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INDIRECT INSTRUMENTS OF MONETARY CONTROL IN AN ISLAMIC FINANCIAL SYSTEM

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This paper discusses the instruments of monetary control in a market-oriented Islamic financial system, highlighting the relative advantages of indirect instruments. In this context, it proposes equity-based government securities with rates of return based on budgetary surplus. Such rates are imbedded in the concept of social rate of return and are consistent with Quranic prohibition against the payment and receipt of interest. The paper discusses the use of such securities in indirect method of monetary control, thereby enhancing the role of price signal and improving market incentives in the development of Islamic financial system. The paper concludes that, in the transition to the Islamization of the banking and financial sectors, the indirect instruments can improve economic efficiency with parallel reform in these sectors as well as concomitant actions.

1. INTRODUCTION

In implementing monetary policy, an Islamic central bank can only use instruments that are consistent with the Quranic prohibition against the payment and receipt of interest in financial transactions. Instruments of monetary control that rely on interest in any way would have to be removed from the authorities' inventory. Although most of the traditional direct instruments that do not rely on interest are consistent with Islamic principles, the more flexible traditional indirect instruments bearing fixed interest are precluded from consideration. The Islamic Law, while rejecting the concept of a predetermined interest rate, permits variable returns in undertakings based on equity participation, trade and other economic activities. When a financial system operates without the authorities' intervention as would occur in a fixed interest rate regime, it allows the price system, via the variable rate of return, to function freely in order to ensure rationing of scarce resources efficiently. It is in this context that an Islamic financial system is most effective as the elimination of fixed interest rate permits market orientation and efficient allocation of financial resources. Since indirect instruments serve in the monetary area the same purpose as a price signal does in the economy more generally, they should be considered on profit-sharing basis to be compatible with

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Islamic precepts in order to ensure market orientation and flexibility in monetary control.

The issue of Islamic instruments of monetary control has been addressed in a number of contributions. These studies contain, in varying degrees, description of instruments that could be employed to change the quantity of money and rates of return on financial claims. Although the discount rate and open market-type operations with fixed interest-bearing securities are precluded, a number of monetary policy instruments are available for controlling money and credit. These include the traditional instruments such as changes in reserve requirements, overall and selective controls on credit, changes in the monetary base through management of currency issue and moral suasion. The open market-type operations could still be conducted with securities that do not bear a fixed rate of return. The monetary authorities also have the possibility of directly changing the rates of return on both deposits and loans by altering the ratios in which the public is expected to share in the profits and losses that are associated with the transactions. This is still controversial in that it would be inappropriate for the central bank to unilaterally change contractually-determined profit-sharing ratios.[1] Others believe that these unilateral changes are deemed necessary for achieving the goal of monetary stability, provided that such actions affect only new deposits and loans and not the existing ones. The debate is confusing as changes in the contractually-determined ratios may interfere with the price system and, thus, cause distortions in resource allocation.

There remain questions about reserve requirements. Basically, there are two complementary models of Islamic banking, with both models relying on the concept of profit sharing with depositors and borrowers.[2] The difference lies in the treatment of reserve requirements on deposits. In one model, there is no specific reserve requirement on the total liabilities other than that it be positive. In the second model, demand deposits are distinguished in that they have 100 percent reserve requirement while time or investment deposits require none. Obviously, bank reserves being a component of high-powered money, this difference has implications for the design and use of instruments of monetary policy.

The purpose of the paper is threefold. First, it describes a set of direct and indirect monetary instruments, their modes of operations, and discusses the advantages and disadvantages, pointing out that the indirect instruments can be used more effectively for implementing monetary policy. Second, it proposes equity-based government securities with rates of return based on budgetary surplus and describes their use in indirect methods of monetary control and in enhancing the role of price signals and improving market incentives in Islamic economies.

[1] See Khan (1982) and Siddiqi (1982).
[2] See Khan (1986).

Third, the paper discusses that the indirect instruments can improve economic efficiency with parallel reforms in the banking and financial sectors as well as concomitant actions; the pace and sequencing of the adoption of these instruments are synchronized. Many Muslim economies are going through financial liberalization while contemplating a move to Islamization of their financial system. The moves are complementary. Drawing on the experience of implementing financial sector reform in many countries, the discussion cautions against premature introduction of such instruments in Islamic situations where the necessary conditions do not yet exist.

Section II describes the characteristics of direct and indirect instruments of monetary control and explains the reasons for moving from the former to the latter. Section III describes the proposed equity-based securities and explains how open market-type and open market operations can be carried out with variable dividend securities that are analogous to the traditional securities.[3] Section IV discusses the issues in the concomitant reform, pace of transition, and sequencing of indirect instruments from the country experience that may be pertinent in Islamization of financial institutions.[4] The discussion in Sections II and IV rely heavily on the experiences in many industrial and non-industrial countries as presented in a recent paper by Alexander and others (1995). Section V highlights the problem of using monetary instruments effectively in Bangladesh and concludes that efforts needed for its resolution also provide an opportunity to Islamize the financial institution and move to indirect methods of monetary control. Finally, the last section provides some concluding remarks.

2. CHOICE OF ISLAMIC MONETARY INSTRUMENT

An Islamic central bank has the primary responsibility of formulating and conducting monetary policy. It has auxiliary functions--notably, assisting the banking system in the transition, promoting the development of the money market, safeguarding the payments and clearing system, and performing bank regulation and supervision. Also, as the leading financing institution, it is concerned with the efficiency of intermediation between savers and investors, which takes place via the financial system and contribute to stable economic growth.

An Islamic central bank can operate directly through its regulatory and discretionary powers or, indirectly through its influence on money market

[3] The market for government securities with expected dividend and the relationship with variables are briefly discussed in the Appendix.

[4] This experience is derived from the cumulative and collective efforts of the staff of the International Monetary Fund, who has gathered valuable insights into the causes and remedial measures in countries facing severe financial or even a crisis situation. See Alexander and others (1995).

conditions. Direct and indirect instruments operations can be distinguished in two ways: (i) direct instruments set or limit prices or quantities through regulation, while indirect instruments operate through market by influencing underlying demand and supply conditions; (ii) direct instruments are mainly aimed at the balance sheets of the commercial banks, while indirect instruments are aimed at the balance sheet of the central bank.

Using indirect instruments, the central bank has the capacity of determining the supply of reserves. This affects the banks' liquidity position, as long as they have to settle their payment obligations across the books of the central bank and provided they do not have unlimited access to nonpenal funding at the central bank. The effect on banks' liquidity positions results in adjustments to bank, interbank and money market pricing expected to reequilibrate the demand and supply of reserve balances.

2.1 Choice of Direct Instruments

The choice of direct instruments subscribed by economists concerned with Islamic monetary control are of the variety shown in Table 1.[5] The major instruments are bank-by-bank credit ceilings, statutory liquidity ratios, and directed credits. They are all linked with the assets side of banks and one of the major factors affecting money supply. They provide effective control on allocation and distribution of bank credit at the discretion of the central bank and in line with monetary program, taking into account other economic and social objectives. These instruments are particularly suitable at the initial stages of Islamizing and restructuring the banking and financial institutions.

The main advantages of direct instruments of monetary control are: first, these instruments are perceived to be reliable in controlling credit aggregates or the allocation of credit and its cost. They seem to have performed well for a period in many countries; second, they are relatively easy to implement; third, their direct fiscal cost has been relatively low; fourth, they are easy to quantify and link to a monetary program within an economic policy framework; fifth, in countries with noncompetitive financial systems and less developed primary and secondary capital markets, direct instruments are the only feasible monetary instruments to operate effectively; sixth, with other forms of credit scarce, bank-by-bank credit ceilings are effective regardless of the exchange rate regime; finally, direct instruments can, at least temporarily, be attractive in situations of specific or general market failures in a severe financial crisis.

Table - 1: Direct Instruments of Monetary Control

[5] While strictly prohibited by Islamic law, interest rate controls in the traditional economy interfere with market pricing of financial resources, indirectly affecting economic activity.

Advantages, Disadvantages and Operational Issues

Instruments	Advantages	Disadvantages	Issues in Design & Operations	Experience and Assessment
Interest rate controls (abolished under Islamic law)	Contain the effects of noncompetitive pricing when entry into banking is limited. Limit adverse selection problems, particularly when information on borrowers is scarce or banking supervision is weak. Often resorted to when authorities cannot achieve a target interest rate through market means or when long-term rates are a policy objective.	Interfere with price mechanism. Lead to rationing of credit and misallocation. Ceiling easily circumvented by shifting bank deposits into assets yielding market rates (such as foreign exchange) or into goods. Floors or ceilings encourage disintermediation or non bank intermediation.	Design can involve fixing interest rates or spreads.	Increasingly ineffective as markets and financial instruments develop.

