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Interest Prohibition and Financial Product Innovation

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Abstract. We give a rough sketch of the Judaic, Greek, Islamic and Christian positions in the matter of interest prohibition during the last few millennia and discuss the way in which interest prohibition is dealt with in Islamic finance, the problems with authority-based arguments for interest prohibition, and the prospects of interest prohibition with the advent of electronic money.

Keywords: interest prohibition, Islamic finance, authority-based argument, electronic money.

1 Introduction

Many different words in different languages have been used for interest. In particular, usury went from denoting all forms of interest to denoting excessively high interest rates. Preventing or forbidding the occurrence of usury in the latter sense has become standard practice in the Western world. Forbidding the occurrence of usury in the former sense underlies Islamic finance.

Some Islamic authors indicate that loans at interest can bring people in severe problems because they have no way to redeem their debt (see e.g. [19]). The heroic battle fought by many countries against their excessively large and interest bearing government debts is an additional reason to consider the phenomenon of interest with caution and perhaps to look for its replacement by an alternative to it. Difficulties caused by the charging of interest on loans at an individual level are convincingly described in [15].

In non-Islamic countries, the debate about the status of interest has disappeared and opposition to interest is seen as a matter that has been overcome in a process of progress. Papers about the subject have invariably a historic character, and the suggestion that old objections against interest are still of some value seems very remote. One might even say that conventional finance is based on interest, anyhow it is interest permissive. A wealth of information concerning the history of views on interest prohibition in the non-Islamic world has been published (see e.g. [1,12,21,18]).

Islamic finance is an approach to finance and banking which has not forgotten old objections to the interest mechanism. Islamic finance is not interest permissive. The remarkable success of systems of Islamic finance has been documented

in many sources (see e.g. [6,8]). An account of the different histories of interest restrictions in the Christian world and the Islamic world can be found in [17].

The rest of this paper concerns several topics relevant to interest prohibition and Islamic finance. By way of introduction, we first give an outline of the discussions about the pros and cons of interest that have been going on for almost three millennia and a brief account of the main policies for dealing with interest. Next, we give a constructive perspective on Islamic finance and present some interesting features of this perspective. One of these features is that the hard to verify claim that Islam forbids all forms of interest need not be accepted as a basic rule. We also have a close look this claim. After that, we discuss the prospects of interest prohibition in the light of the advent of electronic money and mention some weak points of current Islamic finance.

2 Outline of the History of Interest

Discussions about the merits and demerits of interest have been going on for almost 3000 years. Around 620 BC, it was proclaimed that Jews were not allowed to impose payment of interest to other Jews but that they were allowed when dealing with non-Jews (see the Old Testament, Book of Deuteronomy 23:19–20). However, the earliest Judaic recommendation against interest taking dates from 800 BC or earlier (see the Old Testament, Book of Exodus 22:25–26). In addition, irredeemable debts were considered undesirable in the Judaic tradition. It was therefore proclaimed that at regular intervals debts should be remitted, allowing debtors to proceed their lives without the burden of previous debts (see the Old Testament, Book of Deuteronomy 15:1–2). Ancient Jews also preferred interest-free loans over gifts, as a gift suggests that its receiver has reached the stage of a beggar.

The Greek philosopher Aristotle (384 BC–322 BC) condemns in his “Politics” (Book I, Parts 9–10) both getting money by lending money at interest and getting money by first buying goods and then selling them for a greater sum because the end of these forms of exchange is solely accumulation of wealth. He also states that getting money by lending money at interest is worse because, amounting to the birth of money from money, it is the most unnatural way of getting wealth. The Italian philosopher and theologian Thomas Aquinas (AD 1225–AD 1274) argues in his “Summa Theologiae” (Part SS, Question 78) that paying interest for a loan together with returning the principal amount implies a double payment for the same thing. The statements of both philosophers suggest a confusion between two forms of use: instrumental use that leaves the instrument ready (which may justify interest or rather rent) for the next round and consumptive use which justifies the restitution of costs (principal amount).

