

ISSUES IN ISLAMIC ECONOMICS

DR. MABID AL-JARHI

PURE PROFIT SHARING MODELS

Islamic finance is still as it has been a fertile ground for economic research. There are many important questions that require scholarly acumen. To mention a few: Should the central bank *invest* newly issued money or *hand it over* to the government (Al-Jarhi, 1981 and 1999)? Should there be a government deficit and how is it to be financed? How should monetary policy be conducted in the absence of an integrated credit market? Should we allow indexation of future monetary obligations? Specifically, should the central bank in an Islamic economy seek price stability, or target a certain rate of inflation (Beetsma-Jensen, 1999; Blanchard-Fischer, 1989; Marty- Thornton, 1995; McCallum, 1995; Svensson, 1997)? How financial markets should be structured in an Islamic economy, and what rule of exchange should be applied to prevent them from becoming our backyard gambling casino? Each of those questions and many more are open to new ideas and rigorous analysis.

A rather important question relates to the *pure models*, like the *pure exchange model*, the *pure production model* and the *closed model*, which economists have used as first-step to be followed by additional complications. In the final analysis, no one would claim that the contemporary economy could be represented by any of those pure models. In parallel, Islamic economists can use *pure profit sharing* and *pure Murabaha*

models as first approximations. However, it would be a great pitfall to characterize an Islamic economy as a pure model of sort.

As economists started from the principle of interest prohibition, they thought that an Islamic economy would be devoid of all debt. As we know, finance can be optimal only through a combination of debt and equity. Profit-sharing puritans would have the Islamic economy unintentionally deprived from such advantage. As economists learned more about the jurisprudence of transactions in Islam, they realized that either the price or the delivery of the commodity could be postponed¹. In both cases, a debt is automatically created. To ignore that would be an unfortunate misunderstanding.

This misunderstanding became associated later on with attempts to discredit *Murabaha* contract as similar to lending. Malpractice purportedly committed by some Islamic banks fueled such attempts. Few people realized at that time that this was the same argument leveled by the heathens of Mecca against the prohibition of Reba, as they said “إنما البيع مثل الربا”².

Setting malpractice aside, for no one denies it should be corrected, to claim that trade is like interest appears to be unworthy of professional economists. In a recent work (Al-

1. ¹ An important exception to this general rule emerged from a resolution by the OIC Islamic Fiqh Academy allowing the postponement of both the price and the delivery of the object (to be tailor-made).

2. ² Al-Baqarah, 275.

Jarhi, 1999), I have tried to explain the differences between trade- and interest-based transactions at the microeconomic level through the distinction between *real* and *nominal* transactions. Nominal transactions are carried out between money and monetary assets, while real transactions are carried out between money and commodities including real assets³. Real transactions influence both demand and supply for real output directly and almost instantly, while nominal transactions cannot perceive to cause similar influences⁴.

Our economic instinct would therefore tell us that a deferred-payment sale would be a *real* transaction, i.e., an exchange that goes through a commodity. Supply and demand functions of producers and consumers would be directly influenced by changes in real transactions. Ensuing influences on speeds of adjustment at the market level would go a long way in shaping equilibrium and stability in the commodity markets concerned. In other words, signals to economic agents are directly influenced by real transactions.

We can imagine in each commodity market, a certain proportion of exchange is done on credit, while the rest is done in cash. Because debt is not marketable, as would be explained later, each commodity market has its own credit

3. ³ There is a third category of transactions that exist in an Islamic economy, which involves the *spot* exchange of money against foreign exchange. Foreign currencies are usually acquired for use in purchasing foreign commodities, or to be kept as a store of value. We can therefore consider them as semi-nominal transactions. The above division obviously ignores the foreign exchange market.

4. ⁴ Some parties of nominal transactions may gain and become wealthier, which would affect their effective demand for real output, while the other parties would become equally poorer and their demand may be influenced in the opposite directions.

demand and supply, which would determine an equilibrium mark-up. Commodities, which would enjoy higher demand on credit, would also enjoy higher mark-ups. People with financial resources cannot move automatically into such markets to benefit through lending, as they must enter the commodity markets concerned either as producers or wholesalers. In this case each commodity market has its own credit market. At the same time, there would be no *fully integrated* economy-wide market for credit, if nominal transactions were prohibited.

Nominal transactions, meanwhile, influence the cost of lending money within an economy-wide credit market. In a conventional economy, commodity markets would be segmented while the credit market is integrated. Therefore, we can conclude that there are significant microeconomic differences between deferred sales and borrowing money. Some estimate that a sizable number of Muslim economists see both as equivalent. If true, one is tempted to ask whether we would need a second reading of our microeconomics.