Instruments	**Advantages**	**Disadvantages**	**Issues in Design & Operations**	**Experience and Assessment**
Bank-by-bank credit ceiling	Can deliver effective control over bank credit if reserve money creation is otherwise controlled. Can minimize loss of monetary control during transition to indirect instruments when transmission mechanism is uncertain.	Because credit ceiling are not market determined, they progressively distort the allocation of bank resources. Can lead to disintermediation and ultimate loss of effectiveness. Difficult to implement if there are many banks and if there are capital inflows.	Quotas may depend on capital, existing credit, and existing deposits. Secondary trading of unused credit quotas introduces elements of market allocation and mitigates distortions.	Still used in some African and Asian countries and in transition economies. Supply of base money must be consistent with money demand; otherwise instrument leads to buildup of excess reserves; creates incentives for evasion.
Statutory liquidity ratios	By providing captive demand for qualifying assets (typically government debt), ratios reduce cost of borrowing for issuer of these instruments.	Distort competition by imposing constraints on banks' asset management. Distort pricing of securities and stifle secondary trading. Can lead to disintermediation, increase spread, and loss of effectiveness.	Design involves choosing eligible securities, eligible maturities, and averaging methods, either of requirement, base, or both.	Still used in many countries but mainly for prudential reasons and, more recently, to provide captive demand for government papers.

Instruments	Advantages	Disadvantages	Issues in Design & Operations	Experience and Assessment
Directed credits	Method of distributing central bank credit mostly to finance particular sectors. They provide direct control over aggregate central bank credit to the banks.	Credit allocation process is discretionary. Misallocation of resources is possible. May be used to direct credit to public enterprises, thus reducing direct budgetary impact.	Design involves setting a mechanism to allocate credit and to ascertain ultimate use of funds. Usually credit does not require collateral. Occasionally extended through special rediscount facility.	Used in many transition economies. Because of fungibility, they are unlikely to be effective in directing resources. Costly in terms of resource allocation.
Bank-by-bank rediscount quotas* (abolished under Islamic law)	Place a floor under interbank rates and thereby improve transmission of interest rate changes. Otherwise, used mostly to rediscount (at preferential rate) paper of particular sectors and provide liquidity to particular banks.	Below-market discount rate can discourage develop-ment of inter-bank money market if use of facility is not limited. Fungibility undermines assessment and control of funds' destination if instrument is used primarily to direct credit.	Need mechanism to allocate refinance quotas and review quality of eligible paper.	Used to provide incentives to lend to particular sectors. Discount rate is highly visible rate and can be effective in signaling policy changes.

Source: Adapted from Alexander and others (1995).

* Interest rate is replaced by expected dividend based on profit-sharing principle under Islamic law.

Against these perceived advantages must be set off the costs of utilizing direct instruments resulting in inefficient resource allocation as banks attempt to evade credit ceilings and ossify the distribution of credit. For example, banks would try to perpetuate these credit market shares, independent of their competitiveness, thereby reducing incentives for banks whose credit ceilings are constraining. In economies where state-owned banks dominate, as in a number of Muslim countries, they tend to limit the inroads that private sector can make in banking. The use of direct instruments tend to multiply and micro-manage monetary conditions, which are particularly likely to be volatile in the transition to Islamic banking. Also, there is the possibility of liquidity overhang because of limits imposed on bank lending. Moreover, the overhang can be exacerbated by money financing of the deficit with added inflationary consequences.

The use of direct instruments often results in arbitrary allocation of credit. Moreover, the fungibility of money makes it difficult to ensure that the credit or credit ceiling will be used for the intended purpose. Developing countries' experience shows that such instruments lose their effectiveness with the passage of time because of circumvention by numerous means. There is evidence that banks themselves may attempt to undermine direct controls by introducing new financing techniques that are outside the boundaries of existing controls and divert funds into artificially profitable activities created by controls themselves. Consequently, policy objectives are often defeated in practice, even if monetary targets are met. Thus, the perceived reliability of direct instruments can often be misleading.

Finally, like other forms of economic control, direct instruments hamper competition. For example, bank-by-bank credit controls protect inefficient banks from competition by limiting the growth of efficient banks. Also, if compliance is not uniform, financial intermediaries that comply with the controls may be placed at a disadvantage, further compromising the position of the formal sector. Clearly, use of direct instruments has considerable costs to the economy.

2.2 Choice of Indirect Instruments

The choice of indirect instruments is limited mainly to reserve requirements, public sector deposits, and foreign exchange swaps as shown in Table 2. Reserve requirements and public sector deposits directly link central bank and commercial banks' balance sheets while foreign exchange swaps with central bank directly link their assets side. The indirect instruments involving open market-type operations with equity-based instruments as proposed for consideration in the following section, provide more flexibility in effective monetary control.

The advantage of indirect instruments are precisely the reason for which

direct instruments become ineffective over time. Indirect instruments can control fluctuations in liquidity on a short-term basis in line with the monetary policy objectives. Reserve requirements and public sector deposits, through changes in requirement ratios and shift in the allocation of government deposits between the central bank and commercial banks, directly influence the banks reserve balances with central bank. Foreign exchange swaps, at banks initiatives, change the composition between the foreign currency denominated assets and domestic currency assets or through outright sales and purchases of foreign exchange, can change the banks reserve balance with the central bank. Open market-type instruments can provide more effective monetary controls than direct instruments because of greater flexibility in their use. Since these instruments work through, rather than around markets, they can influence monetary conditions, even when specific monetary aggregates become economically less important (for instance, government borrowing can be offset or partially neutralized through open market-type operations[6]. In policy implementation, frequent changes in the equity-based treasury bills or central bank credit auctions to absorb or augment liquidity provide greater flexibility in timely responses that are difficult with direct instruments, particularly with credit ceilings, as they are often set on an annual or quarterly basis. Besides, frequent changes in credit limits place an undue burden on banks' portfolio adjustments.

[6] In the next section, open market operations will be discussed in some detail.

Table 2. Indirect Instruments of Monetary Control : Advantages, Disadvantages, and Operational Issues

Instruments	Advantages	Disadvantages	Issues in Design and Operations	Experience and Assess-ment
Reserve requirements*	Help to induce demand for reserves and therefore, enhance predictability of reserve demand. Useful in one-off sterilization of excess liquidity, or otherwise to accommodate structural changes in demand for reserves.	Imposes tax on bank intermediation and can lead to spread between lending and deposit rates. They can be neutralized through reserve remuneration. Not convenient for short-term liquidity management, as frequent changes disrupt bank portfolio management.	Design includes definition and monitoring of requirement base, eligibility of assets, and averaging rules and rate of remuneration. Averaging provides banks with greater flexibility in portfolio management.	Used extensively in some countries, especially in Latin America. Active variation for policy purposes has dropped signifi-cantly in industrial countries.

* Reserve requirements have elements of both a direct and an indirect instrument. This paper follows conventional central bank usage and classifies them as indirect instruments.

Instruments	Advantages	Disadvantages	Issues in Design and Operations	Experience and Assess-ment
Rediscount window	Rediscount rate has announcement effect as a key rate.** Initial impact is wider than with open market operations. Develops demand for rediscountable paper. May also be useful when open market operations are limited to lack of paper.	Not very convenient for precise base money targeting, since access to window is usually at initiative of banks. Criteria for rediscountable paper and for access to window have often been utilized to implement selective credit policy.	Rediscount rate can be above-market rate to discourage access. If rate is below market, nonprice rationing must be used. Elements of design include eligible paper and access criteria.	Used in many countries as standard instrument for monetary control. Its effectiveness is largely determined by provisions that regulate access. Also used for moral suasion.
Lombard window or overdraft window	Provides facilities for very short-term (collateralized) loans usually priced above any alternative source of funds. Can be key part of payments system arrangements.	See rediscount window above. Disadvantage of preannounced rate facility where access is at discretion of banks.	*Lombard* requires decision on the part of banks to borrow from central bank with appropriate collateral. *Overdraft* occurs automatically and need not be collaterialized.	Standard facilities in many countries. Lombard rate can be key rate in announcing changes in policy stance.