Thomas Aquinas also adopted Aristotle’s judgement that interest is unnatural and for that reason should not be allowed, and so did many other Christian authors. This brought the Church of Rome in the sixteenth century to a formal condemnation of the interest mechanism by the council of Trento. This condemnation still stands, although the practice of paying interest has been reluctantly

accepted in the encyclical “Rerum Novarum” issued by the Pope Leo XIII in AD 1891.

In the Qur’an, the prophet Muhammad (AD 570–AD 632) explicitly indicated the so-called doubling debt scenario as being against God’s will (Verse 3:130), though without suggesting the need of earthly punishments for those who claim or receive such an excessive interest. However, he predicted serious posthumous consequences. Subsequent authors, notably Abu Bakr al-Jassas (died AD 981), have argued that the indications revealed through Muhammad must be understood as special cases of more general requirements, in particular the requirement that interest is never applied, which according to him also covers the special case of the doubling debt scenario.

3 Policies for Dealing with Interest

We can distinguish three different policies for dealing with interest if these are deemed problematic: interest moderation, interest prevention, and interest prohibition.

Interest moderation. Moderation involves the imposition of upper bounds to interest rates and to the size of loans, both essential to avoid that people destroy their lives by accepting too large debts. Interest moderation is applied in all systems of conventional finance. The upper bounds to interest rates are relative to the financial capabilities of the borrower.¹

Interest prevention. Prevention involves redesign of financial methods so that loans play a lesser role. Debt prevention is the main means for achieving interest prevention. Necessary debts will still carry interest. Necessary debts can occur within the system if the needs of parties cannot be satisfied in another way.

Interest prohibition. Interest prohibition comes on top of interest prevention: interest prohibition excludes all loans between parties who subscribe to the prevention policy. Only when deals must be made with parties not adhering to the interest prohibition policy, it is acceptable that a party who adheres to it will either pay or receive interest.

Islamic finance has been designed in such a way that it implements both interest prevention and interest prohibition, and it does so to the extent that there is no need left for interest moderation.

4 A Constructive Perspective on Islamic Finance

It has a significant disadvantage to explain Islamic finance as a financial system that implements interest prevention and interest prohibition to the extent that all remaining loans are interest-free.

¹ It is remarkable that interest moderation is nowadays also applied at the level of national states where states issue guarantees so that states in severe debt can borrow new money at acceptable interest rates.

First of all, Islamic finance aims at further restrictions and it aims at additional and more important objectives. Explanations of these additional restrictions and the key objectives are given in [24,9,11,13]. More importantly, Islamic finance is best understood as being under a steady development, where its product portfolio grows under the constraint that each product on offer is approved by a significant majority of Islamic scholars. Their approval concerns compliance with requirements that stem from Islam. Different scholars may have different views on the matter, but a product will be put on the market by most institutions of Islamic banking only when a majority view has been reached.

Using this perspective, interest prohibition and interest prevention serve as heuristics that help financial engineers to predict the judgement of scholars (usually cooperating in Shari’ah boards). If interest bearing debt normally occurs during the lifetime of a financial product, it is quite likely that scholars will not approve of it. And if they do so initially, they may change their mind in a later stage once the occurrence of interest payments during the term of a product has become clear. This problem may be spotted even in a fraction of the activities to which a product gives rise. So-called concealed interest is only found when scrutinizing the progression of actions to which the application of a product in actual circumstances may lead.

We call this viewpoint on Islamic finance a constructive perspective because the bottom-up construction of a product portfolio together with the practices for its adequate use is highlighted. This perspective has the following interesting features:

- Precise definitions of what constitutes interest, and to which forms of debt it applies, do not matter. It is left to scholars to make up their minds about these matters. Approved products are considered valid, and because the screening is quite strict that judgement will stand for many years to come.²
- The question how to prove from religious sources that interest is forbidden is of marginal importance only. Different scholars may have different views on the matter.³ Hard to verify claims such as “Islam forbids all forms of interest” need not be taken as axioms.
- If views concerning interest become more permissive, the only effect will be that additional products are now allowed. There is no inconsistency that arises from such a change of opinion.
- All financial products proposed within Islamic finance can be considered valid products on the non-Islamic financial market as well.⁴

² In [3], we have given a detailed specification of a savings account. It appears that it is unexpectedly complex and that many options are left when it must be decided what exactly is to be forbidden once the savings account is labelled as interest bearing.

