ALTERNATIVE MONETARY REGIMES FOR JAMAICA

by

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We sometimes forget that central banking, as we know it today, is, in fact, largely an invention of the past hundred years or so, even though a few central banks can trace their ancestry back to the early nineteenth century or before. It is a sobering fact that the prominence of central banks in this century has coincided with a general tendency towards more inflation, not less. By and large, if the overriding objective is price stability, we did better with the nineteenth-century gold standard and passive central banks, with currency boards, or even with "free banking." The truly unique power of a central bank, after all, is the power to create money, and ultimately the power to create is the power to destroy.

--Paul Volcker, chairman of the U.S. Federal Reserve System 1979-87, in Deane and Pringle (1995: vii-viii).

Contents

Tables

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Preface

by Sir Alan Walters and John G. Greenwood

"Stability is not everything, but without stability, everything is nothing." We agree with those profound words of Karl Schiller, West Germany's Finance Minister from 1966 to 1972.

Stability (low inflation) is a function of monetary policies. Monetary policies are determined, in part, by the exchange rate. Exchange rates, in turn, come in three varieties: floating, fixed, and pegged. With a floating rate, currencies are allowed to float more or less freely against one another. Many major currencies float--the U.S. dollar, German mark and Japanese yen are examples--but few developing countries have truly floating rates. Floating rates have not been very effective in fighting inflation in developing countries.

A few developing countries have fixed exchange rates. The most notable fixed-rate regimes are Hong Kong (since 1983), Argentina (since 1991), Estonia (since 1992) and Lithuania (since 1994). They maintain fixed rates by employing currency board-like systems, which have an excellent--indeed, a near-perfect--record of guaranteeing a fixed exchange rate and full currency convertibility. A currency board, which is one of the options for monetary reform that this study discusses, deserves particular attention because of its record in Jamaica and elsewhere.

Currency boards yield excellent results because they fully back their currency with foreign-currency reserves and have full convertibility at a fixed rate into the anchor (reserve) currency. Countries with currency boards become monetarily unified with the country their currencies are anchored to. Under a currency board anchored to the U.S. dollar, the monetary policy of Jamaica would become as good as the monetary policy of the United States and the Jamaican dollar would become as good as the U.S. dollar.

The Nobel Prize-winning economist Milton Friedman concluded over 30 years ago that truly fixed and truly floating exchange rates are both free-market mechanisms for international payments. A pegged exchange rate, in contrast, is an interventionist system that requires a central bank to manage its currency's exchange rate, the domestic liquidity and the capital account. That is a tricky task that usually ends in failure. The Mexican peso crisis of December 1994 is only the latest of many successful attacks on pegged exchange rates that have shown them to be unsustainable.

Jamaica's record of high inflation (compared to developed countries) and low growth since the early 1970s typifies the performance of most developing countries. Jamaica could obtain stable money by instituting a currency board system with a fixed exchange rate, or by simply replacing the Jamaican dollar with the U.S. dollar as its local currency. In addition to enhancing stability, a currency board would induce the Jamaican government to live within its means rather than resorting to inflationary finance of budget deficits. That would lead Jamaica to accelerate liberal economic reforms which would enhance productivity and encourage more foreign investment.

This study supports our conclusions. We recommend that it receive close attention.

Sir Alan Walters	John G. Greenwood, OBE
Vice Chairman	Chairman and Chief Economist
AIG Trading Corp.	GT Capital Management
Washington, D.C.	San Francisco

Sir Alan Walters was personal economic advisor to Mrs. Margaret Thatcher from 1979 to 1984 and in 1989. John G. Greenwood was formerly at GT Management (Asia) Ltd. in Hong Kong. They were instrumental in re-establishing the currency board system in Hong Kong following the crisis of the Hong Kong dollar in 1983.

1. The quest for sound money

A sound currency is necessary but not sufficient for stable government and economic prosperity. Great economists in positions of influence have sounded this theme over and over. To take but one example, consider Carl Menger (1840-1921), the founder of the "Austrian" school of economics and one of the founders of modern economics. In 1876 he became economics tutor to Crown Prince Rudolf of Austria. Prince Rudolf's notebooks on economics have recently been published, and this is some of what the prince learned: "To a large extent, trade and commerce, the pillars and mainspring of all economic development, are founded upon a well-established and orderly monetary system. Fluctuations in the exchange rate and uncertainty in all calculations will therefore shake the prosperity of the state to its very foundation; in their activities at home and abroad the state as a whole and each individual citizen will encounter distrust and obstacles everywhere….Therefore, it can reasonably be agreed that an uncertain, disorderly currency is a vital deficiency of a state, because it makes itself deeply felt in all of economic life and its progress" (Streissler and Streissler 1994: 141).

No people has taken sound currency more to heart than the Germans, who suffered hyperinflations in 1922-3 and immediately after the Second World War, and since then have had one of the world's soundest currencies. As West Germany's first prime minister, Konrad Adenauer, said, "Safeguarding the currency forms the prime condition for maintaining a market economy and, ultimately, a free constitution for society and the state" (Marsh 1992: 30). Adenauer's economics minister, Ludwig Erhard, went so far as to proclaim that monetary stability was a basic human right. Their sentiments are shared by all political parties in Germany.

The German Bundesbank Law of 1957 embodies German views on sound money. It charges the Bundesbank, Germany's central bank, with one and only one goal: to defend the value of the German mark. And that is just what the Bundesbank does. In the era of floating currencies, which began in 1971, Germany has had the world's lowest inflation (Deane and Pringle 1994: 352-4). The mark's low inflation is music to the ears of most Germans: a recent poll found that almost 80 percent identify their Germanness with the stability, strength, and international prestige of the mark (Nash 1995).

Admiration for the mark is not limited to Germans. Most people yearn for a currency as good as the mark, because they know that sound currency is necessary for economic prosperity. Politicians also admire the Bundesbank's performance. They know that unstable money creates social unrest and political upheaval, though the ballot box or more violent means.

This essay examines options for bringing a sounder currency to Jamaica. The issues involved are vital for citizens and politicians in Jamaica because Jamaica's record for producing a sound currency has been so bad.

2. Can the Jamaican dollar remain stable?

Economic growth and monetary policy

In the last 25 years Jamaica has fallen further and further behind economically developed countries. Jamaica has had almost no economic growth per person, while developed countries have grown 2 percent or more per person a year on average (World Bank 1995: 162-5). In the 1950s and 1960s it seemed that Jamaicans would slowly catch up to the standard of living that West Europeans or Americans enjoy. Since the 1970s that goal has faded into the distance.

The consequences have been harmful to Jamaica. Slow economic growth has contributed to unemployment and emigration of talented Jamaicans to other countries. It has affected the health of Jamaicans by allowing malnutrition and the incidence of certain diseases to be more frequent than they would be if Jamaica were richer. And it has kept Jamaica a laggard in fields that require a foundation of considerable wealth: higher education, scientific and technical research, advanced manufacturing, communications, medicine--the growth industries of the coming century. Slow economic growth has also contributed to discontent and social unrest. Jamaica's politicians are dancing on a volcano. Unless they can deliver a sound currency and sustained economic growth, an eruption is bound to occur.

Government policies have been mainly responsible for Jamaica's economic stagnation. From before independence until the last few years there was a consensus of opinion in Jamaican politics that the government should intervene extensively in the economy. The two major political parties differed on the precise extent of intervention, but agreed that the Jamaican economy could benefit from government ownership of major industries, foreign-exchange controls, subsidies to favored industries, protective tariffs, and regulation of many aspects of economic life.

Monetary policy has contributed to the stagnation. Good monetary policy is necessary but not sufficient for sustained economic growth. Even an exceptionally good monetary policy cannot offset the growth-destroying effects of high taxes, insecure property rights, excessive regulation, and fear about the future course of economic policy. A country whose policies are otherwise favorable to economic growth can nullify them with bad monetary policy. Data from many countries indicate that low inflation goes with economic growth and high inflation does not (see Fischer 1993; Grier and Tullock 1989: 264, 269-70). From 1980 to 1993, all countries that had average annual growth of at least 3 percent per person a year had average annual inflation of less than 10 percent, except that Botswana, Chile, and Portugal had average annual inflation of up to 20.1 percent. Jamaica's average annual rate of inflation from 1980 to 1993 was 22.4 percent. Inflation peaked at 80.2 percent in 1992; in 1994 it was 26.4 percent (World Bank 1995: 162-3, 228; Bank of Jamaica Statistical Digest, May 1995: 104).

Inflation in Jamaica is caused by the Bank of Jamaica. Inflation results from the Bank of Jamaica creating more Jamaican dollars than people want to hold at the current level of prices. People buy goods with the excess Jamaican dollars that they do not want to hold. More money chases the same amount of goods. As a result, prices increase and each dollar buys less than before. If prices increase much faster in Jamaica than elsewhere, the exchange rate of the Jamaican dollar usually depreciates also.

In 1994 the Jamaican dollar enjoyed a stable exchange rate and lower inflation than in

recent years. Inflation declined to less than 1 percent a month by the end of the year. The exchange rate of the Jamaican dollar in terms of the U.S. dollar remained at about J$33 = US$1 throughout the year. The net foreign-currency reserves (net international reserves) of the Bank of Jamaica--its holdings of foreign currency minus the foreign currency it owes--increased from J$-35 million at the start of the year to almost J$12 billion at the end of the year. The Jamaican dollar remained fully convertible into foreign currency.

But 1994 was an exceptional year. Many of the last 25 years have seen accelerating inflation, a depreciating exchange rate, decreasing foreign-currency reserves, and extensive restrictions on convertibility. The relatively good performance of 1994 had a very high price: high interest rates that discouraged economic growth. Moreover, there are no institutions in place that give Jamaicans confidence about the future course of monetary policy.

The dilemma of monetary policy in Jamaica today

Because the Bank of Jamaica has a record of allowing high inflation and depreciation of the Jamaican dollar, especially in the last few years, the Bank has little credibility. People are skeptical of its ability to maintain relatively low inflation and a stable exchange rate against the U.S. dollar. In particular, lenders are afraid that inflation and depreciation will reduce the real (inflation-adjusted) value of the loans lenders make. To compensate for the risks of inflation and depreciation, lenders demand that borrowers pay high interest rates in nominal terms. ("Nominal" means "before adjusting for inflation.")

Loans in Jamaican dollars are a big gamble for lenders and borrowers because inflation is so unpredictable. For example, if the nominal interest rate on a loan is 5 percent a year and inflation is 1 percent, the borrower pays 4 percent real interest. But if inflation is 5 percent, the borrower pays zero real interest, and if inflation exceeds 5 percent the borrower pays back less in real value than he borrowed.

Over the last 10 years inflation in Jamaica has varied from about 8 to 80 percent a year, compared to 1.9 to 5.4 percent in the United States. Because inflation is much more predictable in the United States, lending in U.S. dollars is less of a gamble than lending in Jamaican dollars.

Nominal interest rates for Jamaican dollar loans to good borrowers are approximately 42 to 45 percent a year today, compared to approximately 11 to 14 percent for U.S. dollar loans in Jamaica. That is not the end of the story, of course; we need to adjust for inflation. Suppose that inflation will be 20 percent in Jamaica and 3 percent in the United States this year. Real interest rates are therefore 18 to 21 percent for Jamaican dollar loans and 8 to 11 percent for U.S. dollar loans.[1] The gap of 10 percentage points in real interest rates mainly represents the difference in

[1]To calculate real interest rates, use this formula:
real interest rate = ([nominal interest rate + 1]/[inflation rate + 1]) - 1.
Express percentages as fractions of 1. With a nominal interest rate of 42 percent (0.42) and inflation of 20 percent (0.20), the result of the formula is:
real interest rate = (1.42/1.20) - 1 = 0.18 or 18%.

credibility between the Bank of Jamaica and the U.S. Federal Reserve System, which issues the U.S. dollar. (It also represents higher costs that the Bank of Jamaica imposes for using Jamaican dollars rather than in U.S. dollars; we discuss this point later.) In effect Jamaicans are paying a penalty for having the Bank of Jamaica.

Jamaicans could pay lower real interest rates by borrowing in U.S. dollars, but many Jamaicans prefer not to do so because their earning are in Jamaican dollars. If the Jamaican dollar depreciates, borrowers of U.S. dollars need more Jamaican dollars to repay their U.S. dollar loans, whereas with a Jamaican dollar loan, depreciation does not directly increase the cost of repaying the loan.

High real interest rates in Jamaican dollars discourage economic growth. There are many more business projects that can earn at least 8 percent real profit a year than can earn at least 18 percent real profit a year. But because the real cost of borrowing in Jamaican dollars is so high, projects that can earn 8 to 18 percent real profit, which would be profitable if the Jamaican dollar were as credible as the U.S. dollar, are unprofitable. Businesses do not undertake those projects and do not hire workers for the projects, so unemployment remains high.

High real interest rates also create problems for government finance. Real interest rates persistently higher than the rate of growth in taxes imply that the Jamaican government must devote more and more revenue to repaying the debt and less and less to other activities. Ultimately that creates a crisis in which the government has three choices: further reduce spending on everything except repaying the debt, default, or create inflation. Further reducing spending is typically unpopular. Default is unnecessary because the government can make the Bank of Jamaica print all the money it needs to pay its bills. Consequently, inflation has been the usual result in the past, and threatens to occur in the future should real interest rates remain high.

Monetary policy in Jamaica today faces a dilemma that may last for quite some time. On the one hand, high real interest rates for Jamaican dollar loans are stifling business activity and economic growth. They also imply a future crisis for government finances, which would sow the seeds for further high inflation. Continuing the current monetary policy condemns Jamaica to low economic growth until the Bank of Jamaica has more credibility. On the other hand, reducing real interest rates by increasing inflation would destroy the credibility that the Bank of Jamaica gained in 1994. Economic activity might increase temporarily, but lenders of Jamaican dollars would demand even higher real interest rates in the future. To offset the higher interest rates the Bank of Jamaica would have to create even more inflation, leading to a vicious cycle.

Is there a way out?

The U.S. dollar and the currencies of some Caribbean countries have much lower real interest rates than the Jamaican dollar because they are more credible. Their credibility comes from a combination of good past performance and institutional arrangements that help ensure good future performance.

It will take time, perhaps many years, for the Jamaican dollar to have much credibility under current arrangements. The Jamaican dollar has little credibility because the Bank of Jamaica has little credibility. Through most of its history the Bank of Jamaica has been merely the printing

press of the Ministry of Finance, with no ability to resist the ministry's orders to finance government deficits by creating inflation. That is why Jamaica ranked 90th of 108 countries in average annual inflation from 1971 to 1991 (with 1 being the lowest inflation and 108 being the highest [Deane and Pringle 1995: 352-4]).

The way out of the dilemma of high real interest rates versus higher inflation is to reform current arrangements for monetary policy in Jamaica. Our analysis of the historical experience of Jamaica and other developing countries strongly suggests that the best options for reform are the most far-reaching. In the case of Jamaica that means stripping the Bank of Jamaica of its power to issue the Jamaican dollar. Chapter 3 describes the historical experience on which we base our analysis; chapter 4 proposes three options for far-reaching monetary reform. We limit discussion to far-reaching options because only they can solve Jamaica's monetary problems quickly. They are also the only options that promise to solve Jamaica's monetary problems permanently.

This is an appropriate time to consider far-reaching monetary reform. The high inflation of the last several years has sharpened the contrast between the poor long-term performance of the Jamaican dollar and the good performance of currencies in some nearby countries. Both major political parties have proposed ideas for reforming monetary policy (see chapter 4). Other people, including academics, businessmen, and journalists, have also proposed ideas. The revision of Jamaica's constitution that is underway provides an opportunity to make far-reaching monetary reform part of the new constitution if that would make reform more credible.

We have tried to make this essay understandable to a broad audience. Economists may notice that we have omitted some fine points that do not change the basic argument. Our books listed in the Bibliography discuss the fine points in detail.

3. Choices for monetary policy in Jamaica

Before describing Jamaica's monetary history it is useful to have a general idea of the choices in monetary policy. The basic choice in monetary policy is between a market-led monetary regime and a managed monetary regime. A monetary regime is a system of rules governing who issues money and credit, and how domestic currency is to be treated in foreign exchange. A market-led monetary regime relies on market forces to determine the supply of money and credit and the effects of the exchange rate, whereas a managed monetary regime relies heavily on regulation to determine those things.

We will analyze monetary regimes in terms of four aspects: the monetary authority, the exchange rate, convertibility, and financial regulation. Each aspect has implications for how market-led or managed a monetary system is, and each is something that monetary policy can choose to treat in a market-led or managed way.

The monetary authority

A monetary authority is the organization or organizations that issue notes (paper money), coins, and other means of settling payments used by people in the domestic monetary system. During its history Jamaica has had five types of monetary authority: use of foreign coins (an early form of dollarization), government note issue, free banking, a currency board, and a central bank.

Dollarization, also called currency substitution, is a system in which a country uses another country's currency as local currency. Dollarization can be unofficial or official. Unofficial dollarization occurs in many countries when inflation is so high or foreign-exchange controls are so strict that people often use a relatively stable foreign currency such as the U.S. dollar in preference to local currency for local payments. Parts of the Jamaican economy, especially the tourism sector, are unofficially dollarized today. Official dollarization at a minimum grants the stable foreign currency equal legal status with local currency and at a maximum completely replaces local currency with foreign currency. Before Jamaica had paper money, foreign coins were the only form of money; that was an early form of official dollarization. A country that is officially dollarized in the minimum sense today is Argentina, where U.S. dollars and Argentine pesos are equally accepted by law for making payments. Countries that are completely dollarized today include Panama, the Turks and Caicos Islands, and the British Virgin Islands. They all use U.S. dollar notes and have no local notes. (Panama issues its own coins, but they are insignificant compared to U.S. dollar notes in circulation in Panama.) El Salvador has recently announced that it will become completely dollarized by the first half of 1996.

Government note issue is a system in which the government issues notes directly rather than through a central bank. Under government note issue there may or may not be any rules about what foreign-currency reserves the government holds against notes in circulation. Jamaica had government note issue in the early 1800s. Except in a few extremely small countries, government note issue has disappeared; government-owned central banks issue notes instead.

Free banking is a system in which banks issue notes and sometimes coins competitively, and in which there is no centralized control of the system. Like almost sixty other countries,

Jamaica had free banking in the 1800s and early 1900s. Like all of them, Jamaica eventually replaced its free banking system. No free banking systems exist today.

