

The Islamic Prohibition on Interest:
Muslim Americans' Financial Understandings, Attitudes, and Behavior

by
Ibrahim Moussaoui

A THESIS

submitted to
Oregon State University
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the requirements for the
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(Honors Associate)

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Abstract approved:_____

Prem Mathew

In Islam, paying and receiving interest is prohibited based on the belief that money should not be a commodity that is “rented” out; instead, Islamic lending structures arrange loans on an equity basis. This work examines the historical origins of interest prohibition and explains how different Islamic financial products provide alternative frameworks for permissible transactions. Through survey data, recent trends were identified among Muslim Americans on their understandings of Islamic financial regulations, their attitudes on the prohibition of interest, and their usage of conventional and Islamic financing. Major findings show that Muslim American adults express high preference for Islamic banking services, but exhibit low usage. This was explained by barriers such as distance and availability of Islamic banks, but also sufficiency of conventional banks. Muslims exhibited comparable levels of conventional bank usage relative to non-Muslims. Muslim American adults exhibited low familiarity with Islamic finance products and mixed understandings and interpretations of the distinction between interest and usury.

Key Words: Islam, Interest, Usury, Islamic Finance, Islamic Banking, Muslim Banking, Interest Prohibition, Riba. Quran, Islamic Loan, Cryptocurrency

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I understand that my project will become part of the permanent collection of Oregon State University, Honors College. My signature below authorizes release of my project to any reader upon request.

Ibrahim Moussaoui, Author

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the name of Allah, the most Gracious, the most Merciful (QE)

I present this Undergraduate Thesis on Islamic Finance

I dedicate this work to my parents, Ahmed and Myriam who have worked tirelessly to raise me with good values. To them I owe an unmeasurable amount of gratitude.

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The Islamic Prohibition on Interest: Muslim Americans' Financial Understandings, Attitudes, and Behavior

Introduction

In the Islamic faith, financial interest is prohibited, which greatly limits opportunities for financial transactions and investments with and within western markets. Purchasing a home under a conventional mortgage, for example, would not be a feasible option for a Muslim family. Instead, equity-based financing would have to be used. In response to this constraint, I began seeking alternatives and solutions for making equity based financing more practical and accessible. Through this work, I seek to gain a better understanding of how interest and its prohibitions developed, how Western and Islamic financial structures function and interact, how they compare during economic crisis, and how Muslims differ in their financial understandings, attitudes, and behavior compared to non-Muslims.

With a background understanding of the historical origins of Islamic financial systems and how they function and interact with western finance on an individual and global scale, this research will investigate how western and Islamic finance models fare during economic crisis, as well as how Muslims act financially based on their understandings and opinions of Islamic financial regulations. Specifically, these questions are:

1) How do Islamic and western finance models fare during economic crisis with regard to mortgage default rates? Using available data, default rates will be compared both within western countries as well as between western and Muslim countries.

(existing literature only addresses comparisons within Pakistan and indicates that Islamic mortgage default rates are less than half the rate of conventional loans¹)

2) What are Muslim Americans' understandings of and attitudes about Islamic financial regulations and how does this influence their financial behavior? Among Muslims in 5 North African and Middle Eastern countries, 45% prefer Sharia-compliant finance products, but only 2% actually use them². Given their apparent preference for Sharia-compliant products, what are the barriers preventing their use by Muslims?

(existing literature omits surveys of the United States, and has limited explanation of Muslims' low Islamic banking usage despite high preference as well as limited assessment of Muslims' access to Sharia-compliant financing)

Approach and Methodology

Islam encompasses two major branches: Sunni and Shiite (Sharma, et al). The difference is largely political. Sunni Muslims rely on the Quran as the primary source of Islamic law Hadith as the second source of law that supplements and complements the Quran (BBC-Sunni). Shiites place higher weight on their Imams as a source of Islamic regulation. Sunni Muslims comprise 90% of the world's Muslim population (Pew-sunni). This thesis focuses primarily on Sunni Islamic teachings according to Sharia Law.³

The first component of this thesis explores the historical origins of interest and Islamic financial law as well as explains how financial structures differ between Islamic and western markets. This thesis will also aim to explain how countries adhering to Islamic principles reconcile differences in financial structure in their financial relationships with other countries in the global economy. In a review of existing data, economic and institutional data was analyzed to determine the impact of economic crisis on western and Islamic mortgages by comparing default rates. In the final component of data collection, a survey was administered to assess the financial understandings, attitudes, and behaviors of Muslim adults living in the United States in comparison to non-Muslims and other Muslims populations from other studies.

Expected Outcomes and Significance

The understandings compiled in this thesis will aim to demystify Islamic financial regulations and better understand their impacts on individuals, companies, and countries. The data gathered will generate knowledge about Muslims' financial understandings, attitudes, and behaviors with regard to Islamic Finance, and more generally about their saving and investing habits and awareness and usage of Islamic financial services. By understanding Muslims' preference and usage of both conventional and Islamic financial services, reasons for any discrepancies may be determined or inferred.

Background

Given the inherent stresses involved in the home purchasing process, there is additional worry on the minds of Muslim Americans due to the Quran's prohibition against paying and receiving interest and the resulting limitations on home financing options (Ayoub). Muslims, especially those living in nations whose economies are not driven by Islamic finance, are finding themselves caught in a difficult situation in which they are subject to various forces that are social, ethical, religious, and financial in nature. Abiding by Islam's strict rules on the nature of financial transactions and its prohibition of interest greatly limits Muslims' ability to make purchases, investments, and other transactions in the western world. This has been a source of frustration and grounds for internal debate among Muslims and Islamic scholars regarding the interpretation and implementation of Quranic texts as well as an external debate between religious, secular, and ethical ideologies. It has sparked motivation to critically analyze, reevaluate, and compare the principles and financial structures of interest and usury in the historical and modern day context of finance, economics, philosophy, and religion. The central controversy is that some ideologies consider any form of interest as prohibited, while others regard it as essential to finance. Much of this debate is centered on the definitions of "interest" and "usury". The three Abrahamic Religions, Christianity, Judaism, and Islam all provide differing rulings on interest. From a purely financial perspective, interest can be argued to be either exploitative and detrimental to economies, or a justly regulated mechanism for the exchange of money.

In order to better understand the origins and use of interest, its history will be examined. But before exploring this history, the terms "interest" and "usury" will be defined. Interest is any charge in excess of the principal amount of a loan, whereas usury is considered as excessive or exploitative interest that is above the legal limit (Farooq). In Islam, both terms are generally seen as one and the same. The terms interest and usury were mostly synonymous in premodern times due to moral condemnations of all forms of interest, although they now have different meanings (Rubin). This is why they are sometimes used interchangeably in historical literature and in much of the accounts that follow.

Historical Origins:

Ethical and Religious Ideologies Governing the Use of Interest

Secular History: Early Societies and Europe

Three fundamental types of credit transactions predate the use of coins: 1) loans with no expected repayment either as true gifts or implying the return of a favor, 2) loans requiring repayment of the equivalent item or amount lent, and 3) loans at interest that included a surplus for compensating the lender (Poitras). The use of interest can be traced back to the earliest societies as Sumerian and Egyptian languages contained words for interest. Interest was also used as a method of exploitation, prompting laws for regulation and maximum interest rates. As early as 1500 BCE in the ancient civilization of Sumer, evidence exists of interest bearing transactions with rates of 20% or more on loans of barley and silver in a seemingly exploitative manner, as failure to pay debts resulted in bondage to wealthier landowners which prompted the Babylonian monarchy to occasionally nullify outstanding debts of servitude (Mews and Abraham).

Many well known philosophers condemned usury including Plato, Aristotle, Cicero, Seneca and others (Vincent). The Greek Philosophers, Plato and Aristotle, opposed interest on the moral premise that the rich should not benefit from the poor (Poitras). Aristotle, who was Plato's student, wrote about usury in his work "Politics" during the 4th century BCE (Mews and Abraham). He not only criticized interest but also more generally opposed profit-driven commerce that was not intended to provide basic subsistence goods to the public (Vincent). Regarding interest, Aristotle likened it to the "breeding of money" as it allows money to unnaturally generate more money, as he believed money was "intended to be used in exchange, but not to increase at interest", a view parallel to one that will be later seen in the Quran (Poitras).

In Rome, interest was neither forbidden nor unregulated (Vincent). The Twelve Tables, comprising the earliest Roman law, established interest rate limits of 8% in 443 BC. The Lex Genucia reforms during Republican Rome in 340 BC completely outlawed interest, although evasion methods persisted (LaRiba 1). Julius Caesar set interest rate limits at 12% that persisted longer than 500 years (La Riba 1) until they were lowered under the Code of Justinian in 533 AD after the fall of the Roman Empire which applied maximum rates of 8% on bank loans and 6% on loans originated by citizens, in recognition of a distinction between commercial and consumer

loans. Sea trades incurred a maximum rate of 12% to compensate for the greater risk of loss. The rationale for these tiered rates is as follows. Development of trade necessitated financing among merchants, who unlike consumers, usually invest the loan to yield returns, are more capable of making payments, and more influential in negotiating terms. The consumer on the other hand is more likely to be subject to exploitation and requires more protection.

During medieval times, usury became a concern for preachers and theorists at the beginnings of the Commercial Revolution during the 12th and 13th centuries (Mews and Abraham). During the 14th century, the formation of international merchant banks based in Italy resulted in European economic collapse after Edward III defaulted on his debts. In the 15th century, a form of merchant banking was commonplace in which it was argued that the poor were exploited and Christian canon law loopholes were taken advantage of. During this time, an official prohibition on lending money at interest was enacted to encourage financial investment. However, it disadvantaged the poor who were forced to seek moneylenders, or more commonly known as “loan-sharks” today, who charged interest rates of 35% or more. This new black market necessitated a “legitimate lending body that could service the poor” (Mews and Abraham).

In 1462, the “Mons Pietatis” (Mount of Piety) was established in Italy as a financial system featuring an interest-bearing loan with collateral where the poor pawned some possessions in exchange for paying a fixed fee of 6% which covered administrative fees for its paid workers (Mews and Abraham). The Mount of Piety was financed by wealthier citizens who received fixed returns which were not regarded as usury, but rather as a “reward for a pious deed, made to a charitable foundation”. Despite criticism that this system was “legitimizing usury”, it became widely successful across Europe. This became the premise of modern banking in which the Mount of Piety became an intermediary that provided loans from a collective pool of capital from the community and protected the poor from exploitation by loan-sharks. Due to the removal of exploitative usury through individual lenders amassing greater wealth, this model was considered “fully in the spirit of Judeo-Christian teaching condemning usury as morally wrong”. Pressures from reformists such as John Calvin who opposed usury but permitted “modest interest” on loans led to the law of 1571 in England that prohibited usury but set a limit of 10% interest which was later reduced to 8% in 1624 and then to 6% in 1651. However, despite these

formal limits, legal regulation failed as actual interest rates climbed much higher, once again forcing poor people into unforgiving debt and even prison sentences for those who failed to pay.

European usury laws were abolished in 1854 after the writings of Jeremy Bentham who campaigned in defense of usury, creating a resurgence in exploitative loan structures that were gradually regulated through protective legislation in the 1900s (Mews and Abraham).

Religious History:

Hinduism and Buddhism

The earliest records of references to usury in Hinduism and Buddhism are found in the ancient Indian Vedic texts from 2000-1400 BC in which the ‘usurer’ was the lender at interest (Visser and Macintosh). The later Sutra texts (700-100 BC) and Buddhist Jatakas (600-400 BC) expressed negative sentiment toward interest, criticizing the ascetics who practiced it as “hypocrites”. Following this moral condemnation, there was a time when members of higher castes, such as priests and warriors were forbidden from being lenders at interest. By 200 AD, usury adopted a more precise meaning as “stipulated interest beyond the legal rate” in the Laws of Manu and was unlawful. During the remainder of Indian history, this distinction between interest and usury has persisted, allowing for market determined rates.

Christianity

Christianity, while historically opposing usury, is partly ambiguous in its discussion of interest within its scripture (Vincent). The New Testament, comprising the second half of the Bible describes the “Covenant” or the new relationship between people and God in the Christian faith (Bible 2). It includes 27 books written under the guidance of the Holy Spirit and represents a form of divine authority. The following excerpts from Luke discourage charging interest: “And if you lend to those from whom you expect repayment, what credit is that to you?” (Luke 6:33) “But love your enemies, do good to them, and lend to them, expecting nothing in return” (Luke 6:35). However, in another scenario, a servant is criticized for not depositing at interest as his master questions: “Why then did you not deposit my money in the bank, and upon my return I could have collected it with interest?” (Luke 19:23). A similar repetition can be found in Matthew 25:27.

Historically, within Western Christianity, the Roman Catholic Church issued a ban on interest during the 4th century CE, which became law in 325 CE in Canon 17 of the first Ecumenical Council (Visser and Macintosh). This ruling maintained support from later Church councils and fueled the campaign against usury during medieval times. As Christian rule exerted great influence across Europe during the Medieval period, commerce from merchants and banking systems were interpreted by the Church as threatening the communal nature of society (Vincent). Furthermore, the Church opposed the principles of supply and demand and the resulting market rates. As a result, preceding Roman laws were displaced and the Church regulated market prices. During the Commercial Revolution, the Church upheld the prohibition on interest, and issued decrees at several Lateran Councils in 1139, 1179, and 1215, for excommunication of individuals engaging in usury (Visser and Macintosh). These consequences included closing Christian burial grounds to usurers and refusing their donations. In 1234, Pope Gregory IX released his Decretales, preventing them from holding public office, receiving honors, or testifying in court. Furthermore, he prohibited landlords from leasing property to usurers and nullified the wills of usurers. However, despite religious restriction, secular authorities began allowing interest rates in the 13th century with maximum legal limits. This was partially done by rulers who needed loans themselves and turned to entrepreneurs for financing. These regulations gradually relaxed to allowing interest in common finance.

More recently, Karl Marx strongly denounced usury in his writings about economic theory in order to provoke renewed concern within the Catholic Church, after which Pope Leo XIII condemned usury in his 1891 encyclical on social justice (Mews and Abraham).

Judaism

In Judaism, regulation of interest dates back to the Code of Hammurabi around 1780 BCE that set maximum interest rates that were as high as 33% on grain and 20% on silver (Rummel). Attempts to increase rates cancelled the entire debt and special allowances were granted for default. During these times, loans were often between a rich creditor and a poor debtor primarily for consumptive purposes, not development.

Jewish Law, known as Halakhah, also prohibits interest, “Ribbit” in the Torah (Levine). The Torah, a collection of the first 5 books of the Old Testament (Genesis, Exodus, Leviticus, Numbers, and Deuteronomy)(Merriam), represents Mosaic Law, which were laws that were

revealed to the Israelites through Moses on Mount Sinai (Calisch)(Dict 1). Several references to interest prohibition are found in Exodus, Leviticus, and Deuteronomy. Mosaic Code forbade Jews from charging interest to other Jews, but allowed it with non-Jews (Poitras). Deuteronomy 23:19-20 states: “You shall not charge interest on loans to your brother, interest on money, interest on food, interest on anything that is lent for interest. You may charge a foreigner interest, but you may not charge your brother interest” (Open Bible).

Ribbit ketzutzah refers to explicit interest that is arranged in a loan format. The second Hebrew word used for interest in the Torah is “neshekh”, meaning a “bite” as the interest bites into the borrower’s wealth (Visser and Macintosh). Within the Exodus and Leviticus Texts, neshekh is primarily used in the context of lending to the poor (Visser and Macintosh). Specifically, neshekh refers to interest from the point of view of the borrower (Jewish Virtual Library). From the point of view of the creditor, the words “tarbit” or “marbit” are used to represent an increase. In Deuteronomy, the prohibition against interest was applied to all money lending except for transactions with foreigners (Visser and Macintosh). Furthermore, Judaism makes no distinctions between interest rates, and thus, similar to Islamic prohibition, interest and usury are considered synonymous (Jewish Virtual Library). The prohibition was expanded through Talmudic laws enacted by Rabbis, referred to as “avak ribbit”, meaning the “dust of interest” – aimed at sanctioning transactions that resembled interest (Levine). The Talmud was published by Rabbi Judah around 200 CE and is a collection of 2 sets of volumes that includes the rabbinical laws of the Mishnah and their detailed commentary and case studies in the Gemara (Staff). The Mishnah, published near the end of the 2nd century CE, aims to capture the Oral law that was revealed to Moses on Mount Sinai and passed down to sages and rabbis in addition to the Written Law of the Torah (Wiki 1). There are two sets of Talmud – one from the sages of Israel, and one from the sages of Babylonia (modern day Iraq) (Staff).

However, despite prohibitions, interest transactions still took place, and according to the Old Testament, some lenders continued to be very stringent and demanding (Visser and Macintosh). Variations arose in the form of implicit interest to bypass the prohibition. During the 5th century BCE, it was commonplace among Jews in Egypt to transact with interest, as there came a time during the Amoraic period between 200-500 CE in Babylonia in which prohibition was deemed incompatible with economic development (Visser and Macintosh). Later, the legalization of interest through the “heter iska” was implemented between the 12th and 14th

century (Fried). While seemingly contrary to the Torah's prohibition, this legalization was introduced as a mechanism to allow Jews to transact with interest, by redefining the relationship as a partnership rather than a conventional creditor-debtor arrangement. The heter iska aims to define the earnings as business profits and not interest (Shurin). In the case of a loan for a business endeavor, this partnership can be considered half-loan and half-trust and is based on sharing of profit and losses. This may be considered as venture capital, or Mudaraba in Islamic Finance. The creditor takes profit or loss from the trust, while the debtor takes profit or loss for the loan. However this format requires that the debtor is compensated in wages for their labor spent on trying to generate profit because otherwise their labor would be considered as interest to the creditor who would also be benefitting from profits generated by the debtor. Possible alternatives to this wage includes variations that increase the risk to profit ratio for the creditor while offering the debtor a higher percentage of profits.

Currently, the standard operating method of Israeli banks utilizes a special heter iska issued by the Chief Rabbinate of Israel – the foremost legal authority for Judaism in Israel (Silver) (Jewish Virtual Library²). Similarly, Israeli state-issued bonds, are considered not as loans but as business partnerships between the state and purchasers under a heter iska structure.

The two categories of interest described, “ribbit”, and “avak ribbit” have different weight in legal court proceedings (Sefaria). The difference depends on whether the violation is considered a moral or a legal transgression. The verdict is that the prohibition of formal interest in the Torah is enforceable by law, while rabbinical law regarding the dust of interest is not sufficient to invalidate interest payments in court. To prevent another method of circumventing the prohibition on interest transactions between Jews, the intentional use of a non-Jewish third party to facilitate the transaction is forbidden.

Avak ribbit prohibits a lender or seller from charging an increased amount for deferred payment of the loan or commodity. However, this only applies if the lender explicitly states that the reason for the markup is due to deferred payment. If the markup is charged without specification that it is intended to provide compensation for the time value of money, then it is permissible. Scenarios in which institutions such as banks provide loans that include payment fees are also exempt.

Islam

The religion of Islam strictly prohibits all forms of interest and usury as the Quran “unequivocally condemns and forbids any claim in excess of the principal amount of money lent to a borrower for any purpose” (Farooq). In Islam, interest, or “Riba” in Arabic, is prohibited and because interest is considered to be a form of usury, both are considered the same and thus unlawful (Mews and Abraham). Islamic financial regulations are based on the Holy Quran and the Hadith (Ahmad, Kashif-Ur-Rehman, and Humayoun). The Quran is believed to be a direct revelation from God, Allah, and contains instructions for how Muslims should live. The Hadith are a collection of narratives of Prophet Muhammad (Peace be upon him) and his Sunnah – his teachings and practices. Both of these documents cover a wide variety of topics – from religious worship to social and economic conduct and form the basis of Sharia – the Islamic law. These instructions explicitly describe what is Halal, or permissible, and what is Haram, or forbidden.

While Sharia is considered to be absolute, universal, and irrevocable, new legislation may be made through Fiqh (Abu Ibrahim). Fiqh is Islamic jurisprudence, or interpretation of Islamic principles in modern day circumstances and may generate new rulings based on evidence from Sharia. This may loosely be considered similar to the relationship between the Constitution and Amendments where the amendments should not contradict the constitution but further elucidate or explain how it is applied in new scenarios.

Sharia Law – the Islamic code of conduct explains that riba is a “premium that must be paid by the borrower to the lender with the principal amount as a condition for the loan or for an extension in its maturity” (Khalil). Riba refers to any increase, addition, or surplus, and represents an “unjustified increase of capital for which no compensation is given”. Not only is Riba prohibited – whether it is obliged upon the borrower or mutually agreed upon, but also voluntary interest payments such as gifts from the borrower to the lender. In situations of financial difficulty for the borrower, the Quran recommends to allow extra time for repayment, or forgive the loan out of charity.

Many verses of the Quran mention the prohibition of Riba. They are quoted below:

- “And whatever you lay out as usury (Riba), so that it may increase in the property of people, it shall not increase with Allah, and whatever you give in charity, desiring Allah's pleasure -- it is these persons that shall get manifold.” (30:39) (Badr)
- Regarding the transgression of the Jews: “...they took Riba, though they were forbidden; and that they devoured men's substance wrongfully. We have prepared for those among them who reject faith, a grievous punishment” (4:161) (Ahmad, Kashif-Ur-Rehman, and Humayoun)
- “O you who believe! Do not devour usury making it double and redouble, and be careful of (your duty to) Allah, that you may be successful.” (3:130) (Badr)
- Surah Baqarah:
 - Regarding those who use Riba: “...they say, ‘Trade is [just] like interest.’ But Allah has permitted trade and has forbidden interest. So whoever has received an admonition from his Lord and desists may have what is past, and his affair rests with Allah. But whoever returns to [dealing in interest or usury] – those are the companions of the Fire; they will abide eternally therein.” (2:275) (Badr)
 - “Allah annihilates usury, and he causes charitable deeds to prosper, and Allah does not love any ungrateful sinner.” (2:276) (Badr)
 - “O you who believe! Be careful of (your duty to) Allah and relinquish what remains (due) from usury, if you are believers. But if you do not, then be apprised of war from Allah and His Apostle; and if you repent, then you shall have your capital; neither shall you make (the debtor) suffer loss, nor shall you be made to suffer loss.” (2:278-279) (Badr)
 - “If the debtor is in a difficulty, grant him time till it is easy for him to repay. But if ye remit it by way of charity, that is best for you, if ye only knew” (2:280) (Ahmad, Kashif-Ur-Rehman, and Humayoun)

Based on the historical context of its revelation, Quranic verses describing Riba appear to be forbidding a certain type of transaction common at the time (Khalil). During the time of this revelation, Makkah was a commercial center, and businessmen did not want to leave their capital assets unproductive while awaiting for their caravans to be transported. In the meantime, they used their capital to lend to others, but would either double the original debt or interest rate each

time the debtor defaulted. This is regarded as pre-Islamic Riba, or “Riba al-jahiliyya”, and the one most likely referred to in the Quran.

The Quran actually did not specify a definition of Riba (Khalil). Rather, the rules regarding Riba developed from the hadith. All forms of interest, whether paid or received are prohibited regardless of their amount. Riba, termed Riba-al-qard or Riba-al-Quran, applies to monetary loans (Ahmad, Kashif-Ur-Rehman, and Humayoun). Riba al-fadl and Riba al-nasiah, described in the Hadith concern exchanges of commodities.

The hadith specify that the prohibition of Riba applies to gold, silver, wheat, barley, dates, and salt (Khalil). A narration by Abu Saad al Khudri (R.A) states that: “the Holy Prophet (Peace be upon him) said: ‘Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates and salt for salt, like for like, payment being made hand by hand. If anyone gives more or asks for more, he has dealt in Riba. The receiver and giver are equally guilty’.” (Muslim). These items are termed “mal ribawi”, or items that can be subject to Riba, and its prohibition. There are four Islamic schools of law, all of whom agree about the general Quranic prohibition of Riba, but disagree about its interpretation and implementation. However, these four schools all generally agree that these six items are only examples of commodities commonly traded at the time, and that they generalize to other assets. Gold and silver, for example, generalize to money and currency which would be subject to the prohibition on Riba.

