



Financial Systems and Monetary Policy in Africa

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ABSTRACT: This paper examines the role of the financial system in the operation and evolution of monetary policy. The financial system is comprised of the banking system, non-bank financial institutions and the capital markets. The role of the central bank is two-fold, that of price stability, and stability of the payment system. We look at the evolution of monetary policy in Africa over the last forty years, through five stages namely, Currency Board, Rationing Regime, Discretionary Regime, Credit Ceiling regime, and Market Clearing Regime. The paper shows how the financial system is important for the effective conduct of monetary policy. The paper discusses the objectives of financial sector reforms in Africa namely, to reduce financial sector repression by liberalizing interest rates; to institute transition from direct to indirect monetary policy; to restructure the balance sheets of banks and restore their solvency; and to develop financial markets. We then present the state of the financial sector in most African countries before and after the financial sector reforms.

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1 Introduction

Fama (1980) defined a bank's role as twofold. First, to provide transaction and accounting services, and second, to provide portfolio management services. It turns out that in the second function, the banks face competition from mutual investment funds such as unit trusts, money market funds, *inter alia*. While banks pursue Fama's two main functions, the Central Bank acts as guardian to the banking system, pursuing the two objective of providing financial stability on one hand, and price stability on the other. The financial stability objective translates to that of supervising the banks and making sure the payment system is efficient. In pursuit of the price stability objective, the central bank aims to keep inflation in check using various monetary instruments.

Financial innovation has tended to hinder the Central Bank's ability to execute its main functions. A good example is presented by Black's (1970) moneyless economy. In Black's economy, a bank accepts deposits and pays interest under condition it chooses to specify. Transfer of credit by use of cheques is allowed between interest bearing accounts, and demand deposits pay interest. All deposits are in the form of demand deposits. In Black's banking system there is no need to separate loan (negative balances) and deposits (positive balances), both are merely accounts. A cheque could be written against a deposit which turns it into a loan, or a cheque is written against a loan which converts it into a deposit. Asset and liabilities for banks and individuals disappear. Such transactions need not be taken into account as long as loans do not exceed deposits. In this setup, the quantity of money becomes difficult to define; it vanishes, as the value of money changes every time cheques move back and forth between loan accounts and deposit accounts. Money vanishes! Again adding loan to deposit accounts does not sum up to the quantity of money, as that is merely the bank's capital. The economy is moneyless.

Black's scenario constitutes the extreme case in financial innovation where a Central Bank's roles of providing stability to the payment system and the prices of goods become elusive. In the backdrop of financial innovation, the Central Bank is increasingly being seen as a legal construct and therefore definitions of money become a legal construct. Jao (1983) summarizes the legal approach to the definition of money, what he refers to as the libertarian approach. Proponents of the school include Harry Johnson (1968), Black (1970), Wallace (1968), Fama (1980), Hall (1983), Kareken (1981),

Sargent and Wallace (1982, 1983). The libertarian school's views fly in the face of mainstream monetarism. The school argues that money and finance is subject to various legal restrictions. Without the legal restrictions and regulations, the definitions of monetary aggregates would be blurred and distinctions between financial institutions diminish. Once the definition of money aggregates vanishes, traditional propositions of stable money demand, for instance, wilt away. In the absence of these regulations banks would become portfolio management services, and deposits would vanish.

In the libertarian paradigm, the Central Bank and its roles are mere legal contracts that become elusive once the definitions of money vanish. Here, not only does the stable relationship between certain forms of monetary deposit and nominal incomes and interest rates depend on some set of legal restrictions, and so does the ability of authorities to control money. While the libertarian views are extreme, they fully portray the challenges that Central Banks increasingly face in new environment of fast changing financial markets, that are successful in evading regulations by use of complex instruments. Hayek's (1976) view even to allow "free-banking", as Central Banks are almost always incapable of fulfilling their functions.

Central Banks in Africa are still trying to grapple with the intricacies of their functions, and are further being wished away by protagonists of the libertarian variety. They still have to nurture a budding financial system as well as pursue the objective of price stability. The proponents to "free-banking" such as Hayek (1976) highlight the problems generated by the "fiscal constraints" to monetary policy which are typically prevalent in Africa. This school believes all monetary problems and inflation are due to political mismanagement. This in turn has hampered the effectiveness of monetary policy. However, evidence abounds that Central Bank independence from fiscal authorities, impacts minimally on low inflation. For instance, Posen's (1993), findings demonstrate the illusory impact of central bank independence on inflation. Interestingly he points to properly construed democratic politics, which garners support from interest groups for a low-inflation drive by central banks, as opposed to mere central bank independence.

With the basic objective of stabilizing the nation's currency, and hence price stability, the conduct and formulation of monetary policy typically rests with the central bank. The monetary function is supported by auxiliary functions such as promotion of the development of the money market, performance of bank regulations and supervision, and safeguard of the payments and clearing system. Indeed, the stability and efficiency of the financial

sector, particularly the banking system, has now become a major concern of central banks both in the industrial and emerging economies that resort to indirect monetary policy. The typical monetary instruments of choice in industrial economies have been open market operations with central banks or treasury bills. These operations are greatly facilitated by highly developed primary and secondary capital markets in these countries.

The reforming African countries need to resort to indirect monetary policy as part of the ongoing development of market economies. Direct instruments are not only devoid of market or price signals but distortionary in the allocation of resources, particularly when governments have an incentive to channel credit to “priority” sectors and determine credit ceilings based on the bank’s market share in the credit market. The distortion and perpetuation of bank monopoly is aggravated by the prevalence of state-owned banks in Africa. Controls on interest rates below their equilibrium counterparts leads to a reduction of savings through banks, and hence promote “disintermediation”, while generating a portfolio bias towards non-financial assets or holdings of foreign assets. This also fosters the growth of an informal financial sector which reduces the domain of finance under the control of monetary authorities.

The glaring costs of direct instruments should not automatically justify wholesale transformation into indirect monetary instruments, particularly in the short-term for the transitional economies with weak financial markets and institutions. There is an initial or parallel need for the development of financial infrastructure that supports a market-based monetary policy. The development of an efficient financial system is an arduous task requiring not only the existence of competitive institutions but also an appropriate legal and regulatory system.

It should be recalled that most industrial countries moved away from direct controls into indirect instruments in the last two decades. The transition has been rather smooth as a consequence of pre-existing well-functioning markets and interest rates (albeit controlled) being a close to equilibrium or market-clearing levels. In the reforming countries of Africa, the transition, which is largely supported by the IMF structural adjustment program, has been occurring as part of broad economic and financial reforms.

The jury is still out on the relationship between indirect monetary control and the efficiency of the financial sector in the African context. However, there is evidence of strong relationship for countries that have experienced similar monetary and economic reforms in Latin America, Eastern Europe,

East Asia and the Middle East, according to the IMF study of 1995.

Thus, there is mutual reinforcement between the operation of indirect monetary control and well-functioning capital markets. The conduct of monetary policy is facilitated by the existence of well-developed markets, and indirect monetary control instruments contribute to deepening financial markets. Financial markets (e.g. money and inter-bank markets), as sources of economic signals, can transmit the monetary actions (use of indirect monetary instruments) of the central bank rapidly to the market participants for effective monetary control. Thus, effective indirect monetary control requires not only a detailed and timely information base for financial programming, but above all, well-functioning money markets where government papers, other securities and commercial papers can be traded actively. Deeper markets, with a large number of participants and traded instruments are a prerequisite for successful open market operations, and they mitigate unduly large fluctuations in interest rates.

The purpose of this paper is to examine the role of the financial system in the operation of monetary policy. The financial system is broadly thought of comprising both financial markets and the banking sector. Section II presents the evolution of monetary policy in Africa over the last thirty years. Section III discusses in detail, the transition from direct to indirect monetary policy, and the requirements for indirect monetary policy in relation to the financial system. Section IV discusses the current financial systems in sub-Saharan Africa, while Section V deals with issues of bank regulation and surveillance in a liberalized environment for efficient use of indirect monetary instruments. We begin by setting up the foundation based on agency conflicts inherent in a market economy and mechanisms for controlling or mitigating these conflicts. This section shows how an efficient regulatory system in the financial sector, particularly in the banking arena, can be rationalized and designed in an agency theoretic framework. We also present a simple model of bank and regulator behavior, under fixed and flexible interest rate regimes. Section VI concludes. The paper concludes by speculating on the future of the debate on monetary policy in sub-Saharan Africa.