A currency board is a monetary authority that issues notes and coins (and, in some cases, deposits) fully backed by a foreign "anchor currency" (reserve currency) and fully convertible into the anchor currency at a fixed rate and on demand. The anchor currency is a convertible foreign currency or a commodity chosen for its expected stability. The country that issues the anchor currency is called the anchor country. As reserves, a currency board holds low-risk, interest-earning securities and other assets payable in the anchor currency. A currency board holds foreign-currency reserves equal to 100 per cent or slightly more of its notes and coins in circulation, as set by law. A currency board usually accepts no deposits or issues no other liabilities; if it does, they too must be backed 100 per cent or slightly more by assets payable in the anchor currency.

An orthodox currency board does not lend to banks. It earns profits (called seigniorage) from the difference between the return on the anchor-currency securities it holds and the expense of maintaining its notes and coins in circulation. It pays the government all profits beyond what it needs to pay its expenses and to maintain its foreign-currency reserves at the level set by law. Jamaica had a currency board from 1920 to 1961. Until 1958 banks also issued notes alongside the currency board. Currency boards or currency board-like systems exist today in a number of countries, most notably Hong Kong and Argentina.

A central bank is a monetary authority that has a monopoly of notes, coins, and local-currency reserves of the financial system. (Local-currency reserves of the local financial system are, for example, Jamaican dollar deposits that financial institutions keep at the Bank of Jamaica.) Jamaica has had central banking since 1961, when the Bank of Jamaica opened. Most countries today have central banking. By regulating the supply of notes, coins, and local-currency reserves, which together form so-called base money, central banks influence the supply of bank loans and other types of credit that the financial system provides. The rest of financial system includes commercial banks (such as the National Commercial Bank and the Bank of Nova Scotia), merchant banks, and trust companies. Commercial banks, merchant banks, and trust companies differ in the types of business they are allowed to do. For example, commercial banks cannot hold stock in other companies, but merchant banks can. Because commercial banks are so important in Jamaica, we will sometimes discuss them as symbolizing all banks other than the Bank of Jamaica.

Characteristics of monetary authorities

Monetary authorities in market-led monetary regimes have different characteristics from those in managed monetary regimes. In discussing the differences, we omit government note issue, because central banking can do everything that government note issue does. We also omit free banking, because no examples of it remain today. Table 1 contrasts the characteristics of monetary authorities in market-led and managed monetary systems.

Table 1. Characteristics of monetary authorities in market-led and managed monetary regimes

Market-led monetary regime	**Managed monetary regime**
Examples: official dollarization, good central bank (U.S. Federal Reserve System), currency board	Example: typical central bank in a developing country (Bank of Jamaica)
Fixed exchange rate with anchor currency (dollarization, currency board) or fairly "clean" floating rate (good central bank)	Pegged or fairly "dirty" floating exchange rate
Adequate foreign-currency reserves	Inadequate foreign-currency reserves
No balance of payments problems	Balance of payments problems
Full convertibility	Limited convertibility
Predictable monetary policy	Unpredictable monetary policy
Protected from political pressure	Yields to political pressure
Cannot create inflation (dollarization, currency board) or creates little inflation (good central bank)	Creates much inflation
High credibility	Low credibility
Low, market-determined interest rates	High market-determined interest rates or controlled interest rates

Let us consider the differences between a market-led monetary regime and a managed monetary regime by going through Table 1. To begin at the top of the table, official dollarization, a good central bank, and a currency board are examples of market-led monetary regimes. In a market-led monetary regime the monetary authority typically has a fixed or fairly "clean" floating exchange rate. Although these exchange-rate regimes are different in some respects, they are alike in being free-market arrangements for settling international payments. A fixed exchange rate is permanent, or at most can be altered only in well-specified emergencies. Dollarization maintains a fixed exchange rate by avoiding a separate local currency that can be devalued: the anchor currency and the local currency are the same. A currency board maintains a fixed exchange rate with its anchor currency by having the exchange rate legally specified and maintaining 100 percent foreign-currency reserves to back its notes and coins in circulation. A good central bank, on the other hand, typically has a floating exchange rate rather than a fixed rate. A floating exchange rate is not maintained constant in terms of any anchor currency. A fairly clean float is one in which the monetary authority does not often intervene to influence exchange rates. Fixed and fairly clean floating exchange rates work differently, but have the important similarity that they allow market forces to determine the money supply. (The money supply includes base money--notes, coins, and local-currency reserves--and various kinds of credit that the financial system provides. There are different definitions of the money supply depending on what components of base money and what types of credit are counted.)

In a managed monetary regime, in contrast, the monetary authority typically has a pegged or fairly "dirty" floating exchange rate. A pegged exchange rate is constant for the time being in terms of an anchor currency, but carries no credible long-term guarantee of remaining at its current rate. The exchange rate is typically not written into law, and can be altered at the will of the central bank or the government. When a typical central bank suffers heavy political or speculative pressure to devalue the currency, it devalues. Although many people claim that some central banks maintain fixed exchange rates, those exchange rates in reality are typically pegged. Of the dozens of central banks that have pegged exchange rates today, few have maintained the pegs even for as long as five years (see World Currency Yearbook for case histories).

The Bank of Jamaica has in recent years gone from a pegged rate and then a dirty float to a fairly clean float. Pegged and fairly dirty floating exchange rates work differently, but have the important similarity that they often counteract market forces to determine the money supply. The next section explains this further.

In a market-led monetary regime the monetary authority holds adequate foreign-currency reserves to prevent prolonged depreciation against foreign currencies that have low inflation. Dollarization makes foreign-currency reserves in effect the local reserves of the financial system. An orthodox currency board holds 100 percent or slightly higher foreign-currency reserves (and no domestic-currency reserves) to back its notes and coins in circulation, so it cannot run out of foreign-currency reserves before all its notes and coins have been exchanged for foreign currency. A good central bank does not follow a strict rule about foreign-currency reserves like a currency board, but many good central banks have large foreign-currency reserves. In a managed monetary regime, in contrast, the monetary authority holds inadequate foreign reserves or creates too much inflation to resist speculative attacks that result in depreciations. A fairly recent speculative attack against the Jamaican dollar occurred in the second half of 1993, when the Jamaican dollar

depreciated from J$23 = US$1 to J$32 = US$1. A later section in this chapter gives other examples of speculative attacks.

In a market-led monetary regime there are no balance of payments problems. Because the foreign-currency reserves of the monetary authority are adequate, there is never a shortage of foreign currency at the official exchange rate. Dollarization eliminates balance of payments problems by making a foreign currency the local currency. A currency board eliminates balance of payments problems by providing 100 percent foreign-currency reserves for the notes, coins, and deposits of the currency board.[2] A good central bank eliminates balance of payments problems by having a market-determined exchange rate and keeping foreign-currency reserves appropriate for that exchange rate. In a managed monetary regime, in contrast, balance of payments problems occur because the monetary authority lacks sufficient foreign-currency reserves to meet all demands for foreign currency at the official exchange rate.

Jamaica had persistent balance of payments problems in the 1970s and 1980s because the Bank of Jamaica had inadequate foreign-currency reserves to support the official exchange rate. The problems disappeared when the Bank of Jamaica removed restrictions on convertibility in 1991. The Bank of Jamaica's recent good behavior in this area is not enough to qualify it as a good central bank overall, though.

In a market-led monetary regime the currency has full convertibility, meaning that people can exchange local currency for foreign currency without restrictions. In a managed monetary regime, in contrast, the currency is only partly convertible or is inconvertible. Central banks in most developed countries and a few developing countries (including Jamaica) have fully convertible currencies, but the great majority of central banks restrict or forbid certain transactions, particularly purchases of foreign securities or real estate. The Bank of Jamaica did so until 1991. A later section in this chapter discusses convertibility in more detail.

In a market-led monetary regime the monetary authority has a predictable monetary policy. For dollarization and a currency board the strict and transparent rules they must follow create predictability. Central banks typically are not subject to strict and transparent rules, but good central banks have a history of choosing policies that result in low inflation, even though they could choose otherwise. In a managed monetary regime, in contrast, monetary policy is unpredictable. As in Jamaica in 1993 and many other times previously, the exchange rate may suddenly depreciate as the result of a speculative attack that the central bank cannot resist. Inflation may suddenly increase or decrease by a double-digit amount as a result of erratic monetary policy. The central bank or the government may suddenly impose foreign-exchange controls.

In a market-led monetary regime the monetary authority is protected from political pressure. Dollarization and the currency board system achieve protection by taking away the power of the local government to create inflation. A good central bank achieves protection by a combination of legal independence and strong willpower among its officials. Legal independence

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[2] "This system [the currency board system Jamaica had] means that Jamaica cannot have a 'balance of payments' problem as that term is now commonly understood. Its only problem is that of supplying the rest of the world with sufficient goods and services to enable it to purchase from the rest of the world those things which it desires" (World Bank 1952: 278).

from the government--for example, the job security of fixed terms of office for politically appointed officials--makes it easier for officials of the central bank to resist political pressure. In a managed monetary regime, in contrast, the monetary authority often yields to political pressure. As chapter 3 will show, the Bank of Jamaica has frequently yielded to political pressure. An important reason it has done so is that the Minister of Finance can dismiss the governor and board of directors of the Bank of Jamaica anytime for any reason.

In a market-led monetary regime the monetary authority cannot create inflation or creates little inflation. Dollarization or a currency board, like any system of fixed exchange rates, may transmit inflation from the anchor country, but they cannot create inflation because they cannot increase the money supply independently of the monetary authority of the anchor country. Nor does the monetary authority of the anchor country under dollarization or a currency board finance deficits by the government or government enterprises. (Government deficits occur when government spending exceeds tax revenue in any single year. Government debt is the accumulation of unrepaid past deficits plus interest.) A good central bank can create inflation but does not to any large extent, nor does it finance government deficits or government enterprises to any large extent. In a managed monetary regime, in contrast, the central bank frequently creates inflation in double or even triple digits a year. The Bank of Jamaica has created double-digit inflation often over the last 25 years, including every year since 1989.

In a market-led monetary regime the monetary authority has high credibility. People believe that it will maintain low inflation and full convertibility. Dollarization has high credibility because it avoids the possibility of mischief from a local monetary authority. A currency board has high credibility because it has a clear and strict operating rules, 100 per cent foreign-currency reserves, and protection from political pressure that enable it to maintain full convertibility and a fixed exchange rate with the anchor currency. An appropriately chosen anchor currency will be stable; therefore, the currency issued by the currency board will be stable. A good central bank has high credibility from a combination of a legal commitment to low inflation (in the case of a few central banks) and a record of maintaining low inflation and full convertibility. In a managed monetary regime, in contrast, the central bank has low credibility. Its lack of protection from political pressure all it to break promises about the exchange rate or inflation whenever it wishes.

Finally, in a market-led monetary regime there are typically low, market-determined interest rates. The high credibility of the monetary authority makes lenders confident that inflation will not destroy the real value of loans at low nominal rates of interest. In a managed monetary regime, in contrast, market-determined interest rates are high because lenders fear that inflation may be high in the future. Lenders demand high interest rates to compensate them for the risk of high inflation. Alternatively, the central bank may try to keep interest rates at below-market levels by imposing interest controls. That creates shortages of credit. The Bank of Jamaica no longer imposes interest-rate controls, but as the previous chapter mentioned, for good borrowers interest rates in Jamaican dollars are now 42 to 45 percent for good borrowers, versus 11 to 14 percent U.S. dollar loans in Jamaica. Real interest rates are 18 to 21 percent for Jamaican dollar loans versus 8 to 11 percent for U.S. dollar loans.

The exchange rate

The monetary authority is one aspect of the monetary regime. Another aspect is the exchange rate. The basic types of exchange rates are fixed, pegged, and floating. A fixed exchange rate is permanently fixed in terms of an anchor currency, or, if the monetary authority can alter it in emergencies, the monetary authority must follow well-defined rules known in advance by the public. Caribbean countries with fixed exchange rates include the Cayman Islands, which has a currency board; Panama, the British Virgin Islands, and the Turks and Caicos Islands, which use U.S. dollar notes and issue no local notes; and Puerto Rico and the U.S. Virgin Islands, which use U.S. dollar notes because they are American territories. Jamaica had a fixed exchange rate before the Bank of Jamaica appeared on the scene, as the next chapter explains.

A pegged exchange rate is constant for the time being in terms of an anchor currency, but carries no credible long-term guarantee of remaining at its current rate. We will explain below the difference between a pegged and a fixed exchange rate. Caribbean countries with pegged exchange rates include the Bahamas, Barbados, the members of the Eastern Caribbean Central Bank, and Trinidad. Jamaica had pegged rates from 1966 to 1983 and 1989 to 1990.

A floating exchange rate is not maintained constant in terms of any anchor currency. Caribbean nations with floating exchange rates include Mexico since December 1994 and the United States since 1971. Jamaica had a dirty floating exchange rate from 1983 to 1989 and a floating rate from 1990 to today that has become progressively cleaner.

Although fixed, pegged, and floating exchange rates are the basic types, hybrids exist. Crawling pegged exchange rates combine characteristics of floating and pegged exchange rates. They are intended to move against an anchor currency, but at a somewhat predictable rate. Mexico had a crawling pegged exchange rate before the peso crisis of December 1994.

Types of exchange rates are easiest to distinguish when currencies are fully convertible. The differences become blurred for partly convertible or inconvertible currencies, because exchange controls have more influence than the type of exchange rate. A currency that is officially pegged but has strict exchange controls may behave like a floating currency in the parallel or black market. For example, in the 1970s and early 1980s the official exchange rate of the Jamaican dollar was pegged to the U.S. dollar, but the pegged rate was not a market rate because many exchange controls existed. In the black market the exchange rate of the Jamaican dollar fluctuated, as if it were a floating currency.

Exchange rates and monetary management

Dollarization and currency boards are systems of fixed exchange rates. In a dollarized system there is no local exchange rate for the government of the dollarized country to alter. In a currency board system the exchange rate is typically established by law, as it was for Jamaica's currency board. The 100 percent foreign-currency reserves that a typical currency board holds guarantee that it will be able to satisfy all demands to convert its notes and coins into the anchor currency, even if everyone who holds its notes and coins wants to convert them. Like other currency boards, the Jamaican currency board never devalued against its anchor currency (the pound sterling). (Nor, for that matter, did free banks earlier in Jamaica's history.) Dollarized systems and currency boards do not initiate increases or decreases in the supply of notes and coins;

they respond passively to the public's demand and hence are completely market-led.

A central bank has a pegged or floating exchange rate. Central banks that claim to have fixed exchange rates in reality have pegged rates. As far as we know, the only central banks today required by law to maintain a particular exchange rate with an anchor currency are the few that operate in a currency board-like manner with 100 percent foreign-currency reserves. As a rough-and-ready standard, we propose that an exchange rate be considered fixed if it has remained the same for thirty years--the longest period for which active world markets in bonds and mortgages exist--or for the life of the monetary authority, whichever is less. Very few central banks since the First World War, and none today except for those of a few small countries, pass this test. (The Eastern Caribbean Central Bank is one of the exceptions. The Eastern Caribbean Currency Authority, its predecessor currency board, switched from the pound sterling to the U.S. dollar as the anchor currency in 1976 and established an exchange rate of EC$2.70 = US$1. The Eastern Caribbean Central Bank replaced the currency board in 1983.)

A pegged exchange rate is by nature a managed rate. A central bank maintaining a pegged rate buys and sells foreign currency at its own discretion. Unlike a currency board, it is typically not required by law to maintain a particular exchange rate. It can initiate foreign-currency trades or refuse to participate in them, whereas a currency board only responds passively to the desire of the public to exchange currency and cannot refuse to trade at its fixed exchange rate.

As we have explained, a floating exchange rate can be "clean" or "dirty." In a clean float, the central bank does not influence the exchange rate systematically by buying or selling foreign currency. A clean float is a market-led arrangement. Despite its theoretical neatness, few central banks have ever maintained truly clean floats. Apparently the only central bank that has ever done so for a long period is the Reserve Bank of New Zealand, which has allowed a quite clean float since 1985. The floating exchange rate of the Jamaican dollar since 1990 has become progressively cleaner, but there is nothing to prevent it from becoming dirtier if the Bank of Jamaica wishes. Most central banks maintain dirty floats, in which they influence the exchange rate systematically by buying or selling foreign currency. A dirty float is a managed arrangement.

Despite their access to inside information about monetary policy, central banks with managed exchange rates typically lose money trading foreign currency (Taylor 1982). The losses weaken their ability to manage the exchange rate. Because very few central banks have foreign-currency reserves equal to 100 percent or more of the domestic supply of money, losses in trading foreign currency can aggravate speculative attacks against the currency.

Speculative attacks on pegged exchange rates are especially frequent, because with a pegged rate there is little chance of a revaluation and a big chance of a devaluation. The only fairly recent examples of lasting revaluations of pegged exchange rates we know of are that the German mark and Netherlands guilder in the 1960s and the Malaysian ringgit and the New Taiwan dollar more recently. Devaluations have been the norm in Jamaica and elsewhere. Of about 150 developing countries, only nine have currencies that have appreciated or been stable against the U.S. dollar since 1970 (see Pick and Sédillot 1971 and the IMF's International Financial Statistics).

Recent examples of pegged exchange rates that have collapsed under speculative attacks include the pound sterling, French franc, Italian lira, and other currencies of the European Monetary System in 1992 and 1993, and the Mexican peso in December 1994. The peso had a

crawling peg intended to limit its depreciation against the U.S. to 4 percent a year. As the Mexican central bank lost foreign-currency reserves, speculation against the peso increased. Rather than exhaust its foreign-currency reserves the central bank devalued the peso by 15 percent on December 20. Speculation against the peso continued, and on December 22 the central bank let the exchange rate of the peso begin a dirty float.

The basic problem with pegged exchange rates is that they try to do too much. Under a truly fixed exchange rate the monetary authority targets only the exchange rate, and exchanges all the local or foreign currency that market forces demand at that rate. Under a clean floating exchange rate the monetary authority targets some measure of the money supply and lets market forces determine the exchange rate. Under a pegged rate the monetary authority simultaneously targets the exchange rate and the money supply or inflation. Hitting both targets is a very difficult task, like riding two horses at once. Without great skill and a good deal of luck, a central bank can end up missing both targets, resulting in the worst possible outcome: a depreciated currency and higher inflation (Walters 1990: 14-15). That is exactly what happened in Mexico recently.