³ Subhani [20] states that, if it is agreed that Islam disallows interest bearing debts, some rationale for the disallowance needs to be presented. In the form in which Subhani states the problem, it looks quite intractable.

⁴ In [3], we have coined the phrase “Reduced Product Set Finance” (RPSF) as a generic name for designs of financial systems that make use of a reduced set of products. Islamic finance is a prime example of an RPSF.

- Interest prevention and interest prohibition function as informal drivers of financial product innovation. The family of new products that is brought on the market by institutions supporting Islamic finance often allows for their clients to operate with less risk than they would have been exposed to in the case where they had made use of the product family of conventional banks.
- The new products are accessible for non-Islamic clients, and these may be attracted by the strongly risk-averse policy that underlies these products. Product innovation as pursued by Islamic banking institutions can help them to perform competitively in a market that allows for other banking forms too.

5 On Authority-Based Arguments for Interest Prohibition

Observers from outside Islam (including the authors) have enormous difficulties with understanding hard to verify authority-based arguments for interest prohibition where it is not clear how the authority has come about. The claim that Islam forbids all forms of interest is an important example of such an argument. It is essentially the claim made by Abu Bakr al-Jassas around AD 980. The argument is seldom used by contemporary Islamic scholars, but it is used in canvassing texts (see e.g. [14]). Authority based arguments have their own logic (see e.g. [22]) and that is a complex matter. They descend in historic chains with authoritative persons, groups, events, or texts as sources. A closer look at the claim that Islam forbids all forms of interest reveals the following:

- The literature indicates that most Islamic scholars who base their judgement primarily on reading of the Qur’an accept that Islam prohibits the doubling debt scenario, but do not agree that prohibition goes much further (see e.g. [10,16]).
- Most authors who state or repeat the claim do so without further argument. That is a nearly circular matter given the fact that these authors on their own do not generate the authority to produce the claim as a source and no reference is made to previous sources of higher authority either.
- In principle, it cannot be excluded that many sources state the claim while in fact none of these sources does so in a way that by itself carries enough weight for the claim to be accepted initially.
- Non-Islamic literature about revealed sources indicates that basing a claim on such sources needs to be done with care. Sources develop the status of having been revealed because of the authority that is afterward assigned to their contents, instead of the other way around. By scrutinizing the concept, it is demonstrated in [23] that revealed status of sources is not an a priori matter which can be asserted independently of their contents.
- A number of authors point at the advantages of interest prevention and interest prohibition as arguments in favour of the design of Islamic financial systems. They create confusion about the degree of authority that must be attributed to the claim. If its authority is unquestioned, then remarks about the positive consequences of its implementation are nice but cannot replace the appeal to the authoritative claim.

- Some authors argue that interest does not occur in an Islamic society and that from that empirical fact a design rule can be inferred which is plausibly phrased as the claim. If this is true, the empirical fact needs an explanation first and it is not obvious at first sight that the explanation is found in the prior existence or awareness of the claim in an implicit form.
- Even if the claim has been established with sufficient authority at some stage, why must it be considered valid for money in the forms that it takes hundreds or thousands of years later. It is very plausible that the concept of money goes through an evolution which puts each conceptual analysis in question. The latest authority who wrote on interest with impact was Thomas Aquinas — authoritative Islamic writers preceded him. When he wrote on interest, money and interest was not thought of in terms of inflation, deflation, fiat money, liquidity preference, equilibrium on a financial market et cetera.