** Rediscount rate or interest rate applies to expected dividend in Islamic context

Instruments	Advantages	Disadvantages	Issues in Design and Operations	Experience and Assess-ment
Public sector deposits	Given magnitude of daily flows in and out of government deposits between the central bank and the commercial banks can be key instrument to offset short-term liquidity impact.	Lack transparency. Militate against the development of secondary market for government securities.	Allocation mechanisms needed to ensure equitable distribution among the competing commercial banks.	Used in a few countries. Requires close coordination of central bank and treasury.
Credit auction	Offers means of pricing central bank credit. Can be used when markets are underdeveloped. Allocates credit on market terms.	Central bank is exposed to credit risks that is difficult to assess. Vulnerable to "adverse selection" problem.	Initially, access rules can mitigate credit risk. Credit can become progressively collateralized. With sufficient quality collateral available, such operations could also be structured as repo auctions.	Used temporarily in early phases of transition to indirect instruments to shift from directed credit to market allocation.

Instruments	Advantages	Disadvantages	Issues in Design and Operations	Experience and Assess-ment
Primary-market sales of central bank paper (open market type operations)	Flexible instrument for short-term liquidity management because issuance is at discretion of central bank. If treasury is not willing to accept sufficient expected dividend flexibility, central bank papers preserve operational autonomy of central bank.	Central bank may incur losses if large primary issuance is needed to sterilize liquidity. If central bank bills are used in parallel with treasury bills, problems may occur in the absence of strong coordination between the issuing agents.	Management of liquidity can be achieved through staggered primary issuance. Procedures involve decisions on auction system, counterparts, frequency, maturities, and settlement rules.	Used by many countries, particularly when there is need to separate monetary policy objectives from public debt management objectives. Also used when secondary markets are insuffici-ently developed.
Primary-market sales of government securities (open market type operations)	Management similar to central bank bill. Encourage fiscal discipline on the part of government if direct central bank financing is discontinued.	Debt-management objective can conflict with monetary management if treasury manipulates auction to keep funding costs below market. High frequency of auctions may hamper secondary market development.	Same as above. Sometimes when the central bank has government securities in its portfolio, reverse repo auctions can be used instead of outright sales in primary markets.	Used in many countries when seconday markets are insuffici-ently developed to conduct open market operations.

Instruments	Advantages	Disadvantages	Issues in Design and Operations	Experience and Assess-ment
Foreign exchange (FX) swaps and outrights sales and purchases	In case of deep foreign exchange market but inactive government securities market, swaps can substitute for repo operations in government paper. FX outright sales and purchases may be useful when FX market is more developed than money market.	Central bank can suffer losses if foreign exchange operations are used in attempts to preserve an unsustainabel exchange rate.	Need to design appropriate risk-management procedures.	Swaps used on a regular basis by a few countries.
Secondary-market operations (outright purchases and sales or repo operations)	Can be undertaken on continuous basis; hence provide flexibility. Transparent. Enhance market development. Immediacy of response in money market	Require liquid and deep secondary market, and central bank must have an adequate stock of marketable assets.	Repos have advantage of being automati-cally reversible, especially well suited for offsetting seasonal fluctuations.	Used by most countries with liquid and deep secondary markets.

In situations where the exchange rate is flexible, the authorities can pursue their own inflation rate objective, which may differ from the international rate of inflation, by exercising their monopoly power as the supplier of high-powered money with indirect instruments to create liquidity shortages and to relieve them as necessary. In situations where exchange rate is managed, although domestic inflation rate will depend on international inflation, the central bank will have to set its instruments to influence monetary conditions in order to obtain a desired balance of payments objective.

Finally, in contrast to direct instruments when they are the principal means

of monetary control, the use of indirect instruments by the central bank can facilitate the development of financial market. This is very important for Islamic countries that are undertaking economic liberalization and have begun Islamic restructuring of their banking system.

The disadvantages of indirect instruments are that their use is inherently complex and the impact on monetary aggregates can be ambiguous. The simple correspondence does not hold in the case of indirect instruments and policy may be difficult to implement. Only banks' reserves may be controlled in the short term by reallocation of government deposits since frequent changes in reserve requirements--particularly increases--would be disruptive and costly in terms of portfolio adjustment. Also, reserve requirements cannot be used to mop up excess liquidity if the latter is unevenly distributed among banks and there is no effective means for redistribution of reserve balances among themselves. Moreover, when demand deposits are subject to 100 percent reserve requirements, there is likely to be over expansion of credit as there might be little or no reserve requirements for investment deposits. Further, with 100 percent reserve requirements, these are reserves for safeguarding purposes and cannot be used for liquidity needs of banks. An unintended consequence could be that financial disintermediation occurs as savings flow into unregulated or informal financial markets such as fringe banks and "informal lending" as well as transfers of saving abroad through illegal means if there are external capital controls.[7] Thus, depending on the model of banking chosen in an Islamic economy, the authorities may have difficulty in exerting effective monetary control.

Although public sector deposits can be a very powerful indirect instrument, they lack transparency and militate against the development of financial markets. In the reallocation of government deposits between the central bank and the commercial banks in order to offset the impact of such flows on short-term liquidity via the banks' reserve balances, the use of this instrument provides less incentive for speeding up the development of financial markets as banks can easily replenish their reserves without recourse to the interbank and money markets. The preferred alternative involves short-term low-risk equity-based government securities. Transactions in these securities can be frequent and facilitate market growth by making the underlying securities more liquid without directly interfering with market force (see Section III below).

The use of foreign exchange swaps requires restriction-free capital account and a developed foreign exchange market. In most Islamic countries, capital accounts have restrictions and financial markets are not well developed. Often such

[7] In Ghana and Thailand, for example, disintermediation took the form of growth in the informal financial sector, while in Egypt and Poland, disintermediation took the form of flight to foreign currency.

swaps are discouraged by the central bank because of foreign exchange scarcity. If foreign exchange constraint is not binding as in several Islamic countries, this can be used frequently to bolster banks' reserves in times of shortage in domestic liquidity.

3. GOVERNMENT SECURITIES AND OPEN MARKET OPERATIONS

Equity-based government securities with variable yield based on the concept of profit sharing may be considered a viable substitute for traditional securities involved in open market operations. A similar idea involving issuance of commercial papers has been proposed by economists concerned with interest-free banking. Open market-type operations using such securities can be carried out in the primary market and fully flexible two-way operations involving repurchases and reverse repurchases can be carried out as the secondary market develops.

3.1 Equity-based Government Securities

It is proposed that government securities must incorporate three prerequisites; credibility, liquidity, and low-risk. Short-term securities, which have a range of maturity and corresponding yield, are suitable for any liquidity need. Their availability for frequent auctions make them ideal liquidity instrument in the primary market and can speed up the development of secondary market where they can be actively traded. Longer-term government securities with maturities from two to five or more years are ideal for longer-term liquidity requirements such as projected future increases in net loan demand or longer-range protective liquidity.

The yield of securities will depend on government operating surplus and is a policy parameter, which is used as a price signal.[8] The bases of yield depend on the face value, maturity, and outstanding number of securities and the distribution of the budget surplus between dividend, repayment of government issues of securities at maturity, and retention for capital outlays.[9] At the time of issue, the yield is quoted as "expected dividend", which is adjusted on a quarterly basis (to accommodate the 9l-day issue) according to budgetary outcome for the quarter and a declaration is made public. Once the face value is set, the market price of the securities will depend on the expected yield (the holders' stream of expected earnings stream), the length of maturity and market supply-demand conditions. As the adjustment introduces an element of uncertainty in the expected yield, the risk differentials among government securities and other marketable assets become an

[8] As interest payments and receipts will be abolished, the government debt outstanding will be transformed in terms of yield based on maturity.

[9] When capital outlays exceed the allocation of funds from operating surplus, it results in an overall fiscal deficit.

important factor affecting the market conditions. Consequently, the adjustment process provides an incentive for the government to pursue fiscal prudence in order to preserve credibility, liquidity and essentially risk-free status of the securities.