In addition, debt created through Islamic financing modes differs from that created through conventional debt finance. Conventional debt is marketable and renewable. Temporary insolvency is met by punitively higher interest rates. Debt created through Islamic modes is non-negotiable and temporary (excusable) insolvency is not associated with any penalty interest payments.

At the macro level too, *Murabaha* and conventional debt finance are not equivalent. They have different effects both nationally and internationally. Nominal transactions can be a source of disturbances and shocks that take more than routine proportions. Internationally, the absence of a “debt market” in an Islamic economy shields it from the haphazard movements of short-term debt.

Generally, we can emphasize that an Islamic economy is not a “pure profit-sharing” economy. It includes debt; to the extent that debt-creating modes of finance are used. However, all transactions in the economy are real transactions, as we define them. Moreover, debt is non-negotiable and there is no debt market.

COMPARATIVE BANKING SYSTEMS

The recent deregulation of the banking industry in the United States has been instrumental in developing a debate among American economists regarding the choice of the banking system. As few of us would realize, there are two competing banking systems in the industrial countries: commercial banking which is predominant and universal banking which is practiced in few countries, especially in Germany and Japan. Apparently, universal banks provide a mixture of debt and equity finance to enterprises, while commercial banks limit their facilities to debt finance.

Universal banking appears to be the closest thing in the West to Islamic banking. There are differences though. Islamic banking does not provide debt finance, but they use debt-creating modes. Simultaneously, they can provide profit sharing and equity finance. As one might expect, while universal banks are careful to provide enterprises with both debt and equity finance simultaneously, Islamic banks lack the experience to benefit from multiple-mode financing.

The current debate regarding universal versus commercial banking is rather energetic (Boyd, Chang and Smith; Diamond; Dewenter, and Hess; Strahan, 1998). We can see two important conclusions coming out:

Risk coefficients appear to be lower with respect to universal banks during both the downturns and the upturns of the business cycles.

Universal banks become even less risky than commercial banks during downturns (Dewenter and Hess, 1998).

Market risk, which is associated with the rate of return on the bank's portfolio declines for universal banks during downturns, which means that they are less exposed to moral hazard, as they choose less risky customers than their commercial counterparts.

Islamic economists can take this opportunity to supplement the ongoing research from two angles. First, the differences that might exist between Islamic and universal banking

should be reflected as different patterns of behavior towards moral hazard and adverse selection. Both banking systems should therefore be compared. Second, should the differences between both banking systems prove insignificant, the advantages of universal banking in terms of lower risks should also apply to Islamic banks.

FINANCIAL MARKETS

The theory of comparative advantage, implying gains from specialization and international commodity flows, is one of the jewels of economic analysis. The oft-quoted article of Jeffrey Sachs and Andrew Warner (1995) shows that developing countries that liberalized their economies have grown faster than those who did not. The skeptics' view supported by Dani Rodrik and Francisco Rodriguez (1999) advises a grain of salt, as *temporary protection* that encourages some industries to become competitive through learning by doing would also boost growth. The benefits of *ultimately* liberalizing commodity flows still stand.

However, no similar argument for capital flows has been produced. Lately, capital flows have been a source of instability that moved from one economy to another in a contagious fashion. Financial markets have been accused of lack of efficiency and moving independently from fundamentals, thereby deserving greater skepticism and suspicion.

Financial-market crises have acquired curious regularity. Starting with the most recent experience of the Wall Street crash of October 1987, we confronted Japan's stock market collapse of 1989. The collapse of Europe's exchange rate mechanism during 1992-93, the crash of the bond market and the Mexican crises followed in 1994. The East Asian crisis of 1997 was succeeded by Russia's failure to pay its debt in 1998. Such crises seem to be getting more likely and bigger (Economist 1999).

The recent financial-market instability cannot be attributed solely to oil shocks, floating exchange rates nor even electronic commerce. Such elements can be easily adjusted to. I rather believe that there are two important sources of instability. The first is that nominal transactions, i.e., dealing in debt, have grown to several times the size of real transactions, as measured by GDP. The second is that non-delivery transactions, like options, which are basically gambling contracts, have reached unimaginable limits.

Islamic economists have been almost unanimous in disapproving of certain transactions carried out in financial markets either for involving the rate of interest, like the purchase and sale of debt or gambling-like transactions, specifically options and similar derivatives.

Perhaps we can reiterate an old question posed by pre-Islamic Arabs to the Prophet ρ : gambling is fun for pastime, why should it be made unlawful?

