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MADAGASCAR

Selected Issues and Statistical Annex

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Approved by the African Department

May 2, 1996

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MADAGASCAR - Basic Data

Area, population, and GDP per capita

Area:	387,000 square kilometers
Population: Total (1995)	13.1 million
Growth rate (1995)	2.8 percent
GDP per capita (1995)	161 SDRs

	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u> Prel.
<u>National accounts</u> (In billions of Malagasy francs)						
GDP at current market prices	4,604	4,914	5,593	6,451	9,131	13,662
<u>(Annual percentage changes)</u>						
GDP at constant market prices	3.1	-6.3	1.2	2.1	-0.0	2.0
Agricultural sector (at factor cost)	((2.1))	(0.5)	(1.7)	(3.2)	(-0.5)	(2.7)
Industrial sector (at factor cost)	((-0.6))	(-0.4)	(-1.0)	(3.2)	(-1.0)	(1.6)
Services sector (at factor cost)	((3.9))	(-7.7)	(1.1)	(2.1)	(1.2)	(1.6)
<u>(In percent of GDP)</u>						
Consumption	93.7	99.3	96.6	97.5	96.6	97.0
Gross domestic investment	17.0	8.2	11.3	11.4	10.0	11.6
Resource gap	10.7	7.5	7.9	8.0	7.5	8.6
Gross domestic savings	6.3	0.7	3.4	2.5	3.4	3.0
Current account balance	-7.8	-8.1	-5.0	-5.2	-7.1	-7.8
<u>Price movements</u> (Annual percentage changes)						
GDP deflator	11.5	13.9	12.5	13.0	41.6	46.7
CPI (traditional basket)	11.8	8.5	15.3	9.2	39.1	49.0
<u>Government finance</u> (In billions of Malagasy francs)						
Current revenue and grants	831.5	597.0	795.6	937.0	1,044.6	1,623.4
Current expenditure	418.9	480.2	658.6	782.2	1,168.1	1,529.3
Capital expenditure	385.2	325.4	462.3	546.0	635.5	903.4
Overall cash deficit (-)	-39.7	-265.7	-364.9	-472.1	-779.2	-785.2
Net domestic financing	-57.5	60.6	195.1	121.8	213.3	-39.7
Of which: domestic banks (net)	((-58.5))	(51.3)	(139.3)	(134.4)	(201.3)	(-58.7)
<u>(In percent of GDP)</u>						
Overall cash deficit (-)	-0.9	-5.4	-6.5	-7.3	-8.5	-5.7
Overall deficit (commitment basis)						
Excluding total grants	-5.2	-7.9	-10.3	-10.8	-11.5	-9.5
<u>Money and credit (end of period)</u> (In billions of Malagasy francs)						
Foreign assets (net)	178.5	27.1	274.3	349.7	702.4	867.6
Domestic credit	1,029.9	1,183.4	1,621.3	1,905.0	2,388.1	2,547.2
Claims on the Government (net)	((251.5))	(308.9)	(683.3)	(825.3)	(1,032.3)	(979.7)
Claims on the economy	((778.4))	(874.6)	(938.0)	(1,079.7)	(1,355.7)	(1,567.5)
Money and quasi-money	825.3	1,034.8	1,240.3	1,564.9	2,337.8	2,719.9
<u>(Annual changes in percent)</u>						
Domestic credit	12.0	14.9	37.0	17.5	25.4	6.7
Money and quasi-money	0.3	25.4	19.9	26.2	49.4	16.3

MADAGASCAR - Basic Data (concluded)

	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u> Prel.
<u>Balance of Payments</u>	<u>(In millions of SDRs)</u>					
Exports, f.o.b.	234.1	243.9	230.1	237.9	312.4	330.0
Of which: coffee	(28.5)	(20.5)	(22.4)	(29.0)	(59.8)	(55.4)
Imports, f.o.b.	-417.5	-321.7	-330.3	-365.0	-381.0	-427.8
Trade balance	-183.4	-77.8	-100.2	-127.1	-81.2	-70.9
Services (net)	-168.9	-211.0	-173.1	-183.2	-182.1	-183.6
Of which: interest payments	(-119.5)	(-143.8)	(-107.8)	(-104.7)	(-106.8)	(-113.1)
Unrequited transfers (net)	175.1	131.1	166.8	194.0	113.1	127.6
Current account balance	-177.2	-157.7	-106.5	-126.3	-147.6	-163.8
In percent of GDP	(-7.8)	(-8.1)	(-5.0)	(-5.2)	(-7.1)	(-7.8)
Capital account (net)	-31.0	-46.6	-99.8	-92.2	-60.6	-24.1
Of which: drawings	(110.3)	(131.8)	(88.2)	(87.8)	(55.5)	(60.1)
amortization	(-131.4)	(-198.1)	(-162.8)	(-168.3)	(-160.5)	(-148.1)
direct investment	(16.5)	(10.0)	(15.0)	(11.0)	(4.0)	(6.4)
Overall balance	-208.3	-204.3	-206.3	-218.5	-208.2	-188.0
Debt relief	131.3	47.6	2.8	3.7	--	--
IMF (net)	-21.8	-11.8	-11.5	-10.1	-8.5	-9.7
Arrears (reduction -)	-24.3	168.9	215.6	226.5	208.8	228.1
Reserves (increase -)	123.1	-0.3	-0.6	-1.6	7.9	-30.4
Financing gap	--	--	--	--	--	--
<u>Central bank gross reserves</u>	64.9	62.3	62.9	64.5	64.7	104.8
In weeks of imports of goods and nonfactor services	(5.3)	(6.3)	(6.2)	(5.7)	(5.5)	(8.0)
<u>Outstanding external debt</u> ^{1/}	2,262.0	2,502.4	2,647.2	2,761.2	2,819.4	2,892.9
<u>Exchange rates</u> (period averages)						
Malagasy francs per SDR	2,027.2	2,511.1	2,624.9	2,672.4	4,413.5	6,474.4
Malagasy francs per U.S. dollar	1,494.1	1,835.4	1,864.0	1,813.8	3,064.8	4,265.6

^{1/} Including net use of Fund credit.

I. Inflation and Monetary Policy in Madagascar

In 1995, Madagascar's inflation performance was somewhat disappointing, although 12-month price increases slowed from 60 percent at end-1994 to 38 percent at end-1995. However, the objective pursued by the authorities for 1995 was 15 percent. Meanwhile, the 15 percent broad money growth achieved in 1995 was exactly the rate targeted by the authorities at the beginning of that year. ^{1/} Money supply has, ex-post, significantly outstripped demand for real cash balances. This puzzle is related to the evolution of broad money velocity, which increased much more than expected, and inflation, as in numerous other countries, appeared much more entrenched than foreseen. The link from money to inflation is not direct and fast. Money growth operates via interest rates and aggregate demand, working through the specific behavior of labor income and prices, as well as the two-way link between prices and exchange rates. This extended chain takes time to unfold, and during that time the perceived policies and credibility of the Central Bank play a crucial role. The main lesson is that the return to price stability is necessarily a slow process, even in the context of a relatively tight monetary policy stance, particularly in a context where authorities lack the credibility to shift inflationary expectations. In this case, the inflation outlook remains largely determined by past events; and this is particularly an issue when weak financial intermediation thwarts the transmission of the monetary authorities' signals to interest rates on financial savings. This Chapter elaborates on the main factors explaining the sluggish rate of disinflation in Madagascar.

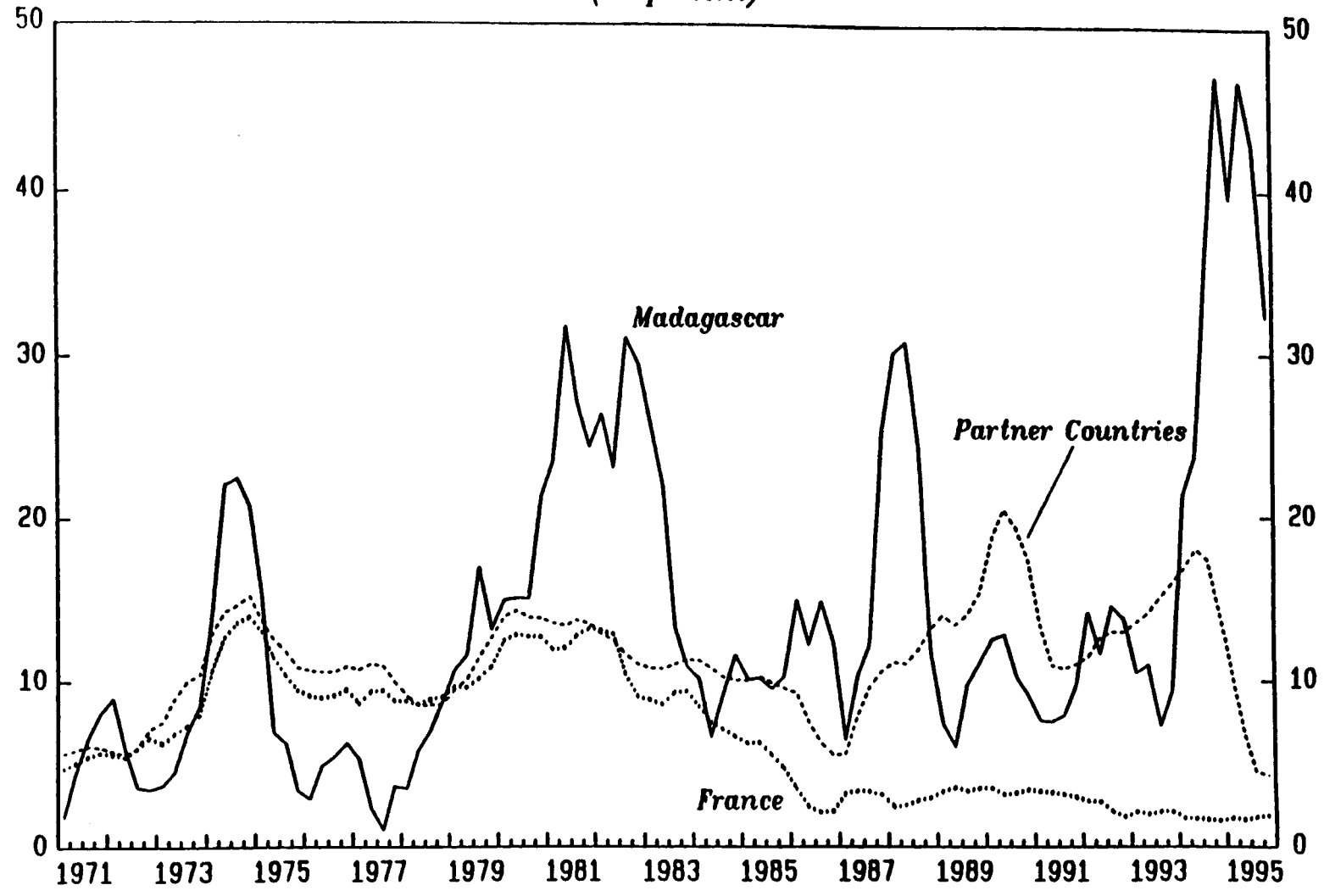
The chapter is organized as follows: Section 1 provides selected stylized facts concerning money and prices; a simple model of price formation in a small open economy is presented in Section 2; Section 3 addresses some issues in estimating long-term relationships; Section 4 discusses the results and presents a forecast for inflation in 1996; and Section 5 summarizes some policy conclusions that emerge from this empirical investigation.

1. Trends in prices and money

Madagascar enjoyed relative price stability during the first two decades of its independence (Chart 1). Until 1982, Malagasy inflation was in line with prices developments in France and below the average of its trading partners. This valuable position resulted from, and was called for, by the peg to the French franc that lasted until 1982, long after Madagascar left the CFA franc zone in 1973. However, this policy became unsustainable as the monetary overhang accumulated, and led to the first episode of high inflation in Madagascar during the early 1980s. The second episode entailing a sharp acceleration of inflation occurred in the aftermath of the 1987 devaluation, which led to a dramatic depreciation of the real effective exchange rate of the Malagasy franc. This acceleration was short lived,

^{1/} But slightly above the 9 percent revised target fixed at midyear, when it appeared inflation was running ahead of the objective.

CHART 1
MADAGASCAR
Inflation in Madagascar, France, and Partner Countries, 1971-95 1/
(in percent)



- 2 -

1/ Annual inflation is calculated as the year-to-year increase in the quarterly CPI indices.

however, and Madagascar benefitted again from limited price inflation between 1988 and 1993. During the period 1988-90, under a program supported by the Fund, Madagascar implemented a range of prudent financial policies. Beginning in 1991, the authorities undertook more expansionary policies, but the appreciation of real and nominal exchange rates suppressed for a while any increase in prices. The CPI began to rise rapidly at end-1993 and in the first half of 1994, as three shocks struck the Malagasy economy: i) a strong expansion in the money supply during 1992-94, triggered by a large increase in the lending from the banking sector to the Government; ii) the January 1994 cyclone that destroyed part of the paddy crop, and produced a surge in rice prices; and iii) a significant depreciation of the real exchange rate following the establishment of a free interbank foreign exchange market in May 1994. On a 12-month basis, the CPI inflation rate peaked at 60 percent at end-1994, and then slowly decelerated to 38 percent at end-1995.

Trends in velocity roughly mirror the evolution of prices (Chart 2). During 1982-83, the public adjusted to rising inflation and to a more flexible exchange rate regime, the demand for real balances collapsed, and velocity increased. Thereafter, velocity decreased steadily, and cash holdings, in real terms, began to build up again, interrupted only temporarily by the inflationary bubble that followed the foreign exchange rate adjustment of 1987. This downward trend, which lasted from 1984 to 1994, was ended in 1995, as the public shed its excess cash holdings.

The monetary policy of the Central Bank of Madagascar was rather tight in 1995, the main objective of the authorities being to reduce the excess liquidity that had accumulated in the banking system. ^{1/} As part of it had been wiped out through inflation in 1994, the elimination of the monetary overhang was expected to bring about a slowing of inflation. By the beginning of 1995, real money balances were implicitly expected to be at about their desired level, and a moderate increase in money supply was therefore assumed to be broadly consistent with a much lower rate of inflation. The authorities met most of their intermediate monetary policy objectives in 1995. The increase in reserve requirements absorbed the excess liquidity that had accumulated in the banking system, to the point that most commercial banks, including the wealthy private ones, were compelled to borrow from the Central Bank at higher cost. For most of 1995, though, the Central Bank failed to have a similar impact on the interest rates on deposits, which remained significantly negative in real terms, and weakened money demand.

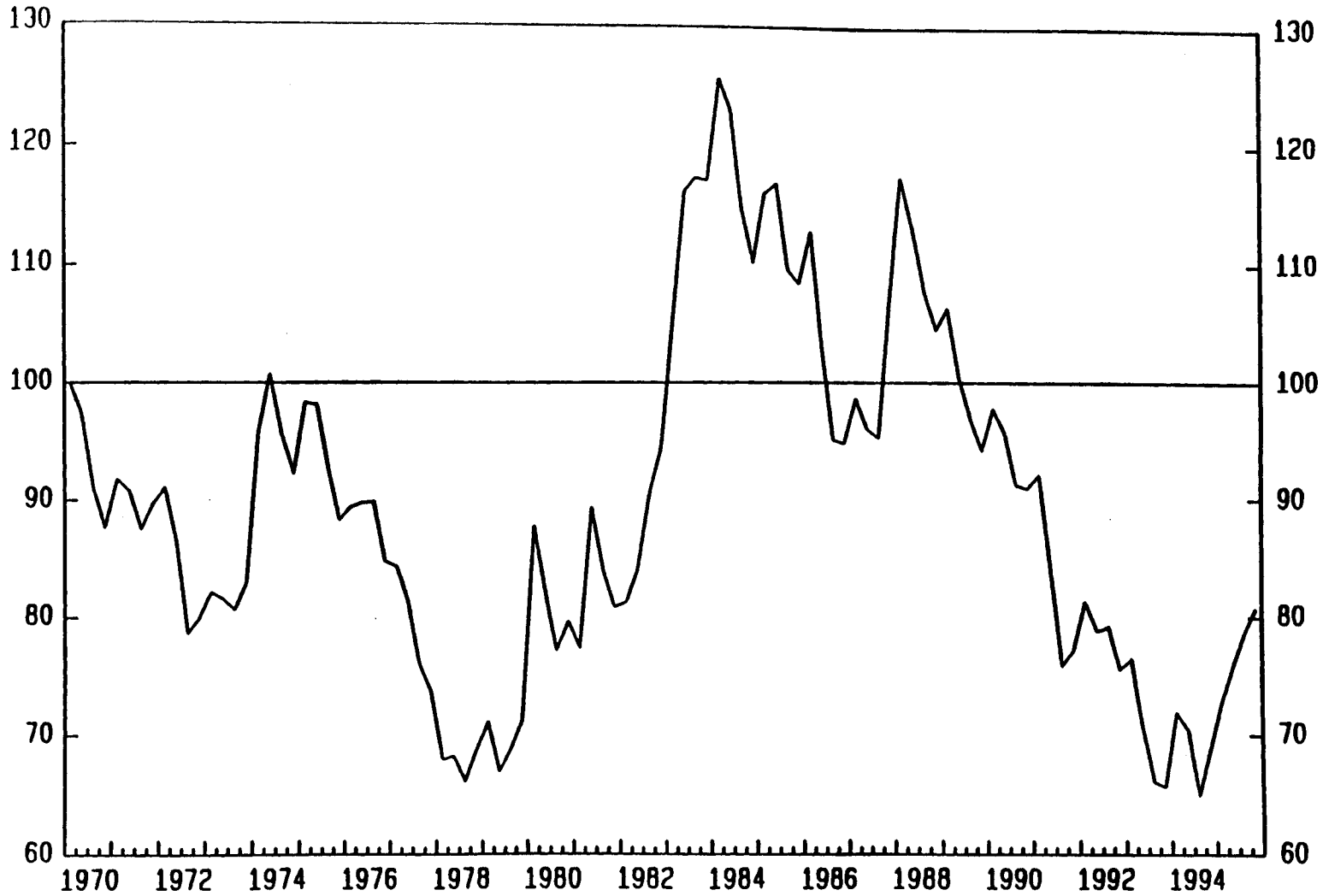
While output increased only modestly in 1995, the decrease in the demand for money can be related to three main factors. First, expectations on future value of cash holdings reflected past rates of inflation, and these provided the source of information for price projections. Second, the sharp depreciation of the exchange rate is likely to have strengthened these

^{1/} The monetary policy implemented in 1995 is described in detail in Chapter II.

CHART 2

MADAGASCAR

Velocity of Broad Money 1/
(First Quarter 1970 = 100)



1/ The velocity is calculated as $y \cdot P / M2$, where y is real GDP, P is the CPI Index, and $M2$ is broad money stock.

adverse expectations. Third, negative real rate of return on deposits provided a further disincentive to their accumulation. As a result, the demand for real cash balances declined, and velocity of broad money rose, triggering a sharp increase in consumer prices.

2. Specification of the inflation equation

The specification of the inflation equation is a traditional extension of a monetary disequilibrium model to an open economy. ^{1/} It is derived from a theoretical model describing a small open economy that has both a traded goods sector and a nontraded goods sector. The overall price level P is a weighted average of the price of traded goods P^T and nontraded goods P^N :

$$\log P = \omega \log P^N + (1-\omega) \log P^T \quad (1)$$

where ω is the share of nontraded goods in total domestic expenditure.

The price of traded goods, as we assume a small open economy, is determined exogenously in the world market:

$$\log P^T = \log P^* - \log e \quad (2)$$

where P^* represents foreign prices (expressed in foreign currency terms), and e is the exchange rate (expressed in foreign currency per national currency).

The relative price of nontradables reflects the equilibrium in that market, and requires the specification of both demand for, and supply of, nontraded goods.

The demand for nontraded goods Q_d^N can be expressed as a function of relative prices, the excess demand for real money balances, real income, and other exogenous factors:

$$\begin{aligned} \log Q_d^N = & -s_1(\log P^N - \log P^T) & s_1, s_2, s_3, s_4 > 0 \\ & + s_2(\log m_s - \log m_d) \\ & + s_3 \log y + s_4 Z_1 \end{aligned} \quad (3)$$

where m_s and m_d are supply of and demand for real money balance, y is real income, and Z_1 represents other exogenous factors that could affect the

^{1/} See for instance Khan and Knight (1991) and Moser (1995) for a similar specification.

demand for nontradable goods (for instance trade liberalization, or fiscal policy). 1/

Similarly, the supply of nontraded goods Q_s^N can be made a function of relative prices, real output, and other exogenous factors:

$$\log Q_s^N = b_1 (\log P^N - \log P^T) + b_2 \log y + b_3 Z_2 \quad b_1, b_2, b_3 > 0 \quad (4)$$

where Z_2 represents exogenous factors like weather conditions, or terms of trade.

Assuming an error-correction-type adjustment process, the change in the relative price of nontradable goods is determined by the excess demand:

$$\Delta \log P^N - \Delta \log P^T = \alpha (\Delta \log Q_d^N - \Delta \log Q_s^N) + \delta (\log Q_d^N(-1) - \log Q_s^N(-1)) \quad (5)$$

Substituting expressions (3) and (4) into (5), and assuming that the income elasticities, a_3 and b_2 , are equal, leads to:

$$\begin{aligned} \Delta \log P^N - \Delta \log P^T = & \alpha [-(a_1 + b_1) (\Delta \log P^N - \Delta \log P^T) + a_2 (\Delta \log m_s - \Delta \log m_d) + a_4 \Delta Z_1 - b_3 \Delta Z_2] \\ & + \delta [-(a_1 + b_1) (\log P^N(-1) - \log P^T(-1)) \\ & + a_2 (\log m_s(-1) - \log m_d(-1)) + a_4 Z_1(-1) - b_3 Z_2(-1)] \end{aligned} \quad (6)$$

Further noting that:

$$\log P^N - \log P^T = \frac{1}{\omega} (\log P - \log P^T) \quad (7)$$

and regrouping all the exogenous factors into one set denoted Z allows us to rearrange the above equation into a form that encompasses both long-term and short-term relationships:

1/ These exogenous factors are, in fact, similar to those considered in the literature on equilibrium real exchange rates; see for instance Edwards (1994), and Elbadawi (1994).

$$\begin{aligned} \Delta \log P &= \Delta \log P^* - \Delta \log e + \gamma_1 (\Delta \log m_s - \Delta \log m_d) + \gamma_2 \Delta Z \\ &- \gamma_3 (\log P(-1) + \log e(-1) - \log P^*(-1) + \gamma_4 Z(-1)) \\ &+ \gamma_5 (\log m_s(-1) - \log m_d(-1)) \end{aligned} \quad (8)$$

with $\gamma_1, \gamma_3, \gamma_5 > 0$

In the short term, the change in domestic prices is affected by short-term variations in the other variables, and by the shift in previous periods away from two long-run equilibrium relationships, one expressing the equilibrium in the money market, and the other reflecting the equilibrium of the real exchange rate: ^{1/}

$$\log m_s = \log m_d = \epsilon \log y - \eta c \quad (9)$$

$$\log P + \log e - \log P^* = -\gamma_4 Z \quad (10)$$

Thus, any expansion of the money stock that results in an excess supply of real money balance will, in subsequent periods, create inflationary pressures that tend to eliminate the disequilibrium in the money market. Also, if the real exchange rate is not at its equilibrium level, for whatever reason, domestic prices will move in the short term in the direction that restores this equilibrium.

In the long term, the equilibrium on the money market determines the level of domestic prices, if one assumes that the nominal stock of money supply (M_s), as well as the real income and opportunity cost, are exogenous:

$$\log P = \log M_s - \epsilon \log y + \eta c \quad (11)$$

In turn, the long-term nominal exchange rate is determined by the equilibrium real exchange rate relationship:

$$\log e = \log P^* - \log M_s + \epsilon \log y - \eta c - \gamma_4 Z \quad (12)$$

3. Estimation issues

The above framework suggests adopting a two-stage approach for the empirical analysis. The first stage consists of identifying the two stable long-term relationships described by equations (9) and (10). The existence of such a relationship for the demand for money guarantees that, following any disturbance, it will return to a position of equilibrium. However, the

^{1/} The demand for real money balance is expressed as a function of real income and an opportunity cost variable c .

usual components of the demand for money, including money, prices, and income, are often found to be nonstationary. ^{1/} As a result, the use of traditional estimation techniques (such as ordinary least squares) of a demand for money equation can lead to incorrect statistical inferences (see Annex I). To deal with this difficulty, econometric techniques have been developed, giving rise to the notion of cointegration (see also Annex I). These techniques allow to identify stable long-run relationships.

If such stable long-run relationships can be identified, it may be possible in a second stage to estimate an error correction model that describes the short-term dynamics of the rate of inflation, in which deviations from the long-term relationships are introduced, giving the equation its error-correcting properties.

A difficulty when searching for an adequate money demand formulation in a developing country like Madagascar is the appropriate choice of variables to measure the opportunity cost relevant for money demand. In Madagascar, alternative financial assets are lacking. Furthermore, because of controls imposed during virtually the entire period under study, the one available time series of domestic interest rate (namely the discount rate of the Central Bank) shows very little variation over time, and thus was not included in the analysis. The relevant substitution in countries like Madagascar is not between money and domestic financial assets, but rather between money and goods, foreign financial assets, or foreign currencies, with the opportunity costs being, respectively, the expected rate of inflation, foreign interest rates, and the expected change in the exchange rate. In what follows, these three candidates are evaluated in the specification of money demand for Madagascar.

4. Empirical results

Data definitions and sources are described in Annex II.

First, unit root tests were performed on each of the time series of interest to establish their order of integration (Table 1). All series were found nonstationary in levels, even when a linear deterministic time trend was included in the Augmented Dickey Fuller regression. All first differences, however, were found to be stationary, meaning that each series may be considered to be integrated of order one.

The next step was to identify the two cointegration relationships corresponding to money demand and to the equilibrium real exchange rate. According to the discussion above, the desired demand for real money balances in Madagascar was assumed to be positively related to real income and negatively related to one or several opportunity cost variables, including the expected rate of inflation, foreign interest rates, and the

^{1/} Simple tests have been developed to identify nonstationary time series, like the Dickey-Fuller test. These tests are also called unit root tests.

Table 1. Madagascar: Tests for the Order of Integration 1/

	A.D.F. Tests on Levels		A.D.F. Tests on First Differences	
	with constant	with trend	without constant	with constant
log M ₂	3.25	0.07	-2.81*	-7.79*
log M ₁	2.45	-0.72	-2.06*	-8.66*
log P	2.01	-2.09	-3.05*	-3.69*
log y	-1.24	-3.36	-4.12*	-4.18*
log EEK	0.10	-2.09	-6.76*	-6.94*
log P*	0.47	-3.21	-0.90	-3.61*
log (M ₂ /P)	-2.05	-2.19	-4.14*	-4.13*
log (M ₁ /P)	-2.17	-2.16	-4.54*	-4.52*
log RER	-0.63	-2.03	-4.23*	-4.36*
i*	-2.77	-2.79	-5.34*	-5.31*
tt	-2.43	-2.41	-4.46*	-4.44*
mt	-1.50	-3.01	-3.99*	-4.19*

1/ Quarterly data 1971-95. The first two columns show Augmented Dickey Fuller (ADF) tests performed on the level of the variables with the inclusion of a constant only, and a constant and a trend, respectively. The third and fourth columns show ADF tests performed on the first differences of the variables, without a constant and with a constant, respectively.

