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Experiments and quasi-experiments in Islamic microfinance

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Chapter 1

Introduction and Conclusion

1.1 Islamic microfinance

“For man’s character has been moulded by his every-day work, and the material resources which he thereby procures, more than by any other influence unless it be that of his religious ideals; and the two great forming agencies of the world’s history have been the religious and the economic.”

The words of Alfred Marshall (1920), on the first page of his *Principles of Economics*, state that economics¹ and religion² are two great forming agencies which shape the conduct of human affairs. Since long, many attempts are made to discuss the cause of nations’ and populations’ growth in terms of institutions and geographical locations. However, the important factor to consider here is that the nations (and countries) do not only differ with respect to the locations but also differ in their cultures and sets of beliefs. Adam Smith in *The Wealth of Nations* extended economic thoughts and reasoning to various non-exchange economic problems together with religious behaviors bringing them into the domain of formal economic analysis and since Weber’s *Protestant Ethic* it is clear that religious beliefs and their involvement shape both the society and economic behavior (Iannaccone 1998). Economists comprehend that in general, religious concerns might influence economic decisions of individuals (Barro and McCleary 2006; Elgin, et al. 2013), implying that banking decisions of religious and nonreligious individuals may differ. While there is a distinct body of work to study the relationship between economics and religion along with the extension of economic models to explore outside conventional economics, still the number of studies regarding religious concerns of individuals is limited. In this regard, there is also a growing interest in the relationship between microfinance and religion (DÉspallier and Supphellen 2013), yet there is only a small group of literature dealing with Islamic microfinance.

Islamic microfinance refers to a system of Islamic banking and finance based on Sharia principles; premised on the common notion of the provision of welfare to the population by ruling out unfair or exploitative practices. One of the widely known

¹ Economics, in general is considered *to include the actions for using the limited resources and the thinking linked to these actions.*

² Religion, in a broader context is considered *to include the practices of people according to their belief systems and the bodies or school of thought informing these systems.*

characteristics of the Islamic financial system is prohibition on paying or receiving any fixed rate of return on financial transactions termed as *–Riba*”.³ However, the Islamic financial system extends beyond the prohibition of interest-based activities. Other important principles include i) *–Gharar*” referred to as uncertain⁴ or deceitful transactions⁵, and ii) *–Maysir*” referred to as gambling (van Greuning and Zamir 2008). Furthermore, in Islamic practices, investment activities that are inconsistent with Sharia, for instance those related to alcohol or tobacco consumption, gambling, offensive advertising, production of armaments or cruelty to animals, cannot be financed (Dusuki and Abdullah 2007). Moreover, Islamic principles do not support making a profit by violating the religious laws or providing harm to the stakeholders (Patel 2006).⁶

Extant literature states that Islamic microfinance makes up only 0.5 percent of total microfinance industry outreach (Karim, et al. 2008). Conversely, various survey studies reveal that the demand for Islamic microfinance products is very strong, for example in Jordan (IFC and FINCA 2006), Algeria (Frankfurt School of Finance and Management 2006), and Syria (IFC 2007). Overall, six percent of young adults quote religious reasons for not using conventional financial products and this share is high in countries with dense Muslim population (Global Findex 2017). Similarly, some argue that a part of Muslim population is not willing to use traditional deposit facilities provided by the banks as it does not operate their religious principles (Demirgüç-kunt, et al. 2013). Yet in practice, when Islamic products are available, financial inclusion of poor Muslims is very slow in highly Muslim populated states (El-Zoghbi, et al. 2016).

In development economics, both conventional and Islamic microfinance are well-developed, however, in general, there is not much in-depth formal analysis available for Islamic microfinance.⁷ In this aspect, some important issues are under researched, e.g. because a good database about Islamic microfinance is lacking. There is not only very limited information about use of Islamic microfinance by individuals, also there is even no database

³ *Riba* is an Islamic term and most of the Islamic scholars refer *riba* to the *–interest*” charged or paid on any financial transaction.

⁴ Hazardous risk or the high level of uncertainty associated with the sale of goods is prohibited. In Islamic system, the concept of *Gharar* is used for measuring the legitimacy of a hazards sale or making a risky investment relating to either short selling, the selling of assets or goods of uncertain quality or delivery date.