Some of us may remember a groundbreaking article by Fischer Black and Myron Scholes (1973) that contained a model for option pricing. In the same year, Robert Merton (1973) joined in to develop an algorithm to calculate the price of an option. The central variable in Black-Scholes model is the volatility of the asset price over the lifetime of an option.

Simultaneously, the demand for derivatives in general and options in particular skyrocketed. This has been attributed by some to the breakdown of the Bretton Woods exchange-rate regime, the oil shocks of the seventies and the growing sophistication of financial markets (Economist, 1999). Option-pricing models therefore became the center of financial economics. Their importance has gone beyond academics as they shaped the pattern of exchange behavior in financial markets.

Gambling is only a means through which financial markets attempt to measure and price risk. This in turn guides traders in their attempt to cover their risk. With gambling, financial markets become a wide arena for risk trading.

According to option pricing models, to trade the risk of holding an asset, one buys an option for the lifetime of the asset. The estimated price of such option depends on the

estimated volatility of the asset price during its lifetime. The option seller will not wait to bear the full risk without protection. Instead, as the asset price rises or falls, he buys or sells some of the asset until the option expires. This is called *dynamic or delta hedging*.

Major investors found they did not have to sell an option to start with, as they could do their own delta hedging more cheaply through directly selling and buying parts of their assets as their prices rise or fall. By 1987, more than \$60 billion of equity were placed under the umbrella of *portfolio insurance* (Economist, 1999) managed by *hedging funds*. When asset prices started to come down, those with portfolio insurance attempted to sell large amounts of assets, pushing prices lower, and thus offering more of their assets for sale, which in turn pushed prices even lower.

The use of the option-pricing algorithm that depended on asset volatility by traders, especially hedging funds, has therefore made the market even more volatile. Gambling in the form of risk trading or dynamic hedging is the culprit. Islamic economists specialized in financial economics can throw more light into this tunnel.

BANK REGULATION

Islamic economists would realize that Islamic banks are generally not properly regulated. In many countries, only one or just few Islamic banks are allowed to work. We can

therefore suspect lack of competition, probably accompanied with inferior products and higher prices. In addition, the monetary authorities in the countries concerned, being accustomed to concentrate on the quality of debt owed to banks, rarely look into the propriety of trade, equity and profit-sharing finance. Worse still, monetary authorities shun away from Shari'ah supervision, leaving it up to the shareholders of each Islamic bank. Evidently, the standardization of banking products would be a tall order in this case. The common misunderstanding is that Islamic banking requires no adjustment in regulations and the way they are applied.

The dialogue with monetary authorities as well as with Islamic banks must be supplemented by basic research on Islamic banking regulations. Economics present *banking theories*, (surveyed by Bhattacharya and Thakur, 1993) and *corporate governance and capital structure theories* (Hart 1991, and Dewatripont and Tirole, 1994) to deal with regulation issues. Recently, Bhattacharya, Boot and Thakor (1998) have attempted to shed new lights on some issues yet to be resolved. They can be summarized in five points:

1. Deposit contracting: how important is the right to withdraw deposits instantly to depositor's welfare.
2. Deposit insurance, whether it is advisable and at what scale,

3. Regulation of intermediaries with insured liabilities, especially capital controls and closure rules.
4. The role of government in managing idiosyncratic and systematic liquidity shocks to banks.
5. Banking scope and interbank competition: whether universal banking should be adopted instead of commercial banking.

It is sufficient to say that this is a fertile area of research for Islamic economists. In particular, some of the conclusions reached appear to confirm Islamic thinking and some appear to challenge it. This is of course an added incentive to reformulate those theories from an Islamic perspective.

FURTHER THEORETICAL ISSUES

1. A model can be constructed to compare commercial, universal and Islamic banking within *banking theory*: moral hazard and adverse selection hypotheses and their implications for banking behavior. See, e. g., Comparative Financial Systems, JMCB, Aug. 1998, Part 2.
2. Financial Intermediation in an Islamic economy takes a different form. While demand deposits are non-earning monetary assets that are cashable on demand, investment deposits replace time and saving deposits. The latter can be restricted or unrestricted. They provide banks to invest in equity, profit-and-loss-sharing ventures (PLS), and

finance the purchase and lease of assets and commodities. At the end of the accounting period, net profits are calculated and distributed between banks and depositors according to a pre-agreed formula. Investment depositors therefore share risks with bank. They are theoretically exposed to losing their deposits, although banks use diversification and other risk reducing techniques to avoid such outcome. Here, depositors have special interest in monitoring banking performance, of which the rate of profit distributed on deposits is an indicator.

