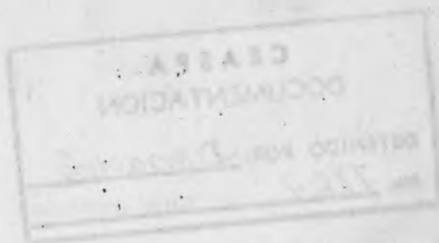THE UNIVERSITY OF CHICAGO

PANAMA AND WORLD INFLATION: A MONETARY APPROACH

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INTRODUCTION

This dissertation employs the framework of the monetary approach to the balance of payments to investigate Panama's inflationary experience between 1960 and 1974. Many empirical explanations of inflation demonstrate the stability of the demand for real money balances, and then proceed to examine the money supply process of the country. Often such studies find that the actors in the process (usually the monetary authorities) have caused nominal money to be created at a rate greater than would be demanded by the private sector if the price level remained unchanged. Money holders return to equilibrium by altering their expenditure patterns and driving up prices until the real value of the existing nominal money stock has been reduced to that demanded. In a closed economy where, in the final analysis, all nominal money must be held, this is the forced adjustment process. An open economy has other options available since the expenditure choices also include foreign goods, services, and securities. Since money can "leave the country," national money market equilibrium may also be achieved by the leakage of nominal money out of the country through the balance of payments acting as the adjustment mechanism.

The monetary approach to the balance of payments (see Mundell and Johnson[1]) has fostered numerous country studies (see Johnson and Frenkel[2])

[1] Robert A. Mundell, _International Economics_. New York: The Macmillan Company, 1968, pp. 41-133, and _Monetary Theory_ (Pacific Palisades: Goodyear Publishing Co., 1971); Harry G. Johnson, _Further Essays in Monetary Economics_ (Cambridge: Harvard University Press, 1973).

[2] Jacob Frenkel and Harry G. Johnson (eds.), _Monetary Approach to the Balance of Payments_ (London: Allen & Unwin, 1975).

which have examined how well money market disequilibrium explains balance
of payments behavior. In some cases studies have investigated how well
the combination of changes in the relative price of non-tradeables and the
balance of payments can be explained by disturbances in the money market
(see Blejer and Genberg[1]). However, in addition to the individual country
implications, the theory also develops global implications. Since the
world more closely approximates a closed economy than do individual nation
states, the monetary approach explains worldwide inflation as one of the
implications of world monetary disequilibrium (see Johnson and Nobay[2]). Since
the world's money supply must, in the final analysis, be held, money market
equilibrium is obtained through the closed economy mechanism of rising
prices. Attention can then be focused on world inflation, and the process
by which members of the "world" adjust to it. When the world is the closed
economy, each individual country is a price taker in world markets, and the
theorists are not surprised to find that import-cost-push models of inflation
explain best current "national" inflations. Since most countries are "too
small" to change the world money supply, they are forced to adjust to world
inflation.

Panama offers a near unique opportunity to examine the implications
of the monetary explanation of the world inflationary experience. Having no
central bank, the U.S. dollar bill circulates in Panama as the local legal

[1]Mario Blejer, "Money, Prices, and the Balance of Payments: The Case
of Mexico, 1950-1973" (Ph.D. dissertation, University of Chicago, August 1975);
Hans Genberg, "Aspects of the Monetary Approach to Balance of Payments Theory:
An Empirical Study of Sweden" (Ph.D. dissertation, University of Chicago,
March 1974).

[2]Harry G. Johnson, "Inflation and the Monetarist Controversy,"
Professor Dr. F. DeVries Lectures (Amsterdam: North-Holland, 1972); A. R.
Nobay, "International Aspects of the Economics of Inflation," unpublished
manuscript, University of Southampton, July 1974.

tender, maintaining an absolutely fixed, as opposed to temporarily pegged, exchange rate. Consequently, Panama's monetary statistics and balance of payments flows do not suffer from the effects of stock adjustment capital flows ("hot money") in response to expectations of exchange rate adjust-ment.[1] Secondly, Panama has the potential of being a truly open economy, in part because it "lives" next to the Canal. A steady stream of inter-nationally traded goods flows through the Canal and through the largest free zone in Latin America. In addition, Panama's development as an inter-national banking center has created a similar flow of international money through the country. At the end of 1974, international wholesale banking and non-resident depositors had expanded total banking deposits to over $6 billion of which only $665.7 million were owned by domestic residents.

The Panamanian economy's comparative freedom of trade and the ab-sence of controls on foreign exchange transactions and capital flows make Panama an excellent opportunity to investigate the mechanism by which global inflation is transmitted. The domestic monetary implications of worldwide inflation can be perceived rather directly as there are no domestic monetary authorities engaged in controlling the rate of domestic credit creation or fixing the exchange rate. On the other hand, the very absence of policy makers renders more difficult the task of obtaining a measure of domestic money creation. Since virtually all nominal variables are endogenous, the mechanism by which the flow supply of money is generated is difficult to discover, let alone to measure.

To study the inflation process and delineate the equilibrium towards

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[1]Shifts into currency, demand deposits, or foreign deposits have oc-curred due to rumors of governmental action, causing "street runs" on the official banks and on savings account deposits.

which Panama is adjusting, this thesis will often employ the simplifying
assumption that prices in the U.S. can be used as a proxy for world in-
flation. This assumption is attractive for several reasons; for one,
Panama's use of the dollar (locally renamed the Balboa) lets all prices be
expressed in the same numeraire. Duty free goods and U.S. dollars circulating
freely in the U.S. Panama Canal Zone and the Colon Free Zone make smuggling
difficult to control and keeps most Panamanian goods prices in line with
U.S. prices.[1] In addition, over 34 percent of Panama's imports and 40 per-
cent of her exports of goods have been U.S. originated and destined, re-
spectively. However, Panama is not in the position of, say, the city of
Miami in having a common customs union with the United States, thus a large
and growing share of its trade is with the rest of the world. This aspect
will be brought out again in Chapter V where some reasons for structural
lags in the speed of adjustment to world inflation will be developed. In
addition, though Panama shares a common currency with the United States, it
does not share a common set of banking regulations, nor banking practices.[2]
In fact, the lack of common regulations was one of the primary reasons for
the extraordinary growth of Panama's financial center. These differences
with, say, Miami, imply a more appropriate measure of world inflation might
then be one similar to the indices developed in an earlier paper on the world
money supply and world inflation.[3] The problems of computing these indices

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[1] In 1972, for instance, Panama's tax on alcoholic beverages sold
locally was increased. This resulted in total revenues declining sharply,
forcing the government to recall its tax so as to at least restore the
original revenue levels. With the old tax structure restored, traffic in
Panama City and the Free Zone returned to normal.

[2] In October 1974, of fifty-five foreign banks with branches in Panama,
only fourteen were directly connected to U.S. banks.

[3] W. E. Byerts, "A World Money Supply and World Inflation," unpublished
manuscript, University of Chicago, 1973.

under a floating exchange rate system, however, make the assumption that U.S.
prices accurately represent world inflation attractive indeed. At any rate,
the view of the United States as the world's monetary authority for much of
the period under investigation makes it easier to accept U.S. prices as
summarizing world inflationary forces during the period 1960-1974.

The thesis is divided into two parts. The monetary approach to the
balance of payments emphasizes the importance of the money market in explain-
ing domestic inflation and the behavior of the balance of payments. Part I
takes a closer look at the monetary mechanism in Panama. Considerable time
will be spent on the money supply mechanism because of the institutional
change which took place in the middle of the inflationary experience when the
enabling legislation was passed to help Panama develop as a regional financial
center. On closer examination, the process yields interesting parallels to
what is happening in world capital markets. As national monetary systems
become more closely integrated, the conclusion developed from Panama is that
many countries might be better viewed as dominated by the aggregated actions
of individual commercial banks rather than being a series of closed banking
systems. Part II discusses the experience of a small country in the face of
world inflation, which is in some respects an analysis of the workings of the
homogeneity postulate. The impact of the world monetary disturbance will be
discussed and some of its channels into Panama's economy explored. The
monetary approach to devaluation[1] provides some useful theoretical under-
pinnings for the transmission process. The section closes with comments on
some monetary policy alternatives available to Panama.

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[1]Rudiger Dornbusch, "Devaluation, Money and Nontraded Goods,"
American Economic Review 63 (December 1973):871-80.

Throughout this analysis, one factor will be encountered again and again, and that is Panama's role as a part of a larger whole. As an open economy with goods, capital and money markets closely integrated into those of the world, Panama is heavily influenced by foreign economic forces. In world markets, the small country assumption more appropriately describes Panama's position than the general equilibrium propositions of the two by two by two models traditional in international trade. Though some countries may be large enough to affect the world money supply and price level, Panama is clearly an adjustor country, forced to react to disturbances caused by others in foreign markets. Each time that causes, transmission mechanisms, or monetary adjustments are examined, the solutions obtained must be reconciled to the small country assumption. That is, to the fact that Panama is moving so as to adjust to an equilibrium defined by values exogenously given her by the outside world, whether the rest of the world is the market for bananas, cars, or dollars.

INTRODUCTION

PART I

PANAMA'S MONETARY MECHANISM

INTRODUCTION

The monetary approach to the balance of payments focuses attention on the "below the line" items which constitute the money account. Just as the trade account can be described as the excess domestic demand for goods, the capital accounts the excess domestic supply of bonds, the money account is the place where the excess demand (supply) of money finds its outlet. This approach treats the overall balance of payments as the adjustment mechanism by which the domestic money market obtains equilibrium.