Following the Islamic prohibition on interest, financial strategies were created for avoiding the ban (Rubin). These loopholes are known as “hiyal” and were used in Medina beginning around the 8th century. This commonly took the form of a double sale or “mukhatara”. This is similar to “Tawarruq” (explained later) but occurs between two parties – the lender and borrower, rather than three parties. In the double sale, the lender sells a commodity to the borrower and then buys it back for a greater amount that is payable at a later time. The interest is effectively the difference between the marked up price and the original price.

The Hadith predicted the ubiquity of interest, as Prophet Muhammad (PBUH) said “There will certainly come a time for mankind when everyone will take Riba and if he does not do so, its dust will reach him” (Ahmad, Kashif-Ur-Rehman, and Humayoun).

Western Finance

The global outstanding debt reached \$199 trillion in 2013, almost 3 times the size of the \$64 trillion global equity market (World Bank 1). But why is debt so prevalent? A major reason is that interest payments are tax deductible, both from personal income taxes in the form of mortgage payments, and for companies as they also deduct interest payments from their taxable income. Another reason for the high prevalence of debt is that investors tend to favor the safety of bonds relative to equities. Furthermore, the issuer of the bonds does not have to share future profits with investors as they would in an equity contract.

Equity and debt investments represent two different investment philosophies (Investment Monitor). The equity model includes more risk and promotes growth, while the debt model aims to maintain low risk and lower, but steadier and more predictable returns. Debt securities have been shown to have lower volatility on average, compared to equity securities. Generally, for an investor, money that is likely to be needed in the short term, would be invested in fixed-income debt securities. Fixed-income securities offer a certain rate of return, investment yield, or return on investment. Credit risk depends on an issuer's credit rating – or their likelihood of defaulting on the bond, and failing to pay investors what they are owed. Some entities, such as governments offer bonds that are zero risk and are guaranteed to be paid at maturity.

Naturally, this asks the question of why big companies like Apple or Amazon with plenty of assets, cash reserves, and operating revenue still take loans to finance their operations or expansions? This comes down to the principle of leverage and the credit worthiness of the borrower which depends on their likelihood to repay, the principal amount of the loan, the term or duration of the loan, and the interest rate (Myers). Leverage is a strategy for using borrowed money to increase investment returns (Invest-leverage). For a large and stable company, they are extremely likely to repay a loan as they have a significant amount of collateral assets that can be taken in case of default, as well as billions of dollars in revenue. Therefore, Apple has a very good credit worthiness and is able to secure an extremely low interest rate. And in reality, since they don't actually need to borrow money, banks become very competitive in offering them loans at very low rates, since they are essentially guaranteed to be paid back. Furthermore, the money a big company has in reserves could be invested in accounts that generate a yield that is higher than the interest rate they pay for their loans. For example, if Apple only pays 2% interest

on borrowed money, and uses those borrowed funds, or other reserves to invest in funds that yield 5% returns, they are able to further grow their assets by borrowing.

Introduction to the Islamic Finance Industry

History of Islamic Finance

The origins of Islamic Finance can be traced to Prophet Muhammad (570-632 CE)(PBS) (PBUH) who permitted the ancient form of the contract sale, “Bay Salam”, in which farmers who needed capital to cultivate their crops were paid in advance and would deliver the crops at a later time (Mohd). This form of prepayment for deferred delivery was developed so that farmers would not have to take loans at interest.

As Islamic civilization proliferated after the time of Prophet Muhammad, several other Islamic finance products developed during the Islamic Golden Age (Alrifai). Islamic finance then receded during a long period of colonization from European powers beginning in the 13th century. The major transformation in what would become modern Islamic banking came as Muslim nations began gaining independence between 1945 and 1963,... allowing Islamic finance to proliferate in the 1970s in a growing global economy (Naveed-History). Some initial attempts at founding interest-free banks failed in Malaysia in the mid 1940s and again in Pakistan in the late 1950s (Alrifai). In 1963, the Malaysian government established the Pilgrim’s Management Fund (also known as Tabung Haji) to aid Muslims in saving for their pilgrimage to Makkah – one of Islam’s five required foundational pillars. In 1963, the Mit-Ghamr savings bank was established in Egypt. Following the rapid growth in wealth of Muslim nations from oil production, their economies supported further relations with Western nations and a surge in academic and intellectual stimulation. Islamic inquiry grew, prompting the establishment of Islamic organizations for researching Islamic economics, such as the Conference of Finance Ministers of Islamic Countries hosted in Karachi, Pakistan in 1970 and the First International Conference on Islamic Economics in Makkah, Saudi Arabia in 1976. The launch of the Islamic Development Bank (IDB) in 1975 marked a milestone effort between several Muslim nations to commit to promoting economic growth while abiding by Sharia principles. Many more prominent Islamic banks were then founded, including the Dubai Islamic Bank in 1975, as well as the Faisal Islamic Bank in Egypt and Sudan, and the Kuwait Finance House just two years later.

As more Muslim nations expanded economic activity into Europe, Asia, and North America, this growth has been sustained, with more Islamic finance institutions in operation and more Islamic assets under management (Alrifai). The Islamic finance industry grew from \$531 billion in 2006 to \$1.6 trillion in 2012 (Sharma, et al). Today, the global Islamic finance industry includes \$1.9 trillion in assets as of 2014 according to the Islamic Financial Services Board, and is comprised of more than 50 Muslim and non-Muslim countries (World Bank 1). Of this \$1.9 trillion, \$1.5 trillion is tied to the banking sector.

Islamic Banks in the United States

The beginnings of the Islamic finance industry in the United States can be attributed to the formation of American Finance House-LARIBA (Nayeem). LARIBA, located in Pasadena, California, began offering Sharia-compliant home loans in 1987 and started with investment capital from American Muslims. In the early 2000s, Freddie Mac and Fannie Mae – both of which are government-backed banks began purchasing Islamic mortgages and it has since become standard for Islamic lenders to sell their mortgage contracts to one of these funding providers. The initial investment was made in 2001 by Freddie Mac who purchased \$1 million in mortgages from LARIBA. Fannie Mae made its first investment in 2003 in the amount of \$10 million. Freddie Mac also purchases mortgages from Guidance Residential, University Islamic Financial, and Devon Bank (Wiseman). Over the years, investment has rapidly grown as a spokesman from Freddie Mac reported that they purchased more than \$250 million in Islamic mortgages in 2007 alone.

The following map of the United States shows states with Islamic banks or offices. LARIBA serves all 50 states through its affiliate, the Bank of Whittier which supplies loans (LARIBA-states). LARIBA's offices or affiliate offices are also shown on the map.

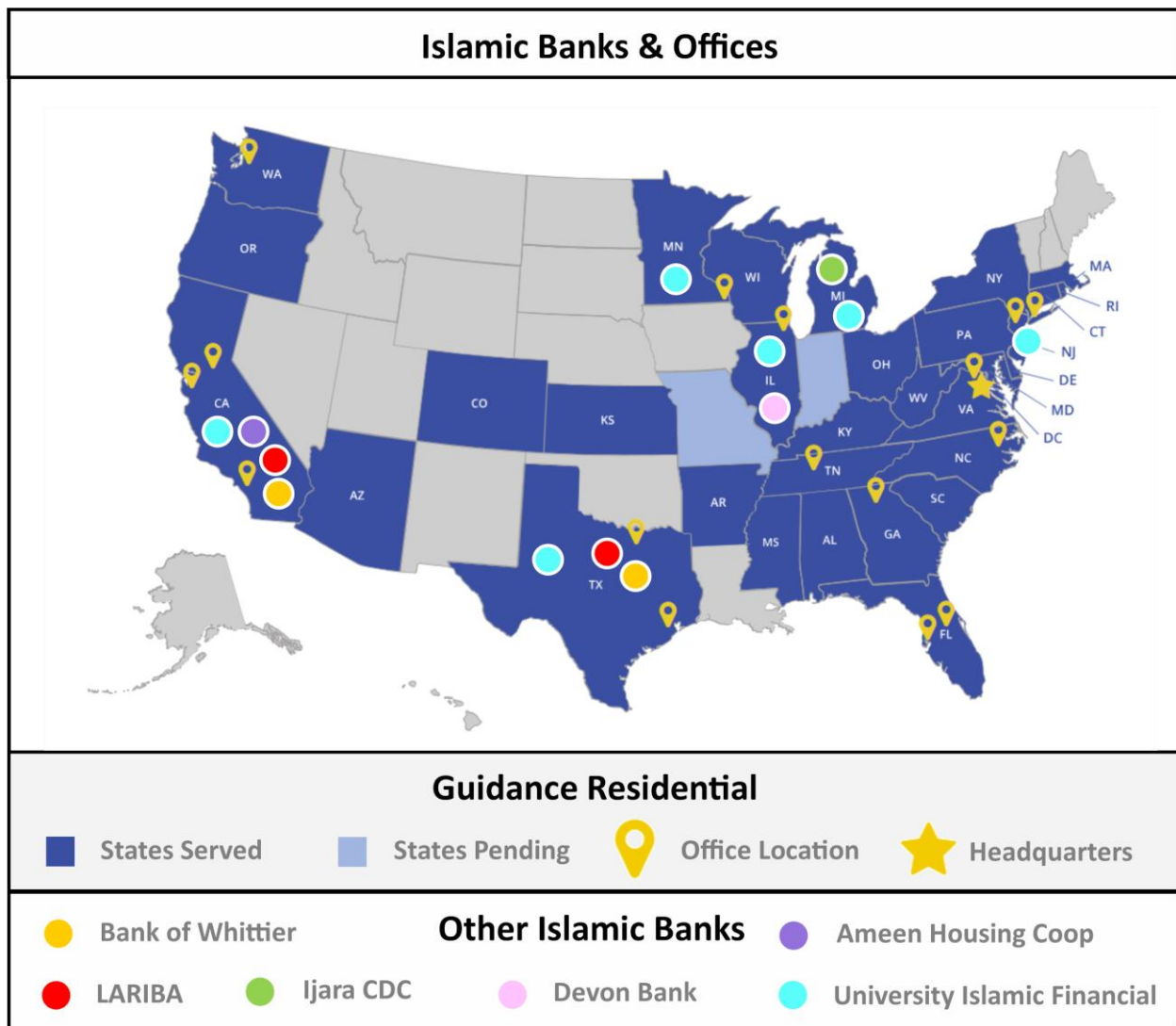


Figure 1. Islamic banks and offices located in the United States. The background map represents the services of Guidance Residential. Additional Islamic banks and offices are overlaid on top of it.

Islamic Financial Structures

In Islamic lending, earnings for Islamic banks come from investment profit, and service and consulting fees instead of interest (Ahmad, Kashif-Ur-Rehman, and Humayoun). Islamic banking centers on the sharing of risk between lenders and borrowers. An important discrepancy between Islamic and conventional banks is that Islamic bank profits may be negative in the case of losses from commercial loans, whereas conventional banks maintain constant income from

fixed interest rates regardless of the borrower's profits. In this arrangement, risk is shared among the parties of an Islamic loan, while it is transferred to others in conventional banking.

The following section will explain the common Islamic banking structures and financial products. A reference table is available for simple definitions of the major structures.

Islamic Financial Structures & Products	
Murabaha	Cost-plus financing. Delayed payment in installments (Schoon)
Mudaraba	One party provides capital, other party provides work. Similar to Venture Capital. (ISBI)
Musharaka	Partnership between two or more parties. Profits and losses are shared among partners. (Lexicon 1)
Sarf	Purchase and sale of currency (Schoon)
Ijara	Lease contract. An asset is leased to another party for a certain price and period. (Khorshid)
Ijara wa Iqtina	Rent to buy. A standard Ijara does not allow the lessee to purchase the asset. This form allows ownership to be transferred to the lessee at the end of the lease. (Shahzad)
Tawarruq	Reverse Murabaha. An alternative method of avoiding explicit interest by using a marked up commodity and a third party. (Zamir)
Bay Salam	Prepayment for deferred delivery of a product or service (IBRC).
Istisna	Rolling payments based on progress or payment at delivery. Common for manufacturing and construction (Islamic Banker).
Sukuk	Islamic Bonds. Equity shares in investment assets or Islamic debts (Lexicon 2).
Usufruct	The right to use and benefit from something owned by another party. Applies to a lessee or lender who does not fully own the asset. (I&F-usu)
Takaful	Islamic insurance. Mutual arrangement in which

	resources are pooled together for use during crisis. (Khan)
Islamic Window	Division of a conventional bank that offers Islamic services. (Sole).
Qard	Interest-free loan. (Shafiq)
Qard al hassan	Charitable loan. Although the borrower is morally obligated to repay, the lender expects no repayment and does not exact interest. (Shafiq)

Figure 2. Table of common Islamic Financial Products (IFPs) and simple descriptions of their structure.

A common form of Islamic lending is the Murabaha contract, in which the bank purchases the asset or commodity the customer desires and sells it to the customer at an agreed upon markup over the initial price (Demirguc-Kunt, et al). The client usually pays for the goods in installments on a certain payment schedule but receives them immediately (ISBI). Murabaha related lending products represent between 70% to 80% of Islamic lending products according to some estimates (Demirguc-Kunt).

In a musharaka or partnership, two or more parties jointly invest in new or existing project (Lexicon 1). The amounts of each party may be equal or different. The partners then share risks, profits, and losses according to the size of their respective equity shares. A variation of this structure is the Musharaka Mutanaqisa, or “diminishing partnership” in which the shares of one party, such as the Islamic bank, becomes smaller while the other party gradually purchases the bank’s equity until the partner becomes the full owner. The partners must also share profit and loss throughout the term of the partnership according to their current equity shares. This is a common method of structuring real estate loans for home financing.

Mudaraba is a type of musharaka contract in which one party supplies the entire capital and the entrepreneur supplies the labor and managing control of the endeavor (ISBI). The share of profits is mutually predetermined. In the case of loss, the financier, known as “rabal-maal”, bears the entire loss, while the entrepreneur or “mudarib” loses their time and effort. Mudaraba is also known as “trust financing” or more commonly, venture capital.

The Ijara contract is comparable to a conventional lease contract. The bank purchases an asset that is then leased to another party for a certain price and period (Khorshid). A bank management fee is deducted, and remaining profits are passed to the bank's depositors. Lease payments should reflect market rates and the real costs of the lessor. Since a standard Ijara contract does not allow the lessee to purchase the asset, Ijara wa Iqtina allows for a rent-to-buy arrangement (Shahzad). The bank provides assets to the client on a specified lease schedule such that by the end of the term the bank recoups its principal investment along with profit. Only after the lessor has made all rental payments at the end of the lease, may ownership be transferred to them.

Previous mechanisms described have allowed customers to purchase a desired asset with the help of a bank. But what if the customer only desires a lump sum of money to avoid joint ownership of the asset with the bank? Tawarruq is an alternative method for borrowing money that aims to achieve this by avoiding explicit interest payments (Zamir). The person seeking a loan would use credit to buy a commodity from the seller that will be repaid in the future. The price of this commodity includes its value plus a profit markup. Afterwards, it is immediately sold to a third party at a lower price. The borrower now has in his possession cash from the second sale price, but owes to the lender the initial marked-up commodity value. This is essentially a loophole that bypasses the fundamental essence of Shari'ah regulation, but does so via two separate permissible transactions. A diagram is available below to visualize the transaction. Effectively it is the same as standard interest, and so many scholars have condemned it as *riba*, as it doesn't represent real economic activity in that the same commodity or asset could be recycled through several borrowers. For example, the International Fiqh Academy ruled that *tawarruq* was in violation of Sharia (GIFR). Neither the bank nor the customer actually have the intention of using the commodity as it is merely a mechanism to facilitate an asset based transaction for Sharia compliance. This form of banking, according to 2015 data comprised more than 50% of total financing in banks in Malaysia and Saudi Arabia.

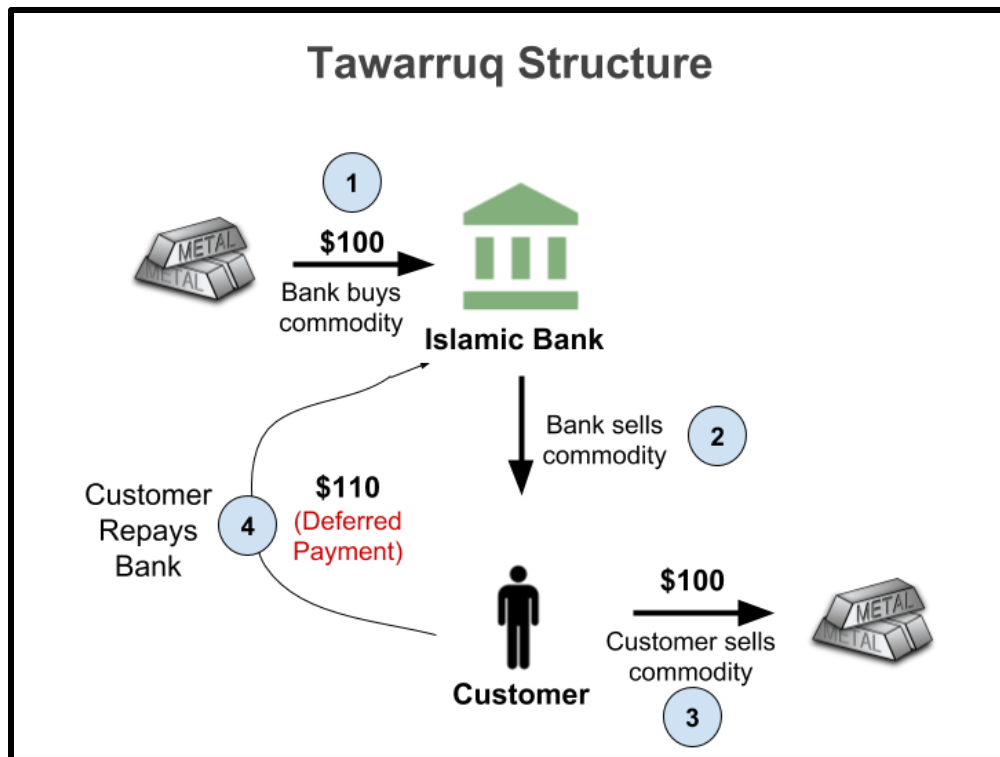


Figure 3. Tawarruq structure. An “interest-free” loan mechanism used to provide a customer with a lump sum of money using a bank and a third party broker. Steps 1 and 3 are often facilitated by the broker. The deferred payments are usually made in installments.

Tawarruq is also known as “commodity murabaha” and is usually performed when the customer is seeking a lump sum of money rather than purchasing an asset directly such as a home. In practice, the commodity often may be symbolic and is usually not actually exchanged. Step 3 is typically done by the bank on behalf of the customer with an outside broker. The same commodity broker may be involved in both steps 1 and 3. The sale in step 3 may be for an amount less than \$100 such that the commodity broker captures some profit for the service.

In Bay Salam, or a “trust sale”, the buyer’s payment for assets or commodities has to be fully made prior to delivery which is made at a deferred time (IBRC). The Salam purchase originates from the time of the Prophet Muhammad (PBUH) in which people in Medina paid in advance for fruits that were to be delivered after harvest. These sales did not specify the quality or weight of fruits to be delivered. In response, the Prophet Muhammad (PBUH) instructed that the contracts specify the quality and weight of the goods in addition to their price and expected

delivery date. This is an important structure as it enables liquidity for the farmer or supplier while also protecting the rights of the buyer. Furthermore it enables a reduction in price for the buyer and reduced uncertainty for the supplier, as the sale is effectively secured in advance through the presale. Some additional conditions allow for the product and or payment to be a well-defined service, and specify that it can only be valid for assets whose price is not volatile. The Bai Salam may be structured similarly to Istisna, using a bank for financing and paying for partial deliveries.

The Istisna contract is used in cases of manufacturing or construction of products or assets that are not already available (Islamic Banker). One party is responsible for manufacturing or producing the goods and delivering them to the customer once completed. Based on the contract terms, the customer has the flexibility to pay in installments based on project progress or pay at delivery time. This may take the form of a “simple istisna” where there is a direct payment and delivery structure between buyer and seller. Alternatively, a parallel Istisna structure may be used in which the buyer uses a bank as an intermediary to finance the contract.

Sukuk, the Islamic equivalent of conventional bonds, are undividable equity shares in investment assets (Lexicon 2). They are a common form of business capital procurement and actually feature characteristics of both stocks and bonds (Zolfaghari). Sukuk holders are entitled to receive their respective share of profits generated by the Sukuk assets (Lexicon 2). There can be several types of sukuk, corresponding to the type of ownership – murabaha (debt), istisna (project), musharaka (business), and istithmar (investment). It is important to note that sukuk differ from conventional bonds in that they are not fixed-income securities (I&F-Sukuk). Rather, Sukuk holders share in both profit and loss until the maturity date but have no voting or managerial control over the underlying assets (Zolfaghari). In cases on bankruptcy, sukuk holders take precedence over other creditors in repayment. However, despite the profit and loss sharing attribute characteristic of sukuk, some sukuk issuers are beginning to offer fixed revenue sukuk as well as shielding holders from losses through insurance to make them more attractive.

Sukuk are liquid in that they can be traded in secondary markets (Zolfaghari). At maturity – unlike conventional bonds, the value of the sukuk is to be repaid at the current market value, not the original value. Sukuk holders are always equity holders and not debtors. In the case of debt based sukuk such as Murabaha, the sukuk holder is an owner of the underlying asset that is being sold or leased to the borrower.

The parties involved in Sukuk are the firm (obligor or originator), the Special Purpose Vehicle (SPV) that issues the Sukuk certificates, and the Sukuk purchasers (Zolfaghari). There are two categories of sukuk: asset backed, and asset based. Refer to the table below for simple descriptions.

Sukuk Categories		
	Asset Backed	Asset Based
Ownership Structure	Legal ownership through SPV. Can sell.	Asset remains on balance sheet of originator. Cannot sell.
Income Source	Revenue from assets	Lease payments from originator
Default Scenario	Recourse to assets	Recourse only to originator

Figure 4. Table of basic sukuk categories and their characteristics, including ownership structure, income sources, and default scenario.

In asset-backed Sukuk, the originator sells the assets to a SPV that then issues the Sukuk certificates to investors (Zolfaghari). As a result, sukuk holders bear the losses during default and liquidation because the originator is not liable. These tend to be less popular types of Sukuk as they feature relatively more risk than debt-related or asset-based sukuk. During default, asset-backed sukuk holders have no recourse to originator, transferring considerable risk to sukuk holders (Hidayat). While they would own the assets that would be liquidated, their value could plummet considerably.

In asset-based Sukuk, the SPV issuer purchases underlying assets and then usually leases them (perhaps through a murabaha structure) on behalf of sukuk holders back to the originator who agrees to repurchase the assets when they mature (Zolfaghari). The assets remain on the originator's balance sheet (Hidayat). During default, Sukuk holders have no recourse to the assets – only recourse to the originator. For example, if the originator is not generating enough profits, the originator still owes credit payments to the sukuk holders. Additionally, sukuk holders cannot sell their shares on the open market.

Sukuk are an ancient Islamic instrument, dating back to the classical period of Islam (Hidayat). Modern day sukuk were first developed and issued by Malaysia, which is one of the contributing reasons for Malaysia's renowned status as a hub of Islamic finance (Naveed-History). Sukuk prominence rose only recently, growing from a global volume of \$5 billion to \$30 billion between 2002 and 2007 according to Bloomberg reports (Hidayat). In 2008 the volume fell to \$1.4 billion due to economic crisis, raising concerns over Sharia compliance and asset classification. The two asset classes described were more clearly categorized after these events. There was concern that asset-based sukuk implied ownership to sukuk holders but did not actually provide it or allow liquidity, since ownership is not transferred. Whereas, holders of asset-backed sukuk actually own the underlying assets which leave the balance sheet of the originator and go to the SPV, acting as a trust on behalf of the sukuk holders. This is a true sale and is more compliant with Sharia, as legal ownership of equity is actually transferred to sukuk holders.

Despite these concerns of Sharia compliance, as of 2012, asset-based sukuk are still the most abundant form, comprising 90% of sukuk in the Islamic financial market in Malaysia (Hidayat). The prevalence of asset-based sukuk has persisted for a few reasons. Issuers prefer to raise capital without selling their equity, and sukuk holders prefer to minimize their risks.

