LESSONS FROM THE MONETARY EXPERIENCE OF PANAMA: A DOLLAR ECONOMY WITH FINANCIAL INTEGRATION
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Panama's monetary system has the following characteristics: (1) The U. S. dollar is the medium of exchange, while the balboa, the national currency, is a unit of account and exists only as silver coins; (2) capital markets are free, with almost no government intervention or restrictions on banking transactions, financial flows, or interest rates; (3) many international banks operate in Panama; and (4) there is no central bank. As such, the economy of Panama can be considered a "control case" in a simulation experiment, where the monetary and macroeconomic equilibrium process can be studied without financial sector distortions, government intervention, or central bank policies. Hence, Panama's experience reveals the "experimental market answer" to many macroeconomic issues, and the central importance of financial integration.

The Monetary Experience of Panama

Financial Integration

In 1904, the U. S. dollar became legal tender in Panama. In 1970, a new banking law allowed Panama's monetary system to become integrated with the world financial markets, through the participation of a large number of international banks. Banks were attracted to Panama to do offshore banking, but the majority also operate in the local market. Equilibrium in the banks' portfolios implies that banks are indifferent, at the margin, between using their resources locally

or abroad, and therefore they adjust their portfolios accordingly. An excess supply of money leads to higher bank liquidity. Banks evaluate profitable projects (at acceptable levels of risk), and when these are exhausted, they place excess liquidity abroad, directly or via the intermediation of international banks in Panama. The opposite is true when there is an excess demand for money or credit.

The adjustment of banks' portfolios is a key mechanism for the monetary system, enabling it to vent an excess demand or supply of money and to smooth out fluctuations. Otherwise, variations in foreign exchange would create fluctuations in the level of expenditures, which has not been the case. Access to international capital increases the availability of resources, which allows the level of investment to be independent of, and not limited by, local savings. Thus, credit and deposits by individual banks show no correlation (Sjaastad 1977). This indifference of banks between allocating their resources in the local or foreign market is what we call "financial integration."

Interest Rates

The use of the dollar and the existence of a large number of banks have created a very competitive banking system in Panama, with low country risk and no devaluation risk. Under financial integration, interest rates are determined by, and close to, world market rates, adjusted for transaction costs and risk. International banks conduct local retail operations and operate wholesale via interbank deposits, borrowing abroad and lending to local banks, or receiving local funds to invest abroad, serving as brokers or intermediaries. International banks pay close attention to the London interbank offered rate (LIBOR), the cost of their alternative source of funds. The average deposit rate in Panama is less than 1 percentage point above LIBOR (local banks pay somewhat higher rates). The average lending rate to the commercial sector is now less than 2 percentage points above the U.S. prime rate. Panama's interest rates compare favorably with interest rates in other Latin American countries, where dollar-equivalent rates for loans, with few exceptions, are around 20 percent a year or higher, and interest-rate spreads are normally 9 to 18 percentage points, but only around 4 percentage points in Panama.

Stability of the Economy

Panama's inflation has been low and stable. The average rate of consumer price inflation in the 1961–97 period was 3 percent per year, 1.4 percent excluding the years 1973–81, and less than 1 percent today. Panama's inflation exceeded 10 percent only in 1974 and in 1980, due to the worldwide inflation that resulted from increases in

the price of oil. This low inflation is explained by the absence of an excess supply of money, and by the inability of the government to monetize its deficit. In Panama changes in the price level arise mainly from world inflation, adjusted by changes in internal policies (protectionism and taxes); price transmission comes directly through the prices of imported goods. Local prices adjust to expected world inflation. Panama's inflation compares favorably with inflation in the rest of Latin America, where inflation of over 10 percent a year is common. In Argentina and Brazil inflation has exceeded 1,000 percent in some years.

In Panama, in spite of microeconomic distortions, economic growth has been high and relatively stable. In the 1960–71 period and the 1978–81 period, average GDP growth was 8.1 percent per year and 2.5 percent in other years. Except for a small decline in 1983, and during the crisis of 1988–89 (the result of sanctions imposed by the United States), Panama's GDP has grown every year since the 1950s. The stability of Panama's economy is a consequence of its monetary system and also the stability of its income from exports, which are a large percentage of the economy and are mainly services related to its geographical position. Panama's volatility indices for GDP and the terms of trade have been 2.9 and 7.9, respectively (excluding 1988–89). For Latin America as a whole the volatility indices were 4.7 and 15.1 (IDB 1995).