Even a floating exchange rate can cause problems if the monetary authority has low credibility. If lenders fear high inflation, they will demand high real interest rates to compensate them for the risk. If high inflation becomes a reality, many people may suddenly sell the local currency for more stable foreign currencies. If the monetary authority does not impose exchange controls, no balance of payments problem will result, but the exchange rate will depreciate. Since removing exchange controls in 1991 Jamaica has experienced high real interest rates and speculative attacks against the Jamaican dollar.

Convertibility

Yet another aspect of the monetary regime is convertibility. Convertibility means that a currency can buy domestic and foreign goods and services, including foreign currency. We will focus on convertibility as it relates to foreign goods and services.

With respect to foreign goods and services a currency can be fully convertible, partly convertible, or inconvertible. A fully convertible currency, like the Jamaican dollar today, is legal for buying any foreign goods or services people wish, including real estate, bonds, cars, and food. A partly convertible currency is legal for buying some types of foreign goods and services but not others. Frequently a partly convertible currency can legally buy current-account foreign goods and services (those involved in trade) without special permission; however, it cannot legally buy capital-account foreign goods (bank accounts, real estate, stocks, and bonds abroad) without special permission. An inconvertible currency cannot legally buy any foreign goods and services except without special permission. The Jamaican dollar was a partly convertible or inconvertible currency from 1970 to 1991. (From 1939 to 1970 there were restrictions on convertibility into currencies outside the so-called sterling area, but not inside the sterling area; see the next chapter.)

A market-led monetary regime has a fully convertible currency. A fully convertible currency allows people to trade with other countries as they think best, without special approval from the monetary authority. A managed monetary regime has a partly convertible or inconvertible currency, where many transactions require the approval of the monetary authority, prevents people

from trading with other countries as they think best. Foreign-exchange controls involve the monetary authority in micro-managing the whole economy, which nobody has the ability to do successfully. Furthermore, exchange controls act as a sort of fence around the economy, within which the monetary authority can rob people by creating high inflation.

The IMF's Annual Report on Exchange Arrangements and Exchange Restrictions, published since 1950, describes restrictions on convertibility in its member countries and some of their colonies. Never have the majority of central banking systems reporting to it had full convertibility. At the end of 1993, 23 of the 30 developed countries reporting to the IMF had full convertibility (no restrictions on current- or capital-account transactions); the rest had partial convertibility. But of the 151 developing countries reporting to the IMF, only 24 had full convertibility; 52 had partial convertibility and 75 had inconvertibility (IMF 1994d: 588-94). In contrast, five of the six currency board currency board systems in existence (in the Cayman Islands, Falkland Islands, Faroe Islands, Gibraltar, and Hong Kong) had full convertibility. Only Bermuda had foreign-exchange controls. Bermuda limits the amount of funds that Bermudians may transfer abroad each year without approval to Bermuda $25,000 per year (= US$ 25,000). These regulations originated in the days of the "sterling area," which the next chapter discusses. Bermuda is apparently the only currency board system, except those actually overrun by enemy armies, that has ever restricted convertibility into its anchor currency. It is unclear why the restrictions continue, because the currency board has foreign-currency reserves exceeding 100 percent. Argentina, Estonia, and Lithuania have currency board-like systems with foreign-currency reserves of 100 percent and quasi-fixed exchange rates. They are not yet orthodox currency board systems because they contain some loopholes that allow limited discretionary management of the money supply. Argentina and Lithuania have full convertibility while Estonia is close to full convertibility.

Financial regulation

The last aspect of our analysis of the monetary regime is financial regulation. A market-led monetary regime uses financial regulation to establish clear rules for participants in financial markets so they can buy and sell financial assets easily. A managed monetary regime, in contrast, uses financial regulation to create "financial repression," in which the government directs credit to politically favored channels and keeps interest rates below market levels. Besides exchange-rate and convertibility controls, types of financial repression that Jamaica has had include credit controls (limits on bank lending to consumers or other would-be borrowers), interest-rate controls, restrictions on establishing foreign-currency deposits, and credit quotas (required lending) for favored sectors of the economy. In the last few years Jamaica has eliminated most of these.

Financial repression typically results from a government forcing financial markets to absorb more government debt than they want at market interest rates. For example, the Bank of Jamaica requires commercial banks to invest 50 percent of their deposits in so-called liquid assets--cash or securities issued by the government or the Bank of Jamaica. That creates a protected market for the securities, so the government and the Bank of Jamaica pay much lower interest rates than other borrowers. Bank of Jamaica certificates of deposit had interest rates of about 27

percent as of mid-January 1995, versus 42 percent and higher for bank loans. Without the liquid assets requirement the government and the Bank of Jamaica would have to pay higher interest rates or they would not be able to borrow as much as they do now.

Financial repression is a partial alternative to financing government debt by creating inflation. But financial repression discourages saving in domestic currency and encourages people to save instead by holding banks accounts abroad or even by holding U.S. dollar notes.

Dollarized systems and currency board systems have typically had light financial regulation. Central banking systems in developed countries have also typically had light regulation, although some have had extensive regulation related to goals other than government finance; the United States with its separations between commercial banking, investment banking, insurance, and saving and loan institutions stands out here. Central banking systems in developing countries, at least since the Second World War, have typically had financial repression (for examples see Fry 1995 and World Currency Yearbook).

Summary

The basic choice in monetary policy for Jamaica is between a market-led monetary regime or a managed monetary regime. The table below summarizes this choice. The Bank of Jamaica has for a long time been a typical central bank with typical poor performance. The managed monetary regime that it has operated has hurt the Jamaican economy, as the next chapter will show.

Table 2. Choices for monetary policy

	Market-led monetary regime	**Managed monetary regime**
Monetary authority	Dollarization, good central bank (U.S. Federal Reserve System), currency board	Typical central bank in a developing country (Bank of Jamaica)
Exchange rate	Fixed or fairly "clean" float	Pegged or fairly "dirty" float
Convertibility	Full	Partial or inconvertible
Financial regulation	Light	Heavy ("financial repression")

4. The record of monetary regimes in Jamaica and elsewhere

Jamaica has had a variety of monetary regimes. This chapter uses ideas from the previous chapter to describe the main features of each and to compare their performance. It also compares Jamaica's current monetary regime with monetary regimes in other Caribbean countries and elsewhere. Table 3 summarizes the monetary regimes. The dates indicate when each regime was dominant, but as the remarks indicate, some regimes coexisted with one being dominant and another being less important.

Table 3. Monetary regimes in Jamaica

Dominant regime	Dates dominant	Remarks
Foreign coins	To 1822	Fixed exchange rate with full convertibility. Initially mainly Spanish and Portuguese coins. British coins were legal tender alongside Jamaican coins until 1964.
Government note issue	1822-1836	Government notes depreciated against gold and silver coins. Another issue of government notes 1838.
Free banking	1836-1942	Fixed exchange rate with full convertibility. Commercial banks issued notes to 1958, but currency board notes dominated after about 1942.
Currency board	1942-1961	Fixed exchange rate with full convertibility into sterling but not into U.S. dollars after 1939. Currency board opened 1920 but did not dominate note issue until about 1942.
Central banking	1961-present	"Hard" pegged exchange rate 1961-6; pegged exchange rate 1966-83, 1989-90; floating exchange rate 1983-9, 1990-present; devaluations or depreciation after 1977. Fully convertible into sterling but not into U.S. dollars until 1970; little convertibility into any foreign currency 1970-91.

Foreign coins and notes in Jamaica

Before Jamaica had its own currency Jamaicans used foreign coins. In the early days Spanish and Portuguese coins predominated, but from the end of 1840 British coins became the official coins of Jamaica (Laws of Jamaica 1839, 3 Vict. c. 39). Although Jamaica began issuing government notes in 1822, it Jamaica had no local government-issued coins until 1880. Some Jamaican merchants issued token coins that were widely used but were not legal tender. (Legal tender means that a currency is lawful to use for paying for goods, debts, and taxes.) British coins remained legal tender until 1964 (Law 37 of 1964). Use of foreign coins was an early form of what is now called dollarization, but because Jamaica had no paper money or banks until the 1800s that monetary system had little in common with dollarization today.

We should mention in passing that foreign notes were legal tender in Jamaica from 1940 to 1964, although they do not seem to have been widely used. During the Second World War, notes of the Bank of England were declared legal tender to prevent a shortage of legal tender notes in circulation (Law 1 of 1940). Law 53 of 1958 repealed their legal tender status. Notes of the currency board of the Eastern Caribbean colonies were legal tender in Jamaica from 1954 to 1964 (Law 51 of 1954, Act 37 of 1964).

Government note issue

By 1822 the Jamaican government was issuing "island checks," which were IOUs it used to pay debts when it lacked coins. Island checks were a type of government note issue. The government held no particular reserve against island checks, and did not always convert them into gold or silver coins on demand. In 1838 the government had a large amount of island checks outstanding and no way to pay them. It in effect went bankrupt. It converted some island checks into bonds with no specified term of repayment and gradually withdrew the rest from circulation, paying them off with coins. The government issued more island checks in 1848 when it again had a rather large deficit (Callender 1965: 2-5; Chalmers 1893: 111).

Free banking

The first commercial bank in Jamaica was the locally owned Bank of Jamaica, which opened in 1836. It was no relation to today's central bank. The Colonial Bank, a British bank that established branches throughout the West Indies, opened a branch in Kingston in 1837. The Planters Bank, another local bank, opened in 1839 to serve sugar growers. All three banks established agencies in a number of towns across the island. All also issued notes that were convertible into gold or silver coin and that circulated widely on the island, although they were not legal tender like island checks. The government gave the Bank of Jamaica permission to redeem its notes in island checks as well as in gold or silver coin. The British charter of the Colonial Bank prohibited it from issuing notes for less than $5 or £1 sterling, which at the time was a substantial sum--more than many Jamaicans earned in a month (Baster 1929: 28; Callender

1965: 4-9).

The Planters Bank failed in 1848 following a plunge in the price of sugar that made many of its loans to sugar planters worthless. Its stockholders had unlimited liability, so apparently depositors suffered no losses. The Bank of Jamaica continued until 1865, when the Colonial Bank bought it out. The Colonial Bank then had a monopoly of commercial banking on the island. However, there were other financial institutions, such as savings banks, insurance companies, and building societies, which dated as far back as the 1830s (Callender 1965: 14-20).

Canadian banks came to Jamaica starting in 1889, when the Bank of Nova Scotia established a branch to serve trade with Canada in sugar and other goods. The Bank of Nova Scotia did not issue notes locally until 1900. The Royal Bank of Canada established a branch in 1912 and the Canadian Bank of Commerce in 1920; they also issued notes. The Colonial Bank became part of Barclays Bank in 1925. Sterling's Bank opened in 1926 but failed the next year. After that Jamaica had no new commercial banks until 1959, after free banking ended (Callender 1965: 45-9; Lue Lim 1991: 2, 47).

Although bank failures occurred during the period of free banking, the banking system as a whole never ceased to be fully convertible into the pound sterling, which was the anchor currency, at a fixed exchange rate of J£1 = £1 sterling. (Jamaica had no local coinage, so it used British coins.) Contrary to what one might think, Jamaicans were quite accustomed to dealing with the different brands of notes in circulation; it did not cause confusion any more than different brands of travellers checks do today. Inflation was low during the free banking period because sterling had a fixed exchange rate with gold. The good performance of the Jamaican currency during the free banking period is similar to the experience of free banking in many other countries (Dowd 1992).

The currency board system

Prevailing opinion in Britain in the mid and late 1800s held that note issue should be a government function, but subject to strict rules to prevent depreciation such as Jamaica had experienced with the island checks. After many decades this opinion worked its way into government policy in Jamaica and other British colonies. Law 27 of 1904 appointed a three-member Board of Commissioners of Currency (currency board) to issue and redeem 10-shilling notes for gold and silver coin. A later amendment (Law 17 of 1918) authorized the currency board to issue other denominations of notes. As backing for the note issue original law required the currency board to hold an initial reserve of 100 percent, two-thirds in coin and the rest in securities of the British Empire outside Jamaica. The reserve was called the Note Security Fund. The Governor of Jamaica, with the permission of the British Colonial Office, was permitted to change the proportions to half coin and half securities. The law required the currency board to accumulate gradually an additional reserve of at least 10 percent from interest on the securities it held. The purpose of this so-called Depreciation Fund was to ensure that the currency board would have foreign-currency reserves of at least 100 percent even if some of its securities lost value. In the highly unlikely event that the currency board could not redeem its notes, the law required the government to be responsible for redeeming them.

The currency board did not actually issue currency until March 15, 1920. In the 1920s and 1930s the currency board moved away from its initial emphasis on a large coin reserve, which paid no interest, to a reserve consisting almost entirely of interest-bearing securities. Laws 9 and 21 of 1937 revised the legal basis of the currency board. They made sterling rather than coin the anchor currency. Instead of being divided into a coin portion and a securities portion, the foreign-currency reserves were divided into a liquid portion that could be cashed quickly with no loss and an investment portion to be invested in securities that were for a longer term but paid higher interest rates. Initially the liquid portion was one-third. The laws also allowed the currency board to charge a commission and to set a minimum size for transactions. Initially the commission was 1.75 percent and the minimum size for transactions was J£5,000. By the end of the life of the currency board, the commission was 0.75 percent. Laws 27 of 1937 and 3 of 1943 permitted the currency board to issue coins on the same basis as notes. The currency board took over the issuing of coins from government, which had been issuing coins since 1880.

Currency board notes at first circulated side by side with bank notes. The charter of the Colonial Bank and Canadian banking law forbade the commercial banks on the island from issuing notes for less than J£1. The currency board until 1941 issued only notes of 10 shillings and less. During the Second World War it began issuing notes of up to J£5, and for the first time the value of currency board notes in circulation exceeded the value of notes issued by the banks (Jamaica, Board of Commissioners of Currency 1945: 1). The currency board system became the dominant monetary regime in Jamaica about then. Law 9 of 1954 prohibited banks other than Barclays Bank (Dominion, Colonial and Overseas) from issuing new notes. Law 10 of 1958 ended bank note issue in Jamaica entirely.

In the 1950s the British government, influenced by criticisms that foreign-currency reserves of 100 or 110 percent were unnecessarily high, allowed colonial currency boards to reduce the foreign-currency reserve ratio and hold some local government securities. Law 1 of 1956 allowed the currency board to hold up to J£1 million (about 20 percent of the note and coin circulation then) of Jamaican government securities. In 1958 the British government approved the Jamaican government's request to increase the limit for Jamaican government securities to J£3 million, or roughly 35 percent of note and coin circulation then. Foreign-currency reserves therefore fell to about 65 percent of notes and coins in circulation by the end of the life of the currency board (Callender 1965: 93-4; Jamaica, Board of Commissioners of Currency 1958: 2). The currency board deviated from the orthodoxy that required 100 percent or slightly greater foreign-currency reserves. However, the currency board had no potential powers of monetary management other than to vary its holdings of Jamaican government securities within the legal limits. It always held the maximum allowed, so it did not exercise that potential power.

The currency board fulfilled perfectly its purpose of maintaining full convertibility of the Jamaican pound into sterling at a fixed exchange rate. From 1939 onward, however, sterling was not fully convertible into many third currencies. The restrictions on convertibility began during the Second World War to prevent trading with the enemy and continued afterwards to prop up the value of sterling. Most Commonwealth countries and several other countries belonged to the "sterling area." They agreed to full convertibility within the sterling area but restricted convertibility outside the area, notably into the U.S. dollar. The Exchange Control Act of 1954 (Law 50 of 1954) imposed strict regulations on trading in currencies outside the sterling area.

Again, the purpose of the controls was to prop up the value of sterling; they were not at all necessary for the currency board system.

During the period when the currency board was the dominant monetary system, Jamaica enjoyed generally good economic growth. During the Second World War, German naval warfare severely constrained trade with Britain and other countries, but the 1950s were a period of very fast growth, as tourism and bauxite became large-scale industries.

How the Bank of Jamaica came to be

Allowing the currency board to hold Jamaican government securities was a first step away from the strict, orthodox currency board system towards a managed currency. The intellectual climate of the 1950s favored a managed currency. Economists and politicians of the time thought that extensive government intervention could increase the economic growth of developing countries, and saw central banks as a way of mobilizing funds for governments to use productively. Many people also regarded currency boards as colonialist because currency boards prevented national governments from pursuing independent monetary policies. People thought that governments would use wisely the powers of central banks (Schuler 1992: 111-19).

It was in this setting that the government of Jamaica asked for outside advice. A 1952 report on the Jamaican economy by the World Bank saw no need for changing the currency board system (World Bank 1952: 279). In 1955 J. L. Fisher, an advisor to the Bank of England, wrote a very short memorandum to the Minister of Finance discouraging the idea of a central bank in Jamaica (Towers 1956: 22-3). In 1956 Graham F. Towers, a former governor of the Bank of Canada sent by the United Nations Technical Assistance Administration, wrote a report on the financial institutions of Jamaica and their role in economic development. Towers expressed doubt that Jamaica needed a central bank but supported the idea of using government finances more aggressively to spur economic development (Towers 1956: 18-19). The next year Thomas Balogh, a British economist who advised the Labour Party, made a follow-up report. Balogh recommended establishing a National Development Bank that would eventually have all government deposits and make all government lending for economic development. The bank would also manage the government debt, be in charge of foreign-exchange control, be allowed to issue its own bonds, and have the power to force commercial banks and insurance companies to deposit part of their funds with it. Balogh expressly denied that Jamaica needed a note-issuing central bank, but the National Development Bank would have had more powers of monetary management than some central banks of the time (Balogh 1957).

The government appointed an interdepartmental committee to prepare a more detailed report on the National Development Bank. The committee claimed it was a handicap that "the volume and distribution of bank credit within Jamaica are determined primarily by conventions developed, and monetary conditions prevailing outside the island rather than by a national guiding policy formulated in light of Jamaica's own needs and potentialities." The committee recommended that the government establish a central bank to help eliminate the deficiencies that the committee claimed resulted from the dominance of foreign financial institutions (Jamaica, Inter-Departmental Committee 1958: 1). The committee went further than Balogh in proposing

to replace the currency board with a central bank, but recommended that the functions of Balogh's National Development Bank be divided among the central bank and government finance corporations for agriculture, housing, and so on (Jamaica, Inter-Departmental Committee 1958: 5-7).

