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FLOW OF PORTFOLIO INVESTMENT AMONG THE MUSLIM COUNTERIES: MODELLING AND POSSIBILITIES

Ayub Mehar

ABSTRACT

The objective of this study is to identify the thematic areas for cooperation among the Muslim countries in the field of portfolio investment. The study covers the investment principles of return maximization, risk minimization and diversification. The core area of the study is to explore the investment opportunities in Muslim countries through geographical and sectoral diversification to provide greater investment security, risk minimization and profit maximization. To identify the scope of Muslim world and the economic implications of the cross boarder portfolio investment are the natural ingredients of this study. In the beginning, the study summarizes the economic and financial issues of the Muslim world

JEL CLASSIFICATION: D900; E440; F540; G110

KEY WORDS: Portfolio Investment; FDI; Financial Theory; Muslim World

I: Economic and Financial Strength of Muslim World

In general, Muslim World is considered as the biggest component of the Third World. However, it is some thing more than the sub set of the Third Word (Aga Khan Foundation: 2002). In the second half of twentieth century, more than 30 Muslim countries have come into existence and now world map has more than 55 Muslim countries. The fall of Soviet Union brought also a group of Central Asian states out onto the international stage as the independent countries of Kazakhstan, Turkmenistan, Uzbekistan, Azerbaijan, Tajikistan, and Kyrgyz, with all except Kazakhstan having clear Muslim majorities in their populations. There are said to be more than one billion Muslims in the world at the present time. According to the Encyclopedia Britannica, 637 million Muslims live in Asia (excluding former USSR), 278 million in Africa, about 13 million in Europe, 3 million in North America, one million in Latin America and more than 39 million in former USSR. Some of these numbers are suspiciously precise and some are disputed (e.g., the U.S. Muslim community claims 6 million in the U.S. alone). With the North American population the Muslims in Europe remind us that the "Muslim world" is more than a subset of the developing world.

Muslim countries have different political and economic systems, but their problems are same. More than one-third countries in the world belong to Muslim World. Muslim countries represent 20 percent population and 23 percent surface area of the world. It is a visible indicator of the importance of Muslim world. Despite its 20 percent contribution in world population and 23 percent in world surface area, the share of Muslim world is less than 5 percent in ‘World Domestic Product’ and less than 7 percent in global trade. It is surprising that alone India's GDP - in term of the purchasing power parity - is more than the aggregate GDP of entire Muslim world (World Bank: 2000). The share of Muslim countries in World GDP does not match with their population. It is a source of the low per capita income in Muslim countries. It is noteworthy that share of the Muslim countries in World GDP is sharply declining. It has reached at 4.5 percent in 2005 from 7.5 percent in 1980. It is considerable that GDP is not a stock concept; it is a flow of resources during a year. A sharp decline in the flow of resources implies the reduction in the wealth stock in future. It indicates also the deficiency in the availability of funds for development. Despite of the resource-based trading, - oil, cotton, textile and other primary goods from Kuwait, Saudi Arabia, Iran, Pakistan, Egypt, Turkey, Bangladesh, Indonesia, and Malaysia -Muslim Economies cannot get even 7 percent share in the global trade activities. The Balance of Payments of the Muslim World has been showing adverse signs for the last several years. The aggregate trade deficit for Muslim countries was 155 billion dollars from 1994 to 1998. It means Muslim World transferred 155 billion dollars of capital resources to other countries. In addition, twenty-six percent of the world debts are payable by the Muslim countries. The poverty in Muslims is rapidly increasing. At present 1.2 billion Muslims are living on the earth. Out of those 650 millions are living at below the poverty line.

Majority of the listed companies in Muslim World represents the small and medium enterprises (SMEs) and family ownerships. Those small and medium entities among the gigantic Multinational Corporations (MNCs) cannot develop the path of research and development (R & D), economic domination or accelerated growth. Those companies do not have sufficient resources to invest in the new ventures and research activities; while, the investment in knowledge-based technologies and sophisticated research is necessary for accelerated economic development. Table I shows some statistics for the Muslim World contribution in the research and development (R & D) activities. Only two percent of the scientists and one percent of the technicians involved in research activities belong to Muslim countries. Muslim world’ share in the new innovations and inventions in terms of patents registration record and the expenditures on R & D is less than one percent.

Muslim world's share in world's stock market capitalization is less than two percent. The share of equity based capitalization in the Muslim world is being further deteriorated. A large number of Muslim countries have a small size (in term of GDP) even less than annual revenue of an average Multi National Corporation. In the age of gigantic Multi National Corporations (MNCs), Muslim world does not have a single Multi National Corporation from the list of top 500 corporations. Those top 500 corporations are selected on the basis of their annual revenues and belong to the Engineering, metals, mining, fuel, energy, food, chemicals, pharmaceutical, utilities, banking, transport, communication, insurance and information technology sectors. This is the reason that increasing role of Multi National Corporations (MNCs) and globalization will further deteriorate the economic strength of Muslim world.

