

# ISLAMIC FINANCIAL POLICIES AND DOMESTIC RESOURCE MOBILIZATION (\*)

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## 1. The Issue

In recent years increasing Islamic fundamentalism has given rise to political movements in Muslim countries calling for the abolition of interest, or *riba*, from financial dealings. These movements view interest as violating Islamic injunctions against gains from financial dealings unless lenders are subject to similar risks of loss as borrowers. The greatest support for this view is perhaps to be found in Pakistan where the abolition of interest is an objective of the State's constitution and where the greatest progress has been made in introducing special profit-and-loss-sharing (PLS) instruments for financing investments. In other Muslim countries, progress has also been made in introducing Islamic instruments and institutions for financing investment. But in these countries the policy emphasis appears to be placed on simply introducing Islamic financial facilities rather than on mandating substitution of Islamic facilities for more traditional interest-based financial facilities.

Efforts to eliminate interest from financial dealings have raised concerns, especially among members of the international financial community. In particular, it is feared that prohibitions against interest will set back financial development and, by implication, retard rates of domestic saving and growth. This issue is explored in the present paper using the framework of a simple model of financial intermediation in which bonds are considered representative of interest-bearing financial instruments, while equities are considered representative of PLS-type financial instruments acceptable under Islamic principles. The implications are explored of two alternative approaches to fostering greater reliance on PLS means of investment finance: a discriminatory approach in which some forms of bond finance are eliminated at the same time that new forms of equity finance are introduced, and a non-discriminatory approach involving simply the introduction of new forms of equity finance<sup>1</sup>. Though this approach lacks the richness of a more detailed institutional analysis<sup>2</sup>, it provides a much-needed, positive concep-

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1 This simple analytical framework is too narrow to support investigation of other interesting economic questions surrounding Islamization of financial dealings. For instance, a government sector is not explicitly identified so questions about financing public investments, which typically are undertaken for motives other than economic profit, are not considered.

2 See Ingo Karsten, « Islam and Financial Intermediation », *IMF Staff Papers*, Vol. 29, No. 1 (March 1982),

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tual framework for analyzing the economic implications of Islamization that avoids the potential pitfalls of more normative approaches followed frequently by Islamic economists<sup>3</sup>.

The remainder of the paper is organized in three parts. The first of these presents the details of the analytical framework used to explore the implications of Islamization. The second then discusses the results found from applying the analytical model to the alternative policies just outlined. Finally, the last part summarizes the paper's findings and conclusions.

## 2. A simple model of financial intermediation

A simple demand-supply model of the markets for bond and equity instruments for financing investment provides the framework for analyzing the economic implications of Islamic financial policies. As noted previously, in this model bonds represent interest-bearing financial instruments, whereas equities represent profit-sharing types of financial instruments. Together, the real stock of bonds and equities held is assumed to equal the real value of non-monetary assets in the economy. Thus, saving in the economy has its counterpart not only in the increase of real assets (investment) but also in the increase of financial claims to real assets in the forms of bonds and equities.

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pp. 108-142; and Graham J. Abbott and Dean A. De Rosa, *Domestic Resource Mobilization through Financial Development: Pakistan* (Manila: Asian Development Bank, 1984).

3 One of the most interesting and constructive analyses of Islamization to be offered by an Islamic economist is given by Syed Nawab Haider Naqvi, *On Replacing the Institution of Interest in a Dynamic Islamic Economy* (Islamabad: Pakistan Institute of Development Economics, 1983). Naqvi demonstrates that the rate of interest plays an important role in a growing economy, namely, that of determining the allocation of domestic resources between investment and consumption purposes. But his analysis fails to describe the process of financial intermediation and hence never comes to adequate terms with the central issues of defining and determining the economic implications of Islamic financial instruments.