Panamanians have periodically professed great concern over the balance of payments, by which they in fact mean the current account. For a country with a central bank, concern over a balance of payments deficit arises in the belief that the ex-post overall balance signifies an ex-ante disequilibrium in the foreign exchange "market." An ex-ante excess demand for foreign currency at the old exchange rate which is not met by government's drawing down its stock of foreign exchange or some other accommodating transaction caused the domestic currency price of foreign exchange to rise. This change in the monetary authorities stock of international reserves is "evidence" of the ex-ante market conditions. With neither a monetary authority nor a stock of international reserves, Panamanians have looked to conditions in the current account as a proxy for the overall balance. However, foreign exchange (U.S. dollars) circulate as the domestic means of payment, and all economic agents normally competing in the foreign exchange market are in fact competing directly in the domestic money market. Consequently, an excess of payments to foreigners over receipts from foreigners causes a fall in the

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domestic money supply and bank credit. Evidence will later be presented

to show that both the domestic money supply and bank credit have been ex-

panding continually for the past twenty five years.[1] As Panama has also

shown a current account deficit in each and every year since 1950, this

measure is not an accurate proxy for the overall balance of payments. At

times, in fact, it has led to erroneous policy prescriptions.[2]

Recently, more sophisticated preoccupations have arisen over the

composition of the balance of payments rather than its overall amount. With-

out a stock of international reserves on which to draw, Panama's large cur-

rent account deficit (it was said) had to be met by expensive short-term

commercial borrowing. International agencies frown on countries borrowing

from foreign commercial banks to finance balance of payments deficits because

such borrowing entails burdensome future debt service payments. On the other

hand, foreign capital inflows financing development were welcomed. As a re-

sult, government policy action in 1974 called for a sharp reduction in the

current account deficit and an expansion of commercial bank credit to the

domestic economy at the same time. Such policy actions reflect a failure to

view the balance of payments in its monetary context by failing to see the

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[1]With the possible exception of 1964. Bank deposits did fall, but
it's probable that most of the bank deposits were converted to currency, for
which there are no figures other than estimates contained in Appendix B.

[2]The Economic Planning Section of the United Nations (ILPES) recom-
mended in 1973 that Panama's large current account deficit be "solved" by a
monetary devaluation making use of import tariffs and export subsidies. The
Planning Ministry of Panama (see Memo to ILPES dated 13 Feb. 1974) replied by
pointing out the monetary nature of the overall balance of payments and
Panama's current position as a country adjusting to world monetary dis-
equilibrium. Since domestic money market equilibrium required an overall
surplus and current rates of monetary expansion indicated that this was in
fact occurring, and since the primary impact of the devaluation would be to
reduce the purchasing power of domestic monetary balances still further, a
devaluation would only aggravate the current adjustment problem.

relation between the capital and current account that a stable domestic de-
mand for money implies. Any rise in the capital account surplus brought on
by increased lending to Panama's domestic borrowers not accompanied by a
widening of the trade deficit results in a concomitant increase in the
domestic money supply. Unless domestic money holders are willing to build
up their real cash balances, the trade deficit is forced to expand. A
stable demand for money and a reasonable speed of adjustment in the money
market constrains the two accounts to offset one another and requires an
expanded current account deficit to accompany a widened capital account
surplus.[1]

From a monetary approach then, Panama's balance of payments demands
an examination of not only the domestic money supply generated, but also how
the market, once disturbed, returns to equilibrium. Owing to its openness
and small size, a priori the money supply process of an economy without the
complications of a central bank should leave a money market comparatively
simple to analyze. One of the first lessons a visitor to Panama city learns,
however, is the sun rises in the Pacific and sets in the Atlantic, forewarn-
ing him to check into the specifics of the Panamanian case.

The monetary approach to the balance of payments takes advantage of
a common attribute of most monetary systems that allows the consolidated
banking system's balance sheet (including that of the central bank) to be
usefully represented by

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[1]The measured capital flows are differences in end of period stock
levels, not gross borrowing and lending. It is then impossible to separate
the ex-ante endogenous actors from the adjusting flows. The measured capital
account surplus then is an ex-post figure after adjustment to the ex-ante
forces has taken place. In other words the measured capital account surplus
contains both the gross borrowing that increased the domestic money stock and
the purchase of foreign bonds that returned the money market to equilibrium.

(1) $$M^S = \sum_i (A_i^f - L_i^f) + \sum_i (A_i^d - L_i^d)$$

where the domestic money supply (M^S) can be disaggregated into the sum of consolidated foreign assets (A_i^f) less foreign liabilities (L_i^f) and domestic assets (A_i^d) less non-deposit liabilities (L_i^d).[1] This equation is more familiar in its short-hand

(2) $$M^S = R + D$$

where R is international reserves, and D symbolizes domestic credit. For countries with central banks, a further useful distinction of a subset of assets called the monetary base has been useful.

Panama, with U.S. dollars acting as the local currency much like Puerto Rico, has no central bank or monetary authority to control the domestic portion of the monetary base. In addition, unlike Puerto Rico, the Panamanian commercial banking system is not strictly domestic since even before the 1960's, it included foreign depositors as well as foreign borrowers. Their participation in the local banking system grew during the 1950's and early 1960's because Panama developed a banking reputation as the "Switzerland" of Latin America, with deposits convertible into the international monetary standard, the dollar, without exchange risk, currency controls, or restrictions. Consequently, some of the conventional assumptions of the monetary approach will have to be modified.

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[1] Technically an exchange rate should also be included, however this problem is ignored since the subject of the dissertation is Panama which has never changed its exchange rate. For a further discussion, see Manuel Guitian, "Devaluation Monetary Policy and the Balance of Payments" (Ph.D. dissertation, University of Chicago, June 1973.

Modification of the small country assumption is not necessary, however, as Panama not only faces prices determined in world markets but also has the Canal and the largest free zone in Latin America "next door," making it relatively easy to divert goods legally or illegally into Panama when price differentials arise.[1] However, since it has no central bank, the monetary process shares some characteristics common to those of a gold coin standard.[2] Both systems might be described in terms of a high powered money base (gold) and a multiplier.

> For a single country that is a small part of a set of economically linked economies using the same commodity as a monetary standard . . . the conditions of international trade determine the amount of money in the community consistent with international financial balance and the monetary structure (the amount of deposits banks create per dollar specie they hold, and the proportion the public divides its money between currency and deposits) and will determine the amount of gold required to permit that stock of money.[3]

Because Panama's commercial banks operate under a fractional reserve system, any change in international reserves could cause a much larger change in the money supply.[4] Consequently when private money holders cut back expenditure and attempt to build up their cash balances, a smaller payments balance can generate the necessary increase in cash balances. Under a fractional reserve system smaller payments imbalances would be needed than under a pure

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[1] In addition, Panama's development as a financial center has led to a huge quantity of international funds flowing through the country, making it much easier to divert them into the local economy should price differentials arise.

[2] Richard E. Caves and Ronald W. Jones, World Trade and Payments (Boston: Little, Brown and Co., 1973), p. 328, "An excess of receipts over payments would lead to a gold inflow, an equal expansion of the money supply at home and contraction abroad . . . changes in the money stock would be linked automatically to imbalances in international payments."

[3] Milton Friedman and Anna J. Schwartz, A Monetary History of the United States (Princeton: Princeton University Press, 1963), p. 789.

[4] Caves and Jones, World Trade and Payments, p. 329.

gold coin standard with 100 percent reserves.

Implicit is the role of the monetary authority fixing the rate of exchange by buying the excess supply of foreign exchange generated through the balance of payments. This expands the monetary base, placing more currency in the hands of the public or reserves in the control of domestic banks. In Panama, however, the flow of funds from the balance of payments strikes the domestic money supply directly.[1] Nevertheless the impact still strikes bank reserves in much the same manner as a single bank receiving a new deposit feels pressure to expand its loans and liabilities. The characteristic of the fractional reserve system is that decisions by bankers to hold more bank deposits compared to gold coin, creates a domestic multiplier effect on the money supply. This characteristic is still present in Panama, but its influence is more appropriately visualized from the point of view of the individual bankers for, unlike other countries (see Blejer's and Genberg's studies of Mexico and Sweden) the central bank's domestic credit creation cannot be used to explain the change in the official settlements balance.

Instead, as the monetary base is endogenous to Illinois, being that required to keep the balance of payments in equilibrium, so it is endogenous to Panama. The ability of Panama's banks to expand the flow supply of bank money, however, is not limited by the high-powered money base given by balance of payments equilibrium as the banks can generate an expansion of the flow supply of bank money by acquiring foreign liabilities.

Other opportunities are also open to individual bankers because they are a part of the larger whole. They can expand bank credit and the flow

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[1] Circulating currency must be bought from abroad and is not a liability of any domestic institution. Consequently increases in holdings by the public of currency support no domestic credit expansion as they do in countries where currency is the liability of the central bank.

supply of bank money by seeking deposit and non-deposit liabilities. In a
closed system, the monetary authorities' decisions as to how to expand the
monetary base and the multiplier relation determine the flow supply of money.
However, Chicago banks expand the flow supply of money based on the multi-
plier, a monetary base exogenously given to them, and in addition, they
utilize the techniques of liability management. Endogenous liabilities
expand the lending capacity of the banks as the constraint on the volume of
loans is no longer determined by the level of exogenous deposits, but rather
by the total size of the banks portfolio.[1] In the words of commercial
bankers, "We spend all our time looking for deposits (while the others) are
out looking for loans."[2] When the aggregate behavior of all of the banks is
considered, an expansion of bank A's deposits can come only with a contrac-
tion of B's so long as the monetary base remains unchanged and multipliers
are stable. To the closed system as a whole, then, techniques of liability
management can be said to have reshuffling effects which change the distribu-
tion of a given monetary base but can be no significant overall source of ex-
pansion.[3]

Since they are not the entirety of a closed system, Panama's commer-
cial banks can expand their liabilities without contracting those of the other

[1]J. L. Pierce, "Commercial Bank Liquidity," Money Supply, Money De-
mand, and Macroeconomic Models, ed. by John T. Boorman and Thomas M.
Havrilesky (Boston: Allyn and Bacon, 1972), p. 122.

[2]Martin Mayer, The Bankers (New York: Weybright and Talley, 1974),
p. 466. The quote refers to U.S. versus U.K. banks in London, but is appli-
cable to Panama.

[3]G. W. Woodworth, "Commercial Bank Liquidity Management," Readings in
Money, National Income and Stabilization Policy (Homewood: R. D. Irwin, 1965),
p. 203, "The management of bank liabilities deserves a rather limited role in
the overall program designed to meet liquidity needs during the last phase of
a cyclical expansion."

domestic banks. Attracting non-resident deposits from banks in the Bahamas and London will not necessarily diminish those of other Panamanian banks.[1] The process will be discussed in more detail in Chapter III, however the limits to such expansion can be anticipated. Commercial banks which have acquired new liabilities will have an incentive to expand their liabilities and local loans until the expected return is equal to the marginal cost of the funds they have acquired. For individual commercial banks in the U.S., these liabilities are not in infinitely elastic supply, but the small country assumption lets Panama, for all intents and purposes, face an infinitely elastic supply curve of dollar deposits at the Eurodollar London interbank rate. The integration of the local system into world markets, accomplished after 1970, greatly expanded the possibilities for endogenous liability sourced expansion of the flow supply of bank money.