In 1959 the government began preparing laws to establish a central bank and revise regulations affecting commercial banks. The laws passed in 1960 as the Bank of Jamaica Law (Law 32 of 1960) and the Banking Law (Law 31 of 1960). The Bank of Jamaica opened on May 1, 1961.

The currency board had had one goal: to keep its notes and coins fully convertible at a fixed rate into sterling. The Bank of Jamaica Law specified a multitude of goals for the Bank of Jamaica, including to issue notes and coins; to promote full employment, economic growth, and monetary stability; and to act as banker to the government. The law did not define how to balance the goals, or which goals had highest priority. As it was to turn out, the Bank's role as banker to the government ultimately took priority. The Law allowed the Bank to lend to the government up to 15 percent of estimated government revenue for the financial year (April 1-March 31) and to hold government securities equal to up to seven times the value of the Bank's authorized capital. (The authorized capital was initially J£1 million.) The Governor General of Jamaica appointed the governor and board of directors of the Bank on the recommendation of the Minister of Finance and had the power to dismiss them anytime, for any reason.

The Bank of Jamaica Law continued the exchange rate of J£1 = £1 sterling and the obligation to maintain full convertibility into sterling that had existed for the currency board. However, it reduced the minimum foreign-currency reserve to 50 percent against notes and coins in circulation and set no minimum against the Bank of Jamaica's deposits, which far exceeded currency in circulation. (The first annual report of the Bank lists foreign-currency reserves of 73 percent of total liabilities.) The Law also allowed the Bank to lend to and regulate commercial banks. The main regulations were the cash reserve requirement, the local assets requirement, and credit controls. The cash reserve requirement, which the Bank could set from 5 to 15 percent of deposits, was money that commercial banks were required to hold in cash or in noninterest-bearing deposits at the Bank of Jamaica. The local assets requirement, which the Law did not specify a level for, was a minimum ratio of Jamaican assets to Jamaican deposits. Credit controls are limits on loans to customers by commercial banks.

The Bank of Jamaica in the 1960s

The Bank of Jamaica had significant powers to manage the currency. From its first year it pursued an independent discount-rate policy, meaning that it charged a different interest rate than the Bank of England for loans to commercial banks. (The currency board had not lent to commercial banks.) Over time the Bank of Jamaica accumulated further powers of monetary management. It assumed responsibility for foreign-exchange control in 1962. In 1966 the Bank of Jamaica Act was revised to allow the Bank to vary the exchange rate (Law 31 of 1966). However, when the British government devalued sterling from £1 sterling = US$2.80 to £1 sterling = US$2.40 on November 18, 1967, Jamaica three days later did the same with the

Jamaican pound. In September 1969 the Bank of Jamaica imposed credit controls. The controls limited the amount commercial banks could lend for certain purposes, including loans to consumers for buying household goods and loans to foreign companies. The same month the Bank of Jamaica for the fist time increased the liquid assets requirement from 15 percent to 17.5 percent of deposits. (The liquid assets requirement is the proportion of cash plus government and Bank of Jamaica securities that commercial banks must hold.) In May 1970 the Bank amended exchange controls to require approval for all foreign payments except to Trinidad and Tobago. Previously, payments within the sterling area had required no approval (Bank of Jamaica 1985: 6-7; Lue Lim 1991: 24-5).

The control of the Minister of Finance over the Bank of Jamaica also increased in the 1960s. Law 37 of 1964 gave the minister, rather than the Governor General of Jamaica, the power to appoint the governor and board of directors of the Bank and to dismiss them at any time. That made their jobs completely dependent on whether they complied with the minister's wishes. The Bank of Jamaica started on the way to becoming merely a branch of the Ministry of Finance.

The Jamaican dollar replaced the Jamaican pound on September 8, 1969 at a rate of J$2 = J£1. The currency switch was merely a change in the unit of account as part of the decimalization of the Jamaican currency. It was not a devaluation or a currency confiscation.

The Bank of Jamaica in the 1970s

The relatively good performance of the Bank of Jamaica during the 1960s resulted from favorable circumstances, not from the Bank's own strength as an institution. The Bretton Woods international monetary agreement committed Jamaica by treaty to an arrangement that had lower tolerance for inflation than the arrangement that followed. Rapid economic growth increased tax revenue, so there was little pressure to finance deficits by inflation. And the Bank of Jamaica inherited from the currency board a large foreign-currency reserve.

In the 1970s all that fell apart. The Bretton Woods system collapsed from 1971 to 1973. The United States ended the pegged exchange rate of the U.S. dollar with gold on August 15, 1971. Attempts to peg the exchange rates of the major currencies without convertibility into gold did not last long, and by 1973 the currencies of the major Western countries were floating against the U.S. dollar. The Jamaican dollar remained pegged to sterling until January 17, 1973, when it was pegged to the U.S. dollar at J$1.00 = US$1.10 (Bank of Jamaica 1985: 18; Act 18 of 1973). (The sterling area, incidentally, had dissolved in 1972.)

The price of oil quadrupled from 1973 to 1974, hurting the Jamaican economy. (A second large increase in the price of oil occurred in 1978.) The government borrowed from the International Monetary Fund (IMF) for the first time. The People's National Party (PNP) government elected in 1972 undertook an ambitious program of nationalizing major industries, intervening heavily in industries it did not nationalize, and increased government spending. Government budget deficits went from J$41 million in 1970 to J$739.3 million in 1980. As a share of gross national product (GNP), which measures the size of the economy, deficits went from 3.7 percent in 1970 to 16.6 percent in 1980 (IMF, International Financial Statistics).

To finance deficits, the government raided the Bank of Jamaica's foreign-currency reserves

and created inflation through the Bank. The Bank of Jamaica's net foreign-currency reserves (which are, once again, its foreign-currency holdings minus the foreign currency it owed) fell from US$113 million in 1970 to negative US$545 million in 1980 (IMF, International Financial Statistics). A 1976 amendment to the Bank of Jamaica Act (Law 33 of 1976) allowed the government to borrow up to 30 percent of its estimated yearly revenue from the Bank, compared to the previous limit of 15 percent. The Bank had no power to refuse to lend to the government and no real power to make the government repay loans, so the amendment was a recipe for creating inflation. All the government had to do to get money from the Bank of Jamaica was write the Bank an IOU of questionable value. A 1977 amendment (Law 10 of 1977) removed the limitation that the Bank of Jamaica could only hold up to seven times its capital in Jamaican government securities. The amendment also allowed Parliament to increase the limit on the Bank of Jamaica's holdings of government securities up to any figure and in effect abolished the minimum foreign-currency reserve requirement against notes and coins in circulation. The 1976 and 1977 amendments removed all barriers to inflationary finance.

In January 1974 the government prohibited the import and export of Jamaican currency and required Jamaican residents to sell all foreign assets and bring the proceeds to Jamaica. Its actions sent a message to Jamaicans that the government considered their property government property. Many wealthy Jamaicans moved abroad rather than selling their foreign real estate or closing their foreign bank accounts. It took a long time to convince wealthy Jamaicans that it was worthwhile to return; some still have not returned. The appearance of a lively black market in foreign currency dates at least as far back as this period. People who were not well connected politically or who could not convince the Bank of Jamaica that their activities were "essential" could not obtain foreign currency legally at the official exchange rate. Their only recourse was the illegal black market, where the Jamaican dollar was worth less than the official rate.

In April 1977 the Bank of Jamaica introduced a dual exchange rate, whereby the exchange rate for essential imports was J$1.10 = US$1 for essential imports and J$1 = US$0.80 for other transactions. The dual exchange rate violated the articles of membership in the IMF, and anyway was not very effective in preventing depreciation of the Jamaican dollar on the black market. In January 1978 both rates were devalued and in May 1978 the exchange rate was unified. From August 1978 to May 1979 the Jamaican dollar suffered monthly mini-devaluations against the U.S. dollar (Bank of Jamaica 1985: 8-10; Lue Lim 1991: 25-31).

The government piled more and more regulation on the financial sector. It nationalized Barclays Bank and the Bank of Montreal in 1977, creating the National Commercial Bank by merging them. It increased the liquid assets requirement almost every year in the 1970s and imposed credit controls during several years (Lue Lim 1991: 25-31, 42-4).

The Bank of Jamaica in the 1980s

The effect of Jamaica's monetary policy in the 1970s was to change control of savings from the market to the government. The results of a heavily managed currency, government control of savings, and heavy government intervention in other parts of the economy were disastrous. The government squandered much of the wealth that Jamaicans had accumulated during the 1960s. The economy shrank even as the population grew. Inflation and the government's foreign debt

increased with government budget deficits.

The Jamaica Labour Party (JLP), which ruled from 1980 to 1989, reversed some of the PNP's policies but did made no big changes to the Bank of Jamaica. The Jamaican dollar continued to be a heavily managed and highly unpredictable currency. Budget deficits remained at around 10 percent of GNP, although government finances were hard to determine because the government used many accounting tricks. One trick was to hide deficits in the Bank of Jamaica. In contrast to the currency board, whose finances had been simple, transparent, and separate from the finances of the government, the finances of the Bank of Jamaica were complex, unclear, and tangled up with the finances of the government. We discuss this further in the next section.

In January 1983 the Bank of Jamaica eased foreign-exchange control somewhat by reintroducing a dual exchange rate, which had last existed in May 1978. The dual exchange rate consisted of the official rate and a more market-determined parallel exchange rate. The Bank of Jamaica bought much of the foreign currency in the official market at the overvalued official rate. That crowded out other buyers of foreign currency. They turned to the legal parallel market or to the illegal black market, where the Jamaican dollar was worth less than the official rate. To bring the official rate closer to the true market rate, in November 1983 the Bank of Jamaica abolished the parallel market and unified the exchange rate at J$3.00 to 3.30 = US$1. The exchange rate was supposed to fluctuate within a band determined by the Bank of Jamaica. That did not work well, so in March 1984 the Bank replaced it with a comprehensive auction. In November the exchange rate was allowed to float. The floating exchange rate was heavily managed. The Bank of Jamaica required sellers of foreign currency to sell to the Bank of Jamaica at rates that overvalued the Jamaican dollar. Strict foreign-exchange controls also remained. The Jamaican dollar continued to depreciate through the rest of the 1980s (Bank of Jamaica 1985: 12, 20-4).

The Jamaican economy grew very slowly in the 1980s. Although Hurricane Gilbert in 1988 hurt the economy, a larger drag on economic growth was the government's mounting foreign debt, which increased from US$1.8 billion in 1980 to US$4.6 billion in 1990. By 1986 the government was repaying more in principal and interest than it was receiving in new loans each year (World Bank 1991: 198).

The financial system continued to be heavily regulated. In 1984 the Bank of Jamaica increased commercial banks' cash reserve requirement to 12 percent of deposits from 5 percent, where it had been since it was first imposed in 1961. During the 1980s the Bank increased the cash reserve requirement to as high as 20 percent, the liquid assets requirement to as high as 32.5 percent, and imposed credit controls a number of times (Lue Lim 1991: 31-9, 44-5). The only major step toward deregulation was that the National Commercial Bank was privatized beginning 1986.

The Bank of Jamaica in the 1990s

The People's National Party won the 1989 election and, in a surprising turn of events, reversed many of its former policies, including some concerning monetary management. In 1990 and 1991 the Bank of Jamaica liberalized foreign-exchange controls, culminating in the removal of many controls on September 25, 1991. The Jamaican dollar became largely convertible for the

first time since 1970. Jamaica began to experience an inflow of foreign currency that continues today.

Inflation, however, increased from a low of 8.4 percent in 1987 to 80.2 percent in 1991. Inflation was been fueled by large government budget deficits. The Bank of Jamaica financed some of the deficits in the form of "Bank of Jamaica losses." The losses began in the 1970s. They resulted from the Bank of Jamaica making loans that the government did not repay with real assets. The government did not repay anything, or repaid the Bank with low-interest, long-term government bonds (Local Registered Stock) that financial markets will not buy from the Bank and that have extremely low present value (Black 1990: 9; Mackenzie 1994). In 1993 Bank of Jamaica losses were J$3.1 billion (Bank of Jamaica Annual Report 1993: iii, xi). The Jamaican economy, as measured by gross domestic product (GDP), was about J$96 billion (Planning Institute of Jamaica 1994: 1.1).

The Bank of Jamaica was also tarnished by irregularities in its foreign-currency trading. In 1992 the Bank financed agents to buy foreign currency for it in the parallel market. They were supposed to pay no more for foreign currency than the official market rate. However, some agents bought and sold currency at higher rates. The Bank of Jamaica was therefore potentially exposed to their losses, but did not share in their additional profits. In effect it was giving agents low-cost loans to speculate in foreign-currency trading. These irregularities resulted in a government inquiry (the Barber Commission) and the dismissal of some officials of the Bank in 1993.

To try to bring some credibility to the Bank of Jamaica the government in 1993 appointed as governor Mr. Jacques Bussières, a consultant who had previously been an official of the Bank of Canada and governor of the Bank of Zambia. He is the first foreign governor since the first two governors, who were officials of the Bank of England. Under Mr. Bussières the Bank of Jamaica has made progress in reducing inflation, although real interest rates remain high because the Bank still has little credibility. By granting licenses for foreign-currency dealers to nonbank traders (cambios), the Bank has also nearly eliminated the parallel or black market in Jamaican dollars.

The most burdensome financial regulations that remain today are reserve requirements and foreign-exchange requirements. Commercial banks face a cash reserve requirement of 25 percent and a liquid assets requirement of 50 percent of their Jamaican dollar deposits. To reiterate, the cash reserve requirement forces commercial banks to hold a minimum proportion of their deposits in cash or in noninterest-bearing deposits at the Bank of Jamaica. The liquid assets requirement includes the cash reserve requirement; it forces commercial banks to hold a minimum proportion of cash, noninterest-bearing deposits at the Bank of Jamaica, or low-interest Jamaican government and Bank of Jamaica securities. For foreign-currency deposits the cash reserve requirement is 15 percent and the liquid assets requirement is 40 percent. The Bank of Jamaica pays world market interest rates on the foreign-currency liquid assets requirement. Deposit-taking institutions other than commercial banks have different reserve ratios. In foreign-exchange trading the Bank of Jamaica still has preferential access to some foreign currency. By an informal arrangement, the Bank buys from licensed foreign-currency dealers a certain proportion of the foreign currency traded the previous business day at a price determined by the Bank. Currently the Bank buys 5 percent of the foreign currency traded the previous business day by banks and 20-30 percent by cambios, at the average weighted exchange rate of trading on that day. Foreign currency from selling bauxite, alumina, bananas, and sugar must also be sold directly to the Bank of Jamaica.

Most other burdensome financial regulations, such as credit ceilings and credit quotas, no longer exist or have been greatly reduced in the last several years.

Although the Bank of Jamaica's recent policies have been encouraging, we must not forget that the overall trend of monetary history of Jamaica since the Second World War is of increasing monetary management. The results have been bad. As we have said, Jamaica ranked 90th of 108 countries in inflation performance from 1971 to 1991 (Deane and Pringle 1995: 354). In the last several years the Bank of Jamaica has allowed more market elements into monetary policy, especially exchange policy. The Bank of Jamaica today is doing a better job than at any time since 1970, but the future of its monetary policy is unpredictable. No law or bulwark of custom prevents the Bank from reverting to its former policies of financing government deficits by creating inflation and letting the Jamaican dollar depreciate. It will take a long time for the Bank of Jamaica to achieve the credibility that market-led monetary regimes possess.

Table 4. Monetary performance in Jamaica

	1943-60 (currency board)	1961-80 (central bank)	1981-92 (central bank)	1993 (central bank)	1994 (central bank)
Exchange rate versus US$, end of period	0.7143	1.78	22.19	32.48	33.20
Exchange rate versus £ sterling, end of period	2.00	4.25	33.54	48.11	49.89
Average annual consumer price inflation (%)	2.3	11.8	17.3	30.1	26.4
Treasury bill rate (%), end of period	3.80	9.97	34.36	28.85	29.47
Lending rate (%), end of period	n.a.	13.00	53.42	50.14	56.14
Average annual growth per person (%)	6.0	0.6	0.2	0.2	0.5 (est.)
Unemployment (%), end of period	13.5	27.3	22.8	22.4	22 (est.)

Notes: Exchange rates before 1970 are expressed in terms of Jamaican dollars. The Jamaican dollar replaced the Jamaican pound in 1969 at a rate of J$2 = J£1.

Inflation in 1950-60 column is actually for 1953-60.

n.a. = not available.

Many economic statistics before 1950 are of lower quality than those after 1950.

Sources: Jefferson 1972: 28, 153 (unemployment 1960, growth 1950-60); IMF, International Financial Statistics, various issues (inflation, exchange rates, interest rates); World Bank 1982: 110-11 and 1994: 162-3 (inflation, economic growth); Planning Institute of Jamaica 1981, 1994 (average annual growth per person 1993, unemployment 1980, 1992-3).

Jamaica and the IMF

Jamaica joined the International Monetary Fund (IMF) on February 21, 1963, about six months after achieving independence from Britain. Shortly after joining, Jamaica made an agreement with the IMF permitting Jamaica to borrow up to 10 million Special Drawing Rights (SDRs). (SDRs, are the units in which the IMF calculates its activities. They are based on a basket of major currencies. Originally SDR1 = US$1, but today SDR1 = US$1.50 or so.) Jamaica did not actually ever need to borrow the money, and the "stand-by" agreement expired after one year. After that Jamaica did not apply to borrow again from the IMF until June 1973, when it made a one-year stand-by agreement for SDR26.5 million. The quadrupling of world oil prices from 1973 to 1974 strained the Jamaican economy, and Jamaica actually used half the amount of the stand-by loan, which it repaid by May 1974.

The next IMF agreement, which started in August 1977, began a period of almost continuous involvement by the IMF in the Jamaican economy. Since 1977 Jamaica has had ten agreements with the IMF. Jamaica fully complied with only one of these IMF programs, a loan from March 1987 to May 1988. The IMF cancelled five programs after Jamaica failed to meet various conditions that the IMF had set, and it waived some of the original conditions in four programs, including two that it later cancelled. Besides the loans it obtained through the ten agreements with the IMF, Jamaica used another channel for IMF loans, the Compensatory Financing Facility, nine times from 1974 to 1987 (Bank of Jamaica 1991: 12-14). Jamaica also borrowed from the World Bank, the Inter-American Development Bank, and foreign governments at various times (Panton 1993: 76-7).