Table: I
Muslim World Contribution in the Economic & Scientific Development

Economic Variable	**Share of Muslim World**
Area and Population	
Surface Area	23.0 %
Population	20.0 %
Macro Economic Variables	
GDP	4.6 %
Merchandize Imports	6.9 %
Merchandize Exports	6.3 %
Outstanding External / Foreign Debt	26.0 %
Finance and Investment	
Market Capitalization	3.2 %
Trading Value of Shares	2.2 %
Number of Listed Companies	6.7 %
Foreign Direct Investment	5.4 %
Head Quarters of Top 500 MNCs	0.0 %
Research and Development	
Number of Scientists and Engineers in R & D	2.7 %
Number of Technicians in R & D	4.9 %
Expenditure in R & D	0.7 %
Income from Royalties	0.3 %
Expenditure on Royalties	1.7 %
Applied for Patents by Residents	0.6 %
Applied for Patents by Non-Residents	9.9 %
Interest and Lending	
Interest Income (Net)	1.2 %
Commercial Lending	1.8 %

At present there are 4042 listed companies in Muslim countries out of more than 60,000 listed companies in world. But, number of companies in Muslim countries is not important because of their size of capital and share in world's markets. Increasing share in the number of companies does not show an improvement; unfortunately it is an indicator of the isolation and segregation of the businesses. It shows the increasing trend of the creation of small businesses on family ownership basis. Such type of corporate entities will not be helpful for Muslim World from the globalization point of view. Muslim economies and financial system cannot survive with the help of small size companies among the large Multi National Corporations. The formation of large size corporations (MNCs) with Muslims capital is required to compete in the globalized economies and to improve the share and participation of Muslim world in global economy. Economic power cannot be achieved without investment in knowledge-based technologies, sophisticated research and development activities, which require large capital base.

Table: II
SHARE IN THE INTERNATIONAL TRADE AND FINANCE

Group/ Zone	Share in Global Exports (%)	Share in Global Imports (%)	Market Capitalization (Billion $)	Number of Listed Companies	Head Quarters of Top 500 MNCs
Euro 11	20	23	3841	5242	100
USA	16	15	8484	8479	151
Japan	10	8	3089	53	104
South Asia	1	1	140	10102	5
Muslim World	7	7	311	3836	0
World (Total)	**100**	**100**	**20177**	**42404**	**500**

Table: III
FINANCIAL STRENGTH

Group	Market Capitalization (Million US $)		Value Traded (Million US$)		Number of Listed Companies	
	1999	**2004**	**1999**	**2004**	**1999**	**2004**
Muslim	313,542	1,037,963	320,109	1,600,545	3,845	4,042
Non Muslim	23,227,178	31,398,387	19,934,678	71,316,688	36,549	56,552
World (Total)	23,540,720	32,436,350	20,254,787	72,917,233	40,394	60,594
Muslim as % of Total world	1.3	3.2	1.6	2.2	9.5	6.7

Table: IV
FINANCIAL ENHANCEMENT
(OTHER THAN DOMESTIC EQUITIES)

Group	Net Interest Income (Million US $)	Domestic Credit Provided by Banking Sector (Million US $)	Foreign Direct Investment (Million US $)
Muslim	12,028	708,868	17,255
Non Muslim	844,657	38,563,993	301,490
World (Total)	856,685	39,272,861	318,745
Muslim as % of total world	1.4	1.8	5.4

II: Flow of Investment in Muslim World

It is important that inflow of foreign direct investment (FDI) in Muslim countries is five percent only of the world foreign investment. It means major share of Muslims' deposits into foreign banks is invested in non-Muslim countries, which gives them the opportunities of infrastructure development, employment, GDP growth and technological advancement. It is notable that a large part of Muslim investors’ capital was invested in the world's top Multi National Corporation (MNCs). But Muslims do not hold influential participation in the ownership of those corporations. To avoid systematic risk, Muslim investors do not invest in the equities, they prefer to deposits in Western banks. Ultimately, this capital is transferred to the Multi National Corporations through institutional investment and banks' loans.

It is a common view that Muslim countries are being exploited through investment and capitalization in the developing areas, because the developing countries depend on the capital of industrialized countries largely and a vast majority of Muslim countries are on developing stage. By such a manner, Western countries may involve not only in the economies but also in politics, legal framework, governance, and even in the ideology of the Muslim countries.

One side of the picture shows that the industrialized countries have excess capital but their investors prefer to invest in their own countries. More than 80 percent of their capital is invested in the industrialized countries. Only a small part goes to the developing world. On other side developing countries are fallen in the vicious circle of the shortage of capital. So they need of inflow of foreign capital either through debts, or foreign direct investment or portfolio investment. For this purpose, they have to change their legal framework, political and economic systems and even in the constitution (which is a reflector of the ideology).