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In symbols the model may be represented as:

$$\begin{array}{ccccccccc}
 + & + & - & + & - & & + & - & + & + \\
 B^d(Y, W, r_m, r_b, r_e) & = & B^s(Y, r_b, r_e, V_b) \\
 \\ 
 + & + & - & - & + & & + & + & - & + \\
 E^d(Y, W, r_m, r_b, r_e) & = & (Y, r_b, r_e, V_e)
 \end{array}$$

where B and E denote real quantities of bonds and equities; Y and W denote real output and wealth;  $r_m$ ,  $r_b$ , and  $r_e$  denote real rates of return on holding money, bonds and equities;  $V_b$  and  $V_e$  are parameters indicating the extent of financial innovation in bond and equity forms of finance; and the superscripts d and s denote demand and supply.

Signs over the equations indicate the assumed influence of the variables. For the most part the macroeconomic theory underlying these assumptions needs no elaboration<sup>4</sup>. Notably, however, real income and the real return to holding money (i.e., the negative of the anticipated rate of inflation) are assumed predetermined in the model. This might be regarded as an indication of the partial equilibrium character of the model. But a possible alternative interpretation is that the model outlined here is truly separable from a larger macroeconomic system in which real output and inflationary expectations are determined independently of the real rates of return on non-monetary assets<sup>5</sup>.

The assumed influence of the financial innovation parameters,  $V_b$  and  $V_e$ , also requires some elaboration. In brief, following the theory of financial intermediation<sup>6</sup>, innovation by financial intermediaries, primarily through greater specialization of borrowing and lending activities and achievement of greater efficiencies in pooling of lending

4 See, for instance, Don Patinkin, *Money, Interest and Prices* (New York: Harper and Row, 1965); or Thomas J. Sargent, *Macroeconomic Theory* (New York: Academic Press, 1979).

5 Such an interpretation might be supported in a « classical » model in which full-employment is continuously guaranteed by perfectly flexible wages and real variables are independent of the price level because « money is a veil ».

6 See J. G. Gurley and E. S. Shaw, « Financial Intermediaries and the Saving-Investment Process », *Journal of Finance*, Vol. 11 (March 1956), pp. 257-276.

risks, is assumed here to lower effective borrowing costs to investors and so to increase the supply of financial assets. Thus,  $V_b$  and  $V_e$  are assumed to influence  $B^s$  and  $E^s$  positively<sup>7</sup>. The extent to which either indicator of financial innovation increases the effective supply of financial assets may not always be the same, however, as discussed further below.

Preferences for holding bond versus equity assets are assumed fully represented by the demand functions  $B^d$  and  $E^d$ . These functions are not specified in detail, but it should be understood that many factors influencing human behavior contribute to these functions, including religious beliefs. In the main, asset demand conditions are found to matter very little for the results presented here; further below, however, some implications of assumed differences in relative values of wealth elasticities of demand for interest bearing versus non-interest bearing assets are illustrated diagrammatically.

Finally, it is assumed that investors are indifferent between financing projects through increased debt or increased equity participation. This is simply a re-statement of the Modigliani-Miller Theorem<sup>8</sup>, and implies that « arbitrage » between bond and equity markets by investors seeking funds at the lowest possible cost results in equality between the real rates of return on bonds and equities. This assumption clearly abstracts from some important factors influencing investment finance in the real world. Foremost, it disregards the importance of corporate and individual income taxes for investment finance decisions — two factors that would tend to reduce the elasticity of substitution in the minds of investors between bond and equity sources of finance<sup>9</sup>. The assumption serves, however, to draw into sharper focus the fact that rates of return on bond and equity forms of finance are importantly related to one another and, ultimately, to the marginal productivity of capital and the real return to saving.

7 This approach to representing financial intermediation in a macroeconomic model closely resembles that presented by Patinkin, *Money, Interest and Prices*, pp. 295-302. The present approach differs somewhat, however. Whereas Patinkin identifies an increase of financial intermediation with an increase in the demand for bonds (the only financial asset in his model), the present approach identifies it with increases in the availability of either bonds or equities. The two approaches are largely consistent with the theory of financial intermediation, but the present analysis highlights the supply side approach because it better complements the study's focus on the importance of the two different forms of finance to the issue of Islamization of financial dealings.