Jamaica's current agreement with the IMF began December 1992 and expires December 1995. As of May 1995 Jamaica had borrowed about SDR87 million of a loan of SDR109 million (IMF 1994a, 1995b). It appears that Jamaica will complete the current program in full compliance.

When a country makes an agreement to borrow from the IMF, the IMF establishes conditions for the loan. Typically the conditions include targets for the government budget deficit, the inflation rate, the balance of payments, and the central bank's net foreign-currency reserves. Sometimes the conditions also include reforms to the exchange-rate system and to currency convertibility, since countries that sign the IMF Articles of Agreement pledge to establish current-account convertibility for their currencies.

Like many other countries, Jamaica has little to show for the IMF's intrusions into many aspects of its economic policy. The underlying problem with most IMF programs is that they target the short-term performance of particular numbers, such as the balance of payments and the government budget deficit, and neglect the need for long-lasting institutional reforms in the monetary authority. The features of their monetary regimes that get countries into trouble remain in place to make trouble later, and countries go back to the IMF to borrow again and again. Although the IMF stresses the importance of low government budget deficits and the danger of relying on inflation to finance deficits, it rarely recommends institutional reforms that would prevent inflationary finance altogether. It urges countries to have low deficits so that low inflation will follow. Low deficits become a "precondition" for a sound currency.

This study avoids the shortcomings of the IMF's approach by evaluating long-lasting institutional reforms that other countries are already using successfully. Under our approach it is

possible to fix monetary problems directly through monetary reform, rather than trying to fix them indirectly and less efficiently through the government budget. The experience of Jamaica and of many other countries has been that large government budget deficits and high inflation are much less frequent when monetary authorities can resist political pressures to finance deficits through inflation. A monetary authority that cannot finance the government creates forces politicians to avoid persistent deficits. Low budget deficits therefore become the result of a sound currency rather than a precondition for it as in the IMF approach. The options for monetary reform that we discuss in the next chapter do not require low budget deficits as a precondition.

Monetary regimes in other Caribbean countries

The poor performance of the Bank of Jamaica, especially since about 1970, contrasts with the much better performance of the monetary regimes of some other Caribbean countries. Until 1973 most Commonwealth Caribbean countries had currency boards, or central banks that had formerly been currency boards and still had high ratios of foreign-currency reserves to total liabilities. Most of their currencies had fixed or pegged exchange rates to the pound sterling, which itself was pegged to the U.S. dollar. Currencies that were not pegged to sterling were directly pegged to the dollar. Under the Bretton Woods international monetary system the dollar was the anchor currency for almost all noncommunist countries.

By 1973 the Bretton Woods system had collapsed completely. Since 1973 there has been no worldwide agreement on exchange rates. The three most important currencies--the U.S. dollar, German mark, and Japanese yen--float against one another and many other currencies. Each country has had to find its own way in monetary policy with no international consensus about what is best. Commonwealth Caribbean countries have gone in several directions.

Jamaica, Guyana, the Bahamas, Barbados, and Trinidad established central banks from 1961 to 1974. Among this group, the central banks of Jamaica and Guyana have performed much worse than the rest. They have allowed higher inflation and more depreciation, which has led to slower economic growth. The central banks of the Bahamas, Barbados, and Trinidad have all pegged their currencies to the U.S. dollar since the 1970s. (We omit discussion of Belize, which established a central bank in 1982, since its links to Jamaica have not been as strong as those of the other Commonwealth Caribbean countries.)

The Organisation of Eastern Caribbean States (Anguilla, Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines) had a joint currency board that in 1965 became a currency authority with somewhat more powers and in 1983 became the Eastern Caribbean Central Bank. The Eastern Caribbean dollar has remained at EC$2.70 = US$1 since 1976, when the anchor currency was changed from sterling to the U.S. dollar. The agreement establishing the Eastern Caribbean Central Bank requires that it hold foreign-currency reserves of at least 60 percent of its currency in circulation and demand liabilities. As of March 1994, about 82 percent of its total assets were foreign-currency reserves (Eastern Caribbean Central Bank 1994: 72). Important decisions such as changes in the exchange rate require a unanimous vote. Because the Eastern Caribbean dollar is linked to the U.S. dollar and because changing the central bank's constitution would require the highly unlikely agreement

of all eight members, the central bank had only a little more discretion in monetary policy than a currency board would have had. The Eastern Caribbean Central Bank has performed relatively well over the years: inflation has been low, the exchange-rate link to the U.S. dollar has held, and the currency has current-account convertibility.

The Cayman Islands used Jamaican currency until 1972, when they established their own currency board. The Cayman Islands dollar is fixed to the U.S. dollar at Cayman $1 = US$1.20. The Cayman Islands Currency Board has performed well: the Cayman Islands dollar has had low inflation, has not depreciated against the U.S. dollar, and combined with liberal financial regulation has contributed to the Cayman Islands' growth as a financial center.

The Turks and Caicos Islands also used Jamaican currency until 1973, but they switched to using U.S. dollars rather than establishing their own monetary authority.

No comparison of Caribbean currencies would be complete without the U.S. dollar, which remains the main currency of international trade in the Caribbean and the standard for judging the performance of other currencies. It is also worthwhile to include sterling for comparison, to see what would have happened if Commonwealth Caribbean currencies had remained linked to it. Table 5 compares the monetary performance of Jamaica with that of some other Commonwealth Caribbean countries, the United States, and the United Kingdom since 1970. In most of the comparisons Jamaica comes at the bottom or next to the bottom behind Guyana. Clearly Jamaica has been doing something wrong in the sphere of monetary policy.

Table 5. Monetary performance in the Commonwealth Caribbean, United States, and United Kingdom

	Bahamas	Barbados	Guyana	**Jamaica**	OECS (St. Lucia)	Trinidad	U.K.	U.S.
Exchange rate versus US$, 1970 and 1994	1.00 1.00	2.01 2.01	2.01 142.50	**1.20** **31.93**	2.01 2.70	2.01 5.67	0.417 0.641	1.00 1.00
Exchange rate versus £ sterling, 1970 and 1994	2.40 1.56	4.82 3.14	4.82 222.02	**2.00** **49.95**	4.82 4.22	4.82 8.87	1.00 1.00	2.40 1.56
Average annual inflation (%), 1970-80 and 1980-93	6.4 4.2	13.5 4.3	9.6 34.5	**17.3** **22.4**	n.a. 3.5	18.5 4.8	14.5 5.6	7.5 3.8
Treasury bill rate (%), 1970 and 1994	n.a. 1.98	7.01 7.77	n.a. 18.6	**3.81** **29.47**	n.a. 7.0	5.32 7.08	7.02 5.92	6.44 5.64
Lending rate (%), 1970 and 1994	n.a. 6.75	n.a. 10.00	n.a. 18.9	**n.a.** **56.4**	n.a. 10.0	n.a. 16.00	7.5 6.25	7.91 9.00
Convertibility, 1970 and 1994	(inc £) cur	inc £ cur	inc £ cur	**cur £** **inc**	inc £ cur	cur £ cur	inc £ full	full full
Average annual GDP growth per person (%), 1980-93	1.4	0.5	-3.0	**-0.3**	4.4	-2.8	2.3	1.7

Notes: OECS = Organisation of Eastern Caribbean States, whose members belong to the Eastern Caribbean Central Bank. Antigua and St. Lucia have the largest economies among the members of the Eastern Caribbean Central Bank, each about one-fifth of the combined total. The IMF and World Bank do not publish combined data for the members of the Eastern Caribbean Central Bank.

n.a. = not available.

Convertibility is classified as "inc" (inconvertible), meaning that current- and capital-account transactions are restricted; "cur" (current), meaning that current-account transactions are unrestricted and only capital-account transactions are restricted; or "full," meaning that no transactions are restricted. IMF definitions of convertibility differ from some other definitions. In particular, note that the classification for Jamaica for 1994 gives an inaccurate impression. Parentheses indicate that the data are inferred by us. "£" indicates that a country belonged to the sterling area, with full convertibility within the sterling area but limited convertibility outside it.

Sources: IMF 1970: Appendix and 1994d: Appendix (convertibility); IMF, International Financial Statistics, various issues (exchange rates [series ae], interest rates); World Bank 1982: 110-11, 1995: 162-3, 228 (inflation and growth rates).

Worldwide performance of monetary regimes

Jamaica's monetary performance is below average for the Commonwealth Caribbean countries but is not unusual for developing countries worldwide. Most developing countries have experienced deteriorating monetary performance in recent years. From 1960 to 1970 average inflation in developing countries was about 3 percent a year. From 1970 to 1980 weighted average inflation in developing countries was 26.2 percent a year, and from 1980 to 1993 it was 72.8 percent a year. The comparable figures for developed countries were 9.1 and 4.3 percent a year (World Bank 1982: 110-11, 1995: 163). (Because the averages are weighted, high or low inflation in Brazil and other big economies counts more than inflation in Jamaica and other small economies.) From 1970 to 1994 only nine of the approximately 150 developing countries in existence had currencies that appreciated or were stable against the U.S. dollar. And ever since the IMF began keeping statistics most developing countries with central banks have lacked fully convertible currencies (see the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions).

The deteriorating monetary performance of developing countries has affected their economic growth, which slowed from about 3 percent from 1960 to 1980 to 0.9 percent per person per year from 1980 to 1993. The average hides that Africa, the Arab countries, the former Soviet bloc, and Latin America and the Caribbean shrank in terms of income per person. Only East and South Asia grew. It is noteworthy that East and South Asia have had generally lower inflation than other regions of developing countries (World Bank 1982: 110-11, 1995: 163).

High inflation in developing countries is linked to increasing degree to which their currencies have become heavily managed. Since the 1950s, the many developing countries that once had currency boards or other market-led monetary regimes have replaced them with central banks that have turned out to be quite bad. The collapse of the Bretton Woods international monetary system eliminated the legal obligation of IMF members to maintain fixed or pegged exchange rates with the U.S. dollar. Central banks in developing countries generally used their increased powers of monetary management to create more inflation.

There were exceptions. Countries that retained currency boards did not suffer high inflation. Nor did countries that used a relatively stable foreign currency as their local currency. Central banks in a few developing countries maintained good performance, some because of fairly strict rules, others because of favorable circumstances such as oil wealth. In general, though, central banking has been extremely harmful for developing countries. That has led several countries where central banking caused economic disasters to establish currency board-like systems. The next chapter describes their experience.

A wealth of evidence from Jamaican history and the history of other countries supports the claim that the Bank of Jamaica has performed poorly compared to other monetary regimes and other central banks in the Commonwealth Caribbean. Fortunately, monetary regimes that work and would be easy to establish in Jamaica are close at hand if Jamaican politicians will have the courage to take the proper, far-reaching reforms.

5. Options for reform

Recently the Bank of Jamaica has behaved more responsibly than during most of the last 25 years. Even so, its performance is below the standard that some other monetary regimes have already attained. And there is reason to fear that the Bank of Jamaica will return to its old ways after the current governor of the Bank finishes his term, or as the next election approaches. Jamaica needs a monetary authority with the institutional strength to resist political pressure even if the people who run it are not as tough as Mr. Bussières has been. Accordingly, this chapter focuses on options for reforming the Bank of Jamaica as an institution, not on the personalities of people in the Bank.

Options for reform that are especially promising are dollarization, joining the East Caribbean Central Bank, or establishing a currency board. Politically one option may be more feasible than the others. We make some tentative remarks about political feasibility, but we do not intend them to prevent consideration of any option.

Since the beginning of 1994 there have been two major proposals to reform Jamaica's current monetary regime: the Coke Commission Report and bills introduced in November 1994 by the JLP. In our view neither proposal would significantly improve the Bank of Jamaica's performance because, like IMF-style reforms, they would leave the Bank's main features intact.

The Coke Report

In June 1992 the then Minister of Finance, the Hon. Hugh Small, appointed the Bank of Jamaica Review Committee to examine the role of the Bank of Jamaica and its relations with the government. The chairman of the seven-member committee was Mrs. Daisy M. Coke. The committee deliberated in 1992 and 1993, and held meetings for the public to comment on the topics it was examining. The committee made its report to the government in January 1994.

The focus of the Coke Report was on strengthening the independence of the Bank of Jamaica from the Minister of Finance. To that end the committee made a number of recommendations. It recommended that the Bank of Jamaica rather than the Minister of Finance be responsible for monetary policy. The committee also recommended that the Minister of Finance no longer appoint the directors and top officials of the Bank of Jamaica; instead, it recommended that the Governor General with the advice of Parliament appoint the directors, and that the board of directors appoint top officials other than the Bank's governor. The committee recommended further that the Finance Minister be stripped of power to dismiss, set the terms of appointment, and determine salaries for officials of the Bank. Finally, the committee recommended stricter limits on the ability of the government to borrow from the Bank of Jamaica, and enforcement of the existing provision that the Bank of Jamaica cannot lend to the government if the government has not repaid certain old loans (Jamaica, Bank of Jamaica Review Committee: 65-70).

Dr. Gladstone Bonnick, a member of the committee, issued a one-man minority report proposing that the limit on government borrowing from the Bank of Jamaica be reduced to at most 15 percent of the previous year's tax revenue, and preferably to zero. He expressed concern that the limits recommended in the majority report potentially allowed the government to create a large

inflation by ordering the Bank of Jamaica to lend it cash equal to as much as 30 percent of government revenue for the previous fiscal year.

The government took the recommendations of the Coke Report under advisement; a Parliamentary committee is now very slowly reviewing them. In the 1994/95 budget, the government expressed support for Dr. Bonnick's proposal to reduce the limit on government borrowing from the Bank of Jamaica. It is unclear whether the recommendations of the Coke Report will ever become law, though. There is apparently no timetable for the Parliamentary committee to complete its review and send a bill to the House of Representatives for debate.

In our view the recommendations of the Coke Report would not improve the performance of the Bank of Jamaica as much as the far-reaching options for reform that this study evaluates. The recommendations provide slightly more independence for the Bank of Jamaica, but do not really insulate it from political pressures. Even if Dr. Bonnick's ideal of no government borrowing from the Bank of Jamaica were to become law, the Bank would still be able to buy secondary (already issued) government securities up to any amount. Instead of buying securities directly from the government, the Bank of Jamaica could still buy them from commercial banks that had bought them from the government the same day. The ultimate effect would be similar to the current system: the Bank of Jamaica would be able to finance deficit spending by printing money, which would lead to inflation. The Bank might not feel obliged to finance deficit spending as often as now, but we think the possibility of doing so should be completely eliminated.

The Coke Report assumed that greater independence of the Bank of Jamaica from the Minister of Finance would be a good thing, but it did not examine whether independent central banks have generally been successful in other developing countries. All the cases of independent central banks it referred to except the Bank of Chile are in developed countries. There is now a consensus among economists that independence of the central bank generally leads to lower inflation in developed countries. For developing countries, though, the only thorough research on the topic so far indicates that independence of the central bank seems to have no statistically significant effect on inflation (Cukierman 1992: 416-22). Mexico and Russia, for example, have central banks that in recent years have been made very independent on paper, but in practice have been engines of inflationary finance. The Bank of Jamaica Committee did not investigate the possibility that other monetary regimes might perform better than an independent Bank of Jamaica. The Coke Report assumed that a central bank is desirable and contained and no real historical or current comparison of how various monetary regimes have performed in Jamaica or elsewhere.

The JLP's proposal

The Rt. Hon. Edward Seaga, the leader of the Jamaica Labour Party, has been saying for some time that the Bank of Jamaica law should be amended to require more foreign-currency backing for the Jamaican dollar (Seaga 1994a). In November 1994 the JLP introduced a proposed constitutional amendment and two supporting bills that would require the Bank of Jamaica to hold foreign currency equal to at least 100 percent of the Jamaican dollar monetary base (Jamaican dollar notes and coins in circulation plus cash deposits of commercial banks at the Bank of Jamaica). The proposal would allow a two-year transition period during which the Bank of

Jamaica would have to increase its holdings of foreign currency from the current proportion of the monetary base (about 46 percent in March 1995) to at least 100 percent. The Bank of Jamaica would be prohibited from lending to the government except for a small amount (the Bank's expected net profits for that year). The proposal would also require the governor of the Bank of Jamaica to be appointed by Parliament for a seven-year term and removable by only by Governor General. The governor of the Bank of Jamaica rather than the minister would appoint the deputy governors of the Bank (Golding 1994; Seaga 1994b, c). The JLP's proposal was not reported out of committee at the last session of Parliament, and its chances of becoming law seem low as long as the JLP is out of power.

Like the Coke Report, the JLP's proposal would give Bank of Jamaica greater independence from the Minister of Finance. And like the Coke Report, the JLP's proposal leaves open some loopholes for monetary management. It does not specify an exchange rate nor does it set an upper limit on reserves. The Bank of Jamaica could alter the exchange rate at its pleasure so long as it had sufficient reserves. If the Bank of Jamaica accumulated foreign-currency reserves significantly larger than 100 percent of the monetary base, it would have great scope for monetary management. The Brazilian central bank is in that position now: it has foreign-currency reserves several times the monetary base, though it has no minimum foreign-currency reserve requirement. The record of the Bank of Jamaica is not as bad as that of the Brazilian central bank, but it still raises the question why the Bank of Jamaica should have any powers of monetary management.

Current arrangements give the Minister of Finance great power over monetary policy. Many ministers have used that power to create high inflation. The Coke Report and the JLP's proposal would shift much of the power to the governor of the Bank of Jamaica. The Bank, however, would still have the power to create high inflation. Neither the Coke Report nor the JLP's proposal would significantly improve the predictability of monetary policy. Instead of being made in secret by the Minister of Finance, monetary policy would be made in secret by the governor and directors of the Bank of Jamaica. Neither proposal would legally guarantee the exchange rate or, alternatively, the inflation rate, which would be whatever the Bank of Jamaica decided they should be. Jamaica would continue to have a highly managed monetary regime. The resulting uncertainty and the high real interest rates that would likely exist would hardly be different from the current system.

Accordingly, we turn to options that would make more far-reaching reforms and eliminate the possibility of locally created high inflation in Jamaica. Each option has already received some attention in recent years. Each is more market-led than Jamaica's current monetary regime. And each has a record of lower inflation, higher economic growth, more predictability, and more credibility than the Bank of Jamaica has had or promises to have in the near future.