Chapter I will discuss the determinants of the flow supply of bank money in the decade of the 1960's. The following chapter will briefly discuss the banking law changes and the transitional period immediately following its enactment. The last chapter of Part I will focus on the post 1970 situation to explain in more detail the importance of banks acquiring foreign liabilities.

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[1] Banks with Eurodollar operations can also do the same as any one national group of such banks is not the whole of the system. Panama's unusual characteristic, however, is that its banks combine the foreign and the domestic sides of their operations under one currency on one balance sheet. Banks with Eurodollar operations as well as local assets and liabilities must balance assets and liabilities within each currency to avoid taking a position in foreign currency. However, in Panama both resident and non-resident deposits are denominated in dollars, so there is no clean split in the operational balance sheets. Consequently, if all the additional non-resident deposits do not flow into foreign loans or reserves against foreign liabilities, the domestic portion of the commercial banks' operations can be expanded with non-resident support. In 1974; the order of magnitude of this overlap was over 50 percent of gross domestic bank credit.

The demand for the stock of money is really a demand for the flow of services from that stock. This dissertation assumes the services obtained are proportional to the real levels held so as to identify the flow-supply or demand with changes in the stock of money. In keeping with the monetary approach to the balance of payments, it is assumed that the need for stock adjustment is being continuously recreated by economic change. Thus the flow supply is the change in the levels of the stock occurring over time in response to changes in the stock demanded.

CHAPTER I

THE PRE-1970 MONETARY SYSTEM

Through the late 1950's, Panama's monetary sector resembled that of other developing countries (for instance, see the situation in East Africa described by Newlyn and Sayers[1]) in which banks took local deposits and made local loans but primarily retained a large proportion of their assets in cash and liquid foreign assets (U.S. Treasury Bills and Corporate AAA bonds) because of the lack of "acceptable" local lending opportunities.[2] Local credit in Panama then was considerably less than local deposits because a portion of local savings was drained out of the economy into liquid instruments in U.S. markets (or sterling instruments in London money markets). Local lending was constrained not by sterling balances (in the case of Africa) or international dollar reserves (in the case of Panama) but rather by acceptable local lending opportunities.

As development proceeded, however, local lending opportunities became more "acceptable," changing characteristics of the banking system. Between 1953 and 1960, domestic borrowings grew by $61.7 million while local deposits expanded by only $28.0 million[3] because the banking system drew down its

[1]W. T. Newlyn, "The Colonial Empire," Banking in the British Commonwealth, ed. by R. S. Sayers (London: Clarendon Press, 1952), pp. 421-60; see, also, Sayers remarks on pp. vii-xviii.

[2]W. T. Newlyn, Money in an African Context (Nairobi: Oxford University Press, 1967), p. 45.

[3]Robert Triffin, "Politica Crediticia y Estructura Bancaria en el Desarrollo Economico de Panama," Estudios Sobrel el Sistema Monetario y

international liquid assets to finance local credit expansion. Growth in domestic loans did not have to be constrained to the rate of net expansion of domestic deposit liabilities because banks were dissaving assets, drawing down foreign investments and running down the accumulated stock of international assets. The banking systems of Puerto Rico between 1946 and 1954, and of East Africa between 1953 and 1964 exhibit similar behavior in that banks drew down the stock of foreign liquid assets to finance the expansion of local lending. Ingram[1] describes how Puerto Rican banks kept their liquid assets invested in New York money markets for just such contingencies. The commercial banking systems of East Africa ran down sterling reserves invested in London markets by some £55 million in order to expand local earning assets by £80 million between 1953 and 1964.[2]

The expansion of domestic credit more rapidly than the demand for money required adjustment in the balance of payments, forcing reserve losses which eventually constrained credit expansion. Though pre-1960 numbers for the monetary system are of poor quality and not consistent with post 1960 series, the crude ratio of net domestic credit to domestic deposits and that of a proxy for international reserves to domestic deposits shown in Figure 1 point toward a domestic credit expansion achieved by drawing down the stock of international assets held by commercial banks.

In central bank countries, the exogenous force creating the ex-ante excess flow supply of money is the central bank expanding domestic credit.

Bancario de Panama, ed. by Nicolas Ardito Barletta, Jr. (Panama: Departamento de Planificacion, 1970).

[1] James C. Ingram, Regional Payments Mechanisms: The Case of Puerto Rico (Chapel Hill: The University of North Carolina Press, 1962), pp. 61-74.

[2] Newlyn, Money in an African Context, p. 49.
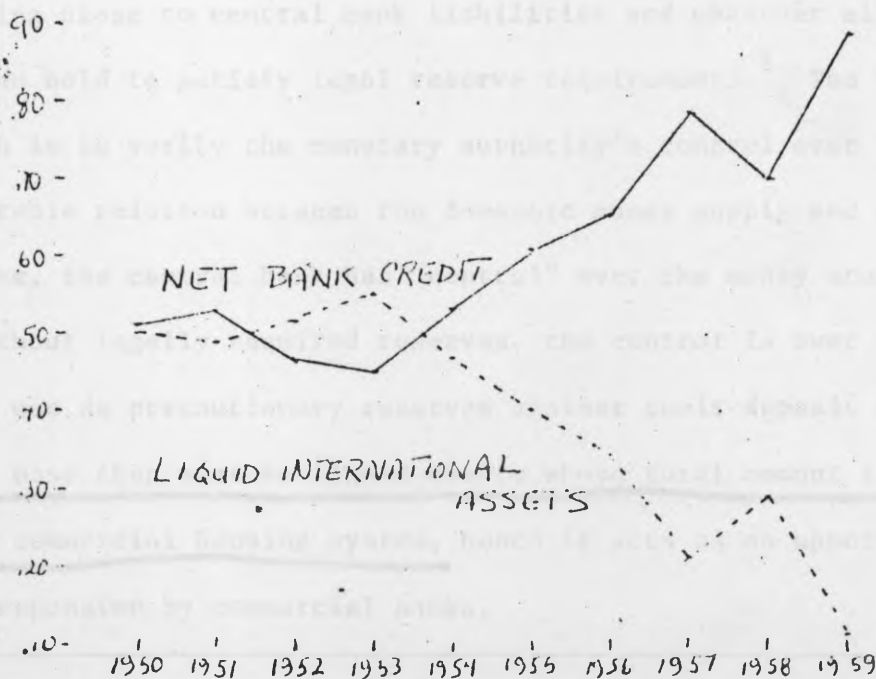
Fig. 1.--Shares of net bank credit and liquid international assets: 1950-59.

In Panama's monetary authority-less world, the determinants of the flow
supply of bank money relate to the aggregate behavior of the commercial
banks. For them, the flow supply of money generated is determined by the
flow of liquid assets (the monetary base) into the banking system, and by
changes in the multiplier relation between these liquid assets and the
liabilities of the banking system. The determinants of the multiplier can
be further separated into the reserve decision of bankers and the allocative
decisions of the public with regard to demand and time deposits. In
addition, however, the flow supply of money will also be influenced by the
flow of non-deposit liabilities, both local and foreign, to the banking
system. The principle problem of explaining monetary behavior lies in de-
fining the concept of the monetary base in Panama.

A Theoretical Concept of the Monetary Base

A country's monetary base is normally defined along institutional
lines, sticking close to central bank liabilities and whatever else commer-
cial banks can hold to satisfy legal reserve requirements.[1] The basis for
this approach is to verify the monetary authority's control over the system.
Assuming a stable relation between the domestic money supply and the pool of
legal reserves, the central bank has "control" over the money stock. For
economies without legally required reserves, the control is over the liquid
assets banks use as precautionary reserves against their deposit liabilities.
The monetary base then must be liquid assets whose total amount is exogenously
given to the commercial banking system, hence it acts as an upper constraint
on monetary expansion by commercial banks.

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[1]Genberg, "Aspects of the Monetary Approach to Balance of Payments
Theory"; Guitian, "Devaluation Monetary Policy and the Balance of Payments";
Blejer, "Money, Prices, and the Balance of Payments."

On the other hand, models of small open economies with central banks employ definitions of high-powered money backed by international reserves and domestic credit. Taking away the monetary authority and its ability to generate domestic credit backing of the monetary base leaves a base consisting solely of international reserves.

When there is a central bank responsible for international liquidity, commercial banks worry about liquidity from only a domestic point of view. Their major concern is to protect themselves from a domestic liquidity crisis. They hold assets to meet withdrawals as loans are spent, to meet unexpected excesses of withdrawals over deposits, and to be ready to combat any currency drain due to a "run" by private deposit holders. Checks presented for withdrawals are primarily to other banks or to cash. In this system, when loans are spent on imports, the bank withdrawals reduce vault cash or deposits at the central bank, since the monetary authorities are responsible for clearing foreign exchange transactions.

Without a central bank, however, the individual commercial banks must meet non-resident demands for internationally acceptable means of payments as bank withdrawals occur. Bankers are forced to take on the responsibility to maintain stocks of international reserves. Interbank deposits with local banks may serve the role of precautionary reserves for one individual bank, but not for the system as a whole. Swaps arrangements whereby local commercial banks expand interbank deposits cannot meet the need for a lender of last resort, and serve as an even worse candidate for internationally acceptable means of payment.[1] On the other hand, since all deposits are denominated in dollars, they are to some extent also international reserves.

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[1] See Appendix A on the legal reserve situation in Panama, especially the use of interbank deposits as legal reserves.

During the 1960's, since foreigners were not willing to accept deposit liabilities of Panamanian banks in the same way they would accept gold or dollar bills, only internationally acceptable means of payment--bank reserves and the public's currency holdings--will be employed to describe the monetary base.

