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Central Banking and the Behavior of an Economy

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I. Introduction.

Fifty years ago when the Central Bank of Ecuador was founded, the Quantity Theory of Money was the standard analytical framework for examining the overall behavior of an economy and Central Banks were viewed as a necessary institution for stability and progress. With the coming of the Great Depression both fell out of favor: The Quantity Theory of Money did not provide a plausible explanation of what happened in the 1930's, and because the Great Depression was exactly the phenomenon Central Banks were supposed to make impossible, the Great Depression hurt the prestige of Central Banks.

In the years between the great collapse and World War II economic policy in the capitalist world floundered. Although Keynes' General Theory was published in 1936 it cannot be said to have been a guide to policy in the years between its appearance and World War II. The government deficits that emerged in the United States and other countries were not viewed as a conditional good thing, they were viewed as an undesirable by-product of steps that had to be taken as humanitarian or, with the outbreak of the arms race, national interest grounds. In the international sphere the years from the beginning of the Great Depression and the end of World War II constitute an era of autarchy, multiple exchange rates and bilateral trading arrangements. The Central Banks of the world found a new function as the more or less honest administrators of these schemes.

In the capitalist economies some twenty years of relative tranquility, comparative prosperity and apparent growth followed World War II. During these two decades the "rules" for economic policy that followed from the standard Keynesian doctrines seemed to work. The Quantity Theory of Money was not the

theoretical framework for analysing the behavior of the economy. During this period Central Banks were technical organizations that managed a country's exchange, accommodated the banking system to government fiscal policies and provided valuable statistical services. Because finance and financing were of minor importance in the theories that guided actions, Central Banks did not play an active role in guiding institutional developments.

In the years since the middle 1960's, strains, which developed over the first twenty years after World War II, became evident and began to affect the behavior of both the international economy and the domestic economies of the capitalist centers. The Bretton Woods/dollar standard broke down in the late 1960's prior to and leading up to the abandonment by the United States of its leading role in 1971. Three times in the decade after 1965 financial markets in the United States were shaken by serious disturbances. These domestic difficulties had potentially serious repercussions, especially in the later years as the larger United States' banks developed extensive overseas deposits. United States' domestic financial difficulties helped bring down the Bretton Woods system that was built upon the dollar.

As the 1960's gave way to the 1970's it became evident that the guidelines for policy that followed from the accepted neo-classical interpretation of Keynes no longer were effective. With the breakdown of the dollar standard in the late 1960's and the recurrent financial trauma in the United States it became evident that the policies based upon the ruling neo-classical Keynesianism had become an engine of inflation, first outside the United States and then within the "center", the United States.

With the evident failure of economic policy based upon the two post-war

pillars - Bretton Woods for international stability and Fiscal Policy for domestic United States' stability - Keynesian neo-classical theory has been replaced in popular favor with neo-classical "Quantity Theory". The Quantity Theory of Money having been out of favor for forty years returned to favor, this time in the fancy dress of Monetarism. The return to favor of the Quantity Theory is odd because the financial instability, the phenomenon that delivered the knock-out blow to the Quantity Theory in the 1930's, was once again a serious threat. The Quantity Theory of Money in the form of Monetarism returned to favor because if offers a simple explanation of inflation, an explanation that is simple enough for American and other politicians and newspaperpeople to grasp. Furthermore whereas the standard Keynesians argue that there is a trade off between inflation and unemployment, the Monetarists, by inventing a "natural rate of unemployment", argue that there is no trade off. In monetarist doctrine the elimination of inflation is simple and costless: All that has to be controlled is the money supply and because the economy will work at its "natural rate of unemployment" regardless of the rate of inflation whatever uncomfort may exist is transitory. In particular because the neo-classical economic theory that underlies monetarism ignores financial system behavior the question as to whether central bank actions to control inflation may have repercussions on the stability if the financial system is ignored in the monetarist policy prescriptions. Monetarism is not a valid guide to policy for an economy in which financial interrelations are important.

With the emergence of a troubled unstable economy characterized by chronic inflation and the acceptance of the Quantity Theory of Money in the guise of monetarism as the theoretical basis for analysis and policy, central banking

has regained favor as the key instrument of control of the economy. Today in the United States the Chairman of the Board of Governors of the Federal Reserve System is an independent satrap of great prestige, whose views and actions are independent of political control. The Federal Reserve is now viewed as dominant in determining the short-run course of events.

There is a paradox in the present power and prestige of the Federal Reserve System, for if anything recent events have blatantly contradicted the monetarist doctrines that are the intellectual basis for the re-emergence of the Federal Reserve as a powerful and prestigious institution. First of all, financial instability is foreign to neo-classical theory and monetarism is hard-core neo-classical doctrine. Secondly recent experience and ongoing institutional changes in the United States demonstrate that money is endogenous. The effective money supply is largely determined by financing practices, whereas monetarist doctrine holds that the money supply is effectively determined by the Central Bank. A third monetarist doctrine is the stability of a velocity relation or of a demand for money function (they come to the same thing). Recent experience indicates that these functions change and change markedly.

These cycles in the favor with which central banking has been viewed and in the esteem and prestige of the Quantity Theory of Money is one aspect of my topic. My view is that the long swing in what is fashionable and prestigious reflects the intellectually flabby and empirically unsatisfactory nature of the understanding of the capitalist process by neo-classical economic theorists as well as by political, business, and labor leaders in capitalist economies. Central banking is important for exactly the reasons why the neo-classical synthesis in any form but in particular in its Quantity Theory or Monetarist

dress will not do as a theory of how a capitalist economy behaves and as a foundation for economic policy. Central Banks are important because economic policy can guide the development of an economy and a capitalist economy is internally unstable. The Quantity Theory of Money or Monetarism, being an extension of neo-classical price theory,does not allow for policy to guide development and cannot cope with internal instability. In order to do better in managing capitalist economies and in order for central banking to be a useful instrument of economic development for the peripheral and poorer capitalist economies, a theory that better integrates the investment and financing processes of capitalism with system behavior than is true of the standard Keynesian Theories and the Quantity Theory is needed. Such a theory is emerging out of the work of Joan Robinson, Sidney Weintraub, Paul Davidson, and Jan Kregal among others. This alternative theory is more deeply based upon institutions and usages as they are than is true of the neo-classical theory. In this paper I will attempt to use my own peculiar brand of economic analysis to separate the prestige and usefulness of central banking from the prestige and usefulness of Monetarist or Quantity Theoretic approaches to economic analysis and policy.