We briefly describe the main steps that would be necessary to implement each option. Our descriptions are not exhaustive; after deciding to implement any option the government should commission a more detailed implementation study. An implementation study need not take long, but it would require collaboration from legal, financial, and political experts to make implementation smooth.

Option 1: dollarization

One option is official dollarization, also known as currency substitution. The U.S. dollar is already by far the most widely used foreign currency in the Caribbean because of its relatively good long-term performance and because of the many links between the United States and the Caribbean in trade, tourism, investment, and remittances (foreign aid and money sent to relatives in the Caribbean from the United States).

At a minimum, official dollarization would grant the U.S. dollar equal legal status with the Jamaican dollar, as the U.S. dollar has with the Argentine peso. The U.S. dollar would then become legal for all payments in Jamaica, including payments of taxes. That would create a level field for competition between the U.S. dollar and the Jamaican dollar. The Jamaican dollar would continue in circulation only if Jamaicans voluntarily continued to use it. Currently the law forces them to use the Jamaican dollar in many kinds of payments.

Complete dollarization would completely replace the Jamaican dollar with the U.S. dollar as the local currency of Jamaica. Dollarization would replace the Bank of Jamaica with the U.S. Federal Reserve System as Jamaica's central bank. Jamaica would become dollarized just as Florida and Texas are.

Some territories of the Caribbean are already completely dollarized. Puerto Rico and the U.S. Virgin Islands, which are U.S. territories, are of course dollarized. So are the British Virgin Islands and the Turks and Caicos Islands, which despite being British territories have found it to their advantage to use the U.S. dollar rather than to issue a local currency. Panama is one of the few independent nations not to have locally issued notes; it uses U.S. dollar notes although it issues its own coins. The Panamanian balboa, which is equal to the U.S. dollar, is a unit of coinage and a unit of account for bank deposits but not a unit of paper money.

El Salvador (which is not a Caribbean country, but is a close neighbor) recently announced that it plans to become completely dollarized. U.S. dollar notes will replace notes of the Salvadorean central bank. The Salvadorean government compared the benefits and costs of its current central banking system versus a currency board (Schuler 1994) and dollarization. The government concluded that the costs of high inflation, an inconvertible currency, and low economic growth were much greater than the benefit of having a central bank to finance government spending. Furthermore, the government concluded that for a country of El Salvador's size, complete dollarization would be simpler and would achieve credibility more even more quickly than a currency board.

Many countries in the Caribbean are unofficially partly dollarized, meaning that the U.S. dollar is widely accepted and sometimes even preferred to local currency. In Cuba the U.S. dollar is preferred to the inconvertible Cuban peso because the dollar can buy goods that cannot be bought with pesos. Some other Caribbean countries, including Barbados, Guyana, Trinidad, and the members of the Eastern Caribbean Central Bank, have capital-account restrictions, though no current-account restrictions; in those countries the U.S. dollar is more useful than local currency for foreign transactions. Even where the local currency is fully convertible, as in the Bahamas, the U.S. dollar is widely accepted in some sectors of the economy, especially the tourist sector. And in Jamaica and other countries that allow people to establish local U.S. dollar bank deposits, such deposits are widespread.

Complete dollarization would have many benefits compared to central banking. It would eliminate the Jamaican government's ability to devalue or restrict the convertibility of the

currency. Jamaica has paid a high price for having its own currency. Twenty-five years ago the exchange rate was J$1 = US$1.20; today it is about J$33 = US$1, a depreciation of more than 97 percent. Until recently the Jamaican dollar, unlike the U.S. dollar, was not fully convertible. Complete dollarization would have avoided that. Today dollarization would significantly reduce real interest rates. U.S. dollar loans in Jamaica to good borrowers today typically have real interest rates of 8 to 11 percent, whereas Jamaican dollar loans to good borrowers have real interest rates of 27 to 29 percent. High real interest rates for Jamaican dollar loans reflect fear of a currency devaluation and of inflation that is higher than forecast. Inflation in the United States is forecast to be about 3 percent in 1995, whereas in Jamaica the government's original target was about 12 percent and actual inflation will be higher.

Complete dollarization implies that the entire Jamaican dollar monetary base will eventually be converted into U.S. dollars in some form--notes and coins or securities. According to the Bank of Jamaica Statistical Digest, as of March 1995 the Jamaican dollar monetary base was J$28.2 billion, of which J$7.6 billion was notes and coins and coins in circulation and J$20.6 billion was deposits of commercial banks at the Bank of Jamaica. The Bank of Jamaica's net foreign-currency reserves as of March 1995 were J$13 billion, or 46 percent of the monetary base. Although that amount is less than the 100 percent foreign-currency reserves necessary to achieve complete dollarization instantly, it is enough to begin gradual dollarization. The Bank of Jamaica could stop issuing Jamaican dollars and convert all Jamaican dollar notes and coins into U.S. dollar notes and coins. (Or perhaps, like Panama, Jamaica would cease to have locally issued notes but would continue to have locally issued coins, which were only J$174 million in March 1995.)

As a condition for approving dollarization in El Salvador, the IMF is requiring the Salvadorean government to establish a liquidity fund for commercial banks and other financial institutions. The liquidity fund is to consist of 100 percent foreign-currency reserves. Its purpose is to fulfill the functions of a lender of last resort that the Salvadorean central bank now has. Although we are skeptical about the need for a liquidity fund, we will assume that the IMF would require Jamaica to establish a similar fund. The size of the liquidity fund in El Salvador is still under negotiation, but it may be equal to 10 percent of deposits. Since deposits at Jamaican financial institutions were J$78 billion as of March 1995, a liquidity fund of 10 percent would have been J$7.8 billion. The obvious source for such a fund is the required reserves that financial institutions already have on deposit at the Bank of Jamaica. Establishing a liquidity fund would not require financial institutions to deposit further required reserves.

As of March 1995, the Bank of Jamaica's foreign-currency reserves would have been sufficient to replace all Jamaican dollar notes and coins in circulation with U.S. dollar notes and coins. The remaining reserves would have been J$5.4 billion, or 69 percent of the amount necessary for a liquidity fund of the size being discussed for El Salvador. Thus the Bank of Jamaica has already accumulated all but J$2.4 billion of the foreign-currency reserves necessary to begin gradual dollarization. Moreover, if the Bank continued to accumulate foreign-currency reserves at the pace of the last two years, in two more years it would have enough to provide 100 percent coverage for the monetary base. (The Bank's net foreign-currency reserves increased from -J$2.6 billion in March 1993 to J$13 billion in March 1995.) Neither the Bank nor the Jamaican government would have to incur any cost in borrowing foreign reserves to achieve dollarization.

If Jamaica went ahead with dollarization, dollarization would involve a small continuing

cost compared to central banking. The source of the cost would be the seigniorage (issuer's profit) on notes and coins. Under dollarization it would flow to the U.S. government instead of the Jamaican government. Seigniorage can be calculated as the difference between the interest rate that bank deposits pay and the zero interest rate that notes and coins pay. Assuming an interest rate of 6 percent a year (slightly more than the rate for large deposits in the United States at present), the flow cost of dollarization would be 6 percent of the J$7.4 billion supply of Jamaican notes and coins in circulation as of March 1995, or J$444 million a year.

Another cost of dollarization is that it would prevent the Jamaican government from financing its deficits by inflation. There would be no distinct Jamaican currency in which to create inflation. That would be a cost only to the government; the economy as a whole would benefit from the lower inflation that would occur under dollarization.

The costs of dollarization are low compared to the potential benefits of a sounder currency, lower real interest rates, and a healthier economy than Jamaica has had under central banking. Given that the Jamaican economy now is larger than J$100 billion, each percentage point of growth a year to the Jamaican economy that dollarization added to the Jamaican economy would be more than J$1 billion. Judging from the experience of other countries that have made far-reaching monetary reforms (see Table 7 below) it seems likely that dollarization would add 1 to 3 percentage points of growth a year to the economy. Dollarization would therefore quickly pay for itself.

Despite the unofficial dollarization that already exists in parts of the Jamaican economy, official dollarization might well encounter undeserved emotional opposition. Many people consider dollarization an insult to national dignity and a loss of national sovereignty. As the next chapter argues, dollarization would be nothing of the kind.

Implementing dollarization

Because Jamaica does not have all the foreign-currency reserves it would need for immediate complete dollarization, we propose a phased approach. It would be possible to begin phasing in dollarization within as little as a month of passing appropriate legislation. Like the JLP's proposal for 100 percent foreign-currency backing for the Jamaican dollar, our proposal for complete dollarization envisions a timetable of no more than two years. The trend of growth in the Bank of Jamaica's net foreign-currency reserves should make a timetable of two years quite feasible.

The steps for implementing dollarization would be as follows.

1. Declare a fixed exchange rate between the Jamaican dollar and the U.S. dollar. For example, the government would declare that henceforth the exchange rate would be J$33 = US$1, or some other rate determined to be suitable. In another book (Hanke, Jonung, and Schuler 1993: 94-9), we have discussed at greater length how to determine a suitable exchange rate. Accordingly, we will not discuss the details of setting an exchange rate here, other than to say that there are a number of historical examples that indicate that an economy can adjust smoothly to a properly set exchange rate. One example is that of Hong Kong in 1983, which returned to the currency board system after about ten years of a floating exchange rate that became increasingly

volatile and threatened Hong Kong's economic future.

The Bank of Jamaica would be required to exchange U.S. dollars for Jamaican dollars or Jamaican dollars for U.S. dollars at the fixed exchange rate. We would expect a properly set fixed exchange rate to inspire confidence in the Jamaican economy and result in further inflows of U.S. dollars to the Bank of Jamaica. Its U.S. dollar reserves would therefore be more than adequate to meet all demands to exchange Jamaican dollars for U.S. dollars.

2. Allow the Jamaican dollar monetary base to increase only to the extent that the Bank of Jamaica has more U.S. dollars. In economic jargon this is called a 100 percent marginal reserve requirement. Recall that the Jamaican dollar monetary base comprises notes and coins in circulation and deposits of other banks at the Bank of Jamaica. After the date when the exchange rate of, say, J$33 = US$1 was set, the Bank of Jamaica would not be allowed to increase the Jamaican dollar monetary base by J$33 unless it had an additional US$1 in U.S. dollar reserves.

The marginal reserve requirement could be set even higher than 100 percent until reserves reached 100 percent coverage for the entire monetary base. That in effect is what the JLP's proposal for monetary reform would do.

3. Replace the Jamaican dollar monetary base with U.S. dollars as foreign-currency reserves permit. We favor replacing Jamaican dollar notes and coins with U.S. dollar notes and coins at the start of the process, as a sign that will be visible to all Jamaicans. As we said, the foreign-currency reserves of the Bank of Jamaica are already sufficient to do that. Replacing the rest of the monetary base with U.S. dollars, probably in the form of U.S. securities and other interest-earning assets, would take longer since the Bank of Jamaica would need to accumulate additional foreign-currency reserves. Since the Bank's main assets other than its foreign-currency reserves are its holdings of government securities, the Bank would have to sell some of those holdings to obtain sufficient foreign currency to finish complete dollarization, or the government would have to repay its loans from the Bank rather than merely renewing them as it has done in the past.

4. Wind down the financial activities of Bank of Jamaica. The Bank of Jamaica should cease to be a financial institution; instead, it should become purely a regulatory institution. Within the time it replaced the Jamaican dollar monetary base with U.S. dollars, it should transfer ownership of its remaining assets and liabilities to other financial institutions or to the Ministry of Finance, as the case may be. The Ministry of Finance would become the sole manager of government debt, rather than using the services of the Bank of Jamaica as it now does.

5. Retain the other functions of the Bank of Jamaica. At the end of 1993 the Bank of Jamaica had 502 employees (Bank of Jamaica Annual Report 1993: 70). Many are not connected with issuing currency, lending to the government, or other financial activities. Some collect financial statistics, regulate financial institutions, and make studies of the Jamaican economy. Others perform accounting, legal, managerial, security, and building maintenance tasks that are largely internal and are similar to those in private companies of similar size. Those functions would continue even if the Bank of Jamaica ceased all its financial activities. As we suggest later below, however, it would be beneficial to reduce the burden of regulations that the financial system now bears.

Option 2: joining the Eastern Caribbean Central Bank

Another option for far-reaching reform is for Jamaica to join the Eastern Caribbean Central Bank. As with dollarization, the Eastern Caribbean dollar would replace the Jamaican dollar. The Eastern Caribbean dollar in fact uses the U.S. dollar at its anchor currency and is linked to it at EC$2.70 = US$1. The main differences between this option and dollarization are that, on the benefit side, Jamaica would have a vote in making the decisions of the Eastern Caribbean Central Bank and would earn some seigniorage from the central bank; and on the cost side, the Eastern Caribbean dollar does not have as good a historical record as the U.S. dollar and is much less widely accepted in international trade and finance.

The ancestor of the Eastern Caribbean Central Bank was the Board of Commissioners of Currency, British Caribbean Territories (Eastern Group), established in 1951. It became the Eastern Caribbean Currency Authority (a currency board with a few minor added powers) in 1965 and the Eastern Caribbean Central Bank in 1983. From 1954 to 1964 Jamaica was in effect part of a unified currency area with it because notes of the East Caribbean currency board were legal tender in Jamaica and both currencies were linked to the pound sterling and hence to each other (Law 51 of 1954). The unified currency area was part of the unsuccessful broader attempt to sustain the West Indies Federation. In fact, there was even a plan for the federation-wide monetary authority, with one branch in Jamaica and another in the Eastern Caribbean. Act 37 of 1964 repealed the legal tender status of Eastern Caribbean notes in Jamaica, however.

As the previous chapter explained, the Eastern Caribbean Central Bank and its ancestors have performed much better than the Bank of Jamaica over the last 25 years. The main reasons are that the Eastern Caribbean countries inherited a good monetary regime and they have changed it little because major changes require unanimous agreement.

As with dollarization, one benefit compared to continuing with the Bank of Jamaica is that real interest rates and inflation would decline quickly. As of March 1995, the latest date for which published IMF statistics existed when we wrote this, Eastern Caribbean countries that reported to the IMF had Treasury bill rates of 6.4 to 7.0 percent, deposit interest rates of 4.0 to 6.5 percent, and lending rates of 10.0 to 13.0 percent. Jamaica, on the other hand, had a Treasury bill rate of 29.47 percent and a lending rate of 56.4 percent (IMF, International Financial Statistics, July 1995). Inflation rates were in the mid single digits. Low real interest rates are in part due to the low risk of devaluation. A devaluation of the East Caribbean dollar requires unanimous agreement of all governments that belong to the Eastern Caribbean Bank rather than being a unilateral decision as it is now for the Jamaican dollar. Compared to dollarization, joining the Eastern Caribbean Central Bank would have the additional benefit that Jamaica would retain the seigniorage from issuing notes and coins.

The economic costs compared to the current system would be small. There might not be any start-up costs at all. That would depend on what conditions the Eastern Caribbean Central Bank set for allowing Jamaica to join. It might allow Jamaica to join simply by merging the assets and liabilities of the Bank of Jamaica with those of the Eastern Caribbean Central Bank. However, the Eastern Caribbean Central Bank is required to have a minimum ratio of foreign-currency reserves to the monetary base of 60 percent. The foreign-currency reserve ratio of the Bank of Jamaica was 46 percent in March 1995. Achieving a ratio of 60 percent would have required the

Bank of Jamaica to have J$3.9 billion more in foreign-currency reserves.

The Eastern Caribbean Central Bank allows much less room than the Bank of Jamaica for government borrowing. The Eastern Caribbean Central Bank can lend its member governments an amount not exceeding 40 percent of its liabilities. Jamaica would be only one of nine governments fighting for a share of that 40 percent, whereas now the Bank of Jamaica can lend to the government an amount up to 100 percent of the Bank's liabilities. But as with dollarization, those changes are costs to the Jamaican government that would benefit the Jamaican economy as a whole. Observers attribute the strict monetary discipline that the Eastern Caribbean Central Bank imposes as a reason for the generally good record of the East Caribbean countries in maintaining low budget deficits and solid economic growth.

The potential difficulties of joining the Eastern Caribbean Central Bank are political rather than economic. Jamaica has about five times the population and twice as large an economy as the current members of the Eastern Caribbean Central Bank combined. The West Indies Federation dissolved in part because Jamaica did not want to have a voice in the federation much smaller than its actual size. Even if the other members of the Eastern Caribbean Central Bank would accept Jamaica as a member, putting Jamaica on the same footing within the central bank as Grenada or Dominica could probably cause political frictions. Merging the staffs might also be a problem because Jamaicans would dominate the combined institution. The Eastern Caribbean Central Bank currently has about 180 employees compared to about 500 for the Bank of Jamaica.

There is a potential political benefit to joining the Eastern Caribbean Central Bank, though. It might give Jamaica and the Organisation of Eastern Caribbean States more weight in their attempts to negotiate economic agreements with trade blocs such as the North American Free Trade Agreement (NAFTA).

Implementing membership in the Eastern Caribbean Central Bank

Joining the Eastern Caribbean Central Bank would require the following steps. It might be possible to implement the steps within a few months, but the speed would depend partly on the details of the agreement admitting Jamaica as a member of the central bank. For example, the Bank of Jamaica might have to accumulate additional foreign-currency reserves before the Eastern Caribbean Central Bank would allow a merger.

1. Declare a fixed exchange rate between the Jamaican dollar and the East Caribbean dollar, and exchange Jamaican dollar notes and coins for Eastern Caribbean dollar notes and coins. The current exchange rate is about J$12 = EC$1. This or some other suitable exchange rate would be declared to be the rate for converting all Jamaican dollars into Eastern Caribbean dollars. The Eastern Caribbean Central Bank would assume responsibility for issuing and redeeming notes and coins in Jamaica. Eastern Caribbean dollars would become legal tender in Jamaica, as they were from 1954 to 1964.

2. Transfer ownership of the Bank of Jamaica's assets and liabilities to the Eastern Caribbean Central Bank. The Eastern Caribbean Central Bank would own all the central bank assets and liabilities in the unified currency area. As we said, the Eastern Caribbean Central Bank might require an additional payment from the Jamaican government as a condition of membership.

The details would have to be worked out as part of the negotiations for joining the Eastern Caribbean Central Bank.