6 Evolving Money

Although money seems to have been of a constant quality from the seventh century BC to the eighteenth century AD, changes are now becoming more likely. From the eighteenth century, fiat money has become dominant, but its presence in the form of coins or banknotes has become increasingly marginal. We are now looking into a future which is dominated by electronic money. As we write in [4], money will become a computational phenomenon. Its creation will be physically trivial, but it will be blocked by secure computation technology. It is not unlikely that the familiar property that money can be applied for all purposes by every owner will disappear. The purchasing power of money is likely to become dependent on the social and financial position of its owners, whether we like it or not.

It is now becoming easy to devise a financial system in which money is always tagged to the electronic identity of its owner. By requiring that money can only be spent by its owner, it is easy to prevent lending in such a system. In that way, debts and interest disappear. We think that, now that money is becoming electronic, old intuitions cease to prevail. All features of its use can be switched on and off on a personal basis. It is technically possible to allow debts only in special circumstances and to disallow interest payment fully. This implies that the heuristic value of interest prohibition will diminish and that the question how one expects the financial system to work at large to become more prominent.

These considerations lead to the observation that interest prohibition derives its significance from the fact that those who intend to comply with it expect to make use of the same money as those who do not have that intention. An interest prohibitive community and an interest permissive community make deliberately use of the same money, which is a means of communication between them. If it is true that the intention to share money is predominant for both communities, they will have to interact when further innovations of the financial system are involved. If this is right, both communities have an interest in understanding the details of a common interest prohibition theory (IPT, see [5]), because they

must be able to talk about their disagreements in technical detail. They will also need some systematic embedding of the reasoning methods that are employed. These matters can be laid down in an application specific informal logic (ASIL, see again [5]).

7 Critique of Current Islamic Finance

In spite of its remarkable progress, critical remarks have been put forward concerning the present state of Islamic finance. For instance, adhering to interest prohibition may fail to lead to a financial system compatible with Islamic objectives at large (see e.g. [7]). It has been stated by many authors that international coordination is needed to strengthen the system of Islamic finance, which at closer inspection consists of a patchwork of systems of Islamic finance each with slightly different methods and rules. In [2], the point is made that centralization may also constitute a significant risk for the quality of Islamic finance as a tool for promoting other Islamic objectives.

From [3], we take the following explanation of what seems to be the greatest weakness of interest prohibition: loans will incur far higher transaction costs than interest compensated loans if focus is on profit-loss sharing — the key principle of financial product design in Islamic finance. If X , rather than borrowing p to Y , provides p to Y for combining forces in a joint enterprise that is mainly managed by Y , whereas X is entitled to some fraction of its revenues, X inevitably is dependent on being correctly informed about Y 's results. Providing this detailed business information is quite expensive. Even worse, X and Y seem to have conflicting interests, as Y may prefer to underestimate his profits from the joint enterprise so that he needs to channel less revenues to his partner X . The simplification introduced by a loan with interest, with respect to a profit-loss sharing participation in another party's enterprise, is that a complete correspondence of objectives between both parties is obtained if X is not fraudulent (otherwise both options are unsatisfactory anyhow). It follows that, in the case of a loan with interest, X can manage his part of the contract on the basis of far more abstract information about Y . The information in question may be obtained in a less intrusive fashion, which is profitable for maintaining proper relations between X and Y . Of course, this argument would disappear if the prohibition of interest was judged on a case by case basis. However, such flexibility is absent in recent writings on interest prohibition.

8 Concluding Remarks

With money becoming more flexible as a consequence of non-stoppable computerization, more sophisticated patterns of use of money can be built into the system. Preferences such as interest prohibition as well as the large family of financial products that have been developed within Islamic finance to date will become more important in the age of exclusively electronic money that lies ahead.

Although interest permission and interest prohibition seem to impose incompatible design requirements for financial systems, exactly that complexity may drive the development of new generations of financial products which primarily aim at obtaining system stability and reliability instead of accommodating an almost unlimited growth which has been driving “conventional” financial product development.