Western investors demand assure profits at rates, which are several times greater than what they would earn in a similar investment situation in the west. Weak countries offered no resistance in this matter for reasons of hopelessness, lack of knowledge, or corruption. Unconditional expansion of the fields, in which the west could invest including banking, real estate and agriculture, might appear to be attractive to poor countries. It is notable that Western emphasis on the investment conferences in Muslim countries likes Dubai, Kuwait, Jordan, Pakistan has been significantly increased in recent past. The "Institute of World Policies" has conducted a series of conferences in Jordan for the Middle Eastern and North African Countries'. Development of 'Dow John's Islamic Index' is also a part of this series. It is obvious that foreign private investment is come only for profit making. This means that its decision is a crucial matter by foreign investors, the moral values, welfare, well-being and human or regional development is not a concerned or priority of the foreign private investment.

The Western analysts are usually recommended three main steps of the economic reforms in developing countries:

1) Establishing a regional bank,
2) A regional tourism office and
3) Businessmen consortium.

The business and investment conferences would be a way of giving the foreign projects in local land.

III: Identification of the Factors of Portfolio Investment

The analysts and financial advisors in Muslim world calculate and analyze the risk and return in limited vision, because of the limited and narrow-scoped financial theories (Risk return analysis, Capital Assets Pricing Model, Miller and Modiglliani Theorems, Arbitrage Pricing Model, Time Value of Money etc.). Those theories discuss partial aspects of investment and marketing. They emphasis on diversification of investment to minimize the risk. They ignore the non-systematic risk and crucial aspects of long-term planning because of stereotype cetrus paribus assumptions of graduate level books in economics. As a result, no profitable and large Multi National Corporation can be taken over by the Muslims. Muslim are not in the board of directors of those companies who are controlling the Research and Development activities, nuclear and genetic advancements, development in medicine and health sciences, creation and development of financial engineering and running of the big universities and research organizations.

Selection and recommendation of Western-based Multinational Corporations for Islamic Investment with the justification that they are doing business according to Sharia, they are not involved in interest based transactions and they are doing business according to Islamic junctions is another illusion. Such recommendations or "Islamic index" can mobilize the Muslim World resources towards Western countries.

To establish the endogenous economic and financial infrastructure and for sustainable development, Muslim countries have to mobilize and utilize their resources endogenously. It is possible through cross boarders investment among the Muslim countries and the utilization of savings of some countries for investment in the feasible areas and sector of other countries. However, to make it practicable the policy makers and planners have to develop their financial system on the basis of the possibilities of frictionless diversification, principles of profit maximization and risk minimization.

It has been a common practice that laws and order situation is being considered as a primary reason of decrease in foreign investment. No body can disagree with the argument that social and political conditions play an important role in economic development and inflow of foreign investment. But, these factors are important for direct investment. Profit maximization hypothesis tells us that to earn possible higher return is the main objective of the investment. The direct investment can be affected only by those factors, which can affect the profitability in long-term, returns on portfolio investment are directly concerned with short-term factors. The day-to-day events, crimes, terrorism, strike, political and structural changes cannot reduce the profits immediately. They may have their long-term implications. So, these factors are important for direct investment but not for portfolio investment. As regards portfolio investment, it largely depends on the return and risk in short or medium term. The exchange rate volatility, dividend policies and monetary policies are important factors for the portfolio investment.

It is interesting phenomena that direct investment from the United States and Britain has been increasing in Pakistan during the last several years. The law & order and political situation did not affect the investment plans of American Life Insurance Company (ALICO), Pizza Hut, KFC, McDonalds, HUBCO, and many others. However, portfolio investment from the United States and Britain has been showing unpredictable volatility

It was observed in a worldwide survey that socio-political factors covers less than 13% of the investment causes in a region. The political situation and law & order condition is one of the factors, but it is not only factor. The whole responsibility of economic and financial development cannot be shifted on the political or law & order situation. We should not ignore the other heavy weight factors in the basket of foreign investment factors. It is needless to say that at the same level of risk, investor will prefer to invest in their domestic companies as compared to foreign companies. In last decade, return on investment in Pakistani domestic companies was greater than return on foreign equities and bonds. But now this situation has been changed. Now, interest rates on foreign bonds have significantly increased, so preferences of foreign investors have also been changed. Now, they prefer to invest their funds in their own countries, where returns are higher and risk is lower. If we compare the return on equities and bonds across the countries, we can easily observe two important facts:

(1) The nominal returns on investment in Pakistan are significantly higher.
(2) The return on bonds in the United States and Britain are decreasing.