Economic stability is reinforced because the absence of domestically produced money means that public expenditures are effectively constrained by available financial resources (the hard budget constraint). Policies creating fiscal imbalances do not exist. When there is a need to balance the budget, immediate cuts in expenditures are made, particularly in investments, or occasionally taxes are increased. Public enterprises are financially self-sufficient; sometimes they achieve this through higher prices. With few exceptions, there are no direct subsidies on prices of goods, and charging more to high-income groups finances subsidies for low-income groups (cross-subsidies). The government deficit can still be large, but it needs to be financed ex ante, as was the case during the 1970s, when average annual deficits were 7 to 9 percent of GDP.

The Real Exchange Rate

The real exchange rate (RER), measured comparing Panama's CPI with respect to the United States, presents two distinct characteristics: (1) a sustained decline of 1.7 percentage points per year as inflation in Panama is lower than in the United States, a long-run trend that

has resulted in a 46.2 percent real depreciation since 1961;[1] and (2) a narrow range of year-to-year variations, of less than 4 percentage points, with respect to the trend for any given year. This relatively stable RER is a distinct characteristic of Panama, and is a result of its monetary system and the stability of its export earnings. This RER stability is significantly different from the experience of other countries where variations in the RER of 30 to 50 percent in a given year are not uncommon (Edwards 1989). A study by the Inter-American Development Bank found an average volatility index of 13.3 for the RER in Latin America, 4.8 for developed countries, and only 2.3 for Panama (IDB 1995).

Large changes in financial flows do not seem to influence the RER much, or cause volatility. For example, when the banking system opened in 1969–70, outstanding loans to the private sector doubled in three years, without undue price pressures. In the 1973–75 period, net capital inflows averaged 17.0 percent of GDP per year, and during the 1985–86 period, net capital outflows were 9.2 percent of GDP per year, but the RER changed very little in both cases. Also, when restrictions on bank operations were lifted after the 1988–89 crisis, local deposits increased 80 percent in three years, again without instability. Panama's real effective exchange rate (REER), a measure which takes into account other currencies besides the dollar, also fluctuates less than America's REER. Thus, Panama is somewhat insulated from fluctuations in the dollar, due to the large proportion of Panama's direct trade with the United States or within the dollar area.

The fact that Panama's RER is not significantly affected by monetary shocks implies that its value is determined in real markets by relative factor prices, competitive advantage, the terms of trade, productivity trends, taxes, and trade policies. Given that imports account for nearly 40 percent of Panama's GDP, international prices permeate the local price system and support the stability of the RER. In addition, as in many developing countries, the elasticity of supply for factors and production is high in procyclical sectors, which helps maintain the RER; otherwise, as in full employment equilibrium models, an excess demand will increase the relative price of nontradeables and the RER.

Panama has an ample supply of entrepreneurs because foreigners have readily been assimilated in spite of legal restrictions. The economy is in large part commerce and services, while industrial activities utilize simple processes, resulting in highly elastic supplies. Protectionist policies introduced barriers to imports, but mostly for building material, food, and agricultural products. Moreover, whenever de-

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[1]Equivalent results hold since the late 1940s (Moreno-Villalaz 1997).

mand increased, imports were authorized if needed or the government adjusted inventories. Thus, the economy is relatively open at the margin, and supply adjustments can be made without substantial price changes.

The operation of the labor market contributed to dampening relative price changes, due to stable real wages and an elastic labor supply. From 1960 to 1982, the real wages of unskilled workers increased by only 6.8 percent. After 1970, real wages for workers with higher education declined. The elastic supply of labor results from the transfer of labor from the informal to the formal sector, or from rural to urban areas, which keeps real wages at subsistence-equivalent levels. The operation of this mechanism, in a reverse manner, was evident on several occasions. The percentage of urban population remained the same in 1940 and in 1950, in spite of the large increase in employment in the intermediate years (due to a buildup of the U.S. military presence). After the war, the urban migrants returned to the hinterland— the "interior." During the 1963–69 period, GDP grew at 7.7 percent per year and employment in the metropolitan area grew at 5.3 percent per year. However, the rate of unemployment in the metropolitan area remained near 10 percent. During the 1989–90 crisis, nonagricultural employment (in urban areas) decreased by 48,000, but agricultural employment increased by 33,000, indicating reverse migration.

