

## MONETARY MANAGEMENT IN AN ISLAMIC ECONOMY

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*Managed money is a new phenomenon which has gained prominence after the collapse of the Bretton Woods system in August 1971. There is no possibility of finding a precedence for it in the days of the Prophet (pbuh) or in early Islamic history. A number of questions are, therefore, continually raised about the monetary system that a Muslim country may adopt. Is it necessary to go back to the then-prevailing system or is it justifiable to continue the managed money standard that now prevails almost in every country around the world, including the Muslim countries? If so, what constraints may have to be placed upon this system to enable it to help realize the maqasid al-shari'ah (goals of Islamic teachings, referred hereafter as the maqasid), and what policy instruments may be used to realize these goals? This paper tries to answer these and some other related questions.*

### 1. THE HISTORICAL PERSPECTIVE

The monetary system that prevails in the world now has come into existence after passing through several stages of evolution. The monetary system that prevailed during the Prophet's (pbuh) days was essentially a bimetallic standard with gold and silver coins (dinars and dirhams) circulating simultaneously. The ratio that prevailed between the two coins at that time was 1:10. This ratio seems to have remained generally stable throughout the period of the first four caliphs.<sup>1</sup> Such stability did not, however, persist continually. The two metals faced different supply and demand conditions which tended to destabilize their relative prices. For example, in the second half of the Umayyad period (41/662-132/750)<sup>2</sup> the ratio reached 1:12, while in the Abbasid period (132/750-656/1258), it reached 1:15 or less.<sup>3</sup> In addition to this continued long-term decline in the ratio, the rate of exchange between the dinar and

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<sup>1</sup> See al-Ris (1961), p. 369; see also al-Qaradawi (1969), p. 264.

<sup>2</sup> Read Hijra / Gregorian calendar, and d. = died, throughout the paper.

<sup>3</sup> Al-Ris (1961), p. 374.

the dirham fluctuated widely at different times and in different parts of the then Muslim world. The ratio at times declined to as low as 1:35, and even 1:50.<sup>4</sup> According to both al-Maqrizi (d. 845/1442) and his contemporary al-Asadi (d. after 854/1450), this instability enabled bad coins to drive good coins out of circulation,<sup>5</sup> a phenomenon which became referred to in the 16th century as Gresham's Law.

When the United States adopted bimetallism in 1792, the gold-silver price ratio was 1:15. However, the fluctuating prices of both metals led the US to demonetize silver in 1873. Experience of several other countries suggests that bimetallism was a fragile standard. There was no dependable way to tie together full-bodied gold and silver coins at fixed rates. This was the main cause of its universal demise.<sup>6</sup>

Monometallism hence took its place. In the beginning, silver and gold both competed, but silver continued to lose ground and the gold standard became prevalent around the world. It emerged as a true international standard by 1880 following the switch by a majority of countries from bimetallism and silver monometallism to gold as the basis of their currencies.<sup>7</sup> Under this standard, the value of a country's currency is legally defined as a fixed weight of gold, and the monetary authority is under an obligation to convert the domestic currency on demand into gold at the legally prescribed rate. Historically there have been three variants of the gold standard: the gold coin standard, when gold coins were in active circulation; the gold bullion standard, when gold coins were not in circulation but the monetary authority undertook to sell gold bullion against the local currency at the official rate; and the gold exchange standard (or the Bretton Woods system), when the monetary authority was required to exchange domestic currency for US dollars which could be converted into gold at a fixed parity.

The UK was on a gold coin standard until 1914 and then a gold bullion standard from 1925 to 1932. The rules of the gold standard required deficit countries

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<sup>4</sup> See Abd al-Rahman Fahmi, *Sanj al-Sikkah fi Fajr al-Islam*, cited by al Qaradawi (1969), vol. 1, p. 264; and Miles (1965), "Dinar and Dirham", vol. 2, pp. 297-99, pp. 319-20.. See also the articles on "Darahim and Dananir" in *Wizarah al-Awqaf wa al-Shu'un al-Islamiyyah* (1992), *Al-Mawsu'ah al-Fiqhiyyah*, vol. 20, pp. 247-54, and vol. 21, pp. 27-30 respectively; see also A. L. Udovich, (1965), vol. 2, pp. 768-69 and the Appendix on "Currency" in Allouche, (1994), pp. 90-94. For a brief summary of the issue of gold and silver coins under the Muslims, see the section on *sikkah* in Ibn Khaldun, pp. 261-64.

<sup>5</sup> See the historical account of this phenomenon in the excerpts from Maqrizi and Asadi given by al-Misri (1990), pp. 57 and 66.

<sup>6</sup> Even Saudi Arabia was forced to abandon the bimetallic standard after the Second World War, when the ratio of gold and silver prices fluctuated between 1:45 and 1:100 [See Young (1953), p. 376]. On 7 September 1995, the day before this paper was finalized, the ratio was around 1:74, the price of silver and gold being \$5.24 and \$388.50 per troy ounce respectively on that day (*Financial Times*, 8 December 1995, p. 31).

<sup>7</sup> Editor's "Introduction," in Eichengreen (1985), pp. 1-36.

to deflate and the surplus countries to reflate their economies. This seemed unrealistic during the Great Depression when the deficit countries had no alternative but to reflate their economies to reduce unemployment. The United States and France, the two major surplus countries, also did not find it practical to follow the rules of the game. Instead of reflating their economies, they persistently sterilized their balance of payments surpluses, thus accentuating the deflationary pressure on the deficit countries. Such policies undermined the effective operation of the gold standard and it was abandoned after the Great Depression.

The financial needs of the Second World War and of post-War reconstruction made the return to the gold standard even more difficult and the Bretton Woods system became universally adopted after the Second World War. The US Dollar became the corner-stone of this system because at the end of the Second World War the US held around two-thirds of the world's monetary gold. By the late 1950s, the growth of the world's monetary gold stock was insufficient to finance the growth of world output and trade.<sup>8</sup> The dollars supplied by the US deficit helped provide the needed liquidity. This could not, however, be a permanent solution. The persistent US deficits led to a continuous decline in its gold holdings and undermined its ability to maintain the dollar's convertibility into gold. Ultimately the US was forced to demonetize gold in August 1971. This led to the end of the Bretton Wood's system and ushered in a new era of fully-fledged managed money standard having absolutely no link with gold. Exchange rates are now generally floating with no official par values. This system, which at first became adopted by the force of circumstances, acquired an official character after the ratification of the Second Amendment to the IMF Articles of Agreement in April 1978.

Thus the international gold standard lasted for almost a century, while the Bretton Woods system was able to endure for only about 25 years (in reality even less). This is because the classical gold standard had some intrinsic strengths. It ensured an intrinsic value for the currency. Even the paper money in circulation was representative money and could be converted into gold coins or bullion on demand. This subjected the monetary authorities to a discipline. It was not possible for them to resort to excessive monetary expansion. In contrast with this, the now-universally-prevalent managed money system does not subject the monetary authorities to a built-in discipline, thus making it possible for the governments to incur large budgetary deficits.

Since the inception of the managed money standard the world has witnessed two undesirable phenomena, which may not necessarily be due to it. These are high rates of inflation and excessive instability in exchange rates.

During the period 1971-1990, consumer prices of industrial countries rose by more than three-and-a-half times while those of the world as a whole rose by more than fourteen times. This is so in spite of a substantial decline in the rates of inflation

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<sup>8</sup> Triffin (1960) and Gilbert (1968).

since the early 1980s. One of the major causes, though not the only cause, of these high rates of inflation is the rapid expansion in money supply during the 1971-90 period - more than five times in industrial countries and nearly twelve times in the world at large.<sup>9</sup> In sharp contrast with this, the rates of inflation were much smaller in earlier periods. Over a period of more than two centuries, from the beginning of the eighteenth century until the eve of World War II, the overall price increase in the UK was only about 33 percent. During the 1940s, prices nearly doubled as a result of the War. Between 1951-1970, consumer prices of industrial countries rose by about two-thirds while those of the world as a whole more than double.

Fortunately the rate of inflation has declined significantly around the world in the 1990s, reaching a historical low of 2.3 percent in 1994 in the industrial countries. Even though there is a fear that the phenomenon of high rates of inflation may tend to gain momentum once again, there is also an air of confidence that it may be possible to control it in spite of the managed money standard.

The world has also been plagued by a high degree of exchange rate volatility after the adoption of floating exchange rates in March 1973. The European attempts to stabilize exchange rates through the Exchange Rate Mechanism (ERM) have not proved to be successful as the ERM crises of 1992 and 1993 as well as the steep Dollar decline in June-July 1994 have demonstrated. Persistent exchange rate volatility injects an additional dimension of risk and uncertainty into the markets and deprives policy makers of an effective anchor. It makes it difficult for businessmen and investors to make reliable projections for the future and thereby contributes to misallocation of resources both domestically and internationally. It is, however, generally acknowledged that it may be possible to stabilize exchange rates even in a system of floating exchange rates if a certain discipline is observed by all countries, and particularly the reserve currency countries, in the pursuit of both fiscal and monetary policies. One of the primary factors behind the lack of such discipline will be addressed later on in this paper.

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<sup>9</sup> For prices and money since 1951, see International Monetary Fund, *International Financial Statistics*, various Yearbook issues; for price increases in Great Britain in earlier years see, *The Economist*, 13 July 1974, reproduced in William Rees-Mogg (1974), p. 69. See also MacFarlane and Mortimer-Lee (1994), p. 157. According to statistics made available by the Bank of England, the index of retail prices in Britain rose over the 300 years of the Bank's existence after its establishment in 1694 as follows:

1694-1939	from	100	to	268
1939-1945	from	268	to	344
1945-1970	from	344	to	830
1970-1990	from	830	to	5486
1990-1994	from	5480	to	6698

## 2. IS MANAGED MONEY ACCEPTABLE?

In view of the high rates of inflation and the excessive exchange rate volatility, some Muslim scholars have felt nostalgic about a monetary standard based on precious metals. However, since both bimetallism and the gold standard have not been free from serious problems, it seems that Muslim countries may not possibly have any alternative to the managed money system that now prevails internationally. The question is whether this system is acceptable from the point of view of the *shari'ah* and, if so, is it possible to make the system perform better in an Islamic environment.