Table: V
RANKING OF INVESTMENT FACTORS

Reason for Investment	%	Reason for Investment	%
Large Sales Market	**37**	Economic Framework	**5**
Work Force Availability	**13**	Infrastructure	**5**
Free Land / Industrial Site	**14**	Inputs Availability	**3**
Public Subsidies	**12**	Innovations Potential	**2**
Constitutional Framework	**8**	Research Promotion	**1**

However, the depreciation in local currency cancels out the effects of higher nominal returns. One can quantify that after conversion into US dollar, return on investment in Pakistan will be significantly lower than return in other countries. After exchange rates adjustment, the return on Pakistan equities will be much lower as compared to return in other markets. So, outflow of foreign investment will be a logical consequence in this situation.

Table: VI
YIELD ON EQUITIES

MARKET	'P/E'	YIELD
USA	18	5.56 %
BRITAIN	14	7.14 %
PAKISTAN	15	6.67 %
WORLD	**22**	**4.55 %**

Table: VII
AVERAGE RETURN ON INVESTMENT

Country	Mid-year	3-Months Money Market (%)	Government Bonds' Yield (%)	Corporate Bonds Yield (%)
USA	Last decade	5.63	8.57	9.52
	Present	7.31	4.89	5.59
UK	Last decade	4.91	7.19	8.12
	Present	5.08	4.41	6.51
Hong Kong	Last decade	4.84	NA	NA
	Present	8.10	NA	NA
Pakistan	Last decade	9.05	16.00	16.00
	Present	9.50	18.00	17.00

From the analysis, it can be concluded that blaming of political condition for low inflow of foreign investment is an escape goat and it is not a solution of the problem. To attract the foreign portfolio investment, the real returns should be higher. These higher returns are possible only by a strong exchange rate, which depends on the monetary and fiscal policies.

IV: Determinants of Portfolio Investment in relation with Monetary and Fiscal Policies:

The impact of monetary and fiscal policies cannot be ignored in stock market analysis. The stock market is not a "cause" of economic growth; it is a reflector of economic growth. The effects of public policies on economic growth can be measured by the growth of the stock market.

Day to day events and news are reflected in the stock market, some of them may be relevant to the stock market as they indicate the changes in the economic and financial fundamentals. Other may be irrelevant. Although, stock market is often viewed as "informationally efficient", negative events and "bad news" develop their impact consistently faster than positive elements and " good news". Despite this, the fundamental changes in economic structure and policies are more important than the current news. Although, day-to-day fluctuations in stock prices depend on the news largely, the long-term changes in market capitalization are directly related to the fundamental variables. The average prices for one year do not reflect the effects of the news, disinformation or rumors. They reflect the effects of the economic fundamentals.

The net profit, expectation about future returns, dividend announcements, changes in corporate governance and expected change in the market share of the firm's products are the factors which can affect the market capitalization of a company. At macro level, the magnitude of the investment in equities and market liquidity are more important. The effects of economic changes on market capitalization will be summarized in the appendix: I. It is hypothesized that market capitalization depends on the total funds invested in the listed companies' (EQUITIES) and market liquidity (LIQUIDITY) in the long-term (Mehar: 2005).

V: Role of Capital Market in Development Planning

In the contemporary global scenario, a large part of the responsibility of economic development has been shifted to corporate sector from the governmental agencies. The entire structure and growth of the corporate sector depends on the transparent and prudent financial system. An incorrect judgment regarding the financial patterns in corporate sector may be a cause of heavy distortion in the society by means of volatilities in the stock markets, employment opportunities, distribution of income, and demand-supply gap in the community markets. In the present economic structure, overall economic growth depends on the performance of corporate sector, while the financial resources of corporate sector are determined by the performance, gravity and strength of the financial markets in a country. As a leading role is envisaged for private sector, financial policies have to be geared towards capital market development, besides the institutionalization of an effective regulatory framework. Capital market is a sub-set of financial markets, which provides a linkage between the users and suppliers of the funds for long-term investment. It plays a crucial role in the process of capital formulation by bringing together those who have surplus funds and other who can put those funds in use, and thus play vital role in enhancing economic activity in the economy. A capital market mainly consists of stock (equity) and bonds markets. For macro economic management and development planning, an efficient stock market can play at least the following three pivotal roles:

1. It can reflect the levels of overall and as well sectoral development, by means of the market indices and valuation ratios.
2. It can mobilize the funds from the domestic and external sources to the priority sectors of the economy.
3. It provides the indications, guidelines and information to the investors for their investment decision-making. An efficient stock market develops a path for smooth, simple and transparent opportunities of investment without undue risk and gambling factors.

A stock exchange is a place to regulate and perform the activities of stock (equity) market. It is considered as a “barometer” of the economy, because of its immediate and visible reaction on the news and transactions of economic importance. The linkage between the macro economic targets and financial and material growth in the different sectors by means of diversified portfolio investment is indispensable for a balanced economic growth.