⁵ For protecting both parties, exact terms and conditions should be stated for all of the transactions to be done and contracts are required to be made with the mutual agreement. There should be no contractual exploitation. Moreover, involved parties should have detailed knowledge of the product/service which is being bought or sold.

⁶ For more details on Islamic (micro)finance, please see chapter 3, section 3.2.

⁷ In sharp contrast to the growing literature comparing Islamic and conventional banking, (see e.g., Beck, et al. 2013), there is very little quantitative evidence available comparing Islamic and conventional microfinance (see e.g., Abdelkader and Salem 2013; Fan, et al. 2017; Widiarto and Emrouznejad 2015).

available to focus which microfinance institutions (MFIs) provide information about financial products in line with Islamic principles.⁸ More in general, research about Islamic microfinance, while growing, is still lacking behind. Without aiming to be exhaustive, at the least three important themes within the study of Islamic microfinance can be defined:

- (1) There is still limited information about social and financial performance of MFIs that provide Islamic products vis-à-vis conventional MFIs. An important reason for this is, as already stated above, the lack of a good database that gives information about which MFIs provide Islamic microfinance products;
- (2) While initially microfinance research was mainly related to microcredit, nowadays there is much more attention to micro-savings (e.g., Karlan, et al. 2017; Prina 2015; Somville and Vandewalle 2018). However, there is as yet no study available that deals with Islamic micro-savings.
- (3) While the plea for more attention for (and supply of) Islamic microfinance products is partly based on the idea that Muslims are not willing to use conventional financial products (products that are not in line with Sharia), there is no rigorous research available that has shown that the majority of Muslims are indeed *only willing* to use Islamic financial products.

1.2 Research questions and objectives

The first set of main research questions I will address in this thesis are directly related to the three gaps that I have identified in the previous section:

- 1) How do Islamic MFIs compare to conventional MFIs in terms of social and financial performance?
- 2) What is the uptake, use and impact of Islamic savings account for poor Muslim clients of an Islamic MFI?
- 3) Are Muslim clients willing to use non-Islamic financial products?

In order to be able to address the first question rigorously, I had to construct a new database indicating which MFIs provide Islamic microfinance products. Therefore, I organized an online survey. As the data attainment from the survey heavily depends upon responses rates, I used lottery-style prize incentive, by mentioning the possibility to win a prize in the subject

⁸ Some earlier studies attempt to compare Islamic and conventional MFIs despite facing the challenge of restricted available data in terms of Islamic MFIs. However, the findings of these studies either suffer from generalizability issue (see, Abdelkader and Salem 2013; Widiarto and Emrouznejad 2015) or reliable method of classifying Islamic MFIs (Fan, et al. 2017).

line of the email sent to all potential respondents. This led to an additional main research question that I also aim to answer in this thesis:

- 4) Does announcement of an unspecified lottery prize in the subject line of a survey invitation email boost survey response rates?

Next to the main research questions, there are several related secondary research questions that this thesis intends to answer:

- a) Do microfinance service providers located in Organization of Islamic Cooperation (OIC) countries, where Islam is the prevailing religion, respond differently to a lottery type prize announcement? I am interested in this question as Islamic religious values may negatively affect the response to the lottery prizes.
- b) How important are Islamic MFIs, currently, as compared to conventional MFIs, i.e., how does a global mapping look like for MFIs in line with Islamic principles?
- c) Does religious speech (encouragement to save) increase the uptake and usage of Islamic savings accounts?
- d) Which factors affect the financial behavior of poor Muslims for adopting non-Islamic financial products?

To address these questions, the overall ultimate long term aim of this thesis is to improve welfare of poor (Islamic) microfinance borrowers. The overall aim will be achieved through following more short term objectives, which will be addressed in four chapters:

- I. To identify the presence of Islamic MFIs worldwide: Chapter 2
- II. To compare the performance of Islamic and conventional MFIs: Chapter 3.
- III. To investigate the uptake, use and the impact of Islamic micro-savings on women empowerment in an Islamic context: Chapter 4.
- IV. To measure attitudes toward non-Islamic financial products: Chapter 5.

1.3 Outline of the thesis

All chapters in this thesis study Islamic microfinance from different perspectives: starting at the country level to the individual level. While the chapters contribute to a common theme, each chapter contributes to the literature separately. They are written up as stand-alone papers but there may be some overlap in terms of e.g. literature surveys. In this thesis, I intend to identify the presence of Islamic MFIs in a global context as well as behaviors of Muslim clients at an individual level. The order of the chapters in this thesis express the main challenge associated with the limited availability of data for Islamic microfinance and the misreporting of its demand (and supply). The thesis is structured as follows.