2 Evolution of Monetary Policy in Africa

In this section we discuss the evolution of monetary policy in the background of the economic history and appraisal presented above. Over the past three

decades the monetary policy in Africa has evolved through four regimes, defined by Honohan and O'Connell (1996), namely:

1. Currency Board
2. Printing Press
3. Rationing Regime
4. Credit Ceiling Regime
5. Market Clearing Regime

See Table A for the countries and the period under which each of the regimes prevailed.

2.1 Currency Board

The Currency Board regime typically existed during colonial periods, for most of the countries, as Table A shows. Almost all English-speaking former colonies went through this phase in the 1960s, with the exception of Botswana and Namibia. Francophone countries are still under the currency board regime, with the French and Belgian governments playing the external agent role. An objective is to economize on the use of currency of the colonial power, the seigniorage accruing to the local administration government. The role of the Board is to issue notes and coins as claims against the colonial government. The Board is restricted from typical central bank functions, such as lending to and borrowing from government and banks, bank regulatory function, and directing monetary policy, by setting interest rates and credit ceiling and directing exchange rate policy.

2.2 Printing Press

This regime is characterized by passive monetary accommodation to any domestic and external shocks. Domestic shocks are typically fiscal shocks. A good example here is Zaire which finances the government fiscal deficit by monetary expansion. Naturally, the corollary of the regime has been sustained hyperinflation. Apart from Zaire, the other countries that have experienced a sustained period of this regime include Burkina Faso (80s and 90s), Guinea-Bissau (80s and 90s), Liberia (80s and 90s), Sierra Leon (80s and 90s), Zambia (80s and part of 90s) and Uganda (80s).

2.3 Rationing Regime

This regime went hand in hand with a generally controlled economy. Under the controlled economy the authorities kept price controls on goods and services, labour market wages, and also controlled interest rates. The exchange rate was also fixed during this regime. In this regime, shocks to the financial system were accommodated through changes in the rationing mechanism and/or more or less rationing.

Monetary policy was rendered passive and classic disintermediation was therefore manifest. During this regime, credit to the private sector was rationed. The regime effectively channeled banking resources to financing the government deficit. Government thus obtained seignorage revenue via controlled and below market interest rates. To the depositors, the fixed interest rates were a form of tax. By channeling resources to government, the government basically "crowded out" the private sector. Naturally, such a passive financial system encouraged the development of an informal financial system which supplied credit and foreign currency at the paralleled exchange rate. Examples of the regime include Burkina Faso (70s), Ghana (70s), Mozambique (70s and 80s), Sudan (70s), Tanzania (70s), Uganda (70s) and Zimbabwe (70s and up to mid-80s).

2.4 Credit-Ceiling Regime

This regime falls between the rationing and market-clearing regimes, and has been linked to economic reform programs of the encouraged by the IMF and World Bank. Monetary policy is more active, and the central lends to the government and banks to meet cyclical, seasonal and unexpected needs. Government does not have unlimited access to borrowing, and monetary policy is driven by a matrix of instruments and targets such as interest rates, exchange rates and government's foreign liabilities. Credit ceiling are typically part of monetary policy as well in this regime. Also the relationship between discount houses and the central bank changes. No longer are discount houses required to underwrite the government's Treasury Bill issues and the Central Bank's overnight window is made more accessible to the commercial bank sector, thereby eliminating the discount house's privileges.

The central bank's trading activity in bills of exchange underwent significant reforms, and the decline in Bill rediscounting was replaced by the overnight market. Before this regime, the central bank operated a passive

program of bill discounting, accepting paper of varying quality and for a range of activities, many of which included personal imports and luxury consumer durables. While the central bank shifted towards a liquidity basis for rediscounting, it had as part of the pro-export policy, maintained an open window for high quality paper which consist exclusively of trade-financing paper (i.e. post shipment financing). The market in lower grade paper, to the extent that it exists, is made by the financial institutions without a rediscount facility. Examples of this regime are shown in Table A.

2.5 Market-Clearing Regime

This regime marks the advent of a modern central bank operating in a market-based economic and financial system. Indirect monetary policy characterizes this regime. Here the government can only borrow from the central bank at market rates determined rates just like any other borrower, and all seigniorage revenue vanishes. Central to transition to a market-based financial system is the relationship between the financial sector and the central bank. Few countries in SSA have reached this stage and these are the Gambia (90s), Ghana (90s), Kenya (80s and 90s) and Zimbabwe (90s). In the next section we explore this regime further, looking at the transition from direct to indirect monetary policy.

3 Transition from direct to indirect monetary policy and financial system characteristics

A financial system, according to Papademos and Modigliani (1990), is defined by (1) the sources and instruments available to firms and households for financing the acquisition of tangible assets; (2) the menu of financial assets available to households and firms; (3) the structure and characteristics of financial markets, as defined by the degree of composition and the nature and extent of regulation.

The exact role of a country's financial system in the conduct of monetary policy will depend on the specific characteristics of a country's financial system as this section and subsequent sections will argue. While financial systems of groups of countries in SSA have common features suggesting a similar role of the financial system for groups of countries, differences in the structure of countries' financial systems point to important differences in

the specific role that a country's financial system plays in the conduct on monetary policy.

3.1 From Direct to Indirect Monetary Policy¹

A large number of countries in SSA abandoned administrative control of interest rates and credit in the late 1980's and early 1990's, and begun the transition to indirect monetary policy. However, due to the absence and illiquidity of financial markets such as secondary bill markets, many countries could not, until recently, employ instruments which are an essential part of indirect monetary control, such as open market operations.

A main characteristic of direct monetary policy is that the monetary authorities directly influence items of the balance sheet of commercial banks. Under such a system interest rates are set and credits are allocated by monetary authorities in accordance with the government's economic plan. The financial system and especially financial market conditions play therefore no role in the determination of financial prices and allocation of credits.

A principal difference between direct and indirect monetary control is that under indirect monetary policy a monetary authority influences the balance sheet of commercial banks by changing items on its own balance sheet (i.e. by changing the stock of reserve money). The indirect monetary policy flow chart is presented in Chart 1. By using the instruments of indirect monetary policy, such as open market operations, a monetary authority changes the supply of reserves to the banking system which in turn affects the supply of money in the economy through the money supply process. The change in the money supply then leads directly to price adjustments of financial assets. Money market interest rates as well as lending and deposit rates are in this way influenced indirectly by the monetary authority through changes in items in its own balance sheet. Finally, changes of financial prices which modify incomes and cash flows as well as wealth perception, lead to adjustments over the medium-term of supply and demand conditions in goods markets.

The impact on money supply and financial prices of policy measures under indirect monetary policy will depend on the structure and the development of financial markets and the financial system as large. Consequently, a country's financial system plays a crucial role in the conduct of indirect monetary

¹For a detailed discussion of the difference between direct and indirect monetary policy see Alexander et. al. (1995) and Roe and Sowa (1994).

policy. The way in which the financial system plays this role is a rather complex process in which all elements of a financial system are relevant. These include amount others, the legal and regulatory framework, financial infrastructure including the payments system, the incentive structure, and the structure of financial institutions. In most SSA countries, these factors include informational difficulties and agency problems which are often at the root of the malfunctioning of financial systems in these countries.

There is a casual nexus between indirect monetary policy and the financial system. The conduct of indirect monetary policy is influenced by a country's financial system, and the development of the financial system is also influenced by the conduct of monetary policy. While well-functioning financial markets are a prerequisite for the use of some of the instruments of indirect monetary policy, indirect monetary policy is an important force for developing financial markets. The decontrol of interest rates and the use of indirect monetary policy instruments are a crucial step to the development of financial markets. The use of primary market sales of short-term securities and secondary-market operations are an important push for financial market development. Experiences with financial liberalizations in Latin America and Asian countries have shown that the introduction of indirect monetary policy has increased the efficiency of financial intermediation, the level of competition in the financial sector, and the deposit mobilization by the banking sector relatively to non-bank financial intermediaries (Alexander et. al. (1995).

3.2 Financial Systems and Indirect Monetary Policy

In this sub-section we will examine in more detail the ways in which a country's financial system can affect the operation and effectiveness of indirect monetary policy. In particular, we shall consider, the relevance of a country's financial system for the key elements of a monetary policy framework, such as monetary instruments, indicators and targets, the money supply process, money demand and the monetary transmission process will be discussed . The role of exchange rate systems and the degree of capital controls in the conduct of monetary policy is not considered in this paper.