3. If necessary, devise a plan to make Jamaica comply with the standards that apply to other member governments. The Jamaican government would not be able to borrow from the Eastern Caribbean Central Bank to the same extent it can now borrow from the Bank of Jamaica. It might be desirable to allow a brief transitional period during which the Jamaican government would get preferential treatment, but after the transitional period the Jamaican government would have to comply with the standards that apply to other member governments.

4. Merge the staff of the Bank of Jamaica into the Eastern Caribbean Central Bank. The Bank of Jamaica could continue to function with few organizational changes as the Jamaica branch of the Eastern Caribbean Central Bank. However, ultimate authority for monetary policy would rest with the Eastern Caribbean Central Bank.

Option 3: a currency board

The final option for far-reaching reform that this study will evaluate is to establish a currency board. Previous chapters discussed in some detail what a currency board is and how currency boards have worked in Jamaica and elsewhere.

The U.S. dollar is the obvious choice as an anchor currency for a Jamaican currency board today. Historically, the U.S. dollar has had low inflation, high credibility, full convertibility, and low real interest rates. It has a high likelihood of continuing its good historical performance. The United States is the single largest source of foreign trade, investment, tourism, and remittances for Jamaica.

Compared to central banking, a benefit of a currency board system would be that inflation and real interest rates would decline. Unlike dollarization but like joining the Eastern Caribbean Central Bank, a currency board would allow the Jamaican government to continue earning seigniorage from issuing notes and coins.

A currency board would not lend to the Jamaican government, so the government would be unable to create inflation by means of the currency board. The 100 percent foreign-currency reserve requirement and the fixed exchange rate in combination would prevent the government from ordering the currency board to print money to pay government expenses as it now can do with the Bank of Jamaica. But that would be a cost only to the government; the Jamaican economy as a whole would benefit from the restraint on inflation.

A currency board would not be quite as credible as dollarization. Some exchange risk would remain, because the Jamaican government might be able to find a loophole in the law that would enable the government to subvert the currency board system, say by devaluing the Jamaican dollar. With dollarization the Jamaican government would be unable to devalue the U.S. dollar. However, a currency board would be much more credible than the Bank of Jamaica is now and probably as credible or more credible than the Eastern Caribbean Central Bank.

The political difficulties of establishing a currency board would probably be less than those of dollarization, and certainly less than those of joining the Eastern Caribbean Central Bank. A currency board would allow Jamaica to keep the Jamaican dollar as its national currency and

would require no cooperation with other Caribbean countries in conducting a common monetary policy.

Implementing a currency board

Establishing a currency board would require steps that in many ways are similar to those for implementing dollarization. As with dollarization, it would be possible to establish a currency board very quickly--within a month of passing appropriate legislation--and to finish the conversion from central banking within two years.

1. Declare a fixed exchange rate between the Jamaican dollar and the U.S. dollar. As with the first step of dollarization, the government would declare that henceforth the exchange rate would be J$33 = US$1, or some other rate that was determined to be suitable. The Bank of Jamaica would be required to exchange U.S. dollars for Jamaican dollars or Jamaican dollars for U.S. dollars at the fixed exchange rate. As has happened in Hong Kong, Argentina, Estonia, and Lithuania, announcing a currency board in Jamaica should inspire confidence in the Jamaican economy and result in further inflows of foreign-currency reserves as quickly or more quickly than has been happening under the Bank of Jamaica.

2. Allow the Jamaican dollar monetary base to increase by no more than the extent that the Bank of Jamaica has more U.S. dollars. As with the second step of dollarization, after the date when the exchange rate of, say, J$33 = US$1 was set, the Bank of Jamaica would not be allowed to increase the Jamaican dollar monetary base by J$33 unless it had an additional US$1 in U.S. dollar reserves. The marginal reserve requirement could be set even higher than 100 percent until reserves reached 100 percent of the entire monetary base, as in the JLP's proposal for monetary reform.

3. Retain profits at the currency board until the currency board has foreign-currency reserves equal to the Jamaican dollar monetary base. The currency board should retain all profits from its operations until its foreign-currency reserves equalled 100 percent of the Jamaican dollar monetary base. After that it could establish a reserve fund equal to a specified percentage of its assets--say, 10 percent, as with the previous Jamaican currency board. The reserve fund would guard against the possibility of the currency board's foreign-currency reserves falling below 100 percent because of a default on the foreign securities it held. The currency board would pay to the government all profits other than those needed to operate the currency board and maintain the specified ratio of foreign-currency reserves.

As under dollarization, other ways to increase foreign-currency assets to 100 percent would be for the government to repay the loans the Bank of Jamaica has made to it or for the Bank of Jamaica to sell its government securities to the private sector.

4. Wind down the financial activities of Bank of Jamaica other than issuing and redeeming the monetary base. At present the Bank of Jamaica performs financial activities that a currency board would not, mainly lending to the government and government enterprises. The Bank of Jamaica should cease performing these activities and should transfer ownership of its remaining assets and liabilities to other banks or the Ministry of Finance, as the case may be. The Ministry of Finance would become the sole manager of government debt, rather than using the services of

the Bank of Jamaica as it now does.

5. Split the Bank of Jamaica into two successor organizations: the currency board and a superintendency of financial institutions. After the previous steps the Bank of Jamaica would be left with two main activities: issuing the monetary base and regulating financial institutions. It would be best to make the activities into separate organizations to emphasize the break between central banking and the currency board system. Employees who now deal with issue of the monetary base and management of foreign-currency reserves would become employees of the currency board, and employees who now deal with other matters would become employees of a new superintendency of financial institutions. The superintendency would regulate financial institutions, gather financial statistics, and conduct studies of the financial sector--in short, everything the Bank of Jamaica now does that does not involve issuing the monetary base or managing government debt. Employees of the Bank of Jamaica who now deal with government debt would become employees of the Ministry of Finance doing a very similar job.

6. Make the currency board a "deeply entrenched" part of the Jamaican constitution. The stronger the legal protection the currency board would have, the faster it would become fully credible and the faster the Jamaican economy would benefit from lower real interest rates. Even a currency board with weak legal protection would be more credible than the Bank of Jamaica, but making the currency board a "deeply entrenched" part of the Jamaican constitution would provide Jamaicans maximum protection from attempts to alter the exchange rate or convert the currency board into an inflation-prone central bank. It would also hasten the convergence of interest rates in Jamaica with those in the United States because strong legal protection for the currency board would further reduce exchange-rate risk.

To emphasize the confidence of the government in the strength of the Jamaican dollar, the U.S. dollar could be allowed to be legal tender, as in Argentina.

Summary of the benefits and costs of the options

Table 6 summarizes the benefits and costs of dollarization, joining the Eastern Caribbean Central Bank, and a currency board. Notice that the table lists lack of monetary flexibility as a cost for all three options. The next chapter discusses whether this is in fact a net cost.

Table 6. Benefits and costs of options for monetary reform compared to current monetary regime

	Benefits compared to current regime	**Costs compared to current regime**
Dollarization	Lower real interest rates and inflation, no possibility of devaluation	Loss of seigniorage from notes and coins, no monetary flexibility or ability to finance government budget deficits;* start-up costs of as much as J$2.2 billion to obtain additional foreign-currency reserves for immediate dollarization, but zero start-up costs for gradual dollarization
Eastern Caribbean Central Bank	Lower real interest rates and inflation (not as low as with dollarization), smaller possibility of devaluation, retention of profits from issuing monetary base	limited monetary flexibility because important decisions require unanimous agreement; less ability to finance government budget deficits;* start-up costs as little as zero
Currency board	Lower real interest rates and inflation (lower than with Eastern Caribbean Central Bank but higher than with dollarization), possibility of devaluation much smaller, retention of seigniorage	No monetary flexibility or ability to finance government budget deficits;* start-up costs zero

*Inability to finance government budget deficits is a cost to the government, but may well benefit the economy as a whole.

Financial and economic reforms to accompany any option

Most of the extensive controls on financial activity that the government imposed in the 1970s have been removed in recent years. A few controls that are harmful to financial institutions and the economy still remain. The government should reduce or eliminate them.

Commercial banks face a cash reserve requirement of 25 percent and a liquid assets requirement of 50 percent of their Jamaican dollar deposits. To reiterate, the cash reserve requirement forces commercial banks to hold a minimum proportion of cash or noninterest-bearing deposits at the Bank of Jamaica. The liquid assets requirement includes the cash reserve requirement; it forces commercial banks to hold a minimum proportion of cash, noninterest-bearing deposits at the Bank of Jamaica, or low-interest Jamaican government and Bank of Jamaica securities.

The cash reserve requirement more than twice as much as reserve requirements for commercial banks in the United States. Consequently, to earn the same rate of return on the remaining deposits they can lend, commercial banks in Jamaica must charge higher interest rates than commercial banks in the United States. The cash reserve requirement should at least be reduced to the U.S. level and should not vary, so as to prevent the government from using reserve requirements as a tool of discretionary monetary policy. We would prefer going further and abolishing the cash reserve requirement. (An intermediate policy would be to retain the current requirement but pay a market rate of interest on cash reserves.) If the cash reserve were abolished, commercial banks and other financial institutions would still hold cash to meet the demands of their customers to convert deposits into cash, but they would not be forced by law to hold cash they did not need.

The liquid assets requirement of 50 percent has no counterpart in the United States or in many other countries. The requirement in effect forces commercial banks to invest 25 percent of deposits in government securities. That reduces lending to the private sector and enables the government to pay below-market interest rates on its securities. The liquid assets requirement should be eliminated.

Some financial institutions have complained that the Bank of Jamaica and the Ministry of Finance are unsympathetic to innovative kinds of finance, such as lending from one affiliate of a financial group to another affiliate or establishing new kinds of affiliates. Some of the same institutions and others have complained that the Financial Institutions Act is too restrictive. Without a detailed investigation it is impossible to say whether they are right, but we note in passing that Jamaica will not become the financial center of the Caribbean, as some people hope, if financial regulation is burdensome compared to regulation in Nassau, Grand Cayman, or Miami. We also note that a low-inflation, fully convertible local currency strengthens the ability of a country to become a financial center.

Finally, we stress that to yield the greatest benefits to the Jamaican economy, any of the three options for far-reaching monetary reform requires parts of the economy other than the exchange rate to be flexible. Government policies that index wages to inflation or establish rigid labor laws can be especially harmful. Argentina had many unsuccessful monetary reforms before 1991. A feature many shared was that they permitted indexation to continue. The successful 1991 reform, which imposed some features of a currency board on the central bank, outlawed

indexation. Although Argentina has grown rapidly since the reform (see Table 7), unemployment has approximately trebled to 18.6 percent. Privatized former government enterprises have fired many workers to improve their efficiency. The unemployed workers have had difficulty getting new jobs because Argentine law makes it very expensive for large employers to fire workers. Large employers cannot easily hire workers for short periods or on a trial basis, so Argentina has more unemployment than it would if labor laws were less rigid.

Results of reform

Any of the three options for monetary reform that this study has evaluated would perform better than the Bank of Jamaica has. Any of them would therefore help the Jamaican economy grow faster than it has under the Bank of Jamaica. A good monetary regime alone cannot create economic growth, but it is a necessary part of a favorable climate for economic growth.

Any of the three options would tend to reduce inflation and interest rates and reduce or eliminate the risk of devaluation. Inflation in the United States and the Eastern Caribbean countries has been in low to mid single digits in recent years, compared to double digits in Jamaica. Borrowers of U.S. or Eastern Caribbean dollars pay 10 percentage points less in real interest than borrowers of Jamaican dollars. Under a currency board, interest rates on Jamaican dollar loans would tend towards the rates that now apply to U.S. dollar loans, but the speed of convergence would depend on the credibility of the currency board arrangement. The more legal protection the currency board would have, the more immediate credibility it would have.

Any of the three options would encourage higher economic growth in Jamaica by making the local currency a more reliable long-term store of value and thereby encouraging investment. It is impossible to forecast precisely the effect of a far-reaching monetary reform on economic growth and inflation, but the experience of other countries offers a rough idea of what would probably happen. The previous chapter reviewed the experience of other Caribbean countries. Other relevant examples are Argentina, Estonia, and Lithuania. All three have reversed their previous economic declines and have begun to enjoy strong economic growth in the last few years under currency board-like systems. (The systems differ from orthodox currency board systems in allowing some room for monetary management, such as restricted convertibility initially, limited lending to the government or commercial banks, and legal protection of uncertain value.)

Table 7 gives some important economic statistics for the currency board-like systems. Note that inflation in Estonia and Lithuania is still in mid double digits. As part of their move to a market economy, Estonia and Lithuania are experiencing big changes in the prices of certain goods that affect the consumer price index. Rent and land prices have increased rapidly as Estonia and Lithuania have removed price controls that formerly limited rents to one-tenth or less of market rates. Another cause of reported inflation is that under socialism the governments of Estonia and Lithuania earned considerable revenue from so-called turnover taxes, a combination sales and profit tax that was largely hidden from public scrutiny. The government have replaced turnover taxes with value-added taxes, which are more appropriate for a market economy. The new taxes add to reported inflation because they are open rather than hidden. Similar changes have occurred in other former Soviet republics; in fact, almost all have had much higher inflation with central

banking than Estonia and Lithuania have had with currency board-like systems. Despite high reported inflation in consumer prices, Estonia and Lithuania have remained economically competitive with other countries, including their anchor-currency countries. As they complete the structural changes of moving to a market economy, consumer price inflation will fall to much lower levels, as it has in Argentina.

Based on the experience of the currency board-like systems and other countries that have made far-reaching monetary reforms, a rough estimate is that any of the three options for monetary reform that we have proposed would add at least 1 percentage point a year to Jamaica's economic growth, and possibly as much as 3 percentage points. Inflation would fall below its current level, into mid or high single digits.

Business fluctuations would remain under any of the three options. To eliminate business fluctuations, monetary policy would have to have perfect tools to do the job, perfect knowledge of when to use them, and perfect response when it did use them. No known monetary regime has such perfection in any respect.. The Bank of Jamaica has aggravated business fluctuations through its erratic policies on exchange rates, convertibility, government finance, and inflation. Eliminating the Bank of Jamaica would therefore probably reduce business fluctuations by eliminating one of the main sources of destabilizing economic policy.

Dollarization or a currency board would allow Jamaican businesses direct access to financial markets in the United States. Under dollarization there would be no risk of devaluation; under a currency board the risk would be much smaller than it is now. Jamaican businesses could take full advantage of facilities that exist in the United States for hedging financial risks, such as futures, options, and swaps. Direct access to financial markets in the United States would also help Jamaica in its attempt to become a regional financial center. Joining the Eastern Caribbean Central Bank would leave a larger risk of devaluation than dollarization or a currency board. Also, the Eastern Caribbean dollar is not as widely accepted internationally as the U.S. dollar and would not help Jamaica as much in gaining more access to U.S. financial markets.

The next chapter explains how the financial system could be free from panics even without a lender of last resort under dollarization or a currency board.

Table 7. Economic statistics of recent currency board-like systems

Country, date of currency board-like system	Annual % consumer price inflation	Annual % economic growth (GDP)
Argentina, 1 April 1991	1990: 2,314.7 1991: 171.7 1992: 24.9 1993: 10.6 1994: 4.1 1995 (est.): 2-4	1990: 0.1 1991: 8.9 1992: 8.7 1993: 6.0 1994: 7.1 1995 (est.): 2-4
Estonia, 20 June 1992	1990: 17.2 1991: 210.6 1992: 1,069.0 1993: 89.0 1994: 47.8 1995 (est.): 20-25	1990: -3.6 1991: -7.9 1992: -21.6 1993: -6.6 1994: 6.0 1995 (est.): 4-6
Lithuania, 1 April 1994	1990: 8.4 1991: 224.7 1992: 1,020.5 1993: 410.4 1994: 72.2 1995 (est.): 25-35	1990: -5.0 1991: -13.1 1992: -56.6 1993: -16.5 1994: 1.5 1995 (est.): 3-5

Note: Economic growth is not adjusted for change in population.

Sources: IMF 1994b, c, 1995a; press reports (1995 estimates).

6. Objections to replacing the Bank of Jamaica

We have argued that dollarization, the Eastern Caribbean Central Bank, or a currency board would perform better than the Bank of Jamaica. To investigate whether those options have disadvantages compared to allowing the Bank of Jamaica to continue to exist, this chapter considers the main objections to all three options. Because the options have many similarities, the objections to them also have many similarities. Readers who are interested in or object to a currency board should be aware that in another book we have answered objections to it at greater length (Hanke, Jonung and Schuler 1993: 37-40, 132-45).

Loss of sovereignty

The most frequent objection, especially to dollarization or a currency board, is that they would reduce Jamaica's sovereignty by depriving it of an independent monetary policy.

We reply that dollarization or a currency board by themselves create no colonial relationship. Panama is no less sovereign for being dollarized; El Salvador is no less sovereign for planning to become dollarized soon; Argentina, Estonia, and Lithuania are no less sovereign for having currency board-like systems. In fact, at a news conference at the January 1995 meeting of the World Economic Forum in Switzerland, the prime ministers of Estonia and Lithuania explained that currency board-like systems had strengthened their countries' independence from Russia. Currency board-like systems have helped Estonia and Lithuania reorient trade quickly from Russia to the West. In contrast, most other former Soviet republics remain quite dependent on trade with Russia because their low-quality currencies hinder trade with the rest of the world. The special arrangements they maintain with Russia subject them to Russian political pressure.

The effect of dollarization or a currency board is not to create a colonial relationship, but to achieve more credibility than a local central bank can. That is why the Hong Kong dollar is linked to the U.S. dollar, even though Hong Kong is a British colony. The Bank of England perhaps has more credibility than a Hong Kong central bank would have, but the U.S. Federal Reserve System has more credibility still.

Nor have countries that have joined multinational central banks been less sovereign for having done so. Besides the Eastern Caribbean Central Bank, two other multinational central banks exist today: the Banque Centrale des Etats de l'Afrique de l'Ouest and the Banque des Etats de l'Afrique Centrale, whose members are 12 former French colonies and Equatorial Guinea. There is no question that all the member countries are completely sovereign.

The monetary sovereignty argument is a smokescreen used to conceal the poor performance of Jamaica's monetary institutions. Under the allegedly colonialist currency board the Jamaican pound maintained a fixed exchange rate with its anchor currency, the pound sterling. Under the Bank of Jamaica (that is, since 1961), the Jamaican dollar has depreciated 97 percent against the U.S. dollar and 92 percent against sterling. By allowing depreciation to occur the Jamaican government and the Bank of Jamaica have over the years robbed Jamaicans of billions of dollars in savings. Allowing the Bank of Jamaica in its present form leaves open the possibility for more inept monetary management and robbery in the future.