The expected dividend as a measure of yield of securities is rooted in the concept of social rate of return.[10] The expected earning of holders of government securities is derived from the expected dividend. The discounted value of the stream of expected earnings at the prevailing rate of return in the market value of a government security. On the other hand, the discounted value of stream of expected earnings derived from government surpluses is the cost of equity capital in terms of the security, with the rate of discount being the social rate of return. The market price of securities is determined when the market value is equal to the cost of equity capital. If the public's expectation is for a higher dividend than the government expectations on budget surpluses, the demand for government securities will be greater than their supply. As a result, the market price rises when the expected dividend is higher than the expected surplus, and vice versa until equilibrium is established. The fluctuations in market price of securities with longer maturities will be more than the shorter-term securities with varying expectation on dividend and social rate of return.

At equilibrium, the social rate of return is such that the marginal social benefit from the consumption of public services is equal to the opportunity cost of the provision of such services. Because of the nature of public services, the marginal social benefits are difficult to quantify while the user charges and fees for the provision of public services may fall short of their opportunity costs. As the former is analogous to marginal revenue and the latter to marginal costs, the government covers the actual cost of operation by revenue from taxation, taking into account the receipt from the user charges and fees. The payment of expected dividend on government securities is adjusted on the outcome of the budget surplus. The expected budget surplus may have to be altered periodically by raising or lowering taxation and/or the user charges and fees so that the adjusted expected dividend on government securities are made competitive with expected dividend on private equity.[11]

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[10] A simple connection between expected dividend, the social rate of return and market price of government securities is shown in the Appendix.

[11] When governments do not generate operating surplus, the concept of "expected dividend" still remains valid. This is because the marginal social benefit from government services is greater than the marginal revenue from taxation. If the level of taxation were raised to the level of opportunity cost of this provision of public services which is equal to the level of marginal cost, then there would be surplus left over for distribution of dividend, repayment of government securities at maturity and retention for funding capital project. For economic and political reasons, the government could not raise taxation to a level as to generate operating surpluses. However, as circumstances permit and economic growth proceeds, the government raises the level of taxation so as to generate surpluses. Thus, the social rate of

In transactions with government securities, actual cash may change hands or across the books as when a central bank transacts in Treasury or central bank securities with banks to smooth out reserve balance fluctuations. For the duration the securities are held, the yield must accrue and the market price reflect the supply-demand conditions, taking into account the uncertainty in adjustments of expected dividend.[12] If the central bank undertakes monetary contraction through reserve absorption by sale of securities, the market price of securities declines, taking into account the duration to maturity and the risk for adjustment of expected dividend. With longer-term securities, the market does provide an indication of the cost of equity capital in nominal terms as well as provide a yardstick to business of gauging the present value of future income streams (using expected rate of return), thereby permitting economically more meaningful judgments to investment plans.[13]

3.2 Open-market-type Operations

In conducting open-market-type operations, the discount window and auctions of Treasury or central bank bills and central bank credit auctions are often used varyingly to achieve operating monetary objectives.[14] The extent of such operations depends upon the availability of equity-based government securities, the relative size of the primary and secondary markets, the existence of a competitive interbank market, and more generally, the extent to which government is willing to deregulate and rely on market processes for channeling saving into investment. Since in many Islamic countries secondary markets are nonexistent or are in early stages of evolution, central banks would be limited to open market-type operations in the primary market to absorb or inject reserves through auctions of newly-issued treasury bills or credits.

When the central bank offers a new issue of Treasury security, this constitutes a monetary operation, (not a government debt management operation) only if the incoming funds are sterilized and unavailable for government spending. If the central bank overestimated the reserve surplus when it initially issued the securities and subsequently needed to augment reserves temporarily, it could buy the securities back before maturity and credit banks' reserve accounts. Such repurchases before maturity, and if need be, subsequent resales, would have the ancillary advantage of laying the basis for the development of a secondary market among nonbank private participants, in addition to the strengthening of a

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return implicitly justifies the concept of expected dividend.

[12] In the final analysis the original buyer of government securities parted with cash, which when used for financing the fiscal deficit, is used in socially productive government investment.

[13] For further details, see the Appendix.

[14] The expected dividend on central bank securities can be justified on the same principle as government securities since the central bank is the fiscal agent of the government and the securities serve the same purpose as government securities.

competitive interbank market for redistribution of reserves around the banking system. Since the securities are based on expected dividend, buying and selling prices between the parties will be negotiated just as they are done by premia and discounts on the fixed interest rate, thereby effectively market pricing on profit-sharing principle.[15]

Open market-type operations involving new issue of Treasury or central bank securities are most effectively used when excess liquidity piles up in the banking system from large capital inflows. However, if investment deposits have no reserve requirements, banks will tend to keep reserve balances when demand for loans is weak. In the absence of an active money and interbank market, the central bank may be deprived of information about actual and emerging liquidity conditions that are implied by such deposits. Thus, without reserve requirements on these deposits, it would be more difficult for the central bank to plan the timing and size of open market-type operation and the outcome of monetary control may be uncertain.

The reserves needed to support expansion in money supply and credit for economic growth cannot be adequately provided with open market-type operations. In such circumstances, credit auctions and discount window will be particularly suitable for monetary expansion for growth.

The auction of credit through the central bank's open market-type function can be distinguished from credit made available through the discount window. A credit auction can be used by the central bank to control the volume of reserves to be supplied. The banks, through the bidding process, determine the expected dividend they are willing to share with the central bank for the duration of the loan, thereby effectively determine the market price of securities. In contrast, at the discount window, the expected dividend in the form of the price of securities, is set by the central bank while the amounts of borrowing and therefore, reserves supplied are at initiative of the banks, not the central bank. Moreover, the central bank might be able to resell commercial paper acquired in the auction as collateral at its initiative into a secondary market (if it exists). Also, loans at the discount window would normally be repaid on a schedule, or renewed at the initiative of the borrowing bank. Generally, in contrast to a discount window, a credit auction gives

[15] The cost to the government in terms of expected dividend from the sale of these securities for monetary purposes is roughly the same as occurs when the central bank sells any security from its portfolio, auctions new securities of its own, or reduces its loans to the banking system. The cost in terms of payment of dividend on these securities will be adjusted with the receipt of dividend from the auction of central bank credit. They may be negative or positive and should be regarded as a budgetary expenditure or revenue from these operations. Experience suggests that the central bank, on balance, comes out better than even, taking into account its own administrative costs.

the central bank more initiative on the timing, amount, and price at which reserves are supplied, thus providing some flexibility on reducing reserves for policy purposes in secondary markets.[16]

In the absence of a significant floating supply of government debt, a special Treasury obligation with certain special features could be employed for the expansion of reserves. Special Treasury obligation or securities, once created, would remain on the asset side of central bank balance sheet. To support the banking system reserve, the central bank would be given the right to transfer to the banks a correspondent special Treasury deposit liability. This deposit liability which would not be controlled by the Treasury and would be created simultaneously with the special Treasury security at the time when the central bank wishes to expand reserves. At that point, the deposit liability would be transferred to the banking system either by a distribution based on bank size or through the auction of a predetermined amount.

An auction would be the preferable means which in effect would be a primary market auction of bank reserves conveyed via Treasury deposit liabilities. The special Treasury deposit liability would be priced to yield a market return (linked to the banks' average profit sharing) to the Treasury and this, in turn, would determine the return on the special Treasury security held by the central bank.[17] In fact, this return is akin to saving on expected dividend that the Treasury would have made if the central bank had been able to purchase securities in the open market in order to retire government debt.

The special Treasury securities and deposit liabilities could have a range of maturity depending on the demand for reserves for short to medium term-from three months to two years and the market price should be based on expected profitability of the banking system. Both special issues and deposits could be marketable, though the sale of the securities in the secondary market should be limited to those consistent with the basic reserve-supplying function.[18] Banks could buy and sell the special deposits as the reserves situation fluctuates, effectively making these an instrument of the interbank market. Thus, backed by special issues, the special Treasury deposit liabilities, which would create permanent reserves, could become a liquid and relatively low-risk instrument of monetary

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[16] In some countries, the development of a secondary market has proved to be difficult with such bank paper.

[17] Actually, the return on special Treasury securities will be the market return on special Treasury liabilities (government deposit earmarked for this operation) less the administrative costs of the central bank for managing this operation.