* indicates significance at a 5 percent level. MacKinnon critical values are -2.89 for the first and fourth columns, -3.46 for the second column, and -1.94 for the third column.

expected change in the exchange rate. 1/ An attempt was made to take into account the impact of a key policy change in 1982, when the peg of the Malagasy franc to the French franc was discontinued and replaced by a crawling peg to a basket of currencies. To capture this effect, a dummy variable was introduced, taking on the value of zero before 1982, and 1 thereafter.

The Engle-Granger procedure was applied with respect to two definitions of money for Madagascar, M1 and M2 (Table 2). While the tests support the existence of a stable long-term relationship between real money balances (M2) and income, the addition of opportunity cost variables proved not to be very useful. With the exception of the relationship between M2, income, and the foreign interest rate (proxied by the French discount rate), the coefficients for all opportunity costs variables appeared to be of the wrong sign. 2/ The elasticity of real money balances with respect to income is quite high, even for developing countries standards (within the range of 2.4-2.6 for M2, and 1.7-1.9 for M1). This may be due to a secular process of monetization, and the absence of alternative liquid financial assets for private savings, but could also indicate that GDP is a relatively poor proxy for transactions demand. 3/ The dummy variable identifying the discontinuation of the peg to the French franc helps to explain the drop in real money balances that occurred in 1982-83. For the subsequent analysis, the only satisfactory relationship including an opportunity cost variable was used. The relationship between real M2 balance, income, and foreign interest rate, estimated over the period 1971-95 is given by: 4/

$$\log (M2/P) = 2.44 \log y - 0.0074 i - 0.21 dum8295 \quad (13)$$

(8.6) (-1.5) (-6.3)

The residuals of this regression, which will enter the error-correction specification, are shown on Chart 3. This chart illustrates how a large monetary expansion took place during 1991-94, and how the monetary overhang declined sharply in 1995.

1/ The expected rate of inflation and expected change in the exchange rate were proxied by the rate of inflation and change in the exchange rate during the previous period, respectively.

2/ The foreign interest rate was proxied by the French discount rate, given the heavy weight of France in the external trade of Madagascar; around 30 percent of goods imports/exports come from/go to France.

3/ A number of studies (see Mankiw and Summers (1986)) have questioned the choice of income as the scale variable, and have suggested to use instead more disaggregated expenditure data. The poor quality of national accounts for Madagascar prevented us from following these suggestions.

4/ Johansen tests confirm the existence and uniqueness of the cointegration relationship between these three variables, as well as a coefficient for real money balance different from zero, thus justifying the use of the Engle-Granger procedure.

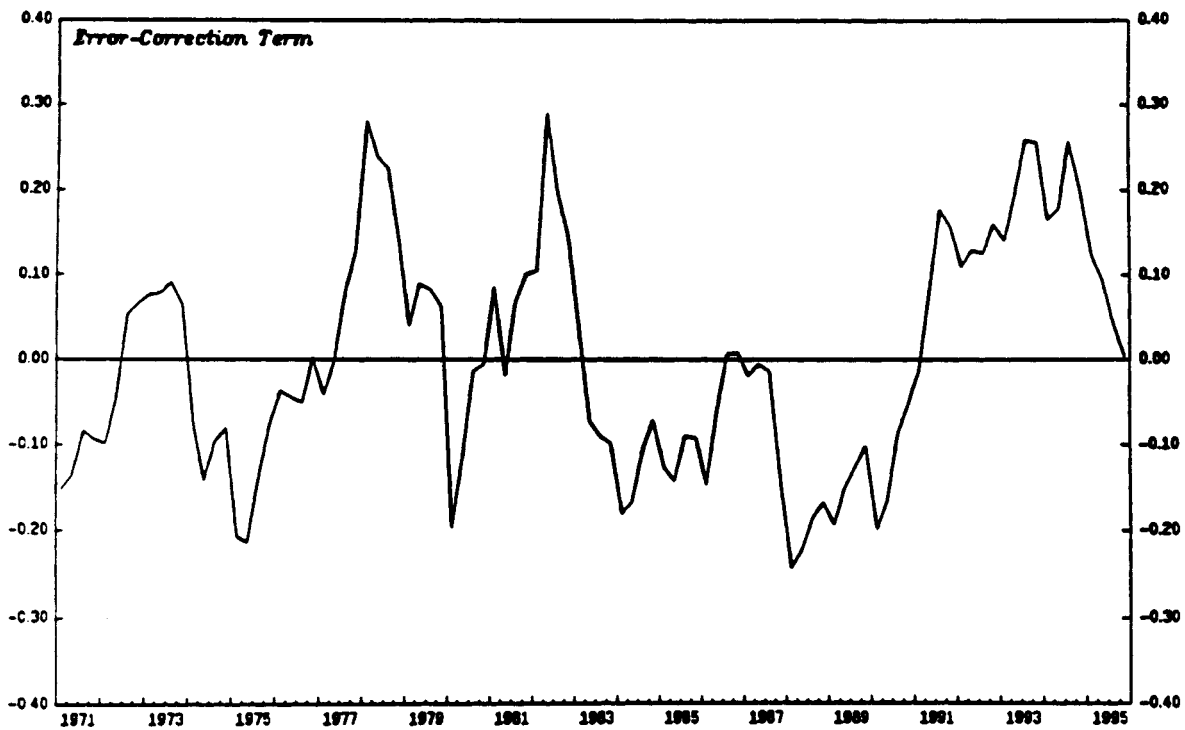
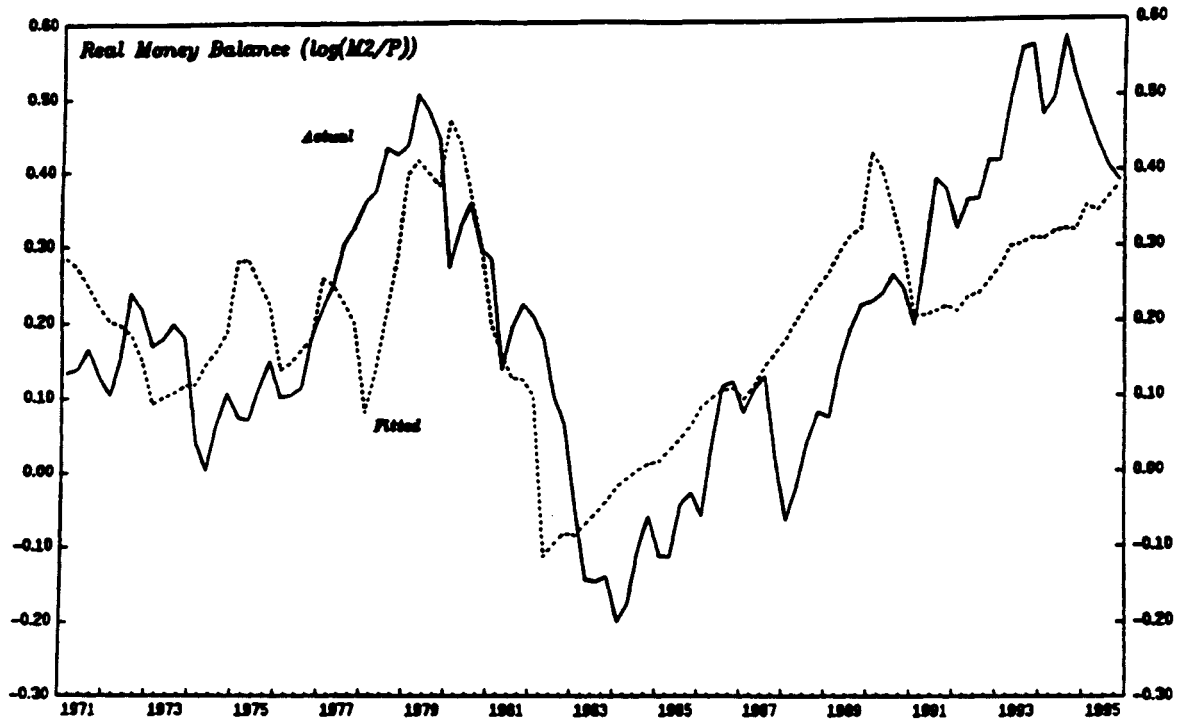
Table 2. Madagascar: Tests for Cointegration of Money, Income, and Opportunity Cost ^{1/}

	logy	$\Delta \log P$	i^*	$\Delta \log e$	dum8295	D.W.	ADF ^{2/}
Broad money (log(M2/P))							
	2.55 (9.3)	...	...	...	-0.21 (-6.5)	0.26	-3.69 *
	2.49 (9.1)	0.70 (1.9)	...	...	-0.22 (-6.8)	0.35	-3.73 *
	2.44 (8.6)	...	-0.0074 (-1.5)	...	-0.21 (-6.3)	0.26	-3.63 *
	2.60 (9.5)	...	...	-0.29	-0.23 (-6.7)	0.27	-3.51 *
Narrow Money (log(M1/P))							
	1.78 (7.8)	...	...	...	-0.20 (-7.1)	0.31	-3.40
	1.72 (7.6)	0.67 (2.2)	...	...	-0.20 (-7.4)	0.42	-3.42
	1.90 (8.1)	...	0.0079 (1.9)	...	-0.20 (-7.4)	0.35	-3.58 *
	1.80 (7.8)	...	...	-0.15 (-0.9)	-0.20 (-71.1)	0.30	-3.35

^{1/} Quarterly data, 1971-95

^{2/} Augmented Dickey Fuller Test applied on residuals of the cointegration relationship. indicates significance at the 10 percent level.

Cointegration Relation for Money Demand, 1971-95



As regards the real exchange rate (RER), the traditional determinants of the behavior of equilibrium RER found in the empirical literature include the terms of trade, import tariffs, capital flows, the level and composition of government consumption, and technological progress (see Edwards (1994)). In the case of Madagascar, the only readily available and relatively reliable variables are the terms of trade and import tariffs. An attempt was made to capture the impact of the liberalization of import procedures, which began in 1986 and was completed in July 1988 with the implementation of the so-called Systeme d'Importation Liberalisé (SILI). Because liberalization was accompanied by a voluntary policy of real exchange rate depreciation, a dummy variable was introduced that takes on the value zero before 1986, and 1 thereafter.

The Engle-Granger tests performed over the period 1982-95 (after the peg to the French franc was discontinued) support the existence of the following cointegration relationship between the real exchange rate (RER), terms of trade (tt), import tariffs (mt), and the dummy variable noted above (dum8695) (Table 3):

$$\log RER = 0.0060 \text{ tt} + 0.0029 \text{ mt} - 0.68 \text{ dum8695} \quad (14)$$

(5.0) (2.4) (-24.4)

The signs of the coefficients are as expected: an increase in the terms of trade or import tariffs leads to an appreciation of the real exchange rate. This relationship should be interpreted with caution, however, as it largely reflects a period when the exchange rate was not market-determined. Instead, it simply shows that the exchange rate policy implemented during this period was somehow broadly consistent with other economic fundamentals. The residuals of this cointegration relationship are shown on Chart 4. This chart shows how the real exchange rate might have become overvalued during 1992-94, suppressing inflationary pressures.

Table 3. Madagascar: Test for Cointegration of Real Exchange Rate, Terms of Trade, and Import Tax ^{1/}

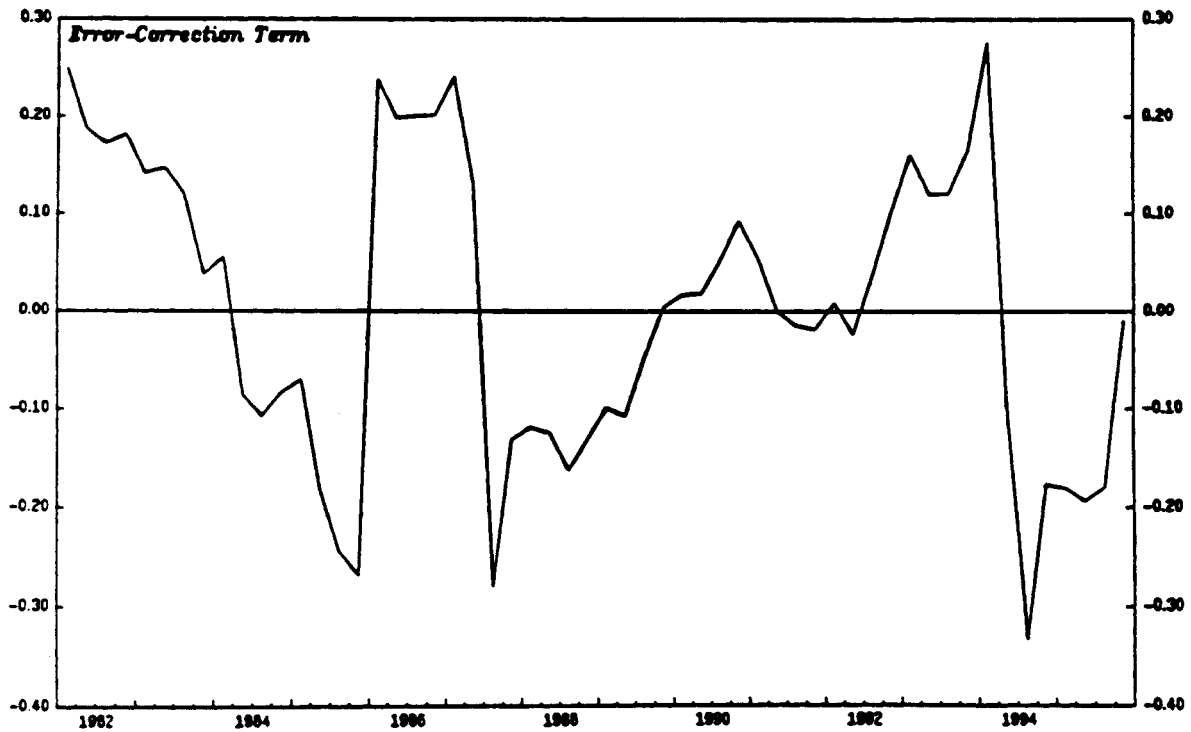
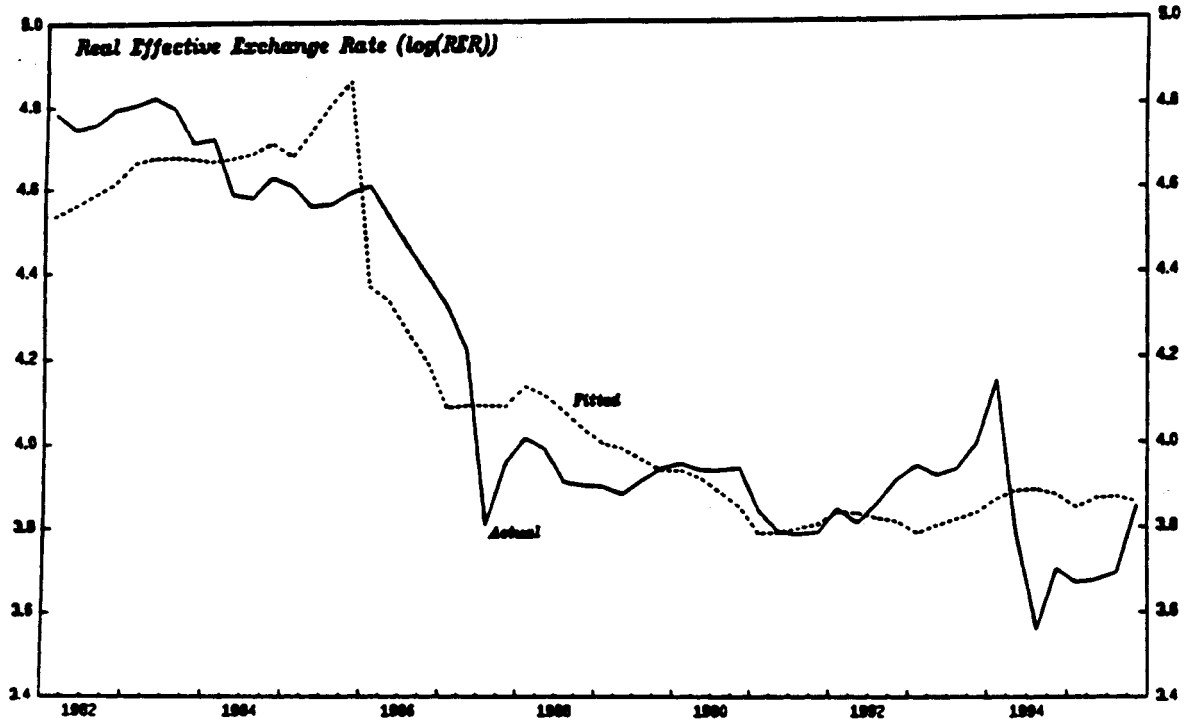
	tt	mt	dum8695	D.W.	ADF ^{2/}
Real Effective Exchange Rate (log RER)	0.0060 (5.0)	0.029 (2.4)	-0.69 (-14.4)	0.65	-4.85 ***

^{1/} Quarterly data, 1982-95.

^{2/} Augmented Dickey Fuller test applied on residuals of the cointegrating relationship. *** indicates significance at the 1 percent level.

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Cointegration Relation for the Real Exchange Rate, 1982-95



Having established the existence of stable long-term relationships for money demand and real exchange rate, an error correction representation of the inflation in Madagascar was derived according to equation (8). The first difference of the price level, represented by the CPI, was regressed on lagged differences of the relevant variables--including prices, the nominal exchange rate, the nominal money stock (M2), and foreign prices--as well as lagged residuals from the cointegrating regressions (error-correction terms). ^{1/} The model was estimated using quarterly data for the period 1971-95. Insignificant terms were sequentially eliminated from the regression; in particular, differences of money stock were found not significant. The preferred equation is the following:

$$\begin{aligned} \Delta \log P &= 0.10 \Delta \log P_{-1} + 0.16 \Delta \log P_{-2} - 0.21 \Delta \log e_{-1} && (15) \\ &(1.4) \quad (2.3) \quad (-6.3) \\ &+ 0.57 \log P^*_{-1} + 0.077 ECM_M2R_{-1} - 0.081 ECM_RER_{-1} \\ &(2.5) \quad (4.3) \quad (-3.7) \\ &- 0.004 S_1 - 0.035 S_2 - 0.018 S_3 + 0.021 + 0.11 dum94q1 \\ &(-0.6) \quad (-5.0) \quad (-2.6) \quad (2.8) \quad (4.7) \end{aligned}$$

where Δ is the first difference operator; P is the price level, measured by the CPI; e is the nominal effective exchange rate; P* is the CPI in partner countries; ECM_M2R is the error-correction term related to real money balance; ECM_RER is the error-correction term related to the real exchange rate; S₁, S₂, and S₃ are seasonal dummies; and dum94q1 is a dummy taking on the value 1 for the first quarter of 1994 and zero otherwise to capture the impact of the cyclone Geralda.

Both coefficients for error-correction terms appear with the expected sign and are significantly different from zero. However, their magnitudes are rather small, indicating that the adjustment process toward long-term equilibrium of real money balance and real exchange rate through changes in domestic prices is quite slow. In fact, only 8 percent of a deviation of real money balance from its equilibrium level is absorbed by a change in domestic prices the following quarter, other things being equal. Roughly the same pattern applies to deviations of the real exchange rate. In addition, inflation over the two previous quarters is significant in determining the inflation rate during the current quarter. ^{2/} This adds to the sluggishness of the adjustment process.

^{1/} Variables entering into the cointegration relationship for which no quarterly data were available were not introduced as determinants of the short-term dynamics.

^{2/} This can be viewed as a sign that inflation expectations are adaptative.

The equation was subjected to a battery of tests for parameter stability and forecast errors. All the tests indicate that the equation is stable from 1989 onward. As shown on Chart 5, the above equation fits quite well the quarterly inflation rate over the period 1971-95. Forecast plots over the period 1994q2-1995q4 also suggest that this equation has a high predictive power.

In order to shed light on developments in inflation during 1992-95, a model that included the above inflation equation and an exchange rate equation was used to simulate the impact of the three main shocks that struck the Malagasy economy during this period: a monetary overhang buildup in 1992-94; the cyclone Geralda in January 1994; and the establishment of the foreign exchange market, which resulted in a sharp depreciation of the real exchange rate. 1/ In the first stage, a "stationary" baseline scenario was built, where annual percentage increases in M2, P, and Y were equal to 13, 10, and 1 percent, respectively. Then, three scenarios were considered. In scenario 1, the year-to-year increase in M2 was put at 24 percent during the first two years, 44 percent in the third year, and 16 percent in the fourth year, before returning to the baseline rate of increase of 13 percent thereafter. 2/ In scenario 2, an additional shock of 11 percent was applied to the inflation rate for the first quarter of year 3, as reflected by the dummy *dum94q1* in the inflation equation. In scenario 3, in addition to changes made in scenario 1 and 2, the nominal exchange rate was kept constant until the first quarter of year 3, before a shock depreciating the exchange rate by about 30 percent was applied in the second and third quarters (as reflected by the dummy *dum94q2* and *dum94q3* in the nominal exchange rate equation), after which the exchange rate becomes free to adjust to its long-term equilibrium as defined by the real exchange rate equation. Deviations in inflation, velocity, real money balances, and real exchange rate, between these three scenarios and the baseline scenario are shown on Chart 6. Scenario 2 shows that the conjunction of the monetary overhang and the shock caused by cyclone Geralda alone would have contributed to a deviation in annual inflation of 18 percent by the end of year 3, compared with an actual 37 percent deviation from the 10 percent baseline by the end of 1994. The addition of the shock to the exchange rate in scenario 3 puts this deviation at 34 percent, or very close to the deviation that was actually observed. During the fourth year (the equivalent of 1995), the deviation in inflation decreases progressively to

1/ The following exchange rate equation was estimated over 1982-95, and used for the simulations:

$$\begin{aligned} \Delta \log e = & 0.28 \Delta \log e_{-1} - 0.15 ECM_RER_{-1} - 0.28 dum942q2 - 0.26 dum94q3 \\ & (2.3) \quad \quad \quad (-2.0) \quad \quad \quad (-3.6) \quad \quad \quad (-3.2) \\ R^2 = & 0.40 \quad \quad \quad DW = 2.1 \end{aligned}$$

Lagged changes in P, P*, and M2, as well as lagged ECM_M2R, were not found to be significant.

2/ These year-to-year increases correspond to the one observed during the period 1992-95.

CHART 6

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Inflation Estimation and Forecast, 1971-95

