Developmental Perspectives on Financial Innovation in Forward and Futures Derivatives

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A Critical Discussion with Special Consideration of Islamic Banks and Financial Institutions

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Von der Fakultät VIII - Wirtschaft und Management
der Technischen Universität Berlin
zur Erlangung des akademischen Grades
Doktor der Wirtschaftswissenschaften
genehmigte Dissertation

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Tag der wissenschaftlichen Aussprache: 2.5.2007

Berlin 2007
D 83

Abstract

The neoclassical study of forward and futures markets in the context of developing countries is undertaken by assuming a static role, predominantly a risk mitigation function, a general strategy of liberalisation, and economic growth as primary aim. Yet, the most neoclassical economic theory can claim in general terms is the First Welfare Theorem—an economy with complete markets is Pareto-optimal—raising more puzzles than answers. One of the puzzles is the Miller-Modigliani theorem, which in consequence says that in neoclassical complete market systems finance has no role. The second puzzle is that the Welfare Theorem does not allow any statement for situations before reaching the complete market system. Hence, by modelling speculative and arbitrage purposes in hedging behaviour including their cross-market effects, adding a new futures market may result into an extreme form of Pareto-suboptimality. The first purpose of this thesis is to suggest a new developmental approach to the study of financial innovation in forward and futures trading. Financial innovations need to be evaluated by there contribution to a financial strategy that supports economic stability and by considering that economic functions change depending on the social system of a society. A further purpose of this thesis is a critical discussion of the Islamic banking paradigm.The process of financial innovation in Islamic financial institutions is analysed as indicator for their maturity and their ability to offer a viable alternative to interest-based finance.

Neoclassical economics was formulated to describe an idealistic capitalist economy and can not appropriately reflect the relevance of dynamics, institutions and financial intermediation. Financial liberalisation policies prescribed by the IMF and other international agencies were justified on neoclassical economic grounds and drove the concerned developing countries into financial and economic crises. The economic analysis of futures markets demonstrates that economic models based on a single economic function are missing the needed dynamics and are not able to reflect the effect of ‘dangers of second order’. The claim of institutional economists is strengthened that the incentive system can not be explained by rationality alone; theory of decision making under uncertainty is not only empirically falsified but also value-laden and not compatible with every existent value system. A literalist interpretation of Islamic law, as practices in Islamic finance, is not able to represent the Islamic value system and not able to offer a viable alternative to the neoclassical paradigm. The choice of effective organisation forms of forward markets has to consider a wider understanding of economics and development to value cultural capital and the social system. The primary economic need of financial stability would necessitate the negative destabilising speculative effects of forward trading to be reduced through a portfolio of increased regulatory and market based approaches, like increasing the margin requirements on futures trading.

To my mother Hosna and my father Aly,

To my wife Sandra,
And my children Rashid and Karim

In love and thankfulness.

Love is from the Infinite, and will remain until eternity.
The seeker of love escapes the chains of birth and death.
Tomorrow, when resurrection comes,
The heart that is not in love will not pass the test.

Rumi

Acknowledgments

I would like to thank my supervisors Gernot Weißhuhn and Seif Tag el-Din for their continuous assistance during the preparation of this PhD dissertation. They always encouraged me towards a critical and creative mind and to limit myself only by the high standards of academic research. It was a great pleasure to work with both of them.

I also want to thank the Oxford Centre for Islamic Studies for providing me a wide range of resources during my research and the opportunity and means to meet the leading Sharia scholars, regulators and business practitioners of the Islamic finance industry. The many formal and informal discussions I had with them enriched my person and the Islamic banking part of this study with insight and vision. I feel very much indebted to all of them.

Special thanks belong to Abdellah Chibani and Abdelatif Kadim, who I was allowed to experience some of their enlightening capacities in the many discussions we had.

I also would like to thank my family for their unlimited support and patience, without which this humble contribution to the academic field would not have been possible.

All remaining faults and shortcomings have to be contributed to the limitations of my person to better translate such wealth of support I was allowed to enjoy.

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Chapter One: Introduction

'There is no mystery why the field of development has failed to develop during the five decades since the end of World War II. Neoclassical theory is simply an inappropriate tool to analyze and prescribe policies that will induce development. It is concerned with the operation of markets, not with how markets develop. How can one prescribe policies when one doesn't understand how economies develop?'

Douglass C. North[1]

Two main challenges of the last century in the field of economic development have still not been met. The first refers to the many goals that the world had set for its poorer regions in terms of economic development and that remain unachieved. The second is that a reliable scientific explanation of the problems of underdevelopment remains elusive and without such we can hardly point the way to economic prosperity and growth. Describing the situation in explicit words some economists have declared 'The End of the Third World and the Failure of the Great Theory' (Menzel 1992).

[1] Nobel acceptance address, December 9, 1993 [1994, p. 359].

Such desperation had its effect on how the globalisation of neoclassical economics as the dominant economic paradigm is being viewed. By trying to model reality in the form of a 'frictionless and static world' (North 1994, p. 359) the adopted mathematical elegance of neoclassical economics failed to reduce the complexity of economic reality and explain the logic of dynamic change. Different alternative theories have been proposed, e.g. institutional economics or neo-Keynesianism; yet, neoclassical economics has demonstrated a strong pertinacity in both the economic policy and academic field. This has led some economists to liken it to the 'Emperor with No Clothes', who retains delusions about his dignity, until a child is reckless enough to say out loud what everyone can see but dare not say (Keen 2001). The difference is that concerns towards neoclassical economics are persistently raised without this having a significant effect on policy making or academic teaching. The limitations of current economic theory become particularly unambiguous in the field of finance and development.

Current economic literature portrays a strong confidence that financial systems play an important role in the development of real economies. Since the financial system is 'at the core of modern economies' (Demetriades and Andrianova 2003, p. 1), it is not surprisingly that the assumed positive role of finance for economic growth, for long the main focus of development efforts, has even reached a 'general consensus' (Khan and Senhadji 2003, p. 90). However, the widely perceived importance of finance for economic development opposes the gap in the economic literature that does not

sufficiently provide a general analytical framework to study the emergence and role of financial institutions in real economies.

Economists have tried to explain the existence, development and role of financial institutions, which seem to take different evolutionary paths in different economies. Yet, our current ability of theoretical treatment and understanding of financial innovation is very limited. Even the elementary reason for the existence of financial institutions can not be theoretically deducted in a satisfactory manner, as until today 'No general theoretical model can fully explain why financial intermediaries exist' (Khan and Senhadji 2003, p. 90). Where economic theory ends, economists find themselves returning to economic intuition and common sense, which, however, multiply the heterogeneity of opinions rather than reduce it.

Looking back to the extensive globalisation of financial markets in recent decades, the expansion of financial derivatives is seen as 'by far the most significant event' during that time (Greenspan 1999). It becomes clear that successful financial innovation in industrialised economies was an endogenous process supported by changes in the social and economic system. In this process new risks have arisen and spawned more financial innovations to manage them. A major milestone in this process was the invention of the first financial futures market at the International Monetary Market (IMM) in 1971. It provides an illustration of the unique role a change in economic paradigms, in particular, can have in supporting financial innovation.

Innovation of Financial Futures

The IMM was established as a subdivision of the Chicago Mercantile Exchange (CME) and started business on May 16, 1972 with foreign currency futures including British pounds, Canadian dollars, Deutsch marks, French francs, Japanese yen, Mexican pesos and Swiss francs (Melamed 1988). Later, the contracts traded were expanded to include several more futures contracts based on different financial instruments. As the inventor of and leader in financial futures, the IMM played 'an important role in the age of floating exchange rates, the globalisation of finance, and the information revolution' (ibid., p. 393) and in the development of global markets. The idea was exported to many other countries, which subsequently adopted it and started dealing in financial futures.

Leo Melamed was the chairman of the CME during the start-off and development of this new market. According to him, the IMM was 'an invention made necessary by the dictates of the times' (ibid., p. 394), times of great change in the global financial and economic order. On August 15, 1971, Nixon refused to provide gold to foreign dollar holders and 'closed the gold window', despite US obligations under the international agreement of Bretton Woods signed on July 31, 1945. This happened after Central banks had begun converting dollar holdings to gold in the climate of instability brought about by the ongoing Vietnam War. The Bretton Woods system of adjustable pegs was officially abandoned in 1974 and replaced by the Jamaica Agreement (see Eckes 1975). The effect on the stability of the global financial system was enormous: 'Unquestionably, the closing of the gold window produced a seismic

shock that unleashed financial reverberations that were to be felt even a decade later' (Melamed 1988, p. 394).

The Bretton Woods conventions were dismissed by the dictate of a dominant US, even though the agreement had been initially set up to reflect the interests of the US: 'The institutions created at Bretton Woods reflected the American vision of this postwar world. The International Bank for Reconstruction and Development and the International Monetary Fund were international in name only: for the United States, as the largest contributor, largely dictated the approach taken to reconstruction of a war-torn world' (Wilson 1988).

On July 1st, 1944, after it was clear that a German collapse was imminent, some 45 countries of the 'United and Associated Nations' met for the first major international conference of World War II. The conference took place in Mount Washington Hotel, Bretton Woods, where they discussed the future global financial and monetary order. The establishment of two institutions, the World Bank and the IMF, were decided (see Garder 1964; Eckes 1975; Block 1977; Van Dormael 1978; Wilson 1988; Woods 1990). Harry Dexter White, besides Keynes, was 'one of the two great intellectual founders of the IMF and the World Bank' (Boughton 1998). He was chief international economist at the U.S. Treasury in 1942-44 and the de facto leader of the U.S. team at Bretton Woods. He drafted the U.S. plan for the IMF in competition with the draft that Keynes prepared for the British Treasury. '[I]t was because of the strength of American economic and political power, not the superiority of White's intellectual power, that the IMF was shaped primarily by the White Plan rather than

the Keynes Plan' (Boughton 1998). White became IMF's first US Executive Director from 1946 to 1947, before he fell seriously ill. He died in 1948. In his view the World Bank and the IMF were reflecting 'the operation of power politics rather than of international cooperation – except that the power employed is financial instead of military and political' (Garder 1964, p. 290).

Interestingly, perceptions of the Bretton Woods agreement underwent radical change. Initially, the agreement was proclaimed an 'usher[ing] in a new age of global collaboration […,] an enduring peace and an ever-rising living standard' (Woods 1989). For the nearly thirty years in which the Bretton Woods system was alive 'the results of the International Monetary Conference were almost always portrayed as grand achievements, and the 'Bretton Woods system' was given credit for the maintenance of international financial stability and, often, that remarkable era of prosperity and growth enjoyed by the industrialized and industrializing nations' (Wilson 1988). This positive view of the Bretton Woods agreement was destined to pass away once the decision to dismiss it had been taken: 'How remarkably perceptions have changed. Not only has the 'Bretton Woods system' collapsed, but perceptions about its origins and meaning are undergoing drastic alterations' (Wilson 1988).

The innovation of financial futures markets came at the right time and was a great success for the Chicago Mercantile Exchange. It was able to respond to the changes in the global financial system. Good timing was not, however, the only factor. According to Melamed (1988) the IMM was 'a necessary by-product of the same

economics that ushered in the new era of flexible exchange rates' (ibid., pp. 403-4). This means that changing 'economics' was the main force for this invention, which also led to the new global financial order. Melamed's phrase 'same economics' implies the existence of a *different* economics. It is not surprising that Melamed was keen to get the support of a distinguished economist, Milton Friedman, to convince the authorities to permit the introduction of futures contracts in foreign currencies. Melamed acknowledges the importance of Friedman's support: 'Professor Friedman gave my idea the credibility without which the concept might never have become reality' (Melamed 1996). Lothian (2002) tells the story as he heard it from Leo Melamed at the 30th anniversary of the launch of foreign currency futures on the IMM:

> 'Leo asked Friedman if he would put his support for the concept into writing, so that he could show Friedman's support for the idea to the CME leadership, Leo said. Friedman responded with the comment that he was a capitalist, according to Leo's telling. Leo replied, 'How much?' Friedman said, '$5000.' And with that University of Chicago economist Milton Friedman wrote the feasibility study for the IMM.'

Friedman gave his support and wrote: 'The Need for Futures Markets in Foreign Currencies' in December 1971 (Friedman 1972), in which he argues for the establishment of a financial futures market in the US due to the demand that will arise as a result of the end of the Bretton Woods system (ibid., p. 12):

> '[C]hanges in the international financial structure will create a great expansion in the demand for foreign cover. It is highly desirable that this demand be met by as broad, as deep, as resilient a futures market in foreign currencies as possible in order to facilitate foreign trade and investment. Such a wider market is almost certain to develop in response to the demand. The major open question is where. The U.S. is a natural place and it is very much in the interests of the U.S. that it should develop here.'

Friedman refers to the national interest of the US that a futures market in foreign currencies develop there—because it would encourage the growth of other financial activities in the country due to the complementarity of different financial activities, lead to additional income from the export of services, and ease the problem of executing monetary policy (ibid.).

Financial Innovation in Developing Countries

The same change in economics has also led to the study of futures markets as a potential policy option for stabilising and managing the price risk that developing countries face. Parallel to the ending phase of the International Commodity Agreements (ICA)—it started with the tin collapse in 1985 and had its final end in 1996—the use of futures markets was studied by the World Bank and other international agencies as a market-based solution to the risk-exposure of developing countries and commodity producers (Gilbert 1996, p. 367). In 1990, different divisions of the World Bank, namely the International Trade Division, the Debt and International Finance Division, the Financial Technical Assistance program in the Treasury Vice-Presidency, and the Co-financing and Financial Advisory Services Vice-Presidency, were involved in an initial program of technical financial assistance to Colombia, Costa Rica and other developing countries, in which different financial instruments were tested to derive successful models for managing commodity price risk (Claessens and Duncan 1993).

Developmental policy, however, rather than being an endogenous process actively responding to changes in the social system, has been described as an extrinsic phenomenon more sensitive to changes in the industrialised world that provides the policy advice. In the words of Morgan (2000, p. 5), who describes the reason for and approach towards the study of futures markets: 'As more governments in DMEs espoused Monetarist policies, greater emphasis was being placed on allowing markets to operate in an unfettered fashion to encourage greater efficiency and growth; this policy switch was hard to resist in the case of commodity markets where previous policy had not worked' and 'currently, policies based on market solutions to the problem solely of price instability are being sought as the general macroeconomic stance shifts away from intervention and more specifically that of supply control' (ibid., p. 2).

Thus a neo-liberal shift in economic policy led to the proposition that leaving markets free achieves the greatest economic efficiency and welfare. It is assumed that this proposition is exactly as true for international finance as it is for the international trade in commodities and that it is equally applicable to emerging economies as to well-established ones. As we will see, the requirements for financial and economic stability in developing countries had been neglected.

In his article, Morgan (2000), analysis the economic role of futures markets, however, does not differentiate between the roles of futures markets in LDCs and their roles in DMEs and argues that 'they are the same, although how they perform them and to

what level of efficiency may vary across exchanges' (ibid., p. 6). This view, it might be argued, portrays a simplistic and undifferentiated perspective.

Study Objectives and Methodology

This study aims at proposing an economic developmental framework for the evaluation of different organisational forms of forward and futures markets. The analytical framework is developed based on a critical discussion of neoclassical economics and its dilemma with development and finance. I distinguish three distinct levels during my analysis (see figure 1).

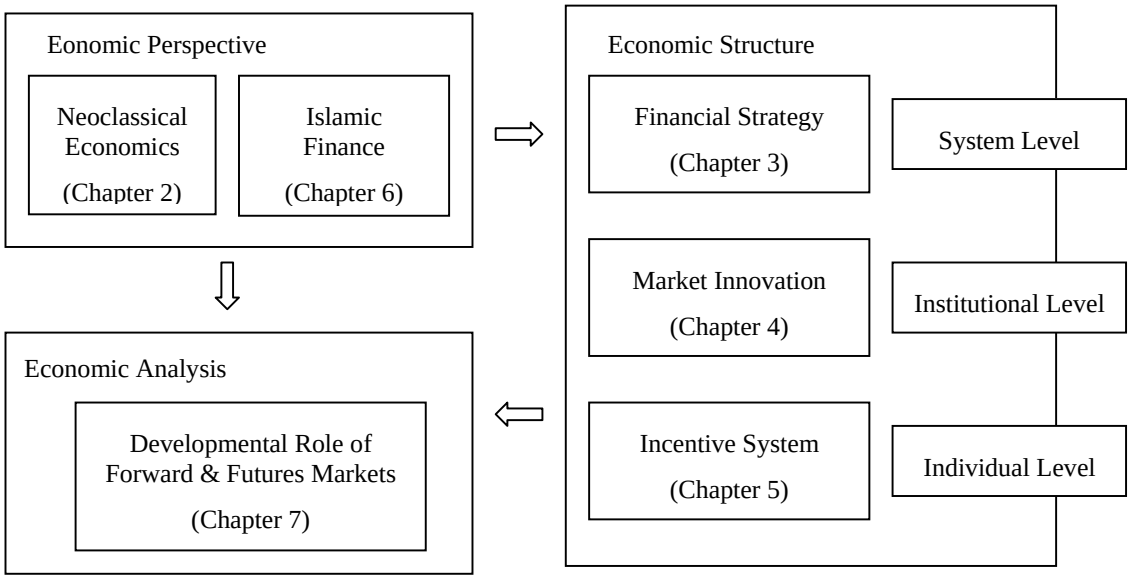

Figure 1: Schematic overview of the chapters

Three different contracts will be in the centre of my discussion that can be used for organising a forward market: the forward contract, the futures contract and the (Islamic) *salam* contract. Forward and futures contracts are a form of derivative instrument, i.e. one whose value or payoffs depends on the value of a fundamental security like stocks or bonds issued by a firm. Financial derivatives depend on certain financial rates like interest rate, currency exchange rates or stock indexes. Other common derivatives are options and swaps.

A forward contract involves a contract initiated at one time on the exchange of assets at a later time. The price is set at the time of the initial contracting but actual payment and delivery of the good occur later. Futures contracts are standardized forward contracts with closely specified contract terms. The payment is due at the time of delivery, with the exception of small margins at the time of contracting and payments in the process of marking-to-market, which are traded on organized exchanges and regulated by a clearing house. In fact, a futures contract comprises two separate contracts between the traders and the clearing house, in which the clearing house takes the opposite part in the sale and the purchase contract. There are different types of futures contracts depending on the subject matter: commodity contracts, i.e. agricultural and metallurgical, futures on interest-earning assets (since 1975), futures on foreign currencies (since early 1970s), and futures on indexes (since 1982) (Kolb 1999, p. 23).

The Islamic *salam* contract is a forward contract on special commodities with full pre-payment at the time of contracting. There are special conditions regarding the

commodity to be allowed for *salam* contracting. One further difference with major economic implications is the missing liquidity of *salam* contracts. Mainstream Islamic scholars disallow the reselling of the *salam* contract based on the prophetic prohibition of selling of receivables (often indicated in modern writings as selling of debt). The contract has to conclude with delivery and the failure of delivery is an exception, not the rule. Hence, *salam* contracts are not counted as a derivative instrument. There are many Muslim countries which have working over-the-counter markets based on the *salam* contract and only a few which have established organized futures markets, like Indonesia, Kazakhstan, Malaysia and Turkey (Ebrahim and Rahman 2005; Kamali 2000).

A second purpose of this thesis is a critical discussion of financial innovation in Islamic banks and financial institutions as to how far it offers, as it claims, a viable alternative to conventional finance. Religion and economic paradigms have in common that both can be used as reference system for evaluating social and economic phenomena and in the same time be also the object of scientific research as to what their role and influences are in social and economic processes. 'Islamic economics' so-called evolved as an endogenous alternative to account for the Islamic perspective towards economics. Yet, its viability depends on the development of analytical tools for the economic analysis of financial innovations, which is yet missing. This study is based on the understanding that an economic framework, which is in line with the Islamic value system, can only be successfully developed by considering and interacting with the conventional economic discourse.

One problem, which is at the same time an opportunity for interaction, are the many unsolved puzzles in modern economic theory that are by far not few in numbers. They have reached a level at which Hahn (1991) even predicts the role of pure theory to demise, because of economists not able to adapt to the changes that a meaningful treatment would necessitate. Furthermore, there is a wide overlap of common grounds. The problem of ethical judgements in positive economic theory, as an example, is not only specific to Islamic economists; neoclassical economics has the same, although often not admitted. A further point is the missing distinction between positive and normative theories in economic modelling. Trying to propose an 'Islamic' solution by ignoring the developments and achievements of general economics has not been successful to this date and, in the same time, may not be desirable.[2]

[2] For a wider discussion see Yassine 1995.

Chapter Two:
'A Logical Analysis of Capitalism' – Limitations of Neoclassical Economics

'What I am suggesting is that economic theory, as it developed, was to some extent a rationalization of the interests and the aspirations of the milieu where it grew.'

Gunnar Myrdal[3]

The roots of mainstream economic theory go back to the times of the mercantilists, who needed to defend their interests against interventional activities by the state. Later it was developed further to defend the capitalist ideology against the communist rival. The Nobel laureate of 1974, Gunnar Myrdal, had the insight that economic policy advices based on this 'inherited' economic theory would mislead more than guide when applied to the issue of development and developing countries. In the Anniversary Commemoration Lecture given in Cairo at the invitation of the National

[3] Anniversary Commemoration Lecture, National Bank of Egypt, October 1955 in Cairo [1957, p. 133]

Bank of Egypt in October 1955, Myrdal strongly advised the attending economics students to develop a different economic theory that fitted their special economic circumstances (Myrdal 1957). Myrdal was proven right in his judgement and in giving such advice. In his Nobel acceptance address, North (1994, p. 359) similarly accuses, nearly 40 years later, economic theory to be responsible for the failure of development economics. Based on its limitations to deal with developmental issues, Thirlwall (2003) consequently argues that one of the main tasks for development economics is the formulation of economic theory that is different from conventional economic theory as it needs to 'be adapted to suit the conditions prevailing in developing countries' (p. 21). The question then arises: what is wrong with modern economic theory and developmental policies based on it?

I will begin this chapter by discussing the definition of economic theory as understood by one of the main contributors of its modern foundations. His understanding provides for a right appreciation of the complex mathematical construct neoclassical economists have provided. Some limitations will also become apparent, especially concerning the question of how far economic theory can be viewed as a universal representation of different economic systems. It will be followed by the early economists' agreement that an economic theory intended to study the problems of development needs to be different from neoclassical economic theory and how this perception shifted over time through a neoclassical intrusion into the field of development economics. The second section will analyse some of the theoretical limitations of the neoclassical paradigm with a special focus on the

missing role for finance, institutions and dynamics that are so critical for the study of developmental processes. This may allow us to portray how deep a change in the economic approach has to be to offer a consistent framework to study the developmental role of forward and futures markets.