Besides the inflow of international reserves, the banks found other sources of funds which would allow them to expand the flow supply of bank money. In the late 1950's, banks in the U.S. had sold off much of the securities and bonds accumulated during the war years to expand domestic credit. Then they found they could expand the flow supply of money still further by acquiring time and savings deposit liabilities. Bankers in Panama were quick to follow the U.S. lead. Such a development reduced the pressure on the balance of payments to produce the flow supply of liquid assets needed to generate bank credit expansion by changing the relation between the bankers' holdings of liquid assets and the flow supply of bank money generated. This change in the money multiplier relation summarizes the behavioral influences in the economy which alter the liabilities of the banking system but are, nonetheless, not directly attributable to the balance of payments. As bankers become less concerned about managing their assets and more aggressively interested in expanding the supply of money, the multiplier relation changes. Of course the accuracy of empirically measuring changes in the multiplier will depend on how accurately the base can be pinpointed, but the components of the multiplier can be described and their behavior traced in terms of the behavioral relations in decisions made by the public, the bankers, and the government.

Base money (B) will either be held by the public in the form of currency (Cu), or held by the banks as reserves against their deposit liabilities,

which can be represented by the following

(4) $\qquad$ $B = Cu + r(D_p + SA_p + T_p + D_g)$

where deposit liabilities of the banking system held by the public as demand, savings account or time are represented by D_p, SA_p, and T_p, respectively. D_g are government deposits and r is the average reserve ratio on domestic deposit liabilities. Dividing through by D_p to express the relation in terms of behavioral relations gives

(5) $\qquad$ $B = D_p(k + r(1 + \tau_1 + \tau_2 + g))$

where k is the currency to deposit ratio, τ_1 and τ_2 are the savings account and time deposit to demand deposit ratios, and g is the ratio of government to demand deposits. Expressing the relation in terms of the deposit multiplier d_1

(6) $\qquad$ $\dfrac{D_p}{B} = d_1 = \dfrac{1}{k + r(1 + \tau_1 + \tau_2 + g)}$.

Letting B' represent that part of the monetary base in the hands of banks

(4') $\qquad$ $B' = B - Cu = r(D_p + SA_p + T_p + D_g) = D_p r(1 + \tau_1 + \tau_2 + g)$

and the deposit multiplier relation

(6') $\qquad$ $\dfrac{D_p}{B'} = d_1' = \dfrac{1}{r(1 + \tau_1 + \tau_2 + g)}$.

The total domestic deposit multiplier d_T can be derived in a similar manner

(7) $\qquad$ $d_T = \dfrac{D_p + SA_p + T_p + D_g}{B} = \dfrac{D_p}{B}(1 + \tau_1 + \tau_2 + g) = d_1(1 + \tau_1 + \tau_2 + g)$

and for that part of the monetary base in the hands of bankers[1]

(7')
$$d_T' = d_1'(1 + \tau_1 + \tau_2 + g)$$

Though B is the monetary base generated by the balance of payments, B' is the measure of the base that was discussed in the previous section, and will be the empirical measure utilized since there are no statistics measuring currency in the hands of the public.[2] As long as the flow supply of bank money is dependent on the domestic deposit liabilities of the commercial banking system, the forces expanding the flow supply can be explained by accounting for the expansion of domestic deposit liabilities, that is by changes in the monetary base and in the multipliers d_1' and d_T'.

A shift by the public away from currency toward demand deposits, savings accounts, and time deposits augments precautionary reserves needed to support a deposit expansion, making it possible for banking system liabilities to expand without an inflow from the balance of payments.[3]

Figure 2 displays the behavior over time of the savings account and time deposit ratios. The two are separated because they diverge sharply over the period. Though time deposits were of the order of one to two million

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[1] Note that d_T' is the reciprocal of the average reserve ratio r

$$d_T' = d_1'(1 + \tau_1 + \tau_2 + g) = \frac{1}{r(1 + \tau_1 + \tau_2 + g)} (1 + \tau_1 + \tau_2 + g) = \frac{1}{r}.$$

[2] See Appendix B for an attempt to estimate currency behavior. The results are not presented here since the series was constructed by assuming a certain currency to deposit behavior.

[3] The reverse is also true and appears to have generated some effects especially during the 1964 Canal Zone riots, and again when the liquidity position of the Banco Nacional was attacked by politicians over the radio in early 1968. In these instances the shift toward more liquid assets exerted a contractionary influence on deposits.

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Note: For this and all subsequent figures and tables, see the appendices for data sources, unless otherwise stated.

1.00 –

.90 –

.80 –

.70 –

.60 –

.50 –

.40 –

.30 –

.20 –

.10 –

SAVINGS ACCOUNTS HELD BY PUBLIC
DEMAND DEPOSITS HELD BY PUBLIC

GOVERNMENT DEMAND DEPOSITS
DEMAND DEPOSITS HELD BY PUBLIC

TIME DEPOSITS HELD BY PUBLIC
DEMAND DEPOSITS HELD BY PUBLIC

1960 1961 1962 1963 1964 1965 1966 1967 1968 1969
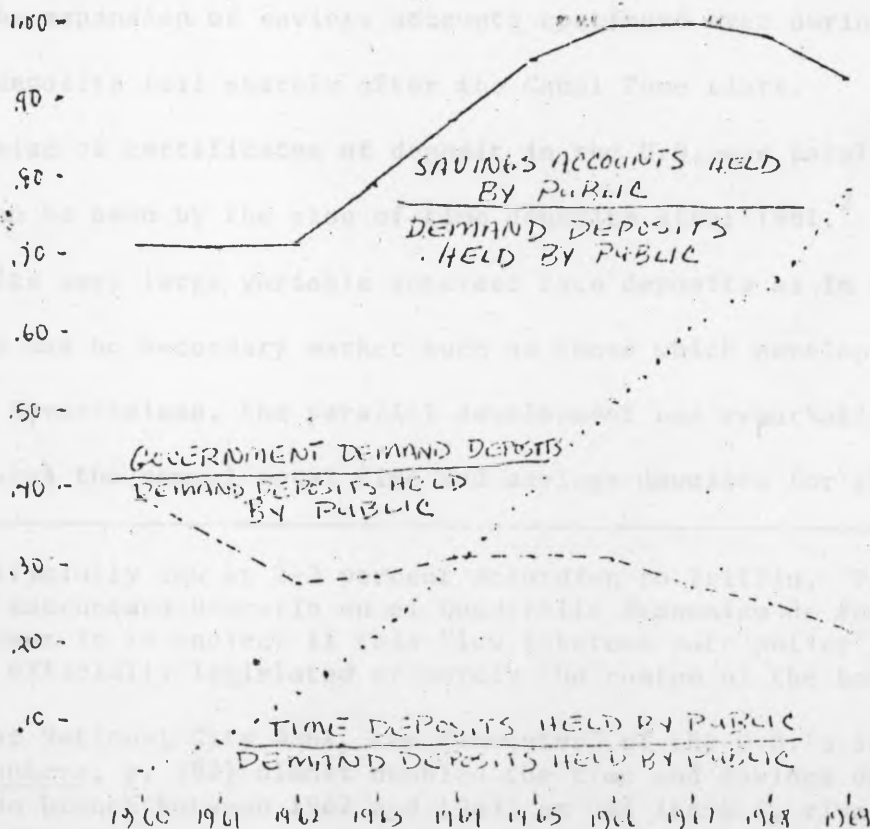
Fig. 2.--Ratios of time, savings and government deposits to demand deposits.

dollars until 1962, by 1970 they had grown to ninety-nine million, or to parity with demand deposits. Passbook savings accounts bore only a nominal interest rate[1] throughout the period and so tended to move with the demand for money. During the 1950's, the savings to demand deposit ratio averaged some 68 to 69 percent as the two deposit series moved fairly close together. One reason was a stamp tax on each checking account transaction which caused many small shopkeepers to utilize passbook savings accounts as checking accounts. The rise in the ratio between 1962 and 1966 seems to reflect a greater competition for small saver's accounts by the banks, as two mortgage banks were established in the mid-1960's and the government's savings bank increased its advertising campaign. Some of the private banks managed to attract previously untapped sources of funds by opening up branches in the interior. The expansion of savings accounts continued even during 1964 when demand deposits fell sharply after the Canal Zone riots.

The rise of certificates of deposit in the U.S. was paralleled in Panama, as can be seen by the rise of time deposits after 1961.[2] The Panamanian deposits were large variable interest rate deposits as in the U.S., however there was no secondary market such as those which developed for C.D.'s in the U.S. Nevertheless, the parallel development was remarkably close. Table 1 compares the annual total time and savings deposits for the U.S. and

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[1] Artificially low at 2-3 percent according to Triffin, "Politica Crediticia y Estructura Bancaria en el Desarrollo Economico de Panama," p. 103. However it is unclear if this "low interest rate policy" followed by banks was officially legislated or merely the custom of the banks.

[2] First National City Bank, the "inventor" of the C.D.'s in 1961 (see Mayer, The Bankers, p. 192) almost doubled the time and savings deposits of its Panamanian branch between 1962 and 1963, as did its U.S. rival, Chase Manhattan of Panama.

TABLE 1

RATIO OF TIME PLUS SAVINGS DEPOSITS TO DEMAND DEPOSITS

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
U.S.	.614	.684	.779	.881	.966	1.070	1.153	1.253	1.296	1.267
Panama	.740	.757	.826	.962	1.179	1.359	1.487	1.656	1.636	1.614

Sources: Albert E. Burger, The Money Supply Process (Belmont, Calif.: Wadsworth Publishing Company, Inc., 1971), for the U.S. Unpublished Controller General Statistics for Panama.

Panama. Though Panama's movements are much sharper, the overall trends are remarkably similar even to the trailing off of the two in the late 1960's. The practice in the U.S. of turning away from depending on demand to seeking time deposits as the central source of funds for banks was picked up and used in Panama in the mid-1960's as the bankers discovered the usefulness of "liability management" as opposed to "asset management"; they found that liquidity is also dependent on the ability to borrow as well as on the size of the available monetary base. The sharp rise in τ_2 over the period is evidence that Panamanian banks were buying funds much like the U.S. banks were seeking C.D.'s.

The other behavioral variable pictured on Figure 2 is government deposits. The standard treatment[1] of government deposits at commercial banks is to point out their draining effect on reserves available to support demand deposits because they require reserves, and then to put them with the bank's capital account and talk about the domestic monetary liabilities excluding government deposits. Here the treatment is different due to the growing size of the government sector in Panama's economy and the fact that its deposits at

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[1] See Burger, The Money Supply Process, pp. 21-23.