But what about tax incentives for Islamic products? Interest payments are usually tax deductible, and used as a tax shield in conventional bonds. Are there tax advantages for Islamic debt securities and loan structures? What about for a home mortgage? As sukuk markets develop outside of Muslim countries who have a relatively new Islamic finance industry, tax codes must be adjusted in order to allow for sukuk and other IFPs a chance to succeed (Naveed 1). For example, in 2010, many countries, including the United Kingdom, France, Luxembourg, and Ireland updated their tax codes to allow sukuk transactions to be tax neutral with conventional bonds. This allowed sukuk issuers to make tax deductions for sukuk payments similar to those made by conventional bond issuers. In Malaysia, sukuk are actually tax positive relative to conventional bonds, allowing for even more deductions in an effort to increase their competitiveness with standard bonds.

Takaful, or Islamic insurance, is an arrangement in which multiple people seeking coverage for emergencies pool their resources together, and are given funds during crisis (Sole). Conventional insurance is not allowed in Islam as it includes uncertainty, or "gharar", and

includes payment to an insurance company for a service that the insured party may or may not ever receive. For this reason, from a strictly Sharia perspective, standard insurance is comparable to gambling, or “maisir”. Another point of concern is that the assets held by insurance companies often accrue interest earnings which in itself is in violation of Sharia Law. Conventional insurance features the transfer of risk of losses from policyholders to the insurance company and represents, from an Islamic perspective, an unjust deferment of this risk. The insurance company also owns all the insurance premiums and any surpluses remaining or losses incurred (Khan). In Islamic insurance, or Takaful, the insured parties are usually not called policyholders, but rather contributors or participants (Takaful-Int). Takaful features a shared pool of funds that participants contribute to. This arrangement distributes risk among the policyholders themselves, and includes premiums that become collectively owned by the group of contributors (Khan). Any surpluses or losses are also distributed among the contributors through increasing or decreasing the value of the pool. Because ownership of the fund is retained by the contributors, unlike conventional insurance, Takaful contributors usually receive a refund or bonus at the end of each policy year if few or no claims were made and surplus funds remain (Masud). These remaining funds (except fees and commissions for the operator) always remain with the contributors rather than being distributed to shareholders such as in conventional insurance. Remaining funds may also be used to reduce the necessity or amount of future premiums (Invest-Takaful).

While Takaful pools could be managed by a member or a formal entity, they are usually facilitated by an insurance company called the Takaful Operator (TO) (Khan). There are different incentive structures TOs employ to cover their operating expenses. If member managed, participating members may take a salary. A “wakala” contract features an agency fee paid by policyholders in addition to the premium. The agency fee covers the TO’s operating expenses and is usually a fixed percentage of the premium. In a mudaraba model of takaful, the TO’s compensation comes from some of the earnings from investing the pooled reserves when profits are positive. Most takaful arrangements are hybrids that feature a combination of these incentives. A modified mudaraba allows the TO to receive both the agency fee and a portion of profits from the fund. These profits are considered a “ju’alah” or performance-based commission. This arrangement creates motivation for the insurance agency to drive growth of the insurance fund to both increase earnings for the agency, as well as grow the available funds for paying out claims to members.

Regarding concern that contributions to Takaful also feature speculation, contributions to the takaful pool are made on the basis of “tabarru”, or donation (Khan). Charitable gifts are allowed to be subjected to greater degrees of uncertainty, according to the Maliki school of thought in Islam (Masud). Takaful donations are part of a mutual insurance contract in which participants technically have no expectation for refund or payment with no binding obligation from the agency to pay premiums (Khan). It is essentially a charitable fund that pays out claims on a situational basis. In reality, for the arrangement to function reliably, the agency commits to distribute these funds because of the service it offers and the managerial benefits it receives. One could imagine a scenario historically where takaful arrangements were informally managed and contributors donated to a pool that was then depleted after a member took a large claim. Another member affected by a subsequent calamity may not have been able to receive a claim or would have had to wait until the pool was replenished. Today, due to the existence of more robust financial institutions featuring well managed funds and large pools, this is an unlikely scenario.

Similar to conventional insurance, the takaful agency categorizes risk levels for its contributors and determines the corresponding premiums (Khan). A survey of these forms of takaful concluded that hybrid arrangements are best as they maximize growth of the insurance fund. For example, in a pure wakala model, the agency is only incentivized to increase the number of contributors as agency income solely depends on fees. Whereas in the mudaraba form the agency seeks to not only increase the number of contributors but also more carefully manage risk as agency income depends on performance of the fund. Lower risk policyholders would translate into fewer claims and more available investment capital.

One method of Islamic banking becoming more popular in the United States and through the Muslim world, is the use of Islamic windows as conventional financial institutions try to capture market share among Muslim customers (Sole). Since an Islamic window supports only Sharia compliant transactions, most conventional banks that seek to open or operate Islamic windows must not mix funds between those designated for conventional versus Islamic activities. Most likely, this necessitates separate accounts and tracking. The format of an Islamic window appears to be more viable in non-Muslim countries that tend to have less individual Islamic banks. The rationale is that Islamic financial markets in non-Muslim countries have yet to be saturated, and overhead and infrastructure costs are largely absorbed by the bank, requiring minimal resources for opening an Islamic window.

Upon establishment of a sufficiently large customer base, conventional banks operating Islamic windows may elect to form an Islamic subsidiary or fully convert into an Islamic bank (Sole). While an independent Islamic bank may enjoy more credibility and exhibit a stronger commitment to Shariah, spinning off into an Islamic subsidiary would require more extensive and sustained financing. Furthermore, it faces additional constraints with regard to the nature of funding sources, as some Islamic scholars have questioned the religious legitimacy of Islamic banks whose funds come from conventional banks that engage in operations that may not be Islamically compliant. Another constraint is that standalone Islamic banks would have to comply with additional regulations from agencies such as the Islamic Financial Services Board (IFSB) in addition to the existing BCBS, Basel Committee on Banking Supervision. In the scenario of a full conversion from conventional to Islamic, the conventional bank would have to convert all of its existing products into Sharia-compliant instruments. One such mechanism for conversion is *tawarruq*, which was described previously, that includes a spot-sale in which the new Islamic bank pays off the customer's existing debt and establishes a new loan that is restructured such that it does not include explicit interest but a *murabaha*-like payment plan. This mechanism itself is controversial among Islamic scholars. The decision to convert institutions is a balancing act and would largely depend on the composition of the customer base. Full conversion may confer enhanced credibility among Muslim customers and offer an opportunity to expand Islamic services, whereas retaining a conventional operation in conjunction with an Islamic window or subsidiary allows the institution to continue serving both customer segments.

Due to the controversial nature of insurance in Islam, and the consideration among some Islamic jurists that conventional insurance is prohibited, mortgage insurance becomes problematic (Nayeem). In the case of home mortgages, Freddie Mac and Fannie Mae require a minimum 20% down payment for securitization. Any down payment less than this requires mortgage insurance, and so Islamic banks were initially squeezed between Islamic regulation and affordability to clients – as many could not afford such a down payment. As a result, Islamic lenders have since relaxed their requirements as Guidance Residential and University Islamic Financial both now accept down payments as low as 5%.

Implications of Islamic Finance and Tax Considerations

Since interest payments on homes are usually tax deductible to create incentives and provide tax relief for people purchasing homes, are there any tax benefits for Islamic home loans if no interest is charged? If interest payments are tax deductible, it would be expected that rental payments made by Muslim borrowers also be tax deductible, otherwise they would be more heavily taxed than conventional mortgage payments (Amin). The IRS has yet to make a formal statement regarding tax deductions for Islamic home loans (Jeker). Like other lenders, Islamic banks have to report implied interest rates both to the government and to customers in order to comply with The Truth in Lending Act (Tyndall). Some Islamic banks, such as the former HSBC Mortgage in New York, indicated that home buyers may claim deductions for implied interest payments on tax form 1098. It seems favorable that markup payments for the Islamic bank's profit from the loan can be deducted from the buyer's taxes. This also seems to be supported by the "substance over form doctrine" from the 1935 Supreme court case *Gregory v. Helvering* that allowed the form or structure of a transaction to be ignored in order to focus on its overall economic substance (Amin). While this case initially allowed such consideration only for U.S. government, the 1967 case of *Comm'r v. Danielson* allowed taxpayers to use this doctrine.

The United Kingdom seems to be at the forefront of reforming tax code to accommodate Islamic financial structures as the UK passed a law in 2005 for Murabaha loans in which the extra markup was considered equivalent to interest for tax purposes (Amin). Another tax issue for Islamic home loans is the Stamp Duty Land Tax (SDLT) in the United Kingdom. In the United States the equivalent to SDLT is closing costs (such as title transfer fees, agent and bank fees) (Wei). Since the Islamic bank often buys the property first on behalf of the buyer and then sells it to the buyer, there is an extra transfer that would incur another round of fees (Amin). The United Kingdom passed a law in 2003 that removed the extra fees for Murabaha transactions. It appears that banks in the United States avoid this issue by either directly providing title of ownership to the customer or placing the property in a jointly held trust or LLC.

Islamic banks often benchmark their loan rates and Murabaha markup amounts to market interest rates (Amin). Why is this? Simply put, they need to do this in order to remain competitive with conventional mortgages and prevent arbitrage opportunities that would harm the Islamic finance industry. Arbitrage refers to an arbitrary discrepancy between the cost of comparable products or services in different markets. For example, if there were two exchanges

for buying and selling precious metals such as gold, one with the price at \$1,000 per ounce, and another at only \$900 per ounce, what would stop people from buying it on the cheap exchange and selling it on the more expensive exchange? Similarly, if Islamic banking services were considerably cheaper, people could theoretically borrow cheaply from Islamic banks and lend at higher rates through conventional banks. This would not represent any real economic or productive activity, simply a recycling of funds until one side is depleted. Therefore, there must be parity between exchanges and industries so there is balanced stability. Furthermore, if Islamic mortgages were much more expensive than conventional mortgages, religious prohibition and values alone may not be sufficient to prevent Muslim customers from using cheaper conventional services, especially in circumstances of financial need or difficulty. In such a scenario, the very religious principles that aim to promote equity and fairness would become mechanisms of exploitation.

Despite this attempt at parity, Islamic banks, especially those being established in western nations still may be more expensive than regular banks simply as a result of added infrastructure and administrative costs (Amin). Developing Islamic banks often lack economies of scale and cannot provide services as efficiently as bigger financial institutions. Additionally, Islamic banks often have added expenses as some transactions often require more steps or transfers to achieve the same goal of a simpler loan from a conventional bank. Take for example the tawarruq example previously explained – three transactions were performed to provide cash to the customer and replicate what would otherwise be a single loan transaction from a conventional bank. Finally, Sharia supervisory boards who oversee and validate the Islamic bank's compliance with Sharia Law often require compensation for their services.

Mortgage Tables for Conventional and Islamic Loans

The following are example mortgage schedules for various home loan structures based on 20 year mortgage terms and a fixed conventional interest rate of 5%.

- Conventional fixed rate mortgage
- Murabaha (benchmarked to interest rate)
- Musharaka Mutanaqisa (benchmarked to interest rate),
- True Musharaka Mutanaqisa (LARIBA) model - based on real market home rental rate.

Conventional Fixed Rate Mortgage

Year	Principal remaining (start of year)	Interest Payment (5%)	Payment Towards Equity (Annual)	Total Annual Payment	Total Monthly Payment	Principal remaining (end of year)	Equity of Buyer	Equity of Bank
0	250,000		50,000 (Down Payment)			200,000	20%	80%
1	200,000	10,000	6,049	16,049	1,337	193,951	22%	78%
2	193,951	9,698	6,351	16,049	1,337	187,601	25%	75%
3	187,601	9,380	6,668	16,049	1,337	180,932	28%	72%
4	180,932	9,047	7,002	16,049	1,337	173,930	30%	70%
5	173,930	8,697	7,352	16,049	1,337	166,578	33%	67%
6	166,578	8,329	7,720	16,049	1,337	158,858	36%	64%
7	158,858	7,943	8,106	16,049	1,337	150,753	40%	60%
8	150,753	7,538	8,511	16,049	1,337	142,242	43%	57%
9	142,242	7,112	8,936	16,049	1,337	133,306	47%	53%
10	133,306	6,665	9,383	16,049	1,337	123,922	50%	50%
11	123,922	6,196	9,852	16,049	1,337	114,070	54%	46%
12	114,070	5,703	10,345	16,049	1,337	103,725	59%	41%
13	103,725	5,186	10,862	16,049	1,337	92,863	63%	37%
14	92,863	4,643	11,405	16,049	1,337	81,457	67%	33%
15	81,457	4,073	11,976	16,049	1,337	69,482	72%	28%
16	69,482	3,474	12,574	16,049	1,337	56,907	77%	23%
17	56,907	2,845	13,203	16,049	1,337	43,704	83%	17%
18	43,704	2,185	13,863	16,049	1,337	29,841	88%	12%
19	29,841	1,492	14,556	16,049	1,337	15,284	94%	6%
20	15,284	764	15,284	16,049	1,337	0	100%	0%
		Total Interest	Total Equity Payment	Total Paid				
		\$120,970	\$250,000	\$370,970				

Conventional Fixed Rate Mortgage

Home Purchase Price	\$250,000
Down Payment (20%)	\$50,000
Loan Amount	\$200,000
Term	20 years
Annual Interest Rate	5%
Compound Period	Annual
Total Interest Paid	\$120,970
Total Equity Payment	\$250,000
Total Cost of Home	\$370,970

Murabaha (Mark-up) Benchmarked to Interest Rate

Year	Principal remaining (start of year)	Interest Payment	Payment Towards Equity (Annual)	Total Annual Payment	Total Monthly Payment	Principal remaining (end of year)	Equity of Buyer	Equity of Bank
0	370,970		50,000 (Down Payment)			320,970	13%	87%
1	320,970	0	16,049	16,049	1,337	304,922	18%	82%
2	304,922	0	16,049	16,049	1,337	288,873	22%	78%
3	288,873	0	16,049	16,049	1,337	272,825	26%	74%
4	272,825	0	16,049	16,049	1,337	256,776	31%	69%
5	256,776	0	16,049	16,049	1,337	240,728	35%	65%
6	240,728	0	16,049	16,049	1,337	224,679	39%	61%
7	224,679	0	16,049	16,049	1,337	208,631	44%	56%
8	208,631	0	16,049	16,049	1,337	192,582	48%	52%
9	192,582	0	16,049	16,049	1,337	176,534	52%	48%
10	176,534	0	16,049	16,049	1,337	160,485	57%	43%
11	160,485	0	16,049	16,049	1,337	144,437	61%	39%
12	144,437	0	16,049	16,049	1,337	128,388	65%	35%
13	128,388	0	16,049	16,049	1,337	112,340	70%	30%
14	112,340	0	16,049	16,049	1,337	96,291	74%	26%
15	96,291	0	16,049	16,049	1,337	80,243	78%	22%
16	80,243	0	16,049	16,049	1,337	64,194	83%	17%
17	64,194	0	16,049	16,049	1,337	48,145	87%	13%
18	48,145	0	16,049	16,049	1,337	32,097	91%	9%
19	32,097	0	16,049	16,049	1,337	16,048	96%	4%
20	16,048	0	16,049	16,049	1,337	0	100%	0%
		Markup	Total Equity Payment	Total Paid				
		\$120,970	\$370,970	\$370,970				

Murabaha (Mark-up)	
Bank's Purchase Price	\$250,000
Markup	\$120,970
Borrower's Purchase Price after Markup	\$370,970
Down Payment (20% of initial purchase price)	\$50,000
Loan Amount	\$320,970
Term	20 years
Total Interest Paid	\$0
Total Markup Paid	\$120,970
Total Equity Payment	\$250,000
Total Cost of Home	\$370,970
Cost Compared to Fixed Rate Mortgage	Same

Musharaka Mutanaqisa (Diminishing Partnership) Benchmarked to Interest Rate

Year	Principal remaining (start of year)	Yearly Rent	Monthly Rent	Payment Towards Equity (Annual)	Total Annual Payment	Total Monthly Payment	Principal remaining (end of year)	Equity of Buyer	Equity of Bank
0	250,000		1,042 (Assigned)	50,000 (Down Payment)			200,000	20%	80%
1	200,000	10,000	833	6,049	16,049	1,337	193,951	22%	78%
2	193,951	9,698	808	6,351	16,049	1,337	187,601	25%	75%
3	187,601	9,380	782	6,668	16,049	1,337	180,932	28%	72%
4	180,932	9,047	754	7,002	16,049	1,337	173,930	30%	70%
5	173,930	8,697	725	7,352	16,049	1,337	166,578	33%	67%
6	166,578	8,329	694	7,720	16,049	1,337	158,858	36%	64%
7	158,858	7,943	662	8,106	16,049	1,337	150,753	40%	60%
8	150,753	7,538	628	8,511	16,049	1,337	142,242	43%	57%
9	142,242	7,112	593	8,936	16,049	1,337	133,306	47%	53%
10	133,306	6,665	555	9,383	16,049	1,337	123,922	50%	50%
11	123,922	6,196	516	9,852	16,049	1,337	114,070	54%	46%
12	114,070	5,703	475	10,345	16,049	1,337	103,725	59%	41%
13	103,725	5,186	432	10,862	16,049	1,337	92,863	63%	37%
14	92,863	4,643	387	11,405	16,049	1,337	81,457	67%	33%
15	81,457	4,073	339	11,976	16,049	1,337	69,482	72%	28%
16	69,482	3,474	290	12,574	16,049	1,337	56,907	77%	23%
17	56,907	2,845	237	13,203	16,049	1,337	43,704	83%	17%
18	43,704	2,185	182	13,863	16,049	1,337	29,841	88%	12%
19	29,841	1,492	124	14,556	16,049	1,337	15,284	94%	6%
20	15,284	764	64	15,284	16,049	1,337	0	100%	0%
		Total "Rent"		Total Equity Payment	Total Paid				
		\$120,970		\$370,970	\$370,970				

Musharaka Mutanaqisa (Diminishing Partnership)	
Home Purchase Price	\$250,000
Down Payment (20%)	\$50,000
Term	20 years
Assigned Monthly Rent	1,041.67
Total Interest Paid	\$0
Total "Rent" Paid	\$120,970
Total Equity Payment	\$250,000
Total Cost of Home	\$370,970
Cost Compared to Fixed Rate Mortgage	Same

LARIBA – True Musharaka Mutanaqisa (Diminishing Partnership)

Year	Principal remaining (start of year)	Yearly Rent	Monthly Rent	Payment Towards Equity (Annual)	Total Annual Payment	Total Monthly Payment	Principal remaining (end of year)	Equity of Buyer	Equity of Bank
0	250,000		1,650 (market)	50,000 (Down)			200,000	20%	80%
1	200,000	15,840	1,320	6,049	19,581	1,632	193,951	22%	78%
2	193,951	15,361	1,280	6,351	19,581	1,632	187,601	25%	75%
3	187,601	14,858	1,238	6,668	19,581	1,632	180,932	28%	72%
4	180,932	14,330	1,194	7,002	19,581	1,632	173,930	30%	70%
5	173,930	13,775	1,148	7,352	19,581	1,632	166,578	33%	67%
6	166,578	13,193	1,099	7,720	19,581	1,632	158,858	36%	64%
7	158,858	12,582	1,048	8,106	19,581	1,632	150,753	40%	60%
8	150,753	11,940	995	8,511	19,581	1,632	142,242	43%	57%
9	142,242	11,266	939	8,936	19,581	1,632	133,306	47%	53%
10	133,306	10,558	880	9,383	19,581	1,632	123,922	50%	50%
11	123,922	9,815	818	9,852	19,581	1,632	114,070	54%	46%
12	114,070	9,034	753	10,345	19,581	1,632	103,725	59%	41%
13	103,725	8,215	685	10,862	19,581	1,632	92,863	63%	37%
14	92,863	7,355	613	11,405	19,581	1,632	81,457	67%	33%
15	81,457	6,451	538	11,976	19,581	1,632	69,482	72%	28%
16	69,482	5,503	459	12,574	19,581	1,632	56,907	77%	23%
17	56,907	4,507	376	13,203	19,581	1,632	43,704	83%	17%
18	43,704	3,461	288	13,863	19,581	1,632	29,841	88%	12%
19	29,841	2,363	197	14,556	19,581	1,632	15,284	94%	6%
20	15,284	1,211	101	15,284	19,581	1,632	0	100%	0%
		Total Rent		Total Equity Payment	Total Paid				
		\$191,617		\$250,000	\$441,617				

LARIBA – True Musharaka Mutanaqisa	
Home Purchase Price	\$250,000
Down Payment (20%)	\$50,000
Term	20 years
True Monthly Rent	\$1,650
Total Interest Paid	\$0
Total Rent Paid	\$191,617
Total Equity Payment	\$250,000
Total Cost of Home	\$441,617
Cost Compared to Fixed Rate Mortgage	+ \$70,647 (19% more expensive)

While conventional mortgages are typically not defined in terms of relative equity of the buyer and the bank, it can be considered to mirror the ratio of principle to debt. Therefore, implied equity ratios in a conventional mortgage are included for comparison purposes with Islamic structures. These mortgage tables are especially helpful in objectively comparing the economic substance of Islamic loans. As previously explained, since they are often benchmarked to market interest rates for competitiveness and to prevent arbitrage, the overall costs of conventional and Islamic loans often end up being identical. This was the case for the two Islamic loan structures of Murabaha and Musharaka Mutanaqisa when they were benchmarked to interest rates. In the Murabaha, the markup amount is effectively mirroring the amount that would otherwise be paid in interest payments in a conventional loan. Similarly, in Musharaka Mutanaqisa, an implied rent amount is assigned that equals the amount that would otherwise be paid in interest during the duration of the loan.

It is important to note that extra bank fees and other service charges were not considered in these mortgage schedules as fees often fluctuate considerably between loan providers. Islamic loans, while often structured to be economically equivalent to conventional loans, may still end up being more expensive if Islamic loan providers feature higher fees than conventional banks due to potentially higher management and operation costs.

Notably, LARIBA's true Musharaka Mutanaqisa was considerably more expensive than both conventional mortgages and Islamic loans that were benchmarked to interest rates. This is because LARIBA's approach is to obtain real market rental rates for the home being bought (LARIBA-Model). They state that they use a total of six estimates from comparable properties – three from the homebuyer and three from LARIBA to determine the home's rental market rate. Since rental rates fluctuates considerably based on location and economic conditions, this method may sometimes disadvantage the bank or the homebuyer depending on whether the market rent is relatively high or low. LARIBA does state that they may decline a loan in which the home yields insufficient rental income to justify the bank's participation. The mortgage table for LARIBA's loan structure used the median monthly rental price of \$1,650 for a home in the United States. Since this real rental rate was considerably higher than the assigned rental rate of \$1,042 in the interest-benchmarked Musharaka Mutanaqisa, LARIBA's model appears to be much more expensive, although is more reflective of actual equity and rental market conditions.

Philosophical Considerations of Interest

Many countries, to this day, have retained laws against predatory loans featuring excessive interest (Mews and Abraham). In the United States, where almost every state still has usury laws, mounting pressure from banks to abandon the laws has led to loopholes for avoiding them. Usury laws, while seemingly archaic, are mostly relevant for credit card companies. For example, Citibank moved its credit card division from New York to South Dakota in 1981, prompting other credit card companies to relocate to similar liberal environments in Delaware (Gale). Furthermore, the use of credit cards and bank loans has sunk the poor and middle class into growing debts, while at the federal level, the United States administration is building a “high-debt, low-savings economy” creating economic fragility (Mews and Abraham). Religious concern with usury has sparked the establishment of modern Islamic finance systems that are challenging the existing standardized banking systems and resurfacing debates about the foundational principles of financial ethics.

The philosophical consideration in Aristotle’s “Politics”, of usury as “the worst kind of exchange” encapsulates the premise of Islam’s religious prohibition of interest because money, “intended to be used for exchange of goods” becomes “an end in itself” according to Aristotle. When money becomes a commodity the mere condition of possessing it guarantees further prosperity, requiring no input of effort or taking of risk, and acts to widely stratify society, creating a gap that is virtually unbridgeable. This sedentary and passive enrichment through interest cultivates an atmosphere of greed and laziness as easy money can be earned where capitalists advance surplus funds on interest while “doing nothing in concrete” (Farooq). As a result, the wealthy lenders – whether they be individuals or institutions tend to be rather withdrawn and indifferent to whether the loan bearers make profit or loss because of the disproportionate burden on the borrower.