2.1. Dilemma with Development

Limiting Economic Theory by the System

Economic theory, as it developed historically, is much dependent on the economic system it came to describe. John R. Hicks, who shared the Nobel prize for economics of 1972 with Kenneth J. Arrow, provides a definition of 'theoretical economics' in the introduction to his seminal work *Value and Capital* as 'the logical analysis of an economic system of private enterprise, without any inclusion of reference to institutional controls' (1939, p. 7). He describes this fact as a limitation of theoretical economics and argues: 'I shall interpret this limitation pretty severely. For I consider the pure logical analysis of capitalism to be a task in itself, while the survey of economic institutions is best carried on by other methods, such as those of the economic historian (even when the institutions are contemporary institutions)' (ibid.).

From a theoretical standpoint, this should not have been necessary as economic theory could have been developed differently to be able to analyse institutions and different economic systems. A more generalised theory should have general

applicability. Nevertheless, it is a simple fact and the economic systems of developing countries are different from that of industrialized countries and a long way off the idealistic capitalist system that economists had in mind, or at least assumed, when formulating economic theory[4]. Current economic theory carries a descriptive essence 'as the logical analysis of an economic system of private enterprise' (ibid.) and, therefore, the analysis of differing economic systems may require a different economic theory. Further, it is not suited for institutional analysis.

A Different Theory for Developing Economies

The development economists, Todaro and Smith, argue similarly for a 'distinctive analytical and methodological identity' of development economics (2003, p. 8). It is different from the study of 'advanced capitalist nations', for which 'modern "neoclassical" economics' has been developed, and also different from the economics of formerly centralized socialist societies', which they also label "Marxist" or "command" economies (ibid.). Hence, the scope of development economics needs to exceed traditional neoclassical economics and even political economics as it 'must also deal with economic, social, political, and institutional mechanism, both public and private, necessary to bring about rapid and large-scale improvements in levels of living for the masses of poverty-stricken, malnourished, and illiterate peoples of Africa, Asia, and Latin America' (ibid.).

[4] This shall not imply that the economic systems of industrialized countries are all the same. The economic system of Japan is essentially different from the economic system of the USA, even thought both are called developed free market systems.

The geographic focus of development economics towards the countries of 'Africa, Asia, and Latin America' and the 'poverty-stricken, malnourished, and illiterate peoples' is enough to justify a different approach away from the neoclassical paradigm of perfect markets. This view is characteristically for development economists. But it also carries the danger of ignoring the studies that financial markets with the Arrow-Debreu perfect markets do not exist even in the most developed capitalist economies, neither on micro- nor on macroeconomic level (e.g., Zeldes 1989; Fazzari, Hubbard, and Peterson 1988; Bernanke 1983). Interestingly, the notion of development is not only referred to developing countries, but increasingly applied to problems in Western industrialized countries (Nitsch 1999, p. 183).

In contrast to the neoclassical claim—that development and growth can be achieved most efficiently by leaving everything to the market forces—development economists regularly express their distrust in free-markets and favour protection in the early stages of emerging economies. This attitude is nicely illustrated through a story told by Singh about his teacher Kaldor (Thrilwall 2003, p. 124):

> 'The Cambridge development economist Ajit Singh tells the story of when he first went to Cambridge as a student of Kaldor that Kaldor taught him three things: first, developing countries must industrialise; second, they can industrialise only by protection, and third, anyone who says otherwise is being dishonest!'

This distrust was the common view in the first literature in development economics, as described by Bell (1987, p. 825): 'The early writings in development economics are by no means doctrinally monolithic. Some can claim a classical lineage, while

others are eclectic. If they share anything in common, it is a distrust of the proposition that matters can be left to the market.' The field had then to define itself and find its unique character inside the wide science of economics.

Evolution of a Distinct Development Economics

Even though economic development was a main concern of the classical economists, the origins of development economics, as a science, date back only to the time of de-colonization following the end of World War II when the interest in the issue of development and underdeveloped countries rose. Keynesian economics was still 'static' in the sense that it did not account for time as a variable. Roy Harrod, a disciple of Keynes, developed the static economic model of Keynes further and proposed a simple 'dynamic' macroeconomic model of a growing economy in his book *Towards a Dynamic Economics* (1948). A new subject of 'growth theory' got established that is still different from development economics as understood today. In contrast to development economics, economic growth theories try to provide a dynamic model of the economy and analyze the properties of equilibrium paths (ibid.). Growth theory is described as 'the most technically demanding field in the whole of modern economics', however, 'as yet there are no really testable implications nor even definite insights into how economics grow' (ibid.).

The definition of development economics varies in the literature and depends very much upon the economist's school of economic thought. Blaug (2004) defines development economics as one of the three major subfields of economics – the others

being micro- and macroeconomics. This turns out to be only a small shift of the problem, as Blaug himself states that 'No one ever succeeded in neatly defining the scope of economics' (ibid.). It is much easier, he argues, to describe what it is concerned with. In this sense, development economics 'examines the attitudes and institutions supporting economic activity as well as the process of development itself' and is concerned with 'the factors responsible for self-sustained economic growth' and the possibility of its 'manipulation by public policy' (ibid.). However, not all agree with this definition, and some even deny any need for a distinctive subfield called 'development economics': the tools offered by micro- and macroeconomics are totally sufficient, they argue. It is mainly the 'modern' neoclassical school that promotes their 'laissez-faire' doctrine against an interventionist state.

Neoclassical Intrusion into the Field of Development

Development economics became very influenced by neoclassical economics that had gained some ground on the ideological battle taking place. A major reason for the methodological influence, as argued by Bell (1987), is that 'while the classical influence is still strong, development economics has come to absorb a good deal from other fields that are noticeably more "modern"' (p. 819) and, hence, 'there has been a steady intrusion of what can be loosely termed "neoclassical" influences' (ibid., p. 825). This 'intrusion' can also be seen in the renaming of institutions, as the former Ministry of Planning becomes the Central Office of Project Evaluation (ibid.). Therefore he concludes that, 'Indeed, it might be argued that development economics

has been absorbed back into mainstream, and now enjoys no separate existence' (ibid., p. 819) and this 'intrusion' of neoclassical influences 'suggests that development economics is being drawn back into the fold, where it might lose its claim to an independent existence' (ibid., p. 825).

Despite this neoclassical 'intrusion', the reservations about the efficacy of the market mechanism could not be set aside. The general belief remained that economic planning was needed for the underdeveloped countries and 'a larger government role and some degree of coordinated economic decision making directed toward transforming the economy are usually viewed as essential components of development economics' (Todaro and Smith 2003, p. 9).

2.2. Perfect or Incomplete Markets?

In his critique of neoclassical economic theory, Myrdal (1957) differentiates between the *explanation* and the *reason* for the failure of economic theory to help developing countries. The *explanation* for the limited ability of the neoclassical paradigm to deal with the dynamic reality of change can be found in its theoretical foundation: 'To understand why economic theory has developed in this way requires an immanent criticism of its inherited predilections' (ibid., p. 9). Some of the basic tenets of economic theory have to be altered: 'On the more superficial level of mere logic, the explanation is the unrealistic assumptions for theory. Stable equilibrium is one such unrealistic assumption' (ibid.). The *reason* for the neoclassical limitations, on the

other side, is to be found elsewhere. Economic theories 'were never worked out to serve the purpose of explaining the reality of economic under-development and development' (ibid.), but rather: 'What I am suggesting is that economic theory, as it developed, was to some extent a rationalization of the interests and the aspirations of the milieu where it grew' (ibid., p. 133).

Assuming Perfect Markets in Equilibrium

The assumption of perfect markets is necessary within the neoclassical framework to prove the Pareto efficiency of competitive market outcomes. Markets are assumed to remain in a state of equilibrium. Yet, physical science has demonstrated that the analysis of a system in stasis can have no explanatory or predictive power for its dynamic behaviour. On these grounds, it should be questioned whether by analyzing idealised states of assumed perfect markets any insights into the process of development can be gained. Thirlwall (2003) argues similarly that 'many of the assumptions that underlie conventional economic models have to be abandoned if they are to yield fruitful insights into the development process' and further 'Static equilibrium theory, for example, is ill-suited to the analysis of growth and change and of growing inequalities in the distribution of income between individuals and countries' (p. 21).

Ignoring the Role of Institutions

A consequence of the assumptions of perfect markets and stable equilibrium is the missing role of institutions and dynamics. To provide an economic role for institutions, fundamental paradigms of current economic theory need to be changed. This is stressed by Merton and Bodie (1995, p. 10) who note, 'The *neoclassical economics perspective* addresses the dynamics of prices and quantities, but is largely an 'institution-free' perspective in which only functions matter.' And further, 'It thus has nothing to say directly about the institutions that perform these functions and how they change over time' (ibid.).

But institutions are essential for economic performance and for the economic role of financial institutions. In their study of retirement finance Merton and Bodie (1995) demonstrate that it can be proven that non-financial institutions are a very dominant factor that can not be omitted for a clear understanding of economic phenomena. Other studies suggest, 'Institutions form the incentive structure of a society, and the political and economic institutions, in consequence, are the underlying determinants of economic performance' (North 1994, p. 359). After reviewing the different empirical studies on financial liberalisation and development, Demetriades and Adrianova (2003, p. 21), state 'It is now widely acknowledged that institutions have a first-order effect on financial development and growth, and that the strength of these institutions may determine the success or failure of policies like bank privatisation and financial liberalisation.'

Missing Dynamic Perspective on Financial Institutions

A role for institutions in a society has several implications for the analysis of financial instruments and structures in the context of developing countries. One of them is whether a unique 'generic' role for financial institutions can be rightly assumed, which shall be the same for both developing and industrialised economies. In this respect, Perold (1995) demonstrates how the role of derivatives in the payment system has changed due to technological progress. Boyd and Smith (1996) argue that even the role of debt and equity changes over time in the process of development and criticize economic studies that do not consider the interaction between the financial and the real sector.

This suggests that developmental change may alter the economic function of established institutions. Further, this suggests clearly that the differences in the role of financial institutions are not merely a question of 'efficiency'; rather, it is more a question about which economic functions are served during times of substitution, industrial change over time and technological advancement. In the words of Merton and Bodie (1995, p. 3): 'For a variety of reasons—including differences in size, complexity, and available technology, as well as differences in political, cultural, and historical backgrounds—financial institutions generally differ across borders. They also change over time. Even when the names of institutions are the same, the functions they perform often differ dramatically.'

Development economics and political science has to offer 'the systematic knowledge, the analytical tools, and the concepts' which are necessary to understand the

‘dynamics of societal change associated with development’ (Soedjatmoko 1985, p. 11). Soedjatmoko further states (ibid.): ‘Looking back over these years, it is now clear that, in their preoccupation with growth and its stages and with the provision of capital and skills, development theorists have paid insufficient attention to institutional and structural problems and to the power of historical, cultural, and religious forces in the development process.’ Thus, relevant and effective economic theory, on which economic policy is based, has to account for historical, cultural and religious factors. The study of the relationship between these factors and economic development in the context of emerging Muslim economies is especially challenging as it requires additional ethical and spiritual considerations.

Explaining the Relevance of Finance

The divergence between the complexity and dynamic nature of institutions on one side and the static simplicity of equilibrium analysis on the other might be a reason why our current knowledge about different economic and financial structures is limited. Levine (1997), therefore, states: ‘First, we do not have a sufficiently rigorous understanding of the emergence, development, and economic implications of different financial structures. Financial structure—the mix of financial contracts, markets, and institutions—varies across countries and changes as countries develop’ and further, ‘Yet, we do not have adequate theories of why different financial structures emerge or why financial structures change’ (ibid., pp. 702-3). The

understanding of financial structures and their dynamics is essential to the understanding of the role of financial institutions in economic development.

a. The Miller-Modigliani-Puzzle

The necessary assumptions of perfect markets and stable equilibrium have encountered several contradictions and paradoxes. In a simple neoclassical economic framework, the welfare effects of financial structures are measured according to their ability to facilitate individuals' intertemporal consumption plans. The individual is perceived as '*the* fundamental real economic unit' and his ultimate welfare is derived from consumption which depends in a certain way on its investment decisions (Mason 1995, p. 159).

A serious problem with neoclassical analysis lies in the Miller-Modigliani (1958) theorem about the 'neutrality' of finance, exemplified in the irrelevance of a firm's capital structure. This theorem demonstrates that finance should have no effect on the process of development. In other words, 'in a Kenneth Arrow ([1953] 1963)-Gerard Debreu (1959) state-contingent claim framework with no information or transaction costs, there is no need for a financial system' (Levine 1997, p. 690). In the sphere of no information, transaction and enforcement costs, intermediaries are not needed because individuals can interact to undertake financial dealings alone. 'The theory accordingly offers no particular predictions about the evolution of financial relationships and institutions in the growth process' (Gertler and Rose 1994, p. 16-17).

Because finance does obviously matter, Demetriades and Andrianova (2003, p. 3) argue, 'This can have profound implications [...] also in terms of the validity of some of the most fundamental axioms of mainstream (neoclassical) economics'. Thus, the unrealistic Arrow-Debreu worldview of no information and transaction costs must be set aside to justify any investigation of the role of financial development in the process of economic development and growth. As an example of such a fundamental axiom they provide the first theorem of welfare economics, which is the analogue of Adam Smith's 'invisible hand' (ibid.): 'For example, the so-called 'First Theorem of Welfare Economics', which states that the 'competitive economy is Pareto efficient' [...] is derived from a model that has no role for money and no role for finance.' The outcome of a study analysing financial institutions using a model which does not provide any role for the same is very questionable. This suggests as an example that careful methodological considerations are in place before Pareto efficiency reasoning within a general equilibrium framework is used to analyse the developmental role of financial institutions.

b. Studying Incomplete Markets with 'Frictions'

This leads many economists to enter into contradiction in arguing for the role of financial institutions within the neoclassical reasoning. The argumentation is often found, like in Bell (1987, p. 825), that 'LDCs, in which insurance and forward markets are conspicuously thin and incomplete, are very far removed from the Arrow-Debreu ideal; and in the absence of a complete set of markets, market outcomes will not, in general, be (constrained) efficient.' On one hand this means that

the economic and financial structure of developing countries needs special consideration in the theoretical approach. The statement, however, says actually more: it gives financial institutions a crucial role for the idealised state of efficiency in the market system. This implies the contradictory claim of the relevance of financial institutions for the efficient functioning of economic systems and, perhaps without noticing, the irrelevance of finance, which is implied in the 'ideal' Arrow-Debreu world of neoclassical theory.

The perceived limitations of neoclassical economics to account for the role of finance in economic development provoked economists to different reactions. Although they recognized the incapability of the neoclassical perspective to deal with institutions and structural change, one group of economists were still not able to get over the fundamental contradictions of the neoclassical paradigm. They tried to provide a theoretical framework for the study of financial institutions and their role in development and justify the existence of financial intermediaries through introducing frictions into the Arrow-Debreu world of perfect markets, which could provide incentives for financial institutions. Different proposals have been made to which market imperfections are introduced. Yet, there is no homogenous perspective or methodology.

Conclusions

Early economists knew that neoclassical economics, as it developed, will not provide policies that may help developing countries. It is limited by the capitalist economic system it came to describe. The economic systems of developing countries, however, are too different from the pure idealistic capitalist economy, on which the mathematical constructs where based. Assumptions like perfect markets and their equilibrium were necessary for classical economists to defend the mercantile interests against a potential interventionist state—markets will only work efficiently if they are not intervened. But the challenges of development are of a different kind.

When applied on developmental processes, the theoretical foundations of neoclassical economics are found to be too restrictive. Symptoms of its narrowness are many. Because neoclassical economics has no role for institutions, the differences in values can not be appreciated nor the cultural capital of societies. Further, it does not provide a role for financial institutions in the process of development. It is not advisable to base the analysis of financial systems and the prescription of policies directed to the financial system on a theory that does not provide any role for such. This may explain the many financial and economic crises that followed the adoption of neoclassical policies to which I will turn in the next chapter.

Chapter Three:
Imposing Financial Crises – Failures of Neo-liberal Policies

'It is high time that we take the IMF seriously—seriously enough to hold it accountable for its actions, its failed forecasts, and the details of the 'advice' that it imposes on the developing world.'

Jeffrey D. Sachs[5]

Following a period, in which the issue of development was restricted mainly to the process of industrialisation and agricultural modernisation, the first theoretical treatment of finance and development was limited to the relationship between money and growth (Gurley and Shaw 1955; Tobin 1965; Patrick 1966). This literature takes finance mainly as granted. Based on a dogmatic neoclassical and monetarist view, the key to economic development was then proposed to be the 'unrepressed' financial system (McKinnon 1973, Shaw 1973). This ideological stand became 'the mantra of

[5] Director, Harvard Institute for International Development (1998)

the IMF and the World Bank' which consequently 'prescribed (and frequently imposed)' financial liberalisation to developing countries (Demetriades and Andrianova 2003, p. 11).

The way the IMF policy advice was presented to the affected countries during the East-Asian crisis made history. The picture showing the Indonesian president General Suharto signing the second IMF agreement on January 15, 1998, while IMF director Michel Camdessus with arms folded looked over his shoulders, received high worldwide attention. But the IMF policies were wrong and disastrous for Indonesia and the other countries. The consequences of the failed IMF policies during the crisis had to be carried by the people living in the concerned developing countries, like the many people that died in the riots during the crisis in Indonesia. Camdessus later acknowledged that IMF actions in Indonesia forced Suharto out of office, who had to resign on 21 May 1998 after thirty-two years in power. The following year, Camdessus had a similar destiny in resigning after being 13 years the head of the IMF on November 9. The IMF had argued for their liberalisation policies with neoclassical economic reasoning.

This chapter will discuss two main periods, in which developing countries adopted financial liberalisation policies followed by financial and economic crises. Both crises followed the adoption of financial liberalisation policies. The first section will focus on the first experiences with financial liberalisation in the Southern Cone countries in the 1970s. Its failure initiated a wide discussion on the role of finance in economic development. The second section will focus on the East-Asian financial crises in the

1990s, which brought finance to the official agenda of international agencies like the World Bank. A special interest will be the two opposite ways Indonesia and Malaysia dealt with the IMF proposals and how successful, or not, their respective policy choice was in phasing down the crisis and in its recovery process. I will then discuss the different reactions in the aftermaths of the crises and the role of economics in the failed policy advices provided by international agencies.

3.1. The First Debacle with Financial Liberalisation Policies

The first experiences of financial liberalisation and their economic outcomes received high attention in the economic literature and had a major effect on the theoretical treatment of finance and development. Since the early 1970s many countries have undertaken reforms in liberalising their economic and financial system. Although the process was not the same for different developing countries, it still had a core aspect of moving towards a more market-oriented allocation of credit. Part of these reforms was the privatization of local commercial banks and the release of the interest rate. This was meant to end the repression of the financial system, achieve higher savings, and make possible a higher level of investment and employment (McKinnon 1986).

Sobering Experiences with Financial Liberalisation

Practical experiences with liberalising the financial system did not provide support to the view that it will endorse financial and economic development. After the Southern

Cone countries, Argentina (1977-80), Chile (1975-81) and Uruguay (1977-82) implemented liberalisation policies in the 1970s, it soon became clear that they caused their financial systems to crash. The real interest rate increased dramatically and exceeded in many cases 20% (Arestis and Demetriades 1997, p. 791). Instead of increased saving and investment rates the consequence was that high leveraged companies became bankrupt and with them their financing banks. It is noteworthy that the savings-GNP ratio as well as the investment-GNP ratio for these countries fell over that period (ibid.).

The second phenomenon which exacerbated the wave of bankruptcy was that these high real interest rates attracted short-term capital imports which, apart from the increase in foreign debt and the expansion of the domestic money supply, led to the increase of the currency exchange rate. Exporting companies were not able to compete any more on the international markets with the known effects on their financing banks. The consequence was a wave of bank failures, together with extreme asset volatility and the start of a prolonged recession of the economies real sector (Arestis and Demetriades 1997, p. 791; Schelkle 1999, p. 339). The policy of financial liberalisation was subsequently abandoned.

Findings of Subsequent Empirical Studies

The studies and analysis that were subsequently undertaken gave financial liberalisation a major role in the subsequent financial crisis (Diaz-Alejandro 1985; Cho and Khatkhate 1989, McKinnon 1988, Villanueva and Mirakhor 1990). The

reactions to these experiences were different and, overall, led to a modification of the liberalisation policy in terms of actively managing and sequencing the process of liberalisation together with ensuring the initial conditions for financial and macroeconomic stability and sufficient bank supervision, which also necessitates adjustments in the real sector. Liberalisation needs to go through stages with the opening up of the foreign capital flow at the end of the process (Calvo 1988, Rodrik 1989). This is also what the World Bank presents in its World Development Report of 1989 with the main topic of 'Finance and Development' (World Bank 1989).

Later empirical studies have even re-emphasised these first analyses. Demirgüc-Kunt and Detragiache (1999) find in their empirical study that financial liberalisation has a significant positive effect on the probability of banking crisis. Their study even suggests that the probability of banking crisis increases to up to 5 times after financial liberalisation. They suggest that financial liberalisation needs to go through stages and be accompanied or led by institutional development. Kaminsky and Reinhart (1999) empirically analyse the interrelationship between banking and currency crises. They find that financial liberalisation has a major role in the starting phase of such crisis. Further, they find that after financial liberalisations, the initial banking crisis is followed by currency collapse that subsequently deepens the banking crisis even more. They also suggest more banking regulation and supervision during the process of financial liberalisation.

Continuation of Financial Liberalisation Policies

The common conclusion from the South American debacle was drawn that with good economic policies, sound financial institutions and strong macroeconomic fundamentals, the process of financial liberalisation would rather lead to economic growth and not into a financial crisis. Financial liberalisation policies continued to be 'prescribed' to developing economies and those in transitions. Again, many countries had to undergo financial and economic crisis soon after adopting financial liberalisation policies, like the countries of Asia, Latin America and Russia. Particularly, the case of the East Asian crisis in 1997-98 has attracted high academic as well as political attention.

3.2. East-Asian Crisis - Two Experiences with IMF Policies

It might be true that the interest in financial systems of developing countries has been rising since the 1980s, particularly after the first experiences of South America with financial liberalisation policies (Caprio 1994). Yet, Millard Long, who himself joined the World Bank in 1980, notes that 'even as late as the end of the 1980s improving country financial systems was not part of the development agenda' (Long 1999, p. 1). It was the Asian crisis in 1997-98, he argues, which lifted the concern about finance to its current level (ibid., p. 2). This resulted also in a mandate from the G-7 to the World Bank and IMF to monitor the financial sector of developing countries (ibid.).