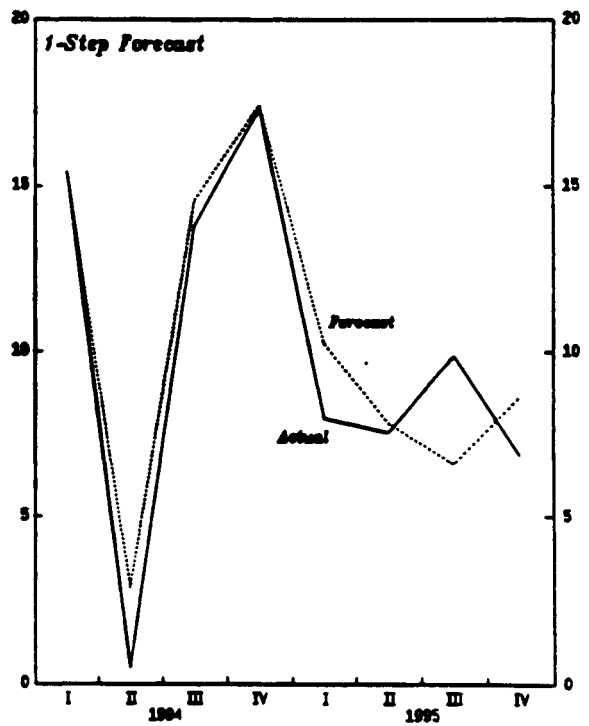
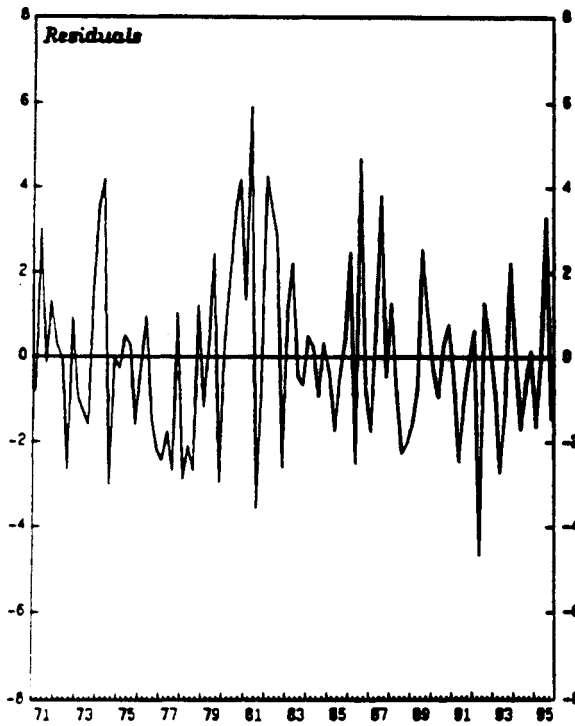
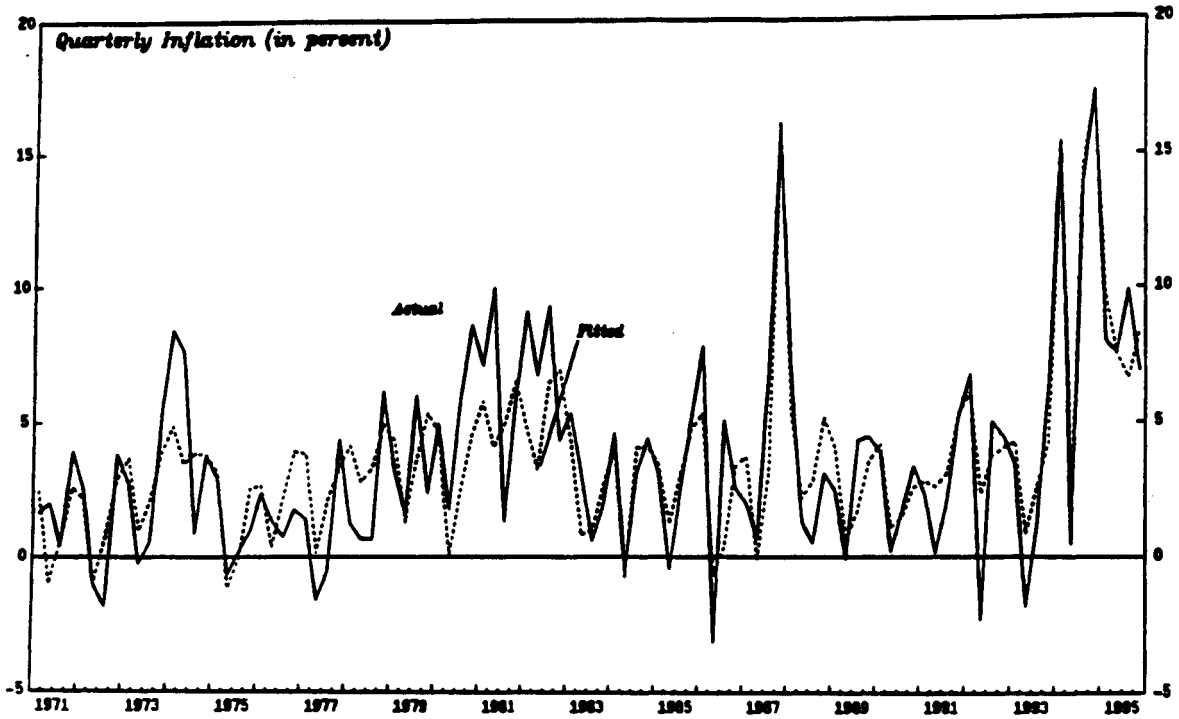
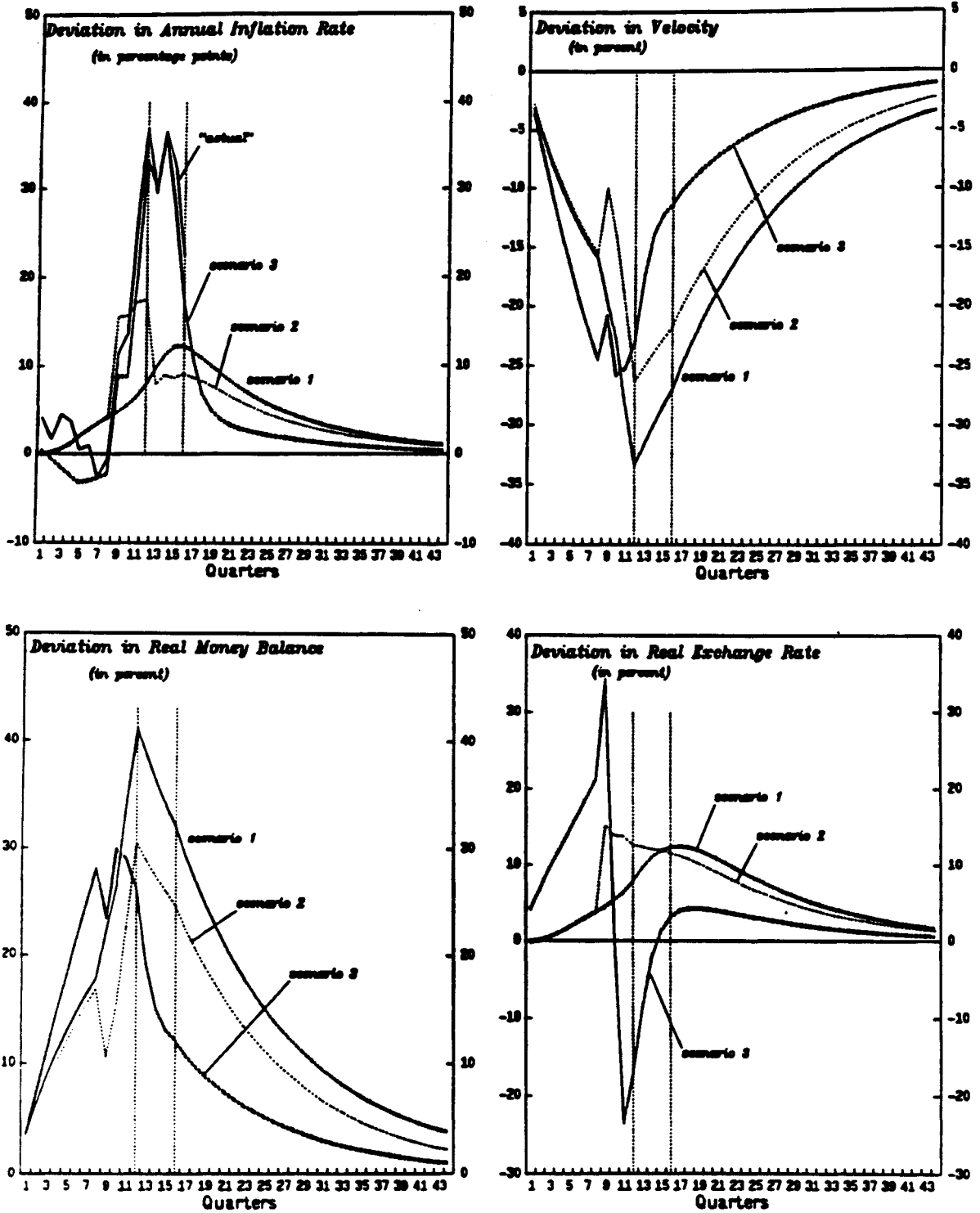


CHART 6

MADAGASCAR

Simulation of Disturbances 1/
(Deviations from Baseline Simulation)



1/ The scenario 1, 2, and 3 are described in section 4. The "actual" plot for inflation represents the inflation actually observed minus 10 percent, starting in 1982.

about 20 percent by the end of the year, compared with 23 percent actually observed. This provides a clear illustration of a slow adjustment in inflation to changes in money growth: the strong deceleration in money growth simulated during the fourth year is also accompanied by a continued sharp increase in velocity. It is also worth noting that during the fifth year, assuming that money growth continues to be low (at the same level as in the baseline), the deviation in inflation from the baseline reaches around 5 percent. This means that the inflation objective of 15 percent set by the authorities for 1996 is well within reach, provided monetary aggregates are kept in line with their targets.

This last point is confirmed by a more direct inflation forecast for 1996, based on the inflation equation. Assumptions for exogenous variables are the following: as targeted by the monetary authorities, broad money growth rate is limited to 13.4 percent, terms of trade fluctuations, import tariffs, as well as the French discount rate are assumed to remain constant, the nominal exchange rate depreciates by 7 percent on average and GDP growth rate is set at 2.5 percent for 1996. Under these assumptions, prices are projected to grow by less than 10 percent at end-1996 (about 7 percent). This indicative forecast suggests that intermediate monetary objectives may be adequate to reach the targeted decline in the inflation rate to 15 percent by end-1996. The values reached by the two error-correction terms at end-1995 contribute to this favorable projection, as they suggest that real cash balances and the real effective exchange rate are broadly at their equilibrium level, and that neither of them will put continued upward pressure on prices. Combined with moderate money growth and the lagged impact of inflation and exchange rate fluctuations in 1995, they contribute to the projected decline in inflation.

5. Policy implications

The existence of a stable, long-term money demand relationship in Madagascar indicates that a monetary policy based on targeting monetary aggregates could be effective in controlling inflation. Such a policy, however, takes time to bear fruit when prices are subjected to strong disturbances. First, the link from money to prices is not direct and fast. Monetary policy operates through aggregate demand, and the impact of changes in aggregate demand on prices takes time to unfold. Second, expectations play a crucial role, and can be very sensitive to the perceived attitude of the Central Bank and other financial authorities during the adjustment period. The above analysis indicates that the inflation outlook in Madagascar has been greatly determined by past inflation during the period under study. In order to alter inflation expectations, a strong and comprehensive package of tight financial policies is needed. In 1995, the political uncertainties surrounding the Government of Madagascar have certainly cast doubts about the seriousness of efforts to tighten fiscal policy, thus undermining the credibility of the tight monetary policy adopted by the Central Bank. These factors taken together may explain why the disinflation has been modest last year.

Expansionary financial policies necessarily lead to inflation in due course. In Madagascar, the inflationary pressures resulting from such

financial policies in the early 1990s were temporarily suppressed by an appreciation of the nominal exchange rate. However, the needed adjustment in prices that followed was brutal and costly. Thus, the widening fiscal deficits during 1991-93 entailed increased recourse to the domestic banking system and, combined with an easy credit policy, resulted in the buildup of a substantial monetary overhang. At the same time, the nominal and real exchange rates appreciated, temporarily suppressing price increases. As a result, the external position weakened sharply, forcing the required adjustment in the exchange rate to take place in 1994. The delay in implementing the foreign exchange reform, combined with continued expansionary fiscal and monetary policies in 1994, resulted in a very large adjustment in the exchange rate, eventually with an overdepreciation in real terms. In turn, the short-term impact on prices was such that the inflation in 1994 reached levels never experienced in Madagascar since its independence.

The objective of an inflation rate of 15 percent for 1996 is well within reach, provided a tight monetary policy is pursued, and supported by a sound fiscal policy. The above analysis, indeed, suggests that if no major negative disturbance takes place in 1996, the deceleration in price increases will continue. The monetary targets announced by the Central Bank earlier this year appear to be adequate, in view of the inflation objective.

Econometric Issues Related to Nonstationary Time Series

During the last fifteen years, the field of applied macroeconomics has had to face a new set of econometric difficulties that arise when one or more variables of interest has a nonstationary time series representation (also named as representation with unit roots). Standard asymptotic distribution theory does not apply to regressions involving such variables, and inferences can be seriously misleading if this is ignored. New approaches have therefore been developed to deal with these difficulties.

The nonstationarity of many macroeconomic time series reflects the existence of stochastic trends (or unit roots) in the data, as shown in the seminal paper of Nelson and Plosser (1982). A stochastic trend incorporates all random shocks that have permanent effects on the level of a time series Y_t . A time series that contains a stochastic trend may increase or decrease persistently over time, with no tendency to revert to a mean or to a deterministic trend. Dickey and Fuller (1979) proposed simple tests for the presence of a stochastic trend, based on the regression $\Delta Y_t = \rho Y_{t-1} + \epsilon_t$. The null hypothesis of a unit root is given by $\rho=0$. Data which are stationary should show $\rho < 0$, thus rejecting the null hypothesis when the test statistic based on the t-student of ρ is smaller than the appropriate critical value. 1/

A regression between nonstationary variables is quite likely to produce spurious results. Indeed, unless the residual is stationary, the standard tests (like the Fisher test) for ordinary least squares (OLS) estimates are virtually certain to reject any null hypotheses if the sample size is sufficiently large. A first way to avoid the problem of spurious regression is to introduce lagged values of both the dependent and independent variables in the regression. The OLS estimation then yields consistent estimates of all the parameters, but the test of some hypotheses will still involve nonstandard distributions. A second way is to difference the data before estimating regressions. While this specification avoids the spurious regression problem as well as the nonstandard distributions for standard tests, this can result in a misspecified regression, in particular if there exists a linear combination between levels of nonstationary time series that is stationary (the time series are then called cointegrated). If this is the case, the model in differences with a finite number of lags affords a poor approximation of the cointegrated system, simply because the levels of the independent variables contain additional information that is useful for forecasting the dependent variables.

Cointegration between nonstationary time series means that although many developments can cause permanent changes in each of the individual time series, there is some long-term equilibrium relation tying the individual components together that makes a linear combination stationary. Engle and

1/ Nonnormality of the error term invalidates standard inference procedures. Dickey and Fuller generated appropriate critical values based on Monte Carlo simulations. The tests allow for the inclusion of a constant term, a time trend, and lagged first differences of Y_t .

Granger (1987) and Johansen (1988) have developed procedures for determining whether economic time series are cointegrated. In the Engle-Granger procedure, an OLS regression is performed on the data in levels in order to identify the linear combination with the least variance. A unit root test is then conducted on the residuals from this regression to determine whether they are stationary. ^{1/} This approach is straightforward and intuitively appealing. However, it ignores the possibility of multiple cointegrating vectors in multivariate systems, and results may then be sensitive to which variable is put in the left hand side. Johansen proposed a multivariate cointegration test procedure that determines the number of cointegration relationships among a number of nonstationary time series. However, parameter estimates that can be derived from this procedure might be quite sensitive to the lag structure of the system considered in the case of small sample sizes. It should be noted that these cointegration techniques are designed to identify the "truly" long run. Consequently, estimates may also be very sensitive to the sample period.

Furthermore, in order to describe the dynamic adjustment of a system toward the long-run equilibrium represented by the cointegration relationships, one needs to estimate an error-correction model. Engle and Granger (1987) showed that by including terms representing the deviations of dependent variables from their long-term equilibrium (the error-correction term), regressions relying on differenced data are no longer misspecified. Recent research has demonstrated the robustness of error-correction models, which often outperform conventional partial adjustment formulations.

^{1/} As the residuals are not observable, critical values for unit root tests performed on residuals are different from those tests performed on observable variables. Engle and Yoo (1987) and MacKinnon (1991) calculated such critical values for the Dickey-Fuller unit root tests.

Data Definitions and Sources

Most of the data used in this study have been taken from International Financial Statistics (IFS), covering the period 1970-95. The frequency used being quarterly, annual data for y , tt , mt have been interpolated, using the cubic spline conversion method of AREMOS. Prices, exchange rates, and interest rates are period averages. Quarterly money stocks are the averages of the three end-of-month stocks for each quarter. The precise definitions are as follows:

- M1 - money stock, in FMG
- M2 - money plus quasi-money, in FMG
- P - consumer price index, first quarter of 1970-100
- P* - consumer price index of partner countries, first quarter of 1970-100; calculated as the weighted average of trading partner's CPI, the weights being derived from the Information Notice System ^{1/}
- e - nominal effective exchange rate index, first quarter of 1970-100; calculated as the weighted average of bilateral exchange rates indices with trading partners, using the same weights as for P*; an increase in this index means an appreciation
- RER - real effective exchange rate, calculated as $e.P/P^*$
- y - real GDP, at 1990 constant prices
- i^* - foreign interest rate, represented by the French discount rate
- tt - terms of trade, 1990-100; taken from the World Economic Outlook database
- mt - effective import tax rate, calculated as the ratio of import tax revenue over total imports of goods and services; import tax revenue were taken from various issues of Statistical Appendix prepared for Article IV consultation discussions, while total imports of goods and services were taken from the World Economic Outlook database

^{1/} The countries considered and weights in percent are as follows: France (31.7), Germany (11.3), United States (10.7), Italy (7.3), United Kingdom (5.5), Japan (4.8), Netherlands (3.9), Brazil (3.8), Indonesia (3.8), Canada (3.1), Belgium (2.9), Colombia (2.5), Spain (2.2), Switzerland (1.6), Australia (1.5), India (1.4), Hong Kong (1.0), and Mexico (1.0).

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II. Developments in Monetary Policy in 1995

In spite of adverse initial conditions, the monetary authorities made striking progress in controlling monetary aggregates and reducing inflation in 1995. At the beginning of the year, the Central Bank's credibility was severely challenged after the sharp rise in monetary aggregates in 1994--the broad money supply (M2) grew by almost 50 percent--and its involvement in the so-called parallel financing schemes. In addition, the division of the banking system between a wealthy private sector composed of three banks and an almost insolvent public sector composed of two banks, which at end-1994 accounted for 56 percent of total deposits, severely hampered monetary policy management. Furthermore, excess liquidity in the banking system insulated the commercial banks from changes in interest rates undertaken by the Central Bank and the depreciation of the exchange rate fueled expectations of rising inflation.

In this context, the new management of the Central Bank, which took office in early January 1995, decided to tighten gradually but firmly monetary conditions during the year, to achieve a significant reduction in inflation. The latter was targeted to reach 15 percent by end-1995. Combined with a decrease in net credit to the Government of about 3 percent of beginning-of-period broad money supply (M2), a moderate expansion of credit to the private sector was consistent with the initial target of a 15 percent rise in M2 (excluding foreign currency deposits) by end-1995. Excess liquidity was to be reduced, so as to foster commercial banks' sensitivity to the change in central bank interest rates. Overall monetary policy was broadly successful in 1995, although an unexpected increase in velocity delayed the deceleration in inflation.

The excess liquidity in the banking system was sharply reduced, mainly through enlargement of reserve requirements. At the beginning of 1995, all the banks except one public institution were in a strong liquid position, with resources in excess of the reserve requirement of about FMG 30 billion (equivalent to 2 percent of deposits). To reverse this situation, the Central Bank relied mainly on increased reserve requirements rather than absorbing liquidity through credit auctions (appel d'offre négatif), since the latter was perceived as more costly for the Central Bank. Increasing reserve requirements was also considered more feasible in the inflationary context of substantial bank earnings. There were also intensified pressures on public banks to streamline their operations.

The array of measures used to enlarge reserve requirements were successful in reducing excess liquidity (Table 1). At the end of December 1995, the reserves of the banking system as a whole were insufficient (about FMG 113 billion) (Tables 2 and 3); the three private banks found it difficult to maintain a balanced position and were increasingly compelled to borrow the needed liquidity from the Central Bank. Lending on bid (appel d'offre positif) reached FMG 65 billion in December 1995, while 2- to 10-day lending (prise en pension) rose to FMG 35 billion at the end of the year. This overall decrease in the liquidity of the banking system was achieved, even though foreign exchange intervention contributed to a hike in reserve money in the last quarter of the year.

Instrument	Operation	Actions	Implementation	Comments
1st Quarter				
Required reserves	<ul style="list-style-type: none"> - Basis of assessment of reserves: FIM-denominated deposits held by residents (demand deposits, time deposits, certificates of deposit (BDCs)) - Rate: 25 percent - Penalty rate: 25 percent - Reserves establishment method: 60 percent of average volume of current accounts as at value date 40 percent of average stock of BTAs - Reserves establishment period: monthly - Assessment base: month (n), reserves establishment period: month (n+2) 	<ul style="list-style-type: none"> - Inclusion of "Other customer accounts payable" - Penalty rate: raised to 35 percent 	<p>January 1, 1995</p> <p>January 1, 1995</p>	<p>Instruction No. 01/CR/94 of November 29, 1994</p>
Interest rates	<ul style="list-style-type: none"> - Leading rate = 24 percent - Repurchase facility rate = leading rate + 2.5 percent 	<ul style="list-style-type: none"> - Leading rate set on the basis of observed inflation and projected inflation: leading rate = 30 percent 	<p>March 27, 1995</p>	
Credit ceilings	<ul style="list-style-type: none"> - Overall bank-by-bank ceiling - In cases of violation: establishment of compulsory deposit and payment of moratorium interest at the repurchase facility rate (2-10 days) for a period of one month 1st violation: compulsory deposit = 50 percent 2nd violation: compulsory deposit = 100 percent of the overrun 			
2nd Quarter				
Required reserves	<ul style="list-style-type: none"> - Basis of assessment of reserves: FIM-denominated deposits held by residents - Rate: 25 percent - Penalty rate: 35 percent - Reserves establishment method: 60 percent of average volume of current accounts as at value date 40 percent of average stock of Treasury notes at annual rate (<u>bons du Trésor à taux annuel</u>) (BTA)) - Reserves establishment period: monthly - Assessment base: month (n) reserves establishment period: month (n+2) deposits 	<ul style="list-style-type: none"> - Reserves assessment basis expanded to include FIM-denominated deposits held by nonresidents and all foreign exchange deposits - Reserve ratios: 25 percent for FIM-denominated deposits; 15 percent for foreign exchange deposits - Penalty rate: repurchase facility rate (2-10 days) + 10 points - Reserves establishment period: from the 15th of month (n) to the 14th of month (n+1) - Assessment base: month (n), reserves establishment period: month (n+1) 	<p>June 1995</p>	<p>Instruction No. 001/CR/95 of May 19, 1995</p>
Interest Rates	<ul style="list-style-type: none"> - Leading rate (<u>taux directeur</u>) = 30 percent - Repurchase facility rate (<u>taux pensions</u>) = 32.50 percent - Penalty rate = 35 percent 	<ul style="list-style-type: none"> - Interest rates indexed to the leading rate: * Leading rate = 33 percent * Repurchase facility rate (2-10 days) = leading rate + 5 points * Penalty rate = repurchase facility rate + 10 points 	<p>May 19, 1995</p>	<p>Letter No. 101/GV/CR of May 19, 1995</p>
Credit ceilings	<ul style="list-style-type: none"> - Penalty rate = repurchase facility rate (2-10 days) - Establishment of compulsory deposits 	<ul style="list-style-type: none"> - Penalty rate = repurchase facility rate (2-10 days) + 10 points - Abolition of compulsory deposits 	<p>May 19, 1995</p>	<p>Letter No. 101/GV/CR of May 19, 1995</p>

<u>Instrument</u>	<u>Operation</u>	<u>Actions</u>	<u>Implementation</u>	<u>Comments</u>
3rd Quarter				
Required reserves	<ul style="list-style-type: none"> - Basis of assessment of reserves: all FMG-denominated and foreign exchange deposits - Reserve ratios: 25 percent for FMG-denominated deposits; 15 percent for foreign exchange deposits - Penalty rate = Repurchase facility rate (2-10 days) + 10 points - Reserves establishment method: 60 percent of average volume of current accounts as at value date 40 percent of average stock of BTAs 	<ul style="list-style-type: none"> - Change in composition: 68 percent of current accounts as at date of operation 32 percent of average stock of BTAs 	August 15, 1995	Instruction No. 002/CR/95 of July 21, 1995
Interest rates	<ul style="list-style-type: none"> - Leading rate = 33 percent - Repurchase facility rate (2-10 days) = leading rate + 5 points - Penalty rate = repurchase facility rate + 10 points 			
Credit ceilings	<ul style="list-style-type: none"> - F2 not included in the ceilings (Export-related credit) - Penalty rate = repurchase facility rate (2-10 days) + 10 points 	<ul style="list-style-type: none"> - Inclusion of F2 within the ceilings - Settled claims deducted from the ceilings 	August 1995	Letter 07/CR of July 21, 1995
4th Quarter				
Required reserves	<ul style="list-style-type: none"> - Basis of assessment of reserves: all FMG-denominated and foreign exchange deposits - Reserve ratios: 25 percent for FMG-denominated deposits; 15 percent for foreign exchange deposits - Penalty rate = repurchase facility rate (2-10 days) + 10 points - Reserves establishment method: 68 percent of volume of current accounts as at date of operation 32 percent of average stock of BTAs 	<ul style="list-style-type: none"> - Reserve ratios: 25 percent for FMG-denominated deposits; 20 percent for foreign exchange deposits - Reserves establishment method: 60 percent of volume of current accounts as at date of operation; 20 percent of average stock of BTAs - Elimination of BTA component of required reserves 	October 15, 1995 October 15, 1995	Instruction No. 003/CR/95 of September 20, 1995 Instruction No. 003/CR/95 of September 20, 1995
Interest rates	<ul style="list-style-type: none"> - Leading rate = 33 percent - Repurchase facility rate (2-10 days) = leading rate + 5 points - Penalty rate = repurchase facility rate + 10 points 			
Credit ceilings	<ul style="list-style-type: none"> - F2 included in the ceilings 	Suspension of credit ceilings	December 1, 1995	Instruction No. 005/CR/95 of December 1, 1995

Source: Central Bank of Madagascar

	1993	1994				1995			
	Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.
A. Interbank market									
A1. Central bank intervention									
A1.1. Refinancing									
- Advances (+ve)	--	--	-7,800.0	-50,000.0	-67,150.0	-45,000.0	-46,300.0	-52,900.0	-65,000.0
- Short-term lending									
- Repos									
. 24 hrs									
. 2-10 days	--	--	-3,000.0	-10,920.0	--	-3,900.0	-8,800.0	-29,000.0	-35,300.0
. Special									
Subtotal A1.1.	--	--	-10,800.0	-60,920.0	-67,150.0	-48,900.0	-55,100.0	-81,900.0	-100,300.0
A1.2. Reabsorption of liquidity									
- Repayment of advances (-ve)	--	--	--	--	--	30,000.0	13,000.0	30,000.0	25,000.0
- Short-term borrowing									
- Placements									
Subtotal A1.2	--	--	--	--	--	30,000.0	13,000.0	30,000.0	25,000.0
I. Central bank intervention (A1.1 + A1.2)	--	--	-10,800.0	-60,920.0	-67,150.0	-18,900.0	-42,100.0	-51,900.0	-75,300.0
II. Interbank operations									
- Lending	--	1,300.0	13,000.0	6,000.0	--	3,000.0	3,000.0	1,000.0	7,000.0
- Borrowing	--	-1,300.0	-13,000.0	-6,000.0	--	3,000.0	3,000.0	1,000.0	7,000.0
- Net operations	--	--	--	--	--	--	--	--	--
III. Interbank market position (I + II)	--	--	-10,800.0	-60,920.0	-67,150.0	-18,900.0	-42,100.0	-51,900.0	-75,300.0
IV. Treasury note market									
- BTAs at less than 1 yr	151,537.7	235,556.0	130,504.9	165,702.4	190,507.4	194,243.9	187,710.0	161,803.0	114,426.0
- BTAs at more than 1 yr	40,000.0	40,000.0	44,476.0	45,607.2	46,951.3	40,934.9	50,934.9	53,066.7	55,232.1
V. Treasury note market position	191,537.7	275,556.0	174,981.7	211,309.6	237,458.7	243,178.8	238,644.9	214,869.7	169,658.1
VI. Money market position (III + V)	191,537.7	275,556.0	164,181.7	150,469.6	170,308.7	224,278.8	196,544.9	162,989.7	94,358.1
VII. Banks' c/a position	121,085.2	60,541.4	211,560.3	103,905.4	176,344.0	174,323.7	195,662.5	243,971.9	373,734.5
VIII. Banks' cash flow position (VI + VII)	312,622.9	336,098.2	375,742.0	254,375.0	346,652.7	398,602.5	392,207.4	406,961.6	468,092.6
Reserve requirements									
o Actual average	104,547.1	112,519.0			309,660.6	362,432.6	354,313.7	355,228.9	400,895.4
o Requirement	71,660.5	77,554.5	323,413.5	321,257.0	349,636.2	406,423.6	457,976.1	481,738.9	513,452.7
o Surplus or shortfall	32,886.6	34,964.5	-20,876.0	-26,880.4	-39,967.6	-43,991.0	-103,662.4	-126,510.0	-112,557.3
Deposit requirements	...	28,900.0	4,287.2	66,384.4	80,000.0	35,650.0	...	...	...

Source: Central Bank of Madagascar (CBM).