Banco Nacional are similar to any corporation's deposits. Since there is no central bank, an increase in government holdings of money balances, assuming Banco Nacional is "fully loaned out," can only come at the expense of a reduction in the supply of money to the private sector or by the government raising funds in foreign capital markets and repatriating them to Panama to hold at Banco Nacional until spent. The government's decision to borrow to increase its holdings of deposits then has the same impact on the banking system as a corporation that holds its balances in Panama. The nationalization of the power, light and telephone company in 1972 only shifted the working balances to the Banco Nacional, it did not contract the economy's flow supply of money except to the extent that Banco Nacional's lending behavior differed from the private bank which previously held the deposits. The figure shows the downward trend in this ratio, reducing the share of the monetary base needed to support domestic demand deposits.

The direct impact of the bankers is contained in their determination of the trade-off between the safety of a more liquid portfolio and the profits of a more heavily invested one. When legal reserves are not a binding constraint (see Appendix A) bankers will maintain the barest minimum of what they consider liquid assets. However, what they consider adequate may vary through time as the capital markets develop and as the domestic system becomes more closely integrated into international markets.

The average reserves (monetary base in banks) to deposit liabilities is the ratio used as a proxy for the bankers' decisions with respect to the trade-off.[1] As a minimum the reserve ratio should depend on the distribution

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[1] In other systems a measure of excess reserves might be employed to supplement the information contained in the average reserve ratio. The possibility of swaps arrangements between banks makes legal reserves a poor indicator of anything except bankers' desired window dressing, and excess reserves equally valueless.

of deposit liabilities, with more reserves held the higher is the share of
demand deposit liabilities. Since the higher the interest rate available
on invested funds, the greater is the cost of feeling safe, this ratio should
be negatively related to the interest rate.

The choice of any category of assets as the measure of reserves will
be somewhat arbitrary. All close substitutes should be either all inside or
all outside of the category.[1] For Panama's commercial banks, this problem
is further complicated as bank deposit liabilities include both resident
and non-resident deposits and bankers hold precautionary reserves against
both. It is assumed that interbank deposits, on net, are acting as window
dressing, and consequently have no behavioral influence. Those bank assets
that remain could act as a precautionary reserve against both types of lia-
bilities. Any large change in the share of liabilities between resident and
non-resident deposit liabilities would create definitional problems for the
monetary base. On the other hand, the behavior of reserves should not be in-
fluenced by the growing foreign operations, if reserve holdings against foreign
deposits are negligible because the foreign operations are purely financial
intermediary operations, operations so competitive that the deposit rate must
be adjusted to equate deposits simultaneously to loan demands.[2]

Two proxies for the monetary base are presented in Figure 3, vault
cash and vault cash plus demand deposits in foreign banks. The former probably
suffers from the problem of not including all close substitutes while the latter

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[1]A shift from one asset to a close substitute would be measured as a
change in the ratio of reserves to deposits without any explanation unless
both are included inside the measure.

[2]See John Hewson and Eisuke Sakakibara, "The Eurodollar Multiplier: A
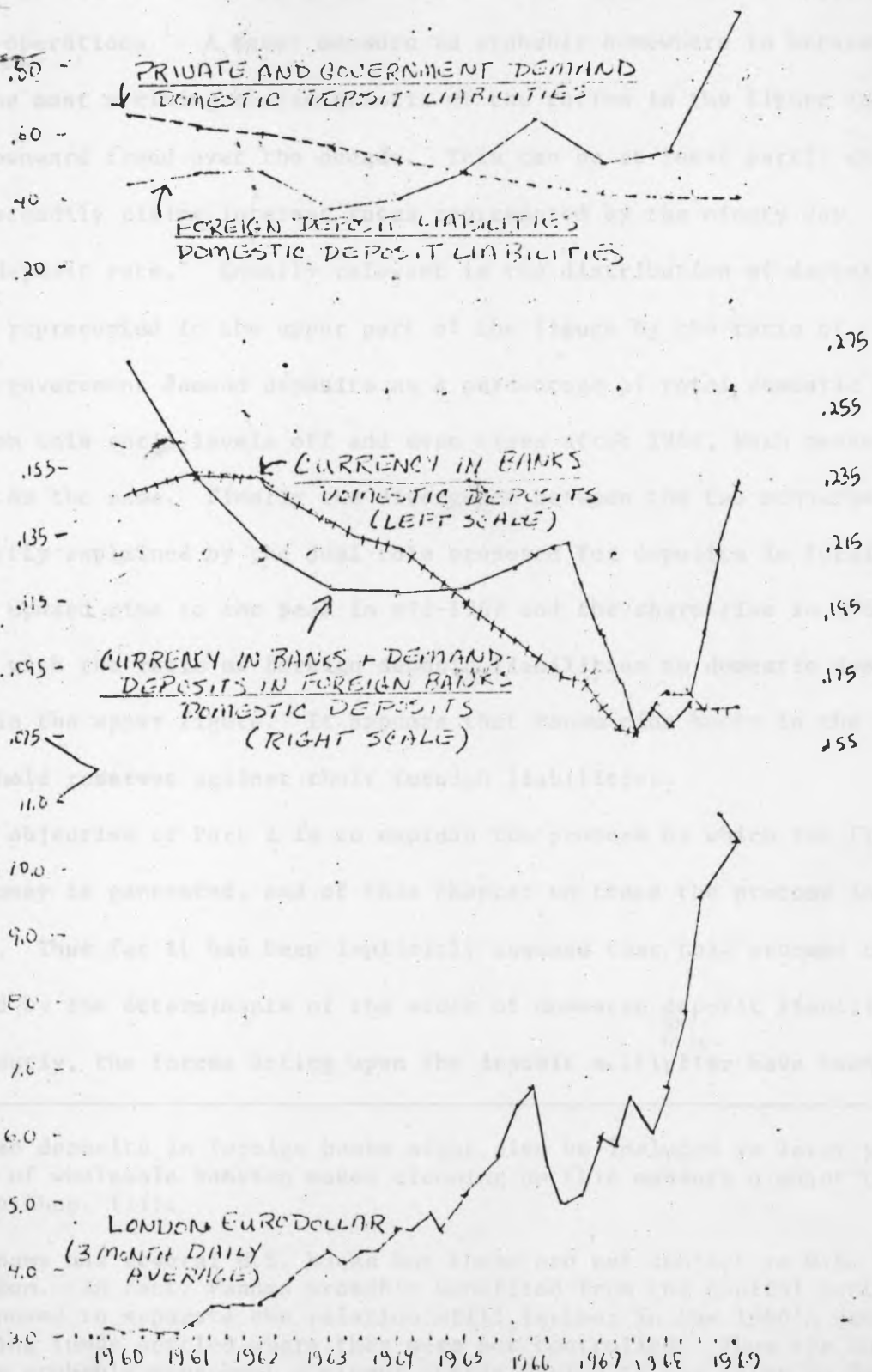Portfolio Approach," International Monetary Fund Staff Papers 21 (July 1974):
307-28.

Fig. 3.--Interest rates and reserve ratios

contains assets which seem to play a dual role of reserves against local and foreign operations.[1]   A truer measure is probably somewhere in between the two.   The most striking characteristic of the ratios in the figure is the sharp downward trend over the decade.   This can be at least partly explained by steadily rising interest rates represented by the ninety day Eurodollar deposit rate.[2]   Equally relevant is the distribution of deposit liabilities represented in the upper part of the figure by the ratio of private and government demand deposits as a percentage of total domestic deposits.   When this ratio levels off and even rises after 1968, both measures of reserves do the same.   Finally the divergence between the two measures is at least partly explained by the dual role proposed for deposits in foreign banks.   The upward rise to the peak in mid-1967 and the sharp rise in 1969 move nicely with the ratio of foreign deposit liabilities to domestic deposit also shown in the upper figure.   It appears that Panamanian banks in the 1960's did hold reserves against their foreign liabilities.

The objective of Part I is to explain the process by which the flow supply of money is generated, and of this chapter to trace the process in the sixties.   Thus far it has been implicitly assumed that this process can be explained by the determinants of the stock of domestic deposit liabilities, and consequently, the forces acting upon the deposit multiplier have been

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[1]Time deposits in foreign banks might also be included in later years. The problem of wholesale banking makes cleaning up this measure a major chore however (see Chap. III).

[2]Panama has several U.S. banks but these are not subject to U.S. banking regulation.   In fact, Panama probably benefited from the capital control programs imposed to separate the relation still further in the 1960's since dollar seeking funds settled where they were not controlled.   Thus the Eurodollar rates probably represent a closer approximation to the rates in Panama than do those in the U.S.   Interest rate subsidies and taxes imposed by law in 1975 used the London interbank rate as their reference point.

presented. This section will evaluate how well the multipliers and the proxies developed for the monetary base can explain the growth of domestic deposit liabilities. Though the time and government deposit ratios are unaffected by the appropriateness of the proxy chosen to represent the monetary base, the banker's reserve to deposit ratio and the growth in the monetary base itself are heavily influenced by the choice. To a large degree then, the appropriateness of the proxy will determine how well changes in the deposit liabilities are explained.

Figures 4 and 5 show that insofar as the proxies have accurately captured the behavior of a monetary base, the demand deposit multiplier has remained reasonably stable while rising or falling slightly after 1964, depending on the proxy used. Evidently the time and government deposit ratio effects have offset the falling reserve to deposit ratio. The total deposit multipliers do not seem to have been as stable, reflecting the increased use of savings and time deposits.