There is no specific text in the Qur'an or the *sunnah* that would make it incumbent upon the Muslim *ummah* to use continually the bimetallic standard prevailing during the Prophet's (pbuh) time and early Islamic history or even the full-bodied monometallic standard that came to prevail later on. This is clearly demonstrated by the fact that Umar, the Second Caliph (d. 23/644), once thought of introducing camel-skin coins. These would have been in the nature of fiduciary money, the then equivalent of the now-prevailing paper money. However, the problem that may have perplexed him most might probably have been the control of its issue. When he was advised by experts that the virtual impossibility of controlling the issue might not only lead to an excessive creation of money but also to the disappearance of camels through their excessive slaughter, he abandoned the idea.<sup>10</sup>

This did not, however, bring to an end the idea of the issue of fiduciary currency. It persisted, as is reflected in the writings of a number of prominent jurists throughout Muslim history. For example, Ahmad ibn Hanbal (d. 241/855) observed that there was no harm in adopting as currency anything that is generally accepted by the people.<sup>11</sup> Ibn Hazm (d. 456/1064) also did not find any reason for the Muslims to confine their currency to gold or silver.<sup>12</sup> Ibn Taymiyyah (d. 505/1328) felt that the dirhams and the dinars were not desired for their own sake but rather because of their ability to serve as media of exchange. Hence, there were no natural or juristic specifications for them. Their acceptance depends on custom and usage.<sup>13</sup> In modern times also, the jurists have almost unanimously recognized fiduciary money. This recognition acquired the character of near *ijma'* (consensus) when it became formalized by the juristic verdicts of the internationally constituted *fiqh* committees of the Rabitah al-'Alam al-Islami in 1982 and the Organization of the Islamic Conference in October 1986.<sup>14</sup>

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<sup>10</sup> Al-Biladhuri (d. 279/892), (1959), p. 456, and Qila'ji (1981), p. 643.

<sup>11</sup> See al-Rashid (1980), vol. 1, cited by al-Misri (1990), p. 10.

<sup>12</sup> Ibn Hazm (d. 456/1064), *al Muhalla*, vol. 8, p. 477.

<sup>13</sup> Ibn Taymiyyah (d. 505/1328), *Fatawa*, (1963), vol. 19, p. 251

<sup>14</sup> For the full text of the Resolution passed by the Rabitah *Fiqh* Committee at its Makkah meetings during 8-16 Rabi' Thani 1402H (2-10 February 1982), see, Abdallah ibn

This does not, of course, mean that anyone can issue currency in any amount. The jurists have almost unanimously emphasized that the currency must be issued by the ruling authority and must have a stable value, to enable it to perform efficiently its functions as a measure of value, a medium of exchange, and a store of purchasing power.<sup>15</sup> This emphasis of the jurists on stability in the internal and external value of money is rightly deserved because of the unequivocal stress of the Qur'an on honesty and fairness in all measures of value (6:152, 7: 85, 11:84-85, 17:35 and 26:181). This obligation to be honest and fair does not apply only to individuals but also to the society and the state. Moreover, it need not be confined to merely conventional weights and measures, but should rather encompass all measures of value. Money is also an important measure of value and any continuous and significant erosion in its real value is bound to have an adverse effect on the realization of socio-economic justice and general well-being. Stability in the value of money should hence receive priority in the field of monetary management.<sup>16</sup> However, price stability is only one of the socially-desired goals. It is now commonly realized that it also helps in the realization of other goals, some of the most important of which in the field of economics are general need-fulfillment, equitable distribution of income and wealth, optimum real rate of economic growth, full employment, and economic stability.<sup>17</sup>

Even though the importance of all these goals is recognized, no country around the world, irrespective of whether it is rich or poor, Muslim or non-Muslim, seems to have been able to realize them simultaneously in the present-day world. There may be a number of reasons for this failure. One of the most important of these may perhaps be the lack of an enabling strategy. The discussion of a comprehensive strategy for realizing the desired socio-economic goals would be beyond the scope of this paper.<sup>18</sup> It would be naive to assume that a single state policy could help realize all these goals. It may rather be necessary for all government policies to converge in the direction of their realization. Monetary management cannot be an exception. It must also make a positive contribution toward the realization of all these goals, even though priority may be given to the goal of price stability.

Since monetary management is influenced by both monetary and fiscal policies, it would be ideal to discuss both of them. This would, however, make the

Sulayman ibn Mani' (1984), pp. 142-45. For the Resolution of the OIC *Fiqh* Committee at its Jordan meetings during 8-13 Safar 1407H (11-16 October 1986), see Munazzamah al-Mu'tamar al-Islami (OIC) Majma' al-Fiqh al-Islami, *Qararat wa Tawsiyat*, 1406-09H (1985-88), p. 38.

<sup>15</sup> According to Ahmad ibn Hanbal and Nawawi, currency should be issued only by the official mint. Caliph 'Umar ibn Abdul Aziz (d. 101/720) imprisoned a person who issued coins without state permission (See *Al-Mawsu'ah al-Fiqhiyyah* (Kuwait), vol. 20, pp. 249-50. See also al-Misri (1990), pp. 94-95.

<sup>16</sup> See, Chapra (1985), pp. 37-44.

<sup>17</sup> For a brief discussion of these goals, see Chapra (1992), pp. 7-9 and 209-13.

<sup>18</sup> For a discussion of this strategy, see Chapra (1992), pp. 213-27.

paper too long. I shall, therefore, confine myself primarily to a discussion of why the effort to manage money through the manipulation of the rate of interest frustrates the realization of socially-desired goals and why a different mechanism for monetary management in an Islamic economy would be more conducive to their realization. Fiscal policy would be referred to only to the extent to which it affects successful monetary management.

### **3. MONETARY MANAGEMENT IN MAINSTREAM ECONOMICS**

The discussion of monetary management generally revolves around the determinants of money demand and money supply. Since both of these are extremely important, it may not be desirable to assume anyone of these as exogenous. It is rather necessary to discuss both and to show how they could be brought into equilibrium in a way that would be conducive to the realization of the desired goals.

Discussion of the demand for money has become quite complex and sophisticated. It takes into account a number of variables, including the rate of interest, total transactions, total output, measured income, permanent income, wealth, wages, inflationary expectations, institutional changes, and financial innovations.<sup>19</sup> While all of these are important, it is not our intention to take into account all of these. Our objective is limited, to see the impact of interest-based financial intermediation on the demand for money and the realization of socially-desired goals. We will, therefore, use the simple Keynesian model as our base and consider all other variables as exogenous.

Within the framework of the Keynesian model, money is demanded for three purposes. It is needed, firstly, as a medium of exchange to finance the transactions of households, firms and government for their day-to-day purchases of all goods and services (Y) related to consumption, investment, imports and exports; the capacity of any economy to supply these is relatively limited in the short-run. Secondly, it is needed by way of precaution to satisfy unforeseen needs, which is not possible for anyone to predict precisely. Thirdly, it is also needed for exploiting opportunities available for earning through speculation in the commodity, stock, foreign exchange

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<sup>19</sup> Of all these variables, the most controversial has perhaps been the rate of interest. A central question in conventional monetary theory has been whether, and to what extent, the quantity of money demanded is affected by changes in interest rates. There is probably only one major study (Friedman, 1959) that finds the demand for money to be insensitive to interest rates. However, Laidler (1966), using the same data as Friedman, but a different statistical procedure, found that the demand for money is sensitive to interest rates. In a later work Friedman (1966) also reached the same conclusion. His work with Anna Schwartz (1982) on the role of money in the United States and the United Kingdom over the period 1867-1975 accords a significant role to the interest rate in the demand for money. See Laidler (1993), p. 146.

and financial markets. However, not every household, firm or government agency has enough money for all these purposes. Some have a deficit while others have a surplus. The interaction of the deficit and the surplus sectors with the money supply determines the rate of interest. This, in turn, influences the demand for money for all three purposes.<sup>20</sup>

Thus the demand for real money balances ( $M_d/P$ ) is said to be determined by total real output ( $Y$ ) as well as the rate of interest ( $r$ ), as reflected in the following generally used Keynesian approach:

$$M_d/P = f(Y, r)^{21}$$

$M_d/P$  varies directly with  $Y$  and inversely with the rate of interest. Aggregate output and the rate of interest thus occupy a central place in the discussion of real money demand in Keynesian economics. However, hardly any attention is given in this entire discussion to the different impact of the rate of interest on the various constituents of money demand (see the chart), particularly need-fulfillment and productive investment, even though the realization of socially-desired goals is significantly dependent on these.

Given a specific money supply, the greater the demand for precautionary and speculative purposes, the less money would be available for transactions purposes. Moreover, the entire transactions demand may not necessarily be for need-related consumption and productive investment, it may also be for conspicuous consumption and unproductive investment. Hence it may be stated that the greater the ability of an economy to reduce the money demand for precautionary and speculative purposes as well as for conspicuous consumption and unproductive investment, the greater may be its ability to satisfy the money demand for need fulfillment and productive investment in a non-inflationary way and to realize its socially-desired goals. If the money demand rises for all purposes, there may be macroeconomic imbalances, higher real rates of interest, and inflationary pressures. In such an economy, savings and investment may both tend to be low. This would lead to low growth rates and higher unemployment, there being clear limits to the extent to which external saving may be a substitute