The Adjustment Process with a Unified Currency

Response to Political Crises

In January 1964, a political conflict in the Canal Zone resulted in riots, suspension of diplomatic relations with the United States, and widespread uncertainty. The conflict was not resolved until May of 1964. Purchases of services by residents of the Canal Zone fell 20 percent during the year. By March 31, foreign deposits had decreased 30 percent, and remained at that level until 1965. During the first quarter of 1964, local deposits decreased by 12 percent, but recovered by the end of 1964. As a result of this situation, the economy slowed down, government expenditures decreased by 7 percent, employment and average salaries barely increased, and private construction declined 15 percent. Real GDP grew 4.4 percent, in contrast with 8 percent growth in the previous and following years. To finance their local operations, private banks sold their American bonds, reduced cash and deposits abroad, and brought funds from their home offices. Banks' domestic credit increased by 6.6 percent in the first quarter, in spite of the reduction of deposits. Confidence in the system was

demonstrated by the opening of a subsidiary of the Bank of America at the end of 1964.

The years 1967–69 were another period of political instability. The new Canal Zone treaties negotiated with the United States were rejected by the Assembly, which in April 1968 resolved to impeach the president. The 1968 political campaign was scandalous and in October, the army overthrew the president. Government expenditures stagnated in 1968, and government investment decreased. Tourism, expenditures in Panama by Canal Zone residents, and credit to the private sector grew less than the trend. To finance local operations banks borrowed abroad. Net foreign liabilities went from $38.7 million in 1968 to $74.0 million in 1969. As on previous occasions, the economic effects of a political crisis were mild: a deceleration of economic growth from 8.5 percent to 7.0 percent in 1968. This slowdown produced a slight downward pressure on the relative increase in prices. In 1966–67, the CPI index in the Unites States grew 2.1 percentage points per year more than in Panama, while in 1968–69, it grew 3.2 percentage points more per year. Those two episodes illustrate how Panama's monetary system has shown a capacity to withstand political shocks without economic crises, by minimizing the capital flight and also as a result of financial intermediation. In other Latin America countries, the monetary system and exchange rate regime become a conduit to convert political crises into economic crises.

The Opening of the Banking Sector

During 1969–70, Panamanian authorities freed interest rates and fully opened the banking sector. Panama immediately developed an international banking system of regional significance and by 1974, 30 international banks had full operations. Assets reached several billion dollars by 1973. As banks did not need to balance separately their external and internal operations, they could use external funds to finance local operations. As new banks joined the system, the overall supply of credit was not affected by the credit ceiling for each bank. As a consequence, the supply of credit was highly elastic, and interest rates were similar to international rates—LIBOR for deposits and LIBOR plus 1.5 percentage points for preferred clients. Capital inflows were large: net capital inflows were 9.2 percent of GDP in 1971–72, and net foreign liabilities for banks operating locally more than quadrupled from 1968 to 1972.

Before 1969, credit was effectively rationed by restricting access to the best clients and lending with low leverage. As a result, there was an excess demand for credit in housing, durable goods, and commerce. The opening of the banking system brought a portfolio

adjustment. Outstanding loans to the private sector increased 2.2 times from 1968 to 1972. The new availability of mortgages generated a construction boom; annual private construction activities doubled in this period. Economic growth over the 1970–72 period was 8.3 percent per year, in spite of lower export growth. During this period the RER changed little, but the increase in expenditures increased Panama's inflation to a level closer to the U.S. inflation rate. During 1969–70, the CPI index in the United States grew 2.8 percentage points per year more than in Panama, while in 1971–72, it grew only 1.2 percentage points more per year. Thus, in the case of Panama, the opening of the banking sector, which sharply increased market competition and financial integration, did not produce a macroeconomic crisis, as it did in Chile in 1980–82 and Mexico in 1994.

The Oil Crises of 1973–74 and 1978–80

The increases in the price of oil in 1973–74 and again in 1979–80 were typical supply shocks external to the system. In Panama, the government immediately transferred the increases to local prices, including electricity, adjusting directly the relative prices of tradable to nontradable goods, thereby preempting the need to devalue. The increase in prices did not create political problems, as in other countries, because it was clear to the public that no alternative was available. As a result of the oil price increase and world inflation, Panama's CPI increased 31.5 percent from 1972 to 1975, similar to the U.S. increase of 28.5 percent. This indicates a complete price adjustment. The oil crisis produced a real income loss, but part of the cost to the country was compensated for by a reduction of the real value of the external debt due to inflation. For 1974–75 and 1979–80, the annual subsidy due to inflation or negative real interest rates in Panama was 3.5 to 4.1 percent of GDP per year.