Furthermore, the entire system becomes very impersonal and lenders lose their human connection as they lose sight and value for “the needs of their fellow citizens” (Farooq). This attitude and practice not only oppresses the borrowers but inhibits economic development because the lenders seek mainly to expand their own riches through lower risk loans such that individualism takes priority and society suffers from a lack of investment. This becomes detrimental to the growth of the economy as the best interest of the country’s prosperity is ignored. This trend can be seen to occur as the banking scale enlarges and can be extended to an

international scale in which “one nation finds its benefits from the needs and miseries of the other”.

As previously explained, in Islamic lending, the earnings of Islamic banks come from investment profit, and service and consulting fees instead of interest (Ahmad, Kashif-Ur-Rehman, and Humayoun). Additionally, there is a basis on equity rather than debt lending so that interest is avoided and risk is shared more equitably between parties instead of being transferred to other institutions. This way the transaction is treated more as an investment where the lender and borrower share profits and losses instead of snowballing the loans and interest rates during payment default which can almost irreversibly cripple the borrower financially.

In examining the Islamic roots of risk, “the term ‘risk’ comes from an Arabic word, ‘rizq’ used in the Qur’an (29:7): ‘seek your reward from God’, from which it may also have come to mean ‘good fortune’” (Mews and Abraham). This terminology characterizes a venture whose outcome cannot be guaranteed; it would be unfair to shift the risk more heavily towards one party as there are many factors, beyond the control of either party that could influence the outcome. In the Islamic system, the risk taken by both parties, but particularly by the lender justifies the possible benefits of which both parties partake in the case of a joint venture that would yield a return. In the case of a loan for something such as a car purchase or personal home that lacks the ability to generate profitable returns, there is no benefit to the lender and so compensation would come from the service charges necessary to operate the Islamic institution. This sharing of risk, in light of historical prohibitions on interest, “served to promote ‘venture capital’ lending on the expectation of a return on investment”. Additionally, sharing of risk in lending would discourage the traditionally safer practice of lending solely as means to earn more money, while promoting investment in other economic sectors as preferable for the collective prosperity of the economy.

Legitimacy of Interest

In defense of interest, it is arguably the basis of many economies and the backbone of the global finance structure. It is the mechanism that allows individuals or entities to temporarily borrow the funds necessary to finance their personal or business affairs such as purchasing a car or home, paying for emergency expenses, or launching a business venture. Without it there would seemingly be no incentive – besides altruism and charity – for money holders to lend their

money and thus there would be no available funds to be borrowed, resulting in economic decline as less funds are circulated to purchase goods and services and create jobs and other opportunities.

A benefit that interest provides through enabling loans, is that a borrower could invest funds earlier than otherwise possible because they don't have to save the full value required as this would be impractical, requiring many years or even a lifetime. This necessitates a financing method that caters to both the lender and borrower – of which the current western structure seemingly suffices. The justification of an interest rate for financing a product or service is valid on the same basis to that of lending of money. Interest also compensates for the time during which the selling party must wait in order to receive full payment. If someone buys a car or house and only pays for part of it in cash in the form of a down payment and the rest is financed, the seller is only getting part of the value of the product while the buyer is receiving full ownership and usage rights without paying the full price immediately. It is arguably fair to the seller that they get a total amount at the end of the period that is larger than the principal because they lost the timely opportunity to invest those funds to generate profit.

A major premise about the legitimacy of interest is that the lender would and should naturally expect some compensation for lending their money because of the inherent risk of lending. The argument is that if there is no benefit to the lender, the lender has absolutely no inclination to risk losing their money – other than altruism – when they could instead safeguard it or invest it. Furthermore, because the money is unavailable to the lender during the duration of the loan, the lender would be losing the opportunity of investing their money and gaining profitable returns during that period. Adam Smith, who condemned usury but advocated for the legal regulation of interest rates, argued in “The Wealth of Nations” in 1776, that if interest rates were not sufficient to compensate for losses associated with lending, “charity or friendship could be the only motives for lending” (Mews and Abraham). In this scenario, charity and friendship would likely operate on a very occasional and small, local scale that is nowhere near sufficient to meet the demands of societal finance. For banking institutions that service the public and various organized entities through lending, there would have to be a source of income to cover the administrative and various other costs associated with maintaining the operation of such an establishment – such as paying for the building and its employees. It seems justified that money

would be incurred from interest in order to pay for these expenses that enable the transactional loan to occur in the first place.

Umar Chapra, an economist at the Islamic Development Bank in Saudi Arabia provides a compelling reasoning for the validity of the fluctuating nature of the interest rate by his argument that interest rates, if market determined, are high or low depending on 3 factors: 1) the supply and demand of loanable funds, 2) the degree of risk involved, and 3) the rate of inflation (Farooq). The argument follows that “if interest is accepted then its market determined rate must also be accepted irrespective of whether it is high or low.” And thus, according to Chapra, “usury cannot be condemned.” On this basis, establishing usury laws that place a limit on interest is considered arbitrary because interest cannot be intentionally exploitative if it is simply a real reflection of its market value.

Interest can also function as a powerful tool to generate wealth through saving and strategic investing through applying concepts of simple interest, compound interest, and leveraging. Given enough time, wealth can be passively grown into massively large riches, especially when compounded. Albert Einstein is known to have praised compound interest, claiming it to be “the strongest force in the universe” and “the eighth wonder of the world” which he follows by saying “He who understands it, earns it...he who doesn’t...pays it” (Kennon). Compound interest is a phenomenon in which interest income is earned on the principle, as well as previously earned interest income and thus a sum of money grows at a continuously increasing rate. This depends on the rate of return, the length of time money is allowed to compound, the tax rate, and the timing of the tax as it is advantageous to pay taxes at the end of the entire compounding period rather than annually (Kennon). As Kennon explains, “the concept of compound interest is the foundation of the time value of money, which states that the value of money changes to a person depending on when it is received”. This theme of the time value of money reinforces the previous theme mentioned supporting the legitimacy of the interest mechanism. The earlier an asset is held the more options it provides as “earning \$100 today is preferable to earning \$100 several years from now because if you have it in your hand immediately, you can invest it to generate dividends and interest income, you can spend it on things you want, you can pay down your debt to lower your interest expense, or you can give it to charity. By postponing the receipt of the \$100, you are losing something economists call opportunity costs”. In response to the critique that this is a “greedy and lazy” way of making

money, it can be considered to reflect and reward the fiscal knowledge and understanding of how to use this tool. Because it is advantageous to earn money earlier and invest it earlier, application of this form of money making also reflects the initial hard work and discipline required to forge such an opportunity. The inherent basis of exerting large effort in the present is to create more favorable conditions in the future. Hardship and struggle now can provide ease and luxury later.

Another strategy that employs interest is described by two professors of Agricultural Economics that explain leverage and its relevance to a feed and grain firm. Leverage is “the measure of debt (borrowed dollars) to equity (dollars the owners have invested in the business)” and refers to a “technique used to multiply gains (and unfortunately losses, if they occur)” (Wilson, Christine). This strategy allows an owner to potentially significantly increase their return on investment by using borrowed money. In reference to a company utilizing leverage, “the more it borrows, the less equity capital it needs, so profits are shared among a smaller base and are proportionally larger relative to base equity”. Benefits of leveraging include increasing returns while not sacrificing equity, and potential costs include interest payments which may draw funds from available cash flow to reinvest into the business, decline of credit standing which may inhibit future financing, and payment default leading to bankruptcy.

Another investment strategy that optimizes the use of interest is through structuring a loan as “interest-only” as opposed to “principal and interest” (Wilson, Paul). By utilizing an interest-only loan, buyers and investors can enter an endeavor sooner than they otherwise would because less money is initially required, hence the lack of a down payment towards equity. This also means that more money would be available throughout the venture to pay down the loan or even leverage into more investments. This strategy also features tax benefits as interest payments are tax deductible while principal payments are not. Although this method features high risk, the underlying strategy is to “hold an asset for the least amount of expense in order to achieve the maximum amount of reward”, exemplifying how interest can be effectively employed.

Data Review

Review of Existing Data on Muslim Banking Behavior

Conventional Bank Usage, Saving Behavior, and Barriers to Access

According to data from 2011 from the World Bank's Global Findex and Gallup World Poll databases capturing 75% of the global adult Muslim population, Muslims had significantly lower rates of bank account usage than non-Muslims (Demirguc-Kunt, et al). Muslims had a 6% decrease in formal account ownership compared to non-Muslims. Formal accounts refer to accounts at institutions such as banks and credit unions. This religion based discrepancy was larger than the gap between men and women and comparable to the gap between the first and third income quintiles. Globally, only 7% of unbanked Muslims and non-Muslims cited religion as a barrier to bank account usage. Among Muslims and non-Muslims alike, religion actually represented the smallest barrier, as respondents more frequently attributed barriers of account ownership to cost, distance, and insufficient documentation rather than religion (World Bank2-unbanked).

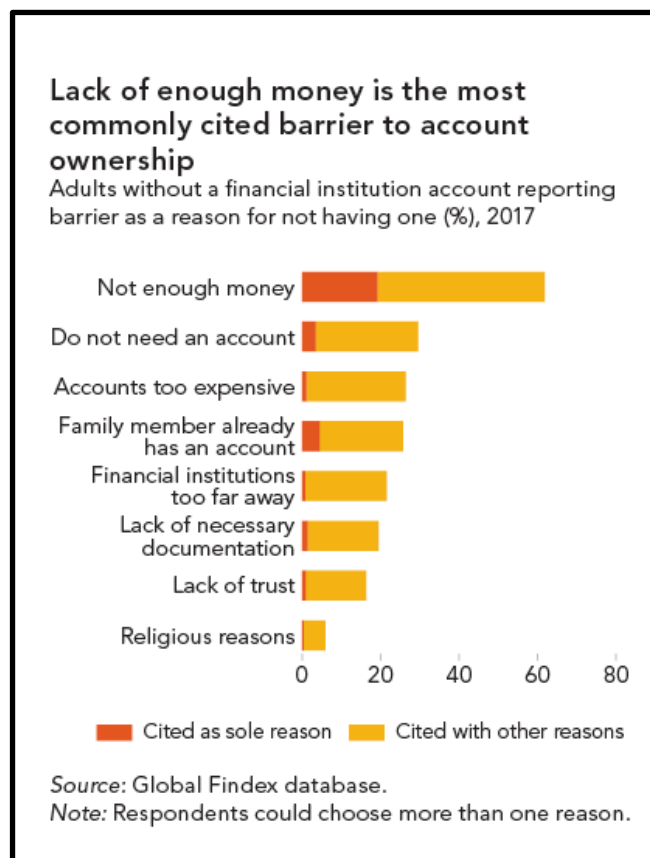


Figure 5. Global barriers to bank account ownership from the World Bank's 2017 Global Findex database. (World Bank2-unbanked)

Notably, citing religion as the deterrent for account ownership was more common among unbanked Muslims than non-Muslims, suggesting that this may be partly explained by deficiencies in the supply of Islamic financing products (Demirguc-Kunt, et al). This was not a global trend, but was more common in Sub-Saharan Africa. Citing religion also did not show a big difference based on income, again indicating supply limitations. The study also found that a country's Muslim composition did not impact or explain gaps in formal account usage. The hypothetical rationale was that countries with larger population proportions of Muslims may have more developed Islamic banking sectors and thus higher rates of formal account usage, assuming that religious concerns were critical in making banking decisions.

This study found that the religiosity of respondents was not significant in explaining financial behavior. This was contradicted by another study in which degree of religiosity was shown to significantly impact Muslims' intentions to purchase Islamic Finance Products (Sharma et al). However, that study did not go as far as to connect buying intention with actual buying behavior.

It is important to note that this study did not differentiate between conventional and Islamic financial products due to a lack of specificity in the dataset (Demirguc-Kunt, et al). This study reported that there was no gap in borrowing behavior between Muslims & non-Muslims (Demirguc-Kunt, et al). Some possible explanations are that either demand for loans is high enough that Muslims use conventional financing by circumstance or that Islamic financing has achieved sufficient penetrance to be a widely available option. However, the latter option is unlikely given the relatively low prevalence of Islamic financing and Muslims' low usage rates of Islamic banks. Another explanation is that Islamic microfinance institutions (MFIs) cannot accept deposits and only deal in credit. The first explanation seems more probable, indicating that Muslims may be willing to compromise to obtain conventional loans during situations of high urgency such as emergencies or for important investments such as education, whereas conventional accounts for general banking or saving may not be as critical.

Muslims showed a significantly lower rate of formal saving behavior (9% Muslims vs 18% non-Muslims) but no significant difference in general saving behavior (Demirguc-Kunt, et

al). Although Muslims generally had significantly lower levels of education, employment, and internet access at the global level compared to non-Muslims, the study shows that the differences in account ownership and formal saving persist even after controlling for these demographics. So among Muslims, why do such a larger proportion save outside of formal accounts? The gaps between Muslims and non-Muslims in formal account ownership suggests that a lack of formal saving is connected to a lack of formal account usage and potential religious reservations among Muslims. This shows that despite comparable levels of saving habits, Muslims were more reluctant to entrust their savings to a bank. Among Muslims, education, income, gender and rural populations did not significantly differ in their account ownership, credit usage, or formal saving behavior, indicating uniformity that may possibly strengthen religion based differences with non-Muslims.

Islamic Bank Awareness, Preference, and Usage

Using a separate data set from Gallup and the World Bank, the study also investigated awareness and preference for Islamic financing in the countries of Algeria, Egypt, Morocco, Tunisia, and Yemen (Demirguc-Kunt, et al). Compared to the global 7% of unbanked who cited religion as a barrier to account ownership, a similar 6% cited it as a barrier in this second dataset. In these 5 countries, 48% of respondents had heard of Islamic banks. Awareness of Islamic banks was positively correlated with education, wealth, and being married and employed as well as access to television and internet. Middle-aged adults exhibited the highest awareness out of other age groups. Only 2% of adults reported using Islamic banking and this rate did not exceed 3% in any of the 5 countries. Out of those who had a formal account, only 8% used an Islamic banking service. This low Islamic banking rate is surprising given that 45% of adults claimed to prefer a more expensive Islamic banking service over a cheaper conventional service. This appears to contradict a claim in a different study that investigated religiosity that intention would manifest into action (Sharma, et al). Among respondents, 27% preferred the cheaper conventional loan, indicating that cost could be a significant concern, or potential deterrent for seeking Islamic loans; 10% had no preference (Demirguc-Kunt, et al). In these countries, Islamic banking assets represented only 10% of total banking assets on average, compared to government and foreign banking assets, each with 37%. It is unclear from the study what

comprised the remaining 16%. Income levels did not affect preference for Islamic loans, but men significantly favored the Islamic loan compared to women (48% vs 43%).

Income was significantly positively correlated with using Islamic banking, perhaps as a result of education and awareness or ability to afford potentially higher rates (Demirguc-Kunt, et al). Similarly to awareness, internet and television access also increased Islamic banking usage. Interestingly, account ownership was negatively correlated to Islamic banking preference. Among the 5 countries in the second dataset, respondents in Algeria and Morocco had the highest preference for Islamic loans. One paradox reported was that while Algeria had the lowest awareness of Islamic finance, they also reported the highest usage of Islamic financing. More generally, however, those who were aware of Islamic banking or had already used such services were more likely to prefer an Islamic loan, indicating the important influence of education and suggesting some degree of satisfaction among Islamic finance users.

Impact of Religiosity on IFP Buying Intention

According to other past studies, religion is the main reason for choosing Islamic banks in Muslim majority countries such as Saudi Arabia, Egypt, and Kuwait (Sharma, et al). But since not all Muslims have the same level of adherence or commitment, how could the degree of religious strictness affect Islamic bank usage? A study examining the religiosity of Muslim respondents based on data collected on Muslims in Bangladesh explains that affiliation alone does not influence behavior as much as religiosity does. Religiosity refers to a person's degree of commitment and adherence to a religion's teachings. More religious individuals are likely to have stronger attitudes about Islamic principles and are thus more likely to follow Sharia. The study found that religiosity increases with higher buying intention of Islamic Financial Products (IFPs). The study mentions the Theory of Reasoned Action which explains that higher religiosity strengthens attitudes which increases the intention to buy IFPs. As a result, this would be expected to increase purchase rates as explained by the Theory of Planned Behavior which links attitude with behavior. However, this study is deficient in actually predicting behavior as actual purchase rates were not measured, only the intention to purchase.

Other insights from this study come from examining the impact of generational cohorts on IFP purchasing behavior. This is relevant as different generational cohorts often have different attitudes and values due to varying social and political environments during their

teenage and early adult years. Generational cohorts are considered to be a form of “macro-level socialization” while religiosity is a form of “micro-level socialization.” Despite mixed results, the study claims that older and middle generations are more religious than younger generations (GenY), a difference attributable to the secularization hypothesis based on economic growth and increasing education levels. This was ratified among GenS and GenT generational cohorts in the study as marital status and higher education levels decreased intention of purchasing IFPs, but reversed for GenY. Given the mixed results among generations and apparently declining religiosity levels among newer generations, the study made some recommendations about how aspects of religiosity could be leveraged in marketing efforts for IFPs. Due to considerable ambiguity, these results will not be explained here.

Data Collection Methods

Economic Crisis Data on Islamic Mortgages

1. Internet and scholarly database searches were conducted in an attempt to locate and compare data on default rates for Conventional and Islamic single family home loans within the United States.
2. The Fannie Mae and Freddie Mac Single Family Loan Datasets were examined.
3. Freddie Mac was contacted by phone and email in order to request more specific data.
4. Guidance Residential, LLC was contacted by phone and email in an attempt to obtain data directly from the originator as they are a leading provider of Islamic home loans.

Survey Procedure

1. This research survey was administered online through Qualtrics throughout the United States. Specifically, distribution was targeted towards Muslim communities and Islamic Centers in order to maximize reach to Muslims. The college demographic is also of interest as the majority of attendees are young adults still forming their beliefs and beginning to engage in finance. The college demographic should also include a higher density of Muslims than other areas due to its international community.
2. Survey link was posted on various facebook groups and distributed through mailing lists.
3. Respondents navigated via link to go to the survey.
4. A live preview is available [HERE](#) or at www.Tinyurl.com/SurveyIF.

5. Respondents were presented with survey description & consent information.
6. Respondents completed the survey – either by participating or declining to participate.
7. Survey included some skip/display pattern logic:
 - a. Declining participation took respondent to end of survey for raffle option.
 - b. Respondents who selected “student” were asked for current year in school and specific questions about financial attitudes and behaviors regarding saving and investing.
 - c. Respondents who selected “Islam” as their religion were asked additional questions about their financial understandings, attitudes, and behaviors.
8. At the end of the survey, respondents had the option of navigating to another form to claim their coupons, enter into the prize raffle, or request a digital copy of the finished Thesis.
 - a. A live preview is available [HERE](#) or at www.Tinyurl.com/SurveyIFRaffle.
9. To fulfill the IRB requirement of providing baseline compensation to all respondents, all respondents who claimed their credit were sent digital \$1.00 coupons to Fred Meyer stores on May 11, 2018.
10. For the prize raffle, a winner was randomly chosen using a random number generator and sent a digital \$25 Amazon Gift Card on May 11, 2018.

Survey Data Analysis Procedure

1. Data was analyzed via Qualtrics, Excel, and MiniTab to determine the following:
 - a. Proportion of Muslim respondents aware of Islamic financial regulations
 - b. Muslim opinion on such regulations
 - c. Conventional bank account usage rates of Muslims vs non-Muslims & reasons for any discrepancy.
 - d. Awareness of Islamic Banks in the United States and Islamic financial services
 - e. Islamic bank account usage rates of Muslims & reasons for not using Islamic financial services
 - f. Usage rates of various Islamic financial products
 - g. Muslim preference for conventional versus Islamic financial services
 - h. Respondents’ saving and investing habits and underlying reasons
 - i. The biggest barriers to saving/investing money for respondents



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Date of Notification	04/11/2018		
Notification Type	Approval Notice		
Submission Type	Initial Application	Study Number	8494
Principal Investigator	Prem Mathew		
Study Team Members	Ibrahim Moussaoui		
Study Title	Muslim & Non-Muslim Understandings, Attitudes, and Behavior Regarding Islamic & Conventional Finance		
Review Level	FLEX		
Waiver(s)	Documentation of Informed Consent		
Risk Level for Adults	Minimal Risk		
Risk Level for Children	Study does not involve children		
Funding Source	Internal - Personal Funds	Cayuse Number	N/A

APPROVAL DATE: 04/09/2018

EXPIRATION DATE: 04/08/2023

A new application will be required in order to extend the study beyond this expiration date.

Figure 6. Approval notice from Oregon State University's IRB office for the following research study conducted through online surveys.

Facebook Group or Page	State / Region	Post Status
So Cal Muslims	California	Sent Message
New Medinah Islamic Community	Mississippi	Sent Message
Islamic Seekers Of Knowledge	General	Sent Message
CAIR Florida	Florida	Sent Message
UTS Muslim Society	Australia	Posted by mistake
uSa Muslims	USA	Posted
Tucson Muslims	Arizona	Posted
Trenton People (New Jersey)	New Jersey	Posted
The Real People of Piedmont, Alabama	Alabama	Posted
Texas Muslims Group (TMG)	Texas	Posted
Texas Muslims	Texas	Posted

<u>Texas MSA - Muslim Students' Association</u>	Texas	Posted
<u>South Florida Muslims</u>	Florida	Posted
<u>South California Muslims</u>	California	Posted
<u>Sitka, Alaska People</u>	Alaska	Posted
<u>San Diego Muslims</u>	California	Posted
<u>People of San Jose</u>	California	Posted
<u>People of NW Austin and Cedar Park</u>	Texas	Posted
<u>People of Jacksonville, Florida</u>	Florida	Posted
<u>People of Elgin, TX</u>	Texas	Posted
<u>People Of Chicago</u>	Illinois	Posted
<u>Oregon People Places and Things</u>	Oregon	Posted
<u>New Mexico Muslim Community Forum</u>	New Mexico	Posted
<u>Muslims of Greater Houston</u>	Texas	Posted
<u>Muslims of Georgia - USA</u>	Georgia	Posted
<u>Muslims in Hawaii</u>	Hawaii	Posted
<u>Muslims in Bellingham,WA</u>	Washington	Posted
<u>Muslim Students Association (MSA) at Michigan Tech</u>	Michigan	Posted
<u>Muslim Students Association (MSA) - University of Arizona</u>	Arizona	Posted
<u>Muslim Community in Merced , CA</u>	California	Posted
<u>Muslim Communities in the USA</u>	USA	Posted
<u>Muslim America</u>	USA	Posted
<u>Montana-Wyoming Muslim Community</u>	Montana, Wyoming	Posted
<u>MMCC - Michigan Muslim Community Council</u>	Michigan	Posted
<u>Midwest Area Muslims of Illinois, Wisconsin, Indiana, Michigan and Missouri</u>	Region: Midwest	Posted
<u>Michigan Muslims</u>	Michigan	Posted
<u>Maryland Muslim Council</u>	Maryland	Posted
<u>Islamic Society of New Hampshire (ISNH)</u>	New Hampshire	Posted
<u>Islamic Society of Boston Cultural Center (ISBCC)</u>	Boston	Posted
<u>Islamic Community of Moscow, Idaho</u>	Idaho	Posted
<u>Islamic Center of Omaha (ICO)</u>	Nebraska	Posted
<u>Islamic Center of Boise</u>	Idaho	Posted

<u>Islamic Center Of America</u>	USA	Posted
<u>ISLAM in America</u>	USA	Posted
<u>ISLAM In America</u>	USA	Posted
<u>ICCA (ISLAMIC COMMUNITY CENTER OF ALASKA, ANCHORAGE)</u>	Alaska	Posted
<u>Georgia Tech Muslim Community</u>	Georgia	Posted
<u>DMV- Washington DC, Maryland, & Virginia Area Muslims</u>	DC, Maryland, Virginia	Posted
<u>Corvallis People</u>	Oregon	Posted
<u>Connecticut Muslims</u>	Connecticut	Posted
<u>Colorado Muslims</u>	Colorado	Posted
<u>California Muslims Meet-up Group</u>	California	Posted
<u>Birmingham Muslims Noticeboard</u>	Alabama	Posted
<u>American Muslims via Facebook</u>	USA	Posted
<u>American Muslims United</u>	USA	Posted
<u>American Muslims Group</u>	USA	Posted
<u>American Muslims</u>	USA	Posted
<u>American Muslims</u>	USA	Posted
<u>American Muslim</u>	USA	Posted
<u>MUSLIMS of South Florida</u>	Florida	Pending Approval
<u>Muslims of Rolla Missouri USA</u>	Missouri	Pending Approval
<u>Muslim Student Association-University of Arkansas at Little Rock Chapter</u>	Arkansas	Pending Approval
<u>Muslim in Florida USA / Musulmanes en Florida USA</u>	Florida	Pending Approval
<u>Islamic General Knowledge</u>	General	Pending Approval
<u>Islamic Center Of South Florida Group</u>	Florida	Pending Approval
<u>Islamic Center of Pennsylvania & AlHikmeh Institute</u>	Pennsylvania	Pending Approval
<u>Islam: A conversation</u>	General	Pending Approval
<u>IRHSCA (Islamic Research and Humanitarian Service Center of America)</u>	USA	Pending Approval
<u>Iowa State University Muslim Student Association (MSA)</u>	Iowa	Pending Approval
<u>Brown Muslim Students Association</u>	Rhode Island	Forwarded in Mailing List

Figure 7. Table of Facebook groups, pages, and organizations contacted for survey distribution.