The first step considers the challenge of constructing a unique dataset and for this an online survey is sent to all MFIs reporting to MIX market⁹ using a randomized control trial (chapter 2). This study mainly represents an effective way to use online surveys that are administered by emails such as in our global context. Given that only web-based (online) surveys are suitable in the situation of a worldwide survey study; this makes the question of improving the survey response rates very important. In this context, we conduct an online experiment for boosting the response rates by using a randomized controlled trial (RCT). The design of online survey mainly includes manipulating the subject line of the email invitation because the subject line may have a large impact on the response rates as it may act as a filter for the recipients to make a survey participation decision. The subject line had an unspecified indication of winning the lottery-style prizes. Due to the lottery style prize announcements, respondents in Islamic countries may differ in their responses primarily because of religious values; this study further explores the attitudes of the respondents from MFIs located in Organization of Islamic Cooperation (OIC) member states. Furthermore, the effect of providing translated surveys is also considered while analyzing the survey participation.

Using the data that is collected in chapter 2, first, a novel dataset is constructed by undertaking a comprehensive global mapping of Islamic microfinance service providers in chapter 3. We identify those MFIs that are currently providing microfinance products in line with Islamic principles as well as those MFIs who plan to provide Islamic financial products in the future. Contrary to earlier work, this classification is largely based on direct survey questions about Islamic microfinance product offerings of the MFIs. Second, using the newly constructed dataset, a performance comparison is made between Islamic and conventional MFIs, particularly in context of reaching a social objective and in terms of financial performance. Furthermore, an attempt is made to reduce sample selection problems by using a number of cross-sectional, panel and instrumental variables regression techniques.

Zooming in to the individual level, chapter 4 seeks the inclusive role of Islamic (micro)finance in a country (i.e., Pakistan) where both conventional and Islamic financial systems are operating hand in hand and demonstrates the take-up, use, and impact of Islamic savings accounts for poor Muslim (mainly female) clients of an Islamic MFI, using a randomized controlled trial. The impact study lasted for ten months, involving both in-depth surveys and interviews with the clients of an Islamic MFI. First, fifteen *focus group discussions* were conducted to help in designing the interventions and the baseline survey.

⁹ MIX Market is a leading web-based provider of data on MFIs and has the largest coverage in comparison to alternative sources e.g., CGAP, Microcredit Summit.

Then, the design was *pilot tested* at one of the branch office of the partner Islamic MFI. After implementing small changes spotted in the survey design during the pilot test, the actual *field experiment* was carried out along with the *baseline survey*. After three months of the intervention, a *follow-up survey* was accompanied with thirty-six *face-to-face interviews* for getting further information about the experience of the clients. As a last step, in total ten months after the intervention, an *endline survey* was conducted. The sample was predominantly female and thus the study places more emphasis on the impact of opening Islamic savings account on women's empowerment.

In order to measure attitudes of Muslim borrowers toward non-Islamic financial products, chapter 5 examines the difference between the actual limited take-up and the reported high demand of Islamic (micro)financial products by earlier studies. The novelty of this study is the use of *list experiment* embedded into the baseline survey (from chapter 4). In principle, list experiments are used to provide truthful responses via indirect questioning about a sensitive topic. A list experiment works as follows; *first*, the experimenter divides the respondents into a control and a treatment group. *Second*, the experimenter presents a list of statements to the respondents and asks them to count the total number of statements which they support or reject. Respondents in a control group receive a list of statements with non-sensitive items whereas respondents in a treatment group receive the same list of statements with non-sensitive items plus one sensitive item. The difference in the mean number of supported or rejected statements between a control and a treatment group classifies the proportion of respondents who agree or disagree with the sensitive item. In addition to the list experiment, the study extends to find the factors affecting the financial behavior of poor Muslims for adopting non-Islamic financial products and provides guidance on the design of financial inclusion policies.