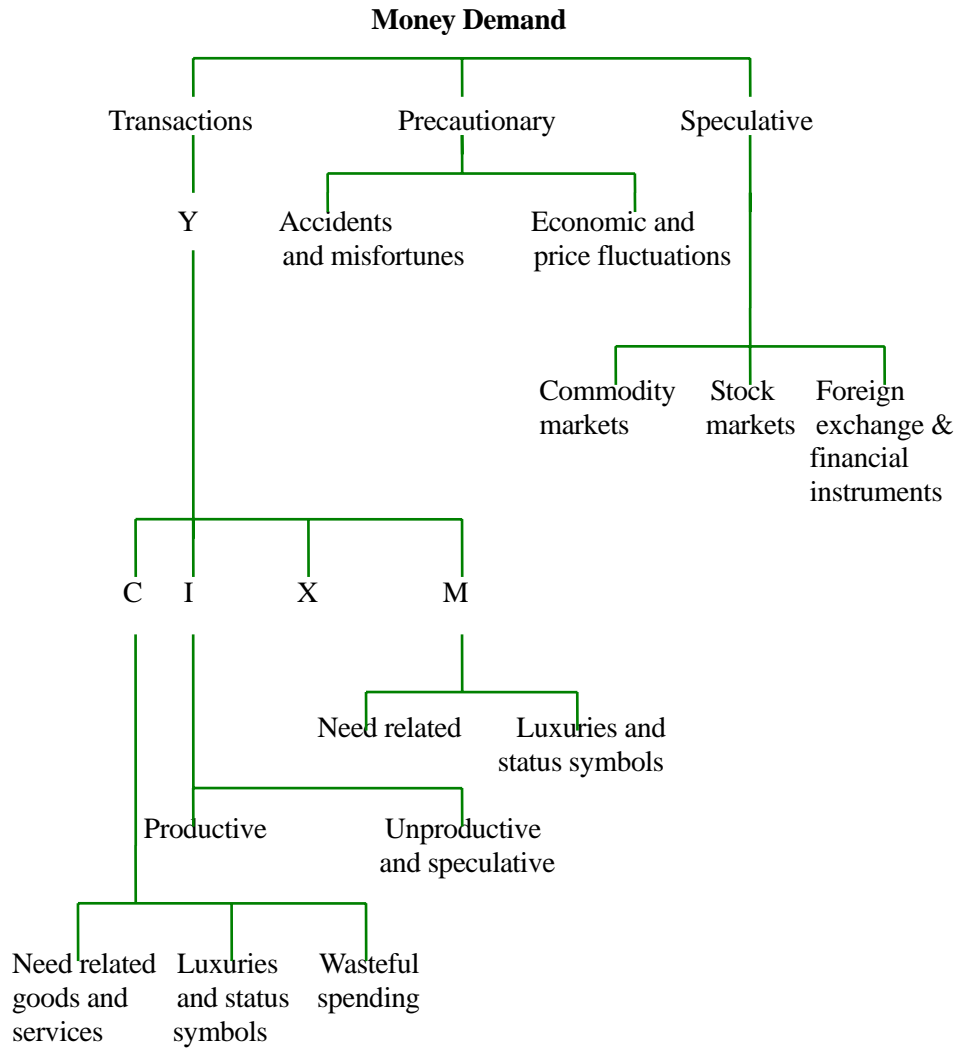
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<sup>20</sup> Within the original Keynesian formulation, only the speculative demand for money was influenced by the rate of interest. However, William Baumol (1952) and James Tobin (1956) demonstrated that even the transactions and precautionary demand for money were sensitive and negatively related to interest rates.

<sup>21</sup> In contrast with this, the Quantity Theory of Money as well as Friedman's initial reformulation of it (1956), suggest that changes in interest rates have little effect on the demand for money, which is purely a function of  $Y$ . The  $Y$  in the Friedman reformulation stands for permanent income (see also the two previous footnotes).



**CONSTITUENTS OF MONEY DEMAND**



- Y = C+I+X-M
- C = Consumption of both the public and private sectors
- I = Investment by both the public and private sectors
- X = Exports
- M = Imports

The different impact of interest on the constituents of C, I, X and M are generally not discussed specifically in mainstream economics.

for domestic saving. Money demand that is conducive to the realization of all socially-desired goals may be considered to be 'efficient' and 'equitable', and money demand that does not contribute to, or frustrates, goal realization may be considered to be 'inessential', and 'unproductive'. The greater the tendency of an economy to promote inessential and unproductive demand for money, the lower may be its ability to realize its goals in a non-inflationary manner. The best strategy for monetary management may thus be one that does not only help make money demand efficient and equitable but also brings it into equilibrium with a non-inflationary level of money supply. Since money supply tends to be demand driven in a managed money system, the greater challenge lies in managing money demand in an efficient and equitable manner.

### **3.1 Frustration of Goal Realization**

If there had been confidence that the demand for money in the world economy was being managed efficiently and equitably, there would perhaps be no need to discuss the mechanics of monetary management through a mechanism which is different from what now prevails around the world. However, Enzler, Conrad and Johnson have found compelling evidence to conclude that in the United States "the existing capital stock is misallocated - probably seriously - among sectors of the economy and types of capital".<sup>22</sup> The situation may perhaps not be different in other countries.

There may be a number of reasons for this misallocation. This paper is concerned with only one of these, which is the rate of interest. The fact that most major religions, including Hinduism, Judaism, Christianity and Islam have prohibited interest, leads one to the hypothesis that the use of interest as a mechanism for allocation of money supply among the various constituents of money demand may perhaps be one of the major reasons for this misallocation. It is the contention of this paper that the nature of this misallocation is such that it frustrates the realization of the humanitarian goals of need fulfillment, optimum rate of economic growth, full employment, equitable distribution, and economic stability. Let us see how.

#### **3.1.1 Need fulfillment**

The criteria for satisfying the money demand of deficit sectors through the extension of credit in an interest-based economy are the ability of borrowers to provide acceptable collateral to guarantee the repayment of principal, and sufficient cash flow to service the debt. End-use of financial resources does receive attention, but does not normally constitute the main criterion. Hence, financial resources tend to go mainly to the rich, who fulfill both these criteria, and also to governments

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<sup>22</sup> Enzler, Conrad and Johnson (1981), p. 759.

who, it is assumed, will not default. However, the rich borrow not only for productive investment but also for conspicuous consumption and speculation, while the governments borrow not only for development and public well-being, but also for excessive defense buildup and unprofitable public sector enterprises. This contributes to a rapid expansion in the demand for money for unproductive and wasteful spending and, besides accentuating macroeconomic and external imbalances, squeezes the resources available for need fulfillment and development. Raising of the rates of interest may not necessarily affect only unproductive and wasteful spending. It may also affect need consumption, which would tend to hurt the poor disproportionately. This may help explain at least partly why even the richest countries in the world like the United States have been unable to fulfill the essential needs of all their people in spite of abundant resources at their disposal.

### 3.1.2 Optimum growth and full employment

One of the major problems that the world economy is now facing is a significant slowdown in savings when the need for increased investment has become greater. The positive effect of saving on growth is now well-established.<sup>23</sup> It raises capital formation, which in turn raises output and employment. High-saving countries have generally grown faster than low-saving countries.<sup>24</sup> In the OECD countries, gross savings as a percentage of GDP have declined over the last two decades from 25.2 percent in 1973 to 21.2 percent in 1993.<sup>25</sup> Even in developing countries, which need higher savings for accelerated development, savings have declined from 26 percent to 23.5 percent over this period.<sup>26</sup> While there may be a number of reasons for this decline in savings, one of the major reasons may perhaps be the rise in consumption promoted by the easy availability of credit in a collateral-linked, interest-based financial system.

This shortfall in savings has probably been one of the major factors responsible for the persistently high levels of real interest rates and low rates of rise in investment, economic growth, and employment.<sup>27</sup> Unemployment stood at 8.1 percent in the OECD countries in 1994, close to three times its level of 2.9 percent in 1971-73.<sup>28</sup> If 'discouraged workers' (those who have dropped out of the labor force because of the poor job prospects) and workers in involuntary part-time

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<sup>23</sup> This is the interpretation of data presented in Mankiw, Romer and Weil (1992).

<sup>24</sup> See Chapter V on "Saving in a Growing World Economy," in IMF, *World Economic Outlook*, May 1995, pp. 67-89.

<sup>25</sup> The World Bank, *World Tables*, 1995, pp. 64-65

<sup>26</sup> IMF, *International Financial Statistics*, 1995 Yearbook, pp. 174-75.

<sup>27</sup> According to the IMF, "The high level of world real interest rates that has persisted since the early 1980s is prima facie evidence of strong demand for investment relative to the supply of world saving". (IMF, *World Economic Outlook*, May 1995, p. 7).

<sup>28</sup> OECD, December 1991, Table 2, p. 7, and (1995), Table 21, p. A24.

employment are also included, the overall rate of unemployment may be much higher.<sup>29</sup> Even more worrying is youth unemployment of around 25 percent, excluding the 'discouraged' youth.<sup>30</sup> This hurts their pride, dampens their faith in the future, increases their hostility towards society, and damages their personal capacities and potential contribution.

Given the budgetary constraints and the ever-looming threat of inflation, the prospect of attaining the high growth rates needed for full employment may not be very bright in the foreseeable future in the Western world. A decline in government deficits and private sector wasteful spending along with a rise in savings and productive investment could be very helpful, but this may not be possible when the value system encourages both the public and the private sectors to live beyond their means, and the interest-based financial intermediation makes this possible by making credit available relatively easily without sufficient regard to its end use.

### **3.1.3 Equitable distribution**

The inequitable allocation of financial resources in the conventional interest-based financial system is now widely recognized. According to Arne Bigsten, "the distribution of capital is even more unequal than that of land" and "the banking system tends to reinforce the unequal distribution of capital".<sup>31</sup> The reason, as already indicated, is that interest-based financial intermediation relies heavily on collateral, giving inadequate consideration to the strength of the project or the ultimate use of financing. Hence, while deposits come from a cross-section of society, their benefit goes mainly to the rich.

As Mishan has rightly pointed out: "Given that differences in wealth are substantial, it would be irrational for the lender to be willing to lend as much to the impecunious as to the richer members of society, or to lend the same amounts on the same terms to each."<sup>32</sup> The established practice of banks is to lend mainly to those individuals and firms who have the necessary collateral to offer and who have, as Lester Thurow has observed, "large internal savings, regardless of whether they are earning above average rates of return on their investment". The result is that "the winners are, as in a lottery, lucky rather than smart or meritocratic".<sup>33</sup> Even Morgan Guarantee Trust Company, sixth largest bank in the US, has admitted that the banking system has failed to "finance either maturing smaller companies or venture capitalists", and "though awash with funds, is not encouraged to deliver

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<sup>29</sup> Bank for International Settlements (BIS), Basle, (1994), p. 17.

<sup>30</sup> BIS (1994), p. 17.

<sup>31</sup> Bigsten (1987), p. 156.

<sup>32</sup> Mishan (1971), p. 205.

<sup>33</sup> Thurow (1980), p. 175.

competitively priced funding to any but the largest, most cash-rich companies".<sup>34</sup> Such behavior of interest-based financial institutions tends to accentuate, rather than reduce, inequalities of income and wealth.