3.2.1 Monetary Instruments, Indicators and Targets

Open market operations such as sales and purchases of securities in secondary markets are among the principal instruments of indirect monetary policy. As to which securities a central bank can use for open market operations depends primarily upon the development of a country's financial markets. The basic requirement for the use of securities as a monetary instrument is that the securities market is liquid. In Switzerland, for example, the market for short-term securities was very limited in the past, and the use of short-term securities for open market operations was practically excluded. Instead of using securities, the Swiss National Bank has been using currency swaps against dollars for controlling the money supply. Since the dollar market is very liquid, swap transactions, even involving large amounts, can be carried out at any time.

Intermediate targets as well as indicators are influenced by a country's financial structure. Intermediate targets, such as monetary aggregates or interest rates, serve as an operational guide to indirect monetary policy. The main criteria for choosing intermediate targets are its controllability, its effectiveness in attaining the goal of monetary policy, and a close relationship to the policy instruments or operating targets. The implication of the bank market structure (i.e. the competitive conditions in the banking markets) for the controllability of monetary aggregates has been theoretically analyzed by VanHose (1985). Controllability of monetary aggregates is here measured by the mean-squared monetary control error of the central bank. A feature of the model is that bank market structure can influence the variability of monetary aggregates which in turn affects the ability of the monetary authorities to control a monetary aggregate. The exact influence of an increase in bank market competition on the controllability of monetary aggregates, however, is shown to depend crucially upon the manner in which required reserves are computed in the case where the level of bank reserves is the operating target. Under lagged reserve requirements, an increase in competition in the bank deposit markets lowers the monetary authorities' control error, and hence improving the controllability of monetary aggregates. In contrast, under contemporaneous reserve requirements, the most likely effect of an increase in competition is an increase in the control error.

The effectiveness of intermediates targets depends on a number of factors, including the structure of the financial system. In a macroeconomic model which incorporates a banking sector and allows for both bank and non-bank

credit, it has been shown under uncertainty that the relative effectiveness of monetary or credit targets depends, among others, upon (a) assets and the degree of substitution between bank and market debt, and (b) the financial structure such as the share of investment financed by borrowing. (Papademos and Modigliani (1990)).

In contrast to intermediate targets, indicator variables are not targeted by the central bank but are supposed to provide reliable signals as to the stance of monetary policy. Therefore, the controllability criteria are of no importance in the case of indicators. The main criteria for choosing indicators are that they are reliably linked to economic developments and inflation pressures and that they are useful for predicting aggregate demand and inflation. Apart from the main monetary and credit aggregates, variables which have been considered in the literature as indicators include interest rates and financial asset prices (nominal and real interest rates and the yield curve), commodity prices and exchange rates. The information content of an indicator variable will importantly depend on the specific institutional environment in a country and specifically upon a country's financial structure and the evolution of this structure. Thus, indicators may lose their predictive power due to a changing economic and institution environment. An example is the M1 aggregate in the US which became less reliably linked to economic development and inflation pressure beginning in the early 1980s. The underlying reasons for this change were the growing importance of the checkable deposits component of M1 and the increased interest rate sensitivity of M1. To identify the information content of indicator variables a quantitative assessment of each variable is required. This issue will be considered in the next section.

3.2.2 Money Supply

Money supply is related to the monetary base of the country's central bank through the money multiplier. The money multiplier for M1 is a function of the required reserve ratio, the currency ratio and the excess reserve ratio. While the required reserve ratio is controlled by the monetary authority, the other two ratios are determined by depositors' portfolio decisions and by banks' decisions about excess reserves. This basic framework suggests that the stock of money and interest rates are determined simultaneously by the interaction of the public's demand for assets, banks' profit maximization and the action of monetary authorities. The role that the behavior of banks plays in the money supply process depends, among others, upon the degree

of regulation in the financial system. The role of banks gains importance in a deregulated environment, because they can play a more active role in the adjustment process and partly offset monetary policy measures. In the case where deposit rates are administratively fixed, restrictive monetary policy measures induce a rise in market interest rates. Since deposit rates cannot adjust, the increase in market rates leads to a shift of funds away from deposits leading to a reduction in the money supply. When deposit rates are deregulated banks can raise deposit rates in line with market rates and in this way offset the shift of funds away from deposits. The final impact of a restrictive monetary policy measure of the money supply is, therefore, likely to be lower in a deregulated than in a regulated environment.

Given the increased importance of the behavior of banks in a deregulated environment for the determination of the stock of money, recent models of money stock determination have incorporated bank firm behavior. The main conclusions of this type of model are that the money base multiplier depends on: (a) the market interest rate, real income and policy controlled variables such as reserve requirements; and (b) the portfolio preference of the public, the structure of the banking system and the various factors determining the spreads between deposit and lending rates. Characteristics of the banking system that have been shown to be important are: (a) market structure, more specifically the competitive conditions in the bank market; (b) operating costs associated with the provision deposit and transaction factors that play an important role in the determination of excess reserve specifically in SSA countries are the performance of a country's payment system and the lack of liquid inter-bank markets (see next Section).

3.2.3 Money Demand

The use of monetary aggregates as intermediate policy targets requires a stable and predictable relationship between monetary aggregates, income, prices, interest rates and exchange rates. The money demand equation is an attempt to measure this relationship. The stability of this relationship primarily depends upon a country's financial environment. Changes in a country's financial systems affect the money demand equation directly leading to a onetime or gradual adjustments of the stock of money held or affect the responsiveness of money demand to the interest rates or the other determinants of money demand. New money substitutes, such as money market funds, or new financial assets are likely to lead to portfolio shifts with the

result that people tend to hold less money at given income and interest rates. Changes in the responsiveness on money demand with respect to its main determinants are likely to arise from factors that affect the substitutability of financial assets such as transaction costs.

The case of missing money in the US in the seventies is a classic example for an instability in the money demand equation. Reasons that have been advanced for explaining that the actual demand for M1 was lower than the money demand predicted by the money demand equation including the expanding use of credit cards, the use of money funds and higher interest rates on bank deposits which are not part of M1. The main factors that influence the stability of money demand are the availability of assets and their substitutability (transaction cost and risk characteristics), the way in which interest rate are determined and in which payments are made (use of credit cards). Empirical research on the implications of financial liberalization for money demand has been undertaken for several Asian countries (Tseng and Corker (1991)). The results of this research confirm that the relationship between monetary aggregates, income and interest rates become unstable during periods of financial liberalization.

3.2.4 The Monetary Transmission Mechanism

The term monetary transmission mechanism refers to the way in which changes in the money supply and in policy-determined interest rates affect investment and demand. Various channels of transmission of monetary changes have been distinguished in the literature. Their common feature is that policy-induced changes in the money supply lead to price, quantity and valuation effects of assets and liabilities which in turn affect investment spending and demand. The speed, intensity and reach of the transmission of monetary policy changes are importantly determined by the structure of a country's financial system. The level and composition of wealth, as well as the indebtedness of economic agents, appear to be especially important for the speed and size of the overall effect of monetary policy changes on output. According to a comprehensive set of studies, which were undertaken by the BIS (1995), empirical evidence suggests that the impact of monetary policy is strengthened and the adjustment is faster: -

- the larger the proportion of wealth which is held in the form of highly interest sensitive assets such as equities and real estate, and

- the larger the share of securities in total credits and the higher the share of adjustable rate debt such as adjustable rate mortgages by households.

Anglo-Saxon countries are known to be characterized by a large part of wealth that is held in the form of highly interest sensitive assets and a large share of securities in total credits. The empirical finding that the adjustment of interest rates and demand after a change in monetary policy is faster in Anglo-Saxon countries compared to Continental European countries confirms the view that the impact of monetary policy is strengthened in economies where security markets play an important role.

The responsiveness of bank lending rates to changes in policy controlled money rates constitutes an important link in the transmission mechanism. Cottarelli and Kourelis (1994) find that the degree of stickiness of bank lending rates is substantially different between countries, particularly in the very short run. In some countries bank-lending rates adjusted fully to changes in money rates within the first month. The differences between countries can partly be explained by the structure of a country's financial system. Thus, lending rates are more sticky if the competition between banks is constraint and particularly if barriers to enter exist, if banking systems are dominated by state banks, if capital controls reduce competitive pressure on the banking system and if a developed market for short-term instruments does exist. Borio and Fritz (1995) show that adjustment of bank lending rates is faster in Anglo-Saxon economies than in Continental economies. This evidence confirms the view that adjustment in economies with a high share of securities in total credit and a high share of adjustable rate credit is more rapid than in economies with a high share of loans and unadjustable rate credit.