Islamic Centers & Organizations		
Name of Center	Contact Type	Action
Oregon		
<u>Islamic Center of Portland</u>	Emailed	No Response
<u>Bilal Masjid</u>	Emailed	No Response
<u>Muslim Educational Trust</u>	Emailed, Called	Distributed in mailing list.
<u>Salem Islamic Center</u>	Emailed	No Response
<u>Eugene Masjid (Abu-Bakr As-Siddiq Islamic Center)</u>	Emailed	No Response
<u>Masjid An-Noor Islamic Center</u>	Emailed	No Response
<u>Ettihad Cultural Center, Oregon State University</u>	In-person	Distributed in mailing list.
California		
<u>DarulFalah Islamic Center</u>	Website Form, Left Voicemail	No Response
<u>Islamic Center of Reseda</u>	Facebook Message, Left Voicemail	No Response
<u>Islamic Center of Hawthorne</u>	Emailed	No Response
<u>Islamic Center of San Gabriel Valley</u>	Emailed, Called	No Action
<u>Institute of Knowledge</u>	Emailed	No Response
<u>Islamic Center of Alameda</u>	Emailed, Called	No Response
<u>Lighthouse Mosque</u>	Emailed	No Response
<u>Islamic Cultural Center of Northern California</u>	Emailed, Called	No Action
<u>Oakland Islamic Center</u>	Emailed, Called	No Response
<u>Masjid Waritheen Mohammed</u>	Emailed	No Response
<u>Masjid Abu Bakr Al-Siddeeq</u>	Emailed, Called	No Response
<u>Berkeley Masjid</u>	Emailed, Called	No Response
<u>Islamic Center of Berekely</u>	Emailed	No Response
<u>Masjid Al Islam</u>	Facebook Message	No Response
<u>Al Hilaal Masjid Darus Salam</u>	Emailed	No Response
<u>Taqwa Islamic Center</u>	Emailed, Called	No Action

<u>Mustafa Institute of California</u>	Emailed, Called	No Action
<u>Alameda Muslim League</u>	Emailed, Called	No Response
<u>Fatimiyya Islamic Center</u>	Emailed, Called	No Response
<u>Ibrahim Khalilulah Islamic Center</u>	Emailed, Called	Declined to participate
<u>Ta'leef Collective</u>	Emailed, Called	No Action
<u>IECRC Masjid</u>	Emailed, Called	No Action
<u>Masjid Zakariya - Islamic Center of Fremont</u>	Emailed, Called	No Response
<u>Al-Medina Education Center</u>	Emailed, Called	No Response
<u>Masjid al-Huda</u>	Emailed, Called	No Response
<u>Islamic Center of Hayward</u>	Emailed	No Response
<u>Taqwa Islamic Center Fremont</u>	Emailed	No Response
<u>Imam Ali Islamic Center, San Diego</u>	Emailed	No Response
<u>Unified Muslim Community - UMC</u>	Emailed	No Response
<u>Islamic Society of East Bay</u>	Emailed	No Response
<u>MCA Santa Clara</u>	Emailed, Called	No Response
Maryland		
<u>Dar Al Taqwa - Ellicott City, MD</u>	Emailed, Called	No Response

Figure 8. Table of Mosques, Islamic centers, and other organizations that were contacted for survey distribution.

Results

Results of Economic Crisis Data on Islamic Mortgages

Several attempts were made to obtain data on the delinquency rates of Islamic mortgages issued in the United States so that they could be compared to the delinquency rates of conventional mortgages during economic crisis. However, while conventional delinquency rates were readily available, reliable rates for Islamic mortgages could not be obtained and the majority of the following findings come from anecdotal and testimonial claims, rather than strong data evidence.

In a phone call inquiry on April 9, 2018 with Hasibur Rahaman, a representative at Guidance Residential, he mentioned that they received significant recognition from Freddie Mac and Fannie Mae. The representative, speaking on behalf of Guidance said “We did way better than anyone else in the default rates in 2008” (Hasibur Rahaman). Further inquiry with upper management yielded no results, as they stated it was against their policy to share such data. Due to this trend, and similar outcomes among other researchers attempting to obtain such data, further attempts with specific Islamic banks were not made. A message inquiry sent to Yahia Abdul-Rahman, LARIBA’s founder and CEO was unanswered.

Since Fannie Mae and Freddie Mac regularly purchase mortgage contracts from the leading Islamic home loan providers such as Guidance Residential and LARIBA (Nayeem), it was anticipated that data on these subcategories would appear on the annual reports of these government organizations. However, the datasets did not specify how their Islamic contracts performed. Upon contacting Freddie Mac by phone to inquire about the availability of Islamic mortgage data, the representative suggested making a SF Loan Level Data Inquiry with support staff by email. The following response was received from the SF LLD Data Team on April 20, 2018: “We do not offer data category by ethnic groups.”

Unfortunately, concrete data was unable to be obtained to provide a sufficiently satisfying academic answer to this question. It is suggested that organizations such as Freddie Mac and Fannie Mae to publish specific reports about the performance of Islamic mortgages, especially in the single family home market, and include them as a subsection on the Single Family Home Loan Datasets. This would serve a useful purpose in better understandings trends as Islamic banking grows more popular in the coming years.

The closest statistic encountered came from the founder of LARIBA, Yahia Abdul-Rahman who published a book titled “The Art of RF (Riba-Free) Islamic Banking and Finance: Tools and Techniques for Community-Based Banking.” Abdul-Rahman claims that the delinquency rates of the LARIBA financial model are “essentially nonexistent”, citing that only 10 in 1,000 loans were delinquent (Abdul-Rahman). It seems as though this figure is specifically for LARIBA’s loans but he does not explicitly state whether it includes the larger Islamic finance industry within the United States. While 10 delinquencies out of 1,000 equates to a low incidence of 1%, the claim was unaccompanied by any specific statistics or precise dates. This is contrasted to a delinquency rate of 10% among interest-based banks. Again, no specific data or

dates were cited. Abdul-Rahman shares that in 2008 a reporter inquired about LARIBA's performance during the 2008 economic crisis, and he writes about his own response, saying: "I told her that we were doing very well, and I shared with her the fact that LARIBA mortgage portfolio delinquencies are a small fraction — one tenth — of the national average."

He also claims that "Fannie Mae representatives were impressed" by LARIBA's home mortgage portfolio. Abdul-Rahman states that in 2009, "Fannie Mae analysts explained to us that our portfolio is among the top 10 performing portfolios in the western region of the United States." (Abdul-Rahman) He attributed this success to a "disciplined approach" of screening homes to ensure the rental rates of the homes they finance are competitive with market rates of similar homes. Abdul-Rahman also mentions that an agent from United Guaranty, a Private Mortgage Insurance (PMI) company, asked LARIBA about growing their portfolio with them because according to United Guaranty, LARIBA was "one of the best-performing portfolios among the top 64 U.S. mortgage companies and banks they underwrite for private mortgage insurance."

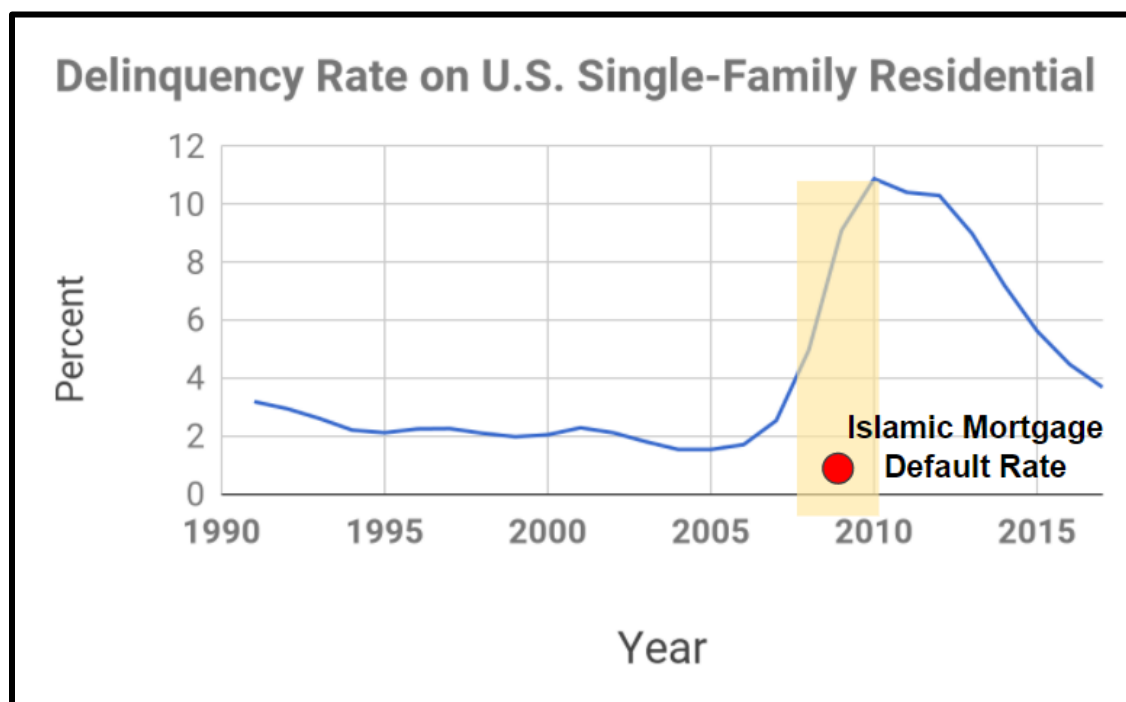


Figure 9. Delinquency rates of single family home mortgages since the early 1990s. The shaded yellow region represents the economic financial crisis around the year 2008. The red dot represents an approximate 1% delinquency rate as reported by LARIBA's founder. (Board of Governors of the Federal Reserve System (US))

Results of Survey Data

Summary Statistics: Demographics

A total of 177 responses were received. For generalizability purposes, data for respondents who did not indicate they reside in the United States, or who did not list a religion were omitted from the analysis. After filtering the data, a dataset of 141 total respondents remained (110 American Muslims and 31 American non-Muslims). The effective sample sizes were lower for some questions, as some respondents did not complete all questions.

The following charts show the demographic composition of the usable dataset.

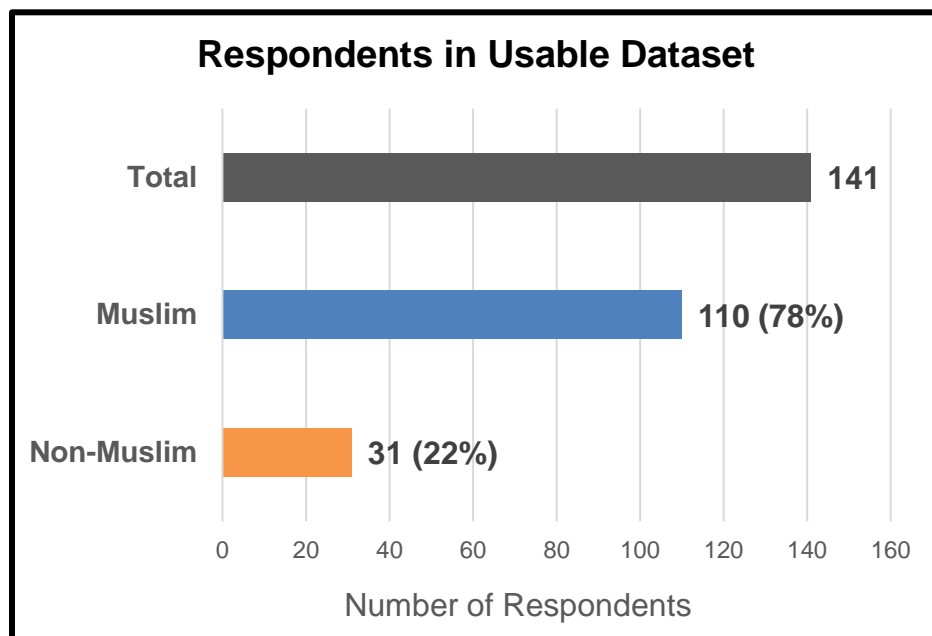


Figure 10. Total usable dataset.

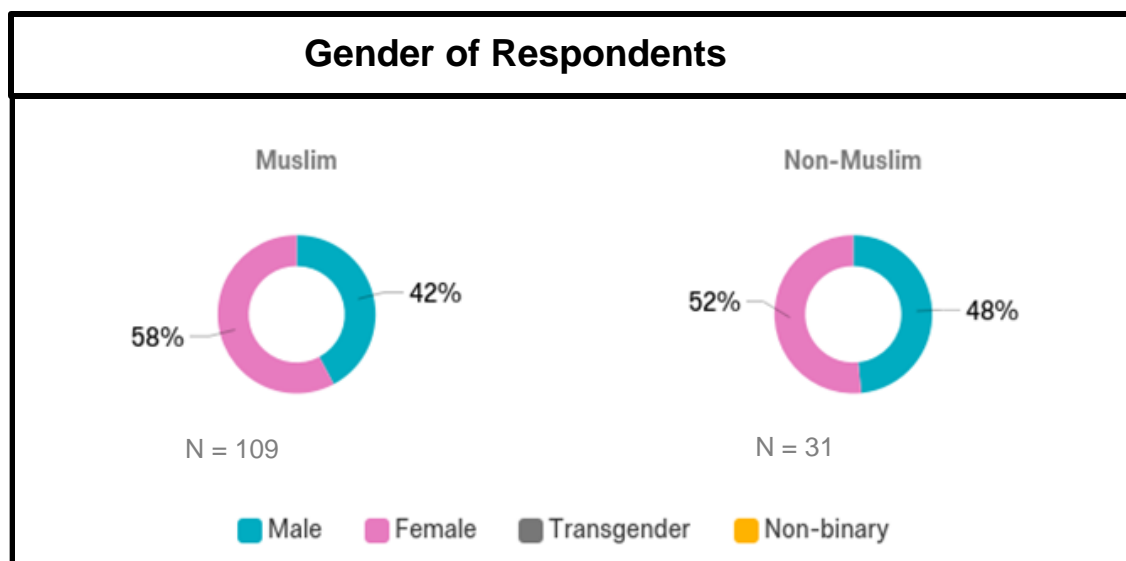


Figure 11. Gender composition of respondents.

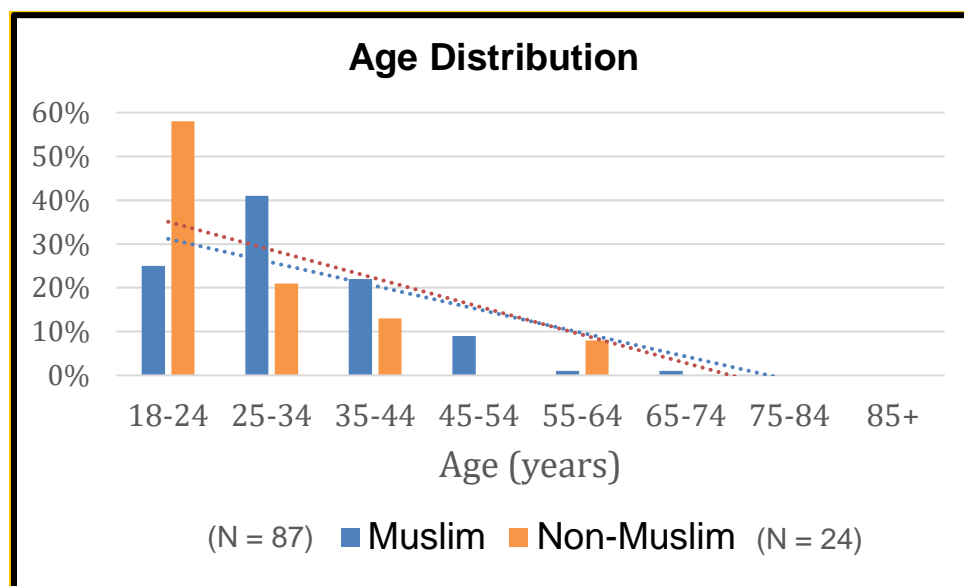


Figure 12. Ages of respondents.

The majority were young to middle aged adults, age 18 to 45.

To determine whether these two age distributions are similar enough to allow comparison between the two groups, age ranges were re-coded to allow for a two sample t-test. There was no sufficient evidence that the age distributions of Muslims and non-Muslim respondents are different ($p > 0.10$). Overall, the ages of Muslims and non-Muslims were relatively comparable.

Small sample sizes and emphasis on social media distribution likely resulted in a data set skewed towards younger and middle aged adults. A more distributed age range would likely have been observed if more data were collected with more varied survey distribution methods.

Results will be generalized to adults aged 18-44, perhaps with some extension to age 54. Findings will be most generalizable to 18-44 year olds because they comprised the majority of responses.

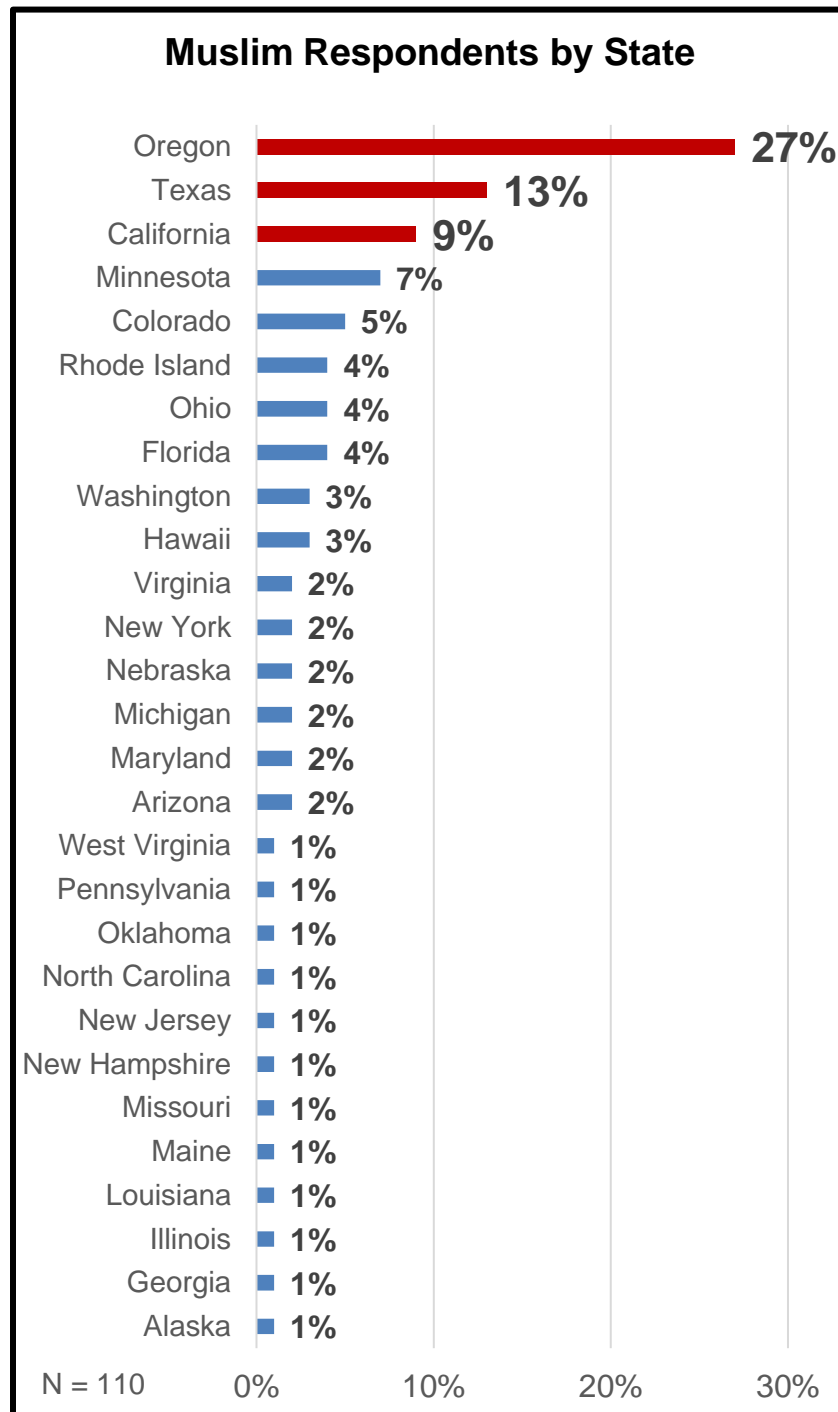


Figure 13. State of residence of Muslim respondents. The majority were from Oregon, Texas, and California.

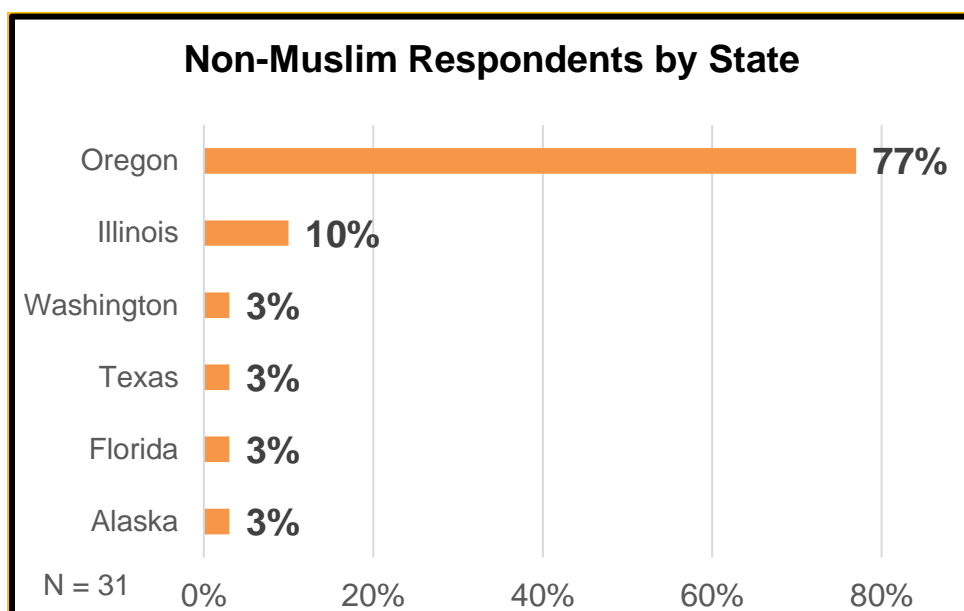


Figure 14. State of residence of non-Muslim respondents. The majority were from Oregon.

Most respondents resided in Oregon as the majority of survey distribution occurred through groups and organizations located in this state.