### 3.1.4 Economic stability

The rate of interest has become one of the most important destabilizing factors in the present-day world economy. Milton Friedman, attributed the unprecedentedly erratic behavior of the US economy to the erratic behavior of interest rates.<sup>35</sup> The high degree of interest rate volatility injects great uncertainty into the financial market and makes it difficult to take long-term investment decisions with confidence. This uncertainty drives borrowers and lenders alike into the shorter end of the market, makes short-term speculative investments more attractive, and generates a great deal of heat in the commodity, stock, and foreign exchange markets. This heat has been one of the important sources of instability in the world economy. According to a survey conducted by the Bank for International Settlements (BIS), the total turnover in traditional foreign exchange markets, after allowing for double-counting, amounted to \$1,230 billion per business day in April 1995, compared with \$620 billion and \$880 billion in April 1989 and April 1992 respectively.<sup>36</sup> A preponderant part of this turnover is related to derivatives contracts (futures and options), which are highly leveraged and, in the case of some money center banks, several times their capital and reserves. The notional value of total outstanding over-the-counter derivatives contracts was estimated to be around \$40,700 billion on 31 March 1995. The daily volume of these contracts amounted to \$839 billion.<sup>37</sup> This was 45 times the daily average of world merchandise imports and exports of \$26.3 billion in the first quarter of 1995.<sup>38</sup> If the assertion normally made by bankers that they give due consideration to the end use of funds had been correct, such a high degree of leveraged credit extension for financing speculative transactions may perhaps not have taken place.

The dramatic growth in financial transactions over the past two decades, of which derivatives are only the latest manifestation, has resulted in an enormous expansion in the payments system. Such a large value of transactions implies that if problems were to arise, they could quickly spread throughout the financial

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<sup>34</sup> Morgan Guarantee Trust Company of New York (1987), p. 7.

<sup>35</sup> Friedman (1982), *Newsweek*, p. 4.

<sup>36</sup> See the *BIS* Press Communique as published in the *BIS Review* of 24 Oct. 1995, p. 1.

<sup>37</sup> See the *BIS* Press Communique as published in the *BIS Review* of 19 Dec. 1995, p. 1.

<sup>38</sup> According to the IMF, *International Financial Statistics* (December 1995), the total of world exports (\$1,199.6 billion) and imports (\$1,169.9 billion) was \$2,369.5 billion in the first quarter of 1995. This gives an average of \$26.3 billion per day. This implies that the daily volume of foreign exchange transactions is more than 45 times the daily value of both exports and imports.

system exerting a dominoes effect on financial institutions. Accordingly, Mr. Crockett, the General Manager of the Bank for International Settlements, has been led to acknowledge that “our economies have thus become increasingly vulnerable to a possible breakdown in the payments system”.<sup>39</sup> The large value has also other adverse effects. It has been one of the major factors contributing to the continued high real rates of interest which have tended to discourage productive investment. It has also tended to inject excessive instability into the foreign exchange markets. The effort by central banks to overcome this instability through small changes in interest rates or the intervention of a few hundred million dollars a day has generally proved to be ineffective.

### **3.2 Concluding Remarks on Monetary Management in Mainstream Economics**

Thus it may be seen that the effort to regulate the various components of money demand through the interest rate mechanism tends to squeeze the money demand for need-fulfillment and productive investment rather than for unproductive and speculative uses, thus frustrating goal realization. Moreover, since the demand for money related to conspicuous consumption and speculation tends to be relatively more unstable than that for need-fulfillment and productive investment, a high degree of instability gets injected into the whole economy. No wonder, recent empirical studies have revealed great instability in the aggregate money demand function as well as its major components.<sup>40</sup>

## **4. MONETARY MANAGEMENT IN ISLAM**

### **4.1 Money Demand**

Islam does not find interest to be an appropriate mechanism for the management of money demand in an efficient or equitable manner. Consequently, it tries to regulate money demand by a strategy that relies on a number of instruments, three of which are particularly important.<sup>41</sup>

Firstly, since values and institutions play a crucial role in practically all aspects of human life, Islam does not have an anathema to value judgments. It is rather positively oriented towards them and tries to create an enabling environment for making these effective in actualizing an allocation and distribution of resources that is in conformity with its *maqasid*. It declares all resources to be a trust from

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<sup>39</sup> Andrew Crockett (1994), p. 3

<sup>40</sup> One such study is by Fair (1987), who studied money demand in several countries. He concluded that the demand for money was unstable in most countries, the only exception being West Germany.

<sup>41</sup> For a more detailed discussion of the Islamic strategy, see Chapra (1992), pp. 213-27.

God and makes their efficient and equitable use a major subject of human accountability on the Day of Judgment. While these values and institutions sanction money demand for need-fulfillment and productive investment, they do not sanction it for unnecessary and unproductive spending. This, Islam tries to do even before the demand gets expressed in the market place.

Secondly, since values may be disregarded, it tries to reinforce them by a number of social, economic and political institutions. One of these is the price mechanism, which it upholds for greater efficiency in the use of resources. While the price mechanism may by itself not be able to bring about an allocation of resources that is in conformity with goal realization, it can undoubtedly make a positive contribution when reinforced by the value system.

Thirdly, since interest-based financial intermediation has the tendency to give an edge to conspicuous consumption, speculation, and unproductive investment, Islam prohibits interest and reorganizes financial intermediation on the basis of profit-and-loss sharing. The linking of the return to the ultimate outcome of the business financed would help ensure that financing does not become available to satisfy money demand for any purpose just because the borrower has an acceptable collateral to offer and sufficient income to service the debt. It would rather be available if the money demand is for a worthwhile project and is accompanied by the necessary ability to manage the project efficiently. Even a poor but competent entrepreneur may, thus, qualify if he has a worthwhile project. This may not only help minimize demand for money for wasteful and unproductive purposes but also enable the society to harness the pool of entrepreneurial ability from among the poor and to tap the rich contribution that such entrepreneurs can make to output, employment and need-fulfillment.

If the demand for money, even from the public sector were subjected to the test of project performance, the lender may be compelled to take a greater interest in the nature of the project and its satisfactory management. Financing may not, then, be undertaken on the assumption that a sovereign debtor does not go bankrupt; it may rather be available mainly for projects about the productivity of which the financier is confident. Governments may not be able to get financing for excessive defense build-up and unprofitable public sector enterprises. The application of such a test before satisfying the demand for money may tend to create difficulties in the short-run. In the long-run, however, it may prove to be a blessing because, by reducing budgetary and macroeconomic imbalances in an efficient and equitable manner, a healthy dimension may be injected into the economy, which a rise in interest rates may not necessarily be able to accomplish.

In addition to reducing the money demand for unproductive and speculative purposes, Islam tries to minimize the holding of idle cash balances by the levy of *zakah*. This would tend to induce savers to get into productive investments to save their net wealth from being eroded by *zakah*.

Since need-based consumption and productive investment tend to be more stable than conspicuous consumption and speculative investment, the demand for money may tend to be more stable in an Islamic economy. What may further reinforce this is that the profit-sharing ratio between the entrepreneur and the financier may also not fluctuate from day to day or even month to month like the rate of interest, because it would tend to be determined by custom and considerations of justice, and remain contractually stable throughout the duration of the financing agreement. Since the ultimate outcome of business depends on a number of factors which do not change erratically, expectations about the rates of profit would also not fluctuate erratically. Therefore, equity-based financial intermediation is likely to be more conducive to economic stability than loan-based intermediation. This has been recognized by a number of prominent Western economists, including Henry Simons, Hyman Minsky and Joan Robinson.<sup>42</sup>

Thus, the various elements of the Islamic economic system may not only help minimize the instability in the aggregate demand for money but also influence the different components of money demand in a way that would promote greater efficiency and equity in the use of money. The relatively greater stability in the demand for money in an Islamic economy may also introduce greater stability in the velocity of circulation of money.

The demand for money in an Islamic economy may thus be represented by the following equation:

$$M_d = f(Y_s, S, \pi), \text{ where}$$

$Y_s$  = goods and services that are related to need fulfillment and productive investment and are in conformity with the values of Islam;

$S$  = all those moral and social values and institutions (including *zakah*) that influence the allocation and distribution of resources and that can help minimize  $M_d$  not only for conspicuous consumption and unproductive investment but also for precautionary and speculative purposes; and

$\pi$  = the rate of profit or loss in a system which does not permit the use of the rate of interest for financial intermediation.

It may, however, be charged that even in Muslim countries,  $Y$  incorporates conspicuous consumption and unproductive investment. Hence, the characterization of  $Y_s$  above is normative, not reflecting the existing reality. It may also be argued that 'S' stands for a complex of values and institutions which may not necessarily be quantifiable and which may not even be visibly practiced. While both these objections seem to be valid, the important point is to realize that if the

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<sup>42</sup> Henry Simons (1948), p. 320. Hyman Minsky (1975); and the summary of Minsky's argument cited by Joan Robinson (1977), p. 1331. See also Kindleberger (1978), p. 16.



actualization of goals is important, then  $Y$  needs to be cleansed of all elements that frustrate this objective. It is also important to realize that when there are a number of values and institutions that influence goal realization, then there seems to be no logic behind concentrating only on  $r$ , which, as shown above, has proved to be ineffective in influencing money demand in a way that would help goal realization. This realization may induce economists to identify at least the major values and institutions that affect resource allocation and to develop techniques of measuring, to the extent feasible, their effect on resource allocation. This may also lead to the identification of non-coercive ways of actualizing these values and institutions and making them more effective in curbing the inessential and unproductive part of  $M_d$ . Economists would not then be concerned with just an explanation of what exists but also with what needs to be done to realize the *maqasid*.

## 4.2 Money Supply

Once money demand has been stabilized and related to the needs of general well-being and development, there arise the questions of, firstly, how to bring aggregate money supply into equilibrium with such money demand, and secondly, how to bring the allocation of this money supply in conformity with the needs of goal realization without using coercion. The first question acquires further significance because two of the most important instruments of monetary management in the capitalist economy, discount rate and open market operations in interest-bearing government securities, would not be available in an Islamic economy.