1.4 Summary of results

This section provides a summary of the main findings obtained in each chapter. As a first step for data gathering, chapter 2 uses an online survey and the results for the primary research question suggest that mentioning the possibility to win an unspecified prize in the email subject line increases survey response rates. Because of the global context, further analysis is done for finding the difference in the responses due to religious and cultural differences as stated above in the secondary research questions. The results reveal a smaller impact of unspecified prizes for staff of MFIs in OIC member (Islamic) states attributed to religious norms and beliefs which play an important role in shaping the attitude of a society towards

survey participation. In addition, an interesting finding is the increased responses due to the provision of translated surveys in the official/state language of the responding MFI. Moreover, the findings are robust to sensitivity tests and data quality checks which drive the conclusion that mentioning the possibility to win an unspecified prize in the email subject lines is an effective way to improve survey participation. For years, low survey response rates and associated high costs are widespread problems while conducting primary data collection. In order to improve the efficiency and reduce costs for data collection, online survey recruitment methods are used increasingly. However, regardless of the advantages of online surveys in terms of efficiency/cost, the low response rates remains. In general, for improving response rates, findings from this study offer new insights to manipulate the subject line by introducing a salient first-contact topic and by creating an affinitive perspective by breaking down language barriers via using translations.

Building upon the responses from the online survey, chapter 3 faces two main challenges. First and foremost challenge is to construct a unique dataset which provides a clear picture of the global presence of Islamic MFIs. Second challenge is to deal with any endogeneity issues, present in the data, for drawing meaningful results while comparing Islamic and conventional MFIs.

The newly constructed dataset identifies 101 institutions in 33 countries who offer Islamic microfinance services. In addition to the above stated research questions, we find that in terms of the regional distribution, Islamic MFIs are more concentrated in South Asia with Pakistan having the highest number of Islamic MFIs in the whole dataset. Apart from this study, statistics and worldwide data on the Islamic microfinance sector remains limited and inconsistent. Nevertheless, the findings in this chapter have clearly indicated that, in recent years, Islamic microfinance has gained attention with an instant rise in the number of institutions who offer microfinance products that are based on Islamic principles across Muslim and non-Muslim countries. Furthermore, the results anticipate even more rise in the number of Islamic MFIs in the near future as indicated in the direct responses from various MFIs. Overall results from Islamic MFIs show that Murabaha (a debt-based financing product) is the most widely provided Islamic financial product whereas Musharaka (an equity-based financing product) is the least provided.

For performance comparison of Islamic versus conventional MFIs and to address the endogeneity issue, this chapter utilizes both cross sectional and panel regressions. The comparative analysis of Islamic and conventional MFIs reveals that Islamic MFIs serve more and poorer borrowers. However, in terms of financial performance comparison, the chapter

states weak evidence for Islamic MFIs to underperform than conventional MFIs. Besides, several robustness tests are provided which yield similar results as described above. The question of whether Islamic and conventional MFIs perform differently is relevant due to subsequent interest in MFIs that offer products and services in line with Islamic principles. A large share of the world's poor live in Muslim-majority countries which is further increasing the interest in Islamic microfinance as a financial outreach tool. Even MFIs that previously offered only mainstream microfinance products have now started offering Islamic versions, marketing them as effective tools to facilitate and encourage small businesses.

After the global comparison of Islamic and conventional MFIs, using data at the MFI level, I now turn to analyses that focus on end users of microfinance products. More in particular, I consider an important Islamic MFI in Pakistan, and examine the behavioral facets of Muslims clients towards Islamic microfinance at an individual level (chapter 4 and 5). The main findings of chapter 4, for the primary research question, suggest that the savings uptake for Muslim female borrowers can be increased by considering both external and internal (such a sets of beliefs, cultural and religious values) constraints while designing the financial products. The results strongly support an increased bargaining power of women who take-up Islamic savings account, more in particular they show much higher degree of self-esteem (secondary research question). In addition to the research questions, the findings from this chapter are highly relevant for a policy point of view as in Pakistan several national and international organizations run programs to minimize gender inequality. So far, the country remains the second lowest in the world for gender equality ranking. Thus, it is very important to the country's development that Pakistan become gender-sensitive or gender-transformative. The regulators and policymakers should give upmost priority to enable a supportive environment for the development and usage of Islamic financial products because the existence of Islamic financial system fosters the economic growth and increases social welfare if a portion of the population does not use non-Islamic financial products due to religious concerns. Moreover, it is important to determine whether and to what extent providing access and encouragement to open savings accounts may help improve women's empowerment.