At the end of 1973, economic agents reacted to the immediate increase in expenditures, due to the high price of oil, by initially reducing their liquidity and borrowing, subsequently adjusting their expenditures. The banking sector financed the extra expenditures over income. From December 1972 to December 1974, net foreign liabilities more than tripled, from $182 million to $577 million, and banks' claims to the private sector increased 73 percent. Capital inflows, via the banking system, were 13.1 percent of GDP in 1973 and 18.2 percent in 1974. Afterward, in 1976–77, there was a significant decline in real net foreign liabilities, as banks readjusted their portfolios. In 1979–80, the price of oil more than doubled, but its effect on Panama was softened by the increase in income from the new Canal treaty. Altogether, the results were similar to the 1973–75

experience. For example, the CPI index increased 23.2 percent from 1978 to 1980, compared with 26.4 percent in the United States. In 1979, a large net increase in real capital inflows helped finance short-term excess expenditures, but by 1981–82 net real capital inflows were almost zero and expenditures were adjusted to the income level.

Adjustment to a Large Shock: 1987–89

The Crisis. During the years 1987–89, escalating tensions with the U.S. government resulted in a major political and economic crisis. As a result, in 1987 over $300 million were withdrawn from the banking system (11 percent of local deposits), which cut a construction boom short. As on prior occasions, banks borrowed abroad and re-duced their liquid assets to compensate for the loss of local resources, but also reduced lending. In January 1988, a U.S. court indicted Panama's military leader, and in March, the U.S. government imposed economic sanctions on Panama. The sanctions included declaring Panama off-limits for military personnel, compelling American compa-nies not to pay taxes in Panama, ceasing payments to the Panamanian government from the U.S. government (the Canal Commission and the U.S. military), and freezing of all Panamanian government ac-counts in banks in the United States.

Responding to this shock, banks were closed, and reopened after two months with some restrictions. The government suspended pay-ments of the foreign debt service, which decreased net government outlays by about $400 million per year. This transferred to international banks the brunt of the adjustment cost. Excluded from the restrictions were banks with international licenses and foreign depositors in gen-eral. After banks reopened, depositors could withdraw up to 50 percent on current accounts and up to 5 percent or $50 per month on savings accounts, but certificates of deposits remained frozen. These measures favored banks, which were released of responsibility for their liabilities but could collect their assets. Banks were authorized to issue a negotia-ble document, known as Investment Certificates (CEDIS), that could be used to cancel debts to the banks. In addition, no restrictions were placed on new deposits.

As a result of the crisis, real GDP decreased 15.6 percent in 1988 and 0.4 percent in 1989. Bank credit to agricultural activities was replaced by suppliers' credit, and agricultural production was only slightly affected. Exports fell over $350 million, which was 9 percent of net export income (Moreno-Villalaz 1997). In addition, there were large capital outflows, and firms opened bank accounts abroad. The central government's revenues decreased by $500 million, half their previous level, but because some American firms retained government

checks in lieu of tax payments (such as salary payments), tax revenues were effectively higher than registered figures.

Adjustment in the Level and Composition of Expenditures. The reduction of income, the lack of credit, uncertainty, and the need to rebuild available cash balances reduced private investment and consumption. Private-sector construction activity collapsed to a third of its previous level. Consumers' expenditures concentrated on necessities and essentials, rather than on durable goods or luxuries. Government salaries were reduced by not paying the "13th month" bonus, and by not enacting statutory salary increases in health, education, electricity, and telephone services. Benefits to new retirees were also delayed. There was an expenditure switch from imported goods to local goods and services. In 1988, nominal expenditures on imports of goods and services declined 34.2 percent, more than the 14.3 percentage decline in nominal GDP or the 23.1 percentage decline in local expenditures.

Price and Other Adjustments. Asset and factor prices adjusted rapidly. The rent on luxury apartments fell more than 30 percent, to a level approximately equal to the cost of interest and mortgage payments. At the lower prices, these apartments were occupied again. The market value of CEDIS had a discount of 15 to 25 percent for local banks. Government bonds were discounted by 50 percent during the crisis, compared to only 20 percent before the crisis. Six-month Treasury bills were discounted by 15 percent. Real estate agencies agreed on a "crisis value discount" of 25 to 33 percent on assessed value for luxury apartments; 15 to 20 percent for upper-middle-class houses, and 10 to 15 percent for middle-class houses. The effective discount on land was 25 to 35 percent. Labor unions made out-of-contract agreements to protect the sources of employment, with reductions in wages, hours worked, unpaid leave, and employment. Those agreements, approved by the Labor Ministry, were not sanctioned by the Labor Code, the Constitution, or labor contracts. In the construction industry a "crisis salary" was agreed upon, reducing wages of skilled workers from $2.27 per hour to $1.70. The median wage of males in the metropolitan area declined by 8 to 15 percent in industry, commerce, banking, and services.

