unless otherwise indicated)

	2004	2005	2006
<b>Crude oil</b>			
Value	43.5	53.6	96.5
In percent of total merchandise exports	5.5	5.9	7.7
<b>Gold, including informal sector</b>			
Value	275.9	338.1	441.5
In percent of total merchandise exports	35.1	37.1	35.3
<b>Alumina</b>			
Value	413.1	446.6	609.4
In percent of total merchandise exports	52.6	49.1	48.8
<b>Total of mining sector</b>			
Value	732.5	838.3	1,147.4
In percent of total merchandise exports	93.2	92.1	91.8
<b>Total merchandise exports</b>			
Value	785.9	910.3	1,249.6
In percent of total merchandise exports	100.0	100.0	100.0

Sources: Suriname authorities; and IMF staff estimates.

## Agricultural Sectors

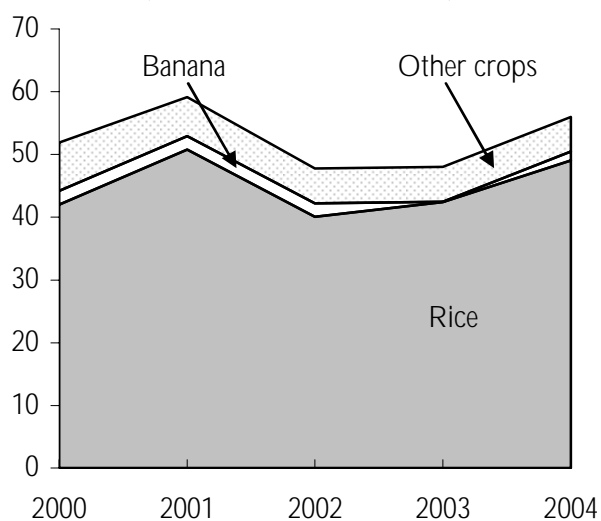
Agriculture accounts for 9 percent of Suriname's GDP, and cultivated land covers about 58,000 hectares across the northern plains. Rice is the most important crop, accounting for about 90 percent of agricultural land use, followed by bananas (Figure A4). The share of agriculture in GDP has declined over the past years, reflecting serious problems and volatility in rice production over the past decade and a collapse of the banana sector during 2002–03. With the recovery in banana production starting in 2004, agricultural output has also rebounded (Figure A5).

### Rice

Rice farming dominates agricultural activity in Suriname. Of the roughly 80–85 percent of agricultural land used for rice cultivation, about one-quarter is farmed by smallholders and three-quarters by a dozen large farmers, including one government enterprise. Rice is sold both domestically and exported to the Caribbean and the EU, where it enjoys preferential access.

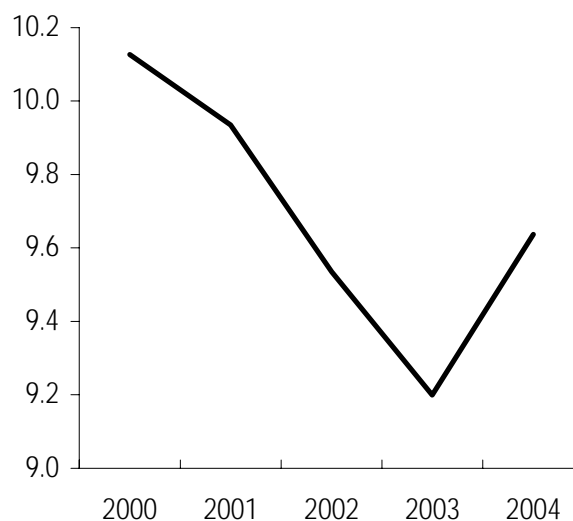
Macroeconomic policies in the late 1990s adversely affected the rice industry. In particular, high nominal interest rates increased operating costs, and exchange regulations further exacerbated operations as the industry paid for imported inputs at the parallel-market exchange rate, while export receipts were surrendered at a substantially appreciated official exchange rate. These

**Figure A4. Area Under Cultivation**  
(In thousands of hectares)



Source: Ministry of Agriculture, Animal Husbandry & Fisheries.