Table 2 presents an accounting for monetary growth by the base and the multiplier. When the level of currency and coin in banks is taken as the proxy for the monetary base, this external or balance of payments effect explains most of the monetary expansion in demand and in total deposits in the 1960-1963 period and again in the 1967-1969 period. When the more inclusive concept of currency plus demand deposits in foreign banks is used, money movements are either overexplained or underexplained. This is in line with the suggestion that a portion of these deposits moves with non-resident deposits. As has been documented elsewhere[1] the response of the banking

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[1] See Arnold C. Harberger, "Reflections on the Monetary System of Panama," Chicago Essays in Economic Development, ed. by David Wall (Chicago: University of Chicago Press, 1972), p. 84.
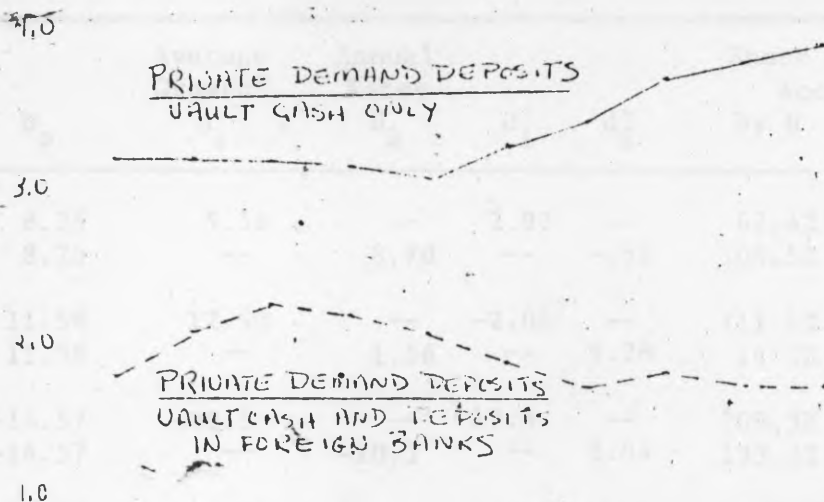
Fig. 4.--Demand deposit multipliers
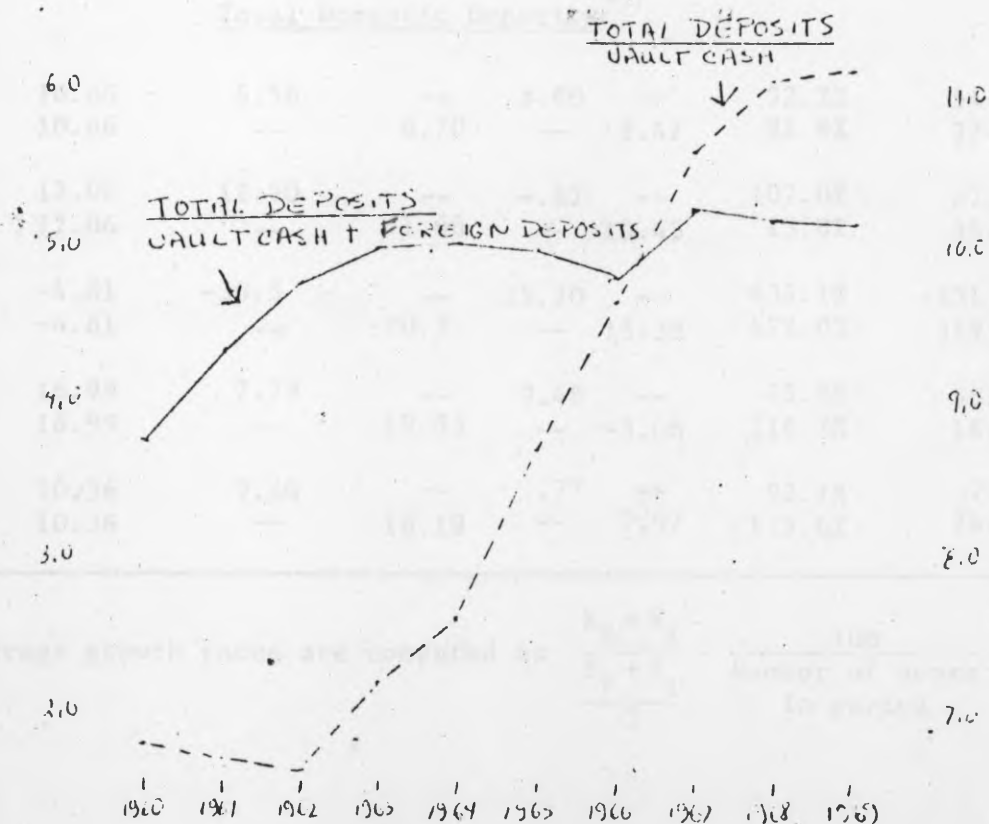
Fig. 5.--Total deposit multipliers

TABLE 2

DOMESTIC DEMAND DEPOSITS

Year	D_p	Average Growth[a] H_1	Annual Rates H_2	d'_1	d'_2	Share of Growth Accounted by H	by d
1960-69	8.25	5.56	--	2.97	--	67.4%	36.0%
	8.25	--	8.70	--	-.52	105.5%	-6.0
1960-63	11.58	12.90	--	-2.06	--	111.4%	-17.83
	11.58	--	1.66	--	9.28	14.3%	80.2
1963-64	-14.57	-30.5	--	17.5	--	209.3%	-120.1
	-14.57	--	-20.3	--	5.94	139.3%	-40.7
1964-67	11.57	7.79	--	3.87	--	67.3%	33.4
	11.57	--	19.83	--	-8.70	171.4%	-75.2
1967-69	12.22	9.60	--	2.65	--	78.6%	21.7
	12.22	--	18.19	--	-6.10	148.9%	-49.9

Total Domestic Deposits

Year	D_p	H_1	H_2	d'_1	d'_2	by H	by d
1960-69	10.66	5.56	--	5.80	--	52.2%	54.4
	10.66	--	8.70	--	2.42	81.6%	22.7
1960-63	12.06	12.90	--	-.87	--	107.0%	-7.2
	12.06	--	1.66	--	10.45	13.8%	86.6
1963-64	-4.81	-30.5	--	25.70	--	634.1%	-531.3
	-4.81	--	-20.3	--	15.39	422.0%	319.9
1964-67	16.99	7.79	--	9.48	--	45.8%	55.8
	16.99	--	19.83	--	-3.06	116.7%	18.0
1967-69	10.36	9.60	--	.77	--	92.7%	7.4
	10.36	--	18.19	--	7.97	175.6%	76.9

[a]Average growth rates are computed as $\dfrac{X_T - X_1}{\dfrac{X_T + X_1}{2}} \cdot \dfrac{100}{\text{Number of years in period}}$

system to the Canal Zone riots in 1964 was to alter their reserve to deposit
ratio rather than to contract bank credit and the flow of money. When the
time deposit ratio and the government and banker's ratios varied the most,
the multiplier was forced to do the most explaining. The rapid growth in
time deposits and especially savings accounts in the mid 1960's lets the
monetary base explain the deposit movements least completely between 1964
and 1967.

The Flow Supply of Money

In explaining the supply of bank credit process, the flow supply of
deposits is being explained since banks "buy" securities and loans with the
deposit liabilities they generate. The theory of a closed economy has often
equated the two as long as deposit to reserve ratios of bankers did not change.[1]
For although the deposit could be shifted from demand to time deposits or to
currency, the money must be held by someone forcing long run bank credit and
deposit liabilities to move together. Panama's combination of an open economy
both without a central bank and with international reserves circulating as
local currency permits Panama's commercial banks to finance an expansion of
the flow supply of money by buying "endogenous liabilities." This section will
examine the sources of bank credit expansion to determine whether endogenous
liabilities are important enough to worry about during the 1960's.

When the non-monetary liabilities of the banking system are negligible,
they can be combined with the bank's capital accounts (just as the government
deposits) and deducted from gross bank credit to give a net bank credit

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[1] See Dennis H. Robertson, _Money_ (New York: Harcourt, Brace, and Co.,
1929), p. 85. He also points out that the U.S. distinction between demand
and time deposits allows an increase in time relative to demand deposits to
expand bank credit but since the distinction is not made in the U.K., no
allowance for expanding bank deposits exists.

concept.[1] As Table 3, a summary of the consolidated balance sheets shows, consolidated resident deposit liabilities amounted to over 75 percent of resident assets in 1960, but had fallen to 45 percent by 1974. Even netting out the share of the capital accounts, the fall is still from 85 percent to 50 percent. By 1974 then, the contribution of non-resident deposit liabilities was too large to be relegated to a deduction from the net domestic credit side, since this would conceal the main actor of the last few years.

The relation between the stock of bank credit and domestic bank deposits can be developed from the balance sheet identity in the following manner. Gross bank credit (DEA) is defined by the balance sheet as

$$(8) \qquad DEA = D_p + SA_p + T_p + D_g + (K - NOA) + FL - (FR + FEA) - B'$$

where net other domestic assets (NOA) is the difference between other assets and other liabilities, including domestic interbank deposits. Capital and reserves (K) less net other assets form the capital accounts and B' is that portion of the monetary base in the hands of banks. Foreign deposit liabilities are grouped together under FL while reserves against non-resident deposits are symbolized by FR with FEA the credit banks grant to foreigners, including net other foreign assets. Since the influence on the domestic economy is the net effect, let net foreign liabilities be defined by

$$NFL = FL - FR - FEA.$$

Simplifying (8) by moving the capital accounts to the left hand side of the equation to give adjusted bank credit, (ABC)

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[1] See Guitian, "Devaluation Monetary Policy and the Balance of Payments," pp. 50-52.

TABLE 3

CONSOLIDATED BANKING SYSTEM BALANCE SHEET FOR PANAMA
(December 31 balances in millions of dollars)

Assets	1960	1974	Liabilities	1960	1974
Currency in Banks	12.5	36.9	Domestic Deposits	83.1	665.7
Domestic Earning Assets	93.8	1393.5	Private	66.4	597.3
Net Other Domestic Assets	4.1	42.7	Demand	38.1	191.3
	110.4	1473.1	Savings	27.2	138.9
			Time	1.1	267.1
Deposits in Foreign Banks	12.2	1352.9	Government	16.7	68.4
Demand	10.9	192.3	Foreign Deposits	38.2	5228.9
Time	1.3	1160.6	Non Bank	30.9	601.3
Foreign Earning Assets	14.7	3229.4	Demand	24.5	62.4
Net Other Foreign ASsets	-3.4	-3.5	Savings + Time	6.4	538.9
			Bank	7.3	4672.6
			Capital and Reserves	11.7	157.3

(9) $ABC = DEA - (K-NOA) = D_p(1 + \tau_1 + \tau_2 + g) - r(1 + \tau_1 + \tau_2 + g) + \ell)$

where ℓ is the ratio of net foreign liabilities to domestic demand deposits.
Substituting the demand deposit ratio from equation (7') yields

(10) - $ABC = d_1'B'(1-r)(1 + \tau_1 + \tau_2 + g) + \ell) = B'(1-r)d_T' + d_1'B'\ell$.