As on other occasions, the crisis produced a slightly downward pressure on the relative increase in prices. During the 1982–86 period, the CPI in the United States grew 0.8 percentage points more per year than in Panama, while in 1988–89 it grew 2.9 percentage points more per year than in Panama. Industrial prices, excluding oil, were

constant from 1988 to 1989, even though the price of imported products increased 6 to 8 percent. Agricultural prices rose 3.4 percent in 1988 and 10.1 percent in 1989, as the prices of rice, beans, potatoes, chicken, and eggs increased—the result of establishing quotas on 20 agricultural products.

Lessons from the Adjustment Experience

International banks have reacted to the unexpected events or economic shocks in Panama by increasing their exposure and using external funds to support local operations. They have done so in 1964, 1967–69, 1973–75, and 1978–80. The home offices of international banks have functioned as lenders of last resort, providing liquidity to the banking system. This feature has been a shock absorber, a credit reserve that substitutes for central bank reserves and reduces the risk in the economy, even under conditions of strain.[2]

During the oil crisis, Panama's monetary system compelled the government to implement the necessary price adjustments immediately. Relative prices between tradables and nontradables were adjusted solely by the effect of the increase in oil prices. In contrast, where devaluation was the mechanism of adjustment, in countries facing a balance of payments problem, the oil price increase produced changes in the relative prices of tradables and nontradables beyond and different from those caused by the increase in the price of oil. A price distortion was thus induced by devaluation.

The 1988–89 crisis was not the result of the monetary system, but a political shock. Panama's policies and adjustments during 1988–89 were not designed as a deliberate effort to reduce spending on foreign exchange, or to balance external payments, but to adjust the excess of expenditures over income. Consequently, no additional import taxes were imposed; in fact, import taxes on industrial inputs were reduced slightly. Panama's economic agents and policymakers do not differentiate between payments in local and foreign currency because both payments are in dollars, and there is no central bank. Maintaining the exchange rate or an international reserve position is not an objective or a consideration. Panama has been able to efficiently adjust to shocks through private-sector decisions without government intervention.

The Macroeconomics of Panama's Monetary Regime

Macroeconomic Equilibrium

Financial integration in Panama causes an excess supply or demand for funds to be resolved mainly within the financial sector, by changes

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[2]The American invasion triggered widespread looting, with losses of $200 million (3.8

in the level of net foreign liabilities of banks. Thus, expenditure changes are a low fraction of the absorption needed, and the resulting equilibrating movements of the RER are contained within a narrow range, as experience demonstrates. This process is reinforced by a high elasticity of supply in cyclical sectors, construction and commerce, and an elastic supply of labor that keeps real wages constant. In Robert Mundell's words: "How quickly and easily current accounts adjusted to capital movements; even if the terms of trade or relative price levels change in the direction predicted by classical theory, the changes were . . . small" such that, with capital mobility, "international adjustment . . . becomes much smoother without the necessity of troublesome changes in relative prices, wages, or employment" (Mundell 1997: 34–35).

Panama's experience invalidates one of the main propositions of the open-economy macroeconomic approach—namely, that an excess supply of capital flows will produce an excess demand for goods and a *significant* change in the RER, independently of the exchange rate regime (Corbo and Hernandez 1996).[3] When faced with a monetary or real shock, the Panamanian economy adjusts by a combination of two processes: (1) the monetary adjustment postulated by the monetary approach to the balance of payments (Frenkel and Johnson 1976), and (2) changes in expenditures and relative prices (measured by the RER) postulated by the open-economy approach (Jones and Kenen 1985). However, the second process is weaker because the system adjusts automatically, as under the gold standard. Foreign exchange holdings are not needed as reserves, so there is no government borrowing to finance balance of payments deficits or to support the value of the currency, and year-to-year or short-term fluctuations in the balance of payments go unnoticed.

The Function of Banks in Monetary Equilibrium

Under financial integration, banks play an essential role in monetary and balance of payments equilibrium. Adjustment is automatic as a consequence of the budget constraint on expenditures for the economy as a whole, and for banks in particular. As banks are indifferent between dollar transactions abroad or in Panama, their budget constraint is not related to foreign exchange considerations but to their overall balances. As shown by experience, an excess of expenditures

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percent of GDP), but commercial activities were almost normal six months later, with no government help, which implies an efficient adjustment process.

[3]The argument for the RER as the equilibrating mechanism assumes full employment, which implies an inelastic supply of factors. In many developing countries, as in Panama, this is not the case.

over income will change banks' net foreign liability position, and shortly afterwards the banks' constraint on borrowing resources will force an adjustment, implemented by not increasing further their *local* commitments. As a result, expenditures are reduced to a sustainable level.[4] In this type of system there are no excess expenditures financed by bank credit or appreciation of the RER, or overvaluation of assets, as in other countries. The adjustment in financial flows is the relevant variable for monetary analysis and supersedes the adjustment in the stock of money, usually discussed in monetary models.