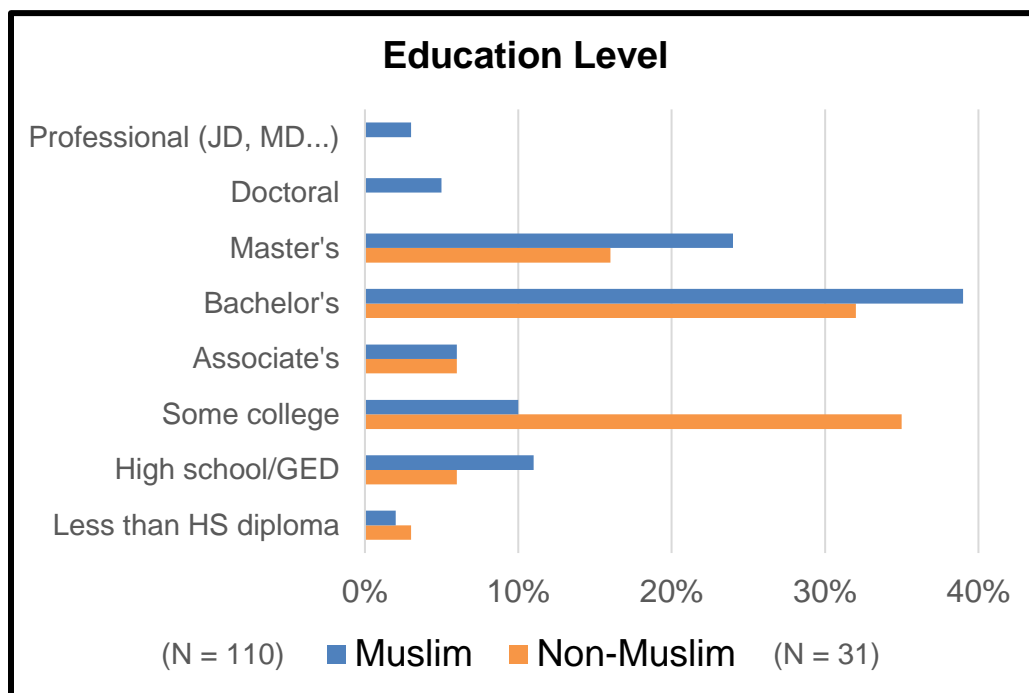


Figure 15. Education levels of respondents. Muslim respondents had slightly higher education levels, likely due to the small size of the non-Muslim sample collected.

To determine if Muslim and non-Muslim respondents had comparable education levels, a two sample t-test was performed. Education levels were re-coded with values from 1 to 7 (1 = less than high school diploma ranging to 7 = doctoral or professional degree). It was found that the two samples differed significantly ($p = 0.023$), with Muslim respondents having higher education levels (average of 4.7 or almost a bachelor's degree) whereas non-Muslim respondents had an average of 4.1 (associate's degree).

As a result, for comparisons in which education may play a role, Muslim respondents with doctoral or professional degrees were not considered since there were no non-Muslim counterparts in the sample with equivalent education levels. After adjusting for education gaps, samples did not differ significantly ($p > 0.10$). The education level figure shows the education distribution of the entire sample prior to adjustment.

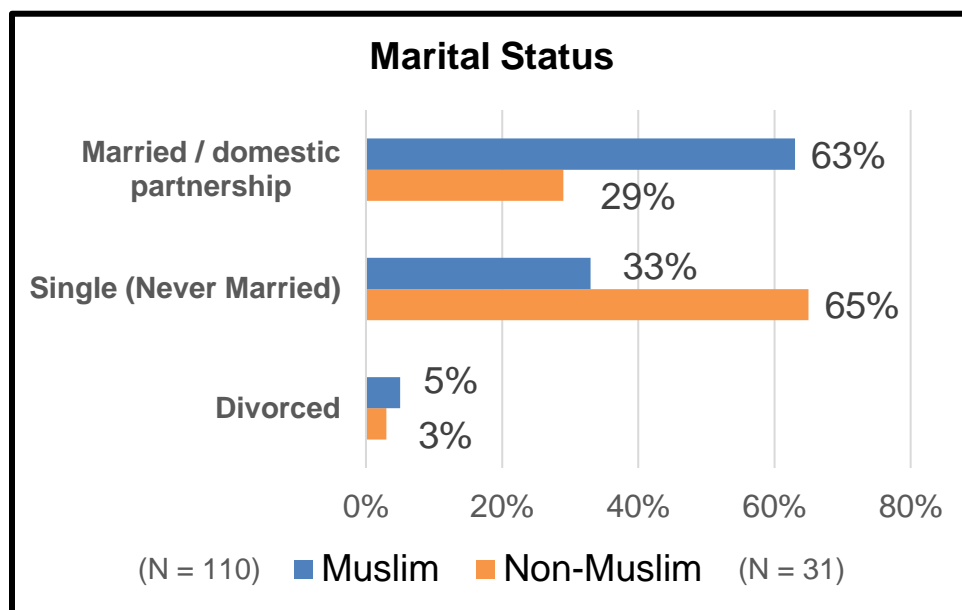


Figure 16. Marital status of respondents. Interestingly, marital status ratios for being married or single were inverted between Muslims and non-Muslims.

Notice the inversion in ratios of married and single Muslims and non-Muslims. This is likely due to small sample sizes for both populations. The U.S. national marriage and domestic partnership rate for Muslims is 45% according to 2014 data from Pew (Pew-mar). The Muslim sample is statistically different ($p < .001$) and oversampled married individuals. Conversely, the national marriage and domestic partnership rate for all U.S. adults is 55%, so the non-Muslim

sample under represented married individuals. It is unclear what implication this causes on the comparability of the two groups.

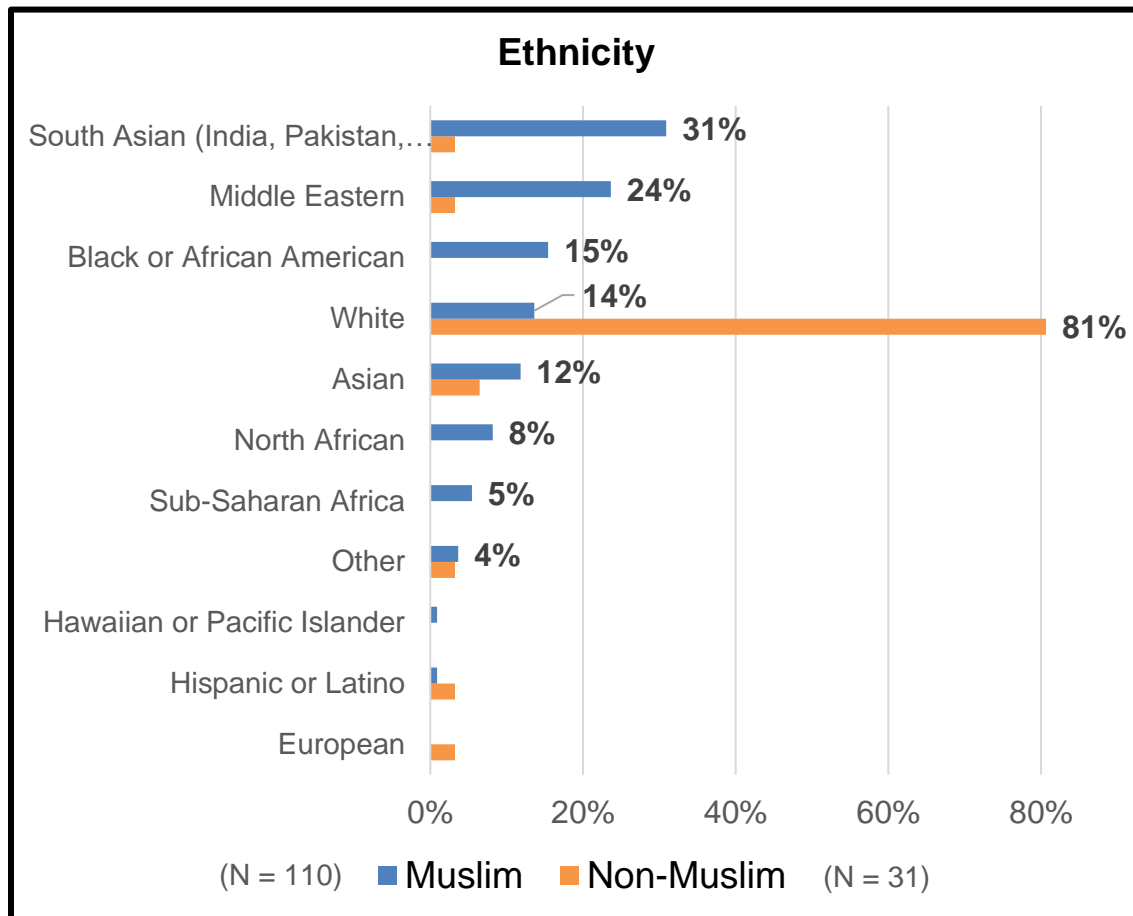


Figure 17. Ethnicity of respondents. Majority of Muslim respondents identified as South Asian or Middle Eastern.

Most Muslim respondents identified with South Asian and Middle Eastern countries, while non-Muslims were predominately white.

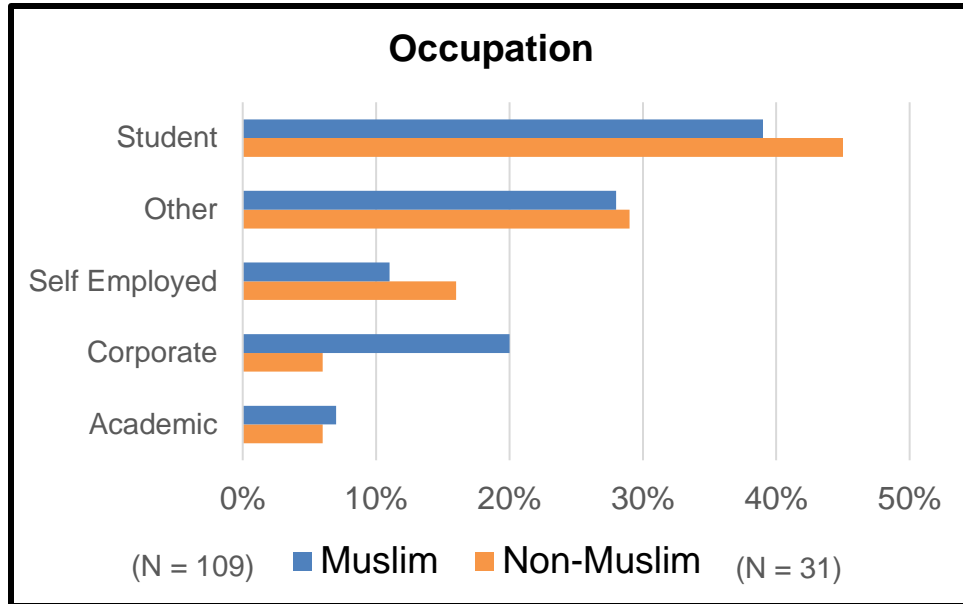


Figure 18. General occupation of respondents. A considerable portion of respondents were students.

Occupation categories were collected as supplemental information. They are not used to explain results in this study, especially since these categories are relatively broad.

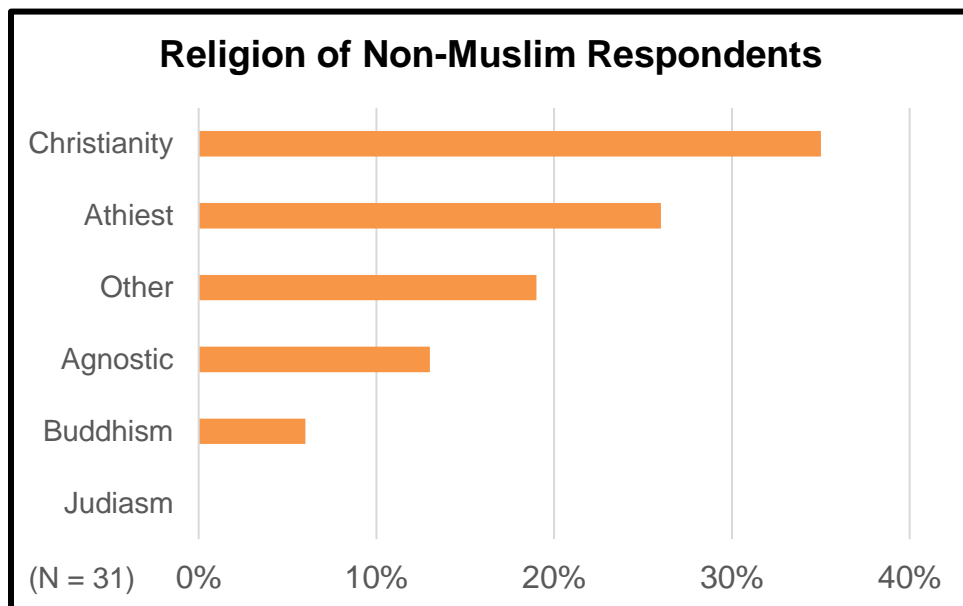


Figure 19. Religion of non-Muslim respondents. The largest affiliation was with Christianity.

Christians, Atheists, and Agnostics comprised the largest religious groups of non-Muslim respondents. The volume of data on the other Abrahamic faiths was too scarce for comparing interpretations of interest between Muslims and specific religions.

Current Trends Among Muslim Americans

- Low awareness of existence of Islamic Banks in USA (66% unaware)
- Low awareness of Islamic financial structures
 - 60% are not familiar with any IFPs
- Knowledge of Islamic Financial Terms and Regulation:
 - 13% don't know what interest is
 - 18% don't know interest is prohibited
 - 43% unsure what usury is
 - 51% unsure if Islam distinguishes between interest & usury
 - High preference for Islamic financing (56% prefer)
 - Low usage of Islamic financing (94% don't use)
 - High usage of conventional interest-based loans
 - (77% of Muslim home-buyers used interest-based mortgage loan)
 - (41% of Muslim car-buyers used interest-based car loans)
 - 38% say interest prohibition was more applicable historically
 - Most (71%) unsure whether cryptocurrency is allowed in Islam
 - Most aware of (79%), but did not trade cryptocurrency (85%)

Conventional Bank Account Usage

1. How does conventional bank account usage differ between American Muslims and non-Muslims?
 - a. It is predicted that Muslims are less likely to use conventional banking compared to non-Muslims, based on study that showed Muslims had a 6% decrease in formal account ownership compared to non-Muslims (Demirguc-Kunt, et al).
 - i. Null Hypothesis: % Muslims with bank account = % non-Muslims with bank account

- ii. Result: 4.7% of Muslim Americans are unbanked, 0% of non-Muslim respondents unbanked.

95% Confidence Interval: between 0.7% and 8.7% of Muslims are unbanked.

- No significant difference between Muslims and non-Muslims in their bank account ownership. ($P > 0.05$)
- $P = 0.22$ (Chi Square Test of Association – Qualtrics)
- $P = 0.586$ (Fisher’s exact test – MiniTab)

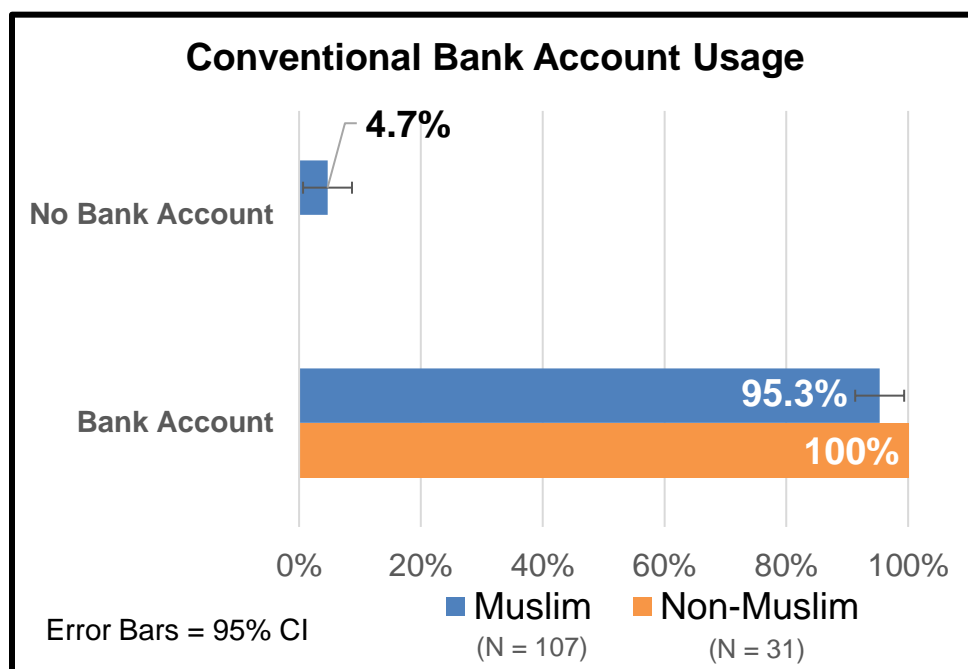


Figure 20. Conventional bank account usage. Majority of respondents used bank accounts, with no statistical difference between Muslims and non-Muslims.

Even when normalized for education levels, there was still no major difference in bank usage between Muslims and non-Muslims.

Due to the small sample size of the non-Muslim sample, another reference statistic was obtained for a secondary comparison. As of 2015, 7% American households were unbanked according to a FDIC national survey (FDIC-2015). While this data is for households and not individuals, and presumably includes Muslims as well, it appears to be a reasonable benchmark for comparison.

- A one-proportion test was used to determine whether the observed 4.7% unbanked rate was different than the national 7% unbanked rate.
- There was not enough evidence to conclude that the proportion of unbanked Muslims differs from the proportion of unbanked American households ($P = 0.362$) (Fisher's exact test – MiniTab).

How does conventional account usage among Muslims vary based on gender & marital status?

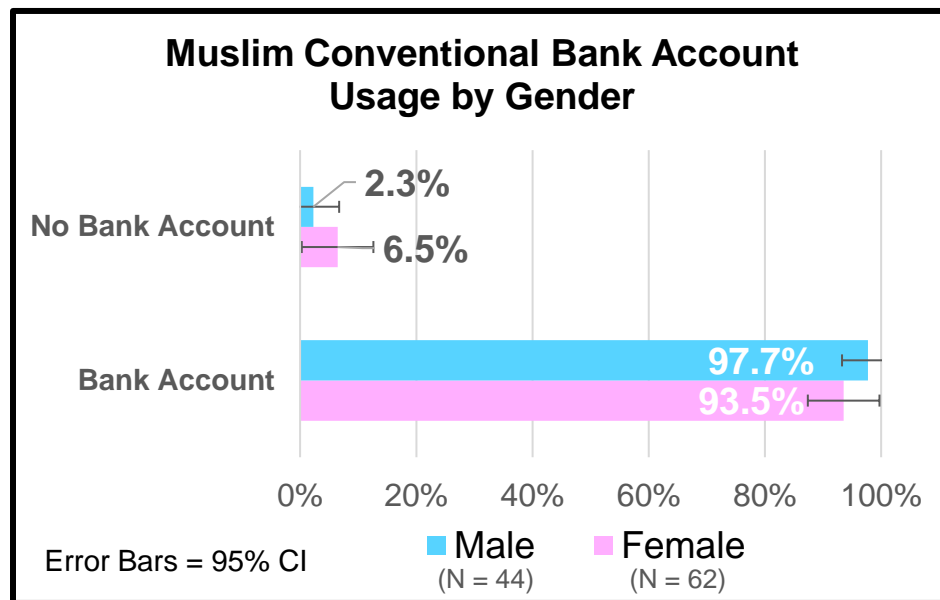


Figure 21. Muslim usage of conventional banks by gender. There was no statistical difference between genders.

Although Muslim women were more likely to report not using a bank account, there appears to be no difference statistically.

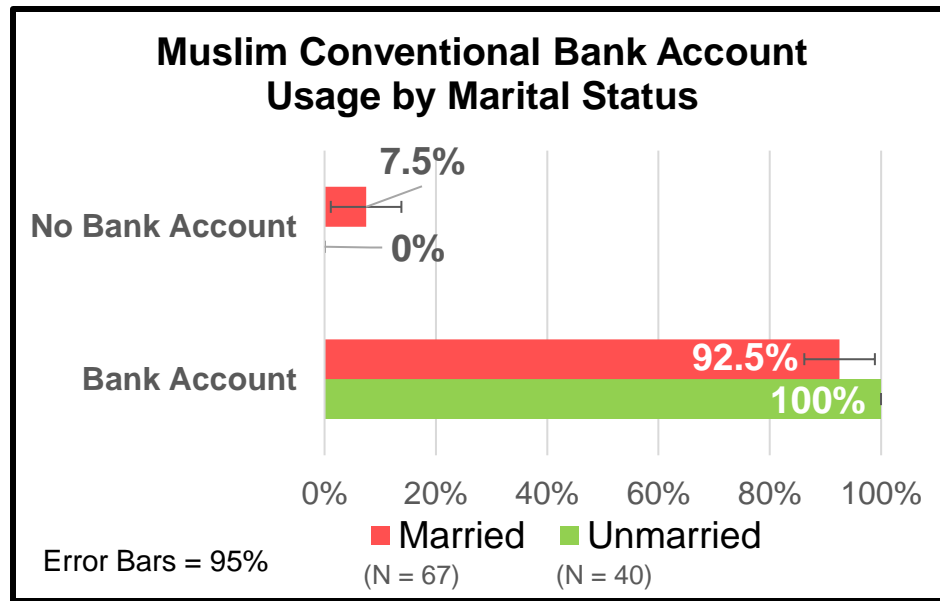


Figure 22. Muslim usage of conventional banks by marital status. There was no statistical difference based on marital status.

While it appears married Muslims are more likely to be unbanked than unmarried Muslims, this was not statistically significant when performing a two proportion test ($p = 0.155$) (Fisher's Exact)

Preference for Islamic Loans

2. To what degree do Muslims prefer more expensive Islamic loans over cheaper conventional loans? Respondents were presented with a hypothetical scenario in which they had to decide between a conventional loan that included interest but was cheaper and a loan from an Islamic bank that was more expensive but did not include explicit interest.
 - a. Hypothesis: Muslims will have a high preference for Islamic services, but low actual usage of them, similar to the study by (Demirguc-Kunt, et al.).

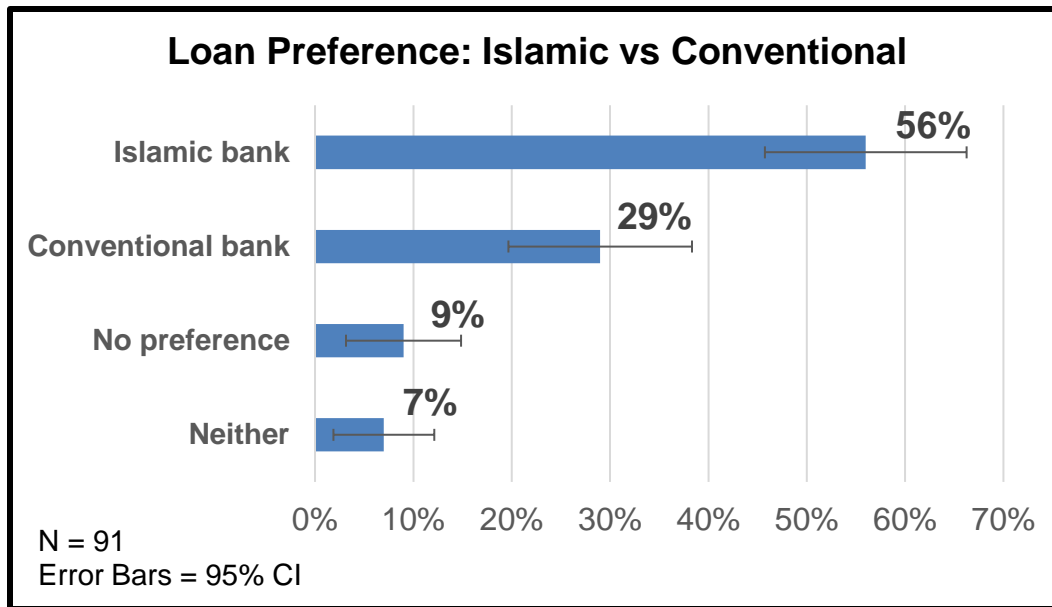


Figure 23. Muslims' loan preference. Muslim respondents overwhelmingly chose more expensive Islamic loans over cheaper conventional loans.

95% Confidence level for Islamic loan preference: between 46% and 66% of Muslim Americans in the United States prefer a more expensive Islamic loan compared to a cheaper loan from a conventional bank. Between 20% and 38% of Muslim Americans prefer the cheaper conventional bank loan. The difference between these two preference categories is statistically significant ($P = 0.0003$) (Fisher's Exact). 56% of Muslims prefer a more expensive Islamic loan compared to 45% in the stated study

American Muslims appear to have a higher preference for Islamic loans than do Muslim adults surveyed in the countries of Algeria, Egypt, Morocco, Tunisia, and Yemen. This is significant at the 0.1 Level but not at the 0.05 level.