### 4.2.1 Monetary targets

To create an equilibrium between money demand and money supply, the most practical approach may be to estimate the demand for money that is consistent with the realization of desired socio-economic goals within the framework of price stability, and then to establish a target range for money supply growth that would help satisfy this demand adequately<sup>43</sup> Evidence from

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<sup>43</sup> Monetary targeting became widely accepted as an important instrument of monetary management in the 1970s by a growing number of central banks, particularly among the OECD countries, because monetary management was found to be fairly successful if this approach was adopted. (See, Bank for International Settlements (1980), p. 7; Economists Advisory Group (1974), p. 116; OECD (1979), p. 1.2; and Kole and Meade (1995). The BIS strongly supported the use of monetary targeting by stating that “published objectives of monetary aggregates will no doubt continue to play a useful role in guiding the conduct of monetary policy and in signaling to the markets the eagerness of the authorities’ intentions. The approach was adopted in the industrial countries after other kinds of policy had proved ineffective in preventing inflation from building up and it provided a useful framework for stabilizing expectations” (BIS *Annual Report*, 1982, pp. 88-9). The Bundesbank first publicly

approximately twenty countries suggests that the rate of inflation is lower in countries that make announcements about monetary targets and even lower in those whose announcements turn out to be more precise.<sup>44</sup> The German experience with monetary targeting has been quite successful, leading Prof. Helmut Schlesinger, Ex-Chancellor of the Deutsche Bundesbank, to state: “Both our own experiences and scientific findings have underlined our conviction that monetary targeting geared to the growth of the overall economic production potential, such as that which the Bundesbank has now pursued for almost 20 years, can be of benefit to the future European monetary policy, not least also in terms of its credibility.”<sup>45</sup>

The targeted growth in money need not, however, be followed rigidly and mechanically. This is because monetary targeting presumes that the income velocity of money is reasonably predictable over relevant periods. While, as indicated earlier, this may be expected to be truer in an Islamic economy, it may, nevertheless, be affected by domestic and external economic shocks. The targets should, therefore, be reviewed quarterly, or as often as necessary, and changed whenever this is warranted.

It may also be possible to consider the simpler Friedman rule of adopting a fixed annual rate of growth in  $M$ , in keeping with the secular growth in output and change in velocity, to avoid the frequent ‘tinkering’ which is otherwise necessary.<sup>46</sup> However, if such a formula is adopted, it should be because of the ease it offers, and stripped of Friedman’s excessive free-market commitment. The positive role of the state and of fiscal policy cannot be dispensed with in an Islamic economy.

#### 4.2.2 Attaining the targeted growth in $M$

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announced a monetary growth target for 1975; since then such targets have been an important aid to German monetary policy. The Federal Reserve began reporting to the Congress specific numerical “targets” for the growth of the monetary aggregates in 1975. The reporting of growth targets for monetary aggregates was formalized into law in 1978 with the enactment of the Humphrey-Hawkins Act, which requires the Federal Reserve to present annual targets for monetary and credit aggregates to the Congress each February and to review these targets each July. However, in recent years, monetary targets have been given less emphasis in the US, Japan and the UK, but are still used in Germany, Switzerland, France, Italy, Spain and Greece [see BIS (1994), *Annual Report*, pp. 128-29; and Kole and Meade, 1995].

The principal conclusion of a study by Aghevli, *et. al.*, is that “targeting monetary policies as opposed to policies aimed at fine-tuning the economy, are better suited to the circumstances of the Asian countries”, Aghevli, Khan, Narvekar and Short (1979), p. 816.

<sup>44</sup> Cukierman (1994), p. 1442. For details see Cukierman (1992).

<sup>45</sup> Schlesinger (1993), p. 1.

<sup>46</sup> Friedman (1975), pp. 90-91. The controversy over rules versus discretion in the conduct of monetary policy is over a century old but still continues unabated and unsettled. For some references see References at the end of the paper.

This takes us to the instruments that may be used by the central bank to create harmony between the targeted and the actual growth in money supply ( $M$ ), which is the sum of currency in circulation plus commercial bank deposits. Since deposits constitute a substantial part of money supply, it may not be possible to regulate money supply without regulating total deposits. Deposits may also, for the sake of analysis, be divided into two parts: 'primary deposits', which provide the banking system with a substantial part of  $M_0$  or high-powered money, and 'derivative deposits' which, in a proportional reserve system, represent money created by banks in the process of credit extension.  $M_0$  consists of the currency held by the public plus commercial bank cash in vaults and deposits with the central bank. The higher the savings, the greater may be the share of primary deposits in total deposits and the lower may be the need for expansion of derivative deposits. Since the growth in derivative deposits is generally recognized to be closely related to the growth in  $M_0$ , or high-powered money, the central bank has no option but to regulate closely the growth in  $M_0$ .<sup>47</sup>

There are three important sources of high-powered money: government borrowings from the central bank, central bank credit to the commercial banks, and balance of payments surplus. The first of these has probably been the largest source after the Second World War, because of the unduly large government budgetary deficits in most countries. Excessive fiscal deficits put the entire burden of monetary stability on the central bank and make the pursuit of healthy monetary policy extremely difficult. It is not possible to control monetary expansion unless this major source of high-powered money is properly regulated. It may hence be unrealistic for Muslim governments to talk of Islamisation of their economies without making a serious effort to regulate their budgetary deficits in accordance with the demands of the *maqasid*, particularly price stability.

It may always be possible for the central bank to control successfully its own lending to the commercial banks. The abolition of interest and its replacement by profit-and-loss sharing may further reinforce this ability. The central bank lending to commercial banks would take the form of *mudarabah* advances. This implies that the central bank would be more responsible in its lending to the commercial banks. Simultaneously the commercial banks will also be more cautious in lending to their clients in both the public and the private sectors, particularly for speculative and unproductive purposes. It may thus be possible to check the expansion in derivative deposits without resort to the prohibitive 100

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<sup>47</sup> In their survey of the issues and evidence on money and monetary policy in less developed countries, Coats and Khatkhate conclude that "In LDCs, base money is a major determinant of the money stock and the deficit financing of government expenditure, which is often tantamount to the creation of central bank credit, is a principal factor affecting base money" [Coats and Khatkhate (1980), p. 32].

percent reserve requirement which some scholars have suggested.<sup>48</sup> However, if at some stage this is felt necessary, the central bank should not hesitate to resort to it.

There may be a rare Muslim country which enjoys continued balance of payments surplus. However, even if such a surplus is experienced, it may be possible to sterilize it to a reasonable extent by using the instruments of monetary policy available even in an Islamic economy.

### 4.3 Instruments of Monetary Policy

Even if high-powered money is regulated by controlling government budgetary deficits, there are bound to be short-term fluctuations in its volume as well as its relationship with derivative deposits. The central bank may, therefore, have to use the quantitative instruments at its disposal to even out the impact of these short-term fluctuations on money supply. It may also have to adopt certain non-coercing measures to help ensure an allocation of credit that is conducive to the realization of the *maqasid*.

#### 4.3.1 Quantitative controls

Some of the instruments that the central bank may be able to use for quantitative control of bank credit are:

##### a) Statutory reserve requirements

Many central banks have been reducing or eliminating reserve requirements to make banks more competitive.<sup>49</sup> This may not be possible in an Islamic economy where reserve requirements may have to continue as an important instrument of monetary policy because of the non-availability of the instruments of discount rate and open market operations in government securities. Banks may be required to hold a specified proportion of their *demand deposits* with the central bank as statutory reserve. This would not only serve as an instrument of monetary policy but also as an independent source of income for the central bank. Small variations in this requirement may change commercial banks' free reserves by a substantial amount and significantly affect their ability to expand derivative deposits.

The rationale behind a statutory reserve requirement only against demand deposits is the equity nature of *mudarabah* deposits in an Islamic economy. Since other forms of equity are exempt from a reserve requirement, there is no reason to subject *mudarabah* deposits to such a requirement. This would tend to make them less profitable compared with other forms of equity and thus put the commercial

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<sup>48</sup> Khan, pp. 15-35 and al-Jarhi, pp. 37-73, in Khan and Mirakhor (1987).

<sup>49</sup> See Weiner (1992); and Bank of Japan (1995).

banks at a disadvantage by inducing a shift of *mudarabah* deposits from commercial banks to other financial institutions. It may also be argued that in practice the distinction between demand and savings or time deposits is hazy. This possibility may be substantially reduced in the Islamic system because of the equity nature of *mudarabah* deposits and the sharing in risk which this would necessitate.

It may also be argued that the statutory reserve requirement against *total* deposits does not aim mainly at regulating the quantity of credit. It is also concerned with ensuring the safety of deposits and adequate liquidity of the banking system. These other objectives may, however, be achieved through higher capital requirement and well-conceived and properly enforced regulations, including a suitable liquidity ratio. These measures may be supplemented by an effective bank examination system. The adoption of such an approach may be preferable to the immobilization of a part of *mudarabah* deposits through a statutory reserve requirement.

#### **b) Credit ceilings**

While the statutory reserve requirement may help the central bank in bringing about the desired adjustment in high-powered money, credit expansion may still exceed the desired limit. This is because: firstly, it is not possible to determine accurately the flow of funds to the banking system, other than those provided by the *mudarabah* advances of the central bank, particularly in an inadequately developed money market like that of Muslim countries; and, secondly, the relationship between commercial bank reserves and credit expansion is not very precise. The behavior of money supply reflects the interaction of a number of various complex internal as well as external factors, and it may be desirable to fix ceilings on commercial bank credit to ensure that total credit creation is consistent with monetary targets.

#### **c) Government deposits**

The central bank may be given the power to shift government demand deposits to or from the commercial banks, thus directly influencing their reserves. This instrument has proved to be a useful instrument of monetary policy in Saudi Arabia where it has performed the same function directly that open market operations perform indirectly in other countries in influencing commercial bank reserves.

#### **d) Common pool**

The instrument of establishing a 'common pool' for the commercial banks at the central bank may also be effectively used in the same way as the rediscounting facility is used by the conventional central banks to solve the

liquidity problems of commercial banks. The banks may be required by the central bank to contribute to this pool a certain specified proportion of their deposits by way of a cooperative arrangement between them to overcome their liquidity problems on condition that the net use of this facility by any bank over a given period is zero.

#### e) Moral suasion

The normally suggested tool of 'moral suasion', may also acquire a relatively more important place in Islamic central banking. The central bank, through its personal contacts, consultations and meetings with banks, may be able to keep itself abreast of the strengths and problems of banks and to suggest to them measures that would help overcome difficulties and achieve desired goals.

Some other instruments have also been suggested in the literature on Islamic banking. The merit and effectiveness of two of these for monetary policy purposes are briefly discussed below.