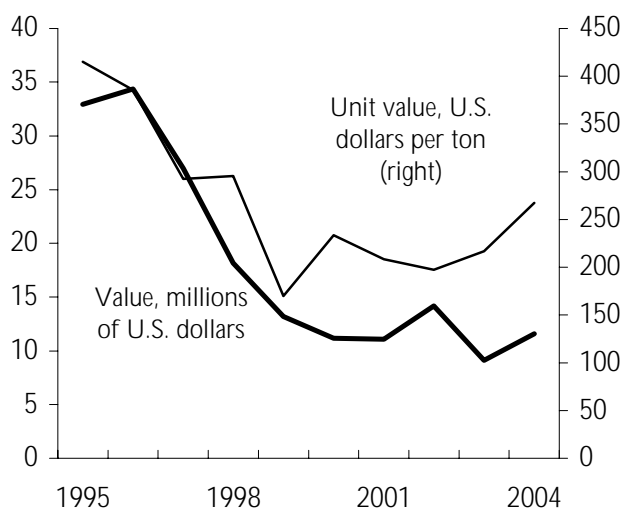
**Figure A5. Agricultural Output**  
(In percent of GDP at market prices)



Source: Ministry of Agriculture, Animal Husbandry & Fisheries.



**Figure A6. Rice Exports**



Source: Ministry of Agriculture, Animal Husbandry & Fisheries.

costs, coupled with a 50 percent drop in export prices during 1995–99, drove a number of operators out of business, and rice export proceeds fell from about US\$35 million in the mid-1990s to an average of about US\$10 million during 2003–04 (Figure A6).

Rice companies face infrastructure and organizational problems. The remaining rice companies operate with poor facilities and a weak capital base. The industry also suffers from limited vertical organization and integration, and infrastructure is poor (roads, irrigation facilities, and shipping and transportation systems), affecting efficiency and product quality. The more stable macroeconomic environment has supported recovery efforts in recent years, and recent international rice price increases could give the industry an additional boost.

Suriname exports rice to the EU under preferential access. The access was granted to African, Caribbean, and Pacific (ACP) countries in the Cotonou Partnership Agreement signed in June 2000. Under this arrangement, two ACP countries (Guyana and Suriname) were able to export 125,000 tons of husked rice and 20,000 tons of broken rice to the EU at about one-third the customs duties applicable to non-ACP countries. In addition, 35,000 tons of rice were allowed to enter the EU duty free via overseas countries and territories (OCTs) of EU countries (subject to minimum value-added requirements in the OCTs).<sup>57</sup> Suriname made extensive use of the OCT provision in

<sup>57</sup>European Union, 2005, various fact sheets on external trade, available on the Internet at: <http://europa.eu.int/comm/trade>.

the mid-1990s through exports to the Netherlands Antilles and Aruba (both of which are OCTs of the Netherlands).

Suriname's preferential access to the EU market is being substantially eroded:

- With the introduction of more stringent safeguard measures by the EU to curtail rice imports via OCTs, Suriname's rice exports through the Netherlands Antilles and Aruba dropped significantly in recent years.
- The EU reduced its general external tariff for rice from €260 per ton to €65 per ton in 2000. Although ACP countries still benefit from a 65 percent discount on that tariff, this reduction implied a relative decline in preferential access in relation to non-ACP rice exporters.
- The Everything But Arms (EBA) initiative, which was adopted by the EU in March 2001, is further undermining Suriname's relative preferential access to the European market. This initiative grants quota-free and duty-free access to some 50 least developed countries (as defined by the United Nations) for all goods except weapons and armaments for an unlimited period. Neither Suriname nor Guyana qualifies for the EBA initiative. Special transitional arrangements were maintained for sugar, bananas, and rice, but the banana regime expired in 2006, and the sugar and rice regimes will expire in 2009.