Harmonization between the rules and regulations among the Muslim countries are required to determine the balanced strategies regarding the reinvestment of corporate profits (retained earnings) for modernization and expansion, dividend payments, treatment of the sick units and placing of the companies on default counters at the stock exchanges. It is important that despite of several similarities in beliefs, histories, cultures and geography, Muslim countries do not have a common market or common financial system. On contrary, Western world have a similar financial system and common market despite of geographical diversity.

Stock market capitalization to GDP ratio is one of the indicators of financial sector development. The mounting magnitude of this indicator in Pakistan, Malaysia and Turkey shows that the role and contribution of financial sector is increasing in those economies. However, it is important to note that Muslim economies have failed in proper allocation of their resources among the different sectors of economy. This improper allocation leads to imbalanced growth in equilibrium in those economies. There is a need of cooperation in policies to allocate the investable funds among the Muslim countries on their comparative advantages bases. Textile, Oil and energy, banking and finance and the telecommunications are the sectors where allocation of funds may be assigned to different Muslim countries.

<u>VI: Islamization of Financial System and Elimination of Interest</u>

Interest free monetary transaction is one of the elements of the economic system offered by Islam. The transfer of wealth through Zakat, usher, and charities, distribution of wealth by different modes, land reforms, efficient and clean market mechanism and the complete transparency in the economic transactions are other elements of the system.

The realization and then implementation of interest free monetary transactions has a long history. All three of the Abrahamic religions frown on usuary. But while most Christians and Jews long ago found ways of squaring the needs of their businesses with the demands of their faith, many Muslims still believe that charging or paying interest is wrong The Economist: 2004). The industrial revolution in seventeenth and eighteenth century, bi-polarization of the world in the right and left arms on the basis of economic ideologies and the financial revolution in twentieth century left the entire economic mechanism on interest based transactions. In late twentieth century the importance of interest free system was realized again not only by the Muslim scholars and professionals but also by the liberal school of thought.

The steps for Islamization of economies have been taking in Iran, Suadi Arabia, Malaysia, Pakistan and Bangladesh. Formation of Modarbas, launching of sharia based mutual funds, Islamic indexes of capital markets, Islamic banking windows in the commercial banks and the most important the formation of new Islamic banks and insurance companies are the steps in this direction. Middle Eastern firms had developed sharia approved financial services in the 1970s, and its global market is now worth about 200 billion dollars. Islamic mortgage is available in almost all European countries. The British banks have launched ‘Halal mortgage’ in 2003. In 2004, the regulators in England granted a license to Britian first Sharia compliant bank of Britain. Interest free banking is also being popularized in non-Muslims. It is widely accepted that Islamic banking and insurance has a great potential. Unfortunately, the growth of Islamic banking in Pakistan has failed to pick up pace, as it is not comparable with magnitude of interest-based banking in Pakistan, despite the fact that peoples are hard-line supporters of the Islamic banking in their general discussions. The experts have been suggesting a broad agreement on the importance of efficiency, diversity and competition in Islamic Banking and Insurance industries. Although the evidence is less clear on other issues, they offer some conclusions. One notion is that Islamic Banking and Insurance has a great potential, but more innovative and diversified products should be introduced to tap the market. Second, informational efficiency to build the confidence in investors and depositors is important so that people rely on the products introduced by Islamic financial institutions.

VII: Recommendations

It was identified in a study (MTDF: 2005) that weak informational efficiency, under developed bonds market, lack of institutional investment, family-based ownership and weak corporate governance are also aspects which are causing the weak financial markets and cross flows of investment among the Muslim countries. To strengthen the financial markets and creating a uniform and harmonized investment and financial envornment the regulating bodies and planning authorities will have to take the following steps:

- An independent professional management system should be implemented at the stock exchanges through necessary amendments in the stock exchange regulations.
- Central Depository Companies should be formed to eliminate the transactions of dubious shares and provide the speedy transfer and verification of the shares. Pakistan and Malaysia have taken this step. Thoses companies introduced a system where physical delivery of the shares is gradually eliminating.
- An automated national clearing and settlement system should also developed and actively implement.
- A uniform and efficient settlement system is also required for a trustable cross boarder portfolio investment among Muslim countries. In Pakistan T+3 settlements system was introduced. This system has minimized the speculation element in the stock exchanges. The board of directors is also empowered to replace the T+3 system by spot trading for those stocks where speculative trading are expected in the market.
- A code of conduct should be established for the brokerage houses and securities firms.
- Accounting standards and practices should be uniformed. In the contemporary global economic environment, if countries do not have an effective financial system, adequate regulatory laws, transparency and accounting standards, their development is endangered and will not last. The linkage between the economic development and financial system cannot be ignored. A good financial system and accounting standards leads the higher investment in the economy and investment is a catalyst for economic development. It is needless to say that a weak accounting and regulatory system can create an environment where the chances of financial irregularities, loan defaulting, bankruptcies and corruption may be

higher. All of these are the factors of lower economic growth. Overwhelmingly, growth is strongly influenced by infrastructure to support information gathering and by enforcing contracts based on such information. Highest standards of accounting, disclosure and transparency are prerequisites for efficient working of the capital market.