Numerous studies have analyzed specific transmission channels, such as the "money" and "lending or credit" view of monetary transmission and the ways in which a country's financial system affects these transmission channels. According to the money view, a monetary shock is transmitted to the real side of the economy through changes in bank deposits (i.e. the liability side of the balance sheet of banks). An increase in the supply of reserves to the banking system will lead to an expansion of bank deposits and lower interest rates which in turn will raise interest-sensitive parts of demand. In the case of the lending view instead the main link goes through loans (i.e. the asset side of a commercial bank). According to this view, when the central bank reduces the money supply, it drains reserves from the

banking system forcing banks to reduce lending. A monetary contraction has a strong impact on small firms, since they are bank-dependent and rely heavily on bank loans for financing investments. When the central bank reduces bank reserves and causes a contraction in bank lending, the firms who depend on bank lending will reduce investment spending. These two channels are not to be understood as alternative monetary transmission processes but as complementary.

According to the lending view the structure of a banks' balance sheet and the structure of a firm's finance are important determinants of the impact of monetary policy on output. Miron et. al. (1994) identifies three characteristics of a financial system that affect the monetary transmission process. First, the monetary policy is more effective in changing output if banks hold a larger part of their portfolio in loans. Second, the structure of firm finance also influences the size of the output response. The output response will be larger if the share of loans in the finances of a firm is large. Third, the output response depends on the substitutability between loans and bonds in a firms financing. Since the constraint through bank lending is not binding if a firm can easily switch from bank lending to bond financing, the impact of a change in monetary policy will be the smaller the higher the substitutability between loans and bonds. Empirical research by Miron et. al., using US data, did not find evidence supporting the lending view. In general, empirical findings on the role of bank lending in monetary transmission have been ambiguous.

4 Financial Systems in Sub-Saharan Africa (SSA)

A large number of countries in SSA have implemented financial sector reforms since the mid-1980s. Most of these reform programs have five main objectives: (a) to reduce financial repression by liberalizing interest rates and by eliminating the administrative allocation of credits; (b) to institute the transition from direct to indirect monetary policy; (c) to restructure commercial banks and to restore their solvency; (d) to develop financial markets, mainly primary markets for treasury bills; and (e) to improve the financial infrastructure including bank supervision, auditing and accounting practice.

This section reviews the state of financial sector reforms and the principal characteristics of financial systems in Sub-Saharan African countries. Given the heterogeneity of financial systems in SSA countries, this review cannot provide an exhaustive overview of financial systems in SSA. The principal

purpose of the review is to identify the main characteristics of financial systems which are relevance for the operation of monetary policy. The role of the principal characteristics of financial system in the conduct and effectiveness of monetary policy is discussed in Section III. The review is based on IMF data regarding financial systems in 43 SSA countries, the World Bank (1994) and Popiel (1994).

4.1 Financial Sector Reforms and Monetary Policy

Important progress has been made on financial liberalization in SSA countries since the mid-1980s. A comparison of the presence of direct monetary controls in the form of interest rates and credit controls before the start of reforms and late 1995 shows that the large majority of SSA countries either abandoned controls or are in the process of doing so. Table 1 summarizes the progress made with financial reforms. Whereas, before the start of financial reforms interest rate and credit controls existed in 32 SSA countries, none of the SSA countries for which data are reported had both interest rate and credit controls in place at the end of 1995. This finding shows an important move towards more market-based financial systems in SSA countries over the last years. Currently, a majority of SSA countries (24 countries) is in the process of financial liberalization having still elements of controls such as minimum or maximum interest rates or selective credit controls in place. A large group of countries (19 countries) had completely abandoned both interest rate and credit controls at the end of 1995.

Data disaggregate by type of control shows that the shift away from financial controls was most pronounced for credit than for interest rate controls. About 39 SSA countries did not have credit controls at the end of 1995 compared to ten countries before the start of the reforms. (Table 1).

At the end of 1995, credit allocation was still controlled in two SSA countries and selective controls existed in another two countries. In the case of interest rate controls, only about half of the countries (21 countries) liberalized interest rates at the end of 1995 compared to six countries before the start of reforms. However, almost the same number of countries (20 countries) minimum or maximum interest rates, or selective interest rates were still set by governments or monetary authorities. Two countries were still reported to set interest rates at the end of 1995.

These stylized facts on financial reforms indicate a broadly based move towards market-based financial systems and a transition from direct monetary

control to indirect monetary policy in a large number of SSA countries.

4.2 Financial Market Development

The development of financial markets has been another important component of financial sector reforms in SSA countries. Specifically, over the last five year emphasis has been given in many SSA countries to the establishment of Treasury Bill auctions and the development of financial markets. While important efforts have been undertaken to develop domestic financial markets, in many countries financial markets in most SSA countries are still underdeveloped. Table 1 summarized information on the development of financial markets in 40 SSA countries. A large majority of countries (about 30 SSA countries) were in the process of developing financial markets at the end of 1995 having either primary markets, or primary and secondary markets, but where secondary markets are shallow. Of the other countries, eight countries had neither an inter-bank market nor security markets and only two countries were classified as having a developed inter-bank and securities markets.

Looking more closely at the development of specific markets shows that fourteen out of 40 countries had only primary markets for short-term securities and eight a primary and secondary market. Of these 22 countries about 19 have begun with auctions for treasury bills or central bank papers since the beginning of the 90's. Trading of short-term securities in secondary markets, often mainly between banks, took place in eleven countries. Eight of these markets are reported to be illiquid. Long-term securities, mainly government bonds, have been issued for some years in a number of SSA countries (12 countries). However, secondary markets exist only in seven countries and only the market on large issues in South Africa and possibly Nigeria are reported to be relatively liquid. Nineteen countries have neither primary nor secondary markets for long-term securities. Inter-bank markets for local currency do not exist in most countries or are underdeveloped. Liquid inter-bank markets for local currencies currently exist in Kenya, South Africa, and Zimbabwe and on the sub-regional level in the West African Monetary Union. See Table 2.

The limited development of financial markets constitutes an important constraint for the transition of indirect monetary policy since open market operation is impossible in a large number of countries to the absence of financial markets, otherwise monetary policy has to rely on sales of securities

and/or foreign currency in countries where only primary markets and/or foreign exchange markets exist.

4.3 Balance Sheet Structure of Commercial Banks

Regarding bank restructuring, countries appear to have been less successful than in the reduction of financial repression. Most attempts of restructuring bank balance sheets and of bank recapitalization have been reported to have failed. The corollary is a high incidence of insolvency and bankruptcies among commercial banks in many SSA countries.

The assets of many commercial banks in SSA countries are characterized largely by non-performing loans. Region-wide loan-loss-ratios approach 40 to 60 percent, with some banks in the region showing bad loans for more than 90 percent of their portfolio (World Bank 1994). The liabilities of commercial banks in SSA consist mainly of demand and time deposits.

Bank loans, as well as demand and time deposits, constitute a relatively low share of GDP in most SSA countries. According to Popiel (1994), domestic credit extended by commercial banks average 25.4 percent of GDP, ranging from 4.8 percent in Uganda to 22 percent in Madagascar, and to 40.1 percent in Côte d'Ivoire. The large range indicates that credits play varying roles across SSA countries. The main sources of funds of commercial banks are: demand deposits, time deposits and central bank financing. Again, their ratios to GDP are very small for the group of countries which Popiel (1994) analyzed. Demand deposits average 10.7 percent of GDP and time deposits 7.9 percent of GDP.

There is very little diversity of financial contracts in the formal financial section of SSA countries. Banks credits are, in general, short-term and mostly granted in the form of overdrafts which are rolled over.

4.4 Degree of Competition within the Banking System

Competition between banks in most SSA countries is very limited. In the group of countries studied by Popiel (1994) more than 60 percent of the assets of the banking system is owned by at most four banks. In several countries, such as Ghana, Mali, Tanzania and Uganda, one commercial bank alone accounts for more than 50 percent of assets. The financial system in

most countries is dominated by commercial banks with non-bank financial institutions playing only a minor role. With the exception of Kenya and South Africa, the share of commercial banks' assets in the total assets of the financial system ranges from 85 percent to 95 percent.

Licensing of foreign banks has been recently liberalized in countries, such as Tanzania and in many countries foreign banks traditionally had subsidiaries. But often, foreign banks focus their business in special segments, such as trade finance and they can therefore often not be regarded as competitors of local banks in the retail banking market.

Capital controls are another barrier against foreign competition. Capital controls exist in most countries in SSA. Exceptions are Kenya which recently introduced capital account convertibility and the countries which belong to the West African Monetary Union and the Central African Monetary Union. The currencies of the later two groups of countries are fully convertible with the French franc.