II. The Nature of Central Banking.

A. Introduction.

Winston Churchill once used the phrase "a mystery wrapped in an enigma". Although Churchill applied the phrase to quite another institution, the phrase is an apt characterization of central banking. The mystery is what if anything do central bankers do that is useful, the enigma is how if at all is central banking supposed to make a capitalist economy work better. If central banking is useful and important, then presumably there are shortcomings and flaws in a capitalist economy without central banking. What is it about capitalist economies that makes a Central Bank important?

Central banking exists and is necessary exactly because a capitalist economy with capitalist financial institutions which uses complex capital assets or engages in extensive trade is unstable. The neo-classical perception, that a capitalist economy is inherently stable, is inconsistent with the existence of central banking. The Quantity Theory or the neo-classical view of the economy misses how instability is brought about for it focuses upon the use of existing capital assets and not the process by which resources are freed for investment under capitalist institutional arrangements.

Central banking is effective in making a capitalist economy work better to the extent that it prevents both run away investment booms and inflations and deep debt deflations and depressions. But to understand how central banking can achieve these twin objectives it is necessary to understand how serious instability is brought about in a capitalist economy. Instability in a capitalist framework comes mainly from the techniques that are used to finance

investments and positions in the stock of capital assets. If the capitalist economy is to be investing then the banking mechanism needs finance investment demand even as the pricing system reacts to the financings of such demand by generating an offsetting surplus. The trick in managing a developing capitalist economy is to extract this surplus without triggering unacceptable inflation rates, even while assuring that profits are adequate both to service the instruments issued in financing investment and positions in capital assets and to act as a lure for further investment.

To understand what central bankers do and how they can affect the operation of an economy a list of standard functions of a central bank will be examined. These functions will be fitted into a framework which emphasizes how financial usages affect the extraction and the allocation of a surplus. Four functions of a Central Bank will be taken up:

a. protector of "exchange" values

b. fiscal agent of the government

c. controller of the domestic money supply and financing terms

d. lender of last resort.

The power of a Central Bank mainly depends upon the superior position that its liabilities occupies for some sets of transactions. This superior position arises because units have payments which they must make which can only or best be made in central bank liabilities. Central bank liabilities are a superior asset in an economy if the holder of central bank obligations can 1) acquire foreign exchange at "guaranteed" terms 2) fulfill obligations to pay governments, and 3) meet 'clearing' losses to other financial institutions.

standing and a surplus when loans are repaid. For a bank to be viable it must always be able to force a cash flow in its favor; the non-cash assets of a bank will generate a cash flow to the bank either because of the nature of the asset or because the asset can be sold in a market. The proposition that a viable bank must be able to force a flow of that which it lends and that in which its debts are denominated in its favor by its own actions and at a tolerable price is the fundamental rule for banking, be it commercial banking, central banking, or the financial institutions of a country that acts as a key center in the international monetary system.

B. Protector of Exchange Values.

Historically the primary mandate of a Central Bank was to maintain convertability between its liabilities and hard money (or "specie") or some other currency at some pre set level. This "mandate" was often expressed by setting restrictions on the amount of its own liability it could have outstanding either by setting a "gold reserve" ratio (as in the United States) or by having a fiduciary issue and 100% coverage in excess of the fiduciary issue (as in Britain). For both the traditional (pre-World War I) Bank of England and in the pre-depression Federal Reserve System the assets of the Central Bank consisted mainly of discounts to the money market either directly or by way of individual member banks. The ownership by the Central Bank of debts of individual units of the economy, even though it was endorsed by a discount house or a bank, meant that the Central Bank assets and liabilities outstanding were reduced each day as the bills due that day were repaid. The total amount of central bank obligations outstanding would be reduced each day if the Central

In a capitalist economy investment and positions in capital-assets are financed by debts. Debts are money today - money tomorrow contracts. Once a loan is made and is outstanding the debtor is under obligation to acquire that in which the debt is denominated along the time schedule as stated in the loan contract. In a monetary economy with borrowing and lending, the borrower acquires money, spends this money and then operates upon the economy so as to acquire money to meet his obligations. The lender knows that the borrower will operate upon the economy to acquire that which is needed to repay the lender.

It is this need to make payment in that in which a debt is denominated that gives value to bank deposit liabilities. The borrowers from a bank are under obligation to make payments to the bank and an acceptable means of payment are deposits at the bank. Note that if a bank has a portfolio of short term loans to business then over a short time period the borrowing businesses will have to make "additions" to their deposits equal to the principle and interest on the outstanding loans. Short term, non-renewable business loans are most conducive to making bank debt valuable. Longer term, renewable and government debt are less conducive to forcing units operating in the economy to acquire bank debt. There is virtue in the old fashioned commercial loan theory of banking as a rule of operations for a banking system even though this theory will not do as a guide to the correct amount of money.

A borrower therefore has a "deficit" with the rest of the world as it spends borrowed funds and a "surplus" with the rest of the world as it acquires funds to pay debt. A lending bank has a deficit when it increases loans out-

Bank ceased or slowed down its discounting. Furthermore the Central Bank controlled the terms upon and even the nature (eligibility) of the bills it discounted each day. A discounting Central Bank is closely involved in the day to day activity of the economy.

By making its accommodation more expensive a discounting Central Bank such as the Bank of England before World War I and the Federal Reserve before the Great Depression could raise the costs of funds to bankers and bank customers. By making its liabilities scarcer, by cutting the total volume of accommodations outstanding, the relative price of its liabilities would rise or because central bank liabilities are always fixed as "dollars" or "pounds", the price in dollars or pounds of other assets would fall. If reserve bank liabilities were scarce enough or expensive enough and if there was specie in the hands of the public, the Central Bank could force a "reflux" of specie to the Central Bank as obligations to the Central Bank fell due.