In Panama's dollarized (i.e., unified) currency system, the quantity of money—currency and deposits held by Panamanians—is demand-determined or endogenous, not supply-determined by the central bank. This is known from several macroeconomic models for the case of fixed exchange rates, especially models following the monetary approach to the balance of payments, which replicates the case of Panama. For financial purposes, Panama is like another U.S. state. Nevertheless, the Federal Reserve does not run Panama's monetary policy or interfere with its sovereignty. Normally, monetary policy is implemented or supported by changes in the money supply, which is endogenous in Panama. The Fed's actions affect Panama via changes in world interest rates, inflation, and credit flows—and only inasmuch as they affect all countries by altering the global supply of dollars (the international reserve currency) or global interest rates.

Financial integration is not achieved by dollarization alone. For example, in the 19th century, there were substantial interest-rate differentials between regions in the United States (Homer and Sylla 1991, Rockoff 1977), which indicates the lack of financial integration. Portfolio adjustment by banks plays an essential role in achieving full financial integration, especially in moving resources out of the country. If there are capital controls, any excess supply of funds can become trapped—because banks cannot invest them abroad, which decouples the internal financial system from the international system. Capital mobility by individuals and firms is necessary for smooth adjustment, but not sufficient. This is confirmed in the case of Hong Kong, which has limited financial integration, exemplified by its differential interest rates, despite having capital mobility. In Hong Kong there are barriers to entry in the banking business, and banks are required to balance separately their Hong Kong dollar and U. S. dollar accounts. In addi-

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[4]Changes in banks' net foreign assets serve as an early warning about excess expenditures, facilitating the adjustment process—a case of asymmetric information *improving* the performance of the market.

tion, banknotes to increase dollar liquidity are exchanged with a small penalty.

In Panama, systemic banking crises do not exist because there are no macroeconomic crises. Bank failures have been isolated incidents, without spillover effects on other banks. This is true even though the regulatory environment was undeveloped, with no deposit insurance and little or no effective reserve requirements,[5] and the government did not assume responsibility for the banks. The presence of major international banks and self-regulation have been effective ways to manage risk. The stability of Panama's banks compares favorably with the experience in Latin America, where losses from financial distress have been between 10 and 40 percent of GDP (Caprio and Klingebiel 1996).

Microeconomic Distortions and Macroeconomic Equilibrium

Until recently, noncompetitive market policies—such as import substitution, controls on agricultural prices, and labor market restrictions—introduced price distortions in Panama (World Bank 1995). Nevertheless, those distortions did not prevent macroeconomic equilibrium in the sense of both internal and external balance brought about by an equilibrium REER.[6] According to Edwards (1989: 9), an internal balance or equilibrium occurs when "the nontradeable goods market clears in the current period and is expected to be in equilibrium in future periods," and when the unemployment rate is at its "natural level." In contrast, an external balance or equilibrium occurs when "the discounted sum of a country's current account" is zero, so that "current account balances [current and future] are compatible with long-run sustainable capital flows."

The stability of Panama's overall economy implies that it satisfies the conditions for macroeconomic equilibrium. Internal and external equilibria are evidenced by a nonaccelerating rate of inflation and sustainable capital flows. This is further substantiated by the absence of macroeconomic crises or overt misalignment of Panama's RER or REER. Furthermore, this macro equilibrium is apparent for real interest rates and asset prices, because market forces without distortions determine the money supply and monetary equilibrium. Although real wages and the RER are outside the competitive equilib-

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[5]Deposits in other banks were admissible as reserves. A recent law eliminated reserve requirements and substituted capital-deposit ratios instead.

[6]Sebastian Edwards (1989: 9) defines the equilibrium REER as "that relative price of tradable goods such that, for given sustainable [equilibrium] values of other relevant variables—such as taxes, international prices, and technology—results in the simultaneous attainment of *internal* and *external* equilibrium."

rium, they have not shown large changes coming from macroeconomic disequilibrium. Panama's microeconomic distortions do not generate macroeconomic disequilibria because they do not influence the constraint on expenditures established by income and sustainable capital flows, and they do not create incentives—via distorted differential returns and prices of financial assets—that have led other countries to overspend, take high risks, and overborrow.