Crisis replaces Miracle

Before the crisis, the East Asian countries were widely acknowledged to have the most successful example of financial and economic reform. Governments of these countries, like South Korea, applied tight interest-rate control and intervened effectively, as Japan had done previously. It has been widely noticed that 'policies pursued by Taiwan and South Korea also do not really fit the free-market model' (Todaro and Smith 2003, p. 127). Indeed, the positive involvement of governments was acknowledged even by the World Bank (1993), which states: 'Our judgment is that in a few economies, mainly in North East Asia, in some instances, government interventions resulted in higher and more equal growth than otherwise would have occurred.' The 'sequencing literature' that developed to explain the financial crises in the Southern Cone countries could not explain what subsequently happened soon after these successful countries liberalised their financial system, which was encouraged by the IMF, the World Bank and national elites, although Japan resisted it (Wade 1998, p. 696).

Things actually changed very suddenly during 1997-98, when several Asian countries underwent deep financial and economic crises, despite their sound fundamentals. On Wednesday, July 2, 1997 the Thai authorities declared that they would abandon their efforts to maintain a fixed exchange rate for the baht. Although Thailand was asserting before it would not devalue its currency it had to give in to the massive speculative pressure against the baht as it had become too costly to maintain the fixed exchange rate. This was done after a series of speculative attacks, and followed by a

currency crash that sent Thailand, and consequently Southeast Asia, into crisis. Thailand had become ‘the choice target in the region for a currency attack’ (Jomo 1998, p. 714). The trigger for the subsequent crash was investors’ panicky pullout of funds which ended in net private flows of minus $ 12 billion in 1997, whereas formerly it had been plus $ 93 billion in 1996 (Wade 1998, p. 695). This panic pull of funds ‘infected’ other countries in the area. Although the IMF acknowledged that currency speculation ‘precipitated the collapse of the baht’ it denied its role in the crash in the other countries (Jomo 1998, p. 715).

IMF Imposes Its Policies

Thailand, South Korea and Indonesia were offered IMF-funds on the condition that they impose certain IMF policies: establishing a flexible exchange rate, raise interest rates, tighten fiscal policy, open up financial markets even more to foreigners, and close troubled banks. In February 1998, Suharto tried to establish a Hong Kong-style currency board to administer a fixed exchange rate and peg the rupiah to the American dollar in order to counter, as he insistently claimed, the continuous speculative attacks. This idea was given to Suharto by the Johns Hopkins University professor Steve H. Hanke. However, it was stopped by the IMF, which threatened to suspend the $43 billion bailout of Indonesia's economy (Blustein 1998). Hanke argued strongly against the IMF intervention: ‘We're completely puzzled as to why the Clinton administration and the IMF seems intent on destabilizing the currency and the country’, and further ‘All the other currencies in the region are going up and

down with the rupiah. So they [the administration and the IMF] are destabilizing the whole region. If this currency board doesn't go ahead, we're going to have total meltdown' (quoted in Blustein 1998). IMF director Michel Camdessus wrote in a letter to Suharto on Friday, February 13: 'In the present circumstances … if a currency board proposal were adopted, we would not be able to recommend to the IMF Board the continuation of the current program because of the risks to the Indonesian economy. This would be a very unfortunate development, as it would shrink even further the reserve basis for the currency board and further undermine its very slim chances of success' (ibid.). Additionally, President Clinton called Suharto to reinforce the IMF position (ibid.).

'The Wrong Medicine for Asia'

The IMF policies were not proven to be successful. Jeffrey D. Sachs (1998), director of the Harvard Institute for International Development, goes even further and gives the IMF a positive role in the crisis in deepening the sense of panic. 'Instead of dousing the fire, the IMF in effect screamed fire in the theatre' (1998). In his article in *The New York Times* he had already argued in 1997 that the IMF is prescribing 'The Wrong Medicine for Asia' (1997). Several other economists have empirically analysed the effect of these policies on the recovery of the East Asian crisis countries. Stiglitz (1999) argues that the tight monetary IMF policy recommended to the Asian crisis countries had actually an effect opposite to stabilising the exchange rate. Stiglitz was arguing that the increased interest rates would raise the probability of

corporate bankruptcy. Such change in the risk-return characteristic of the high leveraged East Asian corporations would, consequently, result in more investments being pulled out of the country, which was eventually made even easier by the IMF prescriptions. Using econometric means, Caporale, Cipollini and Demetriades (2005) find that although tight monetary policy normally helped to stabilise currencies in calm periods, it had actually the opposite effect in the East Asian crisis. After presenting the negative effects of the IMF policy advice, Long (1999) points to the fact that the advice directed towards the financial system was given without taking into account the structure of the particular country's real economy. The obvious failure of the IMF has led economists to call for the accountability of the IMF.

Lonely Way of Malaysia with Capital Controls

The crisis continued and became bad enough to be compared to the Great Depression of the 1930s (Wade 1998, p. 694). After trying IMF policies at the start of the crisis in 1997, it then happened that Malaysia chose to change its policy and followed a different path from the other countries. In September 1998, Malaysia abandoned the IMF policies in favour of capital controls. This solo attempt was much to the disappointment of the IMF. However, Malaysia did not regret it.

Different empirical studies were undertaken to study the results of Malaysia's policy switch. Kaplan and Rodrik (2001) found in their research that Malaysia's capital controls not only helped its recovery out of the crisis, but did so better than other countries, like South Korea, which followed the IMF policies. Based on the results of

their time-shifted difference-in-difference model they argue that since the imposition of capital controls on September 1, 1998, Malaysia recovered rather faster and better than the countries that imposed IMF policies.

The reintroduction of capital controls was supported by a number of economists as a way to deal with the crisis, even before they were actually introduced (e.g., Wade 1998). Based on their empirical studies, a further growing number of economists started to acknowledge the stabilising effect of controlling the flow of capital (e.g., Arestis and Demetriades 1999; Stiglitz 2000; Dornbusch 2002). Correctly used during a crisis, capital controls may reduce the pressure on the country's currency and interest rate. Dornbusch (2002, p. 440) compares them with 'a suspension of trading on the New York stock exchange or the Nasdaq or a bank moratorium – they stop the run and offer time to set things straight.' The alternative to stabilising the currency–a central bank selling off its foreign reserves—is not only very cost-intensive, but also only possible to a certain limit. That even industrialised economies can reach these limits, can be exemplified with the Black Wednesday, September 16, 1992, on which the Bank of England was 'broken' by a speculative attack against the Pound Sterling and forced to withdraw from the European Exchange Rate Mechanism in order to devalue its currency. It is estimated that Soros gained US$ 1.1 billion during this speculative attack. The Malaysian Prime Minister Mahatir Mohamad also accused Soros of the speculative attacks on the ringgit and proclaimed in his speech at the joint annual meeting of the IMF and World Bank in Hong Kong on 20 September 1997 that 'currency trading is unnecessary, unproductive and immoral' and should be

‘stopped’ and ‘made illegal’ (quoted in Jomo 1998, 715-6). Nevertheless, Malaysia was then successful with its new financial strategy aiming at ending the speculation against the ringgit, which was mainly coming from offshore short-selling.

Reductionist Orientalism or Just Wrong Economics

The Asian crisis generated a hot debate about its reason and why financial liberalisation policies prescribed by the international agencies failed. In his analysis of the Asian and other financial crises Stiglitz (2000) argues that ‘there is a fairly compelling case *against* full liberalisation’ (p. 1076), which he makes responsible for the crises. Further he criticises the economic arguments presented in favour of liberalisation for their wrong application of economic theory like the assumption of perfect information.

a. Dominance of Economic Theory over Empirics

The reason why economic theory is given such a central role may stem from the fact that policy prescriptions have always been closer to general theories than to empirical studies (Myrdal 1957, p. 140). Although much empirical evidences do not support the predictions and explanations of neoclassical economic theory, economic theory has not changed in its fundamental paradigms. Theory demonstrated not only a strong resistance against change, but, to the contrary, actively maintained its impact on empirical research. To quote the words of Myrdal (ibid.): ‘Empirical studies of the institutions have meanwhile, in this climate of basic intellectual predilections, mostly

either shown a tendency to adjust themselves to theory or remained strangely pointless.'

b. Methodenstreit

There is much debate about the correct methodology in economic research and analysis. Since the *Methodenstreit* it has become clear that inductive and deductive approaches need to be combined, although, there is by no means any agreement as to how. In the apriorist approach (the theorems of) economic models were derived from fundamental axioms and premises about economic behaviour by the laws of logic which themselves 'were derived from an examination of one's own economic behaviour' (ibid.). In contrast to that was the (ultra-)empiricist view 'which holds that one must begin and end with observable facts' (ibid.). Most modern economists adopt a 'middle' position between these two, in which it is argued 'that one must test the predictions of conclusions of a model but without worrying too much about the realism of its premises, axioms, or assumptions' (ibid.). Based on such methodology neoclassical economic theory has been falsified.

Because most assumptions that underlie economic theory cannot be tested directly (Blaug 2004), correct economic analysis is defined through the process of consensus building inside the community of economists as to what economic theory and methods are 'true'. 'But a period of consensus may be followed by a generation of doubt until a new departure is made that succeeds in producing a new consensus' (ibid.).

c. Revival of Orientalism

The defenders of the neoclassical paradigm had a very difficult time to explain what had happened. Their 'simplistic' and 'reductionist' arguments in claiming that the reason for the Asian Crisis can be found in the issue of 'cronyism' in order to defend liberalisation policies—and the economic theory behind it—made some Cambridge economists feel that they were 'witnessing a revival of Orientalism, in which all manner of fantasies and prejudices are projected onto Asia, with no real concern for their veracity' (Chang, Palma and Whittaker 1998, p. 649). The abovementioned 'cronyism', for example, was becoming the modern substitute for 'Oriental despotism' or 'Asiatic absolutism' (ibid.).

Conclusions

The economic role of futures markets are studied by international agencies inside a general strategy of liberalisation. But financial liberalisation policies had chaotic effects on the financial and economic system of developing countries. The recurring experiences of developing countries with liberalising their financial system are more than disappointing: 'Freeing up financial markets at times has appeared to produce chaos rather than growth' (Gertler and Rose 1994, p. 13). Indeed, the failure of the financial sector followed the adoption of liberalisation policies, which became the determining factor in the economic crises of these developing countries. These financial and economic crises made many economists to rethink their theoretical

premises against the neo-liberal striving for sudden and total liberalisation. An increasing number of economists joined a line of literature that did not want to support a 'revival of orientalism' in the economic sphere. They rather prefer to question the applicability of the neoclassical paradigm to the problems of developing countries and their financial system.

The economic analysis of futures markets needs special considerations when applied in the context of developing countries. Just referring to the efficiency of free markets does not guarantee economic and financial stability. I will turn in the next chapter to current theories of futures markets and how they model the economic role and welfare effect of establishing futures markets.

Chapter Four: Hedging in Futures Markets – The Welfare of Financial Market Innovations

'One is reminded at times of the well known fable of the six blind men who had such widely varying perceptions of the elephant. It seems hard indeed to find the common element of elephanthood in the different analyses of futures markets.'

Kenneth J. Arrow[6]

The theoretical analysis of futures markets has attracted much attention from economists of different fields. Its exchange character, high volume of trading and liquidity makes it a most suitable candidate for testing the efficient market hypothesis. The missing inter-temporal markets for a contingent Arrow-Debreu world seems also to be found in the existence of futures markets, which, admittedly, are little less than infinite in number. Furthermore, has the theoretical discussion on economic decision-making under risk and uncertainty found a lively place in forward markets—the other

[6] 1981, p. 107

being the insurance industry—for also studying their market consequences and their implications on the functioning of a decentralised economic system.

Economists tried to theoretically capture the observed practice of market participants as well as the observed economic outcomes of futures trading. The different economic models of futures markets proposed in the literature set out from diverging assumptions about the motives and behaviour of the actual users of futures markets to model the outcome of their interaction. The diversity and incompatibility of opinions is such that Arrow (1981) compares them with the six blind men of Indostan. Others even state: 'Economists have misunderstood the function of futures markets' (Williams 1986, p.2). This is only one difficulty with the analysis of futures markets bound by neoclassical economic theory.

I will start by discussing the literature on futures markets that adopt a perspective of risk aversion as motive for futures trading. Most economists see futures markets as a place for hedging, which they define as providing the possibility of transferring undesired risks. The second section will then discuss the competing perspective, in which futures markets are viewed to be an efficient forecast of the future spot price. A special focus will be on discussing the compatibility of both perspectives. I will then discuss in the third section the welfare effect of establishing new futures markets in incomplete markets.

4.1. Hedging and Risk in Futures Markets

Economists have applied different understandings of hedging in their theoretical modelling of futures trading. The first literature assumed the primary economic function of futures markets to provide the possibility for 'insurance' against price risks a commodity dealer has to face. The assumption of insurance seeking behaviour, reflected in the older literature on futures markets, is referred to as the theory of 'normal backwardation'. The association of futures markets with insurance and risk transferral is very old, as demonstrated by the incidence that the first collection of papers on futures markets, published in 1911, were solicited by a professor of insurance (see Williams 1986, p. 81). The modern 'portfolio theory of hedging' has become the dominant model for analysing and modelling futures markets. It is based on the same assumption that risk aversion is the main reason for hedgers to enter into futures markets.

Theory of Normal Backwardation

The theory of normal backwardation goes back to Keynes (1930) and has been restated and developed further by Kaldor (1939) and Hicks (1939; 1946; 1953). It describes futures markets as markets for insurance, in which handlers or providers of commodities hold inventories and can transfer the risk of prices fluctuating by selling futures to speculators who are more willing to bear that risk in exchange of a premium, i.e. for a discount below the expected future cash price (Keynes 1930; Kaldor 1939; Dow 1940; Blau 1944). In the words of Blau (1944, p. 1), 'Commodity

futures exchanges are market organizations specially developed for facilitating the shifting of risks due to unknown future changes in commodity prices ; i.e. risks which are of such a nature that they cannot be covered by means of ordinary insurance.'

Such interpretation can provide explanations for some of the observed hedging practices of futures traders. According to this literature, hedgers are viewed as representing the primary users of futures markets having an insurance motive to trade and ready to pay for this in the form of a 'price premium'. Thus, it is often stated that 'Hedging is often viewed as the purchasing of insurance' (Kolb 1999, p. 100).

According to the normal backwardation theory this service of 'insurance' is paid for in the form of a price difference between the actual futures price for a commodity and the expected spot price. Keynes uses this price premium to explain the dominance of negative spreads in futures markets. The assumption which lies behind this reasoning is that hedgers as a group would be net sellers. The theory needs to assume the existence of speculators who accept to take this risk and gain a profit resulting from the bias between the expected delivery price on the contract (or future spot price) and the current futures price.

The insurance seeking behaviour of futures traders itself is explained through the concept of risk aversion, which means that an expected gain with certain variability is preferred over another prospect with the same expected gain, albeit, a higher variability. According to such risk behaviour, the theory implies that it is best for the owner of a commodity to hedge his whole stock in entering an 'equal and opposite'

position, i.e. to enter a deal with the equal amount of futures contracts with the opposite price risk.

Thus, a hedger is defined as ‘a trader who enters the futures market in order to reduce a pre-existing risk’ (Kolb 1999, p. 98). This means, that a hedger only enters the futures market with an initial position on a commodity or the possibility to take cash position (ibid.), as he synchronises his operations in two markets simultaneously: the spot market and the futures market (Johnson 1960, p. 139). This also demonstrates one limitation of this theory, as it does not recognize the need for producers to make not only the inventory decision, but also the production decision, simultaneously with the futures transaction. The final output has to be considered certain to determine *a priori* the correct hedge, necessary to insure the price risk. This, however, is a very simplifying assumption due to the existence of production risk, e.g. caused by changing weather conditions.

This insurance motive is also found to be reflected in later literature, e.g., in the different contribution to the theory of competitive firms under price uncertainty. Theoretical models of futures markets were used that implied the ‘separation property’ in modelling futures markets as nullifying the price risk exposure. Under this condition, Danthine (1978) showed that in the presence of futures markets competitive firms will take decisions as if in position of certainty. Different studies analysed the effect of futures markets in the context of stochastic currencies, which was also applied on the context of the exporting firm (e.g., Benninger, Eldor and

Zilcha 1984; Stein 1986). On this basis different implications were derived and drawn on international trade.

Speculators as Insurance Providers

Because the theory of normal backwardation assumes the hedgers to be net sellers, a further group of traders have to be introduced that take the other position as net buyers. The theory assumes a special group of speculators entering the market to take this position. Their motive is not risk transferral or insurance but a profit motive to exploit the price premiums, which the hedgers are willing to pay for the service of insurance (Weller 1992, p. 2; Kolb 1999, p. 100). Thus, speculators can be defined as traders in the futures market in pursuit of profit by accepting higher risks. Without these speculators it might be difficult for individual hedgers to find a second hedger who wants to hedge exactly in the same commodity in the opposite direction. Speculators are therefore needed by the hedgers to provide liquidity in the futures markets and fill the imbalance between the short and long hedgers.

Yet, the theoretical need was important to provide the justification for the speculation motive, as otherwise hedging, as theoretically understood, would not be possible. Thus it is often stated, that 'Speculation on these markets, while frequently the subject of heavy strictures, is nevertheless often excused by their critics on the ground that socially useful hedging would not be possible unless speculators were willing to trade in futures' (Goss and Yamey 1978, p. 17). Although, some have argued for a social benefit of speculation in itself, as Kolb compares the opportunity for

speculation with a casino in providing ‘public service’ to society (1999, p. 85), the ‘side effect’ of the speculators search for profits, to provide liquidity for the increased effectiveness of markets, is the most articulated.

The reason for speculators to favour the dealing in futures markets rather than in other markets is its advantage over speculation in spot markets through holding inventories in the hope of market prices increasing, or short selling through private negotiations in the hope of realising a price higher than the future spot price (Johnson 1960, p. 139). The possibility of modelling futures trading as substitutes of spot transactions has given rise to a vast literature on the liquidity theory.

Portfolio Theory of Hedging

The portfolio theory of hedging is the dominant theory for the analysis of futures markets that is based on the transferral of risk as the primary function of futures markets by adopting a perspective of risk aversion (see Williams 1986, p. 77, 79). The models are based on a further development of Walras’ general equilibrium model by Arrow ([1953] 1963) and Debreu (1959, ch. 7). They adapted the economic model to incorporate risk to study the efficient allocation of resources and risk and from that laid down the foundations of finance theory. Arrow assumes the individual’s portfolio choice of state securities to be determined not only by the return structure but also by his individual risk-preference. Since then it has been believed ‘that trade in securities can bring about an efficient allocation of risk’ (Weller 1992, p. 4). However, it has remained a purely theoretical construct with many open questions.

a. Mean-Variance Analysis of Portfolio Choices

One major development in finance theory was Markowitz' application of mean-variance functions for analyzing portfolio choices, which was fundamental for the development of asset-pricing based on mean-variance analysis (Milne 1995, p.3f; Dumas and Allaz 1996, p.36f). Based on these developments, the works of Johnson (1960) and Stein (1961) are recognized as the break-through in modern analysis of futures markets (see Von Auer 2000, p. 18). They introduced graphically the use of indifference curves and worked with simple statistical means. More complex analytical treatment followed in the 70s. The optimal hedge is now dependent on the individual preference and not necessarily the 'equal and opposite' position as it is in the older theory of 'insurance'. In this way they combined both the desire of maximizing profits and the desire of minimizing the risk exposure. One of the implications of the portfolio theory of hedging is that with increasing risk averseness of a firm the usage of futures markets increases. In the 70s and 80s several studies utilizing different models of futures markets were undertaken.

b. CAPM Models

One set of futures market models were developed based on the Sharpe-Lintner CAPM or the intertemporal CAPM. William Sharpe (1964) and John Lintner (1965) extended the normative theory of optimal portfolio selection to a general equilibrium model of asset prices, which became known as the CAPM (Stein 1990, p. 15). Dusak (1973) applied CAPM reasoning to this issue which says that the appropriate risk premium is not determined by the variance of the assets returns, but by the covariance

between the asset and the market portfolio returns (Stein 1990, p. 18). Stein (1990) lists the main characteristics of futures markets, which have to be explained by a model to be relevant, and concludes in his analysis of the CAPM models that 'the [different] variants of the CAPM cannot explain these characteristics and hence cannot be considered to be a relevant theory of futures markets' (p. 4).

Initial tests of the CAPM appeared to validate the theory, although, Roll (1977) and Ross (1976) have questioned the empirical tests done on the CAPM model. Out of the dissatisfaction with these empirical tests of the CAPM, Ross (1976) developed the arbitrage-pricing theory (APT) as an alternative to CAPM (Milne 1995, p. 6). The theoretical method of 'no-arbitrage' equilibrium gained great popularity from the time when Black and Scholes (1973, p. 637-654) developed their option pricing model based on this method. It is elegant and produces conclusions which are easy to interpret. It is, however, more suitable for analyzing financial derivatives than for commodity futures and less suitable for welfare considerations (Von Auer 2000, p. 21 and ch. 6.2).

c. Unsolved Challenges

Whether these Arrow securities are a good representation of derivatives in general, and futures markets in particular, is very much debated. Arrow and Debreu show that inside the general equilibrium approach an efficient allocation can only be achieved with the existence of a 'complete market' of securities and markets for all contingencies. This makes the model theoretically elegant, but in reality not testable (Mason 1995, p. 160). The assumption of the Arrow-Debreu model of an infinite

number of markets is also not real as futures markets are only existent for a few commodities. Stein (1990, p. 7) remarks that, 'There must be an infinite number of state contingent claims to correspond with the infinite states of nature. But the number of futures contracts is small, their success rate is low, they are concentrated in the nearby maturities and they come in large indivisible units. In no way do futures contracts that are traded correspond to the infinite set of state contingent claims that appear in the Arrow-Debreu model' (Stein 1990, p. 8).

There are many other unsolved challenges, e.g. the escalating implications of market imperfections like moral-hazard that increase with increasing numbers of markets. Mason (1995, p. 160) notes a further point, 'one implication of the existence of a complete set of state security markets is that individuals need trade only once in order to achieve their most efficient allocation of resources and risk-bearing.' This can not explain the huge trading volume produced by futures markets. Others have raised the critique that the payoffs of the contingent claims are exogenously given and not dependent on the price of any other asset; derivatives, in opposite to this, are defined as assets with a payoff dependent on the price of an underlying asset. Weller (1992, p. 4-5) provides an impressing example of this conflict. Based on the works of Holbrook Working, Williams (1986) criticises strongly the application of portfolio theory to hedging. In his critical review of the portfolio theory of hedging he is able to provide several other examples on how its application to the analysis of futures markets does not hold.