4.5 Ownership Structure

The number of banks in which governments hold a controlling interest decreased from 106 in 1982 to 76 in 1992 in a group of 29 SSA countries (World Bank 1994). The trend towards private commercial banks is also evident in the evolution of the number of private banks. While the total number of commercial banks increased by 15 percent between 1982 and 1992, the number of banks with no government participation almost doubled from 60 to 115 banks during the same period. Nevertheless, the number of banks in which governments hold interests is still very large in the SSA region. In 1992, out of 254 banks, government were majority shareholders in 76 and minority shareholders in 54.

4.6 Market Fragmentation and Informal Financial System

An important feature of financial systems in SSA countries is their fragmentation and the importance of informal financial systems. While estimates of the size of informal loan markets in SSA countries are not easily available, the importance of the informal financial sector to these economies and specifically to their rural sectors is significant. Surveys for Ghana, Malawi, Niger

and Nigeria indicate that the volume of informal credit is far greater than that of formal institutions (Thillairajah 1994; Nissanke and Aryeetey 1995). Country case studies for Malawi estimate that the informal sector lending to the private sector is at least three times larger than that of the formal sector. Also, it was found that the informal financial sector has grown significantly in the early 1990s in Malawi despite financial liberalization. A strong expansion of the informal loan market in the early 1990s is also reported for Ghana, Nigeria and Tanzania.

For comparison, the share of informal credits in total credits is estimated to vary from about a third to about three-quarters in selected Asian countries. A share of two-thirds to three-quarters is reported in Malaysia, Nepal, Pakistan and Thailand (Montiel et. al. 1993), which appears to be comparable to that of countries in SSA.

4.7 Clearing and Payment System

Given the important linkages between a country's clearing and payment system and monetary policy the performance of clearing and payment systems influence decisively the effectiveness of monetary policy. In many countries in SSA the payments systems are inefficient. Transfer of funds outside of the capital cities as well as the clearing of cheques is very slow and delays of clearing checks of several weeks are common in SSA countries (Callier 1995).

5 Financial Institutional Structure and Regulatory Mechanisms

The key to a well-functioning economy is the existence of a well-functioning financial system which plays a vital role in allocating resources efficiently, whereby resources are channeled to their most productive uses. In this system, consumer-investors are able to smooth consumption cash-flow streams. Thus, well-functioning financial system encourages saving in financial form by providing investors with opportunities for diversification and trading of risk among investors with differential return-risk preferences and liquidity needs. The pricing of risk in this manner serves as an appropriate signal in the efficiency of resource use and also for the conduct of market-based government policies, including indirect monetary policy.

The role of a well-functioning financial system may be better understood

by underscoring the adverse consequences of market incompleteness and incomplete risk sharing. The information and enforcement difficulties in financial transactions, for instance, in most African countries lead to sub optimal portfolio diversification (or incomplete risk-sharing) and consumption smoothing over time. Consumer-investors attempt to mitigate these problems through financial saving within close social circles, or alternatively, by over investing in real assets. Real asset holdings, on the other hand, suffer from liquidity and short-sale constraints. In addition, the incomplete risk-sharing and liquidity premia translate into higher costs of raising funds, with the possibility of passing up otherwise profitable projects.

Unfortunately, most Africa countries have financial systems in a failure category. In particular, African economies are characterized by imperfect information, incentive conflicts, and a host of market imperfections, such as transaction costs, taxes and regulatory and institutional impediments to the arbitrage process in financial markets. We view these informational difficulties and agency problems fundamental in understanding the functioning of a financial system and designing an appropriate regulatory framework.

In this section we focus on a regulatory scheme which is intended to foster an efficient banking sector which is a key element of a financial system. The previous sections underscored the need for an efficient and competitive banking system for the conduct of monetary policy. In this section, we consider a regulatory scheme for efficient banking.

5.1 The Nature of Agency Conflicts and Economic Distortions

The role of an efficient and healthy banking sector in an effective monetary control cannot be overemphasized. Indirect monetary instruments will lose their significance if banks fail to respond quickly to the central bank's signals, since under this system banks have to allocate credit through proper balance of risk and return. Banks facing insolvency may even have perverse incentive in responding to policy instruments associated with market-based methods of monetary control. For instance, weak banks may just bid up interest rates of artificial levels as they seek high return projects which are also characterized by high risk. This problem becomes particularly acute in Africa where financial distress among banks has been considerable and the environment possesses severe informational problems. In an informationally

efficient environment with adverse selection weak banks in turn attract downside in borrowing at high-risk interest rates and bet on a small probability of good outcomes. Thus, a weak financial system breeds more instability and undermines the conduct of indirect monetary policy.

We take an agency perspective to our analysis. The commonly held view in the agency tradition is that the firm is a nexus or network of contract (Jensen and Meckling 1976), implicit and explicit, among various parties or stakeholders, such as shareholders (equity-holders), bondholders, employees and the society at large. While most stakeholders contract for fixed pay-offs, the firm's owners (equity-holders) hold residual claims on cash flow earnings. This gives rise to potential conflicts among stakeholders, with principal(s) exercising limited control over agent(s) and these incentive conflicts have now come to be known as "agency (or principal-agent) problems". Left alone, each class of stakeholders pursues its own interest which may be at the expense of other stakeholders. Ncube and Senbet (1994) classify agency problems on the basis of conflicts among particular parties to the firm, such as conflicts between stockholders (principals) and management (agent) ("managerial agency" or "managerialism"), between stockholders (agents) and bondholders ("debt agency"), between the private sector (agents) and the public sector ("social agency") and even between government bureaucrats (agents) and citizen taxpayers ("political agency"). We use this dichotomization in establishing a foundation for market-based approaches to a financial or banking regulatory system.

5.1.1 Private Agency

In order to appreciate agency conflicts arising in a social and public setting, we need to have a basis appreciation on incentive conflicts arising purely in a private setting. Let us use management-based and debt-based agency to illustrate this. Self-serving behavior by managers, due to separation of ownership and control, leads to managerial agency costs. In particular, these costs manifest themselves in the form of managerial propensity for expanding a span of control (e.g. "empire building") at the expense of the capital contributors or owners, urge for unduly conservative investments in the form of seeking safe (but inferior) projects to maintain own survival and stability of wage compensation.

Debt agency, on the other hand arises from disjointedness in the payoff structure facing creditors and shareholders. To illustrate this, let us consider

a particular class of agency which has come to be known as "risk-shifting". Since debt-holders basically contract for fixed payoffs, in the states of high economic performance, no matter how high the firm cash flow earnings, they are limited to their fixed pay-off. Shareholders stand to capture all the gains above the debt obligation, but walk away from the firm in bankruptcy. Thus, it would be in the interest of existing shareholders to seek riskier investments (even if inferior from the standpoint of overall firm value maximization), since if successful, they will benefit shareholders. This aggressive investment policy is at the expense of creditors. With rational expectations, though, the cost of investment distortions or debt agency costs would be borne by equity-holders themselves through increased cost of debt financing (Barnea, Haugen and Senbet 1985). However the equity-holders would be unable to precommit to lower risk choices when private risk choices are not readily observable and hence may pass up profitable but lower risk projects. Consequently, debt agency distorts productive efficiency and detracts from economic development.

5.1.2 Public Agency: Opportunistic Behavior in the Public Sector

In order to appreciate what Ncube and Senbet (1994) call "political agency", we need to recognize that the conflicts of interest and agency problems that pervade the private sector are endemic to the government sector as well. The straightforward reason is that the government is made up of groups and individuals with diverse interests often in conflict with each other, or with the taxpayers. Unfortunately, as Ncube and Senbet argue, the public sector lacks the discipline supplied in the private sector by capital markets, corporate governance and control mechanisms to curtail the inefficiencies that arise from self-interested decision-makers and corporate insiders. In particular, agency conflicts arise from opportunistic behavior of government decision-makers for expansion of span of control, promotion, survival, re-election, etc.

In an African context, Soyibo (1994) catalogues many political and political credibility issues (e.g. policy reversals). Inanga, in his review of Soyibo's paper, reinforces the severity of political agency by arguing that government intervention is essentially political rather than economic. Examples include, but are not limited to, misguided establishment of state-owned enterprises for surplus employment and delivery of output for low prices, administrative

control of imports through selective allocation of import licenses, administrative price systems in agriculture, etc.