Remembering the equivalency of r and $1/d_T'$

(11)   . $ABC = B'(d_T' - 1 + d_1'\ell)$ . .

Moving all non-resident deposit liabilities to the left hand side of the
equation leaves only a broadly defined deposit supply on the right with bank
reserves and a net bank credit (NBC) that is financed purely with domestic
liabilities on the left

(12) $NBC = ABC - (FL - (FR + FEA)) = D_p + SA_p + T_p + D_g - B'$

            $= B'(d_T' - 1)$.

In equation (11), bankers balancing their resident and non-resident
accounts separately sets $\ell = 0$ so that $d_1'\ell$ drops out of the equation and ABC
is equivalent to NBC. Eurodollar banks trying to avoid taking a position in
foreign exchange must balance their dollar accounts, loans and reserves
separately from their local currency operations, forcing ℓ to zero. There
is, however, no exchange risk attached to the Panamanian overlap between
resident and non-resident operations.

If the components of the money supply have been adequately accounted
for, then the flow supply of domestic deposits (bank money) to Panama will
have been accounted for. Table 4 attempts to account for growth in the supply
of bank credit over the period by movements in domestic deposit liabilities

TABLE 4

SHARE OF CREDIT GROWTH ACCOUNTED FOR BY D_T

	Growth Rate of ABC	D_T	Share of ABC Accounted for by D_T	Residual	Growth Rate of NBC	Share of NBC Accounted for by D_T	Residual
1960-69	12.64	10.66	84.3	15.7	11.30	94.3	5.7
1960-63	13.13	12.06	91.8	8.2	11.95	100.9	-.9
1963-64	14.90	-4.81	a	a	-.26	a	a
1964-67	15.58	16.99	109.0	-9.0	17.87	95.1	4.4
1967-69	13.80	10.36	75.1	24.9	10.56	98.1	1.9

[a]Since domestic deposits declined while domestic credit expanded, the shares are not meaningful numbers.

using the same methods of Table 2. Net bank credit can be virtually fully accounted for by growth in domestic deposit liabilities (D_T). Adjusted bank credit, on the other hand, shows the influence of the foreign liabilities in 1964 and between 1967 and 1969 as foreign funds were employed by the banking system to finance local credit expansion, as is evidenced by the positive rate of expansion of adjusted bank credit in 1963 and by the larger unaccounted for residual in 1967-69.

The table would then seem to indicate that the supply of bank credit was limited to the growth of domestic deposit liabilities through most of the 1960's though after 1967, banks began to take greater advantage of endogenous liability opportunities.

CHAPTER II

THE BANKING LAW AND THE TRANSITION PERIOD

Hints of Panama's future development first appeared in the mid-1960's. When the Bank of America opened a branch office in Panama in 1964, the existing banks, for the most part, oriented their activity towards the local economy.[1] Foreign deposits were convenient but not a major activity and foreign loans and investments were, in general, the placing of liquid funds abroad when appropriate opportunities could not be found locally. The Bank of America, however, arrived to act as the financial intermediary between foreign depositors and foreign borrowers with local depositing and lending a separate subordinate process.[2] In general, the Bank of America balanced its operations separately for the resident and non-resident operations. Its credit outstanding to domestic residents was maintained at a level quite close to local deposit liabilities through 1972, keeping foreign financing of domestic activity to a minimum. Though the bank conducted local operations, its principle activity was offshore banking.

When the U.S. attempted to control its international capital transactions in the middle to late 1960's, a pool of dollar deposits developed outside

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[1]Banco Suizo and Carl Frieze and Co. were minor exceptions, both out of business by 1967.

[2]The disaggregation of loans between local and foreign borrowers is not available until December 1968 at which time over 75 percent of the Bank of America's loan portfolio was foreign loans, and these loans accounted for over 87 percent of the foreign loans of the whole consolidated system.

of the country and it began looking for lending opportunities. Since developing countries were becoming less enchanted by direct investment and more open to portfolio capital investment, they formed a ready source of borrowers. Bank of America's successful operations from Panama encouraged other Eurodollar banks looking for an operational base from which to channel funds to the developing countries. Excellent communications facilities (both electronic and air passenger), a bilingual, relatively well educated urban population and the country's traditionally open attitude toward trade and foreigners were all attractive to foreign bankers as were the tax exemptions on all income earned from foreign operations.

By 1969 branches of U.S. banks engaged in Eurodollar operations had been lending extensively to their head offices in the United States. When the Federal Reserve imposed reserve requirements on Eurodollar borrowings by head offices, the U.S. banks ran down their Eurodollar borrowings as fast as they could, and these funds joined the liquid pool of dollars outside of the U.S. looking for borrowers.

At the end of 1969, the time appeared appropriate for Panama to pass enabling legislation to reform its existing laws and to capture the bank business possibilities along the line of the Bank of America's activities. Previous attempts at banking reform had all been oriented toward establishing a central bank of a currency board and had been defeated by the legislature.[1] The 1970 banking law was promulgated in order to reform the existing banking system by replacing the outmoded law 101 of 1941 and law 4 of 1935. At the same time, provisions were included which would make Panama attractive

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[1] Although an attempt to create a "central bank of issue" in 1941 was aborted by a change in government shortly after the first issue of paper currency.

to the dollar funds looking for a base near South and Central America.

In keeping with the popular image of short term capital flows across national borders as destabilizing movements of "hot money," the banking law's creators thought numbered accounts would be the main attraction bringing foreign deposits to Panama. Numbered accounts were given much fanfare and publicity since their anonymity and the secrecy surrounding such accounts would make them a great attraction to the "hot money" of Latin America, especially that originating from countries with severe currency controls. Table 5 shows the volume of numbered accounts has grown from 2.6 percent of foreign demand deposits in March 1969 to 30 percent in December 1974. Indeed between June 1973 and June 1974, they grew by 52.6 percent. However, foreign non-bank demand and savings accounts relative to local privately held demand deposits have been comparatively stable, not even showing the dynamism of local time deposits. Thus the share in total non-bank foreign deposits of numbered accounts has only grown from 1.3 percent to 3.0 percent between March of 1969 and December of 1974, and so called "hot money" has not been a major contributor to Panama's non-bank foreign deposits.

TABLE 5

NUMBERED ACCOUNTS

(In millions of dollars)[a]

	March 1969	June 1973	December 1974
Numbered Accounts	.711	8.796	18.219
Foreign Non-bank Demand Deposits	27.231	43.394	60.010
Total Foreign Non-bank Deposits	53.142	289.962	601.300

[a]End of period balances.

To insulate Panama from the impact of expected variations in the short term international capital flows, the banking law contemplated separating local and foreign operations by issuing three types of banking licenses. Capitalization requirements and licensing fees varied depending on whether the banks business was to be full service (Class I), offshore only (Class II), or representative office only (Class III). Either snob appeal,[1] the desire for flexibility, or uncertainty about the legal position of interbank dealings crossing Class lines has made most banks willing to pay the price of the Class I license.

To attract banking operations such as those of Bank of America, the banking law of 1970 liberalized and simplified the banking and administrative legal requirements. In addition, there were to be no taxes on income generated by foreign sources, no legal reserve requirements on foreign deposits, and all interest rate ceilings on loans to and deposits from non-residents were removed. Finally, the law required low capitalization rates compared to other banking centers. In the U.S. the typical ratio is 10 percent[2] while Panamanian law set the initial ratio at 5 percent which was reduced to 4 percent in 1974.

To reform local banking practices, reserve requirements against local deposits were simplified and ceilings on loan interest rates, in force since 1935,[3] were removed. This helped integrate the local capital markets more

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[1]According to the executive director of the Banking Commission, the most often received reply to the question of why a bank established primarily to undertake non-resident operations wanted a Class I license was "We're a first class bank." In 1974, the title Class I was officially changed to General, and Class II banks were re-named Offshore.

[2]Mayer, The Bankers.

[3]By law they had been 7 percent for commercial and 9 percent for personal loans. The effect was much like that occurring when state usury laws were rescinded. Referring to the reference interest rate depicted in Figure 3, it appears that the ceilings were probably effective in late 1966, and again

fully into the international markets as did freeing the interest rate on domestic time-deposits. Permitting them to be set by the market allowed Panama's banks to pay world rates in order to retain the large size local deposits which had been seeking higher interest rates available abroad. At the same time, however, a regulation Q like ceiling on savings accounts was established, creating a differential between the commercial bank passbook rate and the mortgage bank rate. The principle beneficiary of this regulation was the government savings bank, Caja de Ahorros. Its share of the domestic savings accounts had been falling as it lost deposits to the private banks. The law reversed the trend. Unregulated time deposits were legally distinguished from savings accounts by whether the deposit is above or below $14,000. This distinction led to a tax anomaly and the resultant granting of loans by banks of deposits to be held as time deposits instead of spent.[1]

The law also attempted to deal with the problem that Panama's monetary system has no lender of last resort. Each bank was required to have a "contingency line of credit" at a foreign bank equal to 10 percent of the domestic deposits which could be called upon to meet emergencies such as bank runs. In addition, the licensing procedures restricted the number and quality

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after 1968. Whether they were enforced is another matter as various subterfuges were developed to obtain a market rate. See James K. Nettles, "Analisis por una Legislacion Bancaria Panameña," Sobre el Sistema Monetario y Bancario de Panama, ed. by Nicolas Ardito Barletta, Jr. (Panama: Departamento de Planificacion, 1970), pp. 47-51.