The gold standard imposed a narrow band of fluctuation between currencies. If the exchanges were such that a Central Bank was losing specie, regardless of whether the drain was internal or external, the rule that Central Banks were supposed to follow called for raising the borrowing rate and decreasing the quantity of central bank liabilities outstanding. This would force a return of specie to the bank. If the loss of gold was in the international exchanges, the rule was to operate so as to raise domestic interest rates and so lower domestic asset prices relative to foreign interest rates and asset prices.

The "international exchange" is not a pure trading game in which commodities are exchanged for commodities. Throughout the later ninteenth and into the

twentieth century international investment and finance were a major part of international transactions. Furthermore the world was not a game among equal players, the world is a hierarchical place in which one or two centers dominated.

In the earliest period the pound is the dominate currency. In the 20th century a pound-dollar dominated system was succeeded by a dollar dominated system. The current disarray of the international monetary system has to do with an emerging chronic weakness of the dollar. The United States seems unable to face the realities of its current weakened fundamental position and as yet no capitalist center has emerged that can fully supplant the United States as the international financial center.

In an international order characterized by a dominant center or a set of centers in a hierarchical pattern international financing is the key to the normal functioning of the international economy. When currencies are kept within narrow bands one to another by being each individually kept in their narrow relation to a key currency in the hierarchical pattern, then the balance of payment reactions to Central Bank operations in the central country are too quick and too sure for the relative price level changes that make up the price specie flow mechanism of the economics literature to be effective. The balance of payment equilibrating mechanism is basically within the financial sectors, not in relative incomes or relative traded commodity price levels as traditional theory has it.

The process by which the exchanges are brought into line one to the other was sketched by R.S. Sayers in his study of pre-World War I Bank of England operations. The basic contours of the British balance of payments in the first

decade of the twentieth century had Britain running a deficit on its current account. Seventy-five years ago Britain had difficulty in achieving a favorable current account. The decline of an empire does not occur with a bang, it is a long whimpering process. However, in 1900 Britain had an Empire and Britain had amassed huge capital-assets abroad. Everytime a United States railroad or a United States steel company paid a dividend in this period a large sum was paid to British owners. In the late nineteenth and early twentieth century when income on capital account and remittances from abroad are added to the current trade and services account Britain ran a surplus. In order to balance Britain's accounts each year Britain had to lend or invest abroad.

If the exchanges ran against Britain, then they could be corrected by decreasing foreign lending and investing - if the exchanges ran in favor of Britain, then the pace of lending and investing abroad could be stepped up. If the exchange ran against Britain, the Bank of England raised its discount rate. This increased carrying cost on securities and raised the revenues that could be earned from short term accounts within Britain. It became a poor time to raise funds in the London Money Market. This meant that the volume of financing would be decreased although in many cases it just meant a change in the timing of borrowing.

The primary requisite for a smoothly working international financial system is for the center or key country to be able to generate a net cash flow in its favor by its own actions. This basically means that the center country must run a surplus net of its lending. The center country can maintain its viability as the center for a while by borrowing short even as it lends long. However as

it borrows short and lends long "normal functioning" cash flows are built up that operate against the central country. There is no way around this dilemma except the establishment of a center with a strong balance of payments position. The current weakened position of the dollar indicates that the current, dollar denominated, international financial markets ~~are~~ in trouble.

C. Fiscal Agent of the Government.

Within an economy the key property of a Central Bank is that it functions as the fiscal agent of the government. If the government is an effective functioning unit, then it will collect taxes and taxpayers will need to scramble for that which is accepted in payment of taxes. Within a country the taxes need be paid in central bank liabilities. Taxpaying households and businesses need acquire central bank notes or deposits and their source for such funds is the private or commercial banks in the system. If the Central Bank is the source of foreign exchange and of that which is acceptable in the payment of taxes, then commercial banks will keep central bank funds on hand.

The functioning of the United States' Banking System in the years 1837-1863 is instructive, for during this period there were no national banking laws and no Central Bank. Each of the states had its own banking laws. The Federal Treasury had a network of independent offices which for most of this period only accepted specie.

The Federal Government had two principal revenue sources - tariffs and receipts from the sale of land. In the seaports and on the frontier, banks had to be in the position to deliver specie to their depositors. As long as government revenues were adequate, banks were constrained by the need to service

their customers with specie.

The fiscal agent for the government function of a Central Bank is of vital importance for the domestic power of a Central Bank. The importance of this function and the ability of the Central Bank to carry out its other functions depends upon the government in fact collecting revenues. Furthermore the government must not run such a large deficit relative to the capabilities of the money market that the flow to the Central Bank because of tax revenues is swamped by the new accommodations of the Central Bank to the government. If the Central Bank finances a large and chronic government deficit, then the reserve base of the member banks increases. The flow to the Central Bank of central bank liabilities as private debts to the Central Bank become due does not act as an effective constraint upon households and businesses. The more the Central Bank furnishes reserves to banks and other units by means of discounting private debt the more powerful it is, the more bank reserves and domestic currency are the result of government debt owned by the Central Bank the weaker the Central Bank as a controller and guide to the economy.

Liberal economic policies have been fashionable and liberal economic policies have led to doctrinaire stands against tariffs. However, if central banking is to function effectively, in particular if central and private banking is to aid in first generating and then efficiently allocating a surplus, then the state must have an effective taxation and revenue system. Tariffs for revenue is a slogan from America's youth. If a country cannot collect and enforce income and equitable excise taxes, then the key to the development of

effective central and commercial banking might well lie in the development of a tariff for revenue.

Incidentally, even if a country's government has a large source of revenue from say oil or a tax on exports it still is necessary to have a regular flow of funds from the domestic economy to the Central Bank. Thus a tariff for revenue, excise taxes or income taxes are necessary even in the face of large government revenues from abroad.

D. Control of the Money Supply and Financing Conditions.

To monetarism the control of the domestic money supply is the main policy responsibility of the Central Bank. This doctrine maintains that the money supply is the primary if not the sole determinant of nominal aggregate demand and that the Central Bank has the power to determine the money supply. Thus aggregate demand and its changes are determined by central bank action.