Table 3. Madagascar: Reserve Requirements, 1994-95

(In millions of FMG)

	March	June	Sept.	Dec.
<u>1994</u>				
Required reserves	77,554.5	323,413.5	321,257.0	349,636.2
Actual reserves	112,519.0	302,536.6	294,456.6	309,787.8
<u>1995</u>				
Required reserves	406,423.6	457,976.1	481,738.9	513,452.7
Actual reserves	362,432.9	360,455.8	358,352.7	401,219.6

Source: Central Bank of Madagascar

The reduction in liquidity was accompanied by rising interest rates. The base rate of the Central Bank ^{1/} was pushed up to 33 percent at end-April 1995 from 24 percent at end-December 1994. Furthermore, the effective intervention rates of the Central Bank, as the bid rate, rose even more rapidly in 1995. As a consequence, the average refinancing cost for commercial banks jumped by about 20 percentage points (Table 4). Combined with active moral suasion by the monetary authorities, this policy led to higher lending interest rates throughout the banking system. The average lending rate to the private sector reached about 30 percent at end-1995. The rate of central bank advances to the Treasury was also raised to the level of the base rate, and the Treasury was compelled to provide competitive interest rates in order to sell its bills to commercial banks. However, the response of deposit rates to the monetary tightening was disappointing, as competition for deposits was limited and customers were reluctant to move from bank to bank, exclusively on the basis of the interest rate differential.

Credit growth to the private sector slowed sharply, from an annual growth rate of 26 percent in 1994 to 15 percent in 1995. Owing to the rising cost of credit and the authorities' objective to move toward indirect instruments of monetary control, administrative ceilings on bank credit became ineffective (Table 5), leading the monetary authorities to suspend them by end-1995. Credit to the Government was lowered mainly through reduced claims of the commercial banks, as interest rates on Treasury bills

^{1/} The monetary authorities decide the level of their base rate, in part, on the basis of an average of the increase in the CPI over the last 12 months, and the targeted inflation rate over the following 12 months.

Table 4. Madagascar: Average Cost of Refinancing for Banks Based on Action Taken by Central Bank Regarding Liquidity since March 1994

	1994			1995			
	June	Sept.	Dec.	March	June	Sept.	Dec.
Amounts							
	(In millions of FMG)						
Advances	62,865.4	74,872.3	147,099.9	141,701.5	170,062.3	217,232.9	210,063.1
Repos	13,380.0	6,201.7	41,954.8	32,818.0	50,676.7	63,553.2	48,516.1
Reserve requirement shortfall after carryover of surplus	47,488.4	48,887.0	74,030.9	94,161.6	110,248.9	127,504.1	135,463.1
Rate							
	(In percent)						
Advances (+ve)	16.31	16.69	22.03	25.62	33.07	33.10	33.52
Repos	18.50	18.50	23.42	25.62	38.00	38.00	38.00
Reserve requirement shortfall	25.00	25.00	25.00	35.00	48.00	48.00	48.00
Weighted average cost	22.94	22.59	23.82	31.85	43.01	42.44	43.41

Source: Central Bank of Madagascar

Table 5. Madagascar: Credit Ceilings, 1994-95

(In billions of FMG)

Period	Overall Ceiling	March	June	Sept.	Dec.
1994	Limits	1,038.2	1,078.0	1,142.6	1,226.0
	Performance	1,036.8	1,095.1	1,225.9	1,260.1
	Within margin (-) or overrun (+)	-1.4	17.1	83.4	34.1
1995	Limits	1,276.0	1,327.7	1,481.4	1,533.3
	Performance	1,252.7	1,337.5	1,526.6	1,531.4
	Within margin (-) or overrun (+)	-23.3	9.8	44.1	-1.9

Source: Central Bank of Madagascar

rose only at the very end of the year. However, the specific targeted reduction in monetary financing of the budget (about FMG 56 billion) was missed, given that the Treasury accumulated arrears to the Central Bank at end-1995. Overall, broad money supply (excluding foreign currency deposits) rose by about 15 percent, compared with 48 percent in 1994, in line with the initial February 1995 target, but 6 percentage points higher than the revised target established at mid-year. ^{1/} This slight slippage resulted from the relatively large intervention of the Central Bank in the interbank foreign exchange market (about 40 percent of total purchases) in the last quarter of 1995. This intervention was triggered to limit excessive exchange rate appreciation, leading to much faster accumulation of foreign exchange reserves than originally envisaged. Reduced liquidity in the banking system, higher interest rates, and better control of monetary aggregates have contributed to the improved credibility of the monetary authorities.

^{1/} The money supply growth target by end-1995 was revised downward in July 1995--to 9 percent--given the evidence at that time that inflation was running ahead of target.

Table 1. Madagascar: Growth and Structure of GDP, 1990-95

	1990	1991	1992	1993	1994	1995 Prel.
<u>(In billions of Malagasy francs at 1984 prices)</u>						
Agriculture	623.6	626.6	637.5	656.0	655.0	672.7
Industry	219.9	219.1	216.8	223.8	221.5	225.0
Services	825.8	854.3	863.9	882.3	892.7	906.9
GDP at market prices	<u>1,669.3</u>	<u>1,699.9</u>	<u>1,718.2</u>	<u>1,762.1</u>	<u>1,769.2</u>	<u>1,804.6</u>
<u>(Annual change in percent in 1984 prices)</u>						
Agriculture	2.1	0.5	1.7	3.2	-0.5	2.7
Industry	-0.6	-0.4	-1.0	3.2	-1.0	1.6
Services	3.9	-7.7	1.1	2.1	1.2	1.6
GDP at market prices	<u>3.1</u>	<u>-6.3</u>	<u>1.2</u>	<u>2.1</u>	<u>-0.0</u>	<u>2.0</u>
Real GDP per capita	0.5	-8.7	-3.8	-0.7	-2.8	-0.8
GDP deflator	11.5	13.9	12.5	13.0	41.6	46.7
<u>(In percent of GDP at current market prices)</u>						
Agriculture	29.5	30.7	30.9	31.6	36.6	31.4
Industry	13.0	13.2	12.8	12.9	12.7	12.5
Services	50.2	50.4	50.2	49.8	46.0	50.5
Of which: public sector <u>1/</u>	(5.3)	(5.9)	(5.5)	(5.3)	(4.6)	(4.2)
Indirect taxes	8.8	8.9	7.3	8.7	6.1	7.0
GDP at market prices	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Net imports of goods and nonfactor services	11.0	8.9	8.3	8.3	7.7	8.5
Total available resources	<u>111.0</u>	<u>108.9</u>	<u>108.3</u>	<u>109.3</u>	<u>107.7</u>	<u>108.5</u>
Consumption	94.0	100.8	97.1	97.9	96.8	96.8
Of which: public sector <u>1/</u>	(8.0)	(8.7)	(8.3)	(7.8)	(6.8)	(6.1)
Gross investment	17.0	8.2	11.3	11.4	10.9	11.6
Of which: public sector <u>1/</u>	(7.9)	(5.9)	(7.6)	(7.8)	(6.2)	(6.1)
Domestic savings	6.0	-0.8	2.9	2.1	3.2	3.2
Of which: public sector <u>1/</u>	(5.6)	(2.2)	(2.3)	(3.2)	(2.1)	(3.4)

Source: Direction Générale de la Banque des Données de l'Etat.

1/ Excluding public enterprises.

Table 2. Madagascar: Central Government Financial Operations, 1991-96

	1991	1992	1993	1994	1995 Frel.	1996 Budget ^{1/}
(In billions of Malagasy francs)						
Total revenue and grants	533.2	732.6	984.4	1,035.9	1,623.3	2,329.1
Budgetary revenue	354.0	503.6	556.0	748.4	1,138.3	1,529.2
Tax revenue	336.3	484.1	526.5	702.2	1,111.3	1,503.6
Nontax revenue	17.7	19.5	29.5	46.2	27.0	25.6
Extrabudgetary ^{2/}	63.8	43.0	72.6	8.7	0.1	--
Capital receipts	11.6	10.6	10.5	4.8	17.3	14.3
Grants	103.8	195.4	225.4	274.0	467.6	785.6
Of which: project grants	(85.6)	(133.7)	(166.8)	(235.0)	(437.0)	(629.6)
Total expenditure	805.6	1,120.9	1,326.3	1,803.6	2,432.7	2,873.0
Current expenditure	480.2	658.6	782.2	1,188.1	1,529.3	1,589.6
Budgetary	473.2	623.7	727.5	1,066.8	1,505.5	1,543.4
Personnel	226.9	238.7	266.6	329.5	443.4	516.1
Goods and services	76.3	143.2	98.1	131.2	207.5	...
Transfers	70.6	50.1	104.4	114.2	157.0	...
Interest	89.4	191.7	258.3	491.9	697.6	606.5
Foreign ^{3/}	55.7	77.2	203.4	462.2	624.3	511.9
Domestic	43.7	114.5	54.9	29.7	73.3	94.6
Extrabudgetary and other	7.0	34.9	54.7	101.3	23.8	26.2
Capital expenditure	325.4	462.3	546.0	635.5	903.4	1,403.4
Domestic financing	100.7	131.3	170.3	188.0	156.8	369.1
Foreign financing	213.1	320.4	365.3	442.7	729.3	1,020.0
Other	11.6	10.6	10.5	4.8	17.3	14.3
Overall balance on a commitment basis						
Including grants	-272.4	-368.3	-463.9	-767.7	-809.4	-644.0
Excluding grants	-376.2	-563.7	-689.3	-1,041.7	-1,277.0	-1,429.6
Changes in domestic payment arrears	4.1	-0.4	-8.1	-11.4	24.1	-62.6
Other cash adjustments	2.6	3.9	--	--	--	...
Overall balance on a cash basis	-265.7	-364.9	-472.0	-779.1	-785.3	...
Financing	283.7	384.9	472.0	779.1	785.3	...
Foreign (net)	143.8	199.8	350.2	565.8	825.0	-8,484.1
Drawings	289.7	215.9	224.6	216.4	299.3	390.4
Amortization ^{3/}	-180.9	-64.4	-427.6	-394.7	-794.7	-645.9
Change in external payment arrears	14.4	18.2	553.2	944.0	1,320.4	-8,228.6
Domestic (net)	80.6	185.1	121.8	213.3	-39.7	-64.7
Banking system	51.3	139.3	134.4	201.3	-58.7	-60.0
Nonbank	9.3	55.8	-12.6	12.0	19.0	-4.7
Debt relief	61.3	--	--	--	--	...
Memorandum items:						
	(In percent of GDP)					
Tax revenue	6.8	8.7	8.2	7.7	8.1	8.8

Source: Ministry of Finance, Budget, and Planning.

^{1/} Budget approved by Parliament on February 23, 1996.

^{2/} Mainly the Export Stabilization Fund (FNUP) until 1989 and Caisse Vanille from 1990. It also includes the net position of other treasury operations.

^{3/} As of 1993, the increase in foreign debt service represents the consolidation of the debt between the Central Bank and the Treasury.

Table 3. Madagascar: Fiscal Indicators, 1990-95

	1990	1991	1992	1993	1994	1995 Prel.
(In percent of GDP)						
Total revenue and grants	16.2	10.6	13.3	13.2	11.3	11.8
Total revenue	12.0	8.7	10.0	9.9	8.9	8.5
Budgetary	10.1	7.2	9.0	8.6	8.2	8.3
Tax revenue	9.4	6.8	8.7	8.2	7.7	8.1
Taxes on net income and profits	1.5	1.3	1.3	1.6	1.7	1.2
Taxes on goods and services	2.2	1.7	2.7	2.2	2.2	2.1
Import taxes	4.7	3.1	4.0	4.0	3.5	4.3
Export taxes	0.8	0.7	0.5	0.2	0.2	0.3
Nontax revenue	0.7	0.4	0.3	0.5	0.5	0.2
Extrabudgetary	1.7	1.3	0.8	1.1	0.1	--
Capital receipts	0.1	0.2	0.2	0.2	0.1	0.1
Grants	4.4	2.1	3.5	3.5	3.0	3.4
Of which: project grants	(2.9)	(1.3)	(2.4)	(2.6)	(2.6)	(3.2)
Total expenditure 1/	17.0	16.4	20.0	20.6	19.8	17.8
Excluding total interest payments	(15.5)	(14.4)	(16.6)	(16.6)	(14.4)	(12.7)
Current expenditure	9.1	9.8	11.8	12.1	12.8	11.2
Of which: noninterest budgetary	(7.3)	(7.6)	(7.7)	(7.3)	(6.3)	(5.9)
total interest payments	(1.5)	(2.0)	(3.4)	(4.0)	(5.4)	(5.1)
extrabudgetary expenditure	(0.3)	(0.1)	(0.6)	(0.8)	(1.1)	(0.2)
Capital expenditure	7.9	6.6	8.3	8.5	7.0	6.6
Of which: domestically financed	(2.6)	(2.0)	(2.3)	(2.6)	(2.1)	(1.1)
Deficit on a commitment basis	-0.7	-5.5	-6.6	-7.2	-8.4	-5.9
Excluding grants	-5.1	-7.7	-10.1	-10.7	-11.4	-9.3
Deficit on a cash basis	-0.9	-5.4	-6.5	-7.3	-8.5	-5.7
Net foreign financing and debt relief	2.1	4.2	3.0	5.4	6.2	6.0
Domestic financing (net)	-1.2	1.2	3.5	1.9	2.3	-0.3
(Percentage change)						
Total revenue and grants	21.2	-30.1	42.3	15.1	20.7	55.8
Budgetary revenue	24.5	-23.9	42.2	10.4	34.6	52.1
Of which: tax revenue	(22.6)	(-22.6)	(43.9)	(8.8)	(33.4)	(58.3)
Total expenditure 1/	-0.5	2.7	39.1	18.5	35.8	34.9
Current expenditure	4.8	14.6	37.2	18.8	49.3	30.9
Of which: noninterest budgetary	(10.1)	(11.5)	(15.6)	(8.6)	(22.5)	(40.5)
interest payments	(6.8)	(43.0)	(82.9)	(34.8)	(80.4)	(41.8)
Capital expenditure	-5.9	-10.9	42.1	18.1	16.4	42.2
Of which: domestically financed	(15.6)	(-14.5)	(30.4)	(29.7)	(10.4)	(-16.6)

Source: Ministry of Finance, Budget, and Planning.

1/ Includes current, capital, and additional expenditures; excludes payment delays and arrears.

Table 4. Madagascar: Monetary Survey, 1981-85

(In billions of Malagasy francs: end of period)

	1981	1982 After consolid.	1983	1984	1985			
					March	June	Sept.	Dec. Prel.
Net foreign assets	<u>27.1</u>	<u>-388.3</u>	<u>360.3</u>	<u>702.4</u>	<u>721.5</u>	<u>765.5</u>	<u>848.7</u>	<u>867.6</u>
Central Bank (net)	-103.1	-360.5	146.8	220.2	209.8	187.7	341.6	358.1
Commercial banks (net)	130.2	182.2	213.5	482.2	511.7	577.8	507.1	509.5
Total domestic credit	<u>1,183.4</u>	<u>1,388.4</u>	<u>1,905.0</u>	<u>2,388.1</u>	<u>2,352.6</u>	<u>2,473.3</u>	<u>2,560.0</u>	<u>2,545.6</u>
Credit to Government (net)	<u>308.9</u>	<u>448.4</u>	<u>825.3</u>	<u>1,032.3</u>	<u>1,020.1</u>	<u>1,054.5</u>	<u>1,023.4</u>	<u>878.1</u>
Central Bank	383.0	552.7	742.5	899.0	874.6	915.1	904.6	898.9
Commercial banks	-100.7	-121.2	63.2	107.9	117.1	98.7	88.0	47.7
Treasury	16.5	16.8	19.5	25.5	28.3	40.6	30.8	31.5
Of which: counterpart funds	(-644.5)	(-478.5)	(-260.4)	(-236.2)	(-235.5)	(-235.4)	(-235.8)	(-238.8)
Credit to the economy ^{1/}	<u>874.6</u>	<u>938.0</u>	<u>1,079.7</u>	<u>1,355.7</u>	<u>1,332.6</u>	<u>1,418.8</u>	<u>1,536.7</u>	<u>1,567.5</u>
Central Bank	22.2	9.3	8.1	7.0	6.7	6.4	6.1	5.8
Commercial banks	846.7	919.5	1,061.6	1,338.5	1,315.8	1,410.1	1,518.4	1,550.4
Treasury	5.6	9.2	10.0	10.2	10.1	2.3	12.2	11.3
Broad money	<u>1,034.8</u>	<u>1,240.3</u>	<u>1,564.9</u>	<u>2,337.8</u>	<u>2,364.8</u>	<u>2,523.8</u>	<u>2,673.2</u>	<u>2,719.9</u>
Money supply	<u>788.0</u>	<u>915.0</u>	<u>1,038.0</u>	<u>1,617.9</u>	<u>1,594.3</u>	<u>1,694.0</u>	<u>1,823.4</u>	<u>1,863.3</u>
Currency	287.3	317.2	378.7	614.5	584.8	658.5	745.5	758.7
Demand deposits	480.7	597.8	659.3	1,003.3	1,009.5	1,035.5	1,077.9	1,104.6
Commercial banks	485.3	583.6	645.3	989.0	996.5	1,020.1	1,062.4	1,089.3
Post Office and Treasury	15.4	14.2	14.0	14.4	13.0	15.5	15.5	15.3
Quasi-money	<u>286.8</u>	<u>325.3</u>	<u>526.9</u>	<u>719.9</u>	<u>770.5</u>	<u>829.8</u>	<u>849.8</u>	<u>856.6</u>
Commercial banks	280.1	313.5	511.4	698.6	745.0	802.2	822.2	829.0
National Savings Fund	6.7	11.8	15.5	21.4	25.4	27.5	27.5	27.5
Other	--	--	--	--	--	--	--	--
Long-term foreign liabilities	<u>2,651.3</u>	<u>2,338.3</u>	<u>252.7</u>	<u>482.1</u>	<u>547.5</u>	<u>571.3</u>	<u>585.9</u>	<u>403.0</u>
Central Bank	2,650.3	2,330.5	248.5	470.9	525.6	547.0	564.7	382.0
Of which: external borrowing	(213.8)	(224.7)	(223.5)	(446.8)	(504.1)	(528.2)	(544.4)	(378.6)
Commercial banks	1.1	5.9	6.3	21.2	22.0	24.3	21.2	21.0
Other items (net)	<u>-2,475.6</u>	<u>-2,388.6</u>	<u>447.7</u>	<u>280.7</u>	<u>161.8</u>	<u>143.7</u>	<u>149.6</u>	<u>290.4</u>
Of which: valuation adjustment	(-2,087.2)	(-1,935.8)	(-10.3)	(-305.6)	(-369.5)	(-406.4)	(-429.4)	(-346.6)
Memorandum item								
Credit to the private sector	731.8	826.9	989.2	1,348.8	1,325.9	1,412.4	1,530.6	1,561.7

Source: Central Bank of Madagascar (BCM).

^{1/} Credit to economy includes "credit to the private sector and state enterprises".

Table 5. Madagascar: Selected Monetary Indicators, 1990-95

	1990	1991	1992	1993	1994	1995 Prel.
<u>(Annual change in percent)</u>						
Total domestic credit	12.0	14.9	37.0	17.5	25.4	6.6
Credit to the Government (net)	-19.5	22.8	121.2	20.8	25.1	-5.3
Credit to the economy	28.2	12.4	7.3	15.1	25.6	15.6
Private sector	(50.3)	(19.5)	(13.0)	(19.6)	(36.3)	(15.8)
Public enterprises	(-17.0)	(-14.0)	(-22.2)	(-18.6)	(-92.3)	(-16.7)
Broad money	0.3	25.4	19.9	26.2	49.4	16.3
Money supply	-4.0	30.5	19.1	13.4	55.9	15.2
Currency	(-0.8)	(33.7)	(10.4)	(19.4)	(62.3)	(23.5)
Demand deposits	(-5.7)	(28.6)	(24.4)	(10.3)	(52.2)	(10.1)
Quasi-money	12.9	12.7	21.9	62.0	36.6	19.0
<u>(Annual change in percent of beginning broad money)</u>						
Net foreign assets	-24.7	-18.3	23.9	6.8	21.9	7.1
Total domestic credit	13.4	18.6	42.3	22.9	30.9	6.7
Credit to the Government (net)	-7.4	7.0	36.2	11.4	13.2	-2.3
Credit to the economy	20.8	11.7	6.1	11.4	17.6	9.1
Private sector	(24.9)	(14.5)	(9.2)	(13.1)	(23.0)	(8.1)
Public enterprises	(-4.1)	(-2.8)	(-3.1)	(-1.7)	(-5.3)	(-0.0)
Broad money	0.3	25.4	19.9	26.2	49.4	16.3
Long-term foreign liabilities	4.2	53.3	-229.5	-2.8	16.0	-3.8
Other items (net)	-15.9	-80.4	275.9	6.4	-12.6	1.3
Of which: valuation adjustment	(-9.3)	(-72.4)	(201.7)	(-0.8)	(-18.9)	(-1.8)
accumulated BCM losses	(-3.3)	(-11.6)	(66.2)	(1.1)	(0.4)	(1.3)
<u>(In percent of broad money)</u>						
Broad money	100.0	100.0	100.0	100.0	100.0	100.0
Money supply	71.3	74.2	73.8	66.3	69.2	68.5
Currency	26.0	27.8	25.6	24.2	26.3	27.9
Demand deposits	45.3	46.5	48.2	42.1	42.9	40.6
Quasi-money	28.7	25.8	26.2	33.7	30.8	31.5

Source: Central Bank of Madagascar (BCM).

Table 6. Madagascar: Balance of Payments, 1980-85

(In millions of SDRs)

	1980	1981	1982	1983	1984	1985 Prel.
Exports, f.o.b.	234.1	243.9	230.1	237.9	312.4	330.0
Of which: coffee	(28.5)	(20.5)	(22.4)	(29.0)	(59.9)	(55.4)
Imports, f.o.b.	-417.5	-321.7	-330.3	-365.0	-381.0	-427.8
Of which: rice	(18.1)	(7.5)	(9.1)	(3.0)	(23.1)	(10.7)
Trade balance	-183.4	-77.8	-100.2	-127.1	-68.6	-97.8
Services, net	-168.9	-211.0	-173.1	-193.2	-192.1	-193.6
Service receipts	154.0	110.3	125.7	133.9	145.1	165.2
Service payments	-322.9	-321.3	-298.8	-327.1	-337.2	-358.8
Of which: freight	(-44.7)	(-36.9)	(-48.7)	(-58.0)	(-61.2)	(-69.8)
Private transfers	56.7	48.8	77.4	81.8	32.1	50.2
Official transfers	118.4	82.3	89.4	112.2	81.0	77.4
Of which: projects	(66.8)	(26.1)	(50.9)	(62.4)	(50.1)	(67.5)
Current account balance	<u>-177.2</u>	<u>-157.7</u>	<u>-106.5</u>	<u>-126.3</u>	<u>-147.6</u>	<u>-163.8</u>
Nonmonetary capital, net	-19.9	-72.7	-82.8	-81.3	-108.4	-93.2
Drawings	110.3	131.8	88.2	87.8	55.5	60.1
Amortisation	-131.4	-198.1	-162.8	-168.3	-160.5	-148.1
Long-term liabilities	1.2	-6.4	-8.2	-10.8	-3.4	-5.2
Commercial banks, net	14.0	-17.4	-11.3	-16.3	-6.7	-14.0
Direct investment	16.5	10.0	15.0	11.0	4.0	6.4
Other ^{1/}	-41.6	33.5	-20.8	4.4	50.5	76.7
Overall balance	<u>-208.3</u>	<u>-204.3</u>	<u>-206.3</u>	<u>-218.5</u>	<u>-208.2</u>	<u>-188.0</u>
Financing	<u>208.3</u>	<u>204.3</u>	<u>206.3</u>	<u>218.5</u>	<u>208.2</u>	<u>188.0</u>
Exceptional financing	131.3	47.6	2.8	3.7	--	--
Net foreign assets	79.5	79.5	-101.7	-13.1	-0.2	-40.1
IMF (net)	-21.9	-12.2	-11.5	-10.1	-8.5	-9.7
Purchases	--	--	--	--	--	--
Repurchases	-34.7	-25.0	-11.5	-7.4	-4.5	--
SAF/ESAF loans (net)	12.8	12.8	--	-2.7	-3.9	-9.7
BCM net change in arrear	-21.7	82.1	-89.8	-1.4	0.4	--
Other assets, net	123.1	-0.3	-0.6	-1.6	7.9	-30.4
Net change in arrears	-2.6	76.8	305.2	227.9	208.4	228.1
<u>Memorandum items :</u>						
Total external debt	2,262.0	2,502.4	2,647.2	2,761.2	2,819.4	2,982.9
Of which: arrears	(271.6)	(436.4)	(861.7)	(886.0)	(1,069.2)	(1,301.4)
Current account balance ^{2/}						
Excl. off. transfers	-13.0	-12.3	-9.2	-9.9	-11.0	-11.4
Incl. off. transfers	-7.8	-8.1	-5.0	-5.2	-7.1	-7.8

Source: Central Bank of Madagascar (BCM).

^{1/} Includes valuation adjustment; short-term capital; and errors and omissions.

^{2/} In percent of GDP.