[18] The central bank sells the special Treasury securities in the market to absorb excess reserves, although this is not their basic purpose, which is to enable the central bank to create correspondent special deposit liabilities.

control.[19]

3.3 Open Market Operations

With economic growth and development of markets and with greater integration of the financial institutions with the real sector, the Islamic central bank will place greater reliance on fully flexible open market operations. In transition toward the latter, repurchase agreements (repos) and reverse repurchase agreements for financial instruments will tend to be used more frequently.[20] The development of active financial market is a complex process. In addition to competitive financial institutions, substantial infrastructure must be developed, including large-value transfer system, book-entry systems for recording ownership transfer (an important legal requirement in Islamic property right), and a legal and regulatory framework. Once such market is developed, open market operations can be a highly effective and flexible tool of monetary policy.

Repos in government securities are most commonly used in industrial countries and those successfully transforming. As compared with direct purchase and sale operations, repos interfere less with the development of secondary market trading in outstanding securities since they essentially provide temporary financing of reserve fluctuations and do not directly influence the basic supply and demand conditions underlying securities that serve as collateral.[21] In fact, they serve to enhance the liquidity of the underlying securities and in that way facilitate the development of secondary market. While repo transactions are generally for short term, the underlying collateral would comprise both short-term and longer-term government securities, thereby augmenting liquidity to all sectors of the market.[22]

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[19] The potential negative impact of the government's budgetary position if the bank with a special deposit were to fail would be no different from the situation in which the central bank instead held such a bank' s commercial paper as a collateral.

[20] "A repurchase agreement comprises the purchase of assets by the central bank under a contract providing for their resale at a specified price on a given future date; it is used to supply reserves. A reverse repurchase transaction is the sale of assets by the central bank under a contract providing for their repurchase at a specified price on a given future date; it is used to reduce reserves," (Alexander and others (1995), p. 7).

[21] The discussion is confined to repos transactions in domestic policy purposes with domestic securities as the underlying collateral. For insufficient domestic securities, foreign exchange swaps can be utilized to affect domestic liquidity. However, when swaps are used for influencing the exchange rate, the central banks' open market operations in domestic securities would be differently affected depending on whether it was being guided by reserve aggregate or its net domestic assets. If the latter, it would not automatically sterilize the domestic market effect of a foreign exchange operation; if the former, it would.

[22] The buyer of the security in repo transactions would be generally alert to the greater potential for price variability in the longer-term securities relative to short-term securities.

The use of repos with a short maturity also signals the market that the central bank is encouraging the market to develop alternative short-term instruments for borrowing or lending in order to redistribute the aggregate reserve around the banking system. Also the repos are ideally suited to offsetting the short-term fluctuations in factors affecting bank reserves that are the major influence on day-to-day operations. Because the maturity of repos can be set by the central bank, they can be timed automatically to reverse themselves as circumstances change. Moreover, repos are useful for offsetting large shifts in liquidity conditions that might be caused by large capital inflows.

The establishment of the repos as an effective money market instrument would facilitate the widening of the money market among private sector transactors facing temporary shortages and surpluses of funds. The central bank should make it clear that the availability of financing from it would depend on monetary policy, rather than strictly market considerations. However, in the early stages of market development, the central bank might have to give some considerations to market needs, particularly in times of funds shortage. In general, in such situations, outright transactions by the central bank (open market-type) could hamper market development, particularly in longer-term market sectors. Whether outright or repos, market development would be most encouraged by use of competitive bidding mechanism. While a few major participants may be useful at times, they are generally considered as unfair practice by other participants and tend to slow widening of the market.

4. IMPLICATIONS FOR TRANSITION TO INDIRECT INSTRUMENTS

The country experience underscores the substantial difficulties and costs that are often encountered during transition to indirect methods of monetary control.[23] These experiences are relevant to Islamic countries and the difficulties encountered need to be recognized and thoroughly addressed so that potential problems can be anticipated in transition to Islamic financial institutions and monetary control. For instance, while some countries made rapid transition, many others had uneven and costly passage. About half the countries encountered reversals, and many experienced severe financial crisis--not always related to indirect instruments. In most countries unsettled macroeconomic conditions made it harder to maintain monetary control. Evidence shows that countries with initial internal and external imbalances have a better chance with fiscal and monetary

[23] The sample countries comprise five countries from Latin America (Argentina, Chile, Jamaica, Mexico, and Venezuela), two from Europe (Hungary and Poland), five from Asia (Indonesia, Malaysia, Philippines, Sri Lanka, and Thailand), four from Africa (Burundi, The Gambia, Ghana, and Kenya), and three from the Middle East (Egypt, Israel, and Tunisia). For more detail on the experiences, see Alexander and others (1995).

consolidation in the transition. By contrast, countries with favorable initial conditions that undertake expansionary policies or those with extreme initial macroeconomic instability (triple digit inflation and a fiscal deficit larger than 10 percent of GDP) are more likely to experience reversal of financial liberalization and, even severe financial crisis. A discussion based on country experiences on aspects of supporting concomitant reforms, pace of transition, and sequencing may be of guidance in Islamizing indirect instruments of monetary control.

4.1 Concomitant Reforms

4.1.1 Insulate monetary policy from deficit financing

When fiscal deficit is large, requiring large sale of government securities for financing the deficit, the market price of securities will be lower than their face value, raising the expected dividend. Besides the difficulty of selling the large volume of securities, the budget would need to make room for additional dividend payment on borrowing, reducing the surplus left over for government project spending. Thus, strains arise if the authorities are reluctant to accept the dividend payment consequences of an expansionary fiscal policy or if the concern over dividend payment leads to pressures to reduce the volume of issue and monetize the government financing shortfall.[24]

Of course, fiscal balance at the outset is probably sufficient to remove this pressure and allow the transition to Islamization go forward uninterrupted. However, country evidence suggests that very few countries start from this position. Instead, a program of strict fiscal adjustment and progressive deficit reduction was shown to be closely associated with successful transition. As a number of Islamic countries face the problem of fiscal imbalance, a comprehensive adjustment program is likely to be necessary.

Among the elements considered desirable in the adjustment include the setting of limits on monetary financing of the deficit by the central bank.[25] Also, a comprehensive program for public debt management can facilitate the observance of those limits. Such a program would invoke widening the range of government instrument, adopting market-based selling techniques, refunding operations, and strengthening secondary-market arrangements and coordination with the central bank.[26] It is also necessary to recognize the potential conflict between the goals of

[24] In addition, when government outstanding debt is large in relation to GDP, large sales can have deleterious effect on expected dividend, leading to slowdown in growth as banks find securities more profitable to hold than new private equity.

[25] Barring exceptional circumstances, legal reform may be desirable to insulate monetary policy from deficit financing by the central bank.

[26] See Sundarajan and others (1991).

debt management and monetary policy and prepare to restore possible conflicts in favor of monetary policy.[27] Thus, there must be a willingness on the part of government to refrain from pressuring the central bank to keep expected dividend low to minimize fiscal costs. Many countries have been addressing these issues by increasing central bank independence.

4.1.2 Develop and integrate money markets

Because power of control by the central bank over the supply of reserve money is the lever of indirect monetary control, such methods will not be fully effective unless the signals from central bank actions on short-term liquidity are transmitted rapidly to the 'market' participant (in interbank market or a money market). The development of money and interbank markets are essential to the full use of indirect instruments. The relatively developed and integrated market was a factor in the smooth transition in most industrial countries during the debt crisis in the 1980s. On the other hand, segmented and the relatively slow pace of development are important factors in explaining why so few non-industrial countries have yet to make the transition from open market-type to full open market operations. Thus, the development of financial markets in Islamic economies is likely to be a key factor in moving to indirect monetary control.

Two important requirements are essential for market development. First, market infrastructure has to be put in place at an early stage of the transition. The infrastructure to be developed includes an appropriate legal framework to permit securities trading and suitable markets and techniques. The legislation should cover such issues as settlement procedures, collateral arrangements, trading rules, and the regulatory framework for the securities market. Second, the central bank has to play an active role in market development. The bank should introduce indirect instruments at an early stage in order to experiment their use for effectiveness. This provides an opportunity to assess their relative weakness and performance, so that appropriate changes can be made in the design and use. Country experiences suggest that by adopting market-based instruments and transacting at market prices at an early stage, the central bank can have a catalytic role in developing and integrating money markets.[28]

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[27] As a practical rule, it is not desirable to pursue a counter-cyclical debt management policy. It is costly to issue long-maturity securities during an upswing when monetary restriction is in order. The important thing is the amount of obligations coming due during upswing, which will be as much influenced by securities issued during recession as by those issued during boom on a regular basis.