The view that the money supply can be precisely determined by the authorities also pervades the standard versions of Keynesian Theory. In the IS-LM models of the text books the money supply is predetermined. However, in these Keynesian models the significance of the money supply is not to be found in its quantity but how it affects interest rates, i.e., financing conditions. Both of the two standard views look to the Central Bank as being a determinant of economic conditions either through the quantity of money or through the ruling financing conditions.

Views to the effect that the relevant money supply for the generation of aggregate demand in a capitalist economy emerges out of the economy's financial processes, that the content of the relevant money supply changes as the economy evolves and that in all but eras of financial tranquility the Central Bank as

much reacts to as it determines money market phenomena are foreign to both Monetarist and standard Keynesian doctrines. Whereas the standard views which emphasize the power of Central Banks leads to the promulgation of universal rules about how central banks should operate to offset income and prices, the alternate view suggests that the appropriate central bank action in any situation depends upon the institutional structure. Furthermore, the view that emphasizes the evolutionary character of financial and money markets allows Central Banks to affect the course of the economy as Central Banks affect the evolution of banks and financial practices.

Even though the Federal Reserve and other Central Banks may not be able to control the money supply they do operate upon the domestic money supply and financing terms by means of various weapons or instruments. The mix of instruments used determine the relations between the Central Bank and the various banking institutions that directly finance businesses and households.

In the United States, a profound change has taken place in the relations between the Federal Reserve and financial markets over the past fifty years. As the Federal Reserve was originally conceived and as it originally operated the discount window was a major source of bank reserves. Until the Great Depression of the 1930's the borrowings by member banks at the discount window were the source of a large proportion of nominal functioning bank reserves. From the Great Depression onwards, the discount window has ceased to be a normal functioning source of bank reserves. The normal Federal Reserve asset is now Treasury Securities and the Federal Reserve operates on bank reserves by buying and selling Treasury Securities on the open market. Although open market central banking could exist even in the absence of government debt by having the Federal

Reserve operate in commercial paper, banker's acceptances or certificates of deposit, in practice open market central banking seems to be tied up with the existence of a large outstanding government debt. However central banking can exist and can be effective in the absence of a government debt. There is no need for Central Banks in developing nations to try to develop institutions and practices analagous to those of New York City or London in an endeavor to increase their effectiveness.

We can therefore distinguish two types of central banking-private banking system relation. In one the Central Bank's contact with the economy is by way of the discount window and the instruments used reflect private debt. In the other the Central Bank's contact with the economy is by way of a market in which government securities are traded. In this second technique of central bank operations, the Central Bank does not directly participate in any private financing except when the system is not functioning normally.

In discount window central banking the borrowing from the Federal Reserve was at short term and the borrowing was collateralized by approved classes of instruments. The "real bills" that presumably represented goods in trade were eligible for discount, other instruments were not.

The discount window technique of central banking had additional attributes which affected how the economy works. As a result of the short-term nature of the indebtedness of banks to the Federal Reserve and the short-term nature of the business debt that was eligible for collateral, a steady flow of cancellations of private debt and bank deposits and borrowings at the Federal Reserve and bank reserves took place. Central bank liabilities were held and were bid for by banks because they had debts that were denominated in these liabilities

that were falling due. Any change in the terms upon which the Federal Reserve was willing to accommodate bank borrowing was quickly transmitted to the terms upon which banks were willing to finance business.

A second effect of using the discount window as a normal functioning source of bank reserves is that the initiative for changes in the quantity of discounting comes from banks, although the terms upon which discounting is available is determined by the Central Bank. To a bank the discount window was a source of loanable funds as long as the bank held eligible paper and the price at which the Central Bank lent was a cost of doing business and therefore determined financing terms. The quantity of money changed as the market responded to discount rate changes. The relation between the total quantity of reserves and Federal Reserve actions is much more market determined with discount window central banking than with open market central banking.

In discount window central banking, some but not all of bank assets were eligible for rediscounting at the Federal Reserve. The doctrines of eligibility that the Federal Reserve followed conformed to the real bills doctrine, in that only short-term bank loans that were collateralized by goods "in the process of production or trade" were eligible for discount. However, in principle, a Central Bank need not be limited to such paper--any financing instrument can be afforded the protection of a guaranteed market. It is best but not necessary that the private instrument eligible for rediscounting generate a large cash flow to the lending institution. Government and central bank endorsement, can, if it is indicated by policy, be extended to other instruments than real bills.

In discount window central banking the Central Bank "takes a stand", by

its standards for eligibility as collateral at the discount window on the type of instruments it wants to see used and on the activity it wishes to see financed. Furthermore with discount window central banking the Central Bank can go directly to the market and finance activity it desires to promote. In open market operations central banking as it is practiced, the Central Bank deals only in government debt and relies upon the general effects that follow from changes in the reserve base of commercial banks to affect the working of the economy.

One aspect of central banking in the United States is the development of specialized institutions to carry out central bank functions. The "insurance" of deposits at "protected" financial institutions is a central bank function. This function assures that the liabilities of the protected institution can always be transformed into central bank liabilities. In the great financial debacle of 1929-33 the Federal Reserve did not protect and insure the deposit liabilities of commercial banks. As a result of the epidemic of failures of commercial banks and other financial institutions, separate and specialized deposit insurance organizations were set up. As is evident from the experience of the last several years, the deposit insurance function requires the support if not the initiative of the Federal Reserve. In the experience with big bank failures in 1974-75 the Federal Reserve first carried out the deposit guarantee function and then the Deposit Insurance Corporation took over assets to liquidate the failed institutions.

It is obvious that the more sophisticated and complex the financial structure of an economy the more discount window central banking becomes like open

market operations central banking. This is so because in a fractional reserve banking system the bank and other lending that follows upon an increase in the bank reserve base is quite independent and significantly larger than the transactions which led to the introduction of bank reserves into the system. However if the money market and financial system are not sophisticated then the central bank support of particular private financial usages by either making the paper that results from this usage eligible for discount at the Central Bank or by direct lending to such borrowers is important in determining the direction of financial and economic development.