Corresponding to the question whether Muslim clients are willing to use non-Islamic financial products, the most important finding in chapter 5 is that about 37 percent of respondents in the sample report to use non-Islamic financial products and services. Furthermore, the presented results contribute towards the understanding of the reasons for low financial inclusion in certain populations and also address short comings of previously

reported survey statistics. Previous survey studies have reported a visible gap between the demand and supply of Islamic microfinance worldwide, and concluded that the majority of people in Muslim countries refrain from using interest-based microfinance products and services because of the religious injunctions. From a methodological point of view, the results from this chapter clearly suggest that survey researchers should cautiously present their findings when drawing a statement for financial behaviors, especially in terms of presenting statistics about demand and supply of financial products. Besides, any methodological weakness should be clearly communicated, as pinpointed in this chapter, and suggests that the future surveys should be equipped to deal with such reporting biases.

In addition to the key research questions, findings in chapter 5 provide useful guidance on designing financial inclusion policies, and to whom these policies can effectively target when they are practically implemented. More precisely, the results highlight the lesser use of non-Islamic financial products and services by people who recite Quran on a regular basis and frequently attend religious gatherings or consult religious scholars. These results highlight the importance of making efforts for financial inclusion policies in serving such Muslim population.

1.5 Main contribution and policy implications

Each chapter provides an independent contribution to the existing literature by answering its specific set of research question(s); however, all of the chapters come under the umbrella of Islamic microfinance. More specifically, the thesis provides new evidence based on a newly constructed global dataset for Islamic MFIs and explores new policy insights for providing Islamic financial services to the vulnerable population in a developing country. The main contributions of the thesis are summarized below;

- 1) This study is the first that has examined the relevance of using subject lines for boosting survey response rates in the context of microfinance.
- 2) The thesis offers the first comprehensive database on MFIs that use Islamic microfinance products.
- 3) This thesis provides the first rigorous comparison of social and financial performance of Islamic and conventional MFIs using a large data base.
- 4) This thesis provides the first analysis on impact of a religious speech on the uptake of Islamic micro-savings.
- 5) This thesis provides the first analysis of the impact of Islamic micro-savings on women empowerment.

- 6) This thesis is the first that has used a list experiment to study the reasons behind financial exclusion, and addresses certain shortcomings found in commonly employed survey tools.

In addition to the above main contributions, my thesis also contributes in terms of the variety of methodologies used to measure the impact of Islamic microfinance interventions, such as; experimental methods (randomized controlled trials, list experiment) and quasi experimental methods (cross-sectional and panel estimates), and a variety of data collection methods used (primary data collection using households surveys as well as focus group discussions, and secondary data collection).

This thesis offers policy implications for general practitioners and policy makers as briefly listed below;

- 1) Chapter 2 demonstrates the importance to consider religious and cultural aspects when it comes to the design of survey incentives and with that provides useful guidance for survey researchers and general practitioners alike.
- 2) Chapter 4 offers useful insights for policy makers and practitioners who are seeking to promote financial inclusion of poor Muslims. In the context of promoting an easy to use savings account, the chapter highlights that financial inclusion policies can be effective if relevant internal and external constraints are considered.
- 3) This thesis adds to understanding of Islamic banks and MFIs regarding the reasons behind financial exclusion. For example, chapter 5 shows that people who attend religious gatherings are less likely to use non-Islamic finance. This implies that such religious gatherings can be ideal venues for promoting financial inclusion, either through directly offering Islamic (micro-)finance products, or raising financial literacy/awareness about such products. Similarly, a cost-effective avenue for increasing financial inclusion can be that if Islamic scholars are informed about formal Islamic financial products that are available to poorer segments of society, it is possible that they can play a vital role in increasing financial inclusion.

The next section will provide more details about the design of the methods involved in each chapter of the thesis.