[1]Panamanian tax laws until 1974 allowed interest payments on all types of loans to be deductible from taxable income, while interest earned on time deposits need not be declared as income for tax purposes. Someone with $10,000 will only get 5 1/2 percent by going to the Caja de Ahorros, whereas if he can get 12 percent for a time deposit of $14,000 he nets 10 percent by borrowing the extra $4,000 at 15 percent. Some of the rapid growth in time deposits then is caused by this "accounting credit."

of banks allowed to do business. At times the quality of local banks had varied quite a lot.[1] The law rescinded all old licenses and forced all banks to go through the licensing process before they could use the word bank in their titles. Before the law, there were 247 banks registered. Only eighteen survived the screening process.[2] By restricting entry to only "first class" international banks, some of the inspection and solvency responsibility could be shifted to the head offices on the expectation that banks concerned with their international reputation would do their own policing of the local banks.[3] By establishing a banking system composed of local branches of known international banks whose head offices will not allow them to go under, Panama felt it was not necessary to set up any entity as a lender of last resort.

Finally the legal reserve requirements were revised allowing only those deposits at the national bank to serve as legal reserves instead of, as formerly permitted, all interbank deposits.[4] Vault cash and deposits at the central bank are a normal definition of a monetary base or legal reserves. However, Banco Nacional is still not a central bank but only another commercial

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[1] In the early 1960's a Mexican Panamanian bank was founded and opened for business. Two days later, it closed forever. The new law also brought an interesting group of applicants. One application was received for the Salvidor Dali Bank whose main attraction would be that its stock certificates would be original Dali's.

[2] See the March 11, 1975 edition of London Financial Times, p. 4.

[3] Though this is no guarantee as in early 1975 the local branch of one of the large U.S. banks faced a default of some $15-20 million. Their loan to the local subsidiary of an internationally known European Hotel chain went into default and the bank tried to pressure the government into making up some of the loss.

[4] The law also permitted government Treasury bills bearing an interest rate of 3 percent to be held as reserves. Until late 1974, however, the banks refused to hold the 3 percent bills without discounting them, effectively removing them as legal reserves.

bank. The swaps arrangement which had been possible before were still possible, only all exchanges had to be made with the Banco Nacional for the swaps to expand legal reserves. The action seemed aimed not at bolstering the liquidity of the banking system, but rather at bolstering the faltering position of the Banco Nacional. It is the government's bank serving not only as the prime source of government credit but also as the primary means of channeling credit to government designated key sectors.[1] In recent years, the Banco Nacional has become more and more dependent on interbank and government deposits as its main source of funds since private deposits, while accounting for more than 50 percent of total deposits in 1960 could account for only 25 percent in 1974, and had been steadily declining since 1972.[2]

This curious combination of freedom for some deposit taking activities while local activities are more constrained appears designed to lay the foundations for a central bank when it is deemed feasible in the future. The immediate effect, however, was a transitional period during which banks adjusted to the new environment. In early 1964, Panama's banking system consisted of the two official banks (the commercial bank, Banco Nacional, and the savings bank Caja de Ahorros) and four private commercial banks. By

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[1]See Nettles, "Analisis por una Legislacion Bancaria Panameña," p. 51.

[2]The Banco Nacional, being a local bank, does not enjoy the international market access of the local branches of the large international banks any more than small country banks in the U.S. do. Its position as the government makes it suspect and it does not enjoy, for instance, even the reputation of the Caja de Ahorros which is often forced to "front" for the Banco Nacional in international borrowing. In addition, numerous speculative attacks on the bank through the years have greatly reduced the supply of private sector funds to the bank. One campaigning politician in March of 1968 took to the radio to attack the liquidity position of the Banco Nacional since it was not meeting the local legal reserve requirements at the time. This produced a run of private depositors who rushed to move their deposits from the government to the private banks. The run was forestalled in the classical manner by placing $1 million in cash with twenty guards carrying tommy guns in the main lobby of the head office.

March 1969, the four had grown to fourteen and by December of 1974, thirty-six private banks were licensed to conduct all forms of banking operations in Panama. Seven of these were engaged primarily in domestic operations, six others were large operators primarily in the non-resident markets, who controlled some 85 percent of the non-resident deposits. The remainder in 1974 were a mixed group of smaller banks conducting both local and offshore operations to varying degrees.

Some banks are clearly only a more expensive variant of the Bahamas Post Office boxes since though they have local offices and staffs, and hundreds of millions of dollars in deposit liabilities, their managers have no decision making power. Others, after a year or two of operations to "test the water," are now the operational headquarters for large scale banking activity in Central and South America. Many of the smaller banks are from Latin American countries, in Panama following the business of their exporters (notably Brazil, Colombia, and Ecuador) and obtaining freer access to the world's international capital markets. Still another engages in absolutely no deposit taking activities as it is a wholly owned subsidiary of a large U.S. retail firm and its sole purpose is to channel credit to the Latin American branches of its owner.

During the transition period, a few banks received licenses but never really established themselves. Others were established but did not get off the ground for other reasons.[1] Some banks moved in with fully loaned up portfolios as they shifted headquarters from the Bahamas, while others arrived

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[1] In 1973 Panamanian courts approved the sale of the assets of the U.S. Investment Bank, established in 1969, after its parent company, International Overseas Investors had gone bankrupt. The assets were purchased by a Chinese bank, but the depositors guaranteed 10 percent on their deposits had to wait for the courts to settle the problem.

with very liquid portfolios ready to seek out international customers.

Banking statistics during this period consequently exhibited some spec-

tacular growth rates and abrupt changes. One large bank carried its de-

posit liabilities of foreign banks for three quarters as demand deposits,

then shifted them into time deposits. These deposits were over a third of

total foreign deposits so the system's category showed an abrupt shift due

primarily to a reclassification problem.[1] Finally, international wholesale

banking contributed to the statistical aberrations observed during this

period. International operations initially were the process of the Pana-

manian bank bringing together a foreign borrower and a foreign lender, usually

private although often times a foreign bank whose funds had been purchased

in the Eurodollar markets or had been allocated by the local branch's head

office. The same phenomenon of wholesale banking that arose in London and

in Singapore's offshore market[2] also came to Panama and became large enough

to be noticeable in 1972 as banks began to "broker" international funds. This

wholesale banking of funds occurs as the Panamanian branch buys funds from

New York or London banks and sells them to other foreign banks without ever

becoming involved in the investigation of the loan and thus assuming no risk.

Since the selling of the funds is often recorded as a deposit in foreign

banks instead of a loan to them, attempts to use deposits in foreign banks

as a measure of international reserves must take this brokering into account.

Consequently during the transition period, the banks played havoc

with the monetary system's statistics. But by helping to firmly establish

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[1]The banking specifically permits interest to be paid on non-resident
demand as well as time deposits.

[2]See Andrew F. Brimmer and Frederick R. Dahl, "Growth of American
International Banking: Implications for Public Policy," Journal of Finance
30 (May 1975):356.

a foreign banking center in Panama, the banking reform of 1970 created access to international dollar markets for the whole of Panama's banking system, whereas before access had been restricted to branch offices of the large international banks.

THE POST TRANSITION PERIOD

This chapter will examine the monetary process of the post transition period, focusing on the changes brought about by the establishment of the regional banking center and on the impact of these changes upon the domestic monetary process. Once Panama became more tightly integrated into world capital markets, her bankers were better able to take advantage of being a small participant in very large dollar market, as they were able to make much more extensive use of non-resident deposit liabilities to expand domestic bank credit. When the characteristics of transition during the adjustment period is ignored, the effect of the banking center can be seen not so much as a change in the process but rather a change in the size of the parameters. The magnitude of the shift in the parameters was sufficiently large so that it is useful to describe the current process with a rearrangement of the 1960's model. Unfortunately the real world experience is not as black and white as us to bring the system into conformity with the equilibrium identifications that could be clearly dealt with. Consequently this chapter will often be confined to defining the key characteristics of the banking system, while presenting explanations of the structural process and procedure in the year growth in between. Despite these limitations and ambiguities, some useful observations can be made to explain the workings of the post-transition system.

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the limiting system, then presenting explanations of why the actual process
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International Reserves and the
Monetary Process

One of the more useful observations on the monetary process arises

out of the accounting framework used to outline the workings of the banking

system. The conventional frame of reference groups the financial assets of

the banking system into two aggregates, international reserves (R) and

domestic credit (D) on the assumption that a useful distinction can be made

between the sets of factors affecting these variables. The monetary approach

assumes an endogenous R, manipulatable only indirectly by the monetary

authorities decisions with respect to domestic credit. Practical measure-

ment of R normally follows international convention by including net short

term foreign assets under R but excluding long term. In addition it pre-

sumes that long term foreign liabilities should not be charged against a

country's ability to meet short run commitments since they normally exhibit

little short run variability. The same conventions treat D as those assets

backed by domestically held liabilities that are under some degree of control

by the monetary authorities through their decisions influencing the level of

banking reserves available and those concerning requirements they place on

banks to hold them. These general assumptions form the framework behind the

variables of equation (2) on page 11.

(2) $$M^S = R + D.$$

In a country highly integrated into world capital markets, however,

the demand for bank credit that is not accommodated through local sourced

funds can be met by acquiring foreign liabilities. When a commercial bank,

in a closed economy, is faced with a profitable lending opportunity and finds

its legal reserves fully committed, it might still accommodate its customers

by liability management. Chicago banks, for example, do not find their activities constrained by their vault cash and deposits at the Federal Reserve since they can go into the Federal Funds market or sell certificates of deposit or sell subordinated loans on themselves in order to obtain funds to use to grant loans. Pursuing this course of action very far makes it entirely possible for their loan to deposit ratios to obtain values greater than one.

Bankers in any open economy that is well integrated into world capital markets face the same opportunity, since they have access to funds available in world markets. A more useful concept of domestic credit then would be the consolidated system's total bank credit (G) which is domestic credit financed by both local and foreign liabilities. However, a measure of domestic credit including local credit financed by borrowed foreign liabilities (BFL) must remain consistent by reducing the value of international reserves by the borrowed component since the stock of domestic deposit liabilities (M^S) did not change. This modifies (2) to

(13) $M^S = R' + C$ where $R' = R - BFL$ and $C = D + BFL$.

This use of foreign liabilities diminishes the level of international reserves, and, in fact, for Panama this measure of international reserves has been negative since 1960. The pattern of negative reserves over the long run implies that it is not a temporarily negative flow due to market disequilibrium, but rather the long run behavior of a rapidly growing economy.

The drawback with this treatment is that it is difficult to think of using negative reserves to settle payments for international transactions. The transition from (2) to (4) then forces a trade-off of a more useful concept of domestic credit for a less useful concept of international reserves.