#### f) Equity-based instruments

One of these is the use of equity-based instruments for open market operations.<sup>50</sup> It may not, however, be desirable to do so for a number of reasons. Firstly, while the central bank's purchase and sale of the stocks of public sector companies may not raise objections, its purchase and sale of private sector companies may be questionable. Secondly, equity-based instruments may not have the necessary depth that government securities tend to have. Open market operations in such instruments may, therefore, influence their prices significantly unless used to a very limited extent. This may not be adequate for monetary policy purposes. Thirdly, variations in the prices of equity-based instruments brought about by central bank open market operations may unnecessarily benefit or penalize the shareholders of companies whose shares are used for this purpose. This may not be desirable because the primary objective of such operations is to increase or reduce private sector liquidity and not to introduce inequities in the stock market. Fourthly, the possibility of raising the price of stocks through their purchase by the central bank, specially when their fundamentals do not justify such a rise, may induce corruption.

#### g) Changes in the profit-and-loss-sharing ratio

The Council of Islamic Ideology, Pakistan as well as some scholars have suggested variations in the profit-and-loss sharing ratio for *mudarabah* advances provided by the central bank to the commercial banks and for prescribing the depositors' and the entrepreneurs' share on the *mudarabah* deposits and the financing provided by the commercial banks.<sup>51</sup> While the indication of a reasonable

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<sup>50</sup> See M. N. Siddiqi (1983), pp. 110-25, M. Ariff, "Introduction", in M. Ariff (ed.), (1982), pp. 13-16; and M. Akram Khan, in *ibid.*, pp. 251-254.

<sup>51</sup> See Council of Islamic Ideology (1980), reproduced in Ziauddin Ahmad, *et. al.* (eds.), (1983), p. 73; see also the views of M. N. Siddiqi, M. Uzair, M. Akram Khan and M. Ariff, pp. 37, 220-2, 251-2 and 302 respectively. See also the views of J.D. Laliwala, Sultan Abu

range of profit sharing ratios between depositors, banks and entrepreneurs may be helpful as a guide, it may not be desirable for the central bank to regulate these ratios, as the Council has suggested. This is because the ratio may be determined by profitability, which depends on a number of factors differing from sector to sector in business and industry and even from firm to firm in the same sector. Hence, prescribing a uniform ratio may not be equitable while prescribing a band may not be meaningful, particularly if it is wide.

Even if, in accordance with the Council's suggestion, the ratio is regulated by the central bank to "reduce unhealthy competition among the financial institutions",<sup>52</sup> it may not be desirable to vary this ratio frequently as a monetary policy instrument. The central bank may itself, being a non-profit institution, not mind taking a lower share in the interest of realizing certain nationally cherished goals, but why should the depositors, commercial banks or entrepreneurs be coerced to accept less than a just and reasonable share of profit? Moreover, if there is a loss, the *shari'ah* requires the bearing of losses to be strictly in accordance with the ratios in which financing has been provided, irrespective of whether the financing comes from the central bank or the private sector. While the commercial banks may be happy to get a higher ratio in profit, if such a ratio is prescribed by the central bank, why would the depositors or the businesses being financed be willing to accept a correspondingly lower ratio, if it is out of proportion with their loss-sharing ratio? In addition, once the ratio has been set contractually, which is essential according to the *shari'ah*, the ratio cannot be changed before the end of the contract. To change it even for new contracts may also not be desirable because this would introduce inequities.

Hence it may be better to leave the determination of the ratio to the negotiating parties in conformity with their perception of market conditions and profitability. The central bank or the government may, however, intervene when it is necessary to do so to ensure equity or eschew unhealthy competition. Tinkering with the ratio for purposes of monetary policy may not be desirable.

#### 4.3.2 Realizing socio-economic goals

##### a) Treating the created money as *fay'*

The creation of  $M_0$  by the central bank results from the exercise of its social prerogative and leads to seigniorage (created money minus the cost). Since this leads to command over resources without effort, it may have to be considered

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Ali, M. Saqr, Ziauddin Ahmad, M. N. Siddiqi and M. Al-Jarhi on this subject expressed in the discussion of Mohammad Uzair's paper in *ibid.* p. 231-35.

<sup>52</sup> The Council's Report (1983), pp. 19-20.



in the nature of *fay'*<sup>53</sup> and used primarily for financing projects that would help uplift the socio-economic conditions of the poor and reduce inequalities of income and wealth. It would not be proper for the government to use even a part of it for projects whose benefit would go to the rich.

To fulfill this requirement, the central bank may make the total  $M_0$  created by it available partly to the government and partly to the commercial banks and the specialized financial institutions. The proportion of  $M_0$  diverted by the central bank to each of these three sectors may, like the total size of  $M_0$ , be determined by the dictates of monetary policy. The part of  $M_0$  made available to the government may be an interest-free loan to enable the government to finance its social welfare projects designed to uplift the socio-economic conditions of the poor through the provision of education and vocational training, housing, medical facilities, and other needed services. The part of  $M_0$  made available to the commercial banks and the specialized credit institutions may be in the form of *mudarabah* advances and used mainly for providing self-employment opportunities to the rural and urban poor, who may not be able to obtain adequate funds for this purpose from these institutions.

#### b) Goal-oriented allocation of credit

Since bank credit comes out of the deposits of all sections of the population, its allocation may be able to satisfy the norm of socio-economic justice in Islam only if its benefit goes to an optimum number of businesses and leads to the production and distribution of goods and services needed by all sections of the population. This is unfortunately not the case.<sup>54</sup> The appropriate way to achieve this

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<sup>53</sup> *fay'* refers to wealth surrendered by the enemy without actual fighting having taken place. Its distribution is governed by the following Qur'anic verse: "Whatever Allah restored to His Messenger from the people of the towns is for Allah and His Messenger, the near of kin, the orphans, the needy, and the wayfarer, so that wealth does not circulate among your rich" (59:7). This verse stipulates the division of the entire wealth that becomes available to Muslims without effort into five parts and used for reducing inequalities of income and wealth. There has, nevertheless, been a difference of opinion among the *fuqaha* on the distribution of the total amount of *fay'* among the five heads specified in the Qur'an after the death of the Prophet (pbuh). Imam Shafi'i felt that the total amount should be divided equally into the five heads even after the Prophet's death. The share of God and His Messenger should, however, be used for general well-being. Imams Abu Hanifah, Malik and Ahmad did not consider such a strict division to be necessary. They felt that the entire amount of *fay'* should be spent for the well-being of all Muslims, particularly that of the poor. Whatever the interpretation, if the principle of *fay'* is applied to seigniorage, it would help bring about greater general welfare with more equitable distribution of wealth.

<sup>54</sup> For example, while deposits of less than Rs. 100,000 provided 42.9 percent of total commercial bank deposits in Pakistan, advances of less than Rs. 100,000 absorbed only 4.4 percent of total commercial bank advances. As compared with this, while deposits of more

objective may not be an elaborate network of controls. Since the operation of market forces has been recognized by Islam, it may perhaps be better to overcome the reasons for the less than desired contribution of commercial banks for the realization of these objectives.

The reason normally given by the commercial banks for diverting a very small proportion of their funds to small businesses is the greater risk and expense involved in such financing. Hence small firms are either unable to get financing from banks or do so at highly unfavorable terms (in terms of cost and collateral) compared with their larger counterparts. Thus, the growth and survival of small firms is jeopardized even though they carry a great potential for increased employment and output and improved income distribution.

It may, therefore, be desirable to reduce the risk and expense of such financing for banks. The risk may be reduced by introducing a loan guarantee scheme underwritten partly by the government and partly by the commercial banks. In the case of Islamic banks, the guarantee scheme need not guarantee the repayment of loan with interest as is the case in the conventional system. The scheme should, however, be able to relieve the bank of the need to ask for collateral in the case of small businesses whose general credentials have been registered with or certified by the guarantee scheme. The scheme may do this after a proper investigation of the firms concerned. It may also arrange to train the businesses to maintain proper accounts and be prepared even to have these accounts properly audited where necessary. A large number of small businesses may thus be able to get financing from banks without being able to offer the collateral required by the conventional banks. The bank will receive its money back in case of moral failure of the business. The scheme may also be made to include most non-commercial risks desired to be covered for increasing the availability of funds to small businesses. In case of market failure and the resultant loss, the bank will of course share the consequences with the business in proportion to the financing provided by it.

The additional expense incurred by the commercial banks in evaluating and financing small businesses may be partly or wholly offset by the government depending on the nature of the case and the objectives to be served. The cost to the government exchequer arising from the above two schemes may be justifiable in the larger interest of the goals of the Islamic economy. However, it may be possible to offset the cost partly or fully by graduated fees to be collected by the

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than one million Rupees contributed only 29.9 percent to total deposits, advances of more than one million Rupees absorbed 79.5 percent of total advances. (Based on data for June 1994 in the July 1994 issue of the State Bank of Pakistan, *Statistical Bulletin*). Such a maldistribution of bank resources is bound to not only perpetuate the inequalities of income and wealth but also worsen them. The condition in other Muslim countries may not be significantly different.

government out of profits earned from such financing by the banks and the small businesses. In addition, the central bank may even accept a relatively lower profit-sharing ratio if this is considered necessary for realizing the objective of distributing commercial bank financing to an optimum number of businesses for the production of the goods and services which are most needed.

## 5. CONCLUSION

There seems to be nothing in the *shari'ah* that would stand against the adoption of a managed money standard by the Muslim countries. In fact they do not probably have any alternative to this standard after the demise of bimetallism, which prevailed during a substantial part of Muslim history, the international gold standard, and the Bretton Woods system. What is necessary, however, is to ensure that this standard is operated in a manner that does not only not violate the Islamic imperative of price stability but also helps realize other socio-economic goals.

The prohibition of *riba* and the reorganization of financial intermediation on the basis of profit-and-loss sharing may in fact help in this task. It would help minimize the inessential, unproductive and speculative elements of aggregate money demand which it does not seem to be possible to realize in an interest-based system. The minimization of these elements of money demand would tend to promote greater efficiency and equity in the use of scarce resources and also help reduce the macroeconomic imbalances that accentuate inflationary pressures and economic instability and vitiate the realization of socio-economic goals. Once money demand has been managed in a manner that is conducive to goal realization, it may not be very difficult to bring money supply into equilibrium with such money demand. This may be done with the help of some of the well-known instruments of monetary policy that would be available even in an interest-free Islamic financial system.