References

1. Ackerman, J.M.: Interest rates and the law: A history of usury. *Arizona State Law Journal* 1981(1), 61–110 (1981)
2. Bergstra, J.A.: Real Islamic logic. [arXiv:1103.4515v1](https://arxiv.org/abs/1103.4515v1) [cs.LG] (March 2011)
3. Bergstra, J.A., Middelburg, C.A.: Preliminaries to an investigation of reduced product set finance. To appear in *Journal of King Abdulaziz University: Islamic Economics*. Preliminary version: [arXiv:1012.4291v1](https://arxiv.org/abs/1012.4291v1) [q-fin.GN] (2010)
4. Bergstra, J.A., Middelburg, C.A.: Parallel processes with implicit computational capital. *Electronic Notes in Theoretical Computer Science* 209, 55–81 (2008)
5. Bergstra, J.A., Middelburg, C.A.: An application specific informal logic for interest prohibition theory. [arXiv:1104.0308v1](https://arxiv.org/abs/1104.0308v1) [q-fin.GN] (April 2011)
6. Dar, H.A., Presley, J.R.: Islamic finance: A western perspective. *Journal of Islamic Financial Services* 1(1), 3–11 (1999)
7. El Diwany, T.: Islamic-finance.com. <http://www.islamic-finance.com> (since 1997)
8. El-Gamal, M.A.: An economic explication of the prohibition of *Gharar* in classical Islamic jurisprudence. *Islamic Economic Studies* 8(2), 29–58 (2001)
9. El-Gamal, M.A.: *Islamic Finance: Law, Economics and Practice*. Cambridge University Press, Cambridge, UK (2006)
10. Farooq, M.O.: Stipulation of excess in understanding and misunderstanding *Riba*: The al-Jassas link. *Arab Law Quarterly* 21(4), 285–316 (2007)
11. Gait, A.H., Worthington, A.C.: A primer on Islamic finance: Definitions, sources, principles and methods. Discussion Papers Finance 2009-09, Department of Accounting, Finance and Economics, Griffith University (2009)
12. Gordon, B.: Lending at interest: Some Jewish, Greek, and Christian approaches, 800 BC–AD 100. *History of Political Economy* 14(3), 406–426 (1982)
13. Iqbal, Z.: Principles and development of Islamic finance. In: Lu, K.W., Verheyen, G., Perera, S.M. (eds.) *Investing with Confidence: Understanding Political Risk Management in the 21st Century*, pp. 43–59. World Bank Publications (2009)
14. Ismail, S.: Why Islam has prohibited interest & Islamic alternatives for financing. <http://www.1stethical.com/knowledge-base/financial-legal-matters/research-papers/interest-riba>
15. Lewison, M.: Conflicts of interest? The ethics of usury. *Journal of Business Ethics* 22(4), 327–339 (1999)
16. Rahman, F.: Riba and interest. *Islamic Studies* 3(1), 1–43 (1964)
17. Rubin, J.: *The Lender’s Curse: A New Look at the Origin and Persistence of Interest Bans in Islam and Christianity*. Ph.D. thesis, Department of Economics, Stanford University, Stanford, CA (2007)
18. Senn, M.A.: A matter of principle and interest: The briefest possible history of usury. *Probate & Property* 20, 60–64 (2006)

19. Siddiqi, M.N.: Riba, Bank Interest and the Rationale of its Prohibition. Markazi Maktaba Islami Publishers, New Delhi (2005)
20. Subhani, A.: The Islamic Doctrine of Riba Prohibition. Master's thesis, Institute of Islamic Studies, McGill University, Montreal (2001)
21. Visser, W.A.M., MacIntosh, A.: A short review of the historical critique of usury. *Accounting, Business and Financial History* 8(2), 175–189 (1998)
22. Walton, D.: *Informal Logic: A Pragmatic Approach*. Cambridge University Press, Cambridge, UK, second edn. (2008)
23. Whittaker, J.H.: The logic of authoritative revelations. *International Journal for Philosophy of Religion* 68(1–3), 167–181 (2010)
24. Zaher, T.S., Hassan, M.K.: A comparative literature survey of Islamic finance and banking. *Financial Markets, Institutions & Instruments* 10(4), 155–199 (2001)