Although it is possible to have open market operations central banking, by having the Central Bank buy and sell private debt instruments and thus protect and support particular types of financing, it is evident that open market operations central banking tends to emphasize the quantity of bank financing and thus the quantity of money, whereas discount window central banking tends to emphasize the terms upon which financing is available to the units of the economy. The famous liquidity trap of monetary theory is a proposition to the effect that in well defined situations Central Bank operations to increase the money supply by purchasing Treasury debt on the open market will not have an appreciable effect upon the terms or the amount of debt financing of investment on other private economic activity: i.e., open market operations central banking is, in these circumstances, ineffective.

However, discount window central banking includes the possibility of the Central Bank bypassing the existing set of financial institutions and directly financing business activity--thus as long as there is any appreciable spirit

of enterprise in the economy, open market central banking can always have an impact upon activity. In many instances the direct intervention by the Central Bank into financing activity takes the form of the organization of specialized government financial institutions such as agricultural credit banks, housing banks, or small business administrations. These institutions can issue paper that is guaranteed by the government, but as is evident from the experience with deposit insurance, the government guarantee really means the Central Bank's protection.

In a developing economy, the discount window model for central bank involvement in the economy is much more appropriate than the open market model. The aim of a discount window Central Bank is to develop monetary and financial institutions and usages which effectively finance development and simultaneously keep the financing techniques from fueling an inflation. This means that the total of financing must be disciplined and the best discipline of the various credit market interractions is to have a unitary control of the government institutions that provides development credit. Central banking can abet economic development, but it can also degenerate into an engine of inflation.

E. Lender of Last Resort.

In the United States, in the decade of financial turmoil that followed 1966, the Federal Reserve was forced to act as a lender of last resort on three occasions: the credit crunch of 1960, the liquidity squeeze of 1970, and the solvency pinch of 1974-75. On each occasion the Federal Reserve prevented a threatened debt deflation from occurring. The way in which the financial system traveled to the brink of disaster in these episodes, whereas no such

brinkmanship occurred earlier in the postwar era, is evidence that there are different mixes of operation of a capitalist economy; that the same reactions and processes are not at work in all situations. A Central Bank, if it is to be effective, will need be flexible. At times, it will have to allow its role as a protector of the exchanges dominate its activities, at other times it will mainly be concerned with the effect it can have on the domestic economy, and at other times it will need be concerned with preventing a financial crisis which can throw the economy into a deep depression. There is no possibility of substituting an unconditional rule for the discretion that is based upon an understanding of what is going on in the economies to which the Central Bank relates.

The lender of last resort function comes into play when a financial system is fragile because a speculative burst of investment and financing of positions in capital assets has taken place. First comes a boom, then a crisis is threatened, and finally the Central Bank intervenes to prevent a deep depression. The above is the standard scenario.

A boom is a period of rapid and intense investment activity. A boom is triggered when the price of capital assets rises relative to the price of investment output. This usually follows a period of success in the operation of the economy; not only has the economy been generating adequate quasi-rents or profits but the system has been so successful that the various cash flows generated by capital and financial assets are deemed to be more secure than hitherto. This means that the price of such capital assets will rise relative to money and the desired holdings of money as an insurance policy against shortfalls of cash flows will decrease. This "excess cash" will seek "investments".

A period of success is conducive to financial innovation. New ways of financing activity, ways of absorbing and using cash holdings to finance activity and positions are brought into play. The end result is a pattern of cash flow commitments whose fulfillment depends upon ever larger investment outlays, for it is investment outlays that force the profit flows that validate debt.

Financial booms and national crashes can only occur in countries in which the "animal spirits" of business, bankers, and households can be high. Thus they occur in countries which are monetarized and in which the process of development is under way.

For a country with a relatively undeveloped money market in which the external private financing of capital asset production and holdings are not wide enough, the concern about the lender of last resort function relates not to whether its own Central Bank will carry this function out in good fashion, but whether the Central Bank at the center will be effective if the need arises.

In present usages, the major portion of the "reserves" of a Central Bank outside the central countries is carried as interest-bearing deposits at the giant multinational banks, be they United States, British, German, Japanese or a combination of banks. These deposits may be liabilities of the home office or they may be liabilities of some overseas branches. For such deposits, an important question is whether or to what extent the Central Bank of the home country or the host country guarantees or protects these deposits.

The only precedent that may be applicable to the situation being considered is the treatment of the Franklin National's overseas liabilities by the

Federal Reserve in the 1975 bankruptcy. In that case the Federal Reserve validated every overseas deposit at Franklin National even though there was no statutory need to do so. Franklin National's overseas deposits were about $1 billion when the bank's difficulties became public, this is a small amount compared to the overseas deposits of other giant banks at present. Whether the Federal Reserve will be so bold in a situation involving a much larger bank is not assured. It must be kept in mind that the Federal Reserve/FDIC technique of validating every dollar of deposits at the banks that recently failed is not a legal obligation--it was a discretionary act.

The lender of last resort function comes down to the Central Bank as a specialized agency protecting certain classes of bank liability holders against significant losses. This may be done by the Central Bank standing ready to acquire certain classes of assets from commercial banks or other financial institutions. Because of this attribute the lender of last resort function does involve a support to particular financing practices.

The lender of last resort function is "complementary" to the discount window central bank technique for managing the money supply and financing conditions. In the United States the lender of last resort function is carried out by way of the discount window.

F. Summary.

If the Central Bank is to be an agent of development, it should follow the discount window/fiscal agent/lender of last resort path. The Central Bank has to furnish normal functioning reserves by acquiring private debt instruments. Central banking, based upon government debt may be a close substitute

for discount window central banking in a country with a sophisticated financial system, however, in a country that is early in the development game, the existence of a large government debt and open market operation central banking is a barrier to development.

III. The Extraction and Allocation of a Surplus.

The most important question about central banking is whether or to what extent a Central Bank can affect the size and the allocation of a surplus. Economists from the day of Adam Smith have explained differences among countries of what we now call per capita national income by citing differences in the capital assets per worker. Capital assets are the result of accumulation. For a country to accumulate (or to build and support a Versailles) there must be an excess of output over the amount that is consumed. This excess is the surplus. The question is "How is a surplus generated and how is it allocated?".