4.2. Information and Efficiency of Futures Markets

Another group of writings views futures markets as performing a different economic role. They see the futures price as aggregating and transferring the available information efficiently. Hence, it provides a reliable forecast for the future spot price. Individuals are assumed to use this price forecast in order to make better production, inventory and investment decisions (Kolb 1999, p. 108; Dubofsky and Miller 2003, p. 144). This would help society to allocate capital more efficiently (Kolb 1999, p. 108).

Efficiency of Futures Markets

The ability of futures markets to forecast the future spot price can be statistically measured with two characteristics: it shall be unbiased and accurate. An estimator is unbiased if its expected value equals the true value of the variable to be forecasted. The expected value can be estimated by the average value of the forecasts. Under the efficient market hypothesis the futures price is supposed to provide the best and unbiased estimator of the spot price (Stein 1992). Hence, statistical tests are used whether the estimator based on the futures price is unbiased and whether other added variables have significant explanatory power. They test futures market for efficiency using the ‘efficiency’ tests proposed in the finance literature (see Stein 1992). Many empirical studies have been undertaken, and the best that could be said is that it is not clear whether futures market forecasts are biased or not (Kolb 1999, p. 87).

The Efficient Market Controversy

Traditionally there are three different versions of the market efficiency hypothesis: the weak, semi-strong, and strong version. They differ in the specified information set which is assumed to be reflected in the market prices. In the weak form the market prices are assumed to reflect all information of past volumes and prices. The semi-strong version claims that all publicly available information is reflected in the market prices. The strong version includes besides the publicly available information also the private information which is only possessed by corporate insiders and government officials (Kolb 1999, p. 96; see also Fama 1970; and for a survey of the efficient market literature, see Copeland, T. and F. Weston 1988).

Eugene Fama's ([1964] 1965) Ph.D. dissertation was published, in its entirety, in the *Journal of Business* where he argues that there are literally thousands of intelligent, well-informed professional investors actively searching for mispriced securities. Since upon finding them, these professionals trade and thereby affect prices, it's likely that security prices, at any given time, reflect the collective wisdom of those who invest in them. If information rapidly and efficiently becomes impounded into the prices of securities, then it becomes impossible to 'beat' the market through any form of security analysis. This controversial issue became known as the 'efficient market controversy', and it still remains to be settled to this day.

The debate spawned an extremely large number of empirical studies directed at determining the quantity and quality of information reflected in security prices. Initially, the weight of the evidence clearly favoured the view that the market was

highly efficient. The result of these studies had their effect in the real world. Gradually, however, as better data became available and statistical techniques were refined, some holes were punched through the efficient market hypothesis. At this point the prevailing view is that while the market appears to be clearly more efficient than what was thought prior to the publication of Fama's dissertation, security prices reflect less than the complete set of information available to the diligent investor.

Errors in Futures Market Forecasts

The second characteristic for futures prices to be useful forecasts of future spot prices is that they should be accurate. The difference between a forecast to be unbiased and to be accurate is nicely illustrated by a story of two economists who predicted the next year's unemployment rate. The first economist predicted the unemployment rate to decrease to 0% and the other predicted it to increase to 10%. It turned out to be 5%, which means that both economists were on average correct (Kolb 1999, p. 87). There seems to be some similarity with futures prices, as Kolb concludes 'Without question, the large size of the forecast errors from the futures markets limits the forecasts' reliability' (Kolb 1999, p. 87). And further, 'In general, the errors in futures forecasts are so large that they tend to drown out any biases that may also be present' (ibid.).

Risk Aversion or Market Efficiency

The 'normal backwardation' theory predicts that the market can be characterized by a price bias, in that the current futures price is a biased predictor of the spot price. In

the words of Keynes (1939, p. 143): 'the spot price must exceed the forward price by the amount which the producer is ready to sacrifice in order to 'hedge' himself, i.e. to avoid the risk of price fluctuations during his production period. Thus in normal conditions the spot price exceeds the forward price, i.e. there is a backwardation.' This property concludes from his assumption that hedgers as a group would be net short, i.e. net sellers of contracts. Such insurance is based on a parallel movement of futures and spot prices, to say it in the words of Blau (1944, p. 7): 'The system of futures trading is based on the fact that cash and futures prices move together. Clearly, the effectiveness of hedging (i.e. the effectiveness of neutralising price risks in the cash market by assuming opposite risks in the futures market) must be impaired to the extent to which the movements of cash and futures prices diverge.' The systematic bias observed in futures prices may be explained by the theoretical anticipated risk premium (Kolb 1999, p. 87). This contradicts the belief that futures markets serve the economic function of price discovery that assumes efficient futures prices.

This incompatibility explains why economists who defend one understanding discredit the other as false and 'misleading': 'Thus the analysis suggest that the "normal backwardation hypothesis" literature may be misleading by characterizing futures trading as a quasi-insurance market, rather than emphasizing trading's role in improved decision-making about the future through the exchange of heterogeneous private information' (Francis 2000, p. 24).

There is no consensus whether backwardation exists or not and its existence has been subject of strong controversies and debated by several authors (e.g., Brennan 1958;

Cootner 1967; Telser 1958; and Weller and Yano 1992). Weller and Yano (1992) question this bias by differentiating between price and income risk. Users of the commodity would go long and not short, i.e. buying futures instead of selling them. If backwardation does not exist and the price discovery function of futures markets is correct, this would have an effect on the viability of futures markets as risk management instrument.

4.3. Welfare Analysis of Futures Markets

Inside the neoclassical framework it is not possible to deduct a clear statement whether establishing new markets has a positive or a negative effect on market participants and on the economy at large. The most that could be claimed is the First Welfare Theorem, which says that an economy with complete markets and in equilibrium is Pareto efficient, a formulation of Adam Smith's 'invisible hand'. But its application on financial markets and innovations has raised more puzzles and questions than it could provide answers.

Puzzles of the Neoclassical Welfare Theorem

The claim of Pareto optimality says that when markets are not complete at least one person will be worse in his personal utility. This is of course a very weak statement for developmental decisions. But there are more puzzles to the theorem. The first puzzle is the Miller-Modigliani theorem. It demonstrates that in the complete market

scenario assumed by the First Welfare Theorem there is no role for financial intermediaries. Hence, financial innovation is not needed and has no effect on welfare. The second puzzle is that the theorem can not provide any statement for the situation when markets are not incomplete. Adding any new markets may increase or decrease the welfare, as long as it remains incomplete.

Several studies have examined this case and shown in their economic models that adding a new futures market to the economy may make all individuals worse off when in equilibrium (Dow 1998). This extreme form of Pareto suboptimality is explained through the interdependence of different markets and the arbitrage and speculative motives in hedging. The opening of a new futures market may have a significant effect on the redirection of resources to alternative speculative strategies that were not viable before due to the missing hedging possibility. The analysis assumes that hedging is not only done by risk-averse commodity producers, but also by arbitrage seekers.

Speculative Motives in Hedging

Opinions diverge about the possibility of separating the hedging from speculative motives in the actual practice of futures traders. It is not only the theoretical need that brought economists to assume traders entering the market with speculation motive. Economists' empirical knowledge about the real behaviour of market participants has its role in the explicit consideration of speculation in their economic models. But economists' views about the nature of hedging activities differ widely.

According to the 'insurance' literature the hedger and the speculator are two distinct groups of traders. Hedgers are portrayed as lay-men compared to the professional group of specialised speculators, as stated by Hawtrey (1940, p. 203), that the hedger 'regards the making of price as a whole-time occupation for experts, and, in general, will not pit his fragmentary information against the systematic study at the disposal of the professional dealers.' The information costs for those hedgers, which should not exist in neoclassical theory, give the incentive for professional speculators to enter the market. The hedger insures his inventory to eliminate the price risk to the extent that any gain or loss in the price movement of his inventory is off-set by the opposite loss or gain of his futures contracts. This assumes the hedger as entering the futures market with a given position in the spot market, e.g., in the form of an inventory he holds. Thus, the effectiveness of hedging activities is measured by the parallel movement of spot and futures prices.

Hedging for Arbitrage Purposes

These assumptions about the behaviour of futures traders are very much criticised by Holbrook Working in his many articles. He presents a different interpretation of the functioning of futures trading and, hence, of hedging, and describes the insurance literature as overemphasizing the role of risk-avoidance (Working 1953a, p. 325). Instead of risk avoidance, Working believes, hedgers seek arbitrage profits from favourable relative price movements in the spot and the futures markets. This would mean that futures traders do not just start from a given position in the spot market, as

assumed by the traditional literature, but take positions in both markets according to their expectations. This means, a hedger 'buys the spot commodity because the spot price is low *relative to* the futures price and he has reason to expect the spot premium to advance; therefore he buys *spot* and sells the future' (ibid.).

Such understanding of the behaviour of futures traders has wide reaching consequences on the economic modelling of futures markets. There is no sharp differentiation between two different groups, one group of hedgers and one group of speculators, but hedging and speculation are combined in the process of arbitrage seeking. The effectiveness of hedging now depends on '*inequalities* between the movements of spot and futures prices and on reasonable predictability of such inequalities' (Working 1953b).

Conclusions

Traders can have different motives for their engagement in futures markets. Hedging is not only done by risk-averse commodity producers, but also by informed arbitrage seekers and speculators. The establishment of a new market can change the portfolio of possible investment strategies, which results in a redirection of resources. Such redirection of resources can result in a Pareto-inferior equilibrium for all traders. The theoretical reason for this is that the First Welfare Theorem claims only Pareto optimality for an economy with complete markets. It does not allow any judgement before reaching this state. Adding a further market does not necessary increase

efficiency. The negative effect of different markets is one factor that makes the welfare effect of financial innovation so inconclusive. A different approach is needed that is able to evaluate the establishment of futures markets and their developmental contribution to society on other grounds than mere market efficiency. It needs to appreciate that futures markets may serve different functions in an economy and that those functions change.

Such economic model would need to rely on assumptions about the behaviour of market participants, which may change in different social and cultural settings. The neoclassical theory of choice is in the heart of current futures market models and claims for itself universality. A critical discussion of this claim will be the focus of the next chapter.

Chapter Five:
Rational vs. Human Behaviour – The Power of Normative Theories

'I still feel an intuitive attraction to those preferences.'

Leonard J. Savage[7]

Savage had to suppress his inner intuition to convince himself that a choice decision he made was 'wrong' in terms that it contradicted the same theory he helped to develop. This happened when Allais confronted him with a decision game in 1952 that got to be known as the Allais paradox—one of the most widely known challenges of neoclassical theory of choice. But even years later, he still expresses that same attraction he felt at that time. This and the many other examples that followed have been named 'paradoxes' because they contradict the predictions of the 'rational' expected utility model.

[7] [1954] 1972, p. 103.

Savage responded to his own 'wrong' choice that people are the one who are making the mistake and must adjust their preference according to the theory. By this he defines the theory not merely descriptive, in terms of how people *do* behave in reality, but normative in terms of how people *ought to* behave to be called rational:

> 'If, after thorough deliberation, anyone maintains a pair of distinct preferences that are in conflict with the sure-thing principle; he must abandon, or modify, the principle; for that kind of discrepancy seems intolerable in a normative theory.' (Savage [1954] 1972, p. 102)

I will start this chapter by discussing the conceptual cornerstones, on which neoclassical theory of choice under uncertainty is built, and how they emerged over time. The second section will then review the different experimental tests that question the validity of the central expected utility theorem. They will be presented in direct relation to the theoretical premise of the theory that is verified. The third section will then draw out the ethical implications of the theory. This becomes particularly interesting as the normative interpretation of the theory suggests that all people ought to behave in conformity to the theory and its ethical system.

5.1. Neoclassical Theory of Choice under Uncertainty

The expected utility theorem has become the dominant descriptive and normative model for describing the behaviour of rational individuals (Kahneman and Tversky 1979, p. 263) and the centre piece of the portfolio theory of hedging model of futures markets. Neoclassical theory of choice under uncertainty has been built on different conceptual cornerstones that historically developed over time.

The Expected Utility Theorem

The two philosophers Blaise Pascal and Pierre de Fermat argued that the attraction of a lottery was completely measured by its expected value of outcomes (Dumas and Allaz 1996, p. 21). This was the time where modern probability theory was being developed. The principle of using games of chance to explore the attitude of individuals in situations of risk has endured to our times. Others just assume that the pleasure the gambler enjoys in playing is identical to the satisfaction of winning (Dumas and Allaz 1996, p. 44).

In 1728, Nicholas Bernoulli, one son of the great Swiss family of mathematicians, challenged this expected value approach through a very elegant example, known as the St. Petersburg paradox (Machina 1987, p. 122):

> ‘Suppose someone offers to toss a fair coin repeatedly until it comes up heads, and to pay you $1 if this happens on the first toss, $2 if it takes two tosses to land a head, $4 if it takes three tosses, $8 if it takes four tosses, etc. What is the largest sure gain you would be willing to forgo in order to undertake a single play of this game?’

Although the expected value of this game is infinity $(\sum_{n=1}^{\infty} 2^n \, ½^n = \infty)$ there are not many people who would be willing to pay a larger amount for a single game.

By generalizing the hypotheses of Pascal and De Fermat, the mathematicians Gabriel Cramer and Daniel Bernoulli, Nicholas’ cousin, independently solved this problem and laid down the foundation stone for the expected utility theorem. They argued that it is not necessary for the gambler to value the possible gains in a proportionate way and proposed a concave transformation of the gains before calculating the expected

value in order to reduce the attraction of higher gains. Depending on the 'utility' function the expected perceived value can be finite, despite an infinite expected value (Dumas and Allaz 1996, p. 22; Machina 1987, p. 122f).

It could be argued that the St. Petersburg paradox can be solved by different means in the sense that the real problem does not lie in the perceived value of the gains but in a non-proportional consideration of higher probabilities compared to smaller ones. This can be explained by the situation that the game is only a 'single-shot' game. If it was allowed to play the game repeatedly, maybe someone would be willing to 'pay' more, which would also contradict the expected utility approach. In such case, the perceived value would remain the same. Hence, an alternative attempt could be the introduction of a 'perceived probability' function in which gains with higher probabilities are relatively graded up and those with lower probabilities down. Similar attempts have been proposed to solve the Allais Paradox.

Bentham's Utilitarianism

The second development, which was important for the foundation of the expected utility theorem, was the doctrine of utilitarianism. It goes back to Jeremy Bentham (1748-1832), who argued that every human is solely governed by 'two sovereign masters, *pain* and *pleasure*' to achieve his only aim, 'the greatest happiness of the greatest number'. In the words of Bentham (1789, ch. 1):

> 'Nature has placed mankind under the governance of two sovereign masters, *pain* and *pleasure*. It is for them alone to point out what we ought to do, as well as to determine what we shall do. On the one hand the standard of right and

> wrong, on the other the chain of causes and effects, are fastened to their throne. They govern us in all we do, in all we say, in all we think: every effort we can make to throw off our subjection, will serve but to demonstrate and confirm it. In words a man may pretend to abjure their empire: but in reality he will remain subject to it all the while. The *principle of utility* recognizes this subjection, and assumes it for the foundation of that system, the object of which is to rear the fabric of felicity by the hands of reason and of law.'

To achieve the general happiness of the society, legal penalties have to be put in place to guide the self-interested behaviour of people to the desired social outcome. Whether this really works is until today not proven (Hargreaves Heap (1992), p. 4-5). Others, like John Stuart Mill (1843), a former disciple of Bentham, made important contributions to the idea of Bentham's utilitarianism. He argued for the introduction of mathematical function into economics to advance it further.

This idea was later reinterpreted into the assumption that individuals' actions are determined by preferences. 'The desires can be 'good', 'bad', 'selfish', 'altruistic' – anything you like. The only proviso is that those desires generate a preference ordering … [which satisfies certain conditions]' (Hargreaves Heap (1992), p. 5). Therefore the advocates of this theory claim its universality. The Achilles' heel in this argumentation is the 'conditions' which have to be satisfied. As we will see later in this chapter, for some of them it might be difficult to defend their correctness when applied to observable human behaviour.

Axiomatic Foundation by von Neumann and Morgenstern

John von Neumann and Oskar Morgenstern formulated in 1944 in their famous book, *The Theory of Games and Economic Behaviour*, an axiomatic definition of the

‘rational individual’ based on behavioural hypotheses. They assumed absolute objective determinism in the states of nature which does not leave any uncertainty in the mind of the decision-maker. After assuming the probabilities of different circumstances to be objectively given they mathematically proved the existence of a single utility index which can represent the ordering of the decision-makers preferences (Dumas and Allaz 1996, p. 22, 44).

This von Neumann-Morgenstern utility function has characteristics different from the utility function of standard consumer theory. It is cardinal and indifferent to any linear transformation which does not change the ‘shape’ of the function. The explanation of the contradictory seeming behaviour of individuals who show risk aversion by purchasing insurance and at the same time showing risk-loving by purchasing lottery tickets could be explained by a utility function which was concave on higher and convex on lower levels (Machina 1987, p. 123f).

One very significant generalization was the introduction of subjective probability theory which is normally attributed to Savage ([1954] 1972). Von Neumann and Morgenstern introduced their axiomatic foundation assuming the probabilities of circumstances were objectively given to the decision-maker. In reality, however, this is more an exception than the rule. Savage generalized the expected utility theory and introduced the theory of subjective probability in which he assumes that every individual when being confronted with a choice between uncertain prospects attaches probabilities to states of nature in such a way that all his beliefs relevant to his decision can be explained by only this single index of probability. From this he

concludes that his decision behaviour can still be represented through a unique expected utility function. But this means, that the theory reduces all uncertainty to risk (Mas-Colell, Whinston and Green 1995, p. 205, 207; Sugden 1992, p. 46).

Changing Notion of Risk

The concept of risk in the financial literature is not homogenous. It can take different meanings and different uses. The same is true for the differentiation between 'risk' and 'uncertainty'. Sometimes, risk is associated with *negative* consequences as framed by Mason (1995) while he discusses the risk management function of the financial system: 'It may seem natural to associate the term *uncertainty* with all unexpected consequences, and the term *risk* with specifically *negative* unexpected consequences'. (p. 159, footnote 1) However, 'A more relevant definition for our purpose is a nonreferential, or absolute, measure of risk. Therefore we will associate both the terms *uncertainty* and *risk* with *all* unexpected consequences of an asset's return' (ibid.). This is in contrast to the differentiation already proposed by Knight (1921) and Keynes (1921), who distinguished between risk and uncertainty depending on whether the probabilities were objectively known or not.

When von Neumann and Morgenstern (1944) laid down the axiomatic foundation of the expected utility theorem, which is held to be the 'centrepiece' of the theory of futures markets, they assumed the probabilities objectively given, which would be a case of risk with no count for uncertainties. Later, Savage ([1954] 1972) introduced the theory of subjective probabilities in which he reduces all uncertainty to risk and

with this even ‘nullifies this distinction’ (Mas-Colell, Whinston and Green 1995, p. 207). This reduction of all uncertainties to risk has being questioned by an example given by Ellsberg (1961), known as the Ellsberg Paradox, in which he demonstrated that there might be something to distinguish between uncertainties and risks.

5.2. Experimental Falsification

In developing the expected utility theory many restrictions had to be made on the behaviour of the ‘rational’ individual, in order to be able to represent the complex real-world behaviour in a simple, elegantly formulated mathematical model which allows the economists to handle it. We saw how the concept started historically as an abstract theoretical model and was later applied to the ‘real-world’ by restricting the behaviour of decision-makers to be in conformity with the model. After formulating this abstract model economists are now able to judge according to it who is ‘rational’ and who is ‘irrational’.

However, real experiments have surprised economists and led some of them to question the validity of the model instead of the rationality of the ordinary human being. In this section we want to discuss the validity of the assumptions and implications of the expected utility model and review some of the reported paradoxes that claim to falsify the correctness of the theory, i.e. the isolation effect, cyclic behaviour, the Allais paradoxes, and the reflection effect.

The 'Consequentialist' Premise and the 'Isolation Effect'

In the theoretical development of the model, risky alternatives are represented through the concept of *lottery* over certain outcomes with *known* probabilities. Compound lotteries where the outcomes of the lottery are themselves simple lotteries can be reduced to a simple, reduced lottery with the same ultimate probability distribution. The theory assumes that only this reduced lottery is important for the decision-maker (Mas-Colell, Whinston and Green 1995, p. 168f). This decomposition can be observed to be done in the mind of people confronted with a complex choice between alternatives which have common and distinctive components for comparing them. However, Kahneman and Tversky made an experiment in which they demonstrated a clear violation of this premise which they called the '*isolation effect*' (1979, p. 271ff).

In the first problem 95 individuals were asked to choose between two prospects, a gain of 4,000 with the probability of 0.20 or a gain of 3,000 with the probability of 0.25. Out of these 95 individuals 65% choose the alternative with the gain of 4,000 and 35% chose the gain of 3,000. The second problem was formulated in the form of a two-stage game. In the first stage there was a probability of 0.75 to quit without any gain and a probability of 0.25 to continue to the second stage. In stage two the following two prospects were available, a gain of 4,000 with the probability of 0.80 or a sure gain of 3,000. The individuals had to decide which of the two prospects they want to choose before entering into stage 1. In the second problem 78% out of the 141 subjects choose the sure gain of 3,000, which is very much inconsistent with the

expected utility theory. If we calculate the reduced lotteries for the second problem which is a gain of 4,000 with the probability of (0.25 * 0.80) = 0.20 or a gain of 3,000 with the probability of (0.25 * 1) = 0.25 it appears to be equal to the first problem.

'Rational' individuals who follow the expected utility theory must choose equally in both questions. However, the majority of the asked subjects chose differently in these two problems, which 'is particularly significant because it violates the basic supposition of a decision-theoretical analysis, that choices between prospects are determined solely by the probabilities of final state' (Kahneman and Tversky 1979, p. 272). This means that different presentations of a problem can alter the preference or, in other words, that the reduction of compound lotteries to a simple lottery may not represent the true preference order of the decision-maker, which is the fundamental assumption expected utility function departs from.

Many other studies were conducted, in which different classes of the same problem have been reported. In terms of different outcome representations instead of different representation of probabilities the following non-monetary example reported by Tversky and Kahneman (1981, 1986) and taken from Machina (1987, p. 143f) will serve us as a second example :

> Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are [sic] as follows:
>
> If program A is adopted, 200 people will be saved.
>
> If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

A second group was given the identical problem with the same initial information but different presentation of the outcomes:

> If Program C is adopted 400 people will die.
>
> If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.

Out of the first group 72% of the respondents preferred program A in contrast to 22% of the second group who choose program C.

Machina (1987) while making his remarks on these problems does, on one side, state that '[t]he replicability and pervasiveness of the above types of examples is indisputable' (p. 144) but still concludes, 'when psychologists are able to hand us enough systematic evidence on how these effects operate, economists will be able to respond accordingly' (p. 147).