It would, however, be necessary to regulate the generation of high-powered money at source. Since a preponderant source of high-powered money results from the financing of government budgetary deficits by borrowing from the central bank, it may not be possible to have an effective monetary policy without substantially reducing government borrowing from the central bank. International experience has shown that highly independent central banks such as the Bundesbank and the Swiss National Bank are able to resist dictates from the government to lend amounts which they consider to be beyond the dictates of price stability.<sup>55</sup> It is perhaps for this reason that the 1992 Maastricht Treaty on European Union requires European Community members to give their central banks independence as part of establishing the European Monetary Union.<sup>56</sup>

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<sup>55</sup> See Cukierman (1994), p. 1446.

<sup>56</sup> See Volcker, Mancera and Godeaux (1991); and Pollard (1993).

## REFERENCES

- Aghevli, B.B, M. S. Khan, P.R. Narvekar and B. K. Short (1979), "Monetary Policy in Selected Asian Countries", *IMF Staff Papers*, December.
- Ahmad, Khurshid (ed.), (1980), *Studies in Islamic Economics*, Jeddah: International Centre for Research in Islamic Economics.
- Ahmad, Ausaf and Kazim Raza Awan, (eds.), (1992), *Lectures in Islamic Economics*, Jeddah: IRTI, IDB.
- Ahmed, Ziauddin; Munawar Iqbal and M. Fahim Khan (eds.), (1983), *Fiscal Policy and Resource Allocation in Islam*, Islamabad: Institute of Policy Studies.
- Ahmed, Ziauddin; Munawar Iqbal and M. Fahim Khan (eds.), (1983), *Money and Banking in Islam*, Islamabad: Institute of Policy Studies.
- Alesina, Alberto and Lawrence Summers (1993), "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence", *Journal of Money, Credit and Banking*, May, pp. 151-62
- Allouche, Adel (1994), *Mamluk Economics: A Study and Translation of al-Maqrizi's Iqhathah*, Salt Lake City: University of Utah Press.
- Ando, Albert, *et. al.*, (eds.), (1985), *Monetary Policy in Our Times*, Proceedings of the First International Conference held by the Institute of Monetary and Economic Studies of the Bank of Japan, Cambridge, Mass.: The MIT Press.
- Anwar, Muhammad (1987), *Modelling an Interest-Free Economy: A Study in Macroeconomics and Development*, Herndon, VA: International Institute of Islamic Thought.
- Ariff, Mohammad (1982), *Monetary and Fiscal Economics of Islam*, Jeddah: International Centre for Research in Islamic Economics, King Abdulaziz University.
- Asadi, Muhammad ibn Muhammad ibn Khalil al- (1967), *al-Taysir wa al-I'tibar*, 'Abd al-Qadir Ahmad Tulaymat (ed.), Cairo: Dar al-Fikr al-'Arabi.
- Banaian, King, Leroy Laney and Thomas Willett (1983), "Central Bank Independence: An International Comparison", Federal Reserve Bank of Dallas, *Economic Review*, March.
- Bank for International Settlements (1980), *The Monetary Base Approach to Monetary Control*, Basle: BIS, Sept.
- Bank for International Settlements (1982), *52nd Annual Report*, Basle: BIS, June.
- Bank for International Settlements (1989), *59th Annual Report*, Basle: BIS, June.
- Bank for International Settlements (1991), *61st Annual Report*, Basle: BIS, June.

- Bank for International Settlements (1994), *64th Annual Report*, Basle: BIS, June.
- Bank for International Settlements (1995), Press Release as reported in the *BIS Review*, 24 October, pp. 1-4.
- Bank for International Settlements (1995), Press Release as reported in the *BIS Review*, 19 December, pp. 1-9.
- Bank of Japan (1995), "Inflation Targeting in Selected Countries", *Quarterly Bulletin*, May.
- Bank of Japan (1995), "Comparative Perspective of Reserve Requirement Systems and their Recent Reforms in Major Industrialized Countries", *Quarterly Bulletin*, May.
- Baumol, William J. (1952), "The Transactions Demand for Cash: An Inventory Theoretic Approach", *Quarterly Journal of Economics*, November, pp. 545-56.
- Bharat, Trehan (1988), "The Practice of Monetary Targeting: A Case Study of the West German Experience", Federal Reserve Bank of San Francisco, *Economic Review*, Spring, pp. 30-41.
- Bigsten, Arne (1987), "Poverty, Inequality and Development", in Norman Gemell, *Surveys in Development Economics*, Oxford: Basil Blackwell.
- Biladhuri, Abu al-Hasan al- (1959), *Futuh al-Buldan*, Ridwan M. Ridwan (ed.), Cairo: Al-Maktabah al-Tijariyyah al-Kubra, p. 456
- Bishnoi, T.R. (1992), "Islamic Banking: Some Unsettled Issues of Stability and Growth", *Journal of Objective Studies*, New Delhi, pp. 142-8.
- Blanchard, Oliver J., and Lawrence Summers (1984), "Perspectives on High World Interest Rates", *Brookings Papers on Economic Activity*, pp. 273-328.
- Burns, Arthur F. (1987), "The Anguish of Central Banking", *Federal Reserve Bulletin*, September, pp. 687-698.
- Chapra, M. Umer (1985), *Towards a Just Monetary System*, Leicester, UK: The Islamic Foundation.
- Chapra, M. Umer (1988), "Towards an Islamic Financial System", *Journal of Islamic Economics, Malaysia*, July, pp. 1-30.
- Chapra, M. Umer (1992), *Islam and the Economic Challenge*, Leicester, UK: The Islamic Foundation.
- Coats, W. L., Jr. (1980), "The Efficacy of Monetary Rules for LDCs" in Coats and Khatkhate, pp. 166-7.
- Coats, W. L. and D.R. Khatkhate (eds.), (1980), *Money and Monetary Policy in Less Developed Countries: A Survey of Issues and Evidence*, Oxford: Pergamon Press.

- Colander, David and Dewey Daave (eds.), (1994), *The Art of Monetary Policy*, with a foreword by William E. Simon, London: Sharpe.
- Cottarelli, Carlo (1993), *Limiting Central Bank Credit to the Government*, Washington, D.C.: IMF, Occasional Paper No. 110, December.
- Council of Islamic Ideology (1980), *Report of the Council of Islamic Ideology on the Elimination of Interest from the Economy*, Islamabad: Government of Pakistan, reproduced in Ziauddin Ahmad (1993).
- Crockett, Andrew (1994), "Address at the 24th International Management Symposium in St. Gallen on 1 June", *BIS Review*, 22 June.
- Cukierman, Alex (1992), *Central Bank Strategy, Credibility and Independence: Theory and Evidence*, Cambridge, Mass.: MIT Press.
- Cukierman, Alex (1994), "Central Bank Independence and Monetary Control", *The Economic Journal*, November, pp. 1437-48.
- Deutsche Bundesbank (1992), "The Correlation between Monetary Growth and Price Movements in the Federal Republic of Germany", *Monthly Report of the Deutsche Bundesbank*, January, pp. 20-28.
- Dimashqi, Abi al-Fadl Ja'far ibn Ali al- (1977), *Al-Isharah ila Mahasin al-Tijarah*, Al-Bushra al-Shorbaji (ed.), Cairo: Maktabah al-Kulliyat Al-Azhar.
- Dueker, Michael, J. (1993), "Can Nominal GDP Targeting Rules Stabilise the Economy?", *The Federal Reserve Bank of St. Louis, Review*, May/June, pp. 15-29.
- Dwyer, Gerald P. Jr. (1993), "Rules and Discretion in Monetary Policy", *The Federal Reserve Bank of St. Louis, Review*, May/June, pp. 3-13.
- Economists Advisory Group (1974), "Banking Systems and Monetary Policy in the EEC", London: *Financial Times*.
- Ehrenkretz, Andrew S. (1970), "Monetary Aspects of Medieval Near Eastern Economic History", in M. A. Cook, *Studies in the Economic History of the Middle East from the Rise of Islam to the Present Day*, London: Oxford University Press, pp. 37-50.
- Ehrenkretz, Andrew S. (1992), *Monetary Change and Economic History in the Medieval Muslim World*, Aldershot, UK: Variorum.
- Eichengreen, Barry (ed.), (1985), *The Gold Standard in Theory and History*, New York: Methuen.
- Enzler, J.J., W.E. Conrad and Lewis Johnson (1981), "Public Policy and Capital Formation", *Federal Reserve Bulletin*, October.
- Fair, Ray C. (1987), "International Evidence on the Demand for Money", *Review of Economics and Statistics*, pp. 437-80.

- Federal Reserve Bank of San Francisco (1985), *The Search for Financial Stability: The Past Fifty Years*, Proceedings of a Conference held at the Federal Reserve Bank of San Francisco, Asilomar, California, June 23-25.
- Federal Reserve Bank of St. Louis (1993), *Dimensions of Monetary Policy: Essays in Honour of Anatol B. Balbach*, Proceedings of the 17th Annual Economic Policy Conference of the Federal Reserve Bank of St. Louis, *Federal Reserve Bank of St. Louis Review*, March/April.
- Friedman, Milton (1956), "The Quantity Theory of Money: A Restatement", in Milton Friedman (ed.), *Studies in the Quantity Theory of Money*, Chicago: University of Chicago Press.
- Friedman, Milton (1959), "The Demand for Money: Some Theoretical and Empirical Results", *Journal of Political Economy*, June, pp. 327-51.
- Friedman, Milton (1966), "Interest Rates and the Demand for Money," *Journal of Law and Economy*, October, pp. 71-85.
- Friedman, Milton (1975), *A Program of Monetary Stability*, New York: Fordham University Press.
- Friedman, Milton and Anna Schwartz (1982), *Monetary Trends in the United States and the United Kingdom*, Chicago: University of Chicago Press for the NBER.
- Friedman, Milton (1982), "The Yo-Yo US Economy", *Newsweek*, 15 February.
- Frowen, S. F. and D. Kath (eds.), (1992), *Monetary Policy and Financial Innovations in Five Industrial Countries: The UK, the USA, West Germany, France and Japan*, New York: St. Martin's Press.
- Gilbert, Milton (1968), *The Gold-Dollar System: Conditions of Equilibrium and the Price of Gold*, Princeton: Department of Economics.
- Guitian, Manuel (1992), *Rules and Discretion in International Economic Policy*, Washington, D.C.: IMF, Occasional Paper No. 97, June.
- Griffiths, Brian and G.E. Woods (eds.), (1981), *Monetary Targets*, New York: St. Martin's Press.
- Ibn Hazm, *Al-Muhalla*, Beirut: Al-Maktabah al-Tijari, n.d.
- Ibn Khaldun, *Muqaddimah*, Cairo: Al-Maktabah al-Tijariyyah al-Kubra, n.d. See also its translation by Franz Rosenthal (1967), *The Muqaddimah: An Introduction to History*, London: Routledge and Kegan Paul, 2nd ed.
- Ibn. Mani', Abdallah ibn Sulayman (1984), *Al-Waraq al-Naqdi, Haqiqatihi, Tarikhihi, Qimatihi, Hukmihi*, Riyadh: Matabi' al-Farazdq, 2nd ed.
- Ibn Taymiyyah, *Majmu' Fatawa Shaiykh al-Islam Ahmad Ibn Taymiyyah*, Abd al-Rahman al-'simi (ed.), (1963), Riyadh: Matabi' al-Riyadh.