1.6 Mixed methods design - sequential steps

In this thesis, I use a mixed methods design by combining and integrating qualitative and quantitative methods. One of the main reasons to use this research methodology is to gather the information for Islamic MFIs which was not possible by using a single approach (Creswell and Plano Clark, 2007). Two factors were of great help in determining the type of mixed methods design that is implemented, one way or another, in each chapter of this thesis: priority and implementation of the data collection. Concerning to priority, dependent upon the research question, I gave equal priority to both quantitative and qualitative parts, or laid emphasis on a more quantitative or qualitative aspect. Laying more emphasis on some parts was mainly the need to understand one form of data before proceeding to the next form, and sometimes it was due to the research question(s) or the practical constraints on data collection. In this thesis, the implementation of data collection followed a sequential design that is the information is introduced in phases and this sequence is related to the objectives of the research (see figure 1.1(a) and 1.1(b)). Figure 1.1 (a & b) presents the steps where qualitative and quantitative data was used e.g., in both chapter 2 and 4 qualitative data is the first step providing information for designing the intervention. Only in chapter 3, we use qualitative information to disseminate the results.

The breakdown of the chapters with respect to the sequence of mixed methods is as follows:

Figure 1.1(a) shows that, in chapter 2, first the geographical data of MFIs is processed leading to the decision for providing translated surveys to MFIs operating in certain countries in the sample. Next, the *online experiment using randomized controlled trial (RCT)* was embedded into the survey design. In the end, for analysis purpose, the quantitative financial information of MFIs was combined together with geographical and experimental data collected through the online survey. Extending this further by using the responses from the online survey, chapter 3 combines the newly collected data with available secondary datasets, and uses a *quasi-experimental method* to disseminate the results; i) presents qualitative findings about the geographical presence of Islamic MFIs (termed as mapping exercise) and ii) provides a more in-depth view of the prospects of Islamic MFIs.

Figure 1.1(b) presents the steps taken for designing the field studies. Prior to start the impact study, the first step was the focus group discussions which helped in assessing the need of the impact study. The survey instruments (for baseline survey) and field experiment(s) were designed on the basis of the information received from these focus group discussions (chapter 4 and 5). The impact study using *RCT for field experiment* lasted for 10

months (baseline to endline, chapter 4). In the middle of the study, some *face-to-face* interviews were conducted, which later helped in designing the endline survey. *List experiment* was embedded into the baseline questionnaire (Chapter 5).

I support the “paradigm of choices” which is emphasized by Patton (1990) and use a pragmatic approach. As a main criterion for judging the methodological quality, a paradigm of choices discards methodological orthodoxy to favor methodological relevance. Therefore, this paradigm of choice supports that different methods are suitable for different questions. In any case, as noted above, mixed methods research helps to better define and analyze the research questions in this thesis.