The Assumption of 'Rational' Preferences and Cyclic Behaviour

The next assumption about the decision maker is a rational preference relation on the set of all simple lotteries which is complete and transitive and allows the comparison of any two simple lotteries (Mas-Colell, Whinston and Green 1995, p. 171). Here we should note that there are two preference relations which have to be restricted. This 'new' preference relation over the prospects or lotteries has to fulfil this axiom simultaneously with the existence of a utility function for the outcomes which

themselves have to have a rational preference relation. In general, this assumption is needed for a preference ordering.

The expected utility model therefore predicts that inconsistent cycles of pair-wise choice do not exist. Theoretical arbitrage argumentations against such irrationalities seem to be very strong. However, this phenomenon known as 'preference reversal' has still been observed in several studies. It was first reported by the psychologists Lichtenstein and Slovic (1971) and also by Lindman (1971) (Machina 1987, p. 136; Sugden 1992, p. 43). The two economists Grether and Plott (1979) tried to 'discredit' these findings of the 'psychologists' by correcting several circumstances but still found this phenomenon recurring in both of their conducted experiments.

Even when subjects were allowed to discuss and make a joint decision, or were allowed to trade these gambles, or where an experimenter was even making arbitrage money out of reversals 'the phenomenon has been found to persist (although in mitigated form)' (Machina 1987, p. 137).

The 'Independence' Axiom and the Allais Paradox

The independence axiom is the second major assumption which is needed to represent preferences over lotteries by an expected utility function. It was first stated by von Neumann and Morgenstern (1944) and is indeed 'at the heart of the theory of choice under uncertainty' and 'unlike anything encountered in the formal theory of preference-based choice' (Mas-Colell, Whinston and Green 1995, p. 172). It says that

the preference order between two lotteries is independent of any third lottery which is being equally mixed with both of them (Mas-Colell, Whinston and Green 1995, p. 171; Hargreaves Heap et al. 1992, p. 10). This axiom implies the property of linearity in the probabilities of the preference function. It can be formulated:

> 'If the lottery P^* is preferred (resp. indifferent) to the lottery P, then the mixture $aP^* + (1 - a)P^{**}$ will be preferred (resp. indifferent) to the mixture $aP + (1 - a)P^{**}$ for all $a > 0$ and P^{**}.'
>
> (Machina 1987, p. 127)

It seems to be very logical and therefore supported the acceptance of the expected utility function as descriptive theory of choice under uncertainty. However, economists' surprise was even greater when only after a very short time this logical assumption was challenged by experimental evidences. Allais' (1953) thought experiment was the oldest and most famous of these challenges to the expected utility theorem, known as the Allais paradox. We will review the real experiment undertaken by Kahneman and Tversky (1979) of the Allais paradox:

Problem 1: Choose between

A:	2,500 with probability	.33,	B:	2,400 with certainty
	2,400 with probability	.66,		
	0 with probability	.01;		

Problem 2: Choose between

C:	2,500 with probability	.33	D:	2,400 with probability	.34
	0 with probability	.67;		0 with probability	.66;

The questionnaire was answered by 72 subjects out of whom 82% choose the alternative B with a certain gain of 2,400 in the first problem and 83% choose alternative C in the second problem. Note, that the second problem can be derived from the first by substituting the gain of 2,400 with probability 0.66 by a gain of 0 with the same probability in both lotteries. The independence axiom says that every rational individual who prefers the lottery B must prefer the lottery D—a rule that most of the subjects obviously did not follow. In other words, the expected utility theorem says that preference orderings can be represented by an expected utility function: $\sum_i u(x_i)p_i$, with x_i being the gains, *u(.)* the utility function for the outcomes, and p_i the probability of gaining x_i .

Preferring alternative B means in terms of expected utility:

$$u(2{,}400) > 0.33\,u(2{,}500) + 0.66\,u(2{,}400) + 0.01\,u(0)$$

$$\Leftrightarrow \quad 0.34\,u(2{,}400) > 0.33\,u(2{,}500) + 0.01\,u(0)$$

In contrast to this, preferring alternative C means the exactly opposite inequality:

$$0.34\,u(2{,}400) + 0.66\,u(0) < 0.33\,u(2{,}500) + 0.67\,u(0)$$

$$\Leftrightarrow \quad 0.34\,u(2{,}400) < 0.33\,u(2{,}500) + 0.01\,u(0)$$

This has not helped to solve the ‘tension’ between the advocates of the normative interpretation of economic analysis and those claiming its descriptive and predictive qualities (Machina 1987, p. 127). Those who view the expected utility theory as

normative argue that individuals whose choices are inconsistent with the independence axiom make a logical mistake and will correct themselves 'much as one corrects arithmetic mistakes' (Mas-Colell, Whinston and Green 1995, p. 180). In this respect it is noteworthy to remind that even Savage himself chose the 'wrong' combination when first confronted with the Allais example (Savage [1954] 1972, p. 101-103).

Risk Aversion and the 'Reflection' Effect

Most economic applications assume the utility function to be concave, which is called risk aversion. An individual is risk averse if he prefers a certain prospect to any lottery with the same expected value (Kahneman and Tversky 1979, p. 264). In different experiments economists found, that individuals choosing risk aversion, when positive gains are involved, shift dramatically to risk seeking behaviour when the outcomes are translated into losses (Kahneman and Tversky 1979, p. 268f). Such shift might explain some classes of framing effects introduced earlier where different presentations of the same problem change the preference behaviour of the decision-maker. But both effects can not be explained by neoclassical theory of choice.

5.3. Ethics and the Existence of Needs and Values

In the neoclassical theory of choice under certainty, preferences must satisfy the continuity axiom in order to represent a preference ordering of outcomes through a

utility function (Mas-Colell, Whinston and Green 1995, p. 46; Hargreaves Heap et al. 1992, p. 6). Current literature, however, does not appreciate in the appropriate manner the fact that the continuity axiom has ethical implications. This is important from several viewpoints. Firstly, this challenges the descriptive universality of the theory for all people, as ethical behaviour can be found even in economic dealings. Secondly, this supports a strong case against the normative interpretation of the theory as this would mean to educate people to behave against their ethical intuition towards a decision process of simple utility maximization.

Denying Needs and Values

For the decision-model under uncertainty the expected utility theorem says that if—in addition to the existence of a utility function over the outcomes—both the continuity and independence axiom hold for the decision-maker's preferences over lotteries, then his preferences over lotteries can be represented by an expected utility function (Mas-Colell, Whinston and Green 1995, p. 175). The continuity axiom is introduced without any reference to the real behaviour of economic agents (ibid., p. 46):

> 'For analytical purposes, it is very helpful if we can summarize the consumer's preferences by means of a utility function because mathematical programming techniques can then be used to solve the consumer's problem. … Unfortunately, with the assumptions made so far, a rational preference relation need not be representable by a utility function … The assumption that is needed to ensure the existence of a utility function is that the preference relation be continuous.'

It could be understood from this explanation that the motivation for the continuity axiom is solely the convenience of 'mathematical programming techniques' without any serious implications or restrictions on the real-world behaviour of decision-

makers. However, while explaining the continuity axiom Hargreaves Heap (1992, p. 6) emphasizes a further very important point:

> 'Finally, *continuity* … implies that, given any two goods in a bundle, it will always be possible – by reducing the amount of one fractionally and increasing the amount of the other fractionally – to define another bundle which is indifferent to the first. This means that there is no good in a bundle which is absolutely necessary in some amount and which cannot be traded off at the margin for another good – and it rules out lexicographic orderings.'

From a descriptive point of view this means that in general *all* 'rational' humans do not have *any* values or needs which can not be traded-off by *any* other taste or want. But, one might easily argue that there are many 'normal' people who would, perhaps, see the good of their own freedom not tradable against the good of tasting kiwi—no matter how much is offered. The normative interpretation of this continuity axiom is equally absurd.

The second continuity axiom regarding the choice between uncertain prospects is similar controversial. It says that for any three prospects it has to be possible to make a probability mixture of the most preferred and the least preferred prospect which is indifferent to the third one (Hargreaves Heap et al. 1992, p. 8) or in other words, that sufficiently small changes of probabilities do not change the ordering between prospects (Mas-Colell, Whinston and Green 1995, p. 171). It does again rule out lexicographic preferences and has similarly strange implications.

Lexicographic Orderings

A second point, which is closely interrelated to the former, is the ruling out of lexicographic orderings in demanding the preference ordering to be continuous. In a lexicographical order there are different dimensions of comparison. This means, that not every good can be off-traded by any other. An example is a pizza delivery service which is searching for someone with driver license to employ and has to choose between different applicants. An applicant can have as many qualifications as one pleases, but he will not be able to trade-off a missing driver's license. A second example is the winning team in a best of five competition. If one team is able to win three games, even if they win each game with only one point difference and the other team winning the remaining two games with 100 points difference in each, the first team will truly have less over-all points, but will still have won the whole competition. In other words, the number of won games can not be off-traded with the number of achieved points. There are many examples for lexicographical preference orderings. It can be found in Rawls' 'difference principle' and in his theory of justice where he argues 'that liberty can be restricted only for the sake of liberty' (Hargreaves Heap et al. 1992, p. 331-332). Despite this, 'Economists have generally regarded lexicographical preferences as no more than a mathematical curiosity which can be assumed away by invoking suitable axioms of 'continuity'' (Hargreaves Heap et al. 1992, p. 331).

Search for a Universal Theory

On theoretical grounds the pressure of increasing number of experiments, whose outcome were other than predicted by theory, led many economists to analyse the behavioural restrictions implied by the expected utility theory. Many economists felt the need for a more general approach (Dumas and Allaz 1996, p. 41f). Another issue was the application of the theory in an intertemporal context in which it turned out to be very restrictive. As an outcome of that, several competing extensions of the expected utility model were proposed which all still had their shortcomings.

Some scientists searched for a general model by merely altering the underlying assumptions to explain the observed real behaviour of individuals. One group has dropped the independence axiom or used a weaker version to respond to the Allais paradox and similar phenomena. As an example, Kahneman and Tversky (1979) try to explain these phenomena in the way people process information and propose the 'prospect theory' as alternative, in which probabilities are translated into 'decision weights' to model these effects. However, this solves only a limited number of the contradictions without being able to claim any universality.

Many alternatives have been presented but still there is no single model which is able to predict all of the empirical phenomena, and in the optimistic words of Machina the empirical contradictions to neoclassical theory of choice 'are very diverse, and if (like the wave versus particle properties of light) they cannot be currently unified, this does

not mean that we cannot continue to learn by studying and modeling them separately. (1987, p. 149-50)' The comparison with the different behaviour of light is not from far away. The discoveries of quantum physics have challenged the whole philosophy of science and proven the deterministic view of the world to be scientifically false. The findings of this 'scientific revolution' are still waiting for their translation into the realm of economic theory.

Conclusions

Theory of decision-making under uncertainty developed deductively through abstract mathematical reasoning at a time at which it was not clear when or if it will find any practical application. It then was developed further and has conquered its place even in the social sciences. Yet, there are many real-world phenomena which can not be explained and until today no extension of the model is able to explain the different empirical findings. The reviewed experimental violations of the neoclassical theory of choice is a strong challenge to its central claim of universality, as pointed in Milton Friedman's Nobel acceptance address when stating: 'The great Saints of history have served their 'private interest' just as the most money grubbing miser has served his interest' (as cited in Machan 1995, p. 21). But individuals do not behave 'rational' as defined by neoclassical economic theory and the incentive system of an economy is not solely described by individual utility maximisation. Neoclassical theory of choice

has been falsified as descriptive model for explaining individual behaviour: not a single axiomatic premise could hold an empirical verification.

The reaction of Savage, when he choose the 'irrational' combination of the Allais experiment, is one possibility for rescue: The abstract theorisation should be understood normative and it is the people (including himself as he admits) that are regularly and insistently making the errors. Such normative interpretation of economic theory is the one, which worries those economists who understand the ethical implications of the neoclassical utility approach. The continuity axiom implies the reduction of all needs to wants or in other words: 'It is part of the folk wisdom of economics that everything can be traded-off against everything else; the idea that one good might be regarded as infinitely more valuable than another is thought rather perverse' (Hargreaves 1992, p. 331). Neoclassical theory of choice merely ignores the existence of values and needs. This normative effect needs to be studied in relationship to the value system that Islamic banks claim to represent. A critical discussion of financial innovation in future contracting as practised in Islamic finance is what I will turn to in the next chapter.

Chapter Six:
Islamic Finance – A Different Approach?

'If financial derivatives take on a life of their own due to excessive speculative activity, the utility for risk diversification may prove illusory from a systemic point of view because new risks introduced by derivatives may well overshadow the risks posed to the financial system by the underlying more risky financial assets.'

Zeti Akhtar Aziz[8]

The instability inherent in the current global financial system brought several challenges for regulators and financial institutions alike. One of these challenges is the increased need for risk management and regulation of the financial system. This may explain the demand of central bank governors in Muslim countries with an Islamic financial sector, for the development and innovation of regulatory and risk

[8] Governor's Keynote Address at the 4th Banking and Financial Law School Seminar, Kuala Lumpur, 19 February 2004.

management facilities compatible with Islamic law (Aziz 2004). But those instruments can introduce new risks of secondary order that are more severe and more difficult to manage than the original ones. The question arises how can economic needs be evaluated in a consistent way with the Islamic value system?

As an alternative to the established economic paradigm and to express a distinct identity, economists in different geographic regions of the Muslim world began to develop a paradigm called 'Islamic economics'. Subsequently Islamic banks with different conceptual structures and economic approaches were established. The loss of trust in Western developmentalism (see Wallerstein 2004) combined with an excess of wealth in some Muslim regions nourished the further expansion of a fast growing Islamic financial services industry. But is Islamic finance really a significant departure from the neoclassical model and able to solve the challenges of developing Muslim societies or a mere continuation of the same limitations in a different set of clothes?

I will start this chapter with a critical discussion of the Islamic economic discourse regarding its definition and methodology. The focus will be on how its existence is justified as a distinct science from conventional economics. The second section will then analyse the role of economics in Islamic jurisprudence as exemplified in the discourse on the permissibility of futures trading. This will allow us to appreciate the dynamic nature of Islamic jurisprudence and how economic and developmental needs are an essential element that may change Islamic law. These two sections will provide us with a basis to evaluate financial innovation as currently practiced by Islamic

banks and financial institutions as to how much they are in spirit of the original Islamic teachings and, ultimately, to draw implications on their viability in offering a developmental alternative to conventional finance.

6.1. Integrating Islamic Values into Economics

'Islamic economics' can be regarded as an attempt to combine religion and economics, although there is a strong disagreement on how such 'marriage' should look like. The missing consensus on basic methodological premises is very deep and starts with the fundamental question on what grounds Islamic economics can claim an existence for its own. Nasr (1986) even perceives the failure 'to produce a satisfactory definition of the concept either at the interpretive or the heuristic level'.

An early survey of the Islamic economic literature can be found by Siddiqi (1981), who discusses different opinions on how Islamic economists have 'tried to distinguish Islamic economics from economics as such and state its *raison d'etre*' (p. 68). In defining Islamic economics he notes a shift in the approach from a focus on 'model building' towards a stress on 'contemporaneity', however, most of the reviewed definitions apply Islamic economics to the study of 'people imbued with the values of Islam' or in the context of an 'Islamic society' (ibid., p. 68-9).

The Orthodox Lineage

This early group of mainly Muslim scholars claim that by giving interpretations of the classical Islamic sources they can provide the foundations for an Islamic economic framework 'superior to all' other economic systems and argue that economic reform is dependent on 'spiritual transformation and commitment' (Jomo 1992, p. 1). The advocates of this 'orthodox approach' (ibid.) claim that the study of human behaviour within the Islamic economic system needs an alternative economic theory which represents the Islamic economic system and people embodied with its values. They express the need for 'a separate theory of consumer behaviour and a separate theory of the firm in the context of Islamic economics' (Ahmad 1986, p. 79, as quoted in Chapra 1996, p. 52). Some Islamic economists have joined the critical literature on economic theory not only on the grounds of its non-conformity with Islamic ethics, but question its positive correctness for any society (e.g., Chapra 1996).

In his review of different definitions of Islamic economics, Kahf (2003) counts the interpretations of Khan, Arif, al-Sadr and Zarqa to this category who focus on the study of human behaviour within the Islamic economic system (ibid., p. 27-28). He also proposes his own understanding of an 'Islamic definition of economics' (p. 28) that he derives from Ibn Khaldun's *`ilm al-`umran*. By this he expresses a different perspective than his earlier views quoted in Siddiqi (1981, p. 69). Kahf suggests the 'Islamic methodology of economics' to adopt the task of '*takhliyah*' and '*tahliyah*', which means to purify modern economics from its biased postulates and replace them

with positive postulates derived from the Sharia (2003, p. 37ff). Although he argues that this has to be done within the domain of conventional economics, his explicit reference to the role of Islamic sources in defining or shaping positive economics suggests his interpretation to be within the orthodox lineage.

The Moral Policy Approach

Such 'moralist modelling methodology' has been criticised by Tag El-Din (2004b), to which he counts most of the writings on the theory of Islamic economics of the early seventies and late eighties. Their 'morally loaded theoretical model of economic behaviour', he argues, fails to recognize a correct differentiation between positive and normative economics (ibid.). Instead, he suggests, the 'treatment of entrepreneurial behaviour, production organization and factor markets must depart from the key methodological issues of how to appropriately internalize Islamic ethics into economics' (ibid.). By accepting the positive dimension, Islamic economics should focus on the 'normative part' of economics. Tag el-Din calls this 'the moral policy' methods which 'is characterized by a recognition of positive realities' and, therefore, able to propose correct policies 'to help change these realities' (ibid.). Kahf includes the definitions for Islamic economics by Hasanuzzam and Abu al-Makarim in addition to Tag el-Din to this category (ibid., p. 27).

From a different perspective looking, Jomo (1992) describes the second group of Islamic economists as comprising mainly 'Western-trained economists of the Muslim faith', who focus on the elaboration on a more comprehensive economic system that

might be described by some cynical observers as 'capitalism without *riba*, and, perhaps, plus *zakat* and *niat*' (ibid., p. 1-2). This 'modernist' approach is accompanied by an implicit 'conservative neoclassical or marginalist economic perspective, or else a more liberal Keynesian one' (ibid., p. 2).

Separation of Islamic Banking from Islamic Economics

According to Tag el-Din (2004) the differences in the methodological approach explain the separation of the Islamic banking literature, which is practically driven to accept positive realities, from a theoretical and morally loaded Islamic economics. Other economists have also raised their early concerns about a misdirection in the Islamic economic literature, e.g. Nasr (1986), who asks 'Whither Islamic economics?' and argues that the missing of an Islamic equivalent for concepts like 'efficiency' has led Islamic economists to adopt an 'apologetic' methodology in defending interest-free banking and 'making it viable in the eyes of western economics' (ibid., p. 211). This perspective has taken away the attention of Islamic economists from 'constructive intellectualism and focus them on hair-splitting debates concerning institutions and their balance sheets' (ibid., p. 212). This literature on Islamic finance and banking has separated itself from the original Islamic economic vision and methodology, partly because of the initial motivation to prove the viability of Islamic banking. Despite this, the question of its viability is increasingly raised in modern times combined with some disappointment about the

direction Islamic economic writings have taken that deal with Islamic finance and banking.

6.2. Economics in Islamic Jurisprudence

The development and application of Islamic jurisprudence depends on the process of *ijtihad* (legal reasoning), which itself has to consider time and cultural contexts, in which the matter in hand is to be judged. *Ijtihad* can be defined as the application of the juristic norm (*hukm*) on reality to achieve the most desirable social welfare (*maslaha*). It is understood to be a comprehensive process and effort by scholars with authority. Such judgment needs to fulfil several requirements. A *mujtahid*, a scholar authorized to practice *ijtihad*, needs not only to master the transmitted sciences like Arabic language or the detailed records of the *fiqh* schools, but also needs to posses a deep and sufficient understanding of the real-world circumstances and the necessary intellectual sciences. This may sometimes need additional socio-economic or scientific analysis which might be gained through consultation of specialists in particular fields. Hence, such a judgment by a *mujtahid* has to be multifaceted. Nowadays, because of the increasing complexity of life and difficulties to find all these requirements in one person, scholarly councils have been established in which several scholars specialized in the Islamic religious sciences and scholars of different scientific disciplines are sitting together to perform this task of *ijtihad*.

Dynamic Nature of Islamic Jurisprudence

The principle of *ibaha* allows that any innovation in financial dealings is to be considered permissible unless the Sharia articulates a constraint or a prohibition on that matter. Sharia prohibition has to be proven to disallow a particular transaction. Schacht adopts a very restrictive view in assuming the Islamic law only 'provides an appreciable measure of freedom within certain fixed types' (1964, p. 144). However, the history of commercial law provides several examples of innovations outside 'certain fixed types' of commercial contracts. The reasoning behind allowing these new practices was the *maslaha* (social welfare), which has to be recognised.

The traditional literature of Islamic commercial law provides several examples of new financial transactions that were classified as valid, although a strict application of the established law would have meant to judge for the prohibition of such practices. The *istisna´* and the *bay´ al-wafa* are two very important examples provided in the transmitted fiqh. In the *istisna´* contract, a person asks a manufacturer to produce a good to that person, for which the manufacturer will use his own material and deliver it at a later time. Most scholars (Malikite, Shafi´ite, Hanbalite) classified the *istisna´* contract as a subcategory of the *salam*. Therefore they applied on it the rulings of *salam* and did not allow the postponements of payments. The Hanafite school, however, made the *istisna´* contract a type of its own which, therefore, was bound neither to the rulings of the *salam* nor of the *Bay´*. On this ground they allowed the deferment of the payments in the case of the *istisna´* contract in contradistinction to the *salam* contract. The Hanafite used benefit, social welfare reasoning and the

customs of the people for allowing this practice. This Hanafite opinion is actually the accepted one in modern Islamic finance. To determine the best general welfare in a particular question needs the right understanding of socio-economic factors. Hence, economic analysis is an integral part of any Islamic jurisprudential decision making.

Islamic Legal Opinions on Futures Trading

The fast developments in the global financial system and particularly in forward trading have generated the need for Islamic scholars to answer the question whether futures trading is in conformity with Islamic jurisprudence. The mainstream is not approving futures markets, as they are currently functioning, which is also the view expressed by the majority of Islamic economists. The Islamic Fiqh Council of the Mulsim World League, Mecca, has expressed in its resolution of 1985 the non-permissibility of futures trading (reprinted in Al-Salus 2004, p. 812-816). Their advice to Muslim countries is not to establish futures markets as they are conventionally working in western countries. In their legal reasoning they did a comparison of the futures contract with the necessary conditions of a valid Islamic *salam* contract.