Table 7. Madagascar: Outstanding External Debt and Debt Service Payments, 1990-95

(In millions of SDRs)

	1990	1991	1992	1993	1994	1995 Prel.
Medium- and long-term debt ^{1/}	<u>2,262.0</u>	<u>2,066.1</u>	<u>1,985.5</u>	<u>1,875.2</u>	<u>1,750.2</u>	<u>1,691.5</u>
Official creditors	1,291.5	1,026.0	826.0	798.3	669.0	571.8
Of which: Paris Club	(834.1)	(783.7)	(731.8)	(652.7)	(578.0)	(516.3)
Other countries	(457.4)	(242.4)	(184.2)	(145.6)	(91.0)	(55.6)
International organizations	896.1	872.0	1,005.0	1,038.6	1,054.6	1,101.8
Of which: IMF	(101.0)	(88.7)	(77.2)	(67.1)	(58.6)	(48.8)
Commercial banks	57.2	51.6	41.8	28.7	19.6	13.9
Other private	17.1	18.4	12.7	8.5	7.0	3.8
Other debt	<u>18.6</u>	<u>455.0</u>	<u>680.3</u>	<u>904.6</u>	<u>1,084.6</u>	<u>...</u>
Short-term	18.6	18.6	18.6	18.6	15.4	...
External payments arrears ^{2/}	--	436.4	661.7	886.0	1,069.2	1,301.4
Of which: Paris Club	(--)	(91.8)	(218.9)	(372.0)	(519.6)	(687.6)
Other countries	(--)	(319.7)	(420.6)	(481.4)	(503.0)	(561.8)
Multilateral creditors	(--)	(--)	(--)	(4.3)	(24.0)	(32.6)
Total external debt outstanding	<u>2,262.0</u>	<u>2,502.4</u>	<u>2,647.2</u>	<u>2,781.2</u>	<u>2,819.4</u>	<u>2,992.9</u>
Debt service payments	<u>285.7</u>	<u>367.0</u>	<u>292.1</u>	<u>283.1</u>	<u>275.8</u>	<u>270.9</u>
Scheduled interest	<u>119.5</u>	<u>143.9</u>	<u>107.8</u>	<u>104.7</u>	<u>106.9</u>	<u>113.1</u>
Official creditors	85.6	99.0	83.6	53.1	45.5	37.8
Of which: Paris Club	(71.8)	(83.4)	(53.0)	(43.6)	(37.0)	(30.8)
International organizations	23.1	20.6	18.4	16.7	16.5	15.6
Of which: IMF	(8.6)	(5.9)	(3.4)	(2.2)	(1.1)	(1.2)
Commercial banks	7.1	5.1	2.6	1.9	1.2	1.0
Other ^{3/}	3.7	18.3	23.1	33.0	43.7	58.7
Scheduled amortization	<u>166.1</u>	<u>223.1</u>	<u>174.3</u>	<u>178.4</u>	<u>169.0</u>	<u>157.8</u>
Official creditors	104.8	171.7	137.6	141.3	133.6	120.0
Of which: Paris Club	(57.2)	(105.7)	(76.9)	(82.2)	(94.7)	(83.5)
International organizations	53.8	43.1	28.9	29.6	29.7	32.7
Of which: IMF	(34.7)	(25.0)	(11.5)	(10.1)	(8.5)	(9.7)
Commercial banks	4.4	4.4	3.7	3.2	2.7	2.2
Other	3.3	3.9	4.1	4.3	3.0	3.0
<u>Memorandum items:</u>						
Late interest payments	0.6	16.4	22.3	32.3	43.2	58.3
Outstanding debt (excl. arrears)						
In millions of SDRs	1,990.4	2,066.1	1,985.5	1,875.2	1,750.2	1,691.5
In percent of GDP	87.6	105.6	83.2	77.7	84.6	80.2
Total outstanding debt						
In percent of GDP	99.6	127.9	124.2	114.4	136.3	141.8

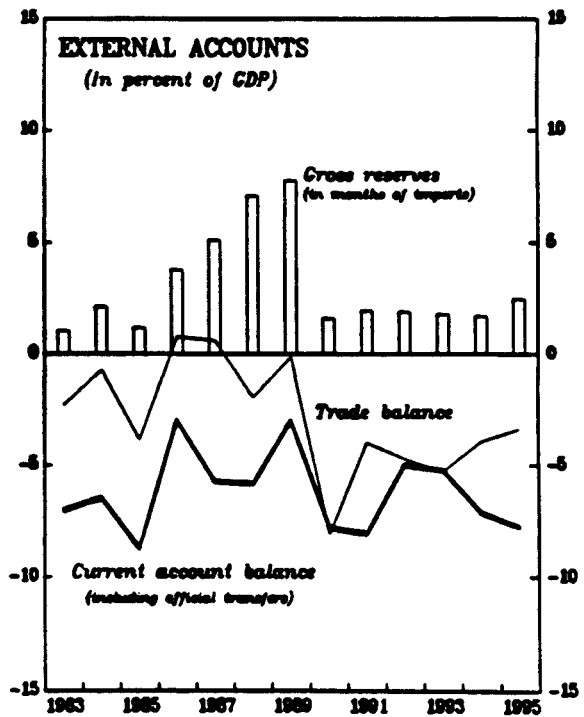
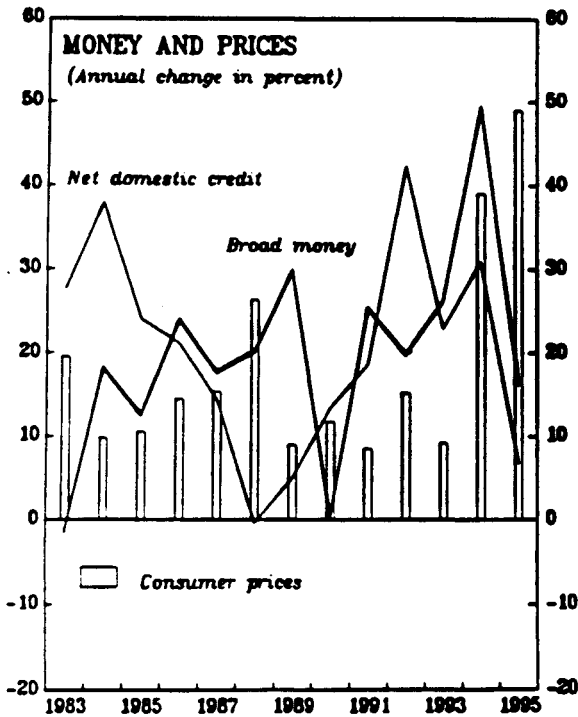
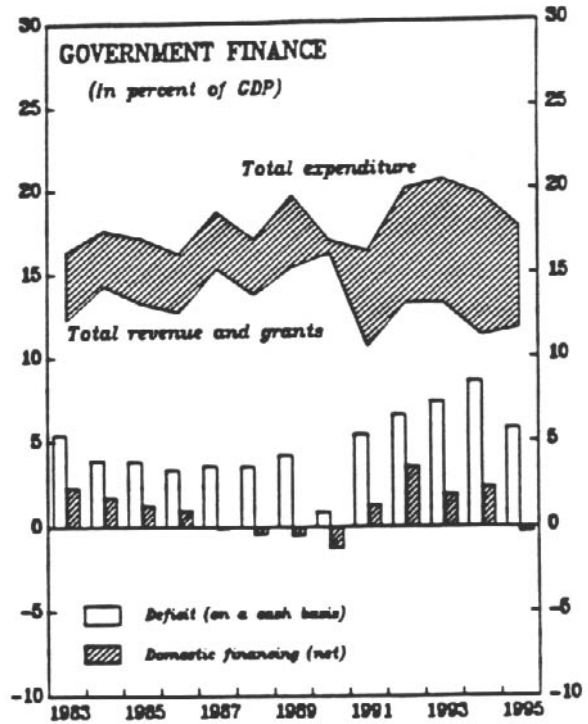
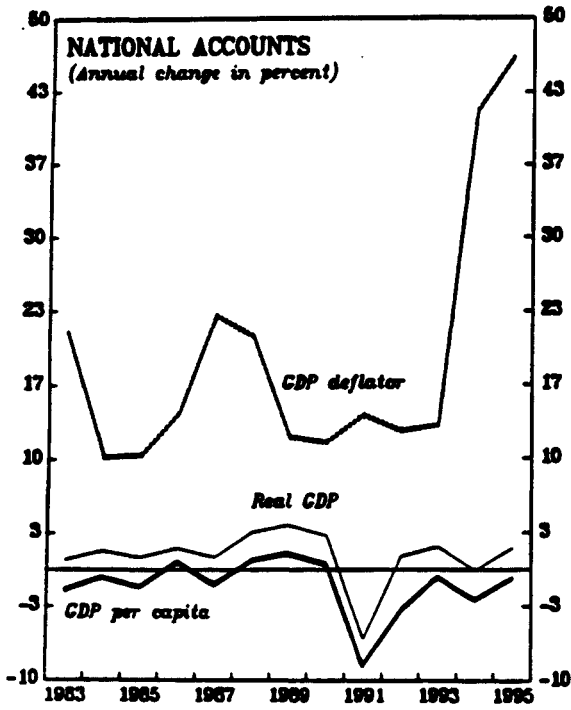
Source: Central Bank of Madagascar (BCM).

^{1/} After debt rescheduling by Paris Club and other official creditors, and by commercial banks.

^{2/} In 1991, the increase represents, in part, a reclassification of debt to other than Paris Club creditors as arrears.

^{3/} Including late interest payments on arrears and interest on rescheduled debt.

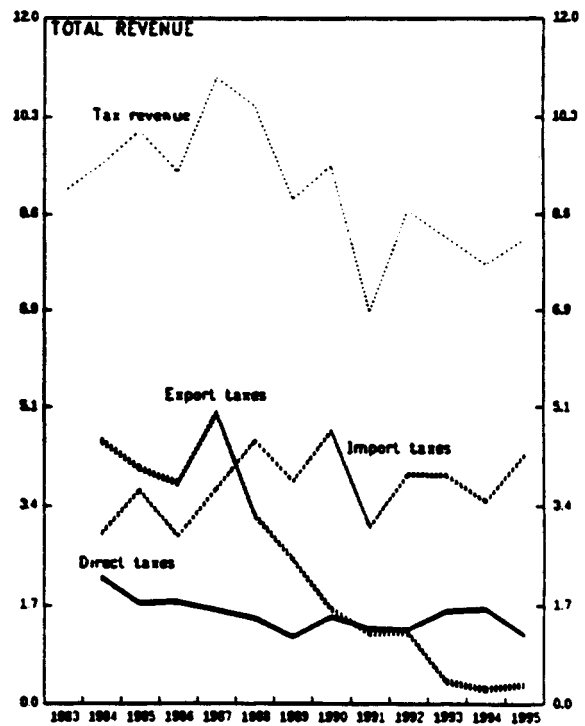
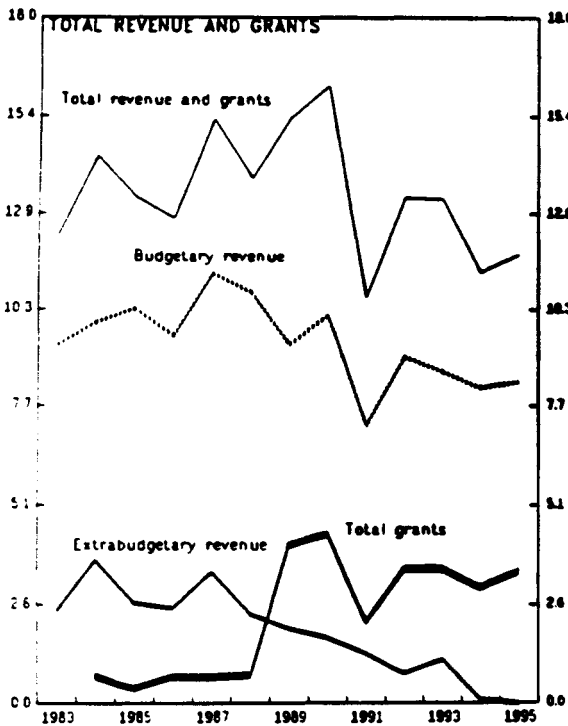
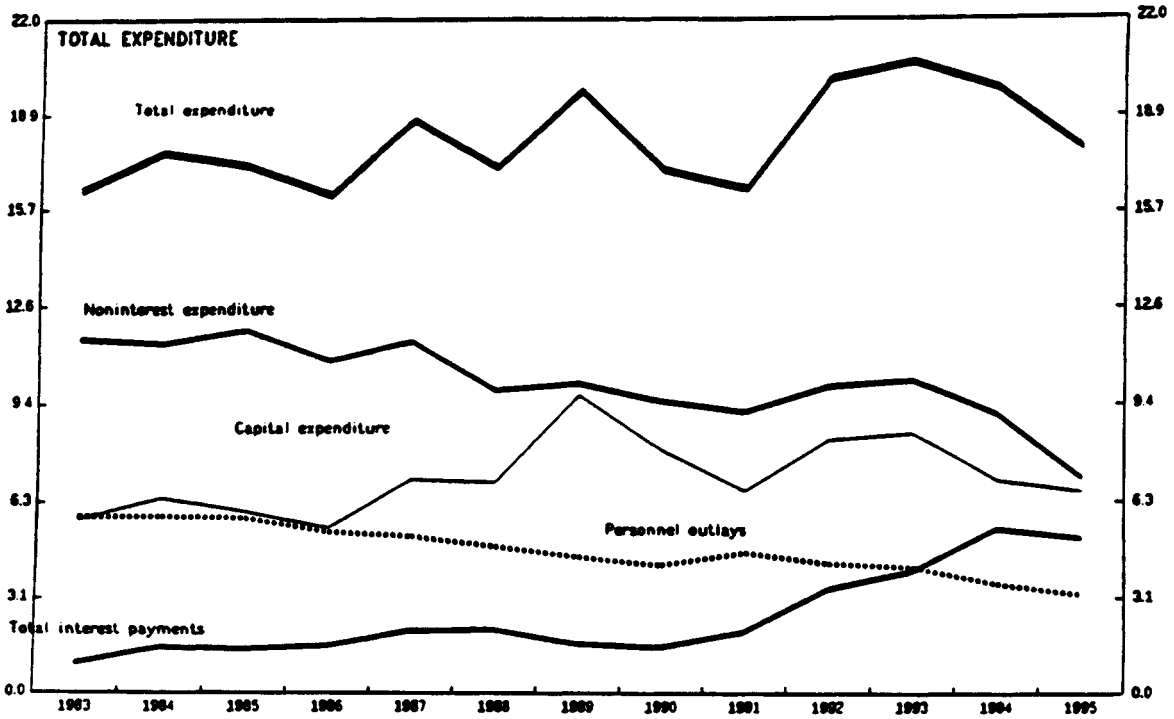
CHART 1
MADAGASCAR
MAIN ECONOMIC INDICATORS, 1983-95



Sources: Central Bank of Madagascar, and Ministry of Finance, Budget, and Planning.

CHART 2

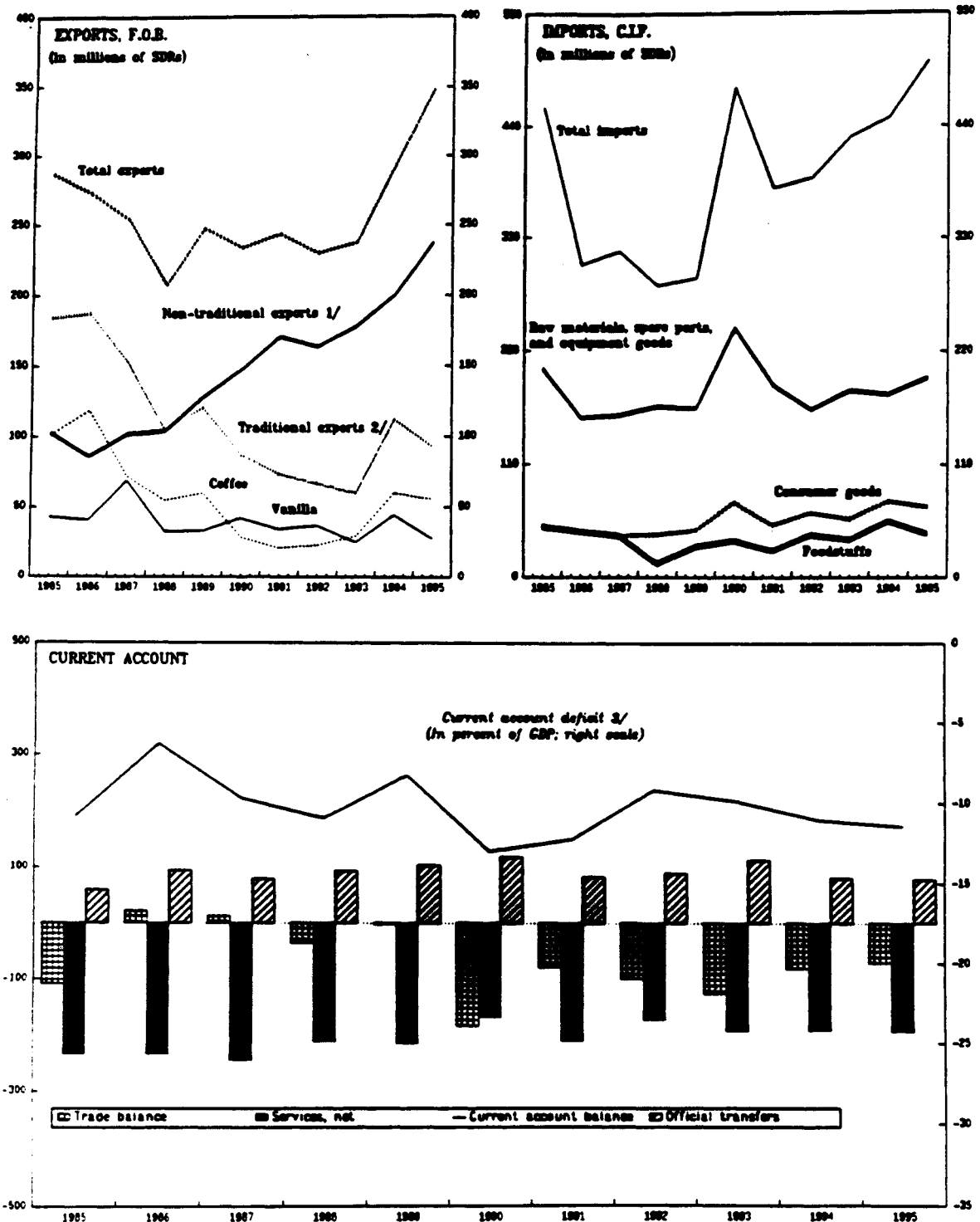
MADAGASCAR
MAIN FISCAL INDICATORS, 1983-95
 (In percent of GDP)



Source: Ministry of Finance, Budget and Planning.

CHART 3

MADAGASCAR
EXTERNAL SECTOR MAIN INDICATORS, 1985-95
(In millions of SDRs)



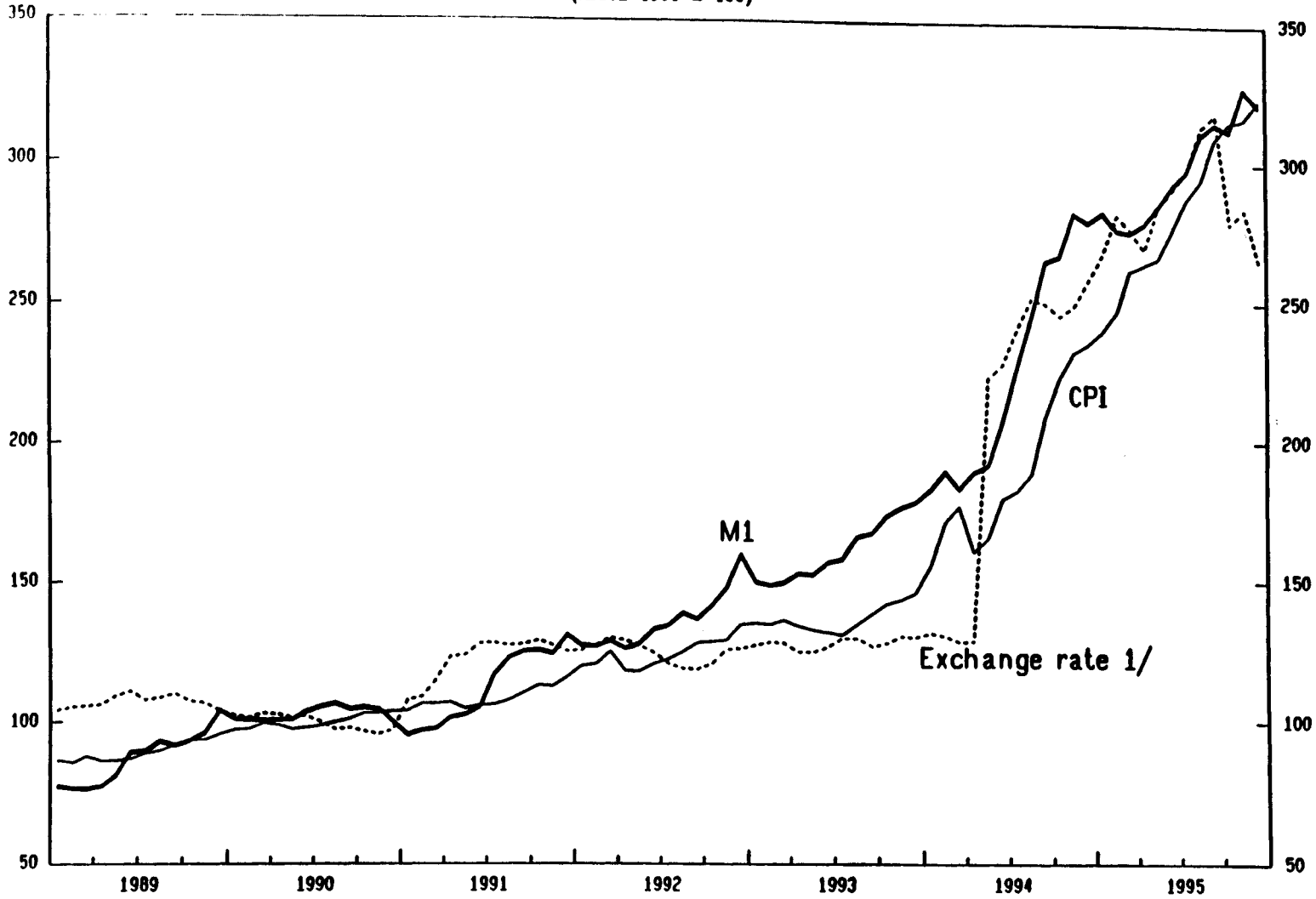
Source: Central Bank of Madagascar.

1/ As of 1989, including exports from the export processing zone.

2/ Coffee, vanilla, cloves, and pepper.

3/ Excluding official transfers.

CHART 4
MADAGASCAR
MONEY, PRICES, AND EXCHANGE RATE, 1989-95
 (Index 1990 = 100)



Source: Central Bank of Madagascar.

1/ Average exchange rate, FMG/SDR.

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MADAGASCAR: PARTIAL LIST OF PUBLIC ENTERPRISES, 1994

Sector/Enterprise	State Participation (In percent)	Number of Employees	Operating Loss (-) or Profit (+) (In millions of FMG)
1. <u>Agricultural Enterprises</u> Antok'Asa Ambanivohitra (A.A.A.) Compagnie Nosybéenne d'Industries Agricoles (C.N.I.A.) Famokarana Mahabibo Malagasy (FAMAMA) Fanjarian'Ala Ambatondrazaka Moramanga (FANALAMANG) Fikambanana Fanajariana Ny Lemak'I Besiboka (FIFABE) Entreprise Galland (filiale COROI) Hasy Malagasy (HASYMA) Plantation Lamoulie Valentin (LAMVAL) Malts et Orges S.A. (MALTO) Société Andapa Mamokatra (SOAMA) Société Théicole de Madagascar (SOTHEMAD)	100 100 99.56 99.98 33 100 70 100 39 100 100	... ... 280 870 240 102 ...	... ... ... 1,164.40 582.99 ... 20,412.05 ... -267.43 -542.51 ...
2. <u>Fishing Enterprises</u> Société Langoustes du Sud (LANSU) Les Pêcheries de Nosy Bé (P.N.B.) Société Malgache de Pêcheries (SOMAPECHE)	31.91 23.01 33	7 1,285 ...	... 17,621.24 18,409.11
3. <u>Dairy Farming Enterprises</u> Ronono Malagasy (ROMA) Rominco	25	67	-294.25 (1993)

MADAGASCAR (continued): PARTIAL LIST OF PUBLIC ENTERPRISES, 1994

Sector/Enterprise	State Participation (In percent)	Number of Employees	Operating Loss (-) or Profit (+) (In millions of FMG)
4. Agro-Industry Enterprises			
Société d'Exploitation de la Viande de Madagascar (SEVIMA)	100	80	123.76
Siramamy Malagasy (SIRAMA)	74.40	...	...
Siramamin'Analaiva (SIRANALA)	65	1,422	-9,982.19
Société Sambava Voanio (SOAVOANIO)	78.50	...	532.50 (1993)
5. Trading Enterprises			
Société pour l'Exploitation du Café du Sud (SECA)	100	...	...
Société Industrielle de Stockage et de Traitement des Produits Agricoles (TRAPAG) (filiale COROI)	100	...	...
Comptoir de représentation de l'Océan Indien (COROI)	100	824+405	...
Société Anonyme Maxime Darrieux (S.A. M. DARRIEUX)	100	204	...
Société Industrielle et Commerciale de l'Emyrne (SICE)	100	...	...
Société pour le Conditionnement et l'Exportation des Produits Agricoles (SCEPAG) (filiale COROI)	100	...	...
Tranombarotra Roso	100	643	...
Société d'Intérêt National des Produits Agricoles (SINPA)	100	699	250.95
Société Malgache de Collecte et de Distribution (SOMACODIS)	100	...	1,471.19
Société des Produits de Madagascar (SPM)	100	...	...

MADAGASCAR (continued): PARTIAL LIST OF PUBLIC ENTERPRISES, 1994

Sector/Enterprise	State Participation (In percent)	Number of Employees	Operating Loss (-) or Profit (+) (In millions of FMG)
6. <u>Manufacturing Enterprises</u> La Cotonnière d'Antsirabé (COTONA) Filature et Tissage de Madagascar (FITIM) Orinasa Famokarana Fanafody (OFAFA) Société Industrielle du Bois (SIB) Société Industrielle pour le Développement du Machinisme Agricole (SIDEMA) Société pour le Développement Industriel des Plantes de Madagascar (SODIP) Brasseries Star Madagascar (STAR) Torginol Madagascar S.A.	39.32 34.40 50 100 73 51 21.21 100	2,348 271 164 ... 174 ... 1,415 57	17,361.58 565.88 286.12 -38.79 (1993) 11,751.62 188.16
7. <u>Mining Enterprises</u> Marbre et Granit de Madagascar (MAGRAMA) Kraomita Malagasy (Kraoma) Société Malgache d'Exploitation de Carrières (SOMADDEX)	5.50 100 98.52	80 419 127	-2,245.53 (1993) 2,195.01 -762.80
8. <u>Public Works Enterprises</u> Société d'Intérêt National des Travaux Publics (SINTP) Société Sino Malgache des Travaux Publics (SMATP) Société d'Équipement Immobilier de Madagascar (SEIMAD) Laboratoire National des Travaux Publics et du Bâtiment (LNTPB) Forages Essais Travaux Spéciaux (FORESTRAS S.A.) Société d'Études, de Construction et de Réparation Navale (SECREN)	100 30.50 82.56 100 25 37.50	181 706 139 295 ... 1,081	... 1,188.52 -459.10 ... 4.76 (1993) ...

MADAGASCAR (continued): PARTIAL LIST OF PUBLIC ENTERPRISES, 1994

Sector/Enterprise	State Participation (In percent)	Number of Employees	Operating Loss (-) or Profit (+) (In millions of FMG)
9. Energy Enterprises			
Solitary Malagasy (SOLIMA)	100	...	...
Jiro Sy Rano Malagasy (JIRAMA)	100	5,000	47,464.14
10. Transportation Enterprises			
Société Nationale de Transports Aériens "Air Madagascar"	89.58	1,229	-17,647.67
Réseau National des Chemins de Fer Malagasy (RNCFM)	100	2,953	-18,817.00
Air Route Services (ARS/ATO)	90.09	88	...
Compagnie Malgache de Navigation (CMN)	97.51	325	6,195.46
Société Malgache des Transports Maritimes (SMTM)	59.19	208	-1,025.97
11. Hotels			
Société Malgache d'Hôtellerie (SMH)	46.58	...	4,819.32
Société Malgache des Hôtels Internationaux (SOMHI)	99.60	120	-427.27 (1993)
Société Touristique et Hôtelière de Madagascar (SOTOHOMA)	100	...	4.25 (1993)
Société d'Etudes Immobilières et Exploitation Hôtelière "Zahamotel" (SEIEXHO ZAHA MOTEL)	50.89	...	...
12. Service Sector Enterprises			
Cinémedia	75	10	-126.28
Madagascar Airtours	16.72	69	-10.42
Delta Audit Associés (RINDRA)	100	80	-311.67 (1993)
Société d'Etude et de Réalisation pour le Développement Industriel (SERDI)	85	33	12.60
Société Malgache de Gestion Informatisée (SOMAGI)	49	...	...