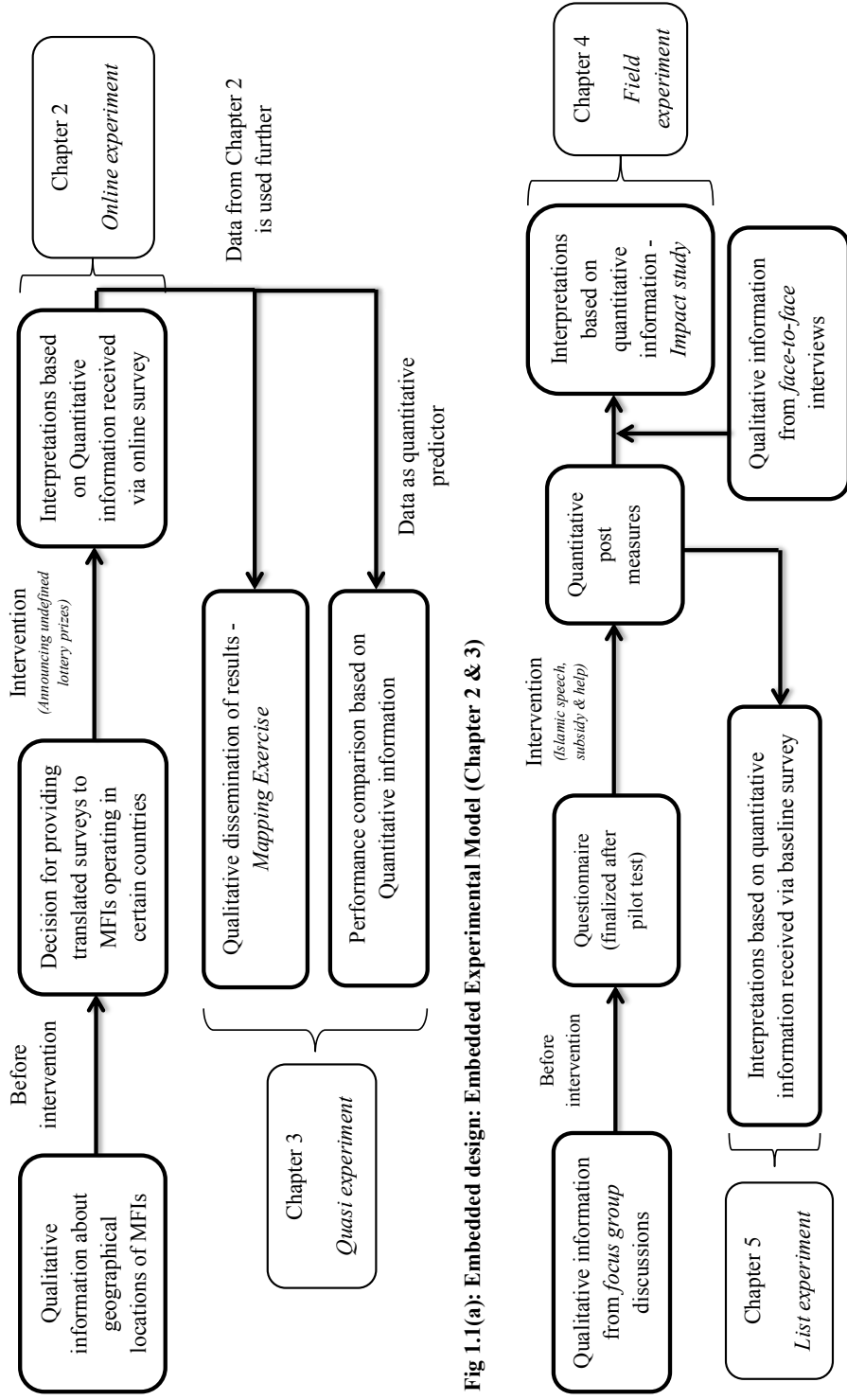


Fig 1.1(b): Embedded design: Embedded Experimental Model (Chapter 4 & 5)

1.7 Limitations and future research directions

Every study has certain limitations; that is also the case for this thesis. For each chapter, I have structured the main limitations in two categories - limitations related to *internal* and *external* validity.

Internal validity: The following concerns explain the extent to which the experimental treatment(s) or condition(s) makes a difference, and whether there is necessary evidence to support the claim(s).

- 1) *Limited information about respondents* – For the online experiment (chapter 2), one of the important constraints is the limited information available for the demographic characteristics of the participants involved in our study. Due to limited information, I cannot test possible confounding variables which make me to believe that there may be other factors affecting the decision to participate in the survey such as: age, education, job tenure, time of the day the email was received, inbox size, etc.
- 2) *Non-response* – Here I refer non-response as those respondents to whom the survey email was sent but they did not participate in the survey (chapter 2). I tried to deal with this by sending survey participation reminders, but still the non-response remains to some extent. Non-response can be random or nonrandom. Non-response may not be a problem if it is random. However, if non-response is nonrandom implying that it is systematic in a sense that MFIs/respondents with particular characteristics do not respond to the survey invitation. In such a case, there may be a sample selection bias if the data from the survey is further used in the estimates as coefficients may be biased. I cannot perform in-depth analysis to test for the random or nonrandom nature of the non-response as the data lack the detailed information about the respondents' characteristics.
- 3) *Endogeneity* – The data from the online survey is further used for identifying Islamic MFIs. As non-response is explained above, several MFIs have not responded to the survey giving rise to the sample selection and endogeneity problem. Thus one of the main concerns in chapter 3 is the sample selection/endogeneity problems and I tried to deal with it by using inverse probability weighting and instrumental regressions, yet some identification problems remain.
- 4) *Novelty effect* – The participants of the impact study receive encouragement to save, a subsidized Islamic savings account and/or the assistance to fill a form to open a savings account. As the length of the impact study is only ten months, so the short

term effects may have a *novelty effect* and not an actual improvement in the savings behavior (chapter 4). The novelty effect is the tendency for an improved performance when a new technology or a treatment is introduced to the participants.

- 5) *Self-reporting data* – The main data source for chapter 4 and 5 is survey (self-reporting) data which may entail “reporting bias” to some extent, such as to please the interviewer or to provide socially desirable answers.