The behavior of the Jamaican people themselves shows how flawed the monetary sovereignty argument is. The widespread unofficial dollarization present in Jamaica is more revealing than any theoretical debate about monetary sovereignty. Jamaicans have already voted with their pocketbooks for the U.S. dollar, even though it is not legal tender in Jamaica.

A step backwards

Another objection to all three options we have evaluated is that abolishing the Bank of Jamaica would be a step backwards in the evolution of Jamaica's monetary regime. Jamaica has spent much effort building its own central bank and it would be a shame to waste that effort. This line of reasoning apparently considers anything new to be better than what it replaces.

We reply that the real step backwards was to establish the Bank of Jamaica. Had Jamaica continued with its own currency board or joined the East Caribbean currency board (today the Eastern Caribbean Central Bank), Jamaica would have had lower inflation and higher economic growth than it has had with the Bank of Jamaica. Like the argument about loss of sovereignty, this argument is a smokescreen to hide how badly the government and the Bank of Jamaica has mismanaged the currency over the years. The options for monetary reform that we have evaluated would be a step forward because they would provide a good currency, which Jamaica now lacks.

No flexibility

Another frequent objection to all three options, especially to dollarization or a currency board, is that they would deprive the Jamaican government of the flexibility to make changes in the supply of money to offset external or internal shocks to the Jamaican economy, such as a plunge in the price of bauxite or a hurricane.

Convincing theoretical arguments exist that "flexibility" in monetary policy on balance is destabilizing rather than stabilizing. Since the theoretical arguments are only of interest to academic economists, we invite readers who are interested in the theoretical arguments to read about them elsewhere (Hanke, Jonung, and Schuler 1993: 37-40).

We turn instead to the actual record of flexible monetary policy in Jamaica. The Bank of Jamaica has been as flexible as a wet dishrag. Whatever the government has wanted it to do, it has done. As chapter 4 showed, Jamaica had better economic performance when monetary policy was not so flexible, and other countries with less flexible monetary policies than Jamaica have had better monetary and economic performance than Jamaica. Indeed, less flexible monetary regimes have generally had much less inflation than more flexible regimes. The former chairman of the U.S. Federal Reserve System, Paul Volcker, has remarked that "if the overriding objective is price stability, we did better with the nineteenth-century gold standard and passive central banks, with currency boards, or even with 'free banking'" (Deane and Pringle 1995: vii-viii). Putting some backbone into Jamaica's monetary policy would reduce or eliminate the possibility of the government using flexible monetary policy as a way of mismanaging the economy.

No lender of last resort

A closely related objection to dollarization and a currency board is that they would be susceptible to financial panics because they would lack a central bank as a lender of last resort to financial institutions in danger of failing. The objection does not apply to joining the Eastern Caribbean Central Bank.

We reply that lack of a central bank as a lender of last resort does not seem to have harmed countries with dollarization or currency boards. Jamaica experienced no failures by commercial banks during the period when the currency board system was dominant (1942-61); and indeed, no commercial bank has failed in Jamaica since Sterling's Bank in 1927, although a merchant bank, Jamincorp Merchant, ceased operations in 1986. No large commercial bank has ever failed in a currency board system, and losses to depositors from the few small commercial banks that failed have been tiny (Schuler 1992b: 191-3). (Some large commercial banks that specialized in serving state enterprises have failed in the currency board-like system of Estonia, but their problems originated from the bad loans they made under Soviet rule and did not affect the commercial banks that served most consumers. Some merchant have failed this year in Argentina, whose banking system has long been notoriously overregulated and overbanked.)

An important source of stability for banks under dollarization or currency boards has been the ability to borrow abroad. Because dollarization and currency boards eliminate risk with the anchor currency, they facilitate access to international financial markets for banks that are temporarily short of cash but fundamentally sound. The only recent exception to this that we know of occurred in the spring of 1995 in Argentina. During the Mexican peso crisis, foreign banks with branches in Argentina stopped lending to the branches, citing a fear of devaluation. Argentina's currency board-like system contained some loopholes that worried foreign investors. During the crisis the Argentine government closed some of the loopholes, announced plans to reduce spending, and obtained enough local and foreign funding to end a short but severe credit squeeze. The foreign banks missed lucrative opportunities to lend (Hanke 1995).

If Jamaicans are worried about the possibility of a financial panic, we suggest they consider a deposit insurance scheme. The scheme should be private and voluntary. Switzerland, Germany, and other countries have deposit insurance schemes that could serve as models for Jamaica (see Talley and Mas 1990). Insurance should cover at most, say, 80 per cent of the value of large deposits, so that depositors have an incentive to avoid imprudently managed banks that pay unsustainable high interest rates. A deposit insurance fund would fulfill the functions of the liquidity fund that the IMF is requiring El Salvador to establish. (El Salvador currently has government deposit insurance, but no deposit insurance fund. The government would have to pay depositors of a failed bank directly from the government budget.)

Another way to reduce the risk of financial panics would be for commercial banks to include a "notice of withdrawal clause" (option clause) in their contracts with depositors. The notice of withdrawal clause would allow a commercial bank to delay for a set period the requests of depositors to convert notes into currency board notes and coins. In return, the bank would pay a penalty rate of interest; for example, 3 per cent above the rate prevailing before it exercised the notice of withdrawal clause. Banks would be free to offer a notice of withdrawal clause or not, and depositors would be free to do business with such banks or not (see Dowd 1988). Notice of

withdrawal clauses have precedents; for example, they were widespread among savings banks in the United States until perhaps the 1970s.

Yet another way to handle the prospect of financial panics in a currency board system would be for the currency board to pay some of its profits into a special fund for lending to financial institutions that are fundamentally sound but are experiencing temporary difficulties. In the currency board-like systems of Estonia and Argentina, foreign-currency reserves of the central banks exceeding the 100 percent required to back the monetary base are available to lend to financial institutions. However, the central banks cannot print money to lend to financial institutions, and in Argentina the central bank can only lend to financial institutions with a positive net worth.

Jamaica is so big it must have its own central bank

Another objection to all three options is that the Jamaican economy is so big and complex that Jamaica has to have its own central bank to make the economy work well.

We reply that the size of the Jamaican economy as measured by gross domestic product (GDP) was about US$3.8 billion in 1993. The GDP of Hong Kong was about US$90 billion and the GDP of Argentina was about US$256 billion (World Bank 1995: 166-7). In recent years the annual growth alone in Hong Kong and Argentina has been bigger than the entire Jamaican economy. Hong Kong has a currency board and Argentina has a currency board-like system. If they can prosper without a typical central bank, so can Jamaica.

Cost to the economy

Another objection, which applies especially to dollarization and a currency board, is that they would be costly to the Jamaican economy. The previous chapter explained the potential costs of obtaining more foreign-currency reserves for dollarization or a currency board. (The chapter also explained how to obtain the foreign-currency reserves by selling the Bank of Jamaica's government securities.) The costs would arise because the Bank of Jamaica's net foreign-currency reserves are less than the Jamaican monetary base. Recall that as of March 1995, the monetary base was J$28.2 billion and the Bank of Jamaica's net foreign-currency reserves were J$13 billion. Providing 100 percent foreign-currency reserves for the monetary base would require the Bank of Jamaica to obtain an additional J$15.2 billion in net foreign-currency reserves. To obtain the foreign currency, Jamaicans would have to spend less than they otherwise could. That would cause deflation compared to a central banking system and would impose continuing costs of maintaining the necessary level of U.S. dollars, both of which would reduce economic growth.

We reply that this objection, while true under certain unlikely theoretical assumptions, has had no practical consequences. It ignores the possibility of obtaining U.S. dollars by way of increased foreign investment, which would not require Jamaicans to spend less than they do now. During its currency board period that is in fact how Jamaica obtained much of the foreign-currency reserves for its currency board. Hong Kong, Argentina, Estonia, and Lithuania have had

similar experiences: all have built up foreign-currency reserves while enjoying rapid economic growth under currency boards or currency board-like systems. And Puerto Rico has had higher growth under dollarization than Jamaica has had under a central bank. None of those other countries has suffered deflations. Although their monetary regimes have imposed some additional costs of holding reserves, they have avoided the much costlier dislocations that the Bank of Jamaica has caused.

Ineffectiveness

The final objection we will consider is that the options we have evaluated would not restrain deficit spending by the Jamaican government. The cause of the Bank of Jamaica's poor historical performance has been that the government has used it to finance deficits. If the government had balanced its budgets it would not have needed the Bank of Jamaica to create inflation. If Jamaica adopts one of the options we proposed but the government continues deficit spending, the objection claims that the government will find a way to undermine the new monetary regime. Even governments in some dollarized countries have found ways of maintaining levels of deficit spending higher than financial markets were willing to finance voluntarily, for example by delaying payment of wages to government workers.

To us the possibility that the government may try to undermine any of the options for monetary reform emphasizes the need for strong legal protection to insulate the monetary reform from political pressure. The strongest form of legal protection would be to make the monetary reform a "deeply entrenched" part of the Jamaican constitution.

But suppose the monetary reform is not made part of the constitution. In most recent cases the kind of far-reaching monetary reforms we have discussed have been established by statute law, not by national constitutions. Even so, most countries that have been dollarized, belonged to the Eastern Caribbean Central Bank, or had currency boards have not used regulatory tricks to force financial markets to hold their debt. Instead they have had much lower deficit spending than Jamaica, and when they have issued debt, financial markets have been willing to hold it voluntarily. Any of the three options would be a stronger barrier against deficit spending than the Bank of Jamaica now is. Deficit spending would still be possible, but it would be more difficult and when it occurred it would be more visible to public scrutiny.

Dollarization, the Eastern Caribbean Central Bank, or a currency board would be a form of "monetary constitution" for Jamaica. A monetary constitution cannot absolutely guarantee a sound currency, just as a political constitution cannot absolutely guarantee the rights of citizens. Dictators have taken over countries with good political constitutions. Monetary and political constitutions are valuable even so because they define standards, and if the constitutions are well designed they discourage attempts to pervert standards.

7. Conclusion

Jamaica faces a choice between a market-led monetary regime and a managed monetary regime. Managed monetary regimes have performed poorly in Jamaica and in other developing countries. Under the Bank of Jamaica, Jamaica has suffered high inflation, depreciation of the Jamaican dollar, and low economic growth. Although the performance of the Bank of Jamaica has improved recently, the Bank still lacks credibility. As a result, real interest rates in Jamaica are very high, which stifles business activity. The experience of Jamaica and other countries suggests that the Bank of Jamaica eventually will try to take the sting out of high real interest rates by creating more inflation and that the Jamaican dollar will therefore depreciate again.

The poor historical performance of the Bank of Jamaica contrasts with the good performance of some other monetary regimes in Jamaican history and in the Caribbean today. There is no shortage of suitable options that would perform better than the Bank of Jamaica has. We have evaluated three options that have performed better in the past than the Bank of Jamaica and continue to perform better now: dollarization, the Eastern Caribbean Central Bank, and a currency board. All are more market-led than the current monetary regime. Any one would be a significant improvement over the Bank of Jamaica, and would benefit the Jamaican economy by establishing a monetary regime that would have credibility and provide low inflation. A good monetary regime does not guarantee rapid economic growth, but it is hard to have rapid growth without a good monetary regime.

Other countries have made far-reaching monetary reforms like those this study has evaluated. They eventually overcame political obstacles that protected unsatisfactory monetary regimes. Our experience from being involved in debate about monetary reforms in several countries is that reform is possible and can be politically popular. The politicians who created the currency board-like systems of Argentina, Estonia, and Lithuania gained much popularity. One step in making reform possible is to make the public aware of the performance of the current monetary regime and of alternatives to the current monetary regime. We hope that this study contributes to informed debate about the monetary regime in Jamaica.

Jamaicans deserve a monetary regime that is predictable and that does not inflict hardship on most of them by means of high inflation. The Bank of Jamaica has failed to provide a good monetary regime. It is time to replace the current monetary regime with one that will be stable and durable.

Summary of proposals

Option 1: dollarization

1. Declare a fixed exchange rate between the Jamaican dollar and the U.S. dollar.
2. Allow the Jamaican dollar monetary base to increase only to the extent that the Bank of Jamaica has more U.S. dollars.
3. Replace the Jamaican dollar monetary base with U.S. dollars as foreign-currency reserves permit.
4. Wind down the financial activities of Bank of Jamaica.
5. Retain the other functions of the Bank of Jamaica.

Option 2: joining the Eastern Caribbean Central Bank

1. Declare a fixed exchange rate between the Jamaican dollar and the East Caribbean dollar, and exchange Jamaican dollar notes and coins for Eastern Caribbean dollar notes and coins.
2. Transfer ownership of the Bank of Jamaica's assets and liabilities to the Eastern Caribbean Central Bank.
3. If necessary, devise a plan to make Jamaica comply with the standards that apply to other member governments.
4. Merge the staff of the Bank of Jamaica into the Eastern Caribbean Central Bank.

Option 3: a currency board

1. Declare a fixed exchange rate between the Jamaican dollar and the U.S. dollar.
2. Allow the Jamaican dollar monetary base to increase only to the extent that the Bank of Jamaica has more U.S. dollars.
3. Retain profits at the currency board until the currency board has foreign-currency reserves equal to the Jamaican dollar monetary base.
4. Wind down the financial activities of Bank of Jamaica other than issuing and redeeming the monetary base.
5. Split the Bank of Jamaica into two successor organizations: the currency board and a superintendency of financial institutions.
6. Make the currency board a "deeply entrenched" part of the Jamaican constitution.

Financial reforms

Reduce or eliminate the cash reserve requirement; alternatively, pay a market rate of interest on cash reserves.

Eliminate the liquid assets requirement.

Appendix: a model currency board constitution

To illustrate the legal foundation necessary for a Jamaican currency board to work efficiently, this appendix offers a model constitution for a currency board. The model constitution has many features adapted from the constitutions of currency boards in Jamaica and elsewhere. A currency board would have the most solid legal foundation if it were established as a "deeply entrenched" part of the Jamaican constitution.

Currency board constitution

1. The government of Jamaica hereby establishes the Jamaican Currency Board. The purpose of the Currency Board is to issue notes, coins, and deposits in Jamaican dollars (J$), fully backed by a foreign anchor currency, and to maintain them fully convertible at a fixed exchange rate into the anchor currency as specified in paragraph 6.

2. The Currency Board shall have its main office in Kingston. It may establish offices or appoint agents elsewhere.

3. a. The Currency Board shall be governed by a board of three directors. The directors shall be appointed by the Governor General with the approval of at least two-thirds of both Houses of Parliament.

b. A quorum shall consist of two members of the board of directors. Decisions shall be by majority vote, except as specified in paragraph 15.

c. One of the first three directors of the Currency Board shall serve a term of three years, another shall serve a term of five years, and the third shall serve a term of seven years. Subsequent terms for all directors shall be seven years. Directors may be reappointed once. Should a director resign or die, the Governor General with the approval of two-thirds of both Houses of Parliament shall appoint a replacement to serve the rest of the director's term.

d. Directors may be dismissed by the Governor General with the approval of two-thirds of both Houses of Parliament. Directors may only be dismissed for physical incapacity or misbehavior.

4. The board of directors shall have the power to hire and fire the Currency Board's staff, and to determine salaries for the staff. The by-laws of the Currency Board shall determine salaries for the directors.

5. The Currency Board shall issue notes and coins denominated in Jamaican dollars. The notes and coins shall be fully convertible into the anchor currency. The Currency Board may accept deposits of the anchor currency.

6. a. The anchor currency is the foreign currency or the commodity to which the currency board currency has a fixed exchange rate. Initially, the anchor currency shall be the U.S. dollar (US$) and the fixed exchange rate shall be [J$33 = US$1, for example].

b. Failure to maintain the fixed exchange rate with the anchor currency shall make the Currency Board subject to legal action for breach of contract. This provision does not apply to embezzled, mutilated, or counterfeited notes, coins, and deposits, or to changes of the anchor currency in accord with paragraph 12.

7. The Currency Board shall charge no commission for exchanging Jamaican dollars for the anchor currency, or the anchor currency for Jamaican dollars.

8. The Currency Board shall begin business with foreign-currency reserves equal to at least 100 per cent of its liabilities. It shall hold its foreign-currency reserves in investment-grade securities or other forms payable only in the anchor currency. The Currency Board shall not hold securities issued or guaranteed by the national or local governments of Jamaica, or securities issued by enterprises owned by those governments.

9. The Currency Board shall pay all net seigniorage (profits) into a reserve fund until its unborrowed reserves equal 110 per cent of its notes and coins in circulation and deposits. It shall remit to the government of Jamaica all net seigniorage beyond that necessary to maintain 110 per cent reserves. The distribution of net seigniorage shall occur annually.

10. The Currency Board shall publish a financial statement, attested by the directors, every two weeks or more often. The financial statement shall be published not later than ten business days after the end of the previous reporting period. The statement shall appraise the Currency Board's holdings of securities at their market value.

11. The Currency Board may issue notes and coins in such denominations as it judges to be appropriate.

12. Should the annual change in the consumer price index in the anchor country fall outside the range -5 per cent to 20 per cent for more than two years, or -10 per cent to 40 per cent for more than six months, within sixty days the Currency Board must either:

a. Devalue (if the change in the index is negative) or revalue (if the change in the index is positive) the currency board currency in terms of the anchor currency by no more than the change in the index during the period just specified, or

b. Choose a new anchor currency and fix the exchange rate of the currency board currency to the new currency at the rate then prevailing between the new anchor currency and the former anchor currency.

13. If the Currency Board chooses a new anchor currency in accord with paragraph 12, within one year it must convert all its foreign-currency reserves into assets payable in the new anchor currency.

14. The Currency Board may not be dissolved nor may its assets be transferred to a successor organization except by the procedure for amending a "deeply entrenched" part of the Constitution of Jamaica.

15. The Currency Board may not accept loans or grants of reserves.

16. Exchanges by the Currency Board shall be exempt from taxation by the government of Jamaica.

17. Jamaican dollars issued by the Currency Board shall be legal tender for paying taxes and settling debts in Jamaica except where the parties involved have contracted for payment in another currency.

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