3. The bank itself finances investors in a combination of equity, PLS and purchase/lease finance. The latter modes result in debt creation.
4. In such setup, we can attempt modeling banks and depositors' behavior within Islamic banking, where depositors choose a combination of demand and investment deposits to maximize their returns, and banks choose the right mix of liabilities (deposits) and assets (investments). Special attention should be given to the specifications of the demand and investments contracts between depositors and banks on the one side, and investment contracts as well as debt (mark-up) contracts on the other side. See for example, Calomiris and Kahn (1991).

5. Comparing moral hazard between commercial and Islamic banking, to find the optimal regulatory rule, See, e.g., Bhattacharya, Boot and Thakor (1998).
6. It has been noticed that financial markets differ in some important characteristics between economies with commercial (e.g., the USA) and universal banking (e.g., Germany). The characteristic differences between Islamic and conventional financial markets can similarly be deduced. The sources of turbulence, e.g., short-term debt, trading on the margin, derivatives, etc., can be identified as in a conventional economy. This can help identify sources of perturbations in Islamic financial markets and provide some policy guidance as to market structure, organization and regulation.
7. Financial innovations in conventional markets have tended to develop new ways to speculate on asset prices. This has gone far enough to transfer the market to a gambling casino. In Islamic economies, gambling, defined as a combination of a zero-sum game and a purposeless transaction with win-lose conclusions are not permitted. In addition, monetary assets are not exchangeable before maturity except at par. Some interesting aspects could be worth research. First, what kind of equilibrium is reached in Islamic financial markets and what “price” is therefore produced as no interest rate exists. Second, how equilibrium in those markets is related to equilibrium in

money markets. Third what stability conditions exist and whether Brownian motion prevails as a pattern of change.

8. The money market will thus contain government-issued instruments, perhaps also central bank certificates, as well as corporate investment certificates, but no debt instruments. Such market can be looked into in terms of equilibrium, stability, and efficiency for use in open-market operations.

SOME EMPIRICAL ISSUES

I. ISLAMIC BANKING PRACTICES: POTENTIAL, CRITICAL EVALUATION AND PROSPECTS

We would like to examine the potential of Islamic banks practicing universal banking rather than commercial banking. Evaluation of development, performance and prospects of Islamic banking in light of the challenges it is expected to face in the next millennium. Factors that may be considered include: how close Islamic banks have come to the Islamic model, their development in aspects of finance and governance, the patterns of Intermediation, viz., the bank-investor and the bank depositor-relationship, the scope of operations, relative efficiency within Islamic and conventional banking, etc.

II. ENABLING ENVIRONMENT

We would like to assess the current environment(s) within which Islamic banks are operating and how it can be

improved. Evaluation here is done with an accent of how supporting institutional arrangements help reduce costs and risks within the context of asymmetric environment. Such assessment may include looking into the extent to which the current institutional set-up provides sufficient support, what type of institutional arrangements are required for such support, how such institutions could reduce costs of Islamic banking within the context of asymmetric information, empirical examples supporting theoretical analysis, etc.

III. COMPARATIVE PERFORMANCE

Using the tools recently developed with necessary adaptation, to test the comparative performance of Islamic banks, Dewenter and Hess, JMCB, August 1998, Part 2.

IV. INTERACTION BETWEEN ISLAMIC AND CONVENTIONAL BANKING

There are areas of cooperation and meeting points as well as areas of competition and points of departure, and an assessment of the record.

ISLAMIC FINANCIAL INSTITUTIONS

In this section, we attempt to assess of the development, performance and prospects of investment companies, insurance companies, and the like, that work within the limits of sharia'.

I. ISLAMIC FINANCIAL INSTRUMENTS AND MARKETS

A. FINANCIAL INSTRUMENTS

Survey of instruments currently available and how they fulfill holders' requirements in comparison with conventional instruments, the special problems connected with them if any, conventional instruments that do not yet have Islamic counterparts, and proposals to develop such instruments. Rules that should be observed in the design of new financial instruments (rule of financial engineering).

B. FINANCIAL MARKETS

The structure and characteristics of an Islamic financial market, derivation of possible patterns of price movements, ways (policies, institutions, arrangements, etc.) that could prevent sharp fluctuations and as well as price changes not based on fundamentals. Comparison of the experiences of some Muslim countries can be done in this respect.

C. FINANCING OF MICRO ENTERPRISES

Survey of some important experience in this regard that could provide lessons for Islamic finance, examples are the social funds and banks in some Muslim countries, e.g., Egypt, and micro finance institutions in other countries, like Bangladesh. Attention should be given to the critical assessment of to what extent they benefit the poor, as compared with other alternatives.