8 See F. Modigliani and M. H. Miller, « The Cost of Capital, Corporate Finance, and the Theory of Investment », *American Economic Review*, Vol. 48, No. 63, pp. 261-297.

9 For further discussion, see Thomas Sargent, *Macroeconomic Theory*, pp. 153-159. It should also be noted that while it is assumed that religious preferences may influence demands for financial assets, it is assumed that they do not impinge on profit-minded investors' decisions about how to finance their spending plans.

Given these assumptions the analytical model can be solved for changes in the (common) real rate of return on holding bonds and equities for assumed changes in the financial innovation parameters,  $V_b$  and  $V_e$ . For proportional changes of these parameters the model yields the solution:

$$r_b^* = r_e^* = h_b^+ (B_v^s/D) V_b^* + h_e^+ (E_v^s/D) V_e^*$$

where  $h_b$  and  $h_e$  denote the initial shares of bond and equities in total real holdings of the two forms of financial assets;  $B_v^s$  and  $E_v^s$  denote elasticities of bond and equity supply with respect to innovations in bonds and equity instruments of finance; and asterisks denote proportional change (i.e.,  $X^* = dX/X$ ). The parameter  $D$  is positive in value and represents the elasticity of *excess* demand for bonds and equities combined with respect to the real rates of return on these assets<sup>10</sup>. Thus, innovations in either bond or equity finance cause the real return to saving, and hence the level of domestic resource mobilization, to rise.

### 3. Implications of Islamic financial policies

Policies to Islamize financial dealings are generally considered to involve mandatory substitution of Islamic instruments of finance for more traditional interest-bearing means of finance. Such policies are termed here discriminatory because in instituting Islamic instruments of finance they prohibit certain, if not all, interest-bearing forms of finance. A second set of policies, termed non-discriminatory, is also considered here. These policies are more liberal because they consist of instituting Islamic financial instruments without prejudice to other forms of finance.

These alternative approaches to Islamization may be represented by different combinations of innovations in bond and equity finance. Specifically, discriminatory Islamiza-

10 The common solution for changes in  $r_b$  and  $r_e$  is found by first recognizing that under the assumption of perfect substitution between bond and equity instruments for financing investment the two-equation model of financial intermediation can be collapsed to a single equation,  $B^d + E^d = B^s + E^s$ . In symbols,  $D$  equals  $h_b (N^b - A^b) + h_e (N^e - A^e)$ , where  $N^i$  and  $A^i$  are elasticities of demand and supply for asset  $i$  with respect to the common rate of return on bonds and equities. The demand elasticities are positive in value while the supply elasticities are negative in value. Moreover, the elasticities are total elasticities in the sense that they take into account own- as well as cross-rate of return effects on asset demands and supplies.



tion may be represented by combinations of diminished availability of bond instruments and increased availability of equity instruments for financing investment ( $V_b^* < 0$  and  $V_e^* > 0$ ). Non-discriminatory Islamization, on the other hand, may be represented simply by innovations in equity finance ( $V_b^* = 0$  and  $V_e^* > 0$ ).

Table 1

## ISLAMIC FINANCIAL POLICIES AND DOMESTIC RESOURCE MOBILIZATION

Policy	Model Representation	Domestic Resource Mobilization	
		$r_b^*$	$r_e^*$
Discriminatory Islamization	$V_e^* = -V_b^* > 0$	$(E_v^s - B_{vse})/D$ (?)	$(E_v^s - B_v^s)/D$ (?)
Non-Discriminatory Islamization	$V_e^* > 0$	$E_v^s/D$ ( $> 0$ )	$E_v^s/D$ ( $> 0$ )

Notes: Bars over the financial innovation variables,  $V^*$  and  $V_b^*$ , signify that the variables have been adjusted to measure proportional changes in terms of a common base, namely, total non-monetary financial asset holdings ( $B + E$ ).