In a capitalist economy the banking system, broadly defined to include not only what are called commercial banks in the United States, but also to include organizations which perform merchant banking, investment banking, and savings intermediating functions, participates in the extraction and allocation of the surplus through its financing activities. The Central Bank is the government institution which controls and guides the development of financial institutions. In a developing capitalist country a Central Bank's main interest should be the capital development of the economy. This means that the Central Bank must help develop and then support institutions which first arrange things so that a surplus appears and then allocates this surplus in an appropriate way. Although foreign loans, foreign investments and cash flows from bonanzas may play a part in financing the capital development of a country, success in achieving self-sustained economic growth depends upon the contribution to accumulation made by that part of the domestic economy that is an appreciable user of domestic labor.

The phrasing and the logic of the first paragraph in this section runs from the surplus to accumulation (or the court living-it-up at Versailles).

However in both a capitalist and a socialist economy the process runs from the investment decision (or Versailles) to the surplus. This is the essence of the Keynesian consumption function and the profit or surplus generating relations which economists tend to attribute to Kalecki. Investment that is financed becomes a demand for labor and materials--in a closed economy the demand for materials is also a demand for labor--without any offsetting output of currently usable goods, i.e., consumption goods. Income generated from other than the production of consumer goods generates a mark-up or premium on labor costs in the production of consumer goods. This mark-up on costs, or profits in the production of consumer goods, is an offset to and a result of the use of resources to produce investment goods, i.e., the accumulation processes forces profits and profits are a major source of the saving that takes place.

To the extent that the building of Versailles and the support of the Court at Versailles were financed by taxes they did not generate or lead to after-tax profits. However, the construction of the palaces and the operation of the establishment must first be financed either by spending accumulated treasure or by recourse to a banking process. Once demand is generated then taxes appear, either in the supply price of output (as a mark-up on costs) or in the gross residual claim (as a part of gross profits). Output and prices adjust so that profits plus taxes equal investment plus government spending. Profits and taxes in this case are the components of the surplus and investment and government spending are allocations of the surplus. The difference between investing and building Versailles is in the "usefulness" of the productive capacity that becomes available as a result of the allocation of the surplus.

I am using Versailles as a shorthand for the apparently unlimited wasteful ways in which surpluses can be used. The major Versailles building of our time is the construction and use of arms. However in many cases the introduction of enclaves of advanced sophisticated technology into an economy that has neither cost advantages in producing the outputs of the technology, uses for the technologically advanced output, nor maintenance capabilities for the technology are equivalent to building Versailles.

The profit-equals-investment relation is a skeletal relation that can assimilate the existence of taxes, government spending, foreign trade, savings out of wage income, and consumption out of profit income. Instead of the simple profits equaling investment relation, the basic equation can be complicated. However the following statements are true: a government deficit increases, a balance of trade deficit decreases, saving out of wage income decreases and consumption out of profit income increases profits. There are questions of definition of income types that arise--much of overhead labor costs are best interpreted as an allocation of profits. Nevertheless for purposes of analyzing the effect that central and private banking can have on development it is best to look at the way in which investment affects profits.

Profits in a capitalist economy is a cash flow that equals the "average" mark-up on out-of-pocket costs times output. Profits increase by a combination of an increase in the average mark-up and an increase in output. A rise in investment or in government spending will lead to price inflation or in output increases depending upon the elasticity of supply of consumption goods. If a development program or an investment boom leads to investment demand rising

faster than output available for consumption, inflation will result.

Profits in a capitalist economy are much more than the income of a class or a component of price. In a capitalist economy profits are a cash flow that:

a) reflects the resources that were available for investment and the state's deficit.

b) is available to pay the interest and principle on debts and to be the income of the owners of capital.

c) is used, along with previous profits and other knowledge and conjectures as an indicator of the profits that can be expected in the future from existing capital assets and from investment.

Profits in a capitalist economy frees present resources for investment; more or less validates the past, which exists today in the form of debts and stocks of capital assets; and by indicating what can be expected in the future, induces investment activity. The inducement that future profits provide takes the form of the ratio between the present value of capital assets and the supply price of investment output. This ratio being greater than one is a necessary but not always a sufficient condition for investment. The necessary and sufficient condition for investment is that the ratio be greater than one and financing be available.

As far as the banking system is concerned, it is the role of profits as the validator of debts that is crucial. Once a bank or any financial institution finances a project, the contract requires that in the future "cash" be paid by the borrower to the bank. Presumably this cash will arise either because the "project" makes profits or because the assets acquired (the position)

are sold. Inasmuch as the financing contract requires that the repayments exceed the initial financing (the interest rate is positive) the project financed must generate more cash over its lifetime than it costs. This excess cash is the profits of the project. However, it turns out that the profits of all projects from the past that are still at work in the economy at any time, (i.e., the capital-assets still being used) depend upon the realized rate of output and mark-ups on out-of-pocket costs. But the achieved rate of output and mark-ups depends upon the aggregate investment taking place. Profits do not reflect the productivity of capital assets as described by derivatives in a neo-classical production function, profits depend upon the continuing process by which the surplus is extracted and allocated.

There is a "treadmill" effect here: the past financing that banks engaged in is on the whole validated today because banks are financing investment today. In a capitalist economy the major function of the Central Bank is to assure that enough bank financing of investment is taking place so that profits will be high enough to meet financial commitments.

The above relations between profits and past debts and profits as the inducement to invest must hold for the economy as a whole and not for every unit in the economy. The financial crises and deep depressions of history occurred when profits did not validate a broad array of debts and past prices for capital assets, so that many capital-asset prices fell below the supply price of currently produced investment output. Financial crises and deep depressions are important, if not critical, phenomena that occur in a capitalist economy, but a capitalist economy is not always teetering at the brink of collapse. It

is most important for policy makers to recognize what relations make a capitalist economy crisis-prone, but it is also important for policy makers and decision makers not to be paralyzed into inaction by the fact that financial instability and deep depressions are attributes of a capitalist economy.