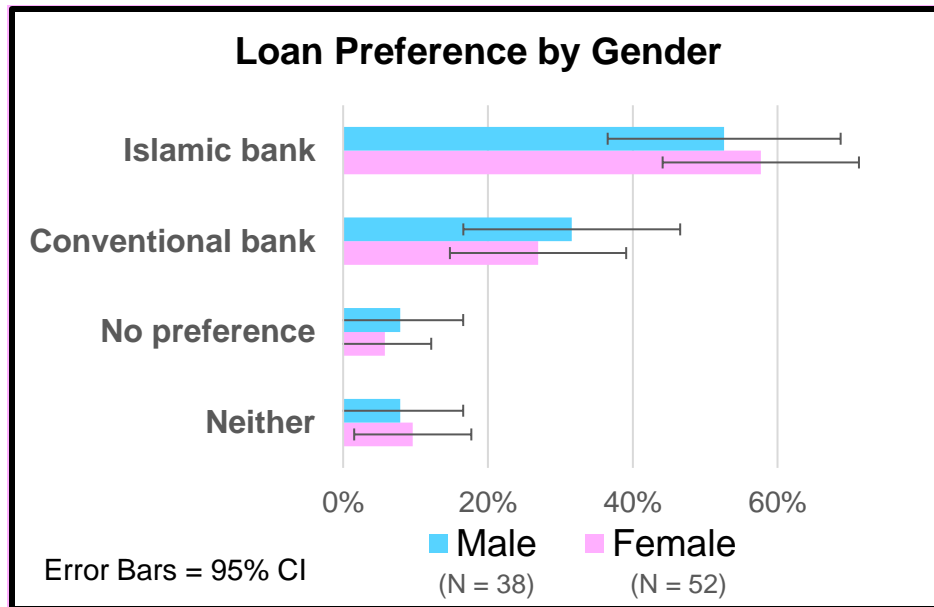


Figure 24. Muslims' loan preference by gender. There were no differences based on gender.

Islamic Bank Account Usage

3. What proportion of Muslims use Islamic Banks in the U.S. compared to Muslims in other countries?
 - a. It is predicted that American Muslims are less likely to use Islamic banking compared to Muslims in Muslim-majority countries.
 - i. Null Hypothesis: Muslim's Islamic bank account usage in U.S. = Muslim's Islamic bank account usage in cited study (Demirguc-Kunt, et al.)
 - ii. Result: 6% of American Muslims use Islamic bank.

A one-proportion test was used to determine whether the observed 6% Islamic bank usage rate was different than the cited 2% usage rate. There is no statistical difference between the groups ($p = 0.162$). There is no reason to believe that American Muslims use Islamic banking more than Muslims adults in other Muslim countries.

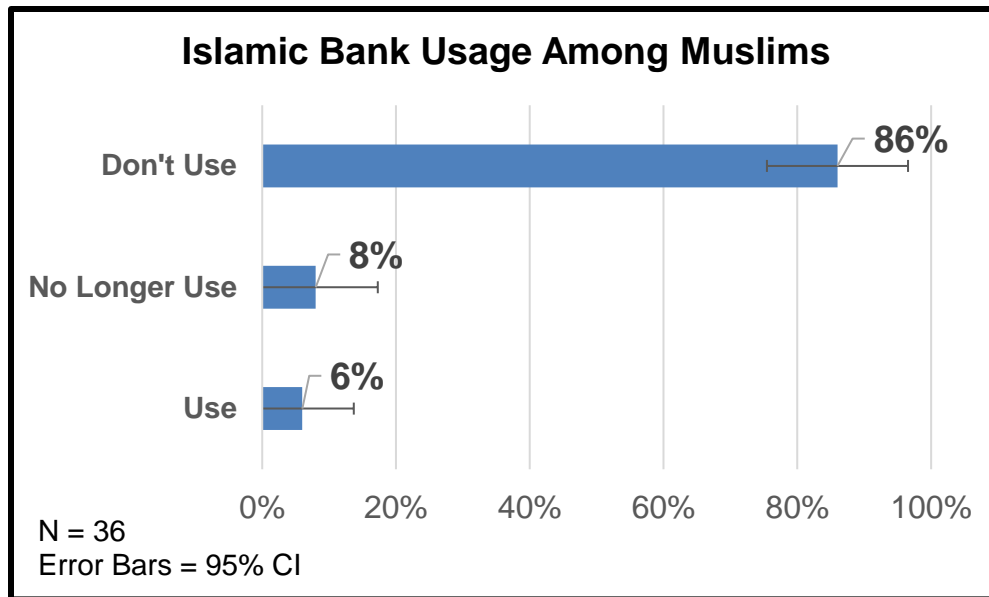


Figure 25. Muslim usage of Islamic banks. The majority of Muslim respondents did not use Islamic banks. Only 6% currently use Islamic banks.

Financing Behavior for Car and Home Loans

4. What financing methods do Muslims use when purchasing large assets such as cars and homes? How does their use of interest-based and Islamic financing compare with other financing methods?

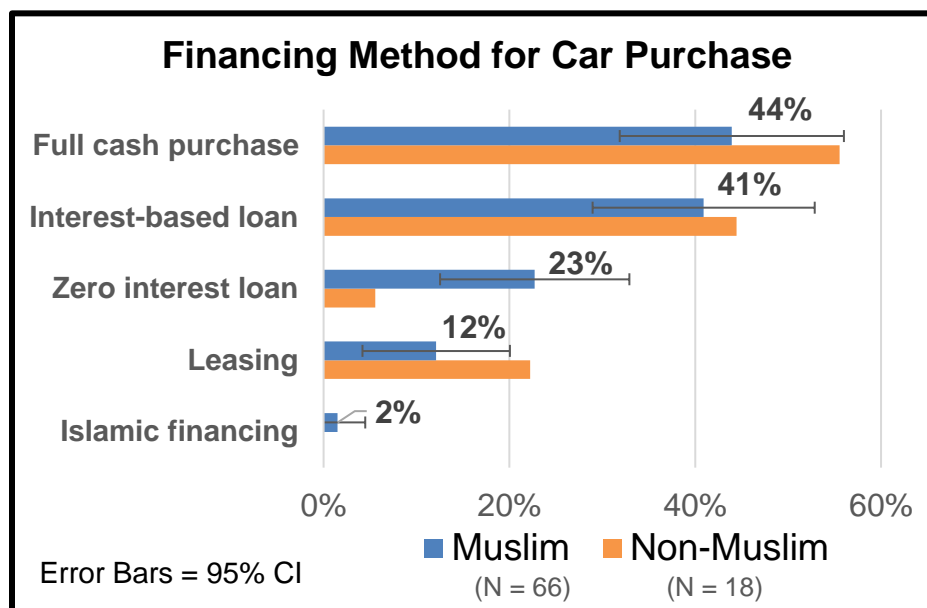


Figure 26. Financing behavior for car purchases. Muslims exhibited high usage of interest-based loans, at levels comparable to non-Muslims. Percentages may

add up to more than 100% as respondents could select multiple methods.
Percentages are out of total responses to the question.

A surprising 41% of Muslim adults used interest-based loans when financing car purchases. They were significantly more likely to use interest based loans than zero interest financing ($P < 0.05$) ($P = 0.039$) (Fisher's Exact) and more likely than Islamic financing ($P < 0.05$).

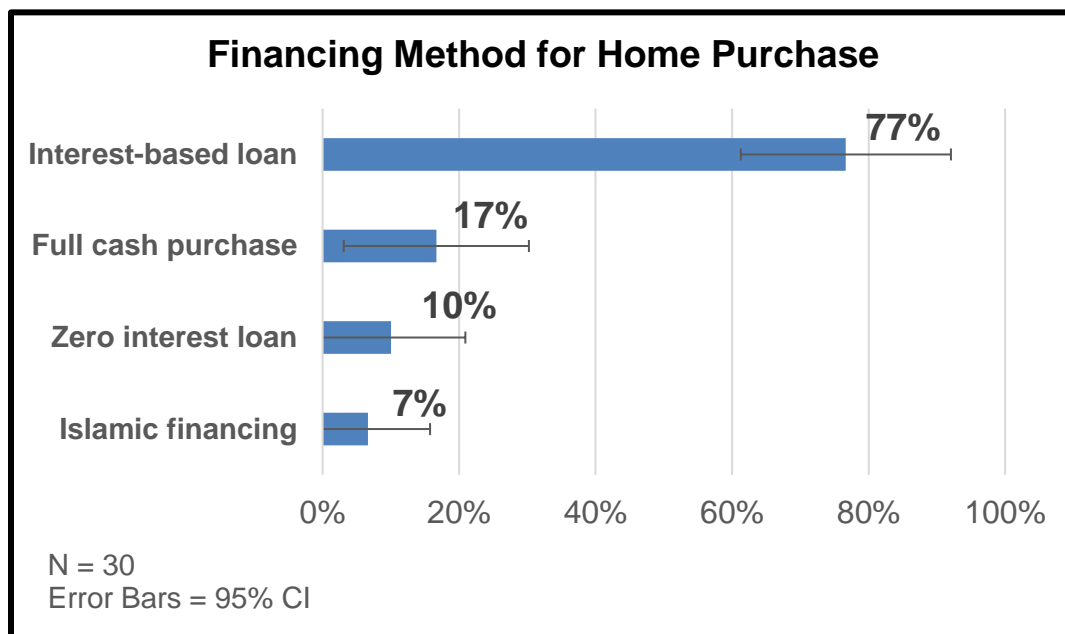


Figure 27. Muslims' financing behavior for home purchases. Muslims exhibited very high usage of interest-based loans. Percentages may add up to more than 100% as respondents could select multiple methods. Percentages are out of total responses to the question.

A surprising 77% of Muslim adults used interest-based loans when financing home purchases. They were significantly more likely to use conventional mortgages with interest than any other financing method – the closest being full cash purchases ($P < 0.05$) ($P = 0.00001$).

These findings both contradict the apparent preference among Muslim adults for Islamic financing, and support the previously reported findings of low Islamic bank usage. Furthermore, these are strong indications for the prevalence of the barriers of distance and availability of

Islamic banks as reported by Muslim respondents, as well as the apparent sufficiency of conventional financing methods.

Barriers to Accessing Islamic Banking

5. If Muslims express high preference for Islamic services, what are the barriers preventing Muslims from accessing Islamic banks?
 - a. Hypothesis: the majority of the barriers will include issues of access, not attitude.

The following are the most frequently cited reasons among Muslim respondents for not using Islamic banks:

- Distance (58%), Availability (52%), sufficiency of conventional banks (39%),
- Medium influences: lack of knowledge of how to start using them (21%), cost relative to conventional (15%), reliability (12%)
- Low influences: trustworthiness (6%), degree of Sharia compliance (6%), Lack of religiosity (3%)
- Interestingly, only 6% cited lack of knowledge of availability as reason for not using Islamic banks, even though 64% unaware of Islamic banks operating in the US.

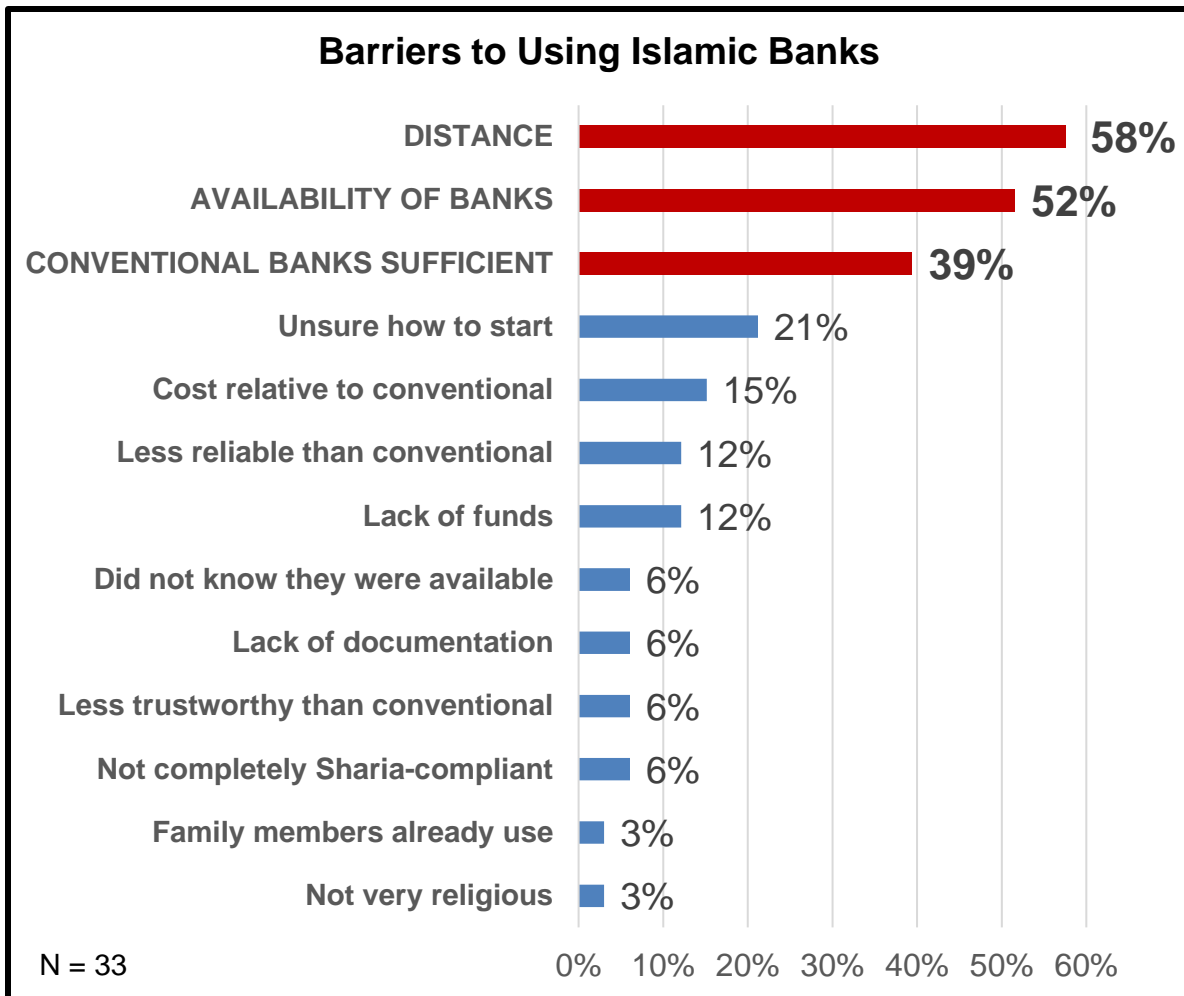


Figure 28. Muslims' reasons for not using Islamic banks. The most frequently cited reasons were distance and availability of banks. A considerable portion of respondents were also satisfied with conventional banking services. Percentages may add up to more than 100% as respondents could select multiple methods. Percentages are out of total responses to the question.

Islamic Bank Awareness

6. What proportion of Muslims are aware of Islamic banks in the U.S.?
 - a. Result: 34% Aware. 66% Unaware. Difference between Muslims & non-Muslims is significant ($P = 0.0007$)

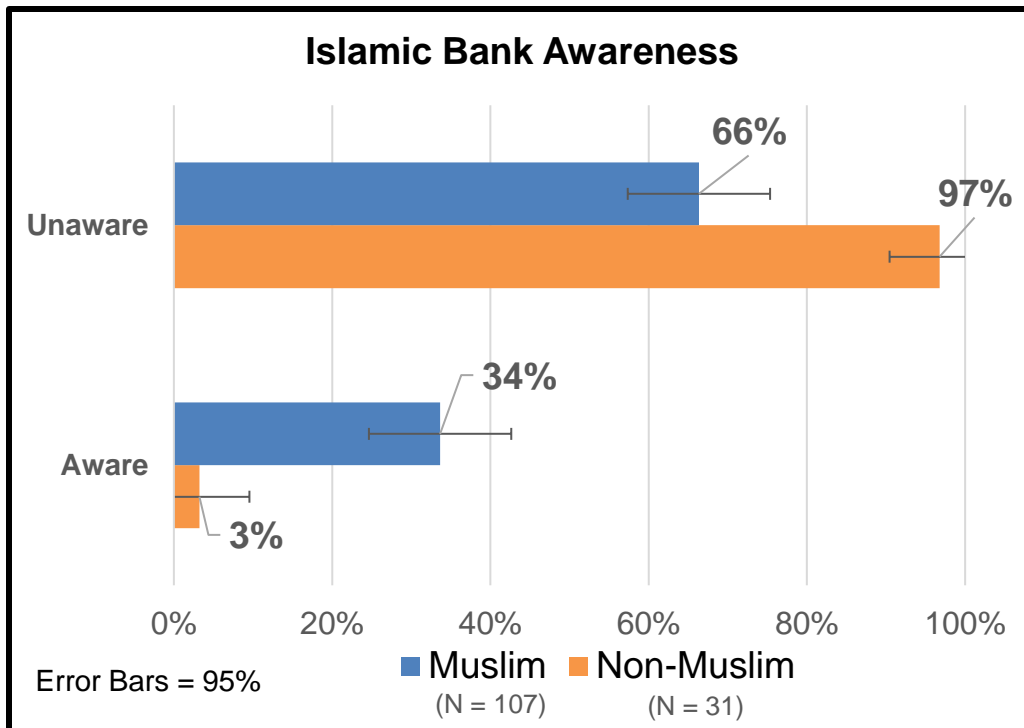


Figure 29. Awareness of Islamic banks located in the United States. The majority of Muslim and non-Muslim respondents were not aware of any U.S. based Islamic banks.

7. Does the presence of an Islamic bank or office in a respondent's state of residence impact bank awareness, usage, or loan preference among Muslims?
 - a. Hypothesis: Proximity to banks is likely to be correlated to higher awareness and usage of Islamic banks, and higher loan preference for Islamic banks if they are more accessible do to increased proximity.
 - b. No significant differences were observed between

Since survey data only collected respondent's state of residence, not specific city information or actual distance to Islamic services, this represents only a rough attempt to explore a possible correlation using the data collected. Further research should aim to more accurately capture metrics on distance to Islamic bank branches and offices in order to more accurately determine if proximity increases awareness and usage rates.

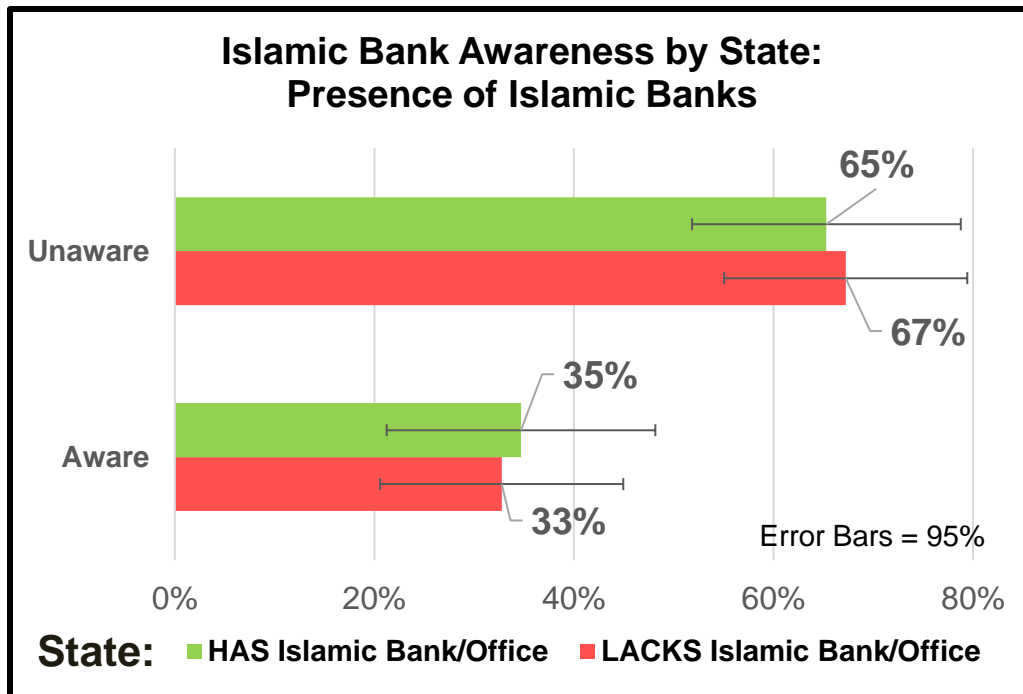


Figure 30. Muslims' awareness of Islamic banks located in the United States based on respondents' proximity to Islamic bank offices. Residing in states that contained Islamic bank offices did not influence awareness levels.

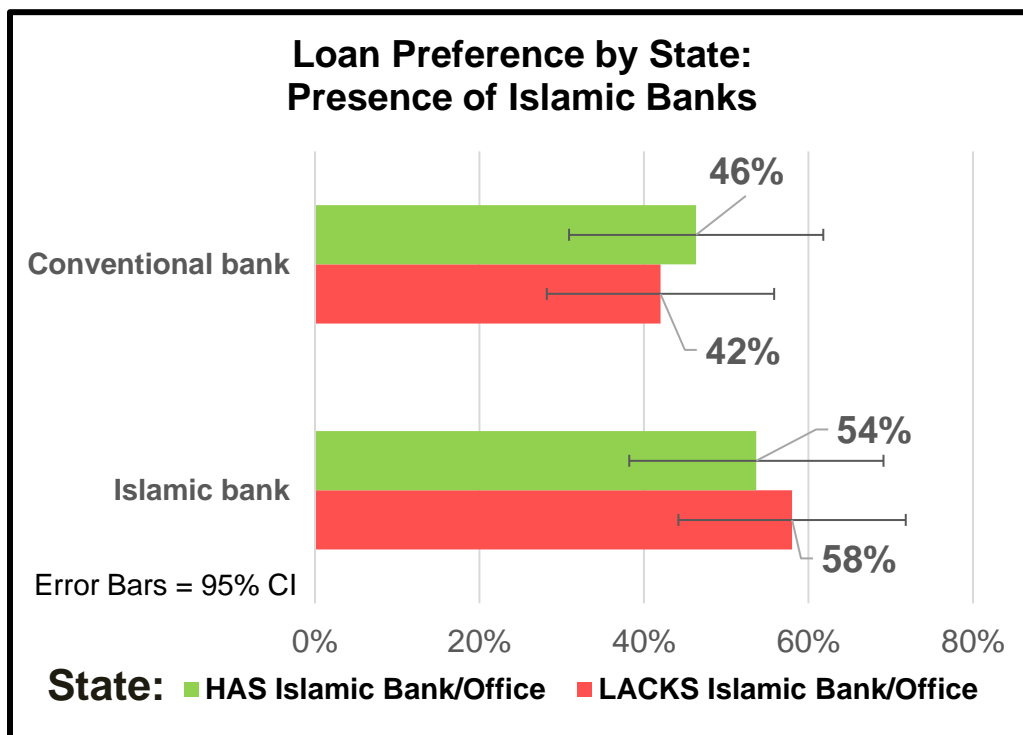


Figure 31. Muslims' loan preference based on respondents' proximity to Islamic bank offices. Residing in states that contained Islamic bank offices did not influence preference levels.

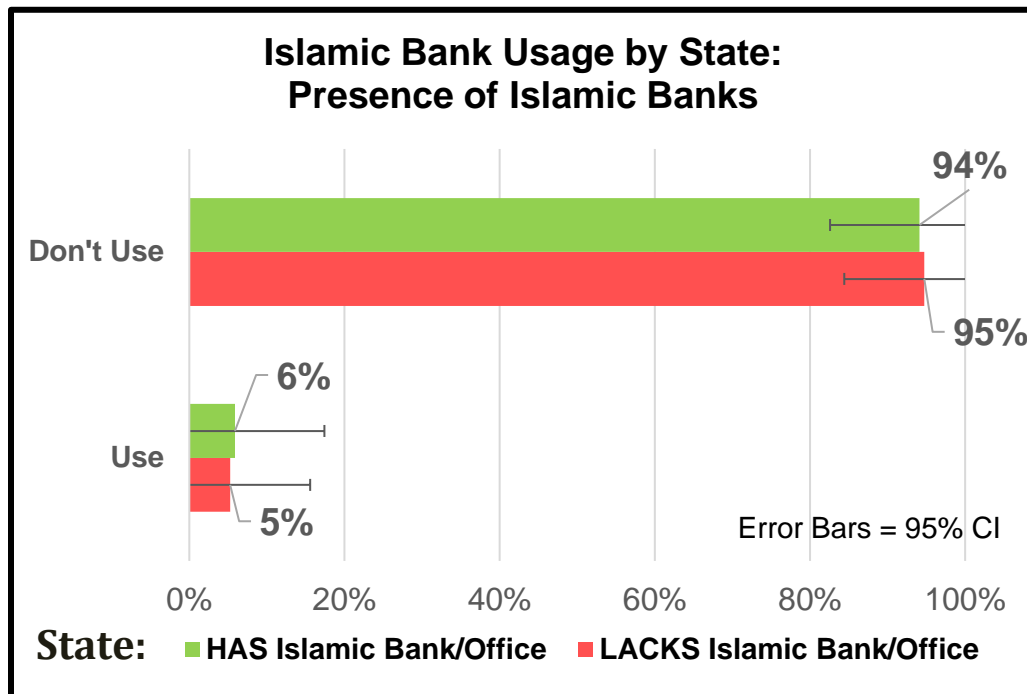


Figure 32. Muslims' usage of Islamic banks based on respondents' proximity to Islamic bank offices. Residing in states that contained Islamic bank offices did not influence usage levels.