The implications of discriminatory and non-discriminatory policies found from applying the analytical framework described in the previous section are set forth in Table 1. Notably, the changes in financial innovation,  $V_b^*$  and  $V_e^*$ , are adjusted in these results to measure proportional changes relative to the same base, namely, initial real holdings of bonds and equities combined. It should also be noted that the effects on the rates of return to holding both sorts of financial assets are the same given the assumption that investors are indifferent between bond and equity sources of finance.

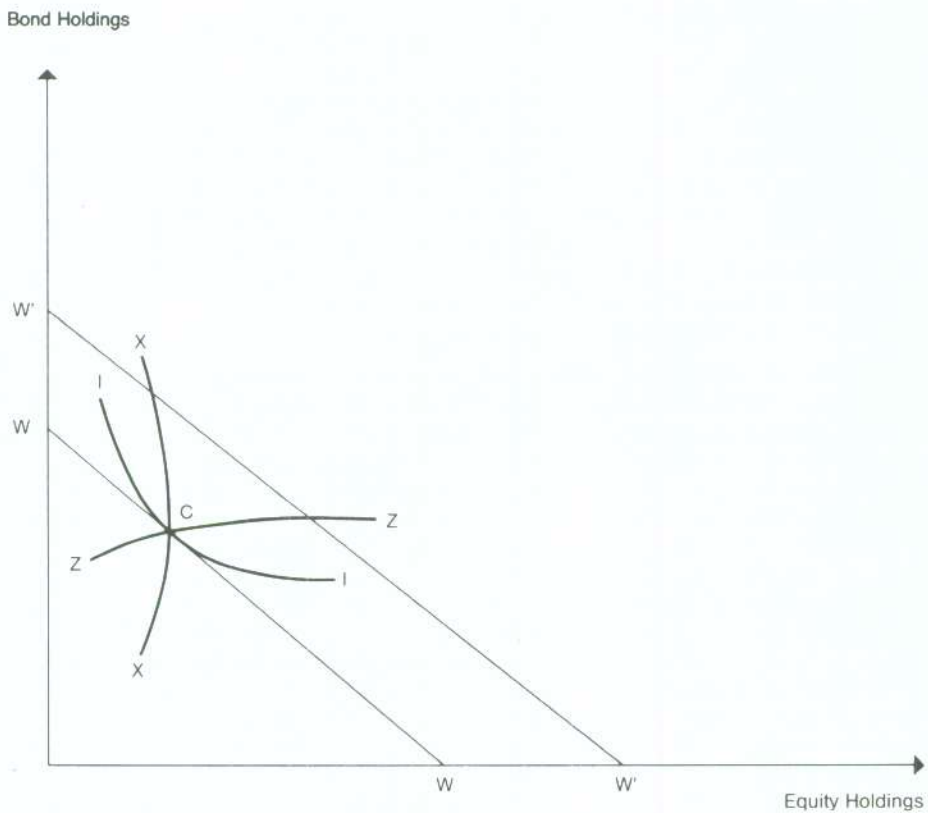
It is apparent that the two alternative policies of Islamization have quite different effects on domestic resource mobilization. Non-discriminatory policies increase the real return to saving, whereas discriminatory policies at best result in a smaller positive increase of the real return to saving and at worst may result in a lower real return to saving. The explanation for these results is that while non-discriminatory policies unambiguously increase the effective supply of instruments for financing investment the same cannot be said for discriminatory policies. Because discriminatory policies have opposing effects on the availability of bond and equity financial instruments, final changes in the effective supply of financial instruments are dependent ultimately upon the relative magnitudes of the innovation supply elasticities,  $B_v^s$  and  $E_v^s$ . Specifically, if the resource costs to financial intermediaries of supplying Islamic instruments are greater than

those of supplying bond instruments,  $E_v^s - B_v^s$  will be negative, implying that discriminatory policies effectively reduce the extent of financial intermediation and so reduce the real return to saving. Even if the resource costs to financial intermediaries of supplying PLS instruments is less than those of supplying interest-bearing instruments (i.e.,  $E_v^s - B_v^s > 0$ ), however, the results in Table 1 clearly indicate that domestic resource mobilization is better served by non-discriminatory Islamic policies.