Within the context of our paper, let us note that African financial systems are not only in a failure category, but government policies typically limited the size and scope of financial service activities, particularly of foreign banks. This puts severe constraints on the ability of financial institutions to expand and diversify in a competitive financial market, in which financial institutions are free to enter and exit. In other words, the financial intermediation function, which is so critical for the allocation of resources, is being politically constrained and impeded in its entirety. Furthermore, government policies, particularly in the conduct of monetary policies, that require banks and financial institutions to make large public sector loans or to purchase public issues of bonds, constrain the ability of financial institutions to diversify and offer credible contract to investors. This in turn makes it difficult to conduct monetary policy that is based on market signals.

5.1.3 Social Agency and Negative Externalities

John, Senbet and Sundaram (1994) provide an analysis of social agency problems by departing from the traditional focus on private wealth maximization as a benchmark. There are a host of negative externalities associated with such agency conflicts, but our focus here is on the conflicts arising between owners of regulated financial institutions, especially banks and the social planner representing the public sector. In particular, our discussion and analysis will be conducted in the context of government loan guarantees and deposit insurance. Governments in advanced economies and many development economies grant formal deposit insurance to reduce the risk of systemic failure of banks and hence stabilize the payments and financial system. When deposits are guaranteed, depositors themselves face no risk. However, risk due to the risk increasing incentives of the banker is transferred to an insuring agency. As in risk-shirking incentives of debt financing, equity-holders gain by choosing more risky asset portfolios, and this is an example of what we call a "social agency problem".

A related issue, that arises in the context of overall financial regulation, is associated with the advent of the derivatives market which has grown phenomenally in the advanced economies and has only begun surfacing in some African countries. Hedging and risk management are the primary attractions of derivatives instruments, but they carry certain social risks that require

close attention of the regulators. The costs and benefits of these markets in African context are discussed by Ncube and Senbet (1994). Just to highlight this, it is important to recognize that banks, that participate in the derivative securities face risk exposure of their own, but they also engender risks to the financial system at large, in the form of such exposures as credit, market, liquidity, pricing and systemic risks. Thus, derivatives pose regulation problems as well as problems in the conduct of monetary policy, arising from liquidity requirements. This has strong implications for the supervisory role of central banks and the design of deposit insurance scheme which we shall attempt to address in this paper.

6 Institutional and Contractual Mechanisms

Here we summarize some institutional and contractual mechanisms that may be used to mitigate the costs associated with these incentive problems. Since the consequences of agency problems led to economic inefficiency and wealth destruction, is crucial to seek control mechanisms that move the operation of the private sector toward full efficiency of the Fisherian variety. The control mechanisms should be built in the corporate governance systems, contractual mechanisms and financial sector reforms/liberalizations and financial regulatory mechanisms.

6.1 Self-enforcing Contracts and Private Agency

Let us consider debt agency in discussing the contractual mechanisms used in dealing with the private agency problems. The risk-shifting incentives of debt financing arise, because equity-holders capture all the gains above the fixed debt obligation. Thus, equity can be thought of as a call option granting the right to the holder to buy the assets of the firm at an exercise price equal to the debt obligation. In such a case, management, working in the best interest of existing shareholders, has an incentive to alter the riskiness of the firm's investment activities. Riskier investment, if successful, will benefit shareholders. But risky investments that fail will reduce the value of collateralization to debt-holders, with the resultant decline in the value of outstanding debt. Indeed, when the firm goes bankrupt, limited liability allows stockholders simply to walk away from it, shifting all the risk to creditors.

The firm must provide strong assurance to creditors, through incentive-compatible contracts, that the investment policies would not be distorted to their disadvantage. The incentive compatibility may be achieved by altering the nature of the debt contract itself to include features of alignment between debt holders and stockholders. Indeed, the observed features of debt contracts in the advanced economies are complex (e.g. call provisions, conversion privileges). The existence of such complexities has been rationalized in an agency theoretic framework (see Barnea, Haugen and Senbet (1985) and Green (1984) for details). Here we will discuss the role of these features focusing on the option characteristics of corporate securities. A convertible bond has a warrant feature which is essentially isomorphic to the call option feature. The option feature in a convertible bond, giving the right to convert into equity in very successful states of nature, is vital in resolving agency problems associated with raising debt finance. The feature gives less incentive to expropriate wealth from bondholders by taking high-risk projects. It is now possible to optimally design the parameters of the conversion contract so as to neutralize the risk-shifting incentives of debt financing.

Note that the risk shifting incentive is embodied in the convexity of equity pay-off tantamount to a call option pay-off which increases in value as a function of underlying asset variability. The conversion contract transforms the equity pay-off into convex and concave regions with offsetting incentive effects, which have the potential to neutralize the risk shifting incentive and achieve value maximizing investment choice. This has implications for emerging markets, such as in Africa, since financial reforms and liberalization that improve the contractual opportunity set will lead to economic efficiency and growth. Thus, the introducing of markets, including derivatives and arms-length private debt markets is useful in enhancing the contractual efficiency. See Ncube and Senbet for more discussion on the policy implication.

6.2 Financial Sector Reform/Liberalization and Political Agency

A growing consensus is that financial repression in Africa has hindered the development of the capacity of financial institutions in carrying out their informational and resource mobilization roles. Bank failures in risk assessment and monitoring of loan portfolios are accompanied by absence of investment in information capital which is crucial for the development of financial sys-

tems. Generally, credit and interest rate restrictions discouraged savings mobilization (Nissanke and Aryeetey 1995) and led to unsatisfactory lending arrangements. The irony is that the weak domestic financial systems actually became an indispensable source of government revenue in accommodating the weak tax base. For instance, government imposed controls on domestic financial markets served as a form of implicit taxation.

Financial reforms can be thought of responses to severe political agency distortions and they have often been accompanied by the introduction of market-based approaches to the conduct of monetary policy or, more specifically, of indirect monetary instruments. The works of McKinnon (1973) and Shaw (1973) have been largely used as a foundation for financial sector reforms in developing countries. Real lending and deposit rates tend to be negative in financially repressed economies characterized by interest rate ceilings, directed credits, credit ceilings and high reserve requirements. Consequently, finance sector reforms are intended to reverse these counterproductive policy measures via removal of ceilings and directed credit allocation and priced stabilization through macroeconomics and structural policies. Financial liberalization policies and the associated introduction of indirect monetary instruments can be thought of as mechanisms to resolve public agency problems which manifest themselves in government deficit financing through distortions in the financial sector.

A survey by Soyibo (1994) tells mixed success, but often dismal, stories about financial liberalization policies in many reforming African countries. As observed by Inanga, in his comment on Soyibo, liberalization policies will fail in the absence of credible and sustained policy environment. Note that financial liberalization, as emphasized by Ncube and Senbet, should be broadly interpreted beyond the banking system reform to include the entire financial system, with non-bank financial intermediaries and capital markets.

7 Financial Institutional Design: Market-Based Regulation and Social Agency

There is growing recognition (e.g. Roe and Sowa 1994) that the movement from direct to indirect methods of monetary control is predicated on a sound model of the financial, particularly the banking system, which itself is permeated by a variety of significant social and political agency problems. Regulation is one approach in dealing with social agency, and we focus on bank

deposit insurance as a central theme of our analysis. Deposits are, if not explicitly, implicitly insured in many countries, including those in Africa. In the United States, the financial deregulation of the 1980s led to increased incentives for limited liability thrifts and banks to engage in excessively risky lending, hoping for big payoffs under favorable conditions and transferring losses to the insurance agencies under adverse conditions, leading to the savings and loan crises which is expected to engender exorbitant costs to US taxpayers. In an ill-designed deposit insurance system, public mismanagement of the system and private incentive incompatibility problems can actually work to increase the systematic risk and instability of a financial system, a good example again being the current US banking system. As yet, no country in the world has come up with an entirely satisfactory scheme. Abolishing deposit insurance may be desirable, but in countries that lack formal deposit insurance schemes (i.e. most African countries), deposits are implicitly insured even when they are not explicitly insured.

The stability of a nation's payments system is a major concern of monetary and financial policy-makers. Consequently, governments in advanced economies and many developing economies grant formal deposit insurance to reduce the risk of systemic failure of banks and hence stabilize the payments and financial system. On occasions in the past, bank runs have destroyed the payments systems, with resultant depression. Under a deposit insurance scheme, if a depository institution, such as a savings and loan firm, goes bankrupt, the government absorbs all (or nearly all) of the depositors' losses, usually up to some ceiling. However, deposit insurance is socially counter-productive, if the system is not appropriately structured. It engenders an agency problem of risk shifting on the society or taxpayers. In accordance with our earlier discussion of private agency costs, the value of the call option held by bank owners increases as the volatility (risk) of the bank assets. When deposits are guaranteed, depositors themselves face no risk. However, risk due to the risk increasing incentives of the banker is transferred to an insuring agency, such as the FDIC in the United States. Bank owners have an incentive to gain by choosing excessively risky asset portfolios by engaging in high risk lending.