- There must be uniformity on the ‘Future Trading’ and ‘Hedging’ issues. Similarly, there must be a clear cut policy and definition of interest. There should be no discrepancies on the restriction or definition of interest based financial transactions.

REFERENCES

1. Adler, M., and Temple J. (1988); "**On the Optimal Hedge of a Non Traded Cash Position**", Journal of Finance, Vol. 53 (2), 143-153.
2. Aga Khan Foundation (2002); "State of the Higher Education in Muslim World"; Report Submitted to His Highness Prince Karim Aga Khan; London: 2002
3. ASK Securities, (Various Issues); "**Economic and Financial Review**", Karachi, ASK Securities, Karachi Stock Exchange, Various Issues,
4. Bandt Olivier de and Jacquinot Pascal (1992); "**The Financing of Corporate Firms in France – An Econometric Model**", Economic Modeling, Vol. 19(2), 253-269.
5. Barrow, Robert J. (1964); "**The Stock Market and Investment**", Review of Financial Studies, Vol. 31 (2), 91-96.
6. Baumol, W. and R.E. Quandt (1965); **"Investment and Discount Rates under Capital Rationing**"" Economic Journal, Vol. 75 (3), 127-329.
7. Blanchard, Olivier J. (1981); "**Output, the Stock Market and Interest Rates**", The American Economic Review, Vol. 71 (2), 132-142.
8. Bosworth, Barry (1975); "**The Stock Market and the Economy**", Brooking Papers on Economic Activity, Vol. 75 (2), 257-300
9. Brackus D., Brainard W.C., Smith G., ant Tobin J. (1980); "**A Model of US Financial and Non-financial Economic Behavior**", Journal of Money, Credit and Banking, Vol. 47 (12), 259-293.
10. Bresnahan, Timothy, Paul Milgrom and Jonathan Paul (1992); "**The Real Output of the Stock Exchange**", in Zui Griliches, eds., Output Measurement in the Service Sectors, University of Chicago Press, Chicago.
11. Chaplinsky S. and Niehaus, (1992) "**Inside Ownership, Leverage and Internal Funds**", Michigan: School of Business Administration, Working Paper, Michigan
12. Daniel Del Castillo, 2005; "**The Arab World's Scientific Desert: Once a leader in research, the region now struggle to keep up**", Foreign Policy Research Institute, Pennsylvania
13. Dawn (2004); "**Statement by the Chairman Higher Education Commission**"; Karachi: Dawn 28th November, 2004
14. Demsetz, H. (1983), "**The Structure of Ownership and the Theory of the Firm**", Journal of Law and Economics, Vol. 26 (2), 375-390.
15. Diamond, Peter (1967), "**The Role of a Stock Market in a General Equilibrium Model with Technological Uncertainty**", American Economic Review, Vol. 57 (3), 759-773.
16. Fair, Ray C. (1979), "**An Analysis of a Macro Econometric Model with Rational Expectations in the Bond and Stock Markets**", American Economic Review, Vol. 69 (2), 539-553.
17. Fischer, Stanley and Robert C. Merton (1984), "**Macroeconomics and Finance: The Role of the Stock Market**", Carnegie–Rochester Conference Series on Public Policy, Vol. 21 (1), 57-108.
18. Government of Pakistan (Planning Commission), "**MTDF: 2005-10**", Islamabad, Ministry of Finance.