In rebuttal to these results, it might be argued on purely normative grounds that discriminatory policies are necessary to promote Islamic instruments over interest-bearing means of finance. Figure 1 sheds light on this argument. In the figure the curve II portrays a country's preferences for holding claims to real non-monetary wealth in forms of bonds and equities, while the line WW indicates the country's level of real non-monetary wealth. The curves XX and ZZ illustrate possible equilibrium wealth expansion paths of asset demands in the neighborhood of the initial equilibrium point C. Specifically, XX illustrates a path for which the wealth elasticity of demand is greater for bonds than equities, while ZZ illustrates a path for which the converse is true. Utility from holding financial assets is maximized at the equilibrium point C where tangency occurs between the wealth constraint schedule and the asset indifference curve and at which point the slope of both curves is equal to  $-r_b/r_e = -1$ .

The figure illustrates the fundamental importance of the underlying asset preferences of the country's population. In particular, it demonstrates that the volume and proportion of non-interest bearing assets held by the public can only be increased if real wealth rises *and* the wealth elasticity of demand is greater for equities than bonds. For instance, assume a non-discriminatory Islamic policy is instituted that increases non-monetary wealth to the level W'W' in the figure. Though holdings of equities must rise, their proportion to holdings of bonds will only rise if the new equilibrium is determined along the expansion path ZZ. A discriminatory policy fares no better because, as discussed previously, it must result in a smaller increase of wealth or even a decline in wealth. Moreover, it cannot influence the underlying asset preferences of the population to bring about an increase of the proportion, if not the volume, of the public's equity holdings. Thus, discriminatory policies offer no intrinsic promise of promoting PLS-type financial instruments over interest-bearing instruments. At best, only the volume of holdings of PLS-type instruments can be influenced by policy, and even then it is apparent that non-discriminatory policies are more effective than discriminatory policies in calling forth an increase in holdings of financial assets that are consistent with Islamic principles.

**Fig. 1**  
ASSET PREFERENCES AND REAL WEALTH





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These results suggest that Islamization of financial dealings may be an illusive goal, except in the extreme case of banning all interest-bearing arrangements. Only the broadest implications of a legal prohibition on all interest-bearing financial instruments are discernible from the foregoing analysis. In particular, a total prohibition would drive  $r_b$  to zero, collapsing the wealth constraint schedule  $WW$  onto the horizontal axis in Figure 1. The level of equity holdings that would result cannot be determined from the figure, but the utility from holding financial assets can be. Assuming that the family of asset preference curves represented by the curve  $II$  is such that each indifference curve asymptotically approaches both axes, it is apparent that utility gained from wealth-holding is severely reduced as the real return to bond holding falls to zero. In other words, given significant revealed preferences for both interest and non-interest bearing claims against real assets in a community, a policy of banning interest-bearing claims completely must reduce social well-being, or at least the welfare of a sizable segment of the community<sup>11</sup>.

#### 4. Summary and conclusions

The purpose of this paper has been to investigate the economic consequences of policies to promote greater use of Islamic, or interest-free, instruments for financing investment. The framework for the analysis was provided by an elementary model of financial intermediation in which bond finance is identified with interest means of finance and equity finance with interest-free, or so-called profit-and-loss-sharing, means of finance.

The implications for domestic resource mobilization of two specific policies were considered. The first, termed discriminatory Islamization, consists of simultaneously instituting new forms of equity finance while banning some (but not all) forms of bond finance. The second, termed non-discriminatory Islamization, consists solely of introducing new forms of equity finance with no concomitant prohibitions on instruments of bond finance. With the assumption that investors are indifferent whether their projects are

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11 Some may view this conclusion as beyond the pale of economic analysis, in particular, arguing that a society should be free to choose its conventions and practices. Without denying this argument, it must be emphasized that the present analysis is a positive one, that is, one intended to determine probable outcomes without value-judgements.