There are some important lessons to be learned by the emerging African countries contemplating deposit insurance schemes. Rather than importing insurance systems from the advanced countries, they can use the lessons of history to devise more efficient and incentive compatible systems. Actually an outright importation of the systems from the advanced countries may

contribute to instability of the African financial systems. Unfortunately, though, as yet, no country in the world has come up with an entirely satisfactory scheme. Abolition of explicit deposit insurance is not the solution, because such an insurance exists implicitly in most countries as it manifests itself in the rescue of banks and financial institutions which are deemed too-big-to-fail.

Bank supervision and surveillance is typically used in monitoring the banking systems. However, when private decisions by bankers are not readily observable, supervision is insufficient even in advance countries, such as the US and Japan, where competent regulators can be recruited. By contrast, African countries cannot expect adequate skill for bank supervision, where regulators lack the necessary training and experience in credit appraisal. In addition, African countries often grapple with financially distressed state enterprises with the propensity to borrow just to stay in their losing businesses by paying wages and other obligations. This would, of course, engender fiscal burden of debt that could ultimately bankrupt governments if they take over financially troubled banks with worthless assets or subsidize losing enterprises. Thus, there are potential costs associated with implicit deposit insurance.

Among the various reforms, which have been proposed to correct the distorted incentives facing bankers, we focus on capital and bank management compensation-based regulation, along the lines of the Basle Accord. More proposals, such as risk-based deposit insurance premium and risk-based capital, attempt to replicated the incentives that would be provided by the market. The efficacy of capital requirements and mandatory restrictions on asset risk choices in controlling risk-shifting incentives, along with the role of bank management compensation in John, Saunders and Senbet (1994), and the adaptation in Ncube and Senbet (1994).

The existing regulatory tools rely on bank capital adequacy requirements and the pricing rule for deposit insurance. In the context of the recent reforms in the banking system, there are also mandatory restrictions on asset choices for weakly capitalized banks. These methods have been found to be incomplete and inadequate by John, Saunders and Senbet (1996).

8 Stylized Facts on Institutional Issues in SSA

This section summarizes the stylized facts on the characteristics of institutions in selected SSA countries. Table 3 summarizes the characteristics.

Most SSA countries have opened up the banking system to more competition. However, much still needs to be done on the regulatory front. The absence of properly designed deposit insurance schemes to protect depositors, as well as the absence of or unenforced capital adequacy provisions, has encouraged banks to require high collateral on loans as a protection mechanism. The prevalence of high collateral on loans is a symptom of an inadequate regulatory capacity by central banks.

9 Summary and Policy Implications

This review has argued that a country's financial structure affects the operation and effectiveness of indirect monetary policy. The main features of a financial system that may affect the conduct of monetary policy include: -

- the balance sheet structure of financial and non-financial agents, for example the ratio of bank loans to total interest-bearing bank assets and the ratio of bank loans to the capital stock of firms;
- characteristics of financial contracts, especially interest (fixed versus adjustable interest rates) and non-interest (loans versus securities) terms;
- the degree of competition between banks and non-bank financial institutions;
- the ownership of banks, whether they are privately or state owned;
- the availability of financial instruments and their substitutability;
- the degree of development of financial markets, especially the existence of inter-bank markets in local currency, as well as primary and secondary markets in short as well as in medium-term securities;
- the functioning of payment systems; and
- the regulatory environment.

For countries whose financial systems are in the transition to market-based systems and which constitute the large majority of countries in SSA the principal constraints for indirect monetary policy include: -

- narrow and shallow financial markets making open market operation difficult or often even impossible;
- inefficient clearing and payment systems which impede the management of the supply of reserves; and
- the structure of the banking system, specifically the low level of competition between banks, which weakens the transmission mechanism leading to slow adjustment of deposit and lending rates to changes in the monetary policy stance and market conditions.

In addition, the following features of financial systems are likely to affect the conduct and effectiveness of monetary policy in these countries: -

- the high degree of market fragmentation, especially the prevalence of the informal financial sector; and
- the process of financial liberalization and bank restructuring.

In this paper, we have also taken a view that in the context of financial market liberalization in Africa, social agency problems - incentive conflicts between the public and private sectors - are large. These agency conflicts have motivated our discussion of the banking system and a basis for efficient regulatory design. The form of the social agency problem is quite sensitive to the environment in which it occurs: the nature of risks faced by the actors, the extent to which these risks are diversifiable, the flow of information between the actors and the legal and regulatory background to the interaction. The significant variation in these environmental characteristics across Africa must be acknowledged in the design of contracts subject to the problem of social agency and the role of the financial system in the conduct of monetary policy. The banking industries are both in need of reform to correct perverse incentives, but the appropriate reforms are quite different. The paper underscores the importance of the reform of the banking sector through an efficient regulatory system. A movement from direct to indirect methods of monetary control must be predicted on a sound model of the banking system, which itself results from an efficient resolution of a variety of significant

agency issues. In particular, the review underscores the limitations of the current regulatory schemes based on capital adequacy requirements and suggests complementary incentive compatible mechanisms, such as the role of management compensation and efficient pricing rules for deposit insurance.

This paper raises issues of critical importance for the success of the reform of African financial systems and for growth in Africa more generally. At the center of this is the possibility of policy reversals and their implications for the overall credibility of reform programs. The analysis implies the specter of potential collapse in the face of unresolved agency problems, as attempts are made to design banking systems which can accommodate rapid growth. Consequently, the purpose of case studies following the framework papers should include the provision of an appropriate framework for policy design.

We have emphasized the need for explicit deposit insurance and capital regulation schemes that are compatible with broader incentives for risk-taking, consistent with social optimality. It should also be recognized that the regulatory role of the government goes beyond putting in place acceptable legal systems for contract enforcement. It includes maintenance of appropriate monetary, fiscal and financial policies. In this context, we endorse privatization of the financial system with a closer link to globalized markets. The international markets are expected to introduce new standards to the African markets which must compete in the global scene for international capital.

Further, at the core of this review is the effect of a country's financial structure on the operation and effectiveness of indirect monetary policy. All of the main components of indirect monetary policy, namely monetary instruments, indicators and targets, money supply and demand, as well as the monetary transmission process are affected by the financial structure. Other important characteristics of financial systems which affect the conduct of monetary policy, which are not considered in this paper, are the exchange rate system and the degree of capital mobility. The precise roles of a country's financial system in the conduct of monetary policy will depend on the specific characteristics of a country's financial system. To the extent that the financial structures differ across countries, their effects on monetary policy are likely to differ significantly across countries.

Once the basic indirect monetary policy developments have been fully achieved, monetary policy will advance in the footsteps of the developed countries since the seventies. However, the process will take time as financial markets still need to be developed further, particularly the fixed interest

markets. The steps that SSA is likely to follow are best described in Goodhart (1989). Goodhart describes the developments in monetary policy that took place in the G7 countries since the seventies. He identifies four phases of development, which are: -

1. The shift towards monetarism up till 1979
2. The High Tide of monetarism (1979 - 1982)
3. The return to pragmatism (1982 - 1985)
4. The increasing concern with exchange rate regimes (1985 onwards)

According to Goodhart (1989), in the 1970's a number of countries adopted a policy of following published monetary targets. The trend began with Germany in 1974, US, Switzerland and Canada in 1975 and Australia in 1976. The success rate of these countries in meeting targets was rather poor. Towards the end of the 1970s the Central Bank began to deliberately drift away from targets, due to their poor record at trying to meet them. The Central Banks were rather unsuccessful in controlling inflation during that period. The oil crises of 1979, triggered by the overthrow of the Shah of Iran in 1979, which resulted in the doubling of the oil price, fueled inflation.

The appointment of Paul Volker in 1979 swung monetary policy in a different direction, in the quest to quell inflation. In the UK, Chancellor Geoffrey Howl appointed by Margaret Thatcher when she came to power in 1979, affirmed the government's commitment to controlling monetary aggregates. UK exchange controls were also abolished. Between 1979 and 1982, the period of strong monetarism was established, centered around targeting M3 growth. The period 1982 - 1985 saw a return to pragmatism after efforts of targeting M3 failed. Velocity of circulation became unstable in the UK. Also in the US, M1 growth was the target until 1982, after which velocity of circulation became unstable and targeting became difficult.