In essence, a capitalist economy will do well when investment is large enough to generate profits that enable debtors to meet their commitments and expected profits are large enough to induce investment. But it is not enough to have expected profits large enough to yield a price of capital assets in excess of the price of investment output; expenditures must be financed. The extent to which investment is financed determines the pace of accumulation.

If there is no feasible way of augmenting domestic output of consumption goods by imports then the development program must be aimed at a quick increase in the quantity of consumer goods available. Presumably the aim of all investment programs is the production of consumer goods. If a development program is not to be destroyed by inflation, then in its initial stages the gestation period between the start of an investment program that yields domestic labor income and the incremental flow of output upon which that labor income will be spent must be short. That is if inflation is to be avoided capital intensive investment programs must be moderate relative to investment programs that quickly yield output.

The Central Bank can guide the economy away from long gestation period and expensive investments to short gestation period and relatively inexpensive investments by the nature of the credits it provides and supports. However the colonial banking model, in which the local banking system only finances goods in transit--so that credits for production and capital asset ownership

are not available through organized markets, is not a good model for a Central Bank to encourage in a developing country. The colonial model does not allow for the financing of investment and production through the local banking system. Such financing in the colonial model is to take place at the imperial center: London, Paris or New York. However, the financial institutions in the imperial centers (as well as the international financing organizations such as the World Bank) are set up for "big deal" financing. Financing for the production of current output and the ownership of capital-assets that is available through imperial centers, international financial organizations and foreign aid will tend to foster capital-intensive and long gestation period investments. Such imperial center financed investment will both foster an unwarranted capital intensity upon the borrowing country and lead to a need for further imports to use and maintain the capital-assets. Capital-intensive development is good for the firms that produce capital-assets and for the incomes of the financing institutions in the imperial centers, but it is not necessarily good for the recipient country.

The Central Bank in a developing country should aim at the development of investment banking facilities that are capable of financing production and capital-asset ownership at the scale that is becoming to the country's economy. A decentralized and competitive banking and financial system, in which banks are encouraged to grant credits for agriculture machinery and new business even as specialized agriculture machinery and business financing organizations are encouraged should be the objective. This means that the Central Bank should use the discount window as an important instrument of control and should

allow direct or indirect access to the window to specialized financial organizations.

It may very well be true that the ideal device or instrument for broadly based economic development is the fully amortized term loan with a three to five year term to maturity. The repayment schedule along such a loan results in a substantial flow of repayment cash to the initial financing organization. The equipment that is purchased with such financing need generate a substantial cash flow to the borrowing unit if it is to be a feasible financial deal. Thus broad based development requires that central banking encourage the development of financial institutions that play the role of investment bankers. Incidentally, the bringing together of cooperating factors to form new organizations has always been an investment banking function.

It is important to note that the existence of a large government debt is not important for central banking to be effective. Discount window central banking is perhaps a more effective way for a Central Bank to guide the development of an economy than open market operation central banking because the discount window technique requires the Central Bank to encourage the development of private financing. In a development context private financing of production and capital asset acquisition can be encouraged by discount window central banking.

To return to the questions raised in the beginning of this section: Central banking can affect the size and the allocation of a surplus. By encouraging the financing of investment and production the Central Bank can force a surplus. However, the Central Bank in doing so must be aware that such

financing is inflationary unless it is offset by a flow of consumer goods. This implies that the flow of consumer goods that follows upon an increase in investment must come quickly. This implies that the financing of investment that takes place must be biased toward investments that quickly yield a flow of consumption goods.

Once a "mark-up" is built into the supply price of consumption goods then there is a maximum level of investment that can take place without inflationary reaction even if the gestation period of useful consumer's goods is long. When this takes place, the gestation period of investment being financed can increase. Thus the role of finance in development can be divided into two phases: In the first phase, the aim is to increase the investment output ratio to a level that leads to a more desirable rate of growth. If the development effort is not to fail because of inflation, the investment expenditures must be quickly followed by an increase in consumer goods availability. In the second phase of development and growth, the standard mark-up on cost in the production of consumer goods is such that a projected investment ratio will lead to a non-inflationary rate of accumulation. In this second stage a quick flow of consumer goods, while desirable, is not necessary; investment with longer gestation periods and with longer payoff periods becomes feasible.

IV. Central Banking and Economic Development Without a Foreign Exchange Constraint

A number of otherwise poor countries, Ecuador among them, have an inflated gross national product and a large balance of payments surplus because of the high price and inelastic demand for oil. Either because of the potential for exhausting supplies or the vulnerability of the high price to supply expansion and demand constraint, this situation had best be viewed as transitory. Nevertheless for the time being the oil surpluses mean that for all practical effects some developing countries can carry out programs without any balance of payments constraint. Furthermore such countries can purchase sophisticated equipment - whether productive or Versailles is another matter - at their own initiative. The problem is how to use this favorable current balance of payments situation as a trigger that sets off a self-sustaining growth process, a growth process that will continue after the oil bonanza disappeared.

History is replete with examples of booms and high prosperity set off in a number of countries by some "extractive industry" boom which did not lead to self-sustained expansion after the initial boom. After the exhaustion of the "lode", the host country is left with a hole in the ground as it reverts to its poor state. Presumably economic policy in a country with a present oil surplus should aim at the setting off of a development program that would continue even after the oil surplus disappears. The view of economic development that underlies this position is that substantial and firm improvement in the standard of life in a poor country will take place by putting say 30 years on the average 4.5% per capita growth in G.N.P. per capita together one year on

another. The aim in most poor countries should be to achieve about two doublings in per capita income within the expected life span of today's youth; it is true if perhaps unfortunate that a thirty to thirty-five year horizon is required when economic development programs are under consideration.

When a country contemplates a thirty to thirty-five year program of economic development a current oil surplus is best viewed as a transitory phenomena. The balance of payments deficit that an oil surplus allows for the economy ex-oil will, if a thirty-five year horizon is contemplated, allow for a spurt of development and then a sharp balance of payments constraint which will halt or undo development. A development program if it is to be successful must avoid stop-go because of balance of payments constraints. If the balance of payments surplus is not to be a "trap" but is rather to be a stimulus to development it is best to treat the oil surplus as a "windfall capital gain" and only use the permanent edge - the foreign exchange earnings of the accumulated oil surpluses - as the contribution to the balance of payments from the oil revenues.