- International Monetary Fund (1995), *World Economic Outlook*, Washington D.C.: IMF, May. See in particular Chapter V on "Saving in a Growing World Economy", pp. 67-89.
- International Monetary Fund (1995), *International Financial Statistics*, Washington, D.C.: IMF, various Yearbooks and the monthly issues.
- Iqbal, Munawar (ed.), (1986), *Distributive Justice and Need Fulfillment in an Islamic Economy*, Leicester, UK: The Islamic Foundation.
- Jarhi, Mabid Ali al- (1987), "The Relative Efficiency of Interest-Free Monetary Economies: The Fiat Money Case" in Khan and Mirakhor, pp. 37-73.
- Johnson, Karen (1983), "Foreign Experience with Targets for Money Growth", *Federal Reserve Bulletin*, October, pp. 746-54.
- Judd, John P. and John L. Scadding (1982), "The Search for a Stable Money Demand Function," *Journal of Economic Literature*, September, pp. 993-1023.
- Khan, M. Fahim (ed.), (1988), *Distribution in Macroeconomic Framework: An Islamic Perspective*, Islamabad: International Institute of Islamic Economics, International Islamic University.
- Khan, M. Fahim (1995), *Essays in Islamic Economics*, Leicester, UK: The Islamic Foundation.
- Khan, Mohsin S. and Abbas Mirakhor (eds.), (1987), *Theoretical Studies in Islamic Economics and Finance*, Houston, Texas: The Institute for Islamic Research and Studies.
- Khan, Mohsin S (1987), "Interest-Free Banking: A Theoretical Analysis", in Khan and Mirakhor, pp. 15-35.
- Khan, Waqar Masood (1985), *Towards an Interest-Free Islamic Economic System*, Leicester, UK: The Islamic Foundation.
- Kindleberger (1978), *Manias, Panics, and Crashes*, London: MacMillan.
- Kole, Linda and Ellen Meade (1995), "German Monetary Targeting: A Retrospective View", *Federal Reserve Bulletin*, October, pp. 917-31.
- Laidler, David E. W. (1963), *The Demand for Money: Theories, Evidence and Problems*, New York: Harper Collins College Publishers, 4th ed.
- MacFarlane, Helen and Paul Mortimer-Lee (1994), "Inflation over 300 years", *Bank of England Quarterly Bulletin*, May, pp. 156-62.
- Mankiw, Gregory, David Romer and David Weil (1992), "A Contribution to the Empirics of Economic Growth", *Quarterly Journal of Economics*, May, pp. 407-37.



- Maqrizi, Taqi al-Din Ahmad, Ibn 'Ali, al- (d. 845/1442), *Ighathah al-Ummah bi Kashf al-Ghummah*, 'Abd al-Nafi' Tulaymat (ed.), (1956), Hams: Dar ibn al-Wahid. See its English translation by Adel Allouche (1994).
- Maqrizi, Taqi al-Din Ahmad Ibn 'Ali, al- (d. 845/1442), *Al-Khitat al-Maqriziyyah*, Beirut: Dar Sadir, n.d.
- Meek, Paul (ed.), (1983), *Central Bank Views on Monetary Targeting*, Federal Reserve Bank of New York.
- Miles, G.C. (1965), "Dinar and Dirham", in *The Encyclopaedia of Islam*, London: Luzac, new edition, vol. 2, pp. 297-99 and 319-20 respectively.
- Minsky, Hyman (1975), *John Maynard Keynes*, New York: Columbia University Press.
- Mishan, E. S (1971), *Cost Benefit Analysis: An Introduction*, New York: Praeger.
- Mishkin, Frederic S. (1992), *The Economics of Money, Banking and Financial Markets*, New York: Harper Collins, 3rd ed.
- Misri, Rafiq al- (1990), *Al-Islam wa al-Nuqud*, Jeddah: Markaz al-Nashr al-Ilmi, King Abdul Aziz University, 2nd ed.
- Morgan Guarantee Trust Company of New York (1987), *World Financial Markets*, January.
- Muhammad Anwar (1987), "Islamic Justice in a Monetary System: A Modest Proposal", *The American Journal of Islamic Social Sciences*, September, pp. 135-9, a review article on M. Umer Chapra, *Towards a Just Monetary System*.
- Munazzamah al-Mu'tamar al-Islami (OIC), *Majma' al-Fiqh al-Islami, Qararat wa Tawsiyat*, 1406-09 (1985-88), (Jeddah: OIC, n.d.).
- OECD (1979), *Monetary Targets and Inflation Control*, Paris: OECD.
- OECD, *Economic Outlook*, December 1991 and June 1995.
- Pamuk, Sevkert (1993), "The Disintegration of the Ottoman Monetary System During the Seventeenth Century," *Princeton Papers in Near Eastern Studies*.
- Pollard, Patricia S. (1993), "Central Bank Independence and Economic Performance", *Federal Reserve Bank of St. Louis*, July/August, pp. 21-36.
- Poole, William (1971), "Rules of Thumb for Guiding Monetary Policy", *Open Market Policies and Operating Procedures - Staff Studies*, Washington, D.C.: Board of Governors of the Federal Reserve System.
- Qaradawi, Yusuf al- (1969), *Fiqh al-Zakah*, Beirut: Dar al-Irshad.
- Qila'ji, M. R. (1981), *Mawsu'ah Fiqh Umar ibn al-Khattab*, Kuwait: Maktabah al-Falah, p. 643.

- Rashid, Abdul Aziz al-Nasir al- (1980), *Ifadat al-Sa'il fi aham al-Fatawa wa al-Masa'il*, Riyadh: Dar al-Rashid li al-Nashr wa al-Tawzi', 2nd ed., vol. 1, cited by al-Misri (1990), p. 10.
- Rees-Mogg, William (1974), *The Reigning Error: The Crisis of World Inflation*, London: Hamish Hamilton, p. 69.
- Ris, Muhammad Diya al-Din al- (1961), *Al-Kharaj wa al-Nuzum al-Maliyya li al-Dawlah al-Islamiyyah*, Cairo: Al-Maktabah al-Angelo al-Misriyyah, 2nd ed., p. 369.
- Robinson, Joan (1977), "What are the Questions?", *Journal of Economic Literature*, December, p. 1331.
- Sadeq, A H. M. (ed.), (1991), *Financing Economic Development: Islamic and Mainstream Approaches*, Petaling Jaya, Malaysia: Longman.
- Salvatore, Domimik (eds.), (1993), *Monetary Policy in Developed Economies*, New York: Greenwood Press.
- Schlesinger, Helmut (1993), "German Monetary Policy and the Future of European Monetary Integration", Speech by the President of the Deutsche Bundesbank at Harvard University in Cambridge, Massachusetts, on 14 April, reproduced in Bank of International Settlements, *Review*, 29 April, 1993, pp. 1-4.
- Siddiqi, M. Nejatullah (1983), *Banking Without Interest*, Leicester, UK: The Islamic Foundation, pp. 110-25.
- Siddiqi, M. Nejatullah (1983), *Issues in Islamic Banking*, Leicester, UK: The Islamic Foundation.
- Siddiqi, Shamim A. and Mohsen Fardmanesh (1994), "Financial Stability in a Share Economy", *Eastern Economic Journal* (USA), Spring.
- Simons, Henry (1948), *Economic Policy for a Free Society*, Chicago: University of Chicago Press.
- State Bank of Pakistan, *Statistical Bulletin*, July 1995.
- Stiglitz, Joseph E. (1993), "The Role of the State in Financial Markets", *The World Bank Economic Review*,: Proceedings of the World Bank Annual Conference on Development Economics, pp. 19-61.
- Thurow, Lester (1980), *Zero-Sum Society*, New York: Basic Books.
- Tobin, James (1956), "The Interest-Elasticity of the Transactions Demand for Cash", *Review of Economics and Statistics*, August, pp. 241-47.
- Triffin, Robert (1960), *Gold and the Dollar Crisis*, New Haven, Conn.: Yale University Press.

- Tseng, Wanda and Robert Corker (1991), *Financial Liberalisation, Money Demand, and Monetary Policy in Asian Countries*, Washington, D.C.: IMF, Occasional Paper No. 84.
- Udovich, A.L. (1965), "Fals", in *The Encyclopedia of Islam*, London: Luzac, new edition, vol. 2, pp. 768-69.
- Volcker, Paul, Michael Mancera and Jean Godeaux (1991), *Perspectives on the Role of a Central Bank*, Proceedings of a Conference in Beijing, China, January 5-7, 1990, Washington, D.C.: People's Bank of China, IMF and UNDP.
- Weiner, Stuart (1992), "The Changing Role of Reserve Requirements in Monetary Policy", *US Federal Reserve Bank of Kansas City*, Fourth Quarter.
- Wizarah al-Awqaf wa al-Shu'un al-Islamiyyh (1992), *Al-Mawsu'ah al-Fiqhiyyah*, Kuwait: Wizarah al-Awqaf was al-Shu'un al-Islamiyyah, 2nd ed..
- World Bank (1995), *World Tables*.
- Young, Arthur (1953), "Saudi Arabian Currency and Finance", *The Middle East Journal*, vol. 7, Nos. 3 and 4.