[28] The introduction of indirect instruments may complicate the conduct of monetary policy. For instance, the introduction of securities and abolishing interest rate ceilings and floors or ending credit controls, destabilize money or credit aggregates, at least, for a time, making their indirect controls virtually impossible-to an extent because of lags associated with the

4.1.3 Restructure banking system and foster competition

A healthy and competitive banking and financial system is crucial in responding fully to the signals given by the central bank's actions to control the supply of liquidity. Without such response, indirect instruments will not have the desired effect on monetary and credit conditions. Commercial banks may respond sluggishly to change their reserve position because of noncompetitive market structure, because they are not subject to hard budget or liquidity constraints, because they are saddled with weak or nonperforming assets or because they lack proficient management that they are unable to respond. In such cases of financial system fragility, some instruments can be more appropriate than others. For instance, using Treasury securities' auction to reduce excess liquidity would create fewer problems than increasing the reserve requirement, especially if the latter are unremunerated as is likely in Islamic banking. Another instance concerns responses by weak financial institutions. They may bid up the expected dividend to high levels as they are forced to seek high-risk and high-return investments.

The use of indirect instruments can be less effective in situations of market imperfection and collusive behavior. Therefore, as a part of the process of introducing indirect instruments, the authorities should encourage competition in the banking sector through measures such as privatizing state-owned banks (or commercializing them), removing the barriers to entry, deregulating the domestic financial institutions, and allowing foreign banking operations. Banks should be subjected to hard budget and liquidity constraints and be financially healthy to operate under new monetary arrangements.

Country experiences suggest that, without restructuring to deal with the weaker banks, the newly competitive environment raises the risk of a financial crisis.[29] Existing assets of weakened bank become increasingly difficult to manage as the economy is liberalized and debtors can no longer accumulate arrears.[30] The imposition of hard budget constraints, the elimination of subsidized loans, and the introduction of indirect instruments, which will accompany financial liberalization through Islamization, will reinforce pressures on banks' financial position.

4.1.4 Safeguards and regulatory framework to market conditions

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removal of direct instruments. In addition, the easing of external capital account that may accompany the transition to indirect instruments at some stage immensely intensify the market forces, with virtually no control over the authorities' influence on the market price.

[29] See Sundarajan and Baliño (1991) for case studies analyzing the relationship between financial reform and financial crisis.

[30] See the Bangladesh case of the banks ,suffering from nonperforming loans in section 5.

The ongoing solvency of financial institutions hinges on safeguards against new credit and market risk. Aside from minimum capital standards, safeguard provisions include guidelines against making doubtful loans, limits on loan concentration, collateral requirements, collateral valuation standards, and adequate enforcement mechanisms. Additionally, financial reporting and disclosure standards are needed to guarantee transparency in the operation of financial operations. This provides a basis for the public to assess the creditworthiness of particular financial institutions. Experiences with financial liberalization suggest that the absence of requirement of financial disclosure may lead to insolvency and subsequent reversion to direct methods of monetary control.

4.1.5 Enhance the technical capacity of the central bank

In an increasingly sophisticated financial world, central banks need to build up their technical capacity to maintain monetary control. Reliance on indirect instruments require information over a wider domain and complex interrelationship involved in the decision-making process and timely action. The capacity to project demand and supply of reserves and their effect on broader credit and monetary aggregates usually involves a programming framework and some idea about the money multiplier relationship. The task of projection can be particularly difficult during the transition period when relationships between the key variables become unstable as Islamization proceeds through unchartered areas.

Also, central banks need to develop a framework for managing liquidity they provide to the market in order to ensure that short-run instrument setting is consistent with policy objectives. This provides the central bank with indications about the timing and size of its interventions, which helps making instruments effective. All this involves attraction and retention of highly skilled personnel, which needs considerable time to build up. Consequently, planning of required skill at the start of transition should be well under way.

4.2 Pace of Transition

In making the transition from direct to indirect instruments, the duration depends on the initial conditions. Country evidence is inconclusive. The average length was found to be four years and the medium was three years. The diversity among Islamic countries is remarkable in terms of population, resource, and market orientation. Also, the central banks in these countries show a marked preference for direct instruments. Moreover, the transition from direct to indirect instruments will take place while the countries will be evolving Islamic economic and financial institutions that are most suited to their historical context. Hence, it is likely that restructuring will involve most sectors of the economy, in addition to the transition to Islamic financial institutions.

The above suggests that a gradual pace is more likely to make a transition smoother and reversals less likely. The preference for gradual is that it provides more time for the necessary concomitant measures. It takes time to develop the infrastructure edifice (legal and regulatory framework, technical and operational mechanisms and so forth) while the market oriented nature of indirect instruments implies that requisite financial institutions and markets also take time. Equally important, the central bank must refine its operational capacity, often in circumstances where it is competing with the evolving financial sector and government to retain highly skilled personnel. Moreover, fiscal adjustment, often daunting, may take time for central bank operational autonomy to be effective.

4.3 Sequencing

Broadly, sequencing involves three stages, although they may overlap. The initial stage involves the substitution of equity-based instruments for interest-based ones. At this stage, there may be liquidity overhang as banks take time to adjust to the new environment. Reserve requirement may be the most efficient instrument to sterilize liquidity. Also, equity-based government securities can be introduced for both market development and sterilization. Moreover, the central bank may have to inject liquidity (lender of last resort), when interbank market is underdeveloped. An overdraft or Lombard facility is appropriate. In addition, the central bank will require a credit facility to supply liquidity *at its own initiative* and to provide for the growth credit. Although credit auctions can accomplish this objective, this instrument has to be carefully designed to minimize adverse selection and distressed borrowing.[31]

The second stage involves the introduction of open market-type operation in the form of auctions of government or central bank securities. This allows market prices to fluctuate with underlying supply and demand conditions. The central bank paper has proved to be an important instrument that allows the benefits of open market operations even before the secondary markets are sufficiently developed for the bank to operate in them. Moreover, the central bank securities can serve to underpin the repos or serve as collateral. At this stage, auctions of government securities, often combined with other instruments such as short-term credit auctions, a Lombard window, and rediscounting facility while reducing reliance on reserve requirements, facilitate both monetary control and market development. It must be emphasized that these facilities have to be adapted to Islamic prohibition on fixed interest rates. This should not, however, pose insurmountable difficulties once a reference "expected dividend" rate is established in the economy. The rate of return to all instruments can be gauged to this reference

[31] The careful design of credit auctions is essential in order not to undermine its value in monetary management. For instance, using central bank short-term credit to finance banks' long-term loans is inappropriate as it may be used to finance nonperforming assets.

rate depending on their maturity structure.

The third stage marks the implementation of the measures to bolster the ongoing development of the money market. This will facilitate widening and deepening of the secondary market. A widened and deepened market will provide the central bank with the opportunity to operate flexibly and continuously, with adaptations and refinement of instruments. The success in the third stage will depend on a variety of factors such as the extent of openness of the external account.

5. BANGLADESH: A CASE STUDY

Financial sector development in Bangladesh, as in many other Muslim countries, has been impeded by the dominant state-owned commercial banks and interventionist credit policy. The private banks too suffered problems stemming from interest rate controls and from insider-lending practices, although not to the same extent in the case of two Islamic banks. In 1989, a financial reform program was undertaken, under which interest rates were largely liberalized and directed credit policy was eliminated substantially. Even with liberalization and elimination of direct instruments of monetary policy, the capacity to use indirect instruments was severely limited in Bangladesh financial environment. The limitation reflected the fiscal position, which has significantly reduced the need for government borrowing. The overhang of nonperforming loans that reflects a culture of nonrepayment of debt, exacerbated by several write-offs, made the effective use of indirect instruments difficult. Because of non-performing loans, it appears that much of the banking sector is insolvent as indicated by the negative net worth and the system may not be operating on commercially viable basis, partly a reflection of segmented markets. Although plans for possible fundamental restructuring of the financial sector are in train for the medium term, there is immediacy of the need to enhance commercialization of the banking sector. The establishment of clear price signals by indirect instruments of monetary control is a prerequisite for the enhancement of commercial behavior and development of the financial sector.