MADAGASCAR (concluded): PARTIAL LIST OF PUBLIC ENTERPRISES

Sector/Enterprise	State Participation (in percent)	Number of Employees	Net Operating Loss (-) or Profit (+) (in millions of FMG)
13. Public Services			
Société d'Exploitation du Port de Toamasina (SEPT)	100	...	...
Aéroport de Madagascar (ADEMA)	34	310	-227.31
Télécom Malagasy S.A.	66	...	...
14. Casinos/Lottery			
Casino Club de Madagascar (CCM)	98.10	...	-2,446.19 (1993)
Société d'Exploitation de la Loterie (SEL)	57.50	50	330.25 (1993)
15. Financial Enterprises			
Assurances/Réassurances Omnibranches "ARO"	73.36	341 360	2,424.00 (1993) -125.00
Banky Fampandrosoana Ny Varotra (BFV)	72.47	1,534 1,532	8,500.00 (1993) 434.00
BNI-Crédit Lyonnais de Madagascar (BNI-CLM)	32.58	1,140 1,114	27,822.00 (1993) 50,996.00
Bankin'Ny Tantsaha Mpamokatra (BTM)	51	1,747 1,742	5,048.00 25,569.00
Société Nationale des Participations (SONAPAR)	56.77		428.54
Compagnie Malgache d'Assurances et de Réassurances Ny Havana	47.61	373 385	1,723.00 (1993) -213.00
16. Other			
Société Mixte Libyo Malgache "Lima Holding"	51	19	-467.81

Source: Ministry of Finance, Budget, and Planning.

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APPENDIX I

Madagascar: Summary of the Tax System, 1995

(All amounts in Malagasy francs)

Tax	Nature of Tax	Deductions and Exemptions	Rates
1. Taxes on net income and profits			
1.1 Tax on company profits (<u>Impôt sur les bénéfices des sociétés - IBS</u>)	An annual tax levied on net profits derived by companies from all sources within the country; nonresident companies are taxable on their profits derived in Madagascar. Oil companies are subject to a separate tax regime. 1/	Partnerships are exempt, as partners are subject to the individual income tax (see 1.2.1 below). Interest paid by the Madagascar Savings Fund is exempt, as well as interest from Treasury bonds, investment bonds, other government borrowing, and bearer cash vouchers.	35 percent general rate Minimum levy: a. 200,000 + 0.5 percent of turnover for enterprises in the agricultural, crafts, industry, mining, hotel, tourism, and transportation sectors; b. 800,000 + 0.5 percent of turnover for other enterprises.
1.2 Taxes on individuals			
1.2.1 Tax on nonwage income (<u>Impôt sur les revenus non salariaux - IRNS</u>)	Levied annually on nonwage income, including fringe benefits, profits from partnerships or legal entities not subject to the company tax (IBS) and derived from sources within Madagascar by residents or nonresidents; individuals with an annual turnover of less than FMG 10 million (FMG 5 million for services) may opt for estimated income assessment (<u>forfait</u>).	In addition to those interest payments mentioned in 1.1 above, rents and capital gains on real estate, alimony, and statutory annuities are also exempt; a deduction of FMG 3,600 is allowed from the tax due for each dependent; deduction of professional expenses, with a ceiling, is allowed.	Up to 250,000: fixed = FMG 5,000 - part of income from 251,000 to 500,000 5 percent 501,000 to 750,000 10 percent 751,000 to 1,250,000 15 percent 1,251,000 to 1,750,000 20 percent 1,751,000 to 2,500,000 25 percent 2,501,000 to 3,500,000 30 percent 3,501,000 to 5,000,000 35 percent over 5,000,000 45 percent - Attached to IRNS 1/2 IFT (real estate tax) under 5 hectares 1 IFT 5-10 hectares 2 IFT over 5 hectares 2 TP Livestock dealers and taxpayers in brackets 6, 7, and 8 with annual turnover under FMG 5,000,000.
1.2.2 Tax on wage income (<u>Impôt sur les revenus salariaux et assimilés - IRSA</u>)	Levied on wages and salaries earned by residents and non-residents within the country; withheld at the source.	In addition to those in 1.2.1 above, exemptions include the following: pensions, indemnities, severance payments, allowances to military draftees, and honorary awards; a deduction of FMG 200 per month is allowed from the tax for each dependent.	<u>Monthly wage</u> Up to FMG 125,000 0 percent Part from FMG 126,000 to 200,000 5 percent 201,000 to 350,000 10 percent 351,000 to 450,000 15 percent 451,000 to 550,000 20 percent 551,000 to 750,000 25 percent 751,000 to 1,000,000 30 percent Over 1,000,000 35 percent

Madagascar (continued): Summary of the Tax System, 1993

(All amounts in Malagasy francs)

Tax	Nature of Tax	Deductions and Exemptions	Rates
1.3 Other taxes on income			
1.3.1 Tax on capital income (<u>Impôt sur les revenus des capitaux mobiliers - IRCM</u>)	Levied on capital income, attendance fees, price bonds, and premiums distributed by companies to individuals or to other companies; withheld at the source.	A 50 percent deduction is allowed from net capital income declared by individuals or companies for assessment of their income tax.	All capital income other than price bonds: 25 percent; price bonds: 30 percent; dividend and interest from bearer stocks and bonds: 45 percent; dividends reinvested in Treasury bonds: 0 percent.
1.3.2 Tax on transfers abroad (<u>Taxe forfaitaire sur les transferts - ITF</u>)	Levied on income transferred abroad to nonresident persons or companies; withheld at the source.	Exemptions include scholarships, normal purchase prices transferred abroad for imports, and capital income subject to tax in Madagascar.	15 percent.
2. Taxes on property			
2.1 Taxes on real estate			
2.1.1 Land tax 2/ (<u>Impôt foncier sur les terrains - IFT</u>)	Levied annually on estimated productive value of land based on type of crop use.	Land owned by Government, local authorities, public institutions is exempt; land used for health, education, or social purpose; land on which is built the owner's residence (ceiling: 2,000 square meters).	Rates vary according to land use (per hectare) FMS 50-100 for grazing land, FMS 150-300 for rice fields, FMS 500-1,000 for coffee and sugar plantations; 1 percent of intrinsic value for land in nonagricultural use FMS 400-800 for woods, forests, lakes, and swamps FMS 1,000 to 2,000 for unworked exploitable land.
2.1.2 Tax on buildings 2/ (<u>Impôt foncier sur la propriété bâtie - IFFB</u>)	Levied on rental value of buildings and of immobile equipment.	Buildings owned by Government, local authorities, public institutions, and charities are exempt; new buildings are exempt during 10 years.	<u>Owner-occupied 1/</u> Residential: 3 to 6 percent Nonresidential: 4 to 6 percent <u>Nonowner-occupied 2/</u> Residential: 5 to 10 percent Nonresidential: 6 to 10 percent
2.1.3 Surtax on buildings (TAFB) (<u>Taxe annexe à la propriété bâtie</u>)	See 4.1.2 above.	Buildings exempted from the IFFB and buildings located outside the boundaries of the seats of FIVE (<u>fivandronam-pokontany--préfectures</u>) and FIRs (<u>faraisam-pokontany--souspréfectures</u>).	From 3 to 6 percent.
2.2 Death and gift duties (<u>Droits d'enregistrement sur les mutations à titre gratuit</u>)	Levied on net value of property transferred <u>causa mortis</u> or <u>inter vivos</u> and situated within Madagascar.	From the net estate of the deceased, a deduction of FMS 1.5 million is allowed for the spouse and each direct dependent, plus a deduction of FMS 0.5 million for each dependent child.	Proportional rates vary between 5 percent and 35 percent depending on the relation of beneficiaries to the deceased or to the donor.

Madagascar (continued): Summary of the Tax System, 1995

(All amounts in Malagasy francs)

Tax	Nature of Tax	Deductions and Exemptions	Rates
2.3 Property transfer duties (<u>Droits d'enregistrement sur les actes et les mutations à titre onéreux</u> , and <u>taxe de publicité foncière</u>)	Levied on sale, lease, or exchange of property, company formation, corporate mergers, transfer of shares, on selected transactions, namely transfer of goodwill, financial claims, and auctions; based on declared value of property or nominal value of the assets involved.	--	Fixed and proportional rates are applied; the latter vary between 1 percent and 12 percent according to type of transaction plus 2 percent additional tax, which goes to the FAR.
3. Taxes on goods and services			
3.1 TST (transactions tax)	Nonrefundable, levied on the turnover of retail businesses and certain services.	Nondeductible. Various exemptions specified and listed in the General Tax Code are granted.	5 percent
3.2 VAT	Refundable, levied on value added in manufacturing, crafts (over 5 employees), services not liable for TST, imports, and wholesale trade.	Deductible. Various exemptions specified and listed in the General Tax Code are granted.	23 percent
3.3 VAT surcharge (abolished 9/1/95)	Refundable, levied on certain products imported from abroad or produced locally; cf. list in Customs Tariff and CGI (General Tax Code).	Deductible.	3-185 percent
3.4 Excise tax (effective 9/1/95)	Levied mostly on alcohol, tobacco, mineral products, and cosmetics.	Nondeductible except for exports, and inputs.	10-100 percent. Specific tax for products controlled by the tax authorities.
3.4.1 Professional tax 2/ (<u>taxe professionnelle</u>)	Levied annually on any person, company, or partnership engaged in trade, industry, or professional services.	The following are exempt: wage earners, university restaurants and canteens; farmers (owners); fishing and hunting; agricultural enterprises; artists; directors of technical and general schools; newspaper and magazine salesmen; local authorities' wholesale activities; sanitary operations of enterprises; intermediaries in government contracts markets for goods financed by foreign aid; procurement services of enterprises.	Two rates are applicable: (1) Fixed rate varying from FMS 1,000 to FMS 150,000 per annum according to the type of business or profession (classified into 3 categories); population of the town in which the enterprise is located; and number of employees and equipment used in the enterprise. (2) Proportional rates based on rental value of premises, including equipment used; 5 separate rates are applied to each of 3 categories specified in the Tax Code, i.e., 3.33 percent, 5 percent, 6.66 percent, 10 percent, and 20 percent.
3.4.2 Business licenses 2/ (<u>impôt de licence</u>)	Levied on producers and traders of alcoholic beverages, including premises serving these drinks.	Exemptions include producers of traditional drinks, military canteens and messes, university restaurants.	Rates vary from FMS 3,000 to FMS 270,000 according to the type of enterprise and population of the town in which the enterprise is located.

Madagascar (continued): Summary of the Tax System, 1995

(All amounts in Malagasy francs)

Tax	Nature of Tax	Deductions and Exemptions	Rates																														
3.5 Tax on motor vehicles <u>4/</u> (<u>Taxe sur les véhicules à moteur</u>)	Levied annually on owners of motor vehicles.	Vehicles owned by Government, farm tractors, and road construction equipment are exempt.	Vehicles with taxable horsepower of: <table border="1"> <thead> <tr> <th>Age of vehicle</th> <th>1-4</th> <th>5-9</th> <th>10-12</th> <th>13-15</th> <th>Over 15</th> </tr> </thead> <tbody> <tr> <td>Under 5 years</td> <td>3,500</td> <td>4,000</td> <td>4,500</td> <td>9,500</td> <td>9,500</td> </tr> <tr> <td>5-10 years</td> <td>2,500</td> <td>3,000</td> <td>3,500</td> <td>4,500</td> <td>6,500</td> </tr> <tr> <td>10-20 years</td> <td>1,500</td> <td>2,000</td> <td>2,500</td> <td>3,500</td> <td>4,500</td> </tr> <tr> <td>Over 20 years</td> <td>750</td> <td>1,000</td> <td>1,200</td> <td>2,500</td> <td>4,000</td> </tr> </tbody> </table> <p>However, vehicles over 10 years old are taxed on only half their power.</p> <p>Vehicles used exclusively for commercial purposes or for mass transit, as well as taxicabs: FMG 2,000.</p> <p>1-9 HP: FMG 200,000. More than 9 HP: FMG 20,000 per horsepower.</p>	Age of vehicle	1-4	5-9	10-12	13-15	Over 15	Under 5 years	3,500	4,000	4,500	9,500	9,500	5-10 years	2,500	3,000	3,500	4,500	6,500	10-20 years	1,500	2,000	2,500	3,500	4,500	Over 20 years	750	1,000	1,200	2,500	4,000
Age of vehicle	1-4	5-9	10-12	13-15	Over 15																												
Under 5 years	3,500	4,000	4,500	9,500	9,500																												
5-10 years	2,500	3,000	3,500	4,500	6,500																												
10-20 years	1,500	2,000	2,500	3,500	4,500																												
Over 20 years	750	1,000	1,200	2,500	4,000																												
3.6 Tax on company cars (<u>Taxes sur les véhicules de tourisme des sociétés</u>)	Annually levied on cars owned by companies and used for non-business purposes.	--	1 to 9 CV: FMG 200,000 More than 9 CV: FMG 20,000 per CV																														
3.7 Surcharge on professional ^{and} (<u>Centimes additionnels à la Taxe Professionnelle</u>)	Levied annually over and above the professional tax, with the same coverage.	Activities classified below Class 5.	15 percent of basic tax levied.																														
4. Taxes on foreign trade																																	
4.1 Imports																																	
4.1.1 Customs duty (<u>Droit de douane à l'entrée</u>)	Levied mostly on c.i.f. value of imports.	Exemptions apply to several products listed in the Code and in the Customs Tariff.	Rates vary from 0 percent to 20 percent; most between 0 percent and 10 percent.																														
4.1.2 Import duty (<u>Taxe d'importation</u>)	Levied mostly on c.i.f. value of imports.	Exemptions apply to several products listed in the Code and in the Customs Tariff.	Rates vary from 0 percent to 30 percent. For any imported product the sum of the custom duty plus import duty should be equal to or lower than 30 percent (excluding exemptions).																														
4.1.3 VAT	Levied mostly on c.i.f. value plus customs duty and import duty.	Exemptions apply to several products listed in the Code and in the Customs Tariff.	25 percent single-stage tax.																														
4.1.4 VAT surcharge (abolished 9/1/95)	Levied on products controlled by the tax authorities, e.g., for alcohol, tobacco.	Exemptions apply to most products.	Rates varying from 5 to 20 percent, and from 30 to 150 percent for alcohol. FMG 12,000/KN for secondhand clothing.																														
4.1.5 Excise tax (effective 9/1/95)	Levied on a few products, mostly luxury items.	Exemptions apply to most products.	Rates varying from 10 to 120 percent. FMG 5,000/KN for secondhand clothing.																														

Madagascar (concluded): Summary of the Tax System, 1995

(All amounts in Malagasy francs)

Tax	Nature of Tax	Deductions and Exemptions	Rates
4.1.6 Import tax on petroleum products (<u>Taxe unique sur produits pétroliers</u>)	Levied mostly on volume, except lubricants on c.i.f. value, and gases per K/net.	Exemption for lamp oils.	Specific taxes vary per product.
4.2 Exports			
4.2.1 Export duty (<u>droit de sortie</u>)	Levied on the f.o.b. value, less export duties and taxes and other shipping charges.	All products except vanilla.	Rate of 35 percent effective 9/01/94. Specific tax FMG 85,000/Knet effective 9/1/95.
5. Other taxes			
5.1 Stamp duty (<u>Droits de timbre</u>)	Levied on: (1) legal documents, (2) administrative documents, (3) receipts, and (4) commercial instruments issued.		Fixed or proportional rates applied according to the type of document. Fixed rates vary from FMG 400 to FMG 1,000. Proportional rates: 0.5 percent on face value of commercial instruments and 0.05 percent on postal checks.

Source: Ministry of Finance, Budget, and Planning.

- 1/ The 1981 Petroleum Code established a direct tax on petroleum companies (impôt direct sur les hydrocarbures) in lieu of the IRS and IRCOM previously applicable to these enterprises.
- 2/ Levied on behalf of local authorities.
- 3/ A surcharge of 2 percentage points is also levied on buildings located in county seats of the local authorities.
- 4/ Half of the proceeds are transferred to local authorities.

Table I. Madagascar: Availability and Use of Resources
at Constant Prices, 1989-95

(In billions of Malagasy francs at 1984 prices)

	1989	1990	1991	1992	1993	1994	1995 Prel.
Agriculture	610.9	623.6	626.6	637.5	658.0	655.0	672.7
Industry	221.3	219.9	219.1	216.8	223.8	221.5	225.0
Services	890.7	925.8	854.3	863.9	882.3	892.7	906.9
Of which: public sector	(109.6)	(110.9)	(110.6)	(109.3)	(109.1)	(109.1)	(108.1)
Imputed charges	-33.2	-33.8	-25.1	-25.2	-25.4	-31.5	-32.1
Indirect taxes	213.8	227.6	184.2	188.1	181.4	181.6	184.8
GDP at market prices	<u>1,903.5</u>	<u>1,963.1</u>	<u>1,839.3</u>	<u>1,861.0</u>	<u>1,900.1</u>	<u>1,899.3</u>	<u>1,937.3</u>
Percentage change	(4.1)	(3.1)	(-6.3)	(1.2)	(2.1)	(-0.0)	(2.0)
Net imports of goods and nonfactor services	4.4	56.1	-4.6	-1.7	22.0	-7.0	-8.4
Total available resources	<u>1,907.9</u>	<u>2,019.2</u>	<u>1,834.7</u>	<u>1,859.3</u>	<u>1,922.1</u>	<u>1,892.3</u>	<u>1,928.9</u>
Consumption	1,653.0	1,682.8	1,683.0	1,653.6	1,698.4	1,700.6	1,726.4
Of which: Government	(184.2)	(179.2)	(166.8)	(164.1)	(161.6)	(153.6)	(150.2)
Gross investment	254.9	326.4	141.7	205.7	223.7	191.7	202.5
<u>Memorandum items:</u>							
GDP deflator (1984=100)	210.4	234.5	267.1	300.5	339.5	480.8	705.2
Percentage change	(12.0)	(11.5)	(13.9)	(12.5)	(13.0)	(41.6)	(46.7)
Real GDP per capita <u>1/</u>	174.5	175.3	160.0	154.0	153.0	148.7	147.6
Percentage change	(1.5)	(0.5)	(-8.7)	(-3.8)	(-0.7)	(-2.8)	(-0.8)

Source: Direction Générale de la Banque des Données de l'Etat.

1/ In thousands of Malagasy francs at 1984 prices.

Table II. Madagascar: Availability and Use of Resources
at Current Prices, 1989-95

	1989	1990	1991	1992	1993	1994	1995 Prel.
(In billions of Malagasy francs)							
Agriculture	1,200.4	1,357.0	1,508.1	1,727.1	2,041.1	3,342.6	4,281.0
Industry	538.7	599.3	648.1	715.5	832.9	1,155.1	1,707.6
Services	1,963.2	2,310.1	2,477.5	2,808.3	3,221.6	4,202.5	6,886.8
Of which: public sector	(193.9)	(244.8)	(288.2)	(305.1)	(340.8)	(420.7)	(572.6)
Imputed charges	-57.7	-86.1	-61.0	-88.5	-79.3	-129.3	-191.7
Indirect taxes	360.7	403.6	340.8	410.7	434.6	560.3	957.9
GDP at market prices	<u>4,005.3</u>	<u>4,603.9</u>	<u>4,913.6</u>	<u>5,593.1</u>	<u>6,450.9</u>	<u>9,131.2</u>	<u>13,861.6</u>
Net imports of goods and nonfactor services	136.7	505.4	439.0	467.0	600.6	705.5	1,156.1
Total available resources	<u>4,142.0</u>	<u>5,109.3</u>	<u>5,352.6</u>	<u>6,060.1</u>	<u>7,051.5</u>	<u>9,636.7</u>	<u>14,817.7</u>
Consumption	3,805.7	4,327.9	4,951.1	5,428.2	6,313.0	8,841.1	13,228.7
Of which: Government	(350.9)	(368.5)	(429.3)	(463.4)	(506.5)	(628.8)	(838.0)
Gross investment	536.3	781.4	401.5	631.9	738.5	995.6	1,589.0
Fixed	(536.3)	(682.2)	(518.9)	(631.8)	(738.5)	(995.6)	(1,589.0)
Private	148.2	317.0	227.3	207.9	237.7	430.0	752.3
Government	388.1	365.2	291.6	423.9	500.8	565.6	836.7
Change in stocks	(...)	(99.2)	(-117.4)	(--)	(--)	(--)	(--)
Memorandum items:	(In percent of GDP)						
Gross Investment ^{1/}	13.4	17.0	8.2	11.3	11.4	10.9	11.6
Central Government	7.7	6.8	5.1	6.6	7.4	6.4	6.2
Rest of the economy	5.7	10.2	3.0	4.7	4.1	4.5	5.5
Domestic savings ^{1/}	9.8	6.3	0.7	3.4	2.5	3.4	3.0
Central Government	4.4	5.6	2.2	2.3	3.2	2.1	3.4
Rest of the economy	5.4	0.7	-1.5	1.1	-0.7	1.3	-0.4
Total Consumption ^{1/}	90.2	93.7	99.3	96.6	97.5	96.6	97.0
Central Government	6.9	6.2	6.3	7.5	6.5	6.2	4.9
Rest of the economy	83.3	87.5	93.0	89.2	91.0	90.4	92.1

Source: Direction Générale de la Banque des Données de l'Etat.

^{1/} Staff estimates.

Table III. Madagascar: Production of Rice and Other Food Crops, 1989-95

(In thousands of tons)

	1989	1990	1991	1992	1993	1994	1995 Prel.
Paddy	2,380	2,420	2,342	2,450	2,550	2,357	2,450
Maize	160	155	145	130	165	155	156
Manioc	2,277	2,282	2,307	2,280	2,350	2,335	2,400
Sweet potatoes	483	484	488	450	500	500	485
Potatoes	271	274	273	275	280	278	275

Source: Ministère de l'Agriculture et du Développement Rural.

Table IV. Madagascar: Rice Production, Imports, and Availability, 1961-95

	<u>Population 1/</u> (Thousands)	<u>Paddy</u> <u>production</u>	<u>Stocks</u> <u>(End of year)</u> (In thousands of tons)	<u>Net</u> <u>imports 2/</u> <u>(Exports -)</u>	<u>Total</u> <u>rice</u> <u>available 3/</u>	<u>Availability</u> (Kg/person)
1961	5,616	1,263	...	-13	672	120
1962	5,729	1,330	...	-25	697	122
1963	5,842	1,377	...	-20	727	124
1964	5,959	1,520	...	-21	805	135
1965	6,078	1,445	...	60	844	139
1966	6,200	1,603	...	-5	864	139
1967	6,342	1,706	...	-36	891	140
1968	6,487	1,873	...	-64	952	147
1969	6,636	1,858	...	-9	999	151
1970	6,788	1,865	...	-48	965	142
1971	6,843	1,873	...	25	1,042	150
1972	7,102	1,687	...	23	938	132
1973	7,265	1,730	...	90	1,028	142
1974	7,431	1,844	5	122	1,118	150
1975	7,604	1,972	--	59	1,135	149
1976	7,817	2,043	5	68	1,171	150
1977	8,035	2,067	9	93	1,211	151
1978	8,261	1,922	7	152	1,196	145
1979	8,492	2,045	--	155	1,272	150
1980	8,730	2,109	2	176	1,318	151
1981	8,953	2,012	6	193	1,278	143
1982	9,225	1,970	138	351	1,290	140
1983	9,484	2,147	122	185	1,365	144
1984	9,715	2,131	47	111	1,343	138
1985	9,984	2,060	--	106	1,409	141
1986	10,263	2,116	28	162	1,424	139
1987	10,550	2,178	37	94	1,433	136
1988	10,845	2,149	13	37	1,385	128
1989	10,909	2,380	28	89	1,547	142
1990	11,197	2,420	28	76	1,574	141
1991	11,754	2,342	30	39	1,525	130
1992	12,083	2,450	38	59	1,568	130
1993	12,421	2,550	40	5	1,581	127
1994	12,769	2,357	53	159	1,605	126
1995	13,126	2,450	...	...	...	...

Source: Ministry of Agriculture and Rural Development.

1/ May differ from data provided by other sources.

2/ Madagascar was a net exporter of rice until 1970 (except for 1965).

3/ Domestic paddy production (less nonhuman consumption) converted to rice equivalent plus net change in stocks and net imports.

Table V. Madagascar: Retail Prices of Ordinary Rice, 1986-85

(In Malagasy francs per kilogram)

	Free market	Stores ^{1/}	Official distribution ^{2/}
1986			
March	437.5	...	375.0
June	420.0	...	375.0
September	437.5	...	375.0
December	647.5	442.0	375.0
1989			
March	647.5	450.0	...
June	455.0	450.0	...
September	532.0	480.0	...
December	623.0	550.0	...
1990			
March	633.5	545.0	...
June	525.0	490.0	...
September	556.2	490.0	...
December	612.5	...	...
1991			
March	624.1	612.0	...
June	548.5	534.0	525.0
September	665.0	653.0	...
December	892.5	784.0	700.0
1992			
March	980.0	969.0	...
June	830.0	889.0	832.0
September	805.0	797.0	950.0
December	859.6	875.0	975.0
1993			
March	822.5	787.0	875.0
June	630.0	650.0	800.0
September	770.0	759.0	900.0
December	847.0	861.0	1,000.0
1994			
March	1,375.0	1,488.0	1,000.0
June	858.0	814.0	1,000.0
September	1,308.0	1,385.0	850.0
December	1,648.0	1,564.0	1,200.0
1995			
March	1,735.0	1,729.0	1,200.0
June	1,555.0	1,506.0	1,800.0
September	1,875.0	1,822.0	1,850.0
December	2,076.0	1,875.0	1,850.0

Source: Commerce Ministry.

^{1/} As of 1986, the data refer to the price of rice sold from the food security stock, or stock tampon.

^{2/} As of August 1987, undertaken by the Fekotany (communes) purchasing rice on the local market for resale. In the period 1988-91, the official distribution of rice was discontinued.