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funded by interest-bearing debt or equity participation, the analysis consisted principally of determining changes in the rate of return to saving of different policy-induced changes in the availability of bond and equity instruments of finance.

This approach is necessarily abstract and departs considerably from more institutional and normative perspectives on the topic. Nevertheless, it provides a positive analytical framework for examining the economic consequences of Islamization where none has been set down before<sup>12</sup>.

Some important, though almost truistic, conclusions emerge from the present analysis. The foremost is that non-discriminatory Islamization policies are always superior to discriminatory Islamization policies in terms of promoting domestic resource mobilization. Whereas the former always increase saving because they unambiguously increase the extent of financial intermediation, the latter at best can only result in a lower increase of saving because they involve opposing effects on the extent of financial intermediation. In fact, if the administrative costs of Islamic financial instruments are higher than those of bond instruments domestic saving will decline.

A second conclusion is that policies intended to increase both the volume and proportion of interest-free financial instruments held by the public without resort to banning bond-type finance entirely may be frustrated if the underlying asset preferences of the population actually favor holding interest-bearing financial instruments as wealth rises. If, however, the policy goal is simply to increase the volume of interest-free financial instruments held by the public, then the goal may be achieved. But again, non-discriminatory policies will be more efficient than discriminatory policies.

Finally, the analysis suggests that a community's well-being from asset holding might be considerably reduced by a complete ban on interest-bearing financial instruments. In particular, so long as a community regards interest and non-interest bearing finan-

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12 Notably, this framework might be expanded to consider the effects of less than perfect substitution between bond and equity sources of finance by investors arising because of corporate taxation or other factors. But, though less than perfect substitution between bond and equity sources of finance would cause rates of return on the two forms of investment finance to differ, it is not clear that the assumption of imperfect substitution would substantially alter the qualitative findings presented here. For instance, the introduction of Islamic financial instruments under non-discriminatory policies would still cause returns to both bond and equity holders to rise and thereby result in greater mobilization of domestic resources. The difference however would be that the increase of the rate of return to equity holding would be greater than the increase to bond holding because of the assumption of limited arbitrage between the two alternative modes of finance.

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cial instruments as less than perfect substitutes and has appreciable holdings of the former, a complete ban on interest-bearing forms of finance will cause the community's utility from holding financial instruments to fall significantly.

Thus, international financiers are correct to raise questions about the economic consequences of Islamization. But the findings here point to the fact that Islamic, or interest-free, forms of investment finance *per se* do not threaten the development prospects of Muslim countries. Rather, the economic prospects of these countries are potentially threatened by certain types of policies used to introduce Islamic forms of finance. In particular, the principal finding here is that discriminatory policies hold considerable potential for lowering rather than raising domestic saving.

## LES POLITIQUES FINANCIERES DES PAYS ISLAMIQUES ET LA MOBILISATION DES RESSOURCES NATIONALES

### RESUME

*Cet article analyse les conséquences des efforts pour éliminer l'intérêt ou riba des transactions financières dans les pays islamiques. Utilisant un simple modèle macroéconomique d'intermédiation financière on analyse deux approches pour stimuler une plus grande confiance dans les instruments financiers sous forme d'actions:*

*1°) une option discriminatoire qui consiste à éliminer des instruments financiers à rendement fixe (obligations) au même moment qu'on introduit des actions;*

*2°) une option non discriminatoire qui se réalise tout simplement avec l'introduction de nouvelles formes d'instruments à rendement fixe.*

*Cette étude montre que les politiques financières non discriminatoires sont toujours supérieures car elles augmentent sans aucune doute, le degré d'intermédiation financière tandis que les politiques discriminatoires peuvent, dans le meilleur des cas, seulement amener à une augmentation moindre de l'intermédiation et donc de l'épargne.*