In other countries microeconomic distortions in financial markets have generated macroeconomic disequilibrium. That was the case in Chile from 1979 to 1981, when access to external funds was restricted and international banks were excluded from the domestic market. The markets in dollar-denominated and peso-denominated instruments were segmented, with high interest-rate differentials between them. The large returns from borrowing in dollars and investing in pesos created incentives to borrow abroad and make risky investments locally. The outcome was overborrowing and inefficient risk management by banks and firms, which supported an increase in the price of assets (Moreno-Villalaz 1996).[7] Furthermore, capital inflows, *without financial integration,* endogenized the money supply, which produced an excess supply of money, a high level of foreign exchange reserves, an increase in expenditures, and a high rate of inflation. This caused an appreciation of the RER in Chile (accentuated from the effects of wage indexation and an increase in oil prices), which was a factor in Chile's 1981–82 crisis. Other important factors were the revaluation of the dollar and the decrease in the price of copper.

Mexico had a similar experience in the 1992–94 period, with high interest rates, exclusion of foreign banks, excessive borrowing, increases in the money supply from the monetization of capital inflows, high levels of reserves, inflation, and the appreciation of the peso. In Hong Kong, large capital inflows from 1995 to 1997 resulted in significant increases in asset prices. Financial integration would have diverted the excess supply of money or financial flows abroad, without increasing the local money supply above its equilibrium level. The resulting macroeconomic problem after opening the capital market, therefore, is not one of "too much" capital (Corbo and Hernandez 1996) but, rather, one of distortions in the financial system as a result of incomplete financial integration.

Without incorporating financial integration into macroeconomic models, policy decisions are made on the presumption of financial market distortions, which renders them questionable. In many cases

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[7]Other authors have a different view. They discuss Chile's banking crisis as resulting from lack of regulation and supervision (see Corbo 1985 and Edwards and Cox-Edwards 1985).

the arguments behind these policy interventions are implicitly or explicitly market-failure arguments, and have been based, in part, on the notion that the liberalization of capital markets in Latin America was destabilizing (Edwards 1989). However, these inferences are conditioned on the existence of distortions in the financial market, oligopolistic banking organization, and lack of financial integration, which were widespread in Latin America at the time. They are also based on the argument that macroeconomic disequilibrium results from excessive capital inflows, which is not correct, as Panama's experience demonstrates.

False price signals, arising from distorted incentives in financial markets, induce undue risk taking, which later endangers the stability of financial institutions and culminates in a currency crisis—such as in Chile (1982), Japan (1989), Mexico (1994–95), and Asia (1997–1998). The economic literature has emphasized inefficient risk management by banks, a weak regulatory environment, and models based on principal-agent problems, asymmetric information, and moral hazard. The evidence from a financially integrated country like Panama, however, shows that, with no distortions in financial macro-prices (the RER, real interest rate, and asset prices), there is no macroeconomic disequilibrium.

The Ineffectiveness of Government Expenditures to Increase Economic Activity

In Panama an increase in government expenditures cannot increase the level of economic activity in the short run. This is clear if the expenditures are financed internally, due to the crowding-out effect. In addition, at the moment of a crisis, the government cannot borrow abroad either, because it has already committed its borrowing capacity or because it takes time to do so. In fact, government expenditures in Panama declined during economic slowdowns in 1964, 1973, 1983, and 1988–89, while private expenditures were anti-cyclical in 1964 and 1978–80.

If the government borrows funds abroad to cover extra expenditures, there will be an excess supply of dollars to the banking system. Banks will adjust their net foreign liability positions and reduce their external resources (or their foreign investments) by the amount of dollars in excess of their financial needs. Hence, changes in the level of real government debt are compensated for by an opposite movement in the level of real net foreign liabilities and private capital of the banking system. As a consequence, the net flow of financial resources from abroad does not change, compared with what it would have been without the increase in government expenditures. Only the composi-

tion of capital inflows changes.[8] This was illustrated in 1994–97 when the high liquidity of the Banco Nacional led banks to finance their operations from local resources rather than external resources. It is clear that if the level of capital flows has not changed, neither would the financing of the current account deficit, nor the excess expenditure over income; hence the level of economic activity would also be unchanged. This inference is equivalent to the results of models from the monetary approach to balance of payments, where equilibrium in the monetary sector leaves the stock of money constant, changing only the composition of the central bank portfolio between domestic and external assets (Frenkel and Johnson 1976). The ineffectiveness of fiscal or expenditure policy is contrary to the results of many macroeconomic models (see Jones and Kenen 1985).