The main concern of Sharia scholars relates to the futures contract itself, especially the fact that the contract has to be binding on both contracting parties, although the delivery of the good and the payment of price are both deferred. Beside this there are several further practices in the dealings of futures markets that have become the subject matter of discussion about their permissibility according to Islamic

jurisprudence, e.g. the off-setting and reselling of futures, the practice of marking-to-market, and the functioning of the clearing-house.

Nevertheless, there are a number of other opinions mainly from scholars in Malaysia (Kamali; ´Ali ´Abd al-Qadir; Majd al-Din ´Azzam; ´Abd al-Karim al-Khatib). Kamali (1996, 2000) strongly criticises the verdict of the Islamic Fiqh Academy and classifies the Fiqh Academy's approach as 'imitative'. This might be understood as applying the recorded *fiqh* traditions over-restrictively without doing the required *ijtihad*, i.e. independent legal reasoning (2000, p. xviii). Because this methodology is not suitable for the challenges of modern times, he proposes instead a different perspective that he calls '*ijtihadi*' (1996, 2000).

a. Methodological Differences

The Fiqh Academay states that for a forward contract to be permissible 'it has to fulfil the conditions of the *salam* contract and the good is not allowed to be resold before being taken into possession' (Al-Salus 2004, p. 815). They go even further and state that the futures contract is not even regarded as a sale contract that could justify any kind of enrichment. The reason for this is the missing 'handing over' of one of the two counterparts, either the good or the price, at the time of contract (Al-Salus 2004, p. 813).

This approach is being challenged by Kamali who calls it an 'imitative tendency' and he stresses the importance of 'independent reasoning' from the sources of Shari'ah (Kamali 2000, p. xvi). He concludes that the application of 'medieval juristic

opinions' is incorrect for new transactions which 'did not exist in medieval times' (2000, p. 70). It can be argued in favour of Kamali that the need for an independent *ijtihad* is generally not questioned, yet he does not provide evidence that the Fiqh Academy was unable to undertake such independent reasoning, which led them to compare the futures contract with the *salam* contract. Kamali limits himself to a technical discussion referring to the general principles of 'permissibility' (2000, p. 66-70) and 'the freedom of contract' in Islam for civil and commercial activities (2000, p. 74-77). Kamali argues that only absolute proofs can be used to prohibit any new transaction. Indeed, new commercial activities are needed, which the traditional *fiqh* does not cover.

b. Interpretation of Prophetic Traditions

The verdict of the Fiqh Academy mentions two *ahadith* which report that it is not allowed to sell something without having it in one's possession: 'Do not sell what is not with you!' and 'The Prophet (saw) has prohibited the good to be sold in the place where it has been bought, unless the traders move it to their own merchandises' (Al-Salus 2004, p. 815-816). Therefore, they categorize the futures contract as a sale of what one does not possess with the intention of buying it at its due time and without receiving the price at the time of contract—which must happen in a valid *salam* contract. The possibility of reselling the good before taking possession of it or the process of marking-to-market is even more critical as it involves real transfers of monetary gains, without any exchange taking place. The prohibition also covers the possibility of offsetting the contract through cash settlement insofar, as cash

settlement is done at a new market price. The Fiqh Academy, therefore, makes the criticism that profits and losses are being realized only because of price movements in the market, with no real trade being done (Al-Salus 2004, p. 814).

Kamali questions the consensus of scholars and jurists on the interpretation of this *hadith* (2000, p. 110). This assumed consensus is saying that it is not allowed to resell any good bought in a *salam* contract until after the buyer has taken possession (Al-Salus 2004, p. 796). An established consensus of scholars and jurists is regarded as the third main pillar in Islamic jurisprudence after Quran and Sunnah. Such a consensus would make any contrary argument very difficult.

c. The Issue of gharar

Kamali further tries to develop the underlying rationale of this hadith by arguing that 'the effective cause (*´illah*) of the prohibition is *gharar* on account of inability to deliver' (2000, p. 114). This is a very controversial understanding of *gharar*, which is generally translated as risk or ambiguity. He concludes, if this *gharar* can be effectively avoided, the prohibitive statement of the Prophet does not apply. Excessive *gharar*, he argues, can be safely avoided through such clear description of the subject-matter, as leaves no room for dispute between the contracting parties, and through regulated market procedures with supervision and safeguards and a structure of guarantees (2000, p. 96-97).

According to the Sharia any transfer of valuable subject matters has to be based on trade and on mutual good-will (*taradi*). The need for mutual good-will in trade

necessitates that the contract is as specific as possible, for uncertainty may lead to the loss of the good-will of one of the contracting parties. Specification of subject matter and determination of price aim at eliminating *gharar*.

Excessive *gharar* about the subject matter or the price makes a sale agreement invalid. It is one of the main concepts relevant for prohibiting of financial contracts. According to Ibn Rushd there are four causes for Sharia prohibitions attached to contracts: (1) the prohibition of the thing which is being sold, (1) *riba*, (2) *gharar, (3)* and such terms of contract as conduce to *riba* or *gharar* or some combination of the two (Kamal 2001). In general, *gharar* is applied to sale contracts in which some uncertainty or risk prevails concerning the existence, amount, or ability to deliver part or all of the objects of sale (subject matter and price). It is generally held that *gharar* is prohibited in order to prevent future disputes between the two contracting parties.

This does not mean that all forms of risk are banned. In fact, Sharia principles link the entitlement to profit with the taking of risk (*al-ghunmu bi-l-ghurmi*). This means that any trade has to have some kind of exposure to risk to justify any profit or gain. Such risks may very well lead to undesired results or even to disappointment for some trading parties. Profit and loss are both possible scenarios—that is simply a necessary fact of trade. An example could be the sale of a commodity at today's market-price, whose price increases dramatically on the next day.

To study the underlying rationale of these rulings is very important for understanding the wisdom in them. The differentiation between such sufficient and necessary

conditions and a sufficient but not necessary condition is very important. And definitely not all norms in civil or commercial law have such a *ratio legis* on which the application of the norm depends. An example of rulings that have no *ratio legis* is given by Kamali himself on the measurement of fungible goods (Kamali 2000, p. 122).

The other very strong argument of the advocates of a prohibitive verdict is that the gains through reselling are a kind of *riba* and, therefore, *gharar* is not the main issue. This argument strongly depends on how *riba* is being defined.

Economic Perceptions of Futures Trading

Inside the legal discussion of the permissibility of futures trading, the resolutions of different councils, different legal verdicts and expressed scholarly opinions articulate explicit or implicit judgements about the benefit and the harm of futures trading. These different opinions vary from describing futures markets, according to the mainstream view, a place of speculative manipulations and the reason for huge economic losses in short periods of time during financial crisis (Islamic Fiqh Academy Mecca 1985, as cited in Al-Salus 2004, p. 814) to, according to other scholars, exemplifying a case of religious necessity and establishing futures markets has to be viewed as an obligation for its economic benefit (Kamali 1999).

The verdict of the Fiqh Academy mentions different negative socio-economic effects of the modern financial market. It seems to be more a remark than a main pillar in the

reasoning. The price is not defined only by supply and demand of those in need of this good, they argue, and it had been the cause of huge crises and losses of capital. Further they mention unjustified enrichment in these markets through monopoly and cornering activities which are made easy through the possibility of high leveraging (Al-Salus 2004, p. 814)

Kamali, however, argues that the economic need is clear in favour of futures markets. The concept of economic need plays a very important role in the evaluation of futures markets. Kamali even claims the presence of necessity when discussing the case of Malaysia, in which futures trading even in currency and indexes have to be allowed (1999). However, a verdict grounded on a necessity in this way would change in that moment where the necessity ends.

We also find the discussion of 'considering public interest' regarding the permissible amount of *gharar* allowed in a contract. The example of the Prophet and the interpretations of the early scholars give us a living picture of this trade-off. Here arises the question how to measure this economic need and when is it strong enough to change the ruling of commercial transactions.

Against the argument that speculations in futures markets are one kind of gambling, Kamali replies that commercial speculation is not equal to gambling and therefore not forbidden. (Kamali 2000, p. 156) The distinction is sometimes difficult when seeing the practice of many traders who in principle do not hold any account over night.

To justify the state of necessity for the benefit of futures markets it is not sufficient to proof that these benefits exist and how important they are for society but to compare these with the a forward market based on *salam*, or *istisna´* respectively. Futures markets and *salam* markets are often viewed as competing concepts. However, everyone has its economic role which might open a complementary perspective.

In this respect, Ebrahim and Rahman's (2005) paper, 'On the Pareto-Optimality of Futures Contracts over Islamic Forward Contracts: Implications for the Emerging Muslim Economies', is an attempt to derive from economic analysis implications for the economic development of Muslim countries. It exemplifies a rising trend in the contemporary discourse on Islamic finance which tries to combine economic analysis with Islamic jurisprudence, however, without a proper and critical methodological discussion. Ebrahim and Rahman use an equilibrium approach and try to proof the Pareto-optimality of forward contracting over the *salam* contract. They consider themselves as very much in-line with Kamali (2000). Others argue that to evaluate the economic interest of such a transaction during the process of *ijtihad* leading to a legal verdict, it is important to discuss not only the measures offered by the conventional neo-classical economics which might be used for a comparison but also (and indeed of paramount importance) to discuss the application of the distinct Islamic economic theory for such an analysis if existent. This means that the outcome of such a comparison can not only differ depending on the measures used but it can also differ depending on the underlying economic theory on which the measure is founded. Secondly, if spiritual values are necessary for integrated preferences, a

moral argument against futures trading would automatically refute any neoclassical efficiency claims in its favour.

6.3. Financial Innovation through Financial and Legal Engineering

In order to stay in the framework of the established contracts of Islamic commercial law, the practice of legal and financial engineering has become common in Islamic finance. Many examples can also be found in Islamic history. Ibn al-Qayyim's famous book *i´lam al-muwaqqi´in* is such an example, in which the Hanbalite scholar enumerates many cases where financial dealings can be restructured to become accepted by other contemporary Sharia scholars, who do not allow the original dealing.

Two different perspectives on the Sharia compliance of such structures can be identified. The first focuses on the single parts of the structure and argues that the whole structure is Sharia compliant if all elements of the structure are valid. This is the perspective of the Hanafite and Shafi´ite school in evaluating the validity of structured transactions. This view stems from the supposition that the ostensible intention is the one to be judged and not any inner, hidden intention, which is difficult to detect. An example for a structured transaction classed as valid by these two schools is the *bay´ al-´ina*. In this perspective the permissibility of every single transaction becomes the focus of legal scrutiny. The second perspective argues that the final outcome of such structures should be taken into account. This perspective

may lead away from a technical discussion of the conditions for the validity of single transaction towards the economic effect of the whole structure, which must be weighed in light of Sharia. This second perspective may lead to judgements different from the first, as in the case of *bay´ al-´ina*.

Extending the Scope and Application of Islamic Forward Contracts

A principle in Islamic law of financial dealings says that all sale contracts shall leave no rights unfulfilled from the moment all contracting parties depart from the contracting session (Saleh 1988). Yet, there are some exceptions in which Islamic law permits the deferment of either delivery of the good or payment of the price in a transaction. This is allowed due to the economic need of people to deal with deferred means. Several types of contracts will be discussed that may serve as building blocks for a shorting mechanism.

The Islamic *salam contract* is a forward sale on special commodities with full pre-payment at the time of contracting. It was practiced in the pre-Islamic time by farmers, who sold their goods prior to production. The Prophet approved this form of contracting under special conditions. The contract has to specify the good, amount and delivery conditions. The *salam* contract is limited to special goods, which makes its use for forward contracting confined. The application of *salam* on shares is still under discussion; and the AAOIFI Sharia guidelines does not allow this practice (2005). The sale has to conclude with delivery and failure of delivery has to be an exception. The receivable resulting from a *salam* is regarded non tradable in the

mainstream interpretation of Islamic commercial law, although this view is challenged mainly by Islamic financial scholars from Malaysia, who see no Sharia hurdle in trading and securitizing receivables or debts.

The *Istisna´* contract is a sale contract for goods that need to be manufactured. In distinction to a labour contract, the manufacturer will use his own material in the *istisna´*. Most traditional scholars (Maliki, Shafi´i, Hanbali) have classified the *istisna´* contract as a subcategory of the *salam*. Therefore, the rulings of *salam* were applied and the deferral of payments has not been allowed. The Hanafite school, however, made the *istisna´* a contract type of its own, bound neither by the rulings of the *salam* nor by the (spot) sale contract. On this ground they allowed the deferment of the payments in the case of the *istisna´* contract. This Hanafi opinion is the established one in modern Islamic finance, except the fact that the original Hanafite view relaxed the binding character of the *istisna´* in exchange of allowing the deferral of price. Making the *istisna´* binding like a *salam* contract and allowing the postponement of the price is not fully consistent with traditional Islamic law.

Because in *istisna´* the full payment of the purchase money does not have to be paid in advance, it has been suggested to be more suitable to form the backbone of an Islamic futures market than the *salam* contract (Tag El-Din 2004a). One reason why the *istisna´* scheme is not widely used in modern Islamic finance, however, is the limited range of goods for which an *istisna´* contract is permissible, as it is designed for cases that involve construction or manufacturing of goods.

Commercialising the Philanthropic Promise

One way of modelling a forward transaction can be achieved by using binding promises. Using the promise to model forward trading is not a vague idea. Johnson (1960, p. 139) defines a future contract as 'being merely a promise of the seller to deliver within a specified month and a promise of the buyer to take delivery of a *standard* quantity and quality of the commodity at an agreed price'.

a. Binding Promise in the Bankable Murabaha

The commercial promise is a commonly used element in modern Islamic financial transactions like in the bankable *murabaha* (profit mark-up or cost-plus sale to the purchase orderer). The *murabaha* is a form of an *amana* sale (trust sale) in which the price of the sold subject matter is defined as the original purchasing price plus a defined and agreed profit mark-up. The original purchasing price and the mark-up have to be disclosed and, therefore, known to the buyer for the *murabaha* to be valid. The bankable *murabaha* has an additional prior unilateral promise, in which the buyer promises to purchase the commodity as soon as the institution has acquired it for the buyer. In this case, modern Sharia rulings have allowed the settlement price of the *murabaha* to be determined as the cost of acquiring the good plus a profit mark-up, e.g. defined as a percentage of the cost. Only at the time of entering into the real sale contract the price becomes known to the buyer. Thus, the promise has been declared valid, without the future settlement price being known.

The commercial application of the binding promise was approved by the OIC Fiqh Academy in 1983 and in 1988, when it declared: 'The promise [...] [is] obligatory

from legal jurisdictional perspective if it was made dependent on a condition [that has been fulfilled], and the promised party had expenses as a result of the promise' (The OIC Fiqh Academy 1988, Resolution No. 302). This came after the first use of the binding promise in the bankable *murabaha* sale, in which the finance-seeker promises to buy a good as soon as the bank has acquired it and taken it into its possession.

Different conditions apply for the validity of a binding promise:

The promise should be unilateral;

It must have caused the promisee to incur some liabilites;

If the promise is to purchase something, the actual sale must take place at the appointed time by the exchange of offer and acceptance. Mere promise itself should not be taken as the concluded sale;

If the promisor reneges on their promise, the court may force them either to purchase the commodity or pay actual damages to the seller. The actual damages will include the actual monetary loss suffered by the promisee, and must not include the opportunity cost.

The first condition demands the promise to be unilateral and not bilateral, which otherwise would be called *mu´awadah*, which needs to fulfil the conditions of a sale contract to be valid. The second condition demands that the two promised parties will enter into financial liabilities because of the received promise. An evidence for such a liability could be that the promisor asks the other party along with the promise to

purchase assets which he will then purchase later. This position of the Fiqh Academy is grounded on the traditional Fiqh literature in adopting one out of four opinions inside the Malikite school of jurisprudence. This opinion regards a promise as legally binding if the promised party enters into a financial obligation because of a condition in the promise. This opinion is the official one inside the Maliki school alongside other three opinions. One of theses requires the promised party only to fulfil any set condition of the promise without requiring it to be a financial one. A further opinion does not even demand any condition in the promise for it to be binding (a very good summary can be found in AlQaradaghi [1985] 2002, p. 1033). Zarqa (1959, §646) also documents the Hanafite opinion, which also regards the promise as legally binding and without any condition and supports the last view. The third condition demands an actual sale agreement with an independent offer and acceptance taking place. At that time, both, the subject matter and settlement price, will be known to all parties. The forth condition refers to the indemnity and demands it to include only actual damages and not any opportunity costs.

b. Binding Promise in the Islamic Leasing Bond

An implicit application of the binding promise can be found in the *sukuk al-ijara* (Islamic leasing bond), which is a financing structure where the rental of an asset is utilised as a return for investors who initially financed the asset. In simplified terms, the investors purchase an asset from the finance-seeker and lease it back to him for an agreed periodic lease payment. The total lease period (e.g., 5 years) is divided into sub-periods (e.g., 10 x 6 month) for which the lease agreements is renewed. The

individual lease payment of each sub-period is pre-defined at the time of entering into the master-lease agreement as a spread over Libor (e.g., 6-month Libor), which has been promised to the investors. As such the lease is always only fixed for the starting sub-period. Although Libor is floating and not fixed at the time of entering into the lease agreement, this structure has been accepted by Sharia scholars and documented in the AAOIFI Sharia regulations. To limit this risk exposure a band has been introduced between which a fluctuation of the specified Libor is tolerated (e.g., min. 4% and max. 6%).

The point, which makes this arrangement so similar to the binding promise, is that the lease is de facto binding for the whole 5-year period, although the future settlement price is determined through a formula based on Libor. This means that the two parties enter into an obligation for which the exact terms are not fixed at the time of contracting. Referring to the principle stated above the real exchange of values takes place in the moment in which the sub-lease is contracted. The master-lease can be conceptualised as a mere promise to enter into the particular leasing contract, for which the rules of specification applies. Clear regulations concerning the type of index which can be used for determining future settlement price are not available.

c. Bilateral Promise in Islamic Mortgages

Forward contracting, in the sense that a binding agreement is made on future delivery and payment, can now be achieved through two unilateral promises—one constituting a promise to sell and one being a promise to buy. This is done in one of the Islamic mortgage models as practiced by Islamic banks. The bank promises to sell the house

to the lessee for 1$ at the end of the lease agreement in the case the lessee pays all his lease payments and the lessee promises to buy the house for its market value at that time when he fails to pay any of the due instalments. With two unilateral binding promises a forward contract can be modelled or other derivatives, like swaps.

Conclusions

Islamic commercial law was not static but changed due to changes in social and economic realities. The importance of using appropriate economic analysis – to support the development process in emerging economies and as a substantial part of the integrative process of *ijtihad* – is very crucial for the development of major areas in Islamic economics. Consistent studies are needed to fill this great gap between traditionally transmitted Islamic law and modern economic and financial reality to offer proper solutions for the pressing need of Muslim societies. The way jurists have historically dealt with financial innovations is a very good example to demonstrate the role that the principle of social benefit, which is gained from keen economic understanding, has on Islamic law. Current Islamic jurisprudential perception of institutions like futures markets depend very much on the economic analysis of their socio-economic benefit. This fact reflects the complex and interrelated relationship between economic analysis, values and Islamic jurisprudence.

Modern Islamic financial institutions, however, do not consider the economic or social effect of new financial innovations, but try to replicate conventional financial

practices through legal and financial modelling. By this they circumvent the scrutiny for the economic desirability of innovations and are able to model exactly those trading practices that were previously disallowed on Islamic jurisprudential basis. Returning to the original spirit of the Islamic value system would need a clear developmental economic focus on the evaluation of financial innovation, to its discussion I will turn in the next chapter.

Chapter Seven: Managing Financial Stability – A Developmental Perspective on Forward Markets

'We are sympathetic to the fact that currency controls, capital controls, and export subsidies often serve a purpose during the formative stages in an emerging economy—but at some point, the economy must throw off such shackles in order to avoid impeding further development.'

Leo Melamed[9]

In his speech to the China Council for the Promotion of International Trade (CCPIT) in September 2004 Melamed offered the assistance of the IMM to the Chinese authorities to develop a local financial futures market. In his speech Melamed expresses his sympathy towards interventions during the formative stages of an emerging economy. This perception, however, is not compliant with the same economics that he praised as responsible for the development of the first financial futures market at the CME (see Melamed 1988). But even Melamed himself, who

[9] 2004

strongly promotes free trade and liberalisation policies in his many visits to developing countries, had to adopt a more nuanced view over the years. The behaviour and effect of markets and institutions can differ significantly depending on the social and economic system in a country. Their role may also change with a different industrial organisation and not every organisational form may contribute to economic development. Financial innovation does not always contribute to a country's developmental needs.

In this chapter I will develop an analytical framework for the evaluation of financial innovation in forward and futures markets that borrows from institutional and neo-Keynesian economics to overcome the discussed limitations of neoclassical economic theory. The first section will discuss the functional perspective towards the analysis of financial institutions as suggested in the literature. It is a much promising alternative approach to the neoclassical paradigm; however, its limitations will also become apparent in the case of analysing forward and futures markets. The second section considers the effects on financial and developmental stability as a primary measure for the evaluation of financial innovation compared to a mere economic growth approach. In the third section I will draw some implications on the industrial organisation of forward and futures markets supported by a wider definition of economics and development.

7.1. Economic Functions of Forward Markets

Different approaches to finance and development depart from the neoclassical paradigm and try to provide an analytical framework for explaining why financial structures have emerged the way they exist now. One of them is the functional approach, which still draws on the neoclassical perspective, but tries to integrate some findings of the new institutional economics (Merton and Bodie 1995, p. 10). A discussion of its main concepts will follow.

A Functional Perspective towards Finance

The functional perspective evolves from the understanding that institutions matter, however, is different to the 'static' institutionalism which examines the role of existent institutions, like banks or insurance companies, without questioning their existence or the possibility of change. In the later, public policy shall help established institution to perform their particular financial service more efficiently and managerial objectives are to make them more profitable. Examples are the mathematical models for examining the role of finance and growth which concentrate on money based on the contributions of John Gurley and Edward Shaw (1955), James Tobin (1965), and Ronald McKinnon (1973) (see Levine 1997, p. 689). Futures markets would be analyzed only from the point of efficient functioning and successful market innovations. However, the needed dynamic perspective is still missing. In the words of Merton and Bodie (1995, p. 10):

> ‘Because this institutional perspective is static in focus, it cannot explain the dynamics of institutional change. Moreover, from this perspective, financial innovation sometimes appears to threaten the stability of the system, by providing the means to circumvent institutionally based regulations at low cost.’

In contrast to this, the functional perspective uses the functions performed by these institutions as the ‘conceptual anchor’ of the analysis and seeks to derive the institutional structure to perform those functions. This means that the possibility of institutions to change over time and between places is recognized, however, the economic functions are assumed to be constant, which is considered as the first major premise of the functional perspective (ibid., p. 4, 10).