Table VI. Madagascar: Production of Major Cash Crops, 1/ 1989-95

(In thousands of tons)

		1989	1990	1991	1992	1993	1994	1995 Prel.
Export crops								
Coffee 2/	Production	88.2	85.0	84.0	88.0	78.0	70.0	88.0
	Marketed	68.0	54.9	54.6	32.0	55.0	48.0	60.0
Vanilla	Production 3/	3.0	5.0	4.7	4.0	5.0	4.0	4.3
	Marketed 4/	0.8	0.8	0.6	0.8	1.0	0.6	0.6
Cloves	Production	11.1	13.5	14.6	11.5	12.5	14.0	13.0
	Marketed	16.5	10.2	13.5	10.5	11.2	17.0	13.5
Pepper	Production	1.7	1.6	2.1	2.0	2.3	2.4	2.0
	Marketed	1.5	1.2	1.8	2.0	2.0	2.0	1.8
Cocoa	Production	3.7	3.6	3.7	4.0	4.5	3.0	4.3
	Marketed	3.5	3.5	3.6	3.8	4.2	2.3	4.0
Butter beans	Production	7.2	7.0	6.0	3.0	5.0	5.0	5.0
	Marketed	6.2	6.2	5.0	2.8	4.0	4.0	4.4
Sisal	Production 5/	19.9	20.0	15.0	10.0	18.0	17.2	16.3
Industrial crops								
Cotton 6/	Production 5/	41.5	32.1	26.7	20.2	25.4	27.0	30.0
Sugarcane	Production	1,800	2,000	1,950	1,900	1,950	2,166	2,416
	Marketed	1,400	1,400	1,380	1,300	1,400	1,652	1,822
Groundnuts	Production	32.3	30.4	29.5	22.5	32.0	28.0	28.6
	Marketed	17.4	17.0	17.0	15.0	20.0	20.0	21.4

Source: Ministère de l'Agriculture et du Développement Rural.

1/ Data on total production are approximate; those on marketed production are more accurate.

2/ Unroasted coffee.

3/ Green vanilla.

4/ Prepared vanilla (4.6 kg green = 1 kg prepared).

5/ Most of the production is marketed.

6/ Seed cotton.

Table VII. Madagascar: Minimum Producer Prices for Major Crops, 1989-95

(In Malagasy francs per kilogram)

	Type of price		1989	1990	1991	1992	1993	1994	1995 Prel.
	Through 1987	Since 1987							
Paddy 1/	Floor	Indicative	250	210	220	350	270	648	...
Coffee	Floor	Indicative	850	850	1,000	500	500	8,266	...
Cloves	Fixed	Indicative	800	800	900	766	900	1,800	...
Vanilla	Fixed	Fixed	2,000	2,000	2,000	5,000	5,000	8,450	...
Sugarcane	Fixed	Indicative	20.5	20.8	23.4	25.0	30.0	60.0	...
Pepper 2/	Fixed	Indicative	2,500	2,500	1,500	1,500	1,500	2,535	...
Wheat	Floor	Indicative	350	470	485	603	633	850	...
Soybeans	Floor	Indicative	190	250	...	510	510	510	...

Source: Ministère de l'Agriculture et du Développement Rural.

1/ In September 1987, the price of paddy was raised to FMG 135 per kilogram.

2/ The fixed producer price was lifted in 1986; an official indicative price was announced in 1987.

Table VIII. Madagascar: Index of Industrial Production, 1988-94 ^{1/}

	Weight	1988	1989	1990	1991	1992	1993	1994
(1984 = 100)								
Food and agro-industries	29.18	147.9	147.1	140.1	136.4	118.2	109.4	...
Beverages and tobacco	7.59	72.2	86.4	106.5	90.9	94.5	83.8	...
Textiles and clothing	14.63	84.8	100.3	88.6	85.0	72.9	76.0	...
Wood industries	1.09	116.5	117.4	102.8	82.0	80.1	81.9	...
Paper and printing	4.68	86.2	63.7	85.8	79.3	77.8	89.7	...
Leather goods	2.65	66.0	63.8	70.4	53.5	42.7	74.9	...
Electrical goods	2.19	98.6	99.5	129.5	187.4	104.7	84.1	...
Metal works	2.43	111.1	111.9	105.8	71.6	106.4	93.6	...
Chemical industries	9.05	133.3	128.3	154.7	140.0	124.3	127.2	...
Energy	18.27	342.4	219.9	301.5	335.8	359.0	412.5	...
Construction materials	2.19	220.1	150.7	151.7	132.8	180.5	160.1	...
Transport materials	1.23	68.3	73.2	85.0	72.4	71.9	72.0	...
Extractive industries	3.86	117.6	130.3	143.3	125.0	84.0	107.1	...
Other	0.86	--	--	--	--	--	--	...
Total	<u>100.00</u>	<u>159.7</u>	<u>136.8</u>	<u>153.9</u>	<u>152.2</u>	<u>149.6</u>	<u>156.8</u>	...
(Annual change in percent)								
Food and agro-industries		13.9	-0.5	-4.7	-2.7	-12.6	-8.2	...
Beverages and tobacco		-26.2	33.5	10.5	-14.7	4.0	-0.8	...
Textiles and clothing		-3.0	5.8	-11.7	-4.1	-14.2	4.3	...
Wood industries		6.7	0.8	-12.4	-20.2	9.9	2.0	...
Paper and printing		-3.8	-33.8	50.4	-17.2	-1.9	15.3	...
Leather goods		-19.0	-3.3	10.3	-24.0	-20.2	75.4	...
Electrical goods		3.8	0.9	30.2	44.7	-44.1	-10.1	...
Metal works		6.3	0.7	-5.5	-32.3	48.6	-12.0	...
Chemical industries		-23.1	-3.8	20.6	-9.5	-11.3	2.4	...
Energy		17.0	-35.8	37.1	11.4	6.9	14.9	...
Construction materials		42.6	-31.5	0.7	-12.5	35.9	-11.3	...
Transport materials		-1.2	7.2	29.8	-23.8	-0.7	0.1	...
Extractive industries		18.2	10.8	10.0	-12.8	-32.8	27.5	...
Total		<u>6.6</u>	<u>-14.4</u>	<u>12.5</u>	<u>-1.1</u>	<u>-1.7</u>	<u>4.8</u>	...

Sources: Ministry of Industry; and Ministry of Energy and Mining.

^{1/} Revised index; includes mining.

Table IX. Madagascar: Industrial Production, 1981-85

	Unit	1981	1982	1983	1984	1985 Prel.
Extractive industries						
Graphite	ton	11,372	8,910	13,188	14,600	13,900
Mica	ton	671	788	850	563	387
Chromite	ton	149,488	160,777	144,311	75,000	74,000
Food industries						
Tapioca	ton	57	50	30	53	60
Potato flour	ton	278	300	200	300	350
Cattle (slaughtered industrially)	head	27,223	19,190	17,541	20,000	22,500
Pigs (slaughtered industrially)	head	2,120	1,267	1,236	1,300	1,550
Canned meat	ton	50	56	65	60	44
Cooked pork meats	ton	147	187	170	105	102
Sugar	ton	107,518	91,930	71,222	79,280	89,474
Edible oils	ton	5,387	4,323	2,019	893	751
Beer	hectoliter	236,245	225,580	227,655	218,076	318,842
Condensed milk	ton	1,889	1,880	1,837	2,148	2,400
Salt	ton	37,025	27,628	63,389	75,783	80,000
Tobacco						
Chewing tobacco	ton	502	440	200	185	182
Smoking tobacco	ton	14	12	10	12	8
Cigarettes	ton	1,950	2,223	2,304	2,000	1,736
Textiles						
Cotton cloth	1,000 m	47,351	41,917	35,094	38,683	25,000
Bags for packaging	ton	688	1,622	1,206	1,195	1,000
Blankets	ton	2,534	2,309	3,029	2,376	2,240
String	ton	1,433	1,749	1,702	567	534
Paper						
Rag paper	ton	5,589	4,971	6,015	6,611	6,940
Finished paper	ton	2,510	4,322	2,459	4,505	5,250
Chemical industries						
Soap	ton	16,275	16,049	19,276	16,837	15,000
Accumulators	units	69,800	11,689	11,842	6,629	6,500
Candles	ton	1,668	1,648	1,658	1,100	1,000
Paint	ton	1,887	1,579	2,775	2,600	2,550
Batteries	1,000 units	11,791	15,850	19,758	20,382	20,150
Oxygen	m ³	460,952	468,999	498,628	477,441	475,000
Acetylene	m ³	134,810	125,980	135,040	119,476	118,450
Petroleum refining						
Butane	m ³	4,841	4,678	4,268	2,386	4,132
Gasoline	m ³	69,023	86,366	81,454	56,635	67,905
Kerosene	m ³	46,307	37,806	74,769	23,395	110,764
Gas oil	m ³	81,160	104,333	101,123	35,440	129,227
Fuel oil	m ³	146,585	159,831	183,414	60,981	177,329
Construction materials						
Cement	ton	31,557	30,096	36,387	8,524	45,009
Metal works						
Sheet metal	ton	1,665	1,710	2,247	3,361	3,250
Trunks and boxes	ton	1,200	1,038	1,401	1,500	1,790
Shoes						
Leather	'000 pairs	202	177	176	180	181
Plastic	'000 pairs	734	175	804	535	517
Other	'000 pairs	735	526	129	150	274
Electricity						
Hydraulic	1,000 kwh	335,000	335,000	381,500	389,200	415,000
Thermal	1,000 kwh	171,000	171,000	150,000	151,000	137,000

Sources: Ministère de l'Industrie; and Ministère de l'Energie et des Mines.

Table X. Madagascar: Production and Export of Major Minerals, 1989-95

	1989	1990	1991	1992	1993	1994	1995 Prel.
Production (thousand tons)							
Chromite	160.8	152.4	149.5	160.8	144.3	75.0	74.0
Graphite	16.9	16.0	11.4	8.9	13.2	14.6	13.9
Exports (thousand tons)							
Chromite	152.6	127.6	129.3	108.4	143.8	90.0	128.5
Graphite	15.1	18.5	13.6	10.7	11.2	15.6	16.5
Export value (millions of SDRs)							
Chromite	15.2	9.1	6.7	5.5	5.6	3.8	8.2
Graphite	7.5	11.2	7.0	5.3	4.8	5.5	6.4
Unit value (SDRs per ton)							
Chromite	99.5	70.9	51.9	50.5	38.9	42.7	63.5
Graphite	498.3	603.8	515.0	493.0	431.0	355.0	384.0

Source: Ministère de l'Energie et des Mines.

Table XI. Madagascar: Tourism Indicators, 1989-95

	1989	1990	1991	1992	1993	1994	1995 Prel.
Number of tourists	38,854	52,823	34,801	53,655	55,355	65,839	78,000
Annual growth in percent	(10.0)	(35.8)	(-34.1)	(53.8)	(3.2)	(18.8)	(19.7)
Hotel capacity (number of rooms)	2,212	...	3,040	...	5,610	5,873	6,000
Of which: 1-2 stars	(1,118)	(...)	(1,580)	(...)	(...)	(...)	(...)
3-5 stars	(1,093)	(...)	(1,460)	(...)	(...)	(...)	(...)
Average capacity utilization (in percent) 1/	71.9	73.0	38.8	52.0	55.0	52.5	55.0
Number of tourist-nights	426,546	688,324	334,334	745,408	888,801	1,146,367	1,339,000
Annual growth in percent	(68.4)	(61.4)	(-51.4)	(123.0)	(32.7)	(15.8)	(16.8)
Average length of stay (days)	10.9	13.0	8.6	13.8	17.8	17.4	17.0
Foreign exchange receipts from tourism (in millions of SDRs)	21.8	29.8	20.0	27.7	28.4	32.2	38.0
Annual growth in percent	(45.3)	(36.7)	(-32.8)	(38.5)	(2.5)	(13.4)	(18.0)

Source: Ministère des Transports, de la Météorologie et du Tourisme, Direction du Tourisme.

1/ Coverage is not complete.

Table XII. Madagascar: Production and Consumption of Electricity, 1989-95

(In millions of kilowatt hours)

	1989	1990	1991	1992	1993	1994	1995 Prel.
Production ^{1/}	441	480	506	506	532	540	552
Hydroelectric	312	341	335	335	382	389	415
Thermal	129	139	171	171	150	151	137
Consumption	378	401	384	410	438	450	438
Public lighting	5	7	5	7	7	7	7
Households	106	156	126	145	157	182	168
Other	267	238	253	258	274	261	263

Source: Ministère de l'Energie et des Mines.

^{1/} Electric power generated by JIRAMA (the electricity and water company), i.e., excluding electricity generated by industries for their own consumption.

Table XIII. Madagascar: Prices of Petroleum Products, 1993-95 ^{1/}

(In Malagasy francs per liter)

	1993	1994				1995			
	May	Jan.	May	June	Dec.	Feb.	June	Sept.	Dec.
Gasoline (premium)	982	943	2,590	2,110	2,110	1,831	1,970	1,930	1,930
Gasoline (regular)	858	809	1,800	1,240	1,240	1,503	1,630	1,640	1,610
Gas oil	590	576	577	727	727	1,226	1,280	1,340	1,320
Kerosene	469	469	463	513	513	1,090	1,140	1,210	1,190
Natural gas ^{2/}	11,525	11,825	25,000	25,000	25,000	...	...	...	...

Source: Ministry of Energy and Mining.

^{1/} Prices are "ex depot"; retail prices are higher by a small, fixed profit margin. Prices recorded in the capital city only.

^{2/} Prices are for a 12.5 kg container.

Table XIV. Madagascar: Population and Labor Force, 1987-93

(In thousands)

	1987	1988	1989	1990	1991	1992	1993
Population	<u>10,368</u>	<u>10,635</u>	<u>10,909</u>	<u>11,187</u>	<u>11,493</u>	<u>12,093</u>	<u>12,421</u>
Percentage change	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(5.1)	(2.8)
Labor force	<u>5,107</u>	<u>5,238</u>	<u>5,373</u>	<u>5,515</u>	<u>5,653</u>	<u>5,811</u>	<u>5,914</u>
Agriculture	4,444	4,558	4,676	4,799	4,926	5,057	5,100
Manufacturing and mining	74	76	78	80	82	84	86
Construction	39	40	41	43	44	45	46
Commerce, banking and insurance	128	131	134	137	141	145	149
Transport and telecommunications	36	37	38	39	40	41	42
Administration	170	174	179	183	180	183	208
Miscellaneous 1/	216	222	227	234	240	246	243

Source: Direction Générale de la Banque des Données de l'Etat.

1/ Includes artisans and servants.

Table XV. Madagascar: Minimum Monthly Wage, ^{1/} 1984-85

(In Malagasy francs)

	<u>Agricultural 2/</u>		<u>Nonagricultural 3/</u>	
	Minimum	Maximum	Minimum	Maximum
January 1984-July 1984	18,000	72,000	17,675	70,718
August 1984-June 1985	18,900	74,100	18,563	72,701
July 1985-September 1986	20,480	77,700	20,331	76,317
October 1986-February 1987	22,200	80,400	21,804	78,869
March 1987-June 1987	24,300	86,100	23,867	84,568
July 1987-January 1988	26,080	82,400	25,618	80,772
February 1988-February 1989	29,300	100,780	28,772	89,006
March 1989-February 1990	32,840	111,740	32,274	109,770
March 1990-January 1991	35,600	121,100	35,013	119,095
February 1991-December 1993	41,200	140,180	40,490	137,728
January 1994	...	...	63,313	155,997
March 1995	112,440	115,260	110,550	113,323

Source: Ministère de La Fonction Publique, de l'Emploi et des Conditions Sociales.

^{1/} The "minimum" indicates the minimum wage in the lowest wage category, and the "maximum" indicates the minimum wage in the highest wage category.

^{2/} On the basis of 200 working hours a month.

^{3/} On the basis of 173.33 working hours a month.

Table XVI. Madagascar: Consumer Price Indices, 1993-95

(Period averages, August 1971-July 1972 = 100)

Weight	1993	1994				1995				
		I	II	III	IV	I	II	III	IV	
<u>(Traditional households) 1/</u>										
Food	60.35	1,577.8	2,029.2	1,839.1	2,148.8	2,714.5	2,978.5	3,107.6	3,469.6	3,746.9
Lighting and fuel	9.14	1,467.7	1,893.0	1,844.2	2,137.9	2,211.2	2,308.1	2,585.5	2,767.8	2,964.5
Domestic services	1.82	431.1	638.0	638.0	638.0	638.0	638.0	1,052.1	1,052.1	1,052.1
Maintenance, clothing, and medicine	14.85	1,493.3	1,565.7	1,775.7	2,082.1	2,294.6	2,448.2	2,796.0	3,115.4	3,287.6
Miscellaneous	13.84	1,580.6	1,746.2	2,022.1	2,582.2	2,823.0	2,998.1	3,399.8	3,636.2	3,828.7
General index	100.00	1,533.8	1,883.4	1,894.0	2,171.7	2,583.4	2,798.6	3,016.6	3,331.9	3,569.5
Annual change	...	8.2	23.9	26.9	43.6	60.4	48.6	59.3	53.4	38.2
<u>(Modern households)</u>										
Food	45.16	1,669.5	1,852.8	1,999.2	2,250.2	2,522.7	2,746.2	2,940.1	3,263.0	3,476.3
Lighting and fuel	6.08	1,027.4	1,076.1	1,259.5	1,618.2	1,619.2	1,768.0	2,300.4	2,249.9	2,223.7
Domestic services	11.26	574.8	877.5	877.5	877.5	877.5	877.5	1,370.9	1,370.9	1,370.9
Maintenance, clothing, and medicine	17.99	1,475.7	1,567.8	1,777.4	2,122.6	2,407.2	2,524.3	2,751.1	3,052.1	3,233.0
Miscellaneous	19.51	1,476.4	1,524.5	1,698.2	2,028.1	2,136.8	2,363.3	2,783.3	3,035.1	3,106.7
General index	100.00	1,434.7	1,580.5	1,729.3	1,990.9	2,186.5	2,361.7	2,659.9	2,905.9	3,047.2
Annual change	...	10.1	12.7	21.4	37.7	49.1	48.4	53.8	46.0	39.4
<u>(Households combined)</u>										
Combined CPI 2/	100.00	1,509.0	1,807.7	1,852.8	2,126.5	2,484.2	2,689.4	2,927.4	3,225.4	3,438.9

Source: Direction Générale de la Banque des Données de l'Etat.

1/ Low-income households.

2/ Weights of 0.75 are applied to the index of traditional households and 0.25 to the index of modern households, respectively.

Table XVII. Madagascar: Budgetary Revenue, 1989-95

(In billions of Malagasy francs)

	1989	1990	1991	1992	1993	1994	1995 Prel.
Tax revenue	324.1	434.3	336.3	484.1	326.5	702.2	1,111.3
Taxes on net income and profits	46.4	69.7	84.5	72.1	103.6	150.7	164.3
Companies	25.1	37.2	35.2	30.3	66.1	68.5	83.4
Individuals	16.2	22.5	21.7	26.1	25.9	40.6	56.1
Of which:							
tax on wages and salaries	(12.5)	(16.7)	(18.1)	(23.0)	(19.0)	(31.8)	(44.1)
Other 1/	5.1	8.9	7.7	15.8	11.6	41.6	24.8
Taxes on property	5.8	5.8	3.2	7.6	8.0	11.2	13.7
Of which: registration dues	(4.6)	(4.8)	(2.8)	(6.0)	(6.6)	(8.4)	(11.6)
Taxes on goods and services	88.3	102.5	81.4	153.2	143.0	201.5	282.4
Value-added tax 2/	44.0	47.5	28.4	79.1	80.0	177.5	232.6
Excises	35.3	34.0	20.8	36.3	26.3	6.0	0.7
Fiscal monopoly net profits (RMPF) 3/	15.2	16.0	28.3	31.7	30.5	11.2	47.6
Other 4/	3.8	4.9	3.9	6.0	6.2	6.8	11.5
Taxes on foreign trade	201.8	254.6	186.2	248.9	269.5	335.5	634.4
Import duties	154.6	217.6	150.7	222.4	255.6	320.0	588.7
Customs duty	(20.7)	(33.7)	(25.0)	(34.6)	(37.9)	(51.8)	(81.8)
Fiscal duty	(67.5)	(82.2)	(54.8)	(76.1)	(75.4)	(105.0)	(150.1)
Value-added tax on imports 2/	(55.3)	(80.5)	(58.0)	(68.0)	(73.3)	(142.8)	(278.8)
Import duties on petroleum products	(7.1)	(5.1)	(8.4)	(36.1)	(58.0)	(19.1)	(77.9)
Other 5/	(4.0)	(6.1)	(4.5)	(7.6)	(11.0)	(1.3)	(0.1)
Export duties	47.2	37.0	35.5	26.5	13.9	15.5	45.7
Export duty	(10.5)	(10.3)	(10.4)	(11.3)	(6.4)	(9.8)	(45.6)
Export surcharge 6/	(21.7)	(8.9)	(8.1)	(8.7)	(5.3)	(4.5)	(0.1)
Tax on coffee and cloves	(--)	(14.6)	(12.6)	(4.5)	(1.5)	(--)	(--)
Special levy on FNUP receipts 7/	(15.0)	(3.2)	(4.4)	(2.0)	(0.7)	(1.2)	(--)
Other taxes	1.8	1.8	1.0	2.3	2.4	3.3	6.5
Of which: stamp duties	(1.8)	(1.8)	(1.0)	(2.3)	(2.4)	(3.3)	(6.5)
Nontax revenue	18.6	31.4	17.7	18.5	29.5	46.2	27.0
Property income	2.8	10.2	5.9	13.7	12.9	18.1	9.8
Other	17.0	21.2	11.8	5.8	16.6	25.6	14.7
Total budgetary revenue	373.8	465.5	354.1	503.6	356.0	748.4	1,138.3

Source: Ministry of Finance, Budget, and Planning.

1/ Primarily taxes on dividend income.

2/ VAI adopted on September 1, 1994; previously a consumption tax.

3/ Including the (implicit) subsidy to wheat flour.

4/ Including taxes on insurance premiums and motor vehicles.

5/ Including excises on imports.

6/ Taxe conjoncturelle sur les exportations.

7/ FNUP = export stabilization fund.

Table XVIII. Madagascar: Current Budgetary Expenditure, 1/ 1989-95

(In billions of Malagasy francs)

	1989	1990	1991	1992	1993	1994	1995 Prel.
Economic classification							
Budgetary expenditure	<u>389.6</u>	<u>404.8</u>	<u>473.2</u>	<u>623.7</u>	<u>727.5</u>	<u>1,066.8</u>	<u>1,505.5</u>
In percent of GDP	(9.2)	(8.8)	(9.6)	(11.2)	(11.3)	(11.7)	(11.0)
Personnel 2/	179.5	183.9	226.9	238.7	266.6	329.5	443.4
Of which: wages and salaries	(167.8)	(180.8)	(213.8)	(221.0)	(239.6)	(307.0)	(420.4)
Goods and services	86.3	78.7	76.3	143.2	98.1	131.2	207.5
Interest on government debt	85.1	69.5	99.4	191.7	258.3	491.9	697.6
Of which: foreign	(44.9)	(47.5)	(55.7)	(77.2)	(203.4)	(462.2)	(624.3)
Current transfers 3/	58.7	62.7	70.6	50.1	104.4	114.2	157.0
Scholarships	5.2	6.1	6.0	5.0	5.4	5.3	5.4
Grants	...	26.1	27.7	12.4	47.0	66.4	97.8
Decentralized public entities	...	30.5	36.8	32.6	52.1	42.5	53.8
Functional classification							
Budgetary expenditure	<u>389.6</u>	<u>404.8</u>	<u>473.2</u>	<u>623.7</u>	<u>727.5</u>	<u>1,066.8</u>	<u>1,505.5</u>
General public services 4/	129.4	136.2	145.1	132.3	156.8	181.4	261.9
Of which: defense	(...)	(...)	(...)	(60.2)	(72.8)	(84.6)	(115.9)
Education	86.8	100.2	109.1	121.9	130.1	146.5	188.2
Of which: universities	(...)	(...)	(...)	(34.7)	(44.3)	(50.1)	(40.1)
Health	23.7	29.6	34.9	42.7	47.0	53.1	73.5
Social and community services	4.1	4.7	5.4	8.0	8.6	9.3	10.9
Economic services	24.3	29.7	38.4	60.5	80.1	99.4	152.5
Of which: agriculture 5/	(11.8)	(15.6)	(22.1)	(23.0)	(25.5)	(29.2)	(12.5)
public works	(3.5)	(4.1)	(5.4)	(5.3)	(5.6)	(6.4)	(10.9)
Unclassified 6/	99.3	104.4	140.3	258.3	304.9	577.1	818.6
Of which: interest on government debt	(85.1)	(69.5)	(99.4)	(191.7)	(258.3)	(491.9)	(697.6)
Memorandum item:							
	(In percent of GDP)						
Noninterest budgetary expenditure	7.6	7.3	7.6	7.7	7.3	6.3	5.9
Social current expenditure 7/	2.9	2.9	3.0	3.1	2.9	2.3	2.0
Of which: health	0.6	0.6	0.7	0.6	0.7	0.6	0.5
Defense	...	...	...	1.1	1.1	0.9	0.8

Source: Ministry of Finance, Budget, and Planning.

1/ On a commitment basis.

2/ Including travel expenses, but excluding medical expenses.

3/ Including medical expenses of employees.

4/ Including national defense and security expenditures.

5/ Including livestock, fishing, water, and forestry.

6/ Including revenue sharing with local government and payments to international organizations.

7/ Including expenditure on education, health, and social and community services.

Table XIX. Madagascar: Central Government Personnel Expenditure
and Number of Civil Servants, 1989-95

	1989	1990	1991	1992	1993	1994	1995 Prel.
Personnel expenditure (on a commitment basis) 1/							
Outlays (in billions of Malagasy francs) 2/	<u>179.5</u>	<u>193.9</u>	<u>226.9</u>	<u>239.7</u>	<u>266.6</u>	<u>329.5</u>	<u>443.4</u>
Of which: wages and salaries	(167.6)	(190.9)	(213.8)	(221.0)	(239.6)	(307.0)	(420.4)
Annual change in percent	8.2	8.0	17.0	5.2	11.7	23.6	34.6
In percent of current budgetary expenditure	48.6	47.9	48.0	38.3	36.7	30.9	29.5
In percent of total budgetary expenditure 3/	33.5	35.2	36.2	29.2	26.8	23.9	23.5
In percent of total government expenditure	22.8	24.7	28.2	21.3	20.1	18.3	18.2
In percent of GDP	4.5	4.2	4.6	4.3	4.1	3.6	3.2
Civil servants (number at end-December) 4/							
Civilian	109,500	107,900	98,778	95,994	95,747	94,683	92,714
Military	22,000	22,100	22,100	22,076	22,076	22,076	21,475
Total	<u>131,500</u>	<u>130,000</u>	<u>120,878</u>	<u>118,070</u>	<u>117,823</u>	<u>116,759</u>	<u>114,189</u>
Annual change in percent	(0.4)	(-1.1)	(-7.0)	(-2.3)	(-0.2)	(-0.9)	(-2.2)
Memorandum item							
Annual average civil servants salary							
In thousands of Malagasy francs	1,276.6	1,381.5	1,768.7	1,871.8	2,033.1	2,629.3	3,681.6
Index 1990 = 100 5/	102.4	100.0	117.1	107.5	106.8	99.4	93.4
Annual percentage change	-1.4	-2.4	17.1	-8.2	-0.6	-7.0	-6.0

Source: Ministry of Finance, Budget, and Planning.