The EU is assisting Suriname to increase competitiveness to cope with the reduction in preferential market access. A €9.5 million grant facility over five years is being channeled through the rice farmers' association to support primarily small farmers. It provides for (1) technical assistance to introduce high-quality rice varieties, raise yields, and improve processing and packaging; (2) investment in infrastructure, including irrigation, roads, and transportation systems; and (3) mechanisms to facilitate and finance credit facilities for small farmers.

Suriname is seeking to diversify its rice exports markets. In late 2003, Suriname signed an agreement with Brazil to export rice under a reduced tariff of 4 percent (compared with a regular tariff of 11 percent) for a limited period. The rice industry is also looking increasingly to the Caribbean market, in particular Jamaica, to which it can export duty and quota free under Caribbean Community (CARICOM) rules.

### **Bananas**

A state-owned company has been at the center of banana export production since the 1970s. The Surinaamse Landbouwbedrijven N.V. (SURLAND) was formed in 1970 to incorporate a number of smaller government plantations

**Box A4. The Banana Regime under the ACP-EU Partnership Agreement**

**Suriname has exported bananas to Europe under the Lomé and Cotonou Agreements.** The Cotonou Partnership Agreement provided for some 850,000 tons of banana from African, Caribbean, and Pacific (ACP) countries to enter the European market duty free on a first-come first-served basis under the so-called C quota (limited exclusively to ACP countries), including 38,000 tons from Suriname. ACP countries could also supply bananas to the European market under the A and B quotas of 2,200,000 tons and 453,000 tons, respectively, which they, however, would share with non-ACP countries—also on a first-come first-served basis. While bananas from ACP countries under the A and B quotas entered the EU duty free, those from non-ACP countries were subject to customs duty of €75 per ton. Beyond these quotas, bananas from non-ACP countries were subject to a prohibitive customs duty of €680 per ton, whereas bananas from ACP countries entered the EU at a reduced customs duty of €300 per ton. An interesting peculiarity of the EU banana regime is that the quotas are held by firms (so-called traditional operators) for imports into the EU from any of the ACP countries. There is an active “license” market whereby operators from the Caribbean, who own the rights to export larger quantities than they can produce, sell these rights to African operators who have high production capacity but own fewer quota rights.

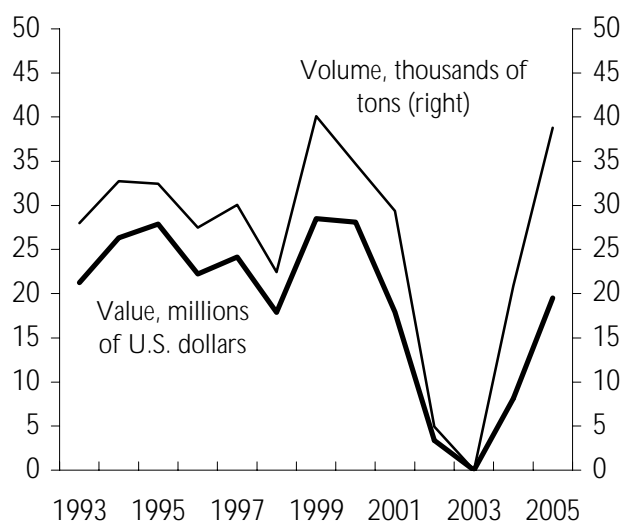
**The preferential access that ACP countries enjoyed is being eroded.** Following a successful challenge of the EU banana regime by the United States and Ecuador before the World Trade Organization (WTO) Dispute Settlement Body, the EU agreed to amend this regime in two steps, culminating in a replacement of the quota-based system with one relying exclusively on tariffs effective January 1, 2006 (WTO 2004). In January 2005, the European Commission notified the WTO of its intention to introduce the tariff-only system for banana imports at the customs duty level of €230 per ton for non-ACP countries without quota limitations. This tariff was later reduced to €176 per ton. ACP countries would continue to benefit from duty-free access for a quota of 775,000 tons to the European market up to 2008, and—for those who qualify thereafter—under Everything But Arms. The conversion of quotas into all tariffs for non-ACP countries will continue to provide limited protection to banana-exporting ACP countries, but the Caribbean countries, including Suriname, are likely to face stronger competition from more efficient banana producers in Africa and Latin America. To help the ACP countries adjust to the changes in the banana regime, the EU established a Special Framework of Assistance with commitments of €366.8 million for the period 1999–2009.

