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**FINANCIAL SYSTEMS AND THE EFFECTIVENESS OF
MONETARY POLICIES IN AFRICAN COUNTRIES****

Prepared by the African Economic Research Consortium (AERC)

**** This policy paper is derived from a more detailed technical paper with the same title.**

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I. Introduction

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 regulation 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 bank bills 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 toward 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 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 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 recent IMF study (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.

II. 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) Rationing Regime

(3) Discretionary Regime

(4) Credit Ceiling Regime

(5) Market-clearing Regime

Below are the countries and the periods under which each of the regimes prevailed

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
Nigeria	1	4	4	4
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)

III. From Direct to Indirect Monetary Policy

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 on 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 of 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.

Chart 1: Indirect Monetary Policy

Indirect Monetary Policy

Instruments

Reserve Requirements
Discount Window
Treasury Bill / Central Bank Paper Auctions
Open Market Operations

Operating Target

Reserves
Short-term Interest Rates

Intermediate Targets

Money or Credit Aggregates
Interest Rates

Investment
Residential Housing
Consumer Durable Expenditure
Net Exports

Policy Goals

Inflation
Unemployment
Real GNP Growth

Let us examine in more detail the ways in which a country's financial system can affect the operation and effectiveness of indirect monetary policy.

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. Intermediate targets as well as indicators are influenced by a country's financial structure. Intermediate targets, such as the 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

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 is 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 institutional environment

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 actions 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 on the money supply is, therefore, likely to be lower in a deregulated than in a regulated environment.

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 system affect the money demand equation directly leading to a onetime or gradual adjustment 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 markets 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 of 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 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 the 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 estates, 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.

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.

IV. Characteristics Financial Systems in Sub-Saharan Africa

A large number of countries in SSA have implemented financial sector reforms since the mid-1980's. 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 of 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).

Financial Sector Reforms and Monetary Policy: Important progress has been made on financial liberalization in SSA countries since the mid-1980's. A comparison of the presence of direct monetary controls in the form of interest rate 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.¹ 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 disaggregated 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).

¹Table 1 in Annex provides details on interest rate and credit controls in SSA countries before the start of reforms and late 1995.

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

	Countries with Repressive Financial System	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	3	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	9	24		19

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 interests 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.

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 years 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 summarizes

information on the development of financial markets in 40 SSA countries.² 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 the secondary markets are shallow. Of the other countries, eight countries had neither an interbank market nor security markets, and only two countries were classified as having a developed interbank 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 countries 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 of 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. Interbank markets for local currency do not exist in most countries or are underdeveloped. Liquid interbank markets for local currencies currently exist in Kenya, South Africa, Zimbabwe and on the sub-regional level in the West African Monetary Union.

Table 2: Financial Markets in Sub-Saharan Africa

Late 1995

(Figures indicate number of countries)

Countries without Financial Markets	Countries with Financial Markets under Development		Countries with Developed Financial Markets
No Interbank Market in Local Currency	Illiquid Interbank Market in Local Currency		Liquid Interbank Market in Local Currency
14	12		14
No Markets 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 Markets for Long-Term Securities	Only Primary Market for Long-Term Securities	Primary & Secondary Market 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
3	30		2

The limited development of financial markets constitutes an important constraint for the transition to indirect monetary policy since open market operations is impossible in a large number of countries to the

² For details on countries see Table 2.

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.

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 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. This large range indicates that credits play varying roles across SSA African countries. The main sources of funds of commercial banks are: demand deposits, time deposits, and central bank refinancing. 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 of GDP.

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

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.

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 245 banks, governments were majority shareholders in 76, and minority shareholders in 54.

Market Fragmentation and Informal Financial System Important features 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; Nisanke 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 for Malaysia, Nepal, Pakistan, and Thailand (Montiel et al., 1993), which appears to be comparable to that of countries in SSA.

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 influences 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 checks is very slow and delays of clearing checks of several weeks are common in SSA countries.

V. 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 over time and diversify risk across a diversity of securities with imperfectly correlated 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 suboptimal 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 overinvesting in real assets. Unfortunately, localized saving carries undue co-variate risk or incomplete risk-sharing. 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 African 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 transactions 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.

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 disproportionately high risk and weak enterprises (say state-owned companies) which see no downside in borrowing at high 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 stake-holders, such as share-holders (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 the 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. Neube 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.

Institutional Control Mechanisms: Next, 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 lead to economic inefficiency and wealth destruction, it is crucial to seek control mechanisms that move the operation of the private sector toward full efficiency. The control mechanisms should be built in the corporate governance system, contractual mechanisms, and financial sector reforms/liberalizations, and financial regulatory mechanisms.

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 incentive of debt financing arises, 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 interests 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 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). 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 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.

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 systems. 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, financial 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.

Market-Based Financial Institutional Design: There is a 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 1980's 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 the 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 counterproductive, 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 banks 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 system. However, when private decisions by bankers are not readily observable, supervision is insufficient even in advanced 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 replicate 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 Neube 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).

Stylized Facts on Institutional Issues in SSA: This section summarizes the stylized facts on the characteristics of institutions in selected SSA countries. Table 3 below 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.

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

VI. 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 within the banking system, i.e. the bank market structure, and the 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 interbank 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 operations 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 a 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 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, 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 a 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 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. To the extent that the financial structures differ across countries, their effects on monetary policy are likely to differ significantly across countries.

References

Readers should refer to a more detailed technical paper:

Ncube, M. (1997), "Financial Systems and the Effectiveness of Monetary Policy in African Countries", AERC Paper, Nairobi. Also presented at UNECA Meeting of Intergovernmental Group of experts (March 25-28, 1997), Addis Ababa, Ethiopia.