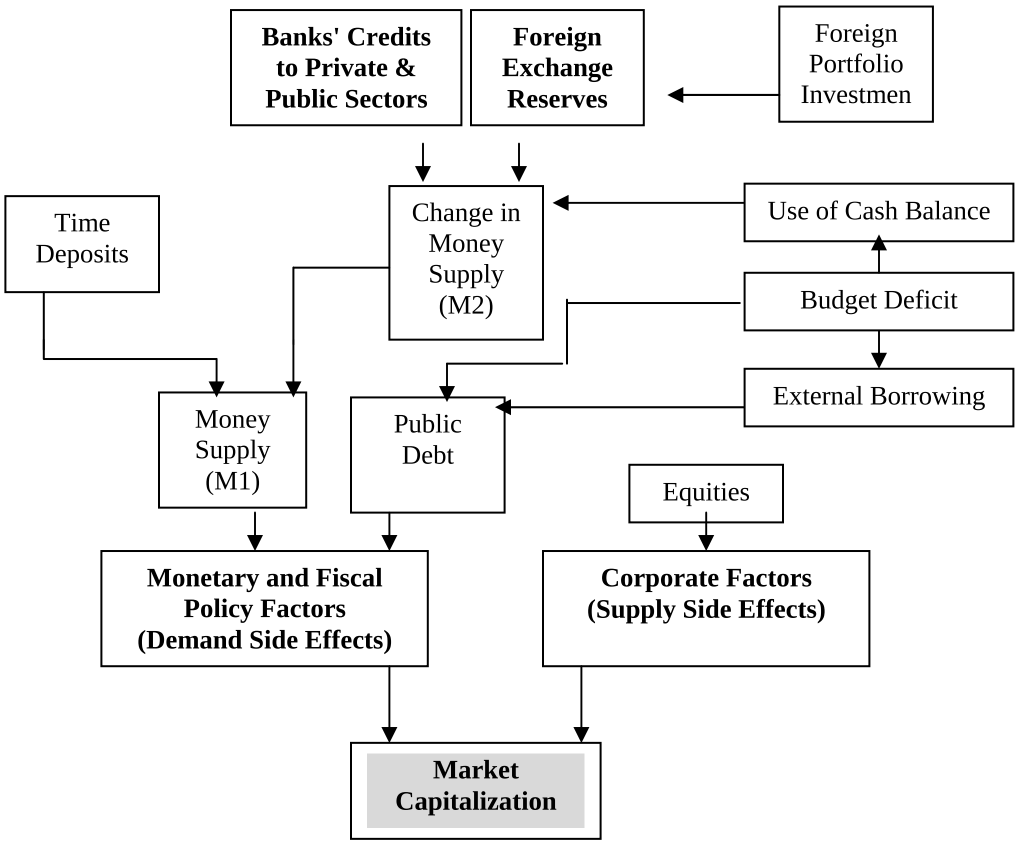
19. Gunnar Mirdal (1975); "**Asian Drama**"; Reprint by the National Bank of Pakistan Karachi 1975.
20. Helen V. Milner (1998); " **International Political Economy: Beyond Hegemonic Stability**", Foreign Policy Spring 1999
21. Holmstrom, Bengt and Jean Tirole, (1993)" **Market Liquidity and Preference Monitoring**", Journal of Political Economy Vol. 101 (2), 678-709.
22. Huntington, Samuel P. (1994) "**The Clash of Civilizations**"; Boston: Harvard University Institute for Strategic Studies at Harvard University.
23. IMF Survey (1999); "**Risk to the World Economy**",
24. International Chronicle, 2004, Volume 50, Issue 26 Page A36
25. Jeffery Sachs (2000); "**A New Map of the World**" The Economists June 24, 2000
26. Jensen, M. and W. Meckling (1976); "**Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure**", Journal of Financial Economics, Vol. 36 (4), 305-360.
27. Joseph E. Stiglitz (1999); "**Trade and the Development** World: A New Agenda"; Current History November 1999.
28. Karachi Stock Exchange (197), "**Annual Report**", Karachi.
29. Laudan, L. (1977); "**Progress and Its Problems. Towards a Theory of Scientific Growth**"; Berkeley: University of California Press.
30. Makdisi, G. (1981); "**The Rise of Colleges: Institutions of Learning in Islam and the West**" Edinburgh University Press
31. Mehar Ayub (2004); "**Socio Economic Positioning of Muslim World**"; Journal of Humanities and Social Sciences (Paper Submitted); Karachi University
32. Mehar, M. Ayub K. (2005); "**Monetary Policy, Prices and Financial Markets: Medium Term Development Framework 2005-10**"; Islamabad: Planning Commission, Report submitted to the President of Pakistan.
33. Mehar Ayub (2005); "**From Knowledge Creation to Economic Development: Missing Links in the Muslm World**"; Journal of Management and Social Sciences; Vol 1, No.1
34. Modigliani, Franco and Merto H. Miller (1963); "**Corporate Income Taxes and the Cost of Capital: A Correction**", American Economic Review, Vol. 53 (3), 433-443.
35. Myers, S.C. (1984); "**The Capital Structure Puzzle**", Journal of Finance, Vol. 49 (3), 575-592.
36. Paul Krugman (1999); "**Economic Culture Wars**"; The Economist, October 24, 1999.
37. Shleifer, A. and R. Vishny (1986); "**Large Shareholders and Corporate Control**", Journal
38. Stehr, N. (1994); "Knowledge Societies"; London: SAGE.
39. The Boston Group (2004); "**Higher Education in Pakistan: Towards a Reform Agenda**"; Boston: 2004
40. The Economist (1994); "**World Bank Report on Education**" The Economist March 5, 1994, P21.
41. The Economist, (1999); "**Finance and Capitalism**"; December 19, 1999 (Millennium Issue).
42. The Economist, (2004); "**Islamic Banking in UK**"; December 19, 2004
43. Tobin, J. (1958); "**Liquidity Preference as a Behavior Towards Risk**", Review of Economic Studies, Vol. 25 (2), 65-86.
44. Tobin, James (1969); "**A General Equilibrium Approach to Monetary Theory**", Journal of Money, Credit and Banking, 69 (1), 15-29.