REFERENCES

1. Al-Jarhi, Mabid Ali (1981), *Towards an Islamic Monetary and Financial System: Structure and Implementation*, the International Center of Research in Islamic Economics, King Abdulaziz University, Jeddah.
2. Al-Jarhi, Mabid Ali (1999), “ Functions Of Institutions In An Islamic Monetary And Financial System And Their Role In Monetary And Financial Policies And Financial Markets, “ Proceedings of a Seminar on Applications of Islamic economics, Morocco, 1998, IRTI, Jeddah.
3. Beetsma, Roel M. W. J. and Henrik Jensen (1999), “Optimal Inflation Targets, ‘Conservative’ Central Banks and Linear Inflation Contracts: Comment, “*American Economic Review*, 89-1(March), 342-47.
4. Bhattacharya, Sudipto, Arnoud W. A. Boot and Anjan V. Thakor (1998), “The Economics of Bank Regulation, “*Journal on Money, Credit and Banking*, 30-4: 745-70.
5. Bhattacharya, Sudipto and Anjan V. Thakor (1993), “Contemporary Banking theory, “ *Journal of Financial Intermediation*, 3: 2-50.
6. Black, Fischer and Myron Scholes (1973), “The Pricing of Options and Corporate liabilities, “*Journal of Political Economy*, 3: 637-54.

7. Blanchard, Olivier J. and Stanley Fischer (1989), *Lectures on Macroeconomics*, MIT Press, Cambridge Mass.
8. Boyd, John H., Chun Chang and Bruce D. Smith (1998), "Moral Hazard under Commercial and Universal Banking," *Journal of Money Credit and Banking*, Vol. 30, No.3, Part 2: 426-468.
9. Calomiris, Charles W. and Charles M. Kahn (1991), "The Role of Demandable Debt in Structuring Optimal Banking Arrangements," *American Economic Review*, 81-3 (June), 497-513,
10. Dewatripont, Mathias and Jean Tirole (1994), "A Theory of Debt and Equity: Diversity of Securities and Manager-Shareholder Congruence," *Quarterly Journal of Economics*, 109: 1027-54,
11. Dewenter, Kathryn L. and Alan C. Hess (1998), "An International Comparison of Bank's Equity Returns," *Journal of Money Credit and Banking*, Vol. 30, No.3, Part 2: 472-492.
12. Diamond, Douglas W. (1998), "Comments on Moral Hazard under Commercial and Universal Banking-," *Journal of Money Credit and Banking*, Vol. 30, No.3, Part 2: 469-471
13. Economist (1999a), " The Never-Ending Question, " June3-9: 80,

14. Economist (1999b), "The Price of Uncertainty," June 12-16: 81-82.
15. Hart, Oliver (1991), "Theories of Optimal Capital Structure: a Managerial Discretion Perspective," National Bureau of Economic Research Reprint.
16. Marty, Alvin L. and Daniel L. Thornton (1995), "Is There a Case for Moderate Inflation?" *Federal Reserve Bank of St. Louis Review*, 77-4 (July-August), PP.27-38.
17. McCallum, Bennett T. (1995), "Two Fallacies Concerning Central Bank Independence," *American Economic Review, Papers and Proceedings* (May), 207-211.
18. Melino, Angelo, "Estimation of Continuous-Time Models in Finance," in Christopher A. Sims, *Advances in Econometrics Sixth World Congress*, Vol. 2: 313-51.
19. Merton, Robert (1969), "Lifetime Portfolio Selection Under Uncertainty: The Continuous Time Case," *Review of Economics and Statistics*, 51:247-57.
20. Merton, Robert (1973), "The Theory of Rational Option Pricing," *Bell Journal of Economics and Management Science*, 4: 141-83.
21. Rodrik, Dani and Francisco Rodriguez (1999), "Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence," National Bureau of Economic Research Paper No.708, April.

22. Sachs, Jeffrey and Andrew Warner (1995), "Economic Reform and the Process of Global Integration," *Brookings Papers on Economic Activity*.
23. Strahan, Philip E. (1998), "Comments on An International Comparison of Banks' Equity Returns," *Journal of Money Credit and Banking*, Vol. 30, No.3, Part 2: 493-499.
24. Svensson, Lars E. O. (1997), "Optimal Inflation Targets, 'Conservative' Central banks, and Linear Inflation Contracts," *American Economic Review*, 87-1 (March), 98-114.
25. Thompson, William (1999), "The Young Person's Guide to Writing Economic Theory," *Journal of Economic Literature*, 37-1, 157-183.