During this period, the Central Banks returned to pragmatic policies of targeting a wide range of monetary indications and to discretionary policy mode in general. Countries such as Canada, Japan and Australia followed. Only Germany and France still retained the strict targeting regime as velocities in those economies remained relatively stable. From 1985 onwards the regime shifted more towards exchange rate management. In the early

1980s both the US dollar and UK pound were misaligned as a result of monetary policy. After 1985 attention in the US, UK and Japan shifted towards achieving both currency stability and inflation stability.

Coming back to SSA, SSA's monetary policy development is in phase 1, the "shift to monetarism" phase of up to 1979. The next phase for Africa will be the "high tide of monetarism" phase which will also develop to the "pragmatic phase" and then develop finally into the "concern with exchange rate regimes" phase.

Another debate that will come to the fore concerns the independence of the reserve bank from the fiscal authorities. However, given the low correlation between Central Bank independence and success with keeping a lid on inflation, as found by Posen (1993), the debate is likely to be short-lived.

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Table A: Historical Evolution of Monetary Policy Regimes in Africa

Country	1960s	1970s	1980s	1990s
Botswana	1	1	1	1
Burundi	1	1	1	1
Cameron	1	1	1	1
C. African Republic	1	1	1	1
Chad	1	1	1	1
Congo	1	1	1	1
Benin	1	1	1	1
Burkina Faso	1	3	2	2
Equatorial Guinea			1	1
Ethiopia		4	4	4
Gabon		1	1	1
The Gambia	1	1	4	5
Ghana	1	3	4	5
Guinea-Bissau			2	2
Cote d'Ivoire	1	1	1	1
Kenya	1	4	5	5
Liberia	1	1	2	2
Madagascar	1	1	4	4
Malawi	1	4	4	4
Mali	1	1	1	1
Mozambique		3	3	4
Namibia			1	1
Niger	1	1	1	1
Rwanda	1	1	1	1
Senegal	1	1	1	1
Sierra Leone	1	1	2	2
Somalia	1	4	2	2
Sudan	1	3	4	4
Swaziland		1	1	1
Tanzania	1	3	4	4
Togo		1	1	1
Uganda	1	3	2	3
Zaire		2	2	2
Zambia	1	4	2	2
Zimbabwe	1	3	4	5

Note: (1) Currency Board; (2) Printing Press; (3) Rationing Regime;
(4) Credit Ceiling Regime; (5) Market Clearing Regime

Source: Honohan and O'Connell (1996)

Chart 1: Indirect Monetary Policy

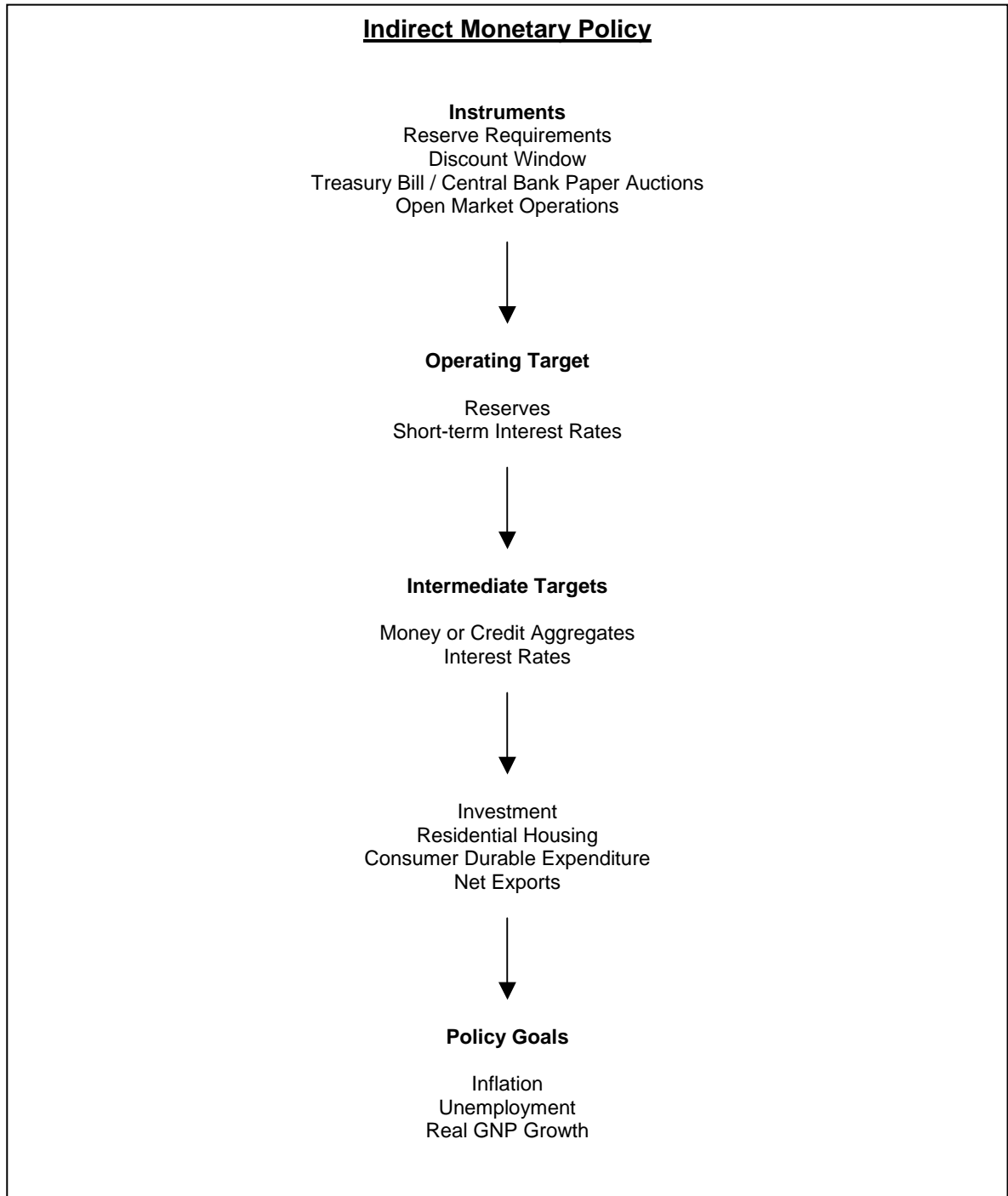


Table 1: Financial Reforms in Sub-Saharan Africa
(Figures indicate number of countries)

	Countries with Repressive Financial Systems	Countries with Financial System in Transition		Countries with Liberalized Financial System
	Interest Rate Controls	Minimum/Maximum Rates	Selective Interest Rate Controls	No Interest Rate Controls
Before Reforms	21	16		6
Late 1995	2	10	10	21
	Credit Controls		Selective Credit Controls	No Credit Controls
Before Reforms	33			10
Late 1995	2		2	39
	Interest Rate & Credit Controls	Partial Financial Liberalization		No Interest Rate & Credit Controls
Before Reforms	32	6		5
Late 1995	0	24		19

Table 2: Financial Markets in Sub-Saharan Africa – Late 1995
 (Figures indicate number of countries)

Countries without Financial Markets		Contries with Financial Markets under Development	Countries with Developed Financial Markets
No Interbank Market in Local Currency	14	Illiquid Interbank Market in Local Currency	Liquid Interbank Market in Local Currency
		12	14
No Market for Short-Term Securities	Only Primary Market for Short-Term Securities	Primary & Secondary Markets for Short-Term Securities	Liquid Markets for Short-Term Securities
15	14	8	3
No Market for Long-Term Securities	Only Primary Market for Long-Term Securities	Primary & Secondary Markets for Long-Term Securities	Liquid Markets for Long-Term Securities
19	12	7	2
None of the three markets exists		Financial Markets under Development	All Three Markets are Developed
	8	30	2

Table 3: Institutional Characteristics in SSA				
Country	Bank Market	Collateral	Deposit Insurance	Capital Adequacy
Ghana	Monopolistic	High	TBTF	Present
Kenya	Competitive	High	TBTF	None
Nigeria	Competitive	High	Present	Present
South Africa	Competitive	Moderate	TBTF	Present
Tanzania	Monopolistic	High	TBTF	None
Uganda	Monopolistic	High	TBTF	None
Zimbabwe	Competitive	High	TBTF	Present
CFA Countries	Monopolistic	High	TBTF	None