The basic income and distribution identity for an open economy with a government sector is that profits plus taxes equals investment plus government spending plus balance of payments surplus. If this were a closed economy then profits plus taxes would equal investment plus government spending and profits plus taxes would equal the "surplus" and investment plus government spending would be the allocation of the surplus. In the case of a representative oil exporting country the value of oil exports mainly shows up as a government revenue in the form of a government account at a foreign bank and very little of the revenue shows up as income of oil workers within the country.

It is assumed in all that follows that the foreign balance is in the name of the Central Bank and the national Treasury has an account, denominated in say dollars, at the Central Bank. Given that the Central Bank invests the funds abroad in the international money market we will assume that the Treasury's account accrues interest income. It is also assumed that the Central Bank has discretion in the use of the foreign balance to support domestic development. It is obvious in all that follows that cooperation between the domestic development authorities and the Central Bank is essential.

Inasmuch as spending by oil workers is a demand for goods and they have not (essentially) produced any domestic supplies, the Central Bank, to offset the inflationary effect of oil workers incomes, will have to finance the importation of offsetting consumption goods. However, aside from spending foreign exchange equal to domestic costs on imports, the Central Bank should move to sterilize the impact of the oil bonanza and aim to develop a permanent income from the transitory oil revenues. This permanent income, which will fluctuate with market rates of interest, will be government revenue in the local currency and will be available to finance a "permanent deficit" in the balance of payments. The government can run a permanent domestic deficit and the country can run a permanent balance of payments deficit. However how this deficit on the balance of payments will be spent is a Central Bank initiative.

The balance of payments surplus is a temptation to build Versailles: whether the Versailles takes the form of armaments or of enclave of modernity is irrelevant. If we look again at the income equation, we have that profits + taxes - government spending = investment + balance of payments surplus, however

in the case where oil revenues are the export item the balance of payments surplus shows up as a government revenue far in excess of government spending. We then have profits + budget surplus = investment + balance of payments surplus with the government surplus about equal to the balance of payment surplus. Investment can remain a small percentage of the non oil domestic product so that domestic profits, aside from oil, are small and the rate of self-sustained growth is small. The policy object is to raise the investment domestic (non oil) product ratio and the profits from domestic output.

We assume there is disguised unemployment. An increase in government domestic spending on investment programs will presumably lead to a rise in employment, output, demand and, unless supply is elastic, prices. The excess demand for consumer goods triggered by government employment programs should be offset by an importation of consumer goods. The Central Bank should act as a merchant banker: Importing consumer goods, financing this import by using oil money and selling the consumer goods to offset the inflationary pressures due to the domestic employment.

Along with the domestic employment generated by government investment program the Central Bank should finance domestic investment in consumer goods production that has short gestation periods. The idea is to allow prices to rise moderately in order to improve profit margins but to aim at quick domestic quantity expansion so that the profits to offset the investment are due to output expansion even as increases in the mark up on labor costs are moderated.

If the gestation period for output from new investments is so long that self-sustaining inflation threatens, the Central Bank can once again act as a

merchant bank and import and sell consumer goods to decrease the inflationary pressure. Once the new productive capacity comes on stream the Central Bank can decrease the importation of consumer goods.

The end result of financing investment through the domestic banking process will be that a larger proportion of the domestic labor force and a larger proportion of domestic output is devoted to investment goods production, but, because of the import of consumer goods, the inflationary pressures from the employment shifts are moderated. On the other hand the "infrastructure investment" financed by government expenditures should lead to generalized lower costs. The end result of a higher "infrastructure investment", a higher investment domestic output ratio, and the use by the Central Bank of imported consumption goods to stabilize price levels should be a higher profit to income ratio, stable prices and a more rapid rate of growth.

V. Conclusions.

Central banking can play an important role in shaping and accelerating economic development if it is recognized that Central Bank actions will affect and guide the institutional development of an economy. The history that an economy will live out is not determined by the interaction of production functions and genetic preferences systems. Even in the freeest of market economies, policy affects the course of history.

For a country that chooses a capitalist road to development, the Central Bank has to guide the banks and the financial markets in the direction of the appropriate scale of enterprise and of investments. Colonial banking techniques, with the investment banking function carried out at the imperial centers, leads to large scale and capital intensive investments. I believe it can be shown that this path does not lead to a self-sustaining growth process. Enclave development leaves a sea of undevelopment with scattered islands of semi-prosperity. Enclave development may be good for the empire, it is not good for the subject.

The alternative to the dependence upon the imperial centers for the investment banking function is to develop both in and out of the commercial banks domestic institutions to carry out investment banking functions. Investment banking carried out in this fashion will necessarily economize on capital assets used and tend to foster broad scale across the board development. Each investment banker commitment will be small compared to the commitment that the empire investment bankers make and each investment banker commitment will tend to have a short gestation period. A major function of central banking in a developing country is to foster the growth of local investment financing institutions.

The current oil price has led to a number of countries with strong balance of payment positions where the strong exports do not generate significant amounts of domestic employment and private incomes. The revenues for the exports accrue to the government as a foreign bank account. The existence of these huge surpluses is a temptation to engage in the type of projects that the colonial banking systems would typically finance. I believe we can assert that these projects will lead to little or no self-sustained growth. They will not make a permanent contribution to the growth and prosperity of the country.

The surplus should be sterilized excepting that the surplus and the income from the surplus should be used to finance imports of consumption goods to offset the inflationary effects of increased employment in constructing an infrastructure and in broad scale investments. The aim should be to achieve the increased profit margins needed for increasing profits by lowering cost and increasing output even as prices remain stable.

To summarize a higher pace of economic growth that will be sustained requires that the ratio of investment financed by domestic savings increases. The Central Bank can help achieve this by fostering domestic financial institutions that will facilitate domestic investment that have a higher and sooner output per unit of capital potential than is true for the capital intensive "enclave" investments. The development of domestic investment financing institutions and central bank practices which encourage and protect even as they constrain the financing of investment is the way central banking can aid in the transformation of a presently poor country into a reasonably affluent society.