Thus, the functional perspective recognizes that similar financial institutions can have different functions over time and places. Such a perspective allows us to ask questions about the relationship between financial structure and the functioning of the financial system in providing financial services (Merton and Bodie 1995, Levine 1997). It has been used in different studies, e.g., to analyze the benefit of special institutions to society, to predict future structural changes or guide policy making. New institutional arrangements can be explained through ‘the dynamic performance of the functions’ which means that ‘institutional form follows function’ (Crane et al. 1995, p. ix).

Financial evolution is explained through an ‘innovation spiral’ in which different financial institutions ‘compete in a *static* sense and complement each other in a *dynamic* sense’ which drives the financial system ‘toward the goal of greater economic efficiency’ (Merton and Bodie 1995, p. 4). In guiding public policy the

adoption of a functional perspective might help to find a new structure of institutions which are more efficient in performing the required economic functions, dependent on the particular environment. Financial analysis is not limited to the entire financial system but 'also useful in the study of a particular institutional form' (Merton and Bodie 1995, p. 17).

Missing Dynamics on Function Level

Such functional approach has also its limitations. The assumption of stability on the level of economic functions instead of institutions makes the analysis of structural change from a certain perspective possible; yet, such an analysis is still bound to temporality as even economic functions change over time and places. This is particularly true for emerging economies that go through deep structural changes in the economic functions that are needed and offered by the financial system.

a. Same Market Efficiency Puzzle

In the functional perspective the financial system is assumed to serve special functions in the economy which drive economic development. One possibility for analyzing the relationship between financial structures and development lies in perceiving the existent market 'frictions' as the incentive for the emergence of financial instruments, markets or institutions. 'Theory suggests that financial instruments, markets, and institutions arise to mitigate the effects of information and transaction costs' (Levine 1997, p. 689). Thus, the benefit of financial institutions is defined through their ability to make the financial system more efficient and nearer to

the idealistic Arrow-Debreu model, which does assume away the existence of information and transaction costs.

An example for the *ad hoc* nature of the applied models is provided in Boyd and Smith (1996), who find a justification for the role of equity market development on real development by introducing bankruptcy costs to the neoclassical framework. The justification for this, however, is only for the reason of 'evading this implication of the justly celebrated Modigliani-Miller Theorem' (p. 374). A further example is Gertler and Rose (1994) who adopt the same perspective in asking which frictions shall be introduced 'to step outside the confines of the Miller-Modigliani' (p. 19). They discuss the effect of information and enforcement costs on financial structures, in demonstrating how these costs shall force borrowers to pay an additional premium for uncollateralized loans and for insurance. This has become the general practice. What is missing here and elsewhere is to consequently consider the implications on the whole neoclassical model and the premises necessary for equilibrium and its efficiency. What counts is, that 'Fortunately, a well-developed model of the microeconomic foundations of bankruptcy costs exists, and we will exploit that model here' (Boyd and Smith 1996, p. 374).

b. Growth as Grand Aim of Development

Such positive relationship between the ability of a financial system to reduce market imperfections, like information and transaction costs, and economic growth has been the subject of several studies. As a guiding theoretical framework for his literature review on finance and growth, Levine (1997, p. 691) proposes the following scheme

for the theoretical analysis of financial markets and intermediaries and economic growth:

Figure 2: Functional approach to finance and growth

By including two channels through which economic growth is stipulated Levine tries to combine two lines of growth literature, the neoclassical growth literature which focuses on capital accumulation as sole determinant of growth and the endogenous growth literature which sees technology not as externally given, however, as the main accelerator of growth. The fact that these two literatures compete and try to refute

each other demonstrates one major limitation of this approach. It tries to sum different methodologies that compete with each other and are not complementary.

There are different proposals of functional classification schemes (Cole and Slade 1991; Sanford 1994; Hubbard 1994; Kohn 1994; Rose 1994; Merton and Bodie 1995; and Levine 1997). The most effective functional classification schemes depend on several circumstances, like the level of analysis. Merton and Bodie (1995, p. 4) distinguish four levels of analysis: 'system-level', 'institutional-level', 'activity-level', and 'product-level'. On the system level Merton and Bodie (1995, p. 5) identify the allocation of resources as the 'single *primary* function' from which 'six basic *core* functions' are derived: (i) 'clearing and settling of payments' to facilitate trade; (ii) 'pooling of resources'; (iii) 'transfer of economic resources'; (iv) 'management of risk'; (v) 'price information' to help coordinate decentralized decision-making in various sectors of the economy; and (vi) 'dealing with the incentive problems' due to information asymmetries. Levine (1997, p. 691) chooses to adopt the same functional approach and agrees to the 'one primary function' of resource allocation. He grounds his theoretical analysis on five 'basic functions', which are: (i) 'facilitate risk management'; (ii) 'allocate resources'; (iii) 'exert corporate control'; (iv) 'mobilize savings'; and (v) 'facilitate trading'.

Effect of Risk Management Function on Economic Growth

Although the functional perspective is different from the pure neoclassical paradigm, it is still based on the same fundamental assumption that perfect markets without

intervention are the most efficient mechanism for resource allocation. Perfect markets, however, do not need finance. It is therefore not astonishing that a positive relation of individual functions of the financial system with economic growth is inconclusive. It can not offer a real alternative perspective to resolve the contradictions. For that it would need not only to criticize the basic tenets of neoclassical economics, but to detach itself from its paradigm, which it still has not fulfilled.

One of the basic functions of the financial system relevant to forward and futures markets is the management of risk. Levine (1997) reviews the literature analysing its effect on economic growth and concludes that a positive relationship can not be proven. I want to suggest a further aspect of the financial system that may solve this 'inconclusiveness'. The next two sections will develop this approach further by recognizing the need for a financial strategy to achieve economic stability and by adapting a wider understanding of economics and development rather than mere economic output growth.

7.2. Developmental and Financial Strategy

A financial and developmental strategy for developing countries has to be the starting point for a dynamic analysis of the risk management function of the financial structure and the contribution of forward markets towards it. Schelkle (1999) demonstrates for the case of Germany how monetary, financial and development aid decisions were guided by financial strategy. In times of a globalised financial system

such is even more needed than before. Schelkle questions the neoclassical approach that the forbearing of consumption for higher savings has to be at the beginning of the growth process, but puts the readiness of banks to provide credits and companies to accept debt at the forefront (ibid, p. 340). The success of microfinance projects in reducing poverty in rural areas supports this view.

Financial Structure between Strategy and Social System

The design and use of financial risk management instruments is one part of a hedging strategy, which derives from financial objectives: 'The starting point for any scheme to manage commodity risk, including any that uses financial instruments, should be a clear identification of objectives' (Claessens and Duncan 1993, p. 16). A broader financial management is needed. Having in mind that the establishment and maintenance of forward and futures markets itself binds resources, how can forward and futures markets be used to support a financial strategy and stability?

The functional perspective as suggested by Levine (1997) puts growth as the grand aim for a developmental analysis of finance. I am suggesting two considerations that will improve the functional perspective and make it more applicable for our case. A financial model—the mixture of financial and developmental strategy and financial structure—has to be identified that supports a wider understanding of development and suits the countries social system. This section will study the importance of financial stability on long-term development of developing countries. The next section will then explore such wider understanding of economics and development to

correctly discriminate between different organisational forms of forward and futures markets.

Managing Financial Stability

The different experiences with liberalisation have demonstrated that a theory of finance and development can not be limited to the analysis of the financial sector, but has to provide a framework which analysis the effects of finance and money on the whole economy and its stability. Therefore, the role of the financial system for developing countries has to be evaluated inside the overall process of economic development and modernization, in which macroeconomic stability plays a primary role (see Todaro and Smith 2003, p. 732).

a. Globalisation and Financial Crises

The post-Bretton Woods area is characterised with an erratic instability of the economic system of individual countries and globally. In the words of a previous German chancellor, Helmut Schmidt (1974, p. 437): ‘The world economy has entered a phase of extraordinary instability and [...] its future course is absolutely uncertain.’ The world had to experience several crises in the last century, which came unpredicted and often unexplained, and in the words of H.A Kissinger (1983, p. 16): ‘No previous theory seems capable of explaining the current crisis of the world economy.’ Crisis come and destroy exorbitant amount of value in only a few days.

The globalisation of the financial system has made economic crisis not to stop at the borders of one country, but have increased interdependence. The Asian crisis was a much studied experience that demonstrated the interrelationship of countries and their economies in a region. The free fall of the Thai baht caused the Indonesian rupiah to follow and it did not take much time for Malaysian ringgit or Korean won to follow alike: 'Trade and investment at transnational levels today make it impossible to insulate one economy from the devastating blow in the other economy or economies. Had it not been so true, the Thai problem of the plummeting baht would not have caused crisis in Indonesia, Korea, or Malaysia. So we know the reality of interdependence' (Majd 2004, p. vii). Neoclassical economics is not able to predict or explain these crises, but the functional perspective, as suggested in the literature, does also not consider its importance in the analysis of financial institutions and their role in the economy. The neo-Keynesian school is here much more successful.

b. Keynes' View on Risk and Economic Stability

The neo-Keynesian school concentrates on the role of money in their analysis of finance and development. It goes back to Keynes, who had already presented a counterdraft to the neoclassical paradigm in his 'A monetary theory of production' in 1933 (Nietsch 1999, p. 184). He argues for monetary policy to overcome the danger of the value risk of money and states, that 'nowhere is the need of innovation more urgent' (1971, vol. 4, p. xiv) and also, 'For these grave causes we must free ourselves from the deep distrust which exists against allowing the regulation of the standard of value to be subject of *deliberate decision*' (Keynes 1971, vol. 4, p. 36).

In his book *A Tract on Monetary Reform*, first published in 1923, Keynes describes risk as the forth cost of production in contrast to the general supposition of his time that the costs of production are only three: labour, enterprise, and accumulation. Indeed, he argues: '…the reward of risk-bearing is one of the heaviest, and perhaps the most avoidable, burden on production' ([1923] 1971, vol. 4, p. xiv). This 'burden' is even made worse by the instability of the standard of value of money, he argues, due to the reason that in an capitalist economic system the division into the earning class, private investors and the business man 'cannot work properly if the money, which they assume as a stable measuring-rod, is undependable' (ibid., p. xiv). 'The individualistic capitalism of today, precisely because it entrusts saving to the investor and production to the individual employer, *presumes* a stable measuring-rod of value, and cannot be efficient—perhaps cannot survive—without one' (ibid., p. 36). Because money has no value in itself the change in the value of money has only in so far an economic effect as its incidence is unequal as regards to different persons or purposes. In that case the receipts and the outgoings of individuals and producers are not affected in 'one uniform proportion' (ibid., p. xiv).

Keynes explains how the processes of inflation and deflation have 'inflicted great injuries' through their 'effect in altering the *distribution* of wealth between different classes' and their 'effect in overstimulating or retarding the *production* of wealth' and, thus, on 'the productivity of the community as a whole' (ibid., p. 3, italic as in original). The 'vastest social consequences' are explained by Keynes: 'Thus a change in prices and rewards, as measured in money, generally affects different classes

unequally, transfers wealth from one to another, bestows affluence here and embarrassment there, and redistributes Fortune's favours so as to frustrate design and disappoint expectation' (ibid., p. 1). This led Keynes to state: 'Thus inflation is unjust and deflation is inexpedient' (ibid., p. 36). Keynes concludes his analysis that 'the best way to cure this mortal disease of individualism is to provide that there shall never exist any confident expectation either that prices generally are going to fall or that they are going to rise; and also that there shall be no serious risk that a movement, if it does occur, will be a big one. If, unexpectedly and accidentally, a moderate movement were to occur, wealth, though it might be redistributed, would not be diminished thereby' (ibid., p. 35).

This perspective explains the logic of economic crises that started as currency crises in developing countries. The stability of currencies can be supported or negatively affected by forward and derivatives trading as exemplified by the studies conducted on the role of hedge funds in financial crises.

Destabilising Effect of Speculation

Regularily examples for 'big losses' in using derivatives is making breaking news. Famous past cases are the big losses or bankruptcies of Baring's Bank, Daiwa Bank, Gibson Greetings, Kidder Peabody, Long-Term Capital Management (LTCM), Metallgesellschaft, Orange County, Procter & Gamble; Sumitomo Corp. etc. Most explain them by referring to the inappropriate usage of derivatives trading (e.g., Hull 1997, p. 541), which led to similar descriptions like: 'A derivative is like a razor. You

can use it to shave yourself and make yourself attractive for your girlfriend. You can slit her throat with it. Or you can use it to commit suicide' (Financial Times, 4 March 1995). Internal controls shall be able to reduce the problem of moral hazard in the principle-agent relationship for a safe usage of derivatives trading.

The hedge fund LTCM received especially high attention. It was founded in 1994 and directed by Myron Scholes and Robert C. Merton, who developed complex mathematical models to exploit arbitrage gains in capital markets. They were very successful and made extraordinary profits. But only one year after they were granted the Nobel prize in economics 1997, their hedge fund collapsed in 1998 loosing an amount of several billion US$.

The increased interest into hedge funds in academic and policy research was also due to other reasons. Regarding the speculative role of hedge funds in the East Asian crisis a report on 'The Impact of Hedge Funds on Financial Markets' issued by the Reserve Bank of Australia in 1999 notices that hedge funds at that time had a short position in Thai baht equal to almost 5 per cent of Thailand's GDP which 'put almost as much pressure on the currency as the Thai current account deficit' and remark further:

> 'In fact, some might regard the actions of hedge funds as described by the IMF as the ultimate in destabilising behaviour: they came into a market that was already under intense pressure and sold a large volume, pushing the currency over the brink.'
>
> (Reserve Bank of Australia 1999, p. 2-3)

Before this crisis the ability and strong position of hedge funds have not only been demonstrated by their success in the UK devaluation of 1992. Liberalised financial

systems are a prerequisite for speculative attacks which ensures the importance of managing the process of liberalisation. To reduce the vulnerability of their financial system several countries, like India and China, have slowed their process of liberalisation or even went some steps back.

In neoclassical finance hedge funds are portrayed as the 'sharks' that are seeking for any arbitrage gains from mispriced or misaligned securities and bring them back to the rational expectation. Brunnermeier and Nagel (2005) have studied this claim by examining the stock holdings of hedge funds during the time of the Technology Bubble of 1998-2000 on NASDAQ and found that hedge funds not only failed to create a stabilizing force during the bubble but instead profitably rode the bubble by taking advantage of the very core of 'irrational exuberance'. Their findings do not conform to the efficient markets view of rational speculation.

7.3. Industrial Organisation of Forward Markets

Most developing countries are extremely dependent on the price of their imports and their exports. Prices fluctuate not only according to the situation of the world supply and demand, but also according to the value of the local currency. On the micro level, farmers need to solve their risk and liquidity problems, which otherwise often lead to their unjust exploitation by monopolistic dealers. Different institutions, which can broadly be categorized as interventionist or market-based instruments, have been developed to provide assistance to the primary commodity producers. Solutions have

been provided through the establishment of rural cooperatives, intermediary distribution, exchanges, selling rights with minimum price guarantee, insurance, governmental regulations (as those in the EU), and others.

On the macro level, different interventionist instruments have been applied and are being discussed in the literature—like international commodity agreements (ICA), or large-scale international financing schemes (e.g. IMF's Compensatory Finance Fund, EU's STABEX program). The optimal portfolio of different instruments depends on the geographical region, the commodity of concern, the availability of different instruments, the markets for these instruments, the regulatory framework, and some other criteria.

The role and economic functions of financial institutions may also differ with the organisational forms they take. The margin requirements have a direct effect on the leveraging potential of speculative positions: the higher the marginal requirement, the more it becomes difficult to build market pressure or cornering positions. But the optimal market organisation depends also on the market participants. Culture, values systems and customs should be recognised in choosing the optimal market organisation. A wider definition of economics and development is needed for such considerations.

Economics as Way of Production

Adam Smith recognized that the way of production and exchange constitutes one factor determining the well-being of human by providing the example that high division of labour may not fulfil the intellectual needs of people. The division of labour is followed by an economy of impersonal exchange in which the intermediate goal might be modelled as maximizing the personal utility. Motivational assumption might become irrelevant. In light of this, some still define economics as a science concerned only with the process of economizing. Yet, others have defined economics in broader terms as the science of exchange. Such definition includes the production process and is not necessarily ethical or morally neutral. It also includes but is not included by the former definition. The question then arises: what should be the final end of economic sciences, the economizing problem or the human, and how does a decision on this reflect on the economic analysis of forward markets?

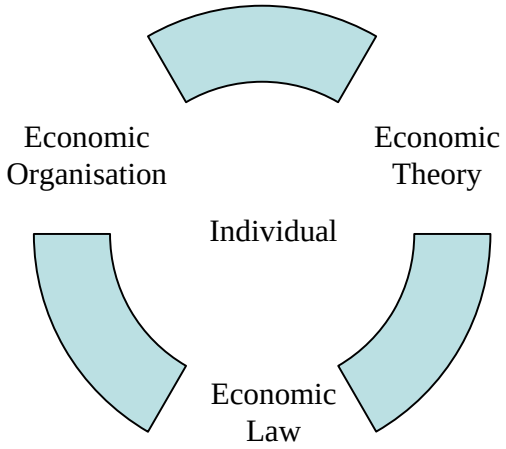

Figure 3: Conceptual model for the evaluation of economic organisation

A second aspect is the inclusion of non-economic factors for the effectiveness and viability of financial institutions. Todaro and Smith (2003, p. 14) point to this fact in stating: 'Economics and economic systems, especially in the developing world, must be viewed in a broader perspective than that postulated by traditional economics. They must be analyzed within the context of the overall social system of a country and, indeed, within an international, global context as well. By *social system* we mean the interdependent relationships between so-called economic and noneconomic factors.' They state further 'many of the failures of development policies have occurred precisely because these noneconomic variables were excluded from the analysis' (ibid., p. 15).

The failure in solving the developmental challenges caused the rethinking of theoretical grounds. An awareness of the importance of factors other than economic determinants has steadily increased. Development economists are moving towards targeting the human and considering the role of institutions in that respect. This approach is still not fully reflected in the economic analysis of finance and financial institutions in the process of economic development.

The outcome of a December 1986 workshop at the School of Oriental and African Studies, University of London was a critical reflection of the process of development by several anthropologists. Despite their different academic field, 'All participants were critical of the claims of Western science to provide the necessary and sufficient 'solution' to problems of development and stressed the importance of understanding knowledge in the particular context of its use' (Hobert 1993, p. xi). One main reason for the failure of the past development policies was found in the 'limitations of a paradigm, which combines an idealist theory of rationality and a naturalistic epistemology' (ibid., p. 3). Demetriades and Andrianova (2003, p. 25) state similarily: 'There is no doubt that, while we now know a lot more about financial development than we did even ten years ago, pushing the frontier further will require new and imaginative, possibly trans-disciplinary, approaches.'

Human in the Centre

At first, development was understood only in terms of economic output growth, as exemplified by Harrod (1965, p. 77), who states: 'Economic growth is the grand

objective. It is the aim of economic policy as a whole.' This originates from the thinking that with faster growth other economic problems will be solved. Eltis (1966, p. 7) argues in this respect: 'With faster growth, most economic problems can be solved more quickly and easily, and the people of a country can generally enjoy higher living standards, or better social services, or give more aid to the people of other countries. It should be noted, however, that a change from a slower to a faster rate of growth may require a temporary fall in the rate of increase of consumption.'

Viewing development only in terms of output growth does not take into account the level of ethical and moral values in a society. This perception has changed and human as entities have become more the focus of the economists analysis. One of the reasons for that was the experience that despite average growth of per capita income real development issues like poverty and inequality were not solved. This experience got reflected in economists' writings, already in 1970: 'Nor will economic growth itself solve social problems' (Pearson 1970, p. 9).

Implications on the Organisation of Forward and Futures Markets

There are several differences between futures and forward contracting. In this respect the main differences are: the organized exchange, the standardized contract terms, the establishment of clearinghouses, the margin and daily settlement regulations (marking-to-market), the different possibilities for closing a futures position, and the regulation (Kolb 1999, p. 3). Three major organisational choices have to be done: payment scheme, liquidity of contracts, and the exchange character.

Futures markets are traded on exchanges that need resources and a high grade of sophistication. Exchanges provide the possibility of direct regulation, which is more difficult in over-the-counter trading. On the other side, especially for regions, in which development is a major challenge, the access to markets is essential to reduce the monopolies of traders. Exchanges are only accessible by specialised traders, a fact that reduces such accessibility. The microfinance experience started with the Grameen Bank in Bangladesh provides an outstanding example how access to finance and markets may have a significant effect on rural development.

There are further economic implications. Futures are not available for all commodities as they need a minimum volume of transaction to constitute a working market. Because commodities are available for different qualities and only the demand for all qualities together would make futures trading possible, futures contracts are made for only one specified grade. The buyer of a futures contract can not be sure to receive at the time of delivery the same kind or quality of commodity he asked for. The seller is allowed to deliver a different quality than the one agreed on and charge a premium or subtract a discount. This questions the substitution of spot transactions or forward transaction with futures contracting in those cases where the buyer is not indifferent towards the quality of the commodity. This might also be one factor why 97% of all futures contracts are not settled by delivery, but rather through cash settlement. Resources are much better invested in other more effective organisational forms. The exchange emerged in a specific cultural background, whose

import is not necessary for development. Technological advancement has made over-the-counter trading easier, even in global financial places.

The other main choice refers to the marginal requirement and the possibility of reselling rights or obligations from contracts. In futures markets gains and losses are realized through the process of marking-to-market without the need of taking any real possession of the commodity. This explains why for many commodities the volume of traded futures contract exceeds the total world production by several times. In contrast to that, are forward contracts tailored to the requirements of the two contracting parties. Hence, any commodity can be the subject of a forward contract and delivery is the common way of settlement. The organised exchange character provides the possibility for a clearing-house to enter as middle party between the buyer and seller. In OTC trading a guarantee against default is difficult to realise. Even a clearing-house does not eliminate the possibility of default, as in turbulent times the clearing-house itself may come under pressure, as history have shown. For developing countries this may happen even easier. The marginal requirements have a direct influence on the speculative pressure that forward or futures markets have. Increasing the margin reduces the leverage and the capital requirements for speculative and arbitrage trading.