- 1/ Includes only regular staff. Expenditure on temporary personnel is included in goods and services outlays.
2/ Excluding medical expenses.
3/ Consisting of current budgetary expenditure and capital budgetary expenditure.
4/ Data on budgeted positions, which may differ from other sources.
5/ Annual average civil servants salary deflated by the consumer price index (traditional).

Table XX. Madagascar: Structure and Adjustment of Public Sector Salaries, 1987-85 ^{1/}

(In thousands of Malagasy francs per month)

	March 1987- June 1987	July 1987- Jan. 1988	Feb. 1988- Feb. 1989	March 1989- Feb. 1990	March 1990- Jan. 1991	Feb. 1991- Dec. 1993	1994	1995 Prel.
Category I								
Minimum	33.8	36.0	40.2	44.6	47.8	54.3	77.1	129.0
Maximum	62.3	66.6	72.5	79.7	86.1	99.0	126.6	182.9
(Midpoint)	(48.1)	(51.3)	(56.4)	(62.2)	(67.0)	(76.7)	(101.9)	(161.0)
Category II								
Minimum	45.1	48.1	53.5	58.6	63.3	72.3	97.3	157.3
Maximum	80.2	85.9	93.5	101.8	110.2	127.1	156.6	228.1
(Midpoint)	(62.7)	(67.0)	(73.5)	(80.3)	(86.8)	(99.7)	(127.0)	(182.7)
Category III								
Minimum	53.5	57.1	62.2	68.4	73.9	84.7	110.7	174.5
Maximum	119.1	127.6	138.9	151.0	163.8	189.3	221.0	295.5
(Midpoint)	(86.3)	(92.4)	(100.6)	(109.7)	(118.9)	(137.0)	(165.9)	(235.0)
Categories IV and V								
Minimum	70.3	75.1	81.9	89.9	97.2	111.8	140.6	210.3
Maximum	186.6	199.6	216.1	235.0	255.0	295.0	329.0	405.1
(Midpoint)	(128.3)	(137.3)	(149.0)	(162.5)	(176.1)	(203.4)	(234.8)	(307.7)
Categories VI and VII								
Minimum	88.6	94.8	103.2	112.3	121.7	140.5	170.7	242.9
Maximum	215.1	230.5	249.5	272.2	294.3	340.6	374.6	450.7
(Midpoint)	(151.9)	(162.7)	(176.3)	(191.7)	(208.0)	(240.6)	(272.7)	(346.8)
Categories VIII and IX								
Minimum	110.2	119.1	129.7	141.0	152.9	176.7	207.7	281.1
Maximum	270.0	289.5	312.7	339.9	368.9	427.1	463.1	540.2
(Midpoint)	(190.1)	(204.3)	(221.2)	(240.5)	(260.9)	(301.9)	(335.4)	(410.7)

Source: Ministry of Finance, Budget, and Planning.

^{1/} Revised data since 1985.

Table XXI. Madagascar: Revenue and Expenditure of the Export
Stabilization Fund (FNUP), 1989-95

(In billions of Malagasy francs)

	1989	1990	1991	1992	1993	1994	1995 ^{1/} Prel.
Revenue ^{2/}	53.0	39.0	24.9	43.0	11.6	8.7	0.1
Expenditure	30.4	15.0	10.6	24.8	52.9	24.9	1.5
Current expenditure	26.6	12.1	6.3	16.3	51.1	6.2	1.5
Capital expenditure ^{3/}	3.8	2.9	4.3	8.5	11.8	18.7	--
Surplus or deficit (-) ^{4/}	22.6	24.0	14.3	18.2	-51.3	-16.2	-1.4

Source: Ministry of Finance, Budget, and Planning.

^{1/} 1995 figures correspond to the recovery of tax arrears as the FNUP was abolished in 1994.

^{2/} From 1987 to 1989, revenue was derived solely from levies on exports of coffee, cloves, and vanilla. Previous to this, the largest share of revenue derived from levies on exports of coffee, cloves, and vanilla, with small amounts of revenue from levies on pepper, manioc, sugar, and cotton. From 1990, only the Caisse Vanille has been operational.

^{3/} Mostly construction of rural roads.

^{4/} Surpluses are used for financing other government operations.

Table XXII. Madagascar: Government Capital Expenditure, 1989-95

	1989	1990	1991	1992	1993	1994	1995 Prel.
(In percent of total government capital expenditure)							
General public services	12.4	17.2	18.7	18.6	19.6	19.3	13.7
Education	1.0	2.8	5.7	5.0	4.9	4.3	9.3
Health	4.7	4.3	4.3	3.2	4.4	4.3	6.2
Social and community services	1.1	3.0	1.4	1.1	2.4	8.8	7.1
Economic services	80.9	72.8	69.9	72.0	68.7	60.4	63.7
Agriculture ^{1/}	31.9	29.3	22.6	25.2	26.7	20.8	16.5
Industry, energy, and mining	14.6	8.4	13.6	16.6	13.8	7.1	2.5
Transportation	6.1	4.8	4.6	6.0	23.3	4.6	24.1
Communication services	3.5	3.2	5.8	3.1	1.6	3.2	1.8
Public works ^{2/}	23.2	22.0	18.5	17.9	1.1	23.0	16.6
Trade	0.5	0.3	0.3	0.2	0.2	0.2	0.1
Scientific research	1.0	4.8	3.6	3.0	2.1	1.6	2.1
Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Memorandum items :	(In billions of Malagasy francs)						
Budgetary capital expenditure	166.0	146.6	154.3	183.7	268.9	313.0	383.2
Domestic-financed	68.7	87.6	68.7	90.3	131.1	153.3	132.6
Foreign loans	97.3	59.0	85.6	103.4	137.8	159.7	250.6
Extrabudgetary	33.2	30.2	32.0	41.0	39.2	34.7	24.2
FNUP expenditure	3.8	2.9	4.3	8.5	11.8	18.7	--
Counterpart funds	29.3	27.3	27.7	32.5	27.4	16.0	24.2
On-lending ^{3/}	71.8	46.8	61.9	83.3	60.7	48.0	41.7
Foreign grants	108.2	135.4	65.6	133.7	166.8	235.0	437.0
Autofinancing	8.9	3.4	8.3	7.7	6.5	1.8	2.9
Other	8.8	6.2	11.6	10.6	10.5	4.8	17.3
Total	<u>388.2</u>	<u>385.2</u>	<u>325.4</u>	<u>462.3</u>	<u>546.0</u>	<u>635.5</u>	<u>903.4</u>
In percent of GDP	(9.7)	(7.9)	(6.6)	(8.3)	(8.5)	(7.0)	(6.6)
Social capital expenditure ^{4/}							
In percent of GDP	0.7	0.8	0.8	0.8	1.0	1.2	1.5
In percent of total	6.8	10.1	11.3	9.3	11.7	17.4	22.6

Source: Ministry of Finance, Budget, and Planning.

^{1/} Including livestock, fishing, water, and forestry.^{2/} Mainly roads, ports, bridges, and other infrastructure.^{3/} Foreign loans on-lent by the Central Government to public enterprises for investment purposes.^{4/} Including expenditure on health, education, and social and community services.

Table XXIII. Madagascar: Revenue and Expenditure of the Social Security Fund, 1989-95

(In billions of Malagasy francs)

	1989	1990	1991	1992	1993	1994 Prov.	1995 Prel.
Revenue	18.74	21.84	27.63	27.07	31.44	39.16	47.19
Social security contributions	15.26	17.04	12.54	20.24	25.88	31.09	38.87
Employees	(1.27)	(1.41)	(1.05)	(1.65)	(2.07)	(2.48)	(3.53)
Employers	(14.00)	(15.84)	(11.49)	(18.59)	(23.81)	(28.60)	(35.33)
Interest revenue	3.36	3.53	4.49	6.84	5.35	8.07	8.07
Other revenue	0.11	1.37	10.80	0.19	0.21	...	0.26
Expenditure	17.87	18.16	18.70	18.81	23.01	27.25	45.61
Social benefits	11.84	9.78	11.10	13.65	16.60	20.02	33.84
Current expenditure	2.86	5.10	4.22	4.01	4.77	5.52	8.40
Salaries and wages	(1.43)	(1.87)	(2.22)	(2.58)	(2.85)	(3.21)	(4.79)
Goods and services	(1.07)	(1.26)	(1.40)	(1.40)	(1.75)	(2.27)	(3.38)
Subsidies and other transfers	(0.17)	(1.97)	(0.61)	(0.03)	(0.07)	(0.04)	(0.22)
Capital expenditure	3.26	3.27	3.38	1.15	1.85	1.71	3.38
Overall surplus/deficit (-)	0.87	3.79	9.12	8.26	8.43	11.91	1.58

Source: Caisse Nationale de Prévoyance Sociale.

Table XXIV. Madagascar: Interest Rate Structure, 1993-95

(In percent per annum: end-of-period)

	1993	1994		1995				
	Dec.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Central Bank								
Base rate	12.00	16.00	16.50	21.37	30.00	33.00	33.00	33.00
Intervention rates in the interbank market								
Lending on bid	...	16.25	16.75	21.47	30.10	33.10	33.15	37.00
Lending 2-10 days	...	18.50	18.50	24.00	32.50	38.00	38.00	38.00
Interbank operations - Minimum	11.80	15.75	16.50	18.00	20.00	24.50	27.00	29.00
- Maximum	14.15	16.50	16.50	18.00	20.00	24.50	27.00	29.00
Commercial banks								
Base rate - Minimum	13.00	15.00	15.12	15.12	17.60	19.86	21.53	19.63
- Maximum	15.50	19.30	19.50	19.50	26.75	24.00	24.00	28.58
Lending rates - Minimum	7.50	7.50	7.50	8.70	10.30	9.00	10.38	10.30
- Maximum	26.00	29.50	30.50	32.00	31.00	35.50	36.00	37.50
Deposit rates - Minimum	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
- Maximum	19.50	19.50	19.50	19.50	17.75	17.75	19.25	18.50

Source: Central Bank of Madagascar (BCM).

Table XIV. Madagascar: Summary Accounts of the Central Bank, 1982-85

(In billions of Malagasy francs: end of period)

	1982	1983	1984			1985			
	1/		June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Net foreign assets	<u>-580.5</u>	<u>158.8</u>	<u>233.8</u>	<u>204.4</u>	<u>220.2</u>	<u>209.8</u>	<u>187.7</u>	<u>341.6</u>	<u>359.1</u>
Foreign assets	161.2	158.1	254.7	229.5	238.0	223.0	207.9	358.5	373.9
Foreign liabilities	721.8	11.3	21.2	25.1	17.8	13.2	20.3	16.8	15.7
IMF	(23.3)	(0.6)	(13.2)	(9.3)	(0.6)	(0.6)	(0.6)	(1.4)	(1.4)
Arrears	(678.1)	(2.8)	(3.0)	(7.5)	(7.2)	(6.5)	(8.8)	(8.6)	(2.1)
Other liabilities	(19.4)	(7.9)	(5.0)	(8.4)	(10.1)	(6.2)	(10.1)	(5.9)	(12.2)
Total claims	<u>808.5</u>	<u>800.1</u>	<u>886.5</u>	<u>862.4</u>	<u>1,040.6</u>	<u>878.7</u>	<u>1,046.3</u>	<u>1,050.0</u>	<u>1,079.0</u>
Claims on Government (net)	<u>552.7</u>	<u>742.5</u>	<u>782.5</u>	<u>829.9</u>	<u>899.0</u>	<u>874.6</u>	<u>915.1</u>	<u>904.6</u>	<u>898.9</u>
Credit to Government	1,084.8	1,132.1	1,132.1	1,155.5	1,182.4	1,178.0	1,222.0	1,208.8	1,216.8
Ordinary advances	(1,084.8)	(1,132.1)	(1,132.1)	(1,154.2)	(1,178.0)	(1,178.0)	(1,208.6)	(1,208.6)	(1,211.9)
Rice marketing finance	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)
On-lending	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)
Other	(--)	(--)	(--)	(1.3)	(4.4)	(--)	(12.4)	(0.2)	(4.9)
Government deposits	532.1	389.6	339.6	325.6	283.4	303.4	306.9	305.3	317.9
Of which: counterpart funds	(478.5)	(260.4)	(260.2)	(260.5)	(236.2)	(235.5)	(235.4)	(235.8)	(238.8)
Claims on state enterprises	<u>9.3</u>	<u>8.1</u>	<u>7.8</u>	<u>7.3</u>	<u>7.0</u>	<u>8.7</u>	<u>8.4</u>	<u>6.1</u>	<u>5.8</u>
Claims on banks	<u>46.4</u>	<u>49.5</u>	<u>66.2</u>	<u>125.3</u>	<u>134.7</u>	<u>97.5</u>	<u>124.7</u>	<u>139.3</u>	<u>174.4</u>
Assets - Liabilities (net)	<u>47.8</u>	<u>946.9</u>	<u>1,100.1</u>	<u>1,186.8</u>	<u>1,280.8</u>	<u>1,188.6</u>	<u>1,233.9</u>	<u>1,391.6</u>	<u>1,437.2</u>
Reserve money	<u>556.5</u>	<u>517.8</u>	<u>840.8</u>	<u>785.3</u>	<u>893.9</u>	<u>810.0</u>	<u>875.1</u>	<u>1,014.2</u>	<u>1,158.9</u>
Currency outside banks	317.2	378.7	408.3	503.5	614.5	584.9	658.5	745.5	758.7
Currency in banks	6.3	10.1	12.8	18.5	18.5	15.1	20.8	24.8	26.5
Bank deposits	233.0	129.0	218.9	173.3	260.8	210.0	195.7	244.0	373.7
Long-term foreign liabilities	<u>2,330.5</u>	<u>246.5</u>	<u>408.4</u>	<u>460.1</u>	<u>470.9</u>	<u>525.6</u>	<u>547.0</u>	<u>564.7</u>	<u>382.0</u>
Of which: rescheduling agreements	(2,105.8)	(23.0)	(26.5)	(24.9)	(24.0)	(21.5)	(18.8)	(20.3)	(3.4)
Other liabilities (net)	<u>-2,839.0</u>	<u>182.7</u>	<u>50.9</u>	<u>-78.7</u>	<u>-104.0</u>	<u>-146.9</u>	<u>-188.1</u>	<u>-187.3</u>	<u>-103.7</u>
Of which:									
Valuation adjustments	(-1,835.9)	(-10.3)	(-156.8)	(-241.6)	(-305.6)	(-369.5)	(-406.4)	(-429.4)	(-346.6)
Accumulated losses (-)	(-844.5)	(13.3)	(2.6)	(-2.8)	(20.0)	(26.0)	(24.5)	(31.8)	(51.0)

Source: Central Bank of Madagascar (BCM).

1/ After consolidation of foreign debt between the Central Bank and the Treasury.

Table XXVI. Madagascar: Summary Accounts of the Commercial Banks, 1982-85

(In billions of Malagasy francs: end of period)

	1982	1983	1984		1985		Sept.	Dec.
			Sept.	Dec.	Mar.	June		
Reserves	239.2	141.3	191.8	279.3	225.1	216.6	268.8	400.2
Cash	6.3	10.1	18.5	18.5	15.1	20.8	24.8	26.5
Deposits with Central Bank	233.0	131.2	173.3	260.8	210.0	195.7	244.0	373.7
Net foreign assets	162.2	213.5	311.1	482.2	511.7	577.8	507.1	509.5
Foreign assets	200.0	259.7	397.8	610.3	647.3	726.4	629.2	604.3
Foreign liabilities	37.8	46.2	86.8	128.1	135.7	148.6	122.1	94.9
Claims on Government (net)	-121.2	63.2	62.1	107.9	117.1	98.7	98.0	47.7
Credit to Government	19.0	220.1	230.1	250.6	252.0	247.1	220.3	172.5
Government deposits	140.1	156.9	167.9	142.8	134.9	148.4	132.3	124.6
Claims on private sector and state enterprises	819.5	1,061.6	1,297.7	1,338.5	1,315.8	1,410.1	1,518.4	1,550.4
Assets - Liabilities (net)	1,199.8	1,479.6	2,062.8	2,208.0	2,169.6	2,303.1	2,382.2	2,507.8
Deposits	897.0	1,156.8	1,596.6	1,687.5	1,741.5	1,822.3	1,884.7	1,918.3
Demand deposits	583.6	645.3	826.3	989.0	896.5	1,020.1	1,062.4	1,089.3
Time deposits	313.5	511.4	670.3	698.6	745.0	802.2	822.2	829.0
Borrowing from Central Bank	46.4	49.5	125.3	134.7	97.5	124.7	139.3	174.4
Net worth	249.0	253.9	269.1	302.3	266.4	286.3	313.0	389.6
Other liabilities (net)	7.3	19.5	52.8	63.5	64.3	69.8	45.1	25.5
Of which:								
long-term domestic borrowing	(0.0)	(0.0)	(0.1)	(0.1)	(0.5)	(0.5)	(0.8)	(0.8)
long-term foreign borrowing	(5.0)	(6.3)	(16.6)	(21.2)	(22.0)	(24.3)	(21.2)	(21.0)
Related data:								
Customs duty bills ^{1/}	9.2	10.0	7.1	10.2	10.1	2.3	12.2	11.3
Post office checking deposits	4.5	4.2	4.7	4.6	3.2	5.7	5.8	5.6
Private sector savings deposits with the National Savings Fund	11.8	15.5	19.8	21.4	25.4	27.5	27.5	27.5

Source: Central Bank of Madagascar (BCM).

^{1/} Credit to the private sector from the Treasury in the form of customs receipts to be collected.

Table XVII. Madagascar: Exports, f.o.b., 1989-95

(Value in millions of SDRs, volume in thousand tons, and unit value in SDR per kilogram)

	1989	1990	1991	1992	1993	1994	1995 Prel.
Coffee							
Value	28.89	28.48	29.37	22.42	28.89	29.88	25.43
Volume	61.64	47.82	40.88	48.43	50.82	40.83	35.20
Unit price	0.47	0.60	0.72	0.46	0.57	0.73	0.72
Cloves							
Value	23.88	15.73	18.84	8.38	4.31	2.87	8.43
Volume	18.45	16.22	15.08	10.98	11.36	17.32	20.08
Unit price	1.30	0.97	1.25	0.76	0.38	0.16	0.42
Vanilla							
Value	32.82	42.87	34.87	28.37	24.84	44.23	27.23
Volume	0.80	0.83	0.84	0.70	0.48	1.07	0.75
Unit price	55.16	50.75	53.87	51.88	50.80	41.31	36.28
Pepper							
Value	2.44	1.52	1.89	1.38	1.88	2.13	1.73
Volume	1.42	1.22	1.84	1.85	2.00	2.28	1.38
Unit price	1.72	1.24	1.03	0.74	0.94	0.93	1.25
Shellfish							
Value	21.78	24.85	28.88	28.88	28.82	40.43	29.38
Volume	5.31	5.88	6.38	5.88	6.81	7.72	8.38
Unit price	4.10	4.23	4.53	4.91	4.38	5.23	3.50
Sugar							
Value	18.88	12.24	7.31	8.32	4.82	8.82	8.88
Volume	72.13	36.88	21.13	17.24	11.27	23.18	23.41
Unit price	0.26	0.33	0.34	0.48	0.43	0.38	0.38
Meat							
Value	8.28	8.13	8.81	2.87	2.77	2.88	2.83
Volume	8.15	8.11	8.38	1.28	1.78	2.78	5.88
Unit price	1.01	1.00	1.06	2.24	1.55	1.03	0.48
Cocoa							
Value	1.73	1.81	2.88	1.78	2.36	1.81	1.88
Volume	2.38	2.58	4.27	2.73	4.88	2.23	2.48
Unit price	0.73	0.70	0.68	0.65	0.48	0.81	0.76
Cotton cloth							
Value	10.38	8.24	8.88	8.74	2.17	8.27	7.38
Volume	4.33	2.42	4.85	2.63	2.85	2.43	2.81
Unit price	2.39	3.41	1.83	3.32	0.76	3.41	2.62
Steel							
Value	2.88	2.47	2.28	1.28	1.88	2.33	2.43
Volume	7.33	12.18	8.84	7.88	8.48	10.36	10.48
Unit price	0.39	0.20	0.26	0.16	0.22	0.22	0.23
Petroleum products							
Value	4.22	8.27	7.31	8.81	2.37	2.87	8.28
Volume	81.28	88.13	108.88	101.88	124.33	83.12	138.88
Unit price	0.05	0.09	0.07	0.09	0.19	0.03	0.06
Chromite							
Value	13.18	8.82	8.71	2.48	2.88	2.84	8.18
Volume	152.38	127.38	128.34	188.43	143.88	88.85	128.34
Unit price	0.09	0.07	0.07	0.01	0.02	0.03	0.06
Graphite							
Value	2.28	11.17	8.88	2.28	4.82	2.32	8.23
Volume	15.85	18.38	13.35	18.87	11.18	15.38	18.34
Unit price	0.14	0.61	0.66	0.12	0.43	0.15	0.45
Essence of cloves							
Value	1.73	1.23	1.87	1.84	2.88	2.21	2.71
Volume	0.83	0.81	1.48	0.88	1.38	1.28	1.38
Unit price	2.08	1.51	1.26	2.08	2.08	1.73	1.96
Other items							
Value	40.88	81.38	71.88	84.82	82.82	71.38	74.88
Volume	0.37	0.33	0.83	0.34	0.33	0.83	0.84
Unit price	108.88	246.88	87.08	252.34	250.15	86.88	89.33
Re-exports 1/							
Value	1.78	2.24	28.28	31.88	31.38	44.73	88.81
Total	248.15	224.88	243.87	238.12	237.85	212.48	228.88
Memorandum items:							
Traditional exports 2/							
In percent of total	48.5	37.1	38.8	28.8	25.2	35.8	28.1
Export volume growth	27.4	-38.8	18.1	-3.8	7.8	7.7	4.6

Source: Central Bank of Madagascar (CBM).

1/ Since 1989, including the exports of the enterprises set up in the free trade zone

2/ Including coffee, vanilla, cloves, and pepper

Table XXVIII. Madagascar: Composition of Imports, c.i.f., 1989-95

	1989	1990	1991	1992	1993	1994	1995 Prel.
(In millions of SDRs)							
Food	29.80	35.84	25.75	41.30	36.84	55.03	42.69
Of which: rice	(19.01)	(20.51)	(8.49)	(10.30)	(3.44)	(26.18)	(12.16)
Nonfood consumer goods	45.60	73.46	50.99	62.95	57.04	74.53	69.35
Energy	27.67	83.62	52.06	51.21	61.21	50.26	67.80
Raw materials and spare parts	70.72	104.34	66.29	71.37	81.37	78.04	101.36
Equipment goods	93.51	137.40	120.83	91.53	100.17	99.82	92.25
Other imports ^{1/}	22.86	43.58	62.51	70.27	92.76	90.51	129.84
ARD: Food	...	...	...	...	3.8	3.0	3.3
Consumption Goods	...	...	...	...	20.5	17.1	18.7
Capital Goods	...	...	...	...	31.0	25.9	29.2
ZFI: Textiles	...	...	...	...	20.1	31.4	54.8
Capital goods	...	...	...	...	3.0	4.4	7.4
Others	...	...	...	...	14.6	8.7	16.5
Total imports, c.i.f.	<u>290.16</u>	<u>478.34</u>	<u>378.43</u>	<u>388.63</u>	<u>429.39</u>	<u>446.29</u>	<u>503.29</u>
Total imports, f.o.b.	249.86	417.49	321.67	330.34	364.98	381.04	427.79
(In percent of total imports, c.i.f.)							
Food	10.3	7.5	6.8	10.6	8.6	12.3	8.5
Of which: rice	(6.6)	(4.3)	(2.2)	(2.7)	(0.8)	(5.8)	(2.4)
Nonfood consumer goods	15.7	15.4	13.5	16.2	13.3	16.6	13.8
Energy	9.5	17.5	13.8	13.2	14.3	11.2	13.5
Raw materials and spare parts	24.4	21.8	17.5	18.4	19.0	17.4	20.1
Equipment goods	32.2	28.7	31.9	23.6	23.3	22.3	18.3
Other imports ^{1/}	7.9	9.1	16.5	18.1	21.6	20.2	25.8
ARD: Food	...	...	...	...	0.8	0.7	0.7
Consumption Goods	...	...	...	...	4.8	3.8	3.7
Capital Goods	...	...	...	...	7.2	5.8	5.8
ZFI: Textiles	...	...	...	...	4.7	7.0	10.9
Capital Goods	...	...	...	...	0.7	1.0	1.5
Others	...	...	...	...	3.4	1.9	3.3
Total imports, c.i.f.	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
<u>Memorandum item:</u>							
Rice imports (in thousands of tons)	99.6	169.1	58.6	76.7	22.6	153.7	63.1

Source: Central Bank of Madagascar (CBM).

^{1/} Includes the imports of the enterprises set up in the free trade zone (ZFI) and enterprises under other special trade tax regimes (ARD).

Table XXX. Madagascar: Short-Term Foreign Reserve Assets and Liabilities of the Central Bank, 1982-85

(In millions of SDRs: end of period)

	1982	1983	1984				1985			
			Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Assets	81.6	58.6	45.5	52.5	42.0	42.5	35.2	30.6	31.2	73.5
Freely available reserves	26.7	10.2	5.9	10.9	15.6	20.3	11.7	10.1	16.7	21.5
Other assets	34.9	48.4	39.6	41.6	26.5	22.2	23.6	20.5	32.5	52.0
Time deposits with foreign banks	6.4	4.5	6.1	5.7	5.9	11.1	14.5	13.3	24.9	43.4
Earmarked deposits	17.1	25.9	24.7	29.2	14.6	5.9	4.8	4.2	4.9	5.1
Special Drawings Rights	0.02	0.10	0.04	0.05	0.01	0.02	0.07	0.04	0.02	0.02
Special account	--	--	--	--	--	--	4.2	3.0	2.7	3.5
Other	11.3	18.0	8.8	6.7	6.0	5.2	--	--	--	--
Liabilities	275.7	2.1	2.2	1.8	3.3	3.2	2.1	3.0	2.4	3.1
Nonresident deposits	7.2	2.9	0.9	1.0	1.5	1.6	0.9	1.4	0.8	2.4
International organizations	0.2	0.1	0.1	0.1	0.0	0.2	0.0	0.1	0.1	0.0
IMF 1/	8.9	0.2	0.2	0.1	0.4	0.1	0.1	0.1	0.2	0.3
External payments arrears 2/	259.4	--	1.0	0.6	1.4	1.3	1.0	1.4	1.4	0.4
Net foreign assets	-214.1	55.5	43.3	50.8	38.7	39.3	33.1	27.6	46.8	70.4
Net foreign assets (excluding IMF and arrears)	-206.7	58.4	44.3	51.8	40.3	41.2	34.1	29.1	49.6	72.8

Source: Central Bank of Madagascar (BCM).

1/ It only corresponds to IMF account No.1 from December 1980. After consolidation BCM/Treasury.

2/ After the BCM/Treasury foreign debt consolidation in 1982 the stock of arrears declined from SDR 259.4 million to SDR 2.5 million.