External validity: The following concerns limit the generalizability of the results as presented below;

- 1) *Sampling concern* – A main sampling concern is that the respondents of the online experiment are the microfinance professionals who may differ in their response substantially from other types of respondents such as students, university employees (Chapter 2).
- 2) *Representativeness of the sample* – I used the institution level data from MIX Market that provides data on MFIs. However, MIX Market may not be representative of the entire microfinance sector or for all MFIs operating in any country, mainly because most MFIs are private companies and they may not want to provide their data to a public service provider. Also, mostly the MFIs are located in countries where firm level data coverage is generally poor and is not available on MIX Market. Such an example is Indonesia, where 105 Islamic MFIs (Islamic rural banks) are reported to operate (Karim, Tarazi and Reille 2008), however, MIX Market only reports the data for four Islamic rural banks from Indonesia. In this regard, Islamic MFIs in Indonesia are underrepresented in MIX Market data. Same is the case with Malaysia, where Islamic (micro-)finance is supposedly a hub, but MIX Market data only reports one MFI from Malaysia. Clearly, the study has the backdrop of underrepresenting Islamic MFIs operating in some countries (Chapter 3).
- 3) *Relevance* – In this context, the main limitation is that I cannot offer any broad assertions about the relevance or irrelevance of the encouragement design conducted within the market structure where both Islamic and non-Islamic financial products are available to the borrowers (Chapter 4). Similarly, I cannot generalize that the results hold true outside Pakistan or other Islamic countries (Chapters 4 and 5).
- 4) *Undercoverage* – In chapter 5, the participants are the microfinance borrowers of an Islamic MFI and the sample set is predominantly female. However, women are

perceived to be more religious generally (Baker and Whitehead 2016; Schnabel 2016), so I expect that the results may differ for a largely male sample.

Possible *future research directions* are as follows;

- 1) *Boosting survey response rates* – Chapter 2 suggests several additional avenues for improving online survey response rates. Due to limited available data of the email recipients, I cannot explore heterogeneity of the treatment effect (i.e., announcing undefined lottery prizes) along various dimensions that needs further exploration such as;
 - a. Future researchers may explore additional variables (such as age, education, job tenure, and income level), which might be main predictors of whether lottery-style treatments perform well.
 - b. The results show a negative effect of OIC membership toward lottery-style prizes. It will be informative to explore this novel finding using richer data for individual countries and respondents.
 - c. Future researchers may investigate the effect of lottery-style prizes on non-response with detailed data on socio-economic and demographic characteristics of the respondents.

I did not randomize “provision of translations”. In the future research, it will be insightful to include additional randomized treatments where requests for participating in a survey are sent out to two random subsamples of individuals; with and without offering translations. This will allow for a causal and meaningful interpretation of translation effects.

- 2) *Performance based comparisons* – Chapter 3 provides possible future research directions as follows; *First*, future research may benefit from detailed regional or within-country performance comparisons of Islamic and conventional MFIs. *Second*, future researchers may examine whether there are differences between the economic and social activities served by Islamic and Conventional MFIs. *Third*, additional analysis on the demand and supply side effects of Islamic MFIs will add to the literature. *Last*, future researchers may also explore effect of different funding sources on the financial performance of Islamic and conventional MFIs.
- 3) *Uptake and impact of savings* – Findings of chapter 4 suggest that more experiments are needed to infer whether the savings instruments hold true, acknowledged as

successful by other studies, for a sample of poor Muslims in an Islamic country. Our study raises important operational questions for future researchers, such as;

- a. Do positive results hold true among poor Muslim populations outside Pakistan?
- b. How can low-literacy groups be trained to understand the (Islamic) banking procedures?

Also, it would be of key importance to study the long-term impacts of providing (Islamic) banking facilities (such as savings access) to poor Muslims in order to fully understand the ultimate goal of financial inclusion (such as enhancing welfare).

- 4) *Financial inclusion* – To make comprehensive statements, chapter 5 generally directs future researchers to do more in-depth research for exploring stated and revealed preferences of poor Muslims.

I am aware of the above mentioned potential limitations. However, I hope that this thesis has succeeded in painting a picture of Islamic microfinance on global, institutional and individual level by using mixed methods and exploring thought-provoking policy related scenarios. I hope that my thesis induces more future research that can be compared with the main results of my research, such that ultimately we will obtain more evidence on what works and what does not work in context of Islamic microfinance.

“There is no real ending. It’s just the place where you stop the story.”

— Frank Herbert