Conclusions

Financial stability plays an important role in any developmental agenda, because 'The success of other market reforms depends on the health of the financial system' (World Bank 1996). Financial and economic crises have been experienced to have long-term effects on economic growth and development. Dornbusch and Reynoso (1989) argue that 'financial factors are important only when financial instability becomes a dominant force in the economy' (p. 204). Other economists like Keynes come even to a point at which they argue that markets have become more increasingly a casino for speculators without any social benefit ([1935] 1971, ch. 12). In contrast to that stands the vast expansion and globalisation of financial markets in the last decades, which was also effectively supported by economists and their writings. Much academic work has been done so far on the possibility that speculators can engage in profitable, yet destabilising behaviour. The role of derivatives in destabilising whole economies is opposed by the original intent of financial futures after the breakdown of the Bretton Woods. The neo-Keynesian school is very successful in explaining the monetary behaviour of industrialised countries and the logic of financial crises. There are still other approaches, but no one is mature enough to provide the explanation for the emergence and role of financial institutions.

Chapter Eight: Conclusion

A neo-liberal shift inside the industrialised market economies has led to the proposition that leaving markets free achieves the greatest economic efficiency in developing countries and the same institutions that in Western market economies developed over a long period of time must be abruptly set-up in developing countries. This will ensure, as it is claimed, that their countries are raised up from their current handicapped position in international trade along a steady-state conversion towards prosperity. A proper consideration of existing social and economic structures, formal and informal, in the countries concerned is neglected, as the neo-liberal prescription is touted as a cure-all: culture and culture-specific institutions are either merely ignored or discussed in terms of whether they help or hinder ‘modernization’ and economic performance.

The developmental role of futures markets are studied inside a general framework of liberalisation, which is believed to increase efficiency and resource allocation, further by assuming a static economic function that does not change between economic systems and technological advancement, and with economic growth as main objective and final measure for their developmental contribution. These premises have been critically discussed along with the dilemma that modern economic theory has with explaining finance and development. This doctoral thesis is a plea for a more differentiated approach towards the evaluation of financial innovations in forward and futures markets.

A second focus was a comparison of the financial innovation practice of Islamic banks with its original intend to offer a viable alternative to conventional finance, which is faith based and supporting a more just allocation of economic resources. I was particularily interested in the role of economic reasoning on commercial law and how this economic perspective is reflected in the innovation process. The findings are explained by market pressures, arbitrage with conventional banking and the social system in Muslim developing societies.

I will summarise in this concluding chapter the major themes of this thesis into four sections: the need for a developmental perspective for the evaluation of financial innovation in forward and futures markets; recognising the dynamic nature that the role and functions of financial institutions have; a plea for more courage to change and advance in modern economic theory; and a keen critique of financial innovation

practices in Islamic banks and financial institutions and their ability to offer a viable alternative to conventional finance.

Developmental Role of Futures Markets

The role of futures markets for developing countries has been studied by international agencies inside a general strategy of liberalisation. Yet, financial liberalisation policies have become known for its destabilising effect on the financial and economic system of developing countries, especially when applied too quickly. Different examples of financial liberalisation have demonstrated how it repeatedly led developing countries into financial and economic crises.

Before the financial and economic crisis in 1997-98 the healthy macroeconomic situation of the East-Asian countries was widely acknowledged, as was the positive effect of their previous interventionist policy. However, directly after liberalising their financial system they had to go through a severe crisis initiated by speculative attacks on their currencies.

The consequences of the failed IMF policies during the crisis were severe and had to be carried by the people living in the concerned developing countries, like the many people that died in the riots during the East-Asian crisis in Indonesia. Its neighbour Malaysia, on the other hand, had initial difficulties when they chose to oppose the IMF policy directives by following an independent financial strategy and recovery plan; but later they were proven successful in economic and other terms. Although

there are arguably many reasons for those policy failures of the IMF and other international agencies, the fact that policies had been given on the basis of neoclassical economic reasoning and without considering the particular social system and financial structure of those countries is found to be a major factor. Endogenous knowledge was entirely ignored.

The neo-Keynesian school is not satisfied with the inability of neoclassical economics to prevent, cure or even explain financial crises in developing countries. According to their perspective the role of the monetary system and its effect on the economies of developing countries and their stability is not sufficiently represented. The critical element for economic development is not the abstaining from consumption for greater capital accumulation by the households, but the supply and readiness of financing by the banks. Dramatic changes in the value of the local currency or the interest rate produce strong instability in the financial system and the ability of local (exporting) companies to provide for their obligations towards local banks. Crises occur due to the consequences of capital flight that is simplified in a global deregulated financial system.

This theory explains several essential phenomena. The first is the importance of stable currencies. Financial crises often start with currency crises that have their effect on the export earnings of local companies to provide for their interest payments and the returns on invested capital that can easily move to other regions in seconds. A second phenomenon is the potential destabilising role of hedge funds and forward markets. Hedge funds have been found not to fulfil their ‘theoretical’ function of

aligning mispriced assests, but to have the potential to challenge regulative authorities in profitable and speculative attacks. Such speculative pressure on the local currency was responsible for the East-Asian crisis beside others. The third phenomenon is the role of financial strategies in the prevention of and recovery from financial and economic crises.

Forward and Futures markets can have different roles in the financial system: they can provide risk management facilities that may serve as stabilising and regulative element and they can support speculative trading with their destabilising impact on the financial systems. This effect of forward markets has to be considered in the evaluation of financial innovation; market efficiency criteria are not enough.

Studies have analysed the impact of such financial innovations that initially evolved from a reaction to certain kind of risks for introducing new risks to the financial system. The needed liquidity for the functioning of futures markets is achieved by simplifying speculative activities and attracting specialised speculators into the market. These speculative activities, on the other side, have introduced new risks that triggered a massive increase of regulations and stabilising policies.

The establishment of futures markets has also a political dimension. An example of this is the Teheran bourse, which is part of Iran's objective for the year 2006 inside its current five-year plan, and considers the opening of a futures market for oil and gas. This possibility is being portrayed as potentially 'a far more profoundly punishing blow to American interests than Iran's ability to manufacture a crude atom bomb'

(Walker 2006). One of the central pieces inside the reasoning of Walker (ibid.) is the fact that being Euro denominated 'The prospect of a rival bourse and futures market opens the intriguing possibility, beyond hedging the future oil price, of profitable arbitrage between the euro and dollar' (ibid.). Only by understanding and dynamically modelling the different functions and usages of futures markets, can their different dimensions and global effects be rightly anticipated. The relevance of such dynamic perspective is the second theme of this thesis.

Relevance of Functional Dynamics

The benefit of futures markets is mainly conceptualised through one of its functions, predominantly the risk-mitigation function. The possibility of managing price risk through hedging has led to consider futures markets as one policy option for spreading the price risk in the international trade of developing countries and replacing the more traditional price stabilisation schemes. Different models of futures markets that are applied in the literature do only reflect a small subset of the different functions that futures markets may perform in the economic system. Different model types even exclude and contradict each other. The main limitation of these models is that by assuming such static 'generic role' for the function of futures markets the analysis is not able to correctly address the interdependence and interaction between different markets, which is a major factor in determining the economic effect of futures trading and for appreciating the economic, social and political dimensions of futures markets, both locally as well as globally.

The same financial institutions that developed in industrialised economies may not perform the same role in developing countries that have different institutional settings. The development of financial futures at the CME was a 'natural' process inside a supportive environment. For developing countries the situation is different. Institutions and instruments are often established inside a vacuum in which the vital economic functions of these institutions can not develop.

The economic functions of financial institutions, markets and instruments are not static over time, but change with advancement of information technology and change of life-style. Several studies have demonstrated that the role of even basic financial institutions change dramatically over time and between countries with technological advancement and development (e.g., Perold 1995, Boyd and Smith 1996). The changing economic role of money is an example for this. Hence, the role of futures markets can not be assumed to be the same across economies and across changes in the social system.

The economic modelling of hedging exemplifies how such a dynamic perspective can have wide reaching analytical implications. Hedging is not only done by risk-averse traders, who seek insurance for pre-existing price risk, but also by speculators and arbitrage seekers. They may want to exploit price differences across markets or want to hedge their speculative position in other markets through a further position in futures or forward markets. Several studies have shown that when arbitrage and speculative motives of futures traders are considered, opening a new futures market can make everyone worse—an extreme form of Pareto suboptimality.

Financial innovation must be guided by the economic needs of developing societies and not only by the mechanism of the market. Because the role of financial institutions changes over time in an economy and may perform different economic functions, such a change would need a clear economic developmental emphasis on changing the social, economic, educational and technological environment. Given that emphasis, financial instruments would have to prove their effectiveness in achieving the developmental goals, not only their efficiency in financial markets. This would need advancement in modern economic theory, which is the third theme of this thesis.

Courage for Change and Advancement in Economic Theory

Modern economic theory has a dilemma with development and with explaining the role of finance. It developed initially as a theoretical analysis of capitalistic market economies and became an important tool to defend the paradigm of capitalism against socialist critique, namely that a decentralised market economy is bound to be more efficient than a centrally planed economy. It was also used to promote liberal-developmentalism directed towards the South. But it is precisely those economists who studied the economies of developing countries that opposed the blind application of neoclassical reasoning to the economic problems of developing countries.

Distrust was common within the early writings of development economists towards the free-market paradigm and its application on developing countries. The economic systems of developing countries are simply different to the idealized capitalist model

on which basis neoclassical economic theory was constructed. Myrdal was proven right in his prophecy that the kind of economic theory that has been developed in the industrialised countries would not help developing countries, nor change the inequalities within and among different countries (e.g., 1957). He urged economics students in developing countries to develop an economic theory that suits their needs and will help to understand their economic problems and their possible solutions. Economic theory needs to be contextualised in the chosen economic model of a country.

An analytical study of the limitations of neoclassical economics proves it to be too narrow to study financial systems and the role of financial institutions in the process of development. One main theoretical reason for this narrowness is the incapability of neoclassical equilibrium analysis to handle dynamics and complexity of financial structures, which together are necessary for a relevant analysis of financial institutions and instruments. It cannot provide a consistent role for finance and financial institutions in economic development and it cannot explain the relevance of institutions to economic performance.

But the economics that is applied in economic analysis and policy-making should not only be understood in its descriptive dimension; it has also a strong relevance for the design of economic and financial systems, the form and role of financial institutions and instruments and, an ‘educational’ purpose in influencing on the behaviour of the people interacting in the system—it may support or work against ethical choices. A change in the economic paradigm that a country adopts is followed by changes in

economic structure as the setting up of new institutions. It may also alter the functions of existing ones. The increased adoption of neoclassical economics is no exception. Its influence on the financial and economic structure can be traced at different levels: on the financial system and its stability; on the form and economic role of financial institutions and instruments; and its interrelationship with individuals' economic behaviour.

On systemic level the adoption of neoclassical economic policies has a strong influence on the design and functioning of financial and economic systems. It has been used to support the financial policy of international agencies, which regularly drove developing countries into financial and economic crises. On institutional level a change of the economic paradigm also has tremendous implications for the establishment, role and organisation of financial institutions. The change in economic paradigms was one of the main drivers of financial change and innovation combined with competitive interests on both business and country levels.

On behavioural level the economic system that is shaped by the neoclassical paradigm has a direct influence on the behaviour of the individuals interacting within it. Economic behaviour can not be explained by rationality alone. Institutions play an essential role in the incentive system inside an economy and in the current as well as future behaviour of people. In its descriptive interpretation, the neoclassical theory of choice had become too restrictive to explain reality and was the reason for many 'paradoxes'. The word paradox was used to avoid the alternative term of 'falsified'. A considerable number of studies have empirically tested its assumptions and

implications with the same conclusion: the model can not explain the real behaviour of the tested persons. Kahneman has been honoured with the 2002 Nobel Prize for economics for his research, together with the late Tversky, in developing different models. However, to date no-one has been able to explain the different empirical observations and to offer an economic model for human behaviour.

But neoclassical theory claims to do more than that—it claims to provide a normative theory that defines how people must behave in order to be called 'rational'. But even great economists like Savage made the 'wrong' choice when confronted with the Allais game and contradicted the theory that he himself helped to develop. His response was that it is people who get it wrong and must adjust their preference through reflection and learning to suit the theoretical model. This 'learning' means learning to accept the ethical premises that underlie neoclassical theory of choice. That theory is not ethically neutral: the continuity axiom that underlies the expected utility theorem implies the reduction of all needs to wants; it neglects and ignores the existence of values.

Viability of the Islamic Banking Paradigm

Islamic banking emerged out of a new economic paradigm called Islamic economics. Islamic economics can be seen as an endogenous effort to suggest a socio-economic system in tune with the Islamic faith of Muslim societies. It was also meant to make good the deficiencies of the neoclassical model. It gave birth to the idea of Islamic banking and, within a few decades, a huge and still growing Islamic finance industry,

with several hundred billions US$ in assets, has arisen from nothing. Financial innovation, especially in derivatives trading, is sure to determine the direction and future growth of this industry. However, it is questionable whether the current method of innovation in Islamic finance really indicates a real departure from the neoclassical model.

Individual financial institutions generally can not, especially in modern times, operate in some sort of sealed system cut off from the global financial system, but have to respond to the challenges produced by the system. For Islamic financial institutions that operate in a neoclassical environment Sharia-compliancy turns to be an additional cost and source of inefficiency, which reduces their prospects for competitiveness and future growth. This is used to support the view of those who declare Islamic jurisprudence as a hindrance to modernization of the economic and financial system (e.g., Kuran 2005). For them Islamic jurisprudence should be made flexible to allow beneficial financial innovation. Others refer to the concept of ijtihad to illustrate the dynamic nature of Islamic jurisprudence in adapting to different circumstances and entertaining innovation and development. Islamic commercial law is indeed not meant to be static but changing in response to changing social and economic realities and for this purpose economic understanding is an essential part of Islamic jurisprudential reasoning.

One purpose of contemporary ijtihad is allowing financial innovation to cope with the demands of the global financial system. But it is not limited to this. The main aim of ijtihad is to ensure that Islamic law helps to maintain and improve ‘the general public

good', which evolves from a clear view of the socio-economic reality. Economic analysis plays a very important role in understanding these socio-economic realities and has its direct influence on the Islamic law of financial contracts and institutions. However, the growth and competitiveness of an Islamic financial industry has required a rather different emphasis in the legal arguments of the Sharia boards that advise banks. For them the growth of the industry has taken the place of the general public interest. But the development of an Islamic financial industry will not by itself guarantee 'the general public good' in terms of economic development that is needed.

The possibility of arbitrage gains between 'Islamic' and conventional markets carries several implications. One of them is that Islamic financial products have to be priced efficiently compared to the conventional one. Neoclassical finance assumes the existence of efficient markets and considers the possibilities of several financial dealings that are not viable under Sharia, e.g. endless borrowing for the risk-free interest rate, short-selling or certain forms of hedging. The limited possibility of hedging against certain price risks is one factor that provides conventional financial institutions the possibility to price their products more efficiently in neoclassical terms.

One effect of this combination of the no arbitrage condition and the efficient pricing of conventional instruments is that Islamic counterparts of those instruments that ensure the efficiency of the neoclassical financial system have been looked for, and then adapted (to the extent possible) for Islamic finance. This may provide one main reason for the current interest in innovating Islamic derivatives. Such developments

can be illustrated in the current practice of Islamic financial innovation. Through financial and legal engineering, forward transactions have been approved that were previously disallowed by Islamic jurists on Islamic legal as well as economic grounds. They are modelled in a way that simply replicates modern financial derivatives, and in so doing they circumvent a scrutiny which ensures that those trading practices are in support of the economic needs of Muslim emerging economies.

Islamic financial institutions can not escape from the system they operate in. They have to function in the same global financial system as other financial institutions and with the same needs for risk-management and regulation. They are competing for the favour of the same customers with their personal preferences and economic behaviour. The sovereignty and free choice of customers builds a pressure to offer competitive products in terms of quality and price. To conform to such preferences is necessary for Islamic financial institutions in order to broaden their market to those who are more sensitive to economic benefits than to a mere religious labelling. Although the word ‘Islamic’ was able to initially open a new market, a sustainable future growth of the Islamic finance industry will depend strongly on its competitiveness in economic measures, and its ability to win the trust of its clients for offering a genuine alternative to interest based financial products.

The challenge of the Islamic finance industry lies in bridging between two competitive aims: to gain the trust of the people it wants to reach and to offer competitive financial products. To regain and strengthen this trust, a shift from a ‘Sharia-conform’ to a ‘Sharia-based’ financial system is needed. Limiting the

innovation process to the replication of conventional instruments has led to some questionable practices. Court decisions in Malaysia and other places have judged a financial contract between an Islamic financial institutions and its client as Sharia non-compliant although it had passed the screening of a Sharia board. The current developments in the Islamic financial industry give the sense that the two goals of economic competitiveness and Sharia-conformity can only be achieved by compromising one at the expense of the other.

There are some necessities for bridging the gap between reality and vison. One of them is a stronger developmental focus on changing the social system that is so essential for the economic functioning of financial institutions.

Appendices

Discourse Analysis

Parts of this doctoral research are based on deconstructing and analyzing literature as a form of text for which a complex map of different methods of text and discourse analysis has been developed. The proper research method has to be chosen depending on the aims and objectives of the research. I have chosen the method of grounded theory for its many advantages over other qualitative methods, which made it to be 'by far the most widely used framework for analyzing qualitative data' (Bryman 2001, p. 390). Theory can be defined in this context 'as an explanation of observed regularities' (ibid., p. 5), which in one understanding constitutes 'versions of the world' subject to 'continuous revision, evaluation, construction and reconstruction' (Flick 1998, p. 43). Grounded theory can be defined as 'theory that was derived from data, systematically gathered and analyzed through the research process' (Strauss and Corbin 1998, p. 12).

In contrast to 'classical', quantitative content analysis, which mainly focuses on quantifiable aspects of text analysis, grounded theory is inductive in nature and focuses on 'conceptualizing data-based assumptions' (Titscher et al. 2000, p. 76). Theory is to be seen as an outcome of the conducted research, however, an iterative strategy might still be adopted with some deductive elements in which theory guides further observations (Bryman 2001, p. 5). This inductive nature of discovering hypotheses distinguishes grounded theory from other qualitative methods of content

analysis in which a priori hypotheses are tested and in which the used and theoretical supported schemata of categories are predetermined.

Several modern forms of text and discourse analysis ‘combine language analytical proceedings with analyses of processes of knowledge and constructions’ (Flick 1998, p. 204). Grounded theory might utilize linguistic categories but is not limited to a linguistic approach like some other methods of text and discourse analysis. In comparison to ethnomethodological approaches grounded theory is not limited to the reconstruction of the explanatory and meaning pattern of the observers but extents its search for ‘theoretical concepts and explanations of which actors are not aware of’ (Titscher et al. 2000, p. 85-86).

There is much debate on which epistemological and ontological grounds scientific research shall be founded. Like most qualitative researches grounded theory adopts an epistemological position described as interpretivist in which the social world is understood through its interpretation by its participants as well as an ontological position known as constructionist, in which social properties are seen not be separated from the interaction of its individuals (Bryman 2001, p. 264). This theoretical ground it very important as Jorgenson and Phillips (2002, p. 4) state:

> ‘In discourse analysis, *theory* and *methods* are intertwined and researchers must accept the basic philosophical premises in order to use discourse analysis as their method of empirical study’.

However, they allow ‘multiperspectival’ work as ‘positively valued’ in which different elements from different perspectives inside the realm of discourse analysis are combined (ibid., p. 4). The contrasting epistemological position to interpretivism

is called positivism against which, however, exists some ‘rejection’ for its application of the ‘canons of the natural sciences to the study of social reality’ (Bryman 2001, p. 12). This ‘rejection of determinism’ (Jorgensen and Phillips 2002, p. 16) is very much in line with the Islamic philosophy of science and the new paradigms introduced by quantum physics and post-modernity.

In the process of analyzing the data ‘concepts’ are uncovered through a process called ‘open coding’ which is than elaborated to more abstract ‘categories’ with certain ‘properties’ (Bryman 2001, p. 191-192). A close connection between the data which is being analyzed and the conceptualization has to be maintained (ibid., p. 391). In exploring the relationships between the different categories ‘hypotheses’ are formulated which might be tested in order to specify the ‘grounded theory’.

Grounded theory is regarded as the most influential general strategy for qualitative data analysis (ibid., p. 397), yet not without its limitations. One point of criticism is the assumed possibility of discovering concepts which are unbiased by the researchers awareness of relevant theories and concepts already existing in the literature (Bulmer 1979). This principle of openness is explained in the words of Hoffmann-Riem (1980, p. 343):

> ‘The principle of openness implies that the theoretical structuring of the issue under study is postponed until the structuring of the issue under study by the persons being studied has emerged.’

This is much related to the broader question on how theory-neutral a researcher can do his observations which are generally agreed to be influenced by subjective factors. The uncovering of concepts is, therefore, always influenced by a priori

conceptualizations. A second approach may be seen in the words of Kleining (1982, p. 231):

> ‘The pre-understanding of the facts under study should be regarded as preliminary and should be exceeded with new, non-congruent information.’

Still others criticize the fragmenting approach during the process of coding which takes the analyzed data out of its context (Coffey and Atkinson 1996).

The concept of theoretical saturation implies a judgement of the researcher where he has to determine the moment where the probability of finding new concepts and theories is not significant. However, it can not be zero. The author has to admit that the study can only be selective and can not guarantee to reflect all different opinions existing.

The Six Blind Men and the Elephant

'It was six men of Indostan
To learning much inclined,
Who went to see the Elephant
(Though all of them were blind),
That each by observation
Might satisfy his mind

The First approached the Elephant,
And happening to fall
Against his broad and sturdy side,
At once began to bawl:
'God bless me! but the Elephant
Is very like a wall!'

The Second, feeling of the tusk,
Cried, 'Ho! what have we here
So very round and smooth and sharp?
To me 'tis mighty clear
This wonder of an Elephant
Is very like a spear!'

The Third approached the animal,
And happening to take
The squirming trunk within his hands,
Thus boldly up and spake:
'I see,' quoth he, 'the Elephant
Is very like a snake!'

The Fourth reached out an eager hand,
And felt about the knee.
'What most this wondrous beast is like
Is mighty plain,' quoth he;
' 'Tis clear enough the Elephant
Is very like a tree!'

The Fifth, who chanced to touch the ear,
Said: 'E'en the blindest man
Can tell what this resembles most;
Deny the fact who can
This marvel of an Elephant
Is very like a fan!'

The Sixth no sooner had begun
About the beast to grope,
Than, seizing on the swinging tail
That fell within his scope,
'I see,' quoth he, 'the Elephant
Is very like a rope!'

And so these men of Indostan
Disputed loud and long,
Each in his own opinion
Exceeding stiff and strong,
Though each was partly in the right,
And all were in the wrong!

Moral:

So oft in theologic wars,
The disputants, I ween,
Rail on in utter ignorance
Of what each other mean,
And prate about an Elephant
Not one of them has seen!

John Godfrey Saxe (1816-1887)

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