into a single entity. As a result, SURLAND controlled 95 percent of all the land used for banana cultivation, the balance being farmed by smallholders for the local market. Since then, SURLAND has been the country’s sole exporter of bananas from its plantations in the Nickerie and Jarikaba districts, exporting its produce exclusively to the EU through the Fyffes Group in Ireland, while benefiting from preferential access arrangements under the Cotonou Partnership Agreement (Box A4).<sup>58</sup>

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<sup>58</sup>Suriname is one of the seven traditional Caribbean banana exporters together with Belize, Jamaica, and the four Windward Islands (Dominica, Grenada, St. Lucia, and St. Vincent and the Grenadines).

Figure A7. Banana Exports



Source: Ministry of Agriculture, Animal Husbandry & Fisheries.

Suriname's banana industry collapsed in 2002. Annual banana exports had averaged about 31,000 tons or US\$24.5 million during the 1990s, despite SURLAND's serious financial problems, which reflected poor management, outdated technology, weak pest and disease control, and labor strife. Because of the downward pressure on banana prices in the European market, the Fyffes Group reduced its purchasing price for bananas from Suriname by about 25 percent in late 2000. As a result, SURLAND declared bankruptcy and closed its operations in April 2002 (Figure A7).

The authorities put into action a rehabilitation program for the banana sector in 2002. Under the plan, a new company—the Foundation to Save the Suriname Banana Sector (SBBS)—assumed SURLAND's assets and restarted operations, while the government assumed the financial liabilities of SURLAND. The EU is supporting this effort with €21 million in grants from the Special Framework of Assistance (SFA) fund, including technical assistance to double the industry's productivity and yields to about 40 tons per hectare and to enable it to compete internationally once the preferential access of ACP countries lapses. The Inter-American Development Bank is providing a US\$7.3 million loan to recapitalize the industry, with a view to preparing it for privatization. The SBBS is overseen by a steering committee that includes representatives from the donor community and other stakeholders. A new management team was hired to operate the SBBS; a new pay structure and revised employment regulations are being developed; and some of the former SURLAND employees have been retained on a temporary basis, pending the company's privatization.

**Table A8. Suriname: Banana Prices**  
*(In U.S. dollars per box of 40 pounds)*

	2004	2005
Average production costs	8.73	8.11
Export price, FOB	7.06	9.13
Cost of EU license	2.73	2.97
Net export price, FOB	4.33	6.16
Net contribution, FOB	-4.40	-1.95
Boxes exported (millions)	1.15	2.13

Source: Ministry of Agriculture, Animal Husbandry & Fisheries.

The SBBS has begun operations to rehabilitate the industry and restore production. The development program included the acquisition of new machinery, transportation systems, irrigation, and planting material. About 2,370 hectares of land were cleared of old banana plants during 2002–03, and replanting started in the second half of 2003, using higher-quality varieties. With the rehabilitation program completed in early 2004, the planted area and yield per hectare increased significantly. By end-2005, production and exports of banana had rebounded and surpassed the average levels of the preceding 10 years (Table A8). Banana exports to the EU have resumed under a new brand name of “Switie” and sales have been diversified to include France, Ireland, Italy, the Netherlands, and the United Kingdom.

Further improvements are needed before the banana sector becomes profitable. Over the past few years yields have exceeded their targeted levels, but the area of banana cultivation is lower than planned, and total output and exports are significantly lagging behind targeted levels by about half. This possibly reflects an overly ambitious development program for the SBBS at the outset. Moreover, in 2005 SBBS operated at a loss of more than US\$4 million. Absent the current subsidy grant from the EU, significant improvements in productivity and reductions in unit costs will be needed before SBBS can become profitable.

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