5.1 Effectiveness of Existing Monetary Instruments

Monetary control is now maintained mainly through the cash reserve and statutory liquidity ratios and the bank rate. Until recently banks had to hold a substantial amount of cash beyond the requirements in order to satisfy the requirement of the statutory liquidity ratio (SLR).[32] This reflected a shortage of eligible instruments, mainly owing to a lack of significant recent government borrowing and to nontradability of certain government securities. The excess

[32] The cash reserve requirement and the statutory liquidity requirements are 5 percent and 20 percent, respectively.

holding of cash within the SLR raised the effective cost of the SLR to banks and was one of the important factors responsible for the increase in the spread between lending and deposit interest rates. This was partially reduced through eligible instruments, which were made available through issues of government bonds for recapitalization of state owned banks in 1990 and later through Bangladesh Bank bills in 1993.[33] However, a significant amount of cash is still trapped within the SLR in the order of 3 percentage point of the SLR requirement. Moreover, a shortage of eligible instruments still exists as indicated by the difference between the banks' bid received and bids accepted for the central bank bills. The bids received were twice as much as bids accepted in September 1992 and the gap in bids received continued to be evident. As a result, the yield of bids accepted declined from 4.3 percent to about 1.2 percent at the end of 1994.

The use of SLR as prudential instrument has become less effective in countries that maintain this instrument. The SLR inhibits bank competition because of the mandatory requirement that the bank must maintain a specified proportion of its portfolio in eligible papers. The SLR also hinders the development of financial markets because it creates a captured market for government or central bank securities, and the yields on these instruments cannot be viewed as an indicator of market condition. In the present conditions in Bangladesh, the central bank bills eligible for the SLR would be a weak instrument for reducing liquidity in excess of the SLR. By the same token, the SLR requirement leads to cash entrapment when eligible instruments are in short supply, and increases banks' effective cost, which is reflected in higher lending rates, choking the legitimate demand for loans for profitable undertakings. The SLR should be abolished in Bangladesh.

If the SLR is abolished, the cash reserve requirement (CRR) could be raised sufficiently enough to sterilize the excess liquidity, mainly because of external reserves buildup. Since the CRR reserve balances are unremunerated, this imposes an implicit tax on the banks. At higher levels of the CRR, there is a risk of increase in bank spreads (the same effect as the SLR had on lending rates) which can lead to disintermediation from the banking system. Given that the CRR is not set at levels that lead to above normal burdens, more effective use of the CRR can be made if the central bank ensures adequate penalties for noncompliance.

In view of the above, the bank rate, in the absence of significant open market-type operations in government and/or central bank securities, must play an important role in monetary control. At present, the bank rate is administered at the discretion of the central bank, which sets the rate at which the bank will lend to the

[33] Recapitalization issues of government bonds was made to prevent the banks from insolvency owing to nonperforming (bad loans) and weak assets. The weak assets were substandard loans advanced to subsidize specific sectors of the economy under government direction.

banks. It has been lowered in stages to 6 percent and the quantity of central bank bills has been made more restrictive, and is determined by Bangladesh Bank on the basis of perceptions of banks' needs. However, under present conditions of excess liquidity, bank rate is not an effective monetary instrument. This makes a strong case for replacing the administered rate by a market-related lending rate, and move toward the adoption of indirect instruments of monetary control.

5.2 Increasing Commercialization of Banks

There is widespread doubts that the participants in the market are acting competitively. The persistence of significant differentials on lending and deposit rates between various categories of banks suggests a lack of competition and market segmentation. As seen in Table 3, the structure of interest rates suggests that the markets are segmented, possibly because they are not following marginal pricing as would occur under competition.

Table-3: Structure of Interest Rates

	State-owned banks	Private banks	Foreign banks
3-month deposits	5.5 - 6.0	7.75 - 9.75	5.0 - 9.0
12-month deposits	6.0 - 7.5	8.75 - 10.25	5.5 - 10.0
Lending:			
Agriculture	13 - 13.5	11 - 15	10.5 - 15
Large companies	11 - 12	14 - 16	13 - 15
Commercial loans	14 - 15	15 - 16	13 - 17

Source: Bangladesh Bank

The resolution of bad loans issue is critical to the health of the banking sector and commercialization of banks. At present, the burden of past bad loans and continuing weak asset performance exacerbated by the negative net worth of state-owned banks and some private banks have contributed to sluggishness in banks' lending and balance sheet position. There have been several recapitalizations for bad loans and for preventing further accumulation of losses in bank portfolios. Further recapitalization or write-offs for bad loans would create moral hazard as it could reinforce the attitude among banks that bad loans would be written off in future. Since most banks are insolvent and the problem is so large, the resolution of the issue would require that some banks are allowed to fail and others be restructured with one-off recapitalization to restore health and competition.

Establishing a restructuring plan and procedures for dealing with problem banks would require a comprehensive concomitant reform, which can be

implemented relatively quickly using the institutional and legal framework, and if need be, modifying them, within which the regulators can operate. It would require concerted stepped-up efforts to ensure loan recovery and to deal with problem assets both in insolvent banks and in weak but solvent ones, and for resolving failing banks. The resolution of the solvency issue through a restructuring plan would remove the burden on new borrowers of high lending rates, which the banks are forced to charge because of their bad loan portfolio.

The one-off recapitalization could be in two ways: banks could transfer their bad loans into a separate account, and retain the responsibility for loan collection themselves; or the government could set up a separate loan realization agency for taking over loan collection. In either case, the government will infuse capital in the form of recapitalization security issues. The recapitalization requirements of the banks to reach international capital adequacy standards could be substantial. Once recapitalization is made, the share of performing assets will rise appreciably, reducing spread, and providing greater scope for profitable operations.

From the perspective of domestic monetary management, a resolution of the issue of bad loans would facilitate the solvency of the banking sector. Once the capital infusion is made, it should open the way for increasing the competition. In this context, privatization of state-owned banks should be considered seriously in order to remove the culture of nonrepayment, the very culture which created the problem of bad loans and thwarted commercial behavior in the banking sector.

5.3 Enhancing Effectiveness of Indirect Instruments

Bangladesh has in place the infrastructure to conduct open market-type operations and it can progress toward the development of secondary markets for full open market operations upon the completion of restructuring of the banking sector. The auction of 9l-day central bank bills is well established, although the bills need to be made legally negotiable and transferable. With negotiable central bank bills, the central bank would be well placed to manage domestic liquidity conditions in order to keep inflation under control. Since January 1995, the frequency of auction has been increased from monthly to fortnightly basis.

Unlike the central bank bills, Treasury bills are issued directly to Bangladesh Bank at a 4 percent discount with 90-day maturity. The government, however, meets its borrowing needs mostly through the sale of saving instruments and government bonds. As a result, treasury bills are issued irregularly, also because of strengthened government fiscal position owing to economic stabilization efforts. For there to be no confusion in the market, both Treasury and central bank bills should be identical and Treasury bills be auctioned fortnightly to facilitate the development of an active money market.

When there is excess liquidity, the effectiveness of indirect monetary instruments is enhanced by selling medium-term bonds to the banks. Since government saving instruments and bonds with a range of maturity already exist, the central bank, after reaching an agreement with the Treasury, can make these eligible instruments of open market-type operations and further encourage the development of secondary market. Pending agreement with the Treasury, the central bank bill can serve as a vehicle for implementing monetary policy.

Bangladesh has an operating interbank market in which banks transact in call money. Stronger banks have some reluctance to place money with banks whose financial health is suspect. This prevents the market from acting efficiently to redistribute liquidity to where it is most needed. One way to resolve this problem is for the weaker banks to collateralize the transactions with central bank bills. As these transactions are essentially repurchase agreements (repos), this would be fortuitous development for the eventual introduction of full open market operations.

In order to enhance the effectiveness of monetary management further, the central bank and Treasury securities with maturities should be introduced. There seems to be scope for the introduction of a 182-day bill and perhaps a 364-day bill and even higher maturities. These instruments will take prospective growth in credit demand and set monetary targets towards this goal in order to enhance effectiveness of indirect instruments.

5.4 Implication for Islamization

Bangladesh is in a critical stage concerning the need to undertake the necessary concomitant reform, including restructuring and recapitalization in the banking sector reform. This will establish new attitudes, modalities and redefine characteristics of institutions in order to ensure a healthy and competitive banking and financial system. Obviously, the pace of the transition and sequencing will depend a great deal on the commitment of the authorities and the intensity of the measures.

If the authorities decide to move to an Islamic banking, this is the most appropriate time. The necessary restructuring and introduction of new financial instruments that no longer rely on interest rate would be included as an integral part of the reform process and can be accomplished without additional costs. As the government engages in the restructuring and liquidation of some private banks, depositors and borrowers may see the existing Islamic banks as an alternative source of banking services. The process of Islamization will be enhanced if the foreign banks are also required to follow Islamic principles. The development of interest-free money market instruments will be the key for increasing the

effectiveness of instruments of monetary control.