45. United Nation Development Program (2000); "**Higher Education and Developing Countries: Peril and Promise**", The World Bank/ UNDP, 2000
46. World Bank (1999); "**Knowledge for Development**", World Development Report 2000.
47. World Bank (2000); "**Changing World**", World Development Indicator 2000, World Bank.
48. World Bank (2004); "**Science and Technology**", World Development Indicator 2004, World Bank.
49. World Link (2001); " **Corporate Responsibility**"; March 2001.

APPENDIX: I

IMPACT OF FISCAL AND MNETARY POLICY ON STOCK MARKET

SIMULTANEITY IN THE MODEL



APPENDIX: II

INTEREST RATE SPREAD - TOP 18 MUSLIM COUNTRIES

Country	Interest Rate Spread (%)	Interest Income - Net (Million US$)	Domestic Credit By Banking Sector (Million US$)
Sierra Leone	14.0	72	511
Nigeria	13.1	538	4105
Gambia	13.0	5	41
Cameroon	10.5	156	1486
Chad	10.5	16	157
Gabon	10.5	90	855
Kyrgyz Rep	9.8	0	0
Uganda	9.5	38	395
Albania	7.2	94	1309
Lebanon	6.9	1265	18328
Bangladesh	5.9	780	13213
Guinea-Bissau	4.5	1	20
Egypt	4.0	2619	65474
Guinea	4.0	11	264
Jordan	3.2	204	6377
Kuwait	2.9	899	31011
Oman	2.0	71	3534
Indonesia	1.8	2245	124697
Malaysia	1.8	2926	162579

INTEREST RATE SPREAD - NON-MUSLIM COUNTRIES

Country	Interest Rate Spread (%)	Interest Income - Net (Million US$)	Domestic Credit By Banking Sector (Million US$)
Uruguay	51.9	4042	7789
Bulgaria	37.1	1122	3026
Mongolia	36.9	32	88
Bolivia	35.3	1563	4427
Ukraine	30.9	2640	8544
Armenia	28.2	38	133
Jamaica	22.3	361	1621
Tanzania	21.4	204	955
Malawi	18.0	38	209
Belarus	16.2	649	4005
Madagascar	15.6	77	493
Russian Federation	15.3	17713	115768
Ecuador	14.9	1087	7294
Peru	14.9	1684	11301
Paraguay	14.0	363	2596
Zimbabwe	13.9	759	5459
Estonia	13.6	188	1386
Kenya	13.5	737	5458
Guatemala	12.8	448	3501
Zambia	12.2	208	1708
Croatia	11.2	992	8854
Lao PDR	11.0	31	282
Honduras	10.8	142	1311
Central African Republic	10.5	11	102
Congo Rep	10.5	41	388
Cambodia	10.4	24	234
Haiti	10.3	75	726
Columbia	10.1	4545	45000
Mexico	9.9	11968	120889
Moldavia	9.9	49	500
Mauritius	9.8	311	3175
Costa Rica	9.5	338	3561
Latvia	9.4	79	840
Greece	8.8	9099	103398
Nicaragua	8.6	252	2929
Trinidad	8.4	286	3406
Dominican Rep	7.6	354	4662
Namibia	7.5	136	1817
Slovenia	6.8	439	6461

Lithuania	6.5	73	1121
Germany	6.4	189480	2960633
Lesotho	6.2	-15	-240
Ireland	6.1	2041	33463
Philippines	6.1	4215	69094
Israel	5.6	4520	80721
Poland	5.6	2803	50058
Czech	5.5	2284	41524
Vietnam	5.3	298	5616
Slovak Republic	5.2	727	13973
Denmark	5.1	4856	95221
Italy	4.9	52147	1064225
Botswana	4.8	-183	-3813
Portugal	4.6	4665	101418
South Africa	4.6	9519	206938
Sweden	4.5	7478	166176
Venezuela	4.4	712	16184
El Salvador	4.3	213	4945
Australia	4.2	14462	344329
Belgium	4.2	14973	356509
New Zealand	4.1	2602	63474
Mynamar	4.0	0	0
Chile	3.7	1845	49872
Panama	3.6	221	6134
China: H.Kong	3.5	10060	287439
Ethiopia	3.5	99	2827
Switzerland	3.5	16457	470198
Finland	3.3	2234	67706
Hungary	3.2	718	22451
Papua New Guinea	3.1	51	1656
Thailand	3.1	6699	216088
China: Republic	3.0	28764	958806
Netherlands	3.0	14332	477729
UK	3.0	49903	1663429
Singapore	2.9	2369	81679
France	2.8	39848	1423136
Argentina	2.3	2033	88403
Norway	2.3	2586	112415
Japan	2.1	260465	12403090
Spain	2.1	12100	576193
Canada	1.4	8789	627800