Panama's Monetary System as Optimal

Panama's monetary system operates as if it were a competitive market macroeconomy, since monetary equilibrium is the result of private-sector decisions without government intervention or distortions. The system is optimal because of its stability, effective adjustment to shocks, high level of confidence,[9] and absence of distortions in financial macro-prices (i.e., in the RER, real interest rate, and asset prices), which are market determined. More importantly for emerging markets, financial integration generates low interest rates and large capital inflows, and thus higher economic growth.[10] Hence, a systemic solution of the macroeconomic problem, with endogenous or demand-determined money, outperforms a managed monetary and macroeconomic system.[11] Ideal conditions for efficient dollarization are: (1) a large proportion of exports in the reserve currency (such that the effects of changes in its exchange rates are minimized), and (2) diversified and relatively stable income from exports to reinforce the economic stability and avoid the need for abrupt changes in the RER. Many countries fulfill these conditions, with the exception of countries with a large proportion of oil exports.

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[8]Nevertheless, banks at their authorized credit ceiling may use the increased funds to expand local operations.

[9]In part, because under dollarization the dollars are in private hands, not in the government central bank.

[10]In addition, lack of financial integration significantly worsens the distribution of income, because financial markets become segmented, which benefits large firms and reduces business opportunities.

[11]In a monetary equilibrium model, with characteristics similar to those of Panama, the optimal money-supply rule found (to minimize perturbations) was to adjust the real money supply to compensate for portfolio adjustment in the demand for money, as if money were demand determined as in Panama (Moreno-Villalaz 1992).

The operational cost of the Panamanian monetary system, even using the dollar as currency, is lower than the cost of an autonomous system. The cost of the dollarized system has been estimated by the seigniorage and inflation tax paid to the United States (Fischer 1982, 1992; Williamson 1995). But this needs to be compared with the opportunity cost of an autonomous monetary system. Offsetting the seigniorage cost is a reduction in average reserve balances held, which are estimated at 8 percent of GDP, 5 percentage points less than the reserves Panama would need in an autonomous system. The opportunity cost of lower reserves in the dollar system, even if they have zero return, is the same as the opportunity cost of the autonomous monetary system (Moreno-Villalaz 1997, 1998). Besides, there is no cost to maintain a central bank. For a country considering dollarization, part of the currency needed can be provided by foreign exchange kept abroad or in cash form, or could be provided by the reserve currency country, as recommended by Harry Johnson (1972).

The Optimal Exchange Rate Regime

Many economists advocate a flexible exchange rate regime because they consider changes in RERs necessary to respond to external real or monetary shocks (Edwards 1989). In a system with financial integration, however, changes in external flows are largely absorbed within the financial sector, dampening the effect on the money supply, expenditures, and the RER. Thus, the case for a flexible exchange rate regime is weaker than believed, and reflects the absence of efficient market-adjustment mechanisms. A flexible exchange rate is more suitable for countries with large fluctuations in export income or large regions, or where a monetary union is not feasible.

Although the debate over an adequate exchange rate regime has been dominated by problems of currency stability and misalignment, that debate should be redirected in light of Panama's experience. One needs to add financial integration as a goal, so as to achieve low interest rates and nondestabilizing financial flows. Otherwise the monetary system will not be efficient. A unified currency, as in Panama, facilitates financial integration, and for that reason should be considered the preferred system whenever feasible. In that respect a currency board is a close substitute for dollarization (see Hanke and Schuler 1999).

Conclusion

Panama's monetary system, with full financial integration, has shown remarkable economic stability, an ability to handle large capital inflows

and to adjust to shocks without major disequilibria, and no distortions in macro-prices. It has also shown low interest rates, at levels similar to world market rates, sustained macroeconomic equilibrium, and low operational cost. The economic record contains no policy-induced macroeconomic crisis, no systemic banking crises, and no need for a central bank as a lender of last resort. For nonreserve currency countries, the system performs optimally.

The equilibrating mechanism with financial integration is not the RER. Rather, it is changes in banks' net financial position. Portfolio adjustments by banks play an essential role in achieving full financial integration, capital mobility by individuals and firms being a necessary but not sufficient condition. The stock of money is demand-determined, not supply-determined by a central bank. A unified currency system such as the Panamanian system facilitates financial integration, and for that reason should be considered the preferred system whenever feasible.

Panama's monetary system epitomizes the operation of a competitive market macroeconomy. As such, the lessons derived are useful for other countries, even those with different systems. Policy prescriptions from current macroeconomic models become suspect, including expenditure policies. Also, inferences implicitly conditioned on the existence of distortions in financial markets and macro-prices are subject to question. The proposition that an excess supply of capital flows will produce an excess demand for local goods and a *significant* change in the RER is refuted. Furthermore, it is the lack of financial integration that generates excess capital inflows and an excess supply of money, which, in turn, affect asset prices and lead to appreciation of the RER. The experience of Panama supports a systemic solution to macroeconomic problems over a managed solution (a central bank-based system) and implies that financial integration should occur early in the order of liberalization.

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