6. CONCLUDING REMARKS

In Islamizing the banking system, the crucial question arises as to when an Islamic country should abolish direct instruments and rely on indirect instruments. The answer is difficult. However, with the abolition of interest rate, the equity-based instruments must be market oriented to have the beneficial effect on financial transactions and saving and investment decisions. Although it would be unwise to introduce bank-by-bank ceilings, Islamic countries may choose to maintain such ceilings temporarily as they develop indirect instruments. More generally, direct and indirect instruments can coexist for a period until financial markets are sufficiently developed to ensure the effectiveness of indirect instruments. A country has the flexibility in the transition to a full Islamic financial system to take advantage of the direct instrument while the markets develop with the help of indirect instruments. Most countries use moral suasion as a supplement to other instruments. It is difficult to assess its merits and demerits since it may take many forms from persuasion to directives. This instrument should be used only in rare situations in order to give incentive for other instruments to become effective.

The indirect instruments discussed in the paper are wide ranging and their use can flexibly be changed from one to another that may yet not be functioning well. For instance, reserve requirements can often substitute for credit ceilings and improve the efficiency of financial intermediation in situations where market-oriented instruments may not function properly owing to market practices. Overall, a pragmatic approach to the design, use and phasing in of indirect instruments is warranted. The risk that countries will incur heavy transition costs suggests that the implementation should be carefully planned and comprehensive in order to avoid major setbacks. Full implementation of indirect instruments should be phased in appropriately with concomitant reforms to enhance their effectiveness.

Sequencing needs careful consideration. Generally, in the first stage, the use of both reserve requirements to absorb liquidity and credit auction facility may be adequate to provide for the growth of domestic credit. In the second stage, the auction of equity-based government securities may be introduced to bring about flexibility in monetary management and reduce the use of reserve requirements with the development of financial markets. In the final stage, building upon the operational experience, the central bank can facilitate the rapid development of financial institutions and market infrastructure, and to undertake fully flexible use of Islamic indirect instruments of monetary control.

APPENDIX

SOCIAL RATE OF RETURN PRICE OF PUBLIC SERVICES AND EQUITY-BASED GOVERNMENT SECURITIES

In the absence of fixed and predetermined rate of interest, equity financing becomes the only source of financial capital. In the market for equities, the portfolio demand for financial investors seeks outlet for their saving and entrepreneurs, on the other hand, seek financing in order to carry out their investment plans. In an economy without debt instruments, the stock of physical capital is valued in the market for equities, and a relationship between the supply price of capital and the rate at which the equity holders discount an expected stream of earnings can be derived. The supply price of capital is defined as "the rate of return that the community of wealth owners requires in order to absorb the existing capital stock (valued at current prices), no more or no less, into their portfolios and balance sheets".[1] Investment by entrepreneurs, on the other hand, depends on prospective profitability relative to the cost of capital. At the margin, this implies the cost of capital is the discounted value of the expected stream of earnings of capital at a rate of return at which the entrepreneurs are just willing to undertake an investment project.

1. Social Rate of Return and Government Security

In the context of government investment, the social rate of return is used to discount the expected stream of earnings from a public project. Based on this return, the cost of capital provides the basis for pricing the issue of equity-based government securities where their yield is the expected dividend. The face value of securities, the length of maturity and the expected dividend constitute the supply side of the market for government securities. On the other hand, the supply price of capital, which is based on the discounted value of expected earnings at the prevailing rate of return, and taking into account the maturity, for financial investors, constitutes the demand side. The expectations of equity holders and the government provide the necessary input for the market to determine the volume and the market-clearing price of government securities.

Let the market value of equity capital by financial investors at time t be $V(t)$, their stream of expected earning be $Y(t)$, and the rate at which the expected income stream is discounted by equity holders be $r(t)$, then

[1] Tobin, J., "Money, Capital and Other Stores of Value", reprinted in J. Tobin, Essays in Economics, Vol. 1 Macroeconomics, Chicago 1971, pp. 217-288.

$$V(t) = \int_{\circ}^{t} Y(\tau)\, e^{-r(\tau)\tau}\, d\tau \qquad (1)$$

For simplicity, assume $Y(t) = y$ and $r(t) = r$ for all t, then integration and rearrangement of (1) as $t \to \infty$ is given by

$$r = \frac{Y}{V} \qquad (2)$$

where V is present value 'of the stream of expected earning (expected dividend).

The supply price of capital is r, the rate of discount of expected earning stream. Given the expected dividend, the financial investors are willing to channel their saving at this rate of return. In other words, this is the return they are demanding for supplying financial capital. When this rate is high the demand for government security rises and when low, the demand declines.

The rate at which the expected earnings of one unit of capital is discounted by the government, when deciding whether or not to undertake a public project is the social rate of return. At time t, the expected earning (surplus) is $S(t)$, then the discounted value at the social rate of return $\rho(t)$ is $C(t)$ and it is given by:

$$C(t) = \int_{\circ}^{t} S(\tau)\, e^{-\rho(\tau)\tau}\, d\tau \qquad (3)$$

For simplicity, assume $S(t) = S$ and $\rho(t) = \rho$ for all t and as $t \to \infty$

$$C = \frac{S}{\rho} \qquad (4)$$

where C is the replacement cost of capital.

Assuming the government wishes to maximize the financial investors wealth in order to make government securities attractive enough to equity holders, the government can arrive at a decision rule regarding public investment plan. The rule is to generate expected surplus by pricing public services such that

$$S = Y$$

(5)

which implies that expected surplus is equal the expected earning or the expected dividend from holding government securities.

Utilizing the definition of Tobin's *q* as the ratio of the financial market valuation of equity capital to the replacement cost of capital, it can be written as

$$q = \frac{V}{C} = \frac{\rho}{r} \qquad (6)$$

q is thus the ratio of the social rate of return to the expected rate of return on financial capital or the ratio of the social rate of return to the supply price of capital.

If *q* exceeds unity, the value of capital investment in a project would exceed its replacement cost and the government has incentive to invest. Alternatively, when the equity holders' rate of return is attractive, then they would channel their saving by investing in equity-based government securities.

2. Price of Public Services

The aggregate public services provided by a government can be represented by a composite commodity *x* produced by capital. The shadow price of *x* to consumers of public services is *p*. The cost function of provision of the public services for the composite commodity is *v(x)*. The earning or surplus from one unit of capital is

$$S = p.x - v(x) = R(x) - v(x) \qquad (7)$$

where $R(x) = px$ is the revenue function so that the derivative, the marginal revenue, is $R'(x) = p$. The surplus is maximized when

$$R'(x) = v'(x) \qquad (8)$$

where the derivative $v'(x)$ is the marginal cost. Equations (7) and (8) imply that under infinitely elastic demand and convex cost function, the condition

$$p = R'(x) = v'(x) \qquad (9)$$

maximizes the surplus. At equilibrium, the social rate of return is such that the marginal social benefit (*MSB*), if it were accurately quantified equals marginal revenue, *R'(x)* or the shadow price, while the opportunity cost (*OPC*) of the provision of public services equals the marginal cost *v'(x)* . However, the *MSB* and *OPC* are difficult to estimate accurately resulting in difference among the user price, p_u, marginal social benefit and opportunity cost such that the condition (9) becomes

$$p_u \leq \text{OPC} \leq MSB \, . \tag{10}$$

At the social rate of return ρ, the user price is less than the shadow price and if marginal social benefit were less than the opportunity cost, then the project would not be undertaken. This implies that the right hand side (*RHS*) of (10) holds, i.e. $OPC \leq MSB$. Since the nature of public services makes it harder to price them, the government makes up the difference on the left hand side (*LHS*) of (10) through taxation to balance marginal revenue with opportunity cost, i.e.,

$$p_u + \lambda = OPC \, . \tag{11}$$

The marginal revenue, which is equal to the marginal taxation (λ), taking into account the user price (p_u), is equalized with opportunity cost, which is assumed equal to the marginal cost. Thus, the equality in (9) may be written as

$$p = p_u + \lambda = v'(x) \leq MSB \tag{12}$$

where the shadow price is equalized with marginal taxation and the latter is equalized with marginal cost to generate maximum surplus in order to make dividend payment sufficiently attractive for equity holders to investment in government security.

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