8. Which Islamic Banks are Muslims most familiar with?

a. Result: Guidance Residential & LARIBA are tied as the most popular.

Of the 34% of Muslims who have heard about Islamic banks in the U.S., over half of them (60%) have heard of either Guidance Residential or LARIBA.

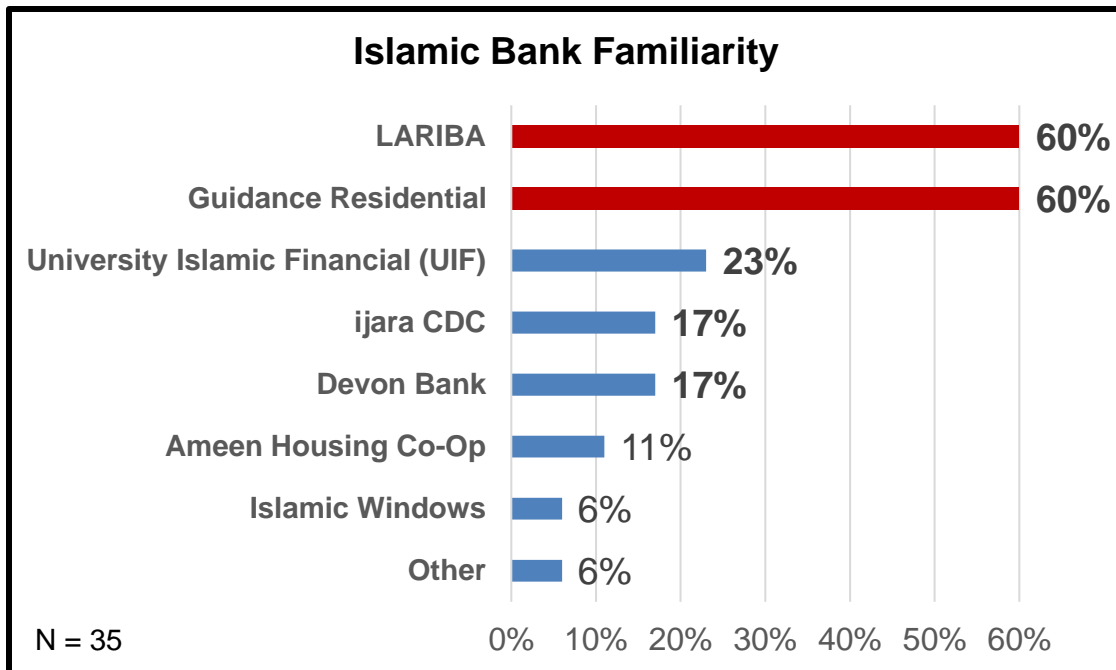


Figure 33. Muslims' familiarity with Islamic banks in the United States. Those who were aware of Islamic banks were most likely to recognize LARIBA and Guidance Residential. Percentages may add up to more than 100% as respondents could select multiple methods. Percentages are out of total responses to the question.

9. Which Islamic Finance Products (IFPs) are Muslims most familiar with?
 - a. 60% of Muslims are not familiar with any types of IFPs.
 - b. Since Islamic financial products are usually called by Arabic names, it is likely that if the translation of the IFP names was not provided, familiarity would be even lower.

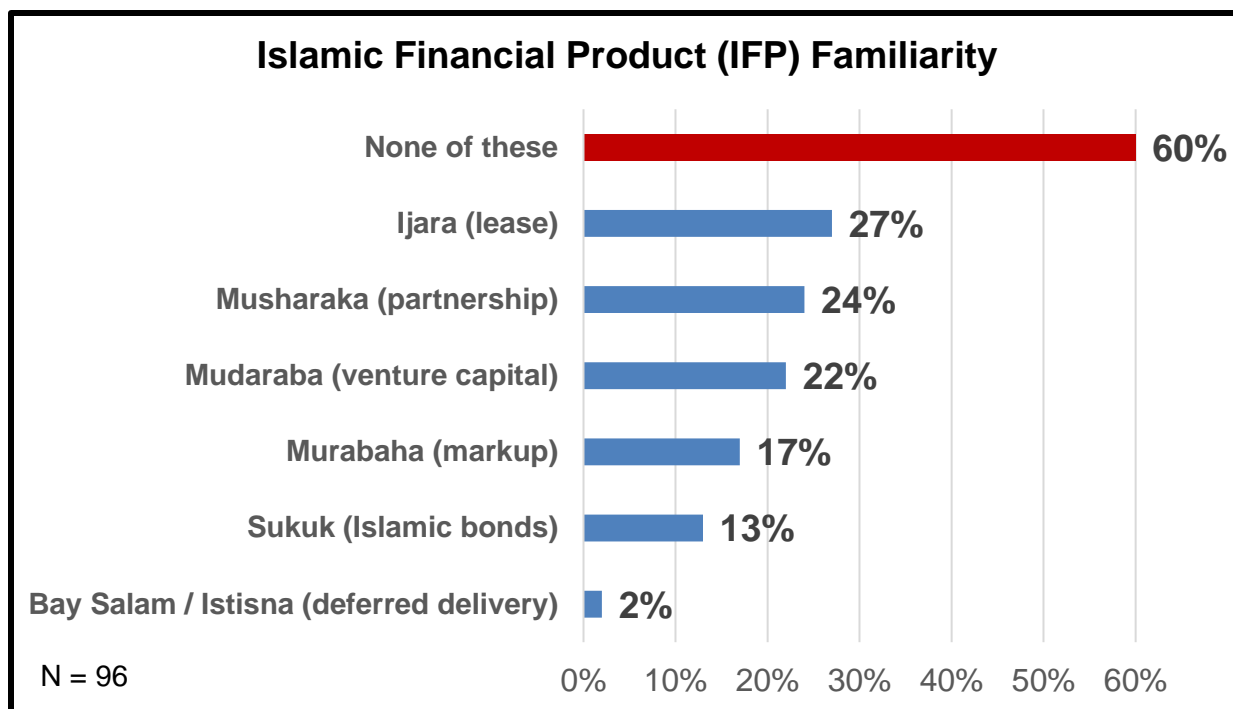


Figure 34. Muslims’ familiarity with Islamic Finance Products (IFPs). The majority were not familiar with any IFPs. Percentages may add up to more than 100% as respondents could select multiple methods. Percentages are out of total responses to the question.

Islamic Finance Knowledge

Knowledge of Terminology

10. What percentage of Muslims & Non-Muslims correctly define financial “Interest” and “Usury”?

While the majority of Muslims correctly identify “interest” as a fee charged in excess of a loan’s principal, 13% of Muslims were either unsure about what interest is or incorrectly described it. This is still a surprising proportion, as the Islamic prohibition on interest is quite strict and cautioned against, perhaps with similar social reinforcements on the prohibitions on pork and alcohol. It would be valuable to observe how this level of awareness has changed over time in response to influences from modernization and changing financial literacy levels as well as how Muslims’ self-reported adherence differs between Islam’s common prohibitions on premarital sex, and pork, alcohol, and drug consumption.

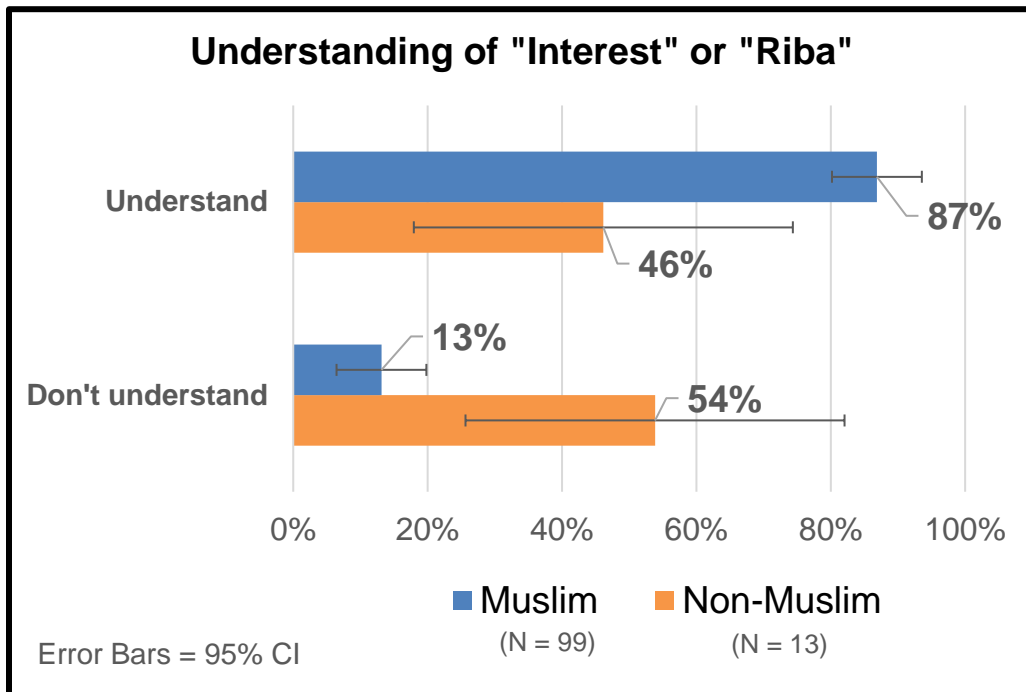


Figure 35. Understandings of the term “Interest” or “Riba”. The majority of Muslim respondents understood the meaning of the term.

The comparison between Muslims and non-Muslims is not valid because the question: “What is financial ‘Interest’ or ‘Riba’?” included the term “Riba” – a likely foreign term to non-Muslims. This is a design flaw in the survey, as this question should have been asked more generally to non-Muslims. The majority (87%) of Muslims know what interest or Riba is. Between 80% and 94% of Muslim Americans understand this definition (95% CI). Between 6% and 20% of Muslims did not understand this definition (95% CI)

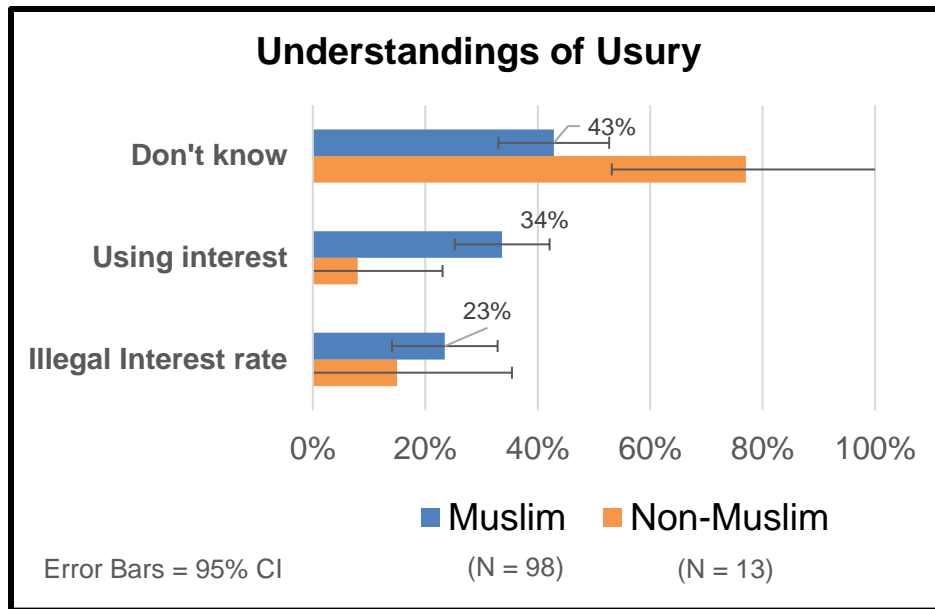


Figure 36. Understandings of the term “Usury”. Respondents exhibited mixed understandings of usury, and a considerable portion did not know its meaning.

A significant proportion (43%) of American Muslim respondents did not know the definition of “usury”. Only 23% of Muslim respondents correctly identified usury as an illegal interest rate or “an interest rate that is higher than the legal maximum.” Relative to this “correct” definition, it is curious to note that a larger proportion (34%) identified usury as the “practice of using interest.” This alternate interpretation is likely because interest and usury are synonymous in Islamic regulation. Among non-Muslims, this ratio could be expected to be reversed as they are probably more likely to distinguish between the terms.

Perception of Islamic Ruling on Interest

11. What percentage of Muslims are aware of Islam’s prohibition on interest?

A surprising 18% of Muslims were unaware of Islam’s prohibition on interest (14% were unsure and 4% believed Islam allows or promotes it). This either reflects a general lack of Islamic financial literacy among Muslims or another factor. One hypothesis is that this may be due to an oversampling of relatively new Muslim converts who are still learning Islamic teachings.

Muslim respondents identifying interest as either prohibited or discouraged likely differ in their degree of religiosity or interpretation of the terms interest and usury.

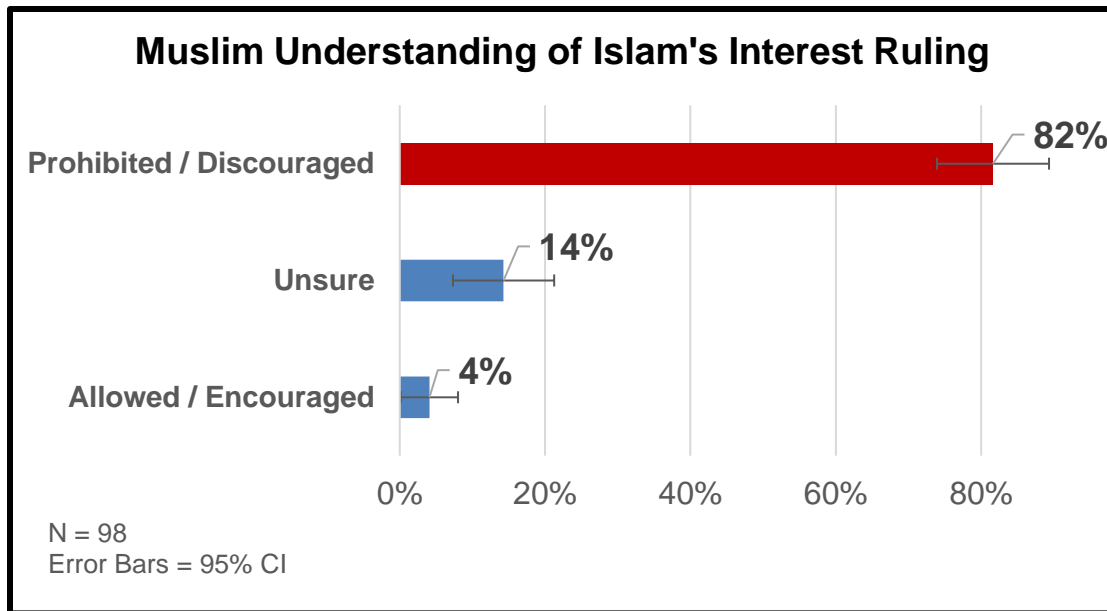


Figure 37. Muslims’ understandings of Islam’s prohibition of interest. The majority understood that Islam prohibits and discourages interest.

12. What proportion of Muslims believe Islam makes a distinction between “Interest” and “Usury”?

The majority of Muslim respondents (51%) were unsure whether Islam makes a distinction between interest and usury. This is likely due to a lack of understanding about the definitions of the term and differing interpretations about their meanings as observed in the following findings.

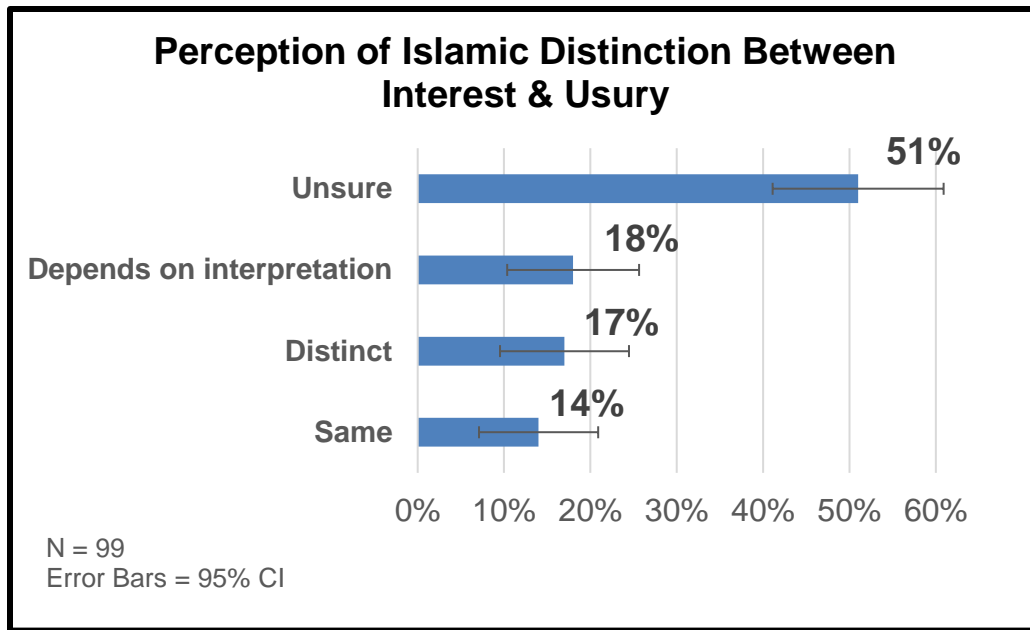


Figure 38. Muslims’ perceptions of whether Islam distinguishes between the terms “Interest” and “Usury”. Half of Muslim respondents were unsure if a distinction is made. The remaining responses were mixed.

13. How applicable do Muslims consider Islam’s prohibition on interest to be in today’s world?

- a. Hypothesis: Muslim respondents are more likely to view interest as more applicable historically than it is today.

Given differing interpretations about the actual intention behind the Islamic prohibition on interest, respondents may believe that prohibition was more applicable historically. This would be on the basis of an argument that interest rates are more regulated in modern times and less commonly feature exploitation. This stems from whether there is an underlying religious distinction between the terms usury and interest and whether Islam aims to purely prevent exploitation and the greedy multiplication of money through unfair or unproductive interest rates, or to actually prohibit the charging of any interest at all.

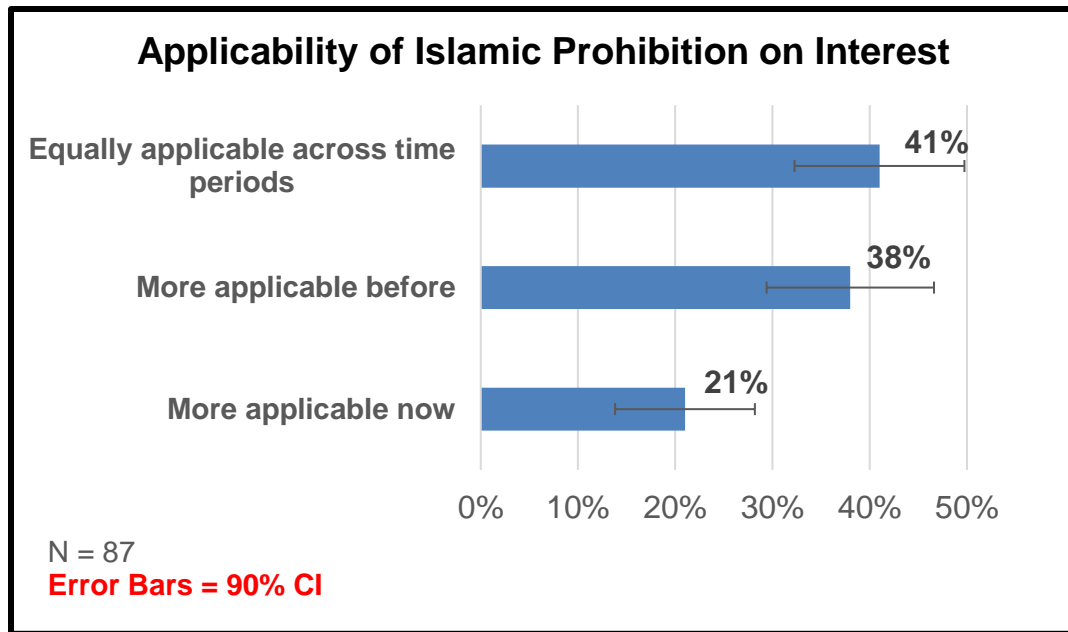


Figure 39. Muslims' perception of the applicability of Islam's prohibition on interest. Results were mixed due to varying interpretations on the meanings of interest and usury and whether they were perceived by respondents to be the same or distinct in Islam.

There is a significant difference between Muslims who view interest prohibition as more applicable before compared to Muslims who view interest prohibition as more applicable now. Muslim respondents who don't think the Islamic prohibition on interest is equally applicable across time periods, are more likely to view the prohibition as more applicable historically than it is today ($P = 0.019$) ($P < 0.05$)(Fisher's Exact).

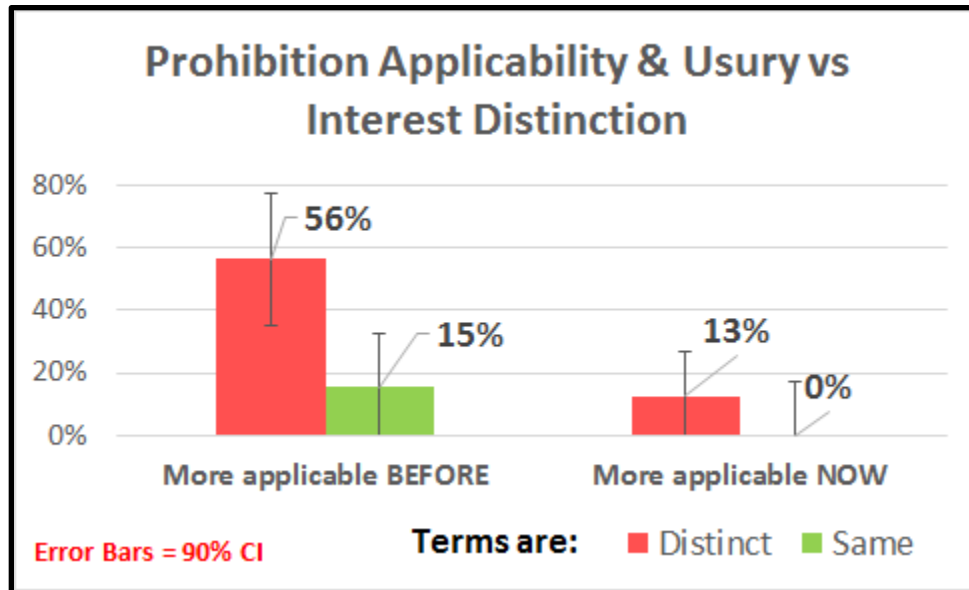


Figure 40. Muslims’ perception of the applicability of Islam’s prohibition on interest based on whether they considered interest and usury to be the same or distinct. Muslims who viewed the terms as distinct were more likely to regard Islam’s prohibition on interest as more applicable historically than in modern times.

In support of the previous hypothesis, respondents who regarded the terms interest and usury to be distinct were more likely to consider the prohibition of interest as more applicable historically. ($P < 0.05$) ($P = 0.023$) (Fisher’s Exact). Furthermore, there was a difference at the 0.10 level ($P = 0.052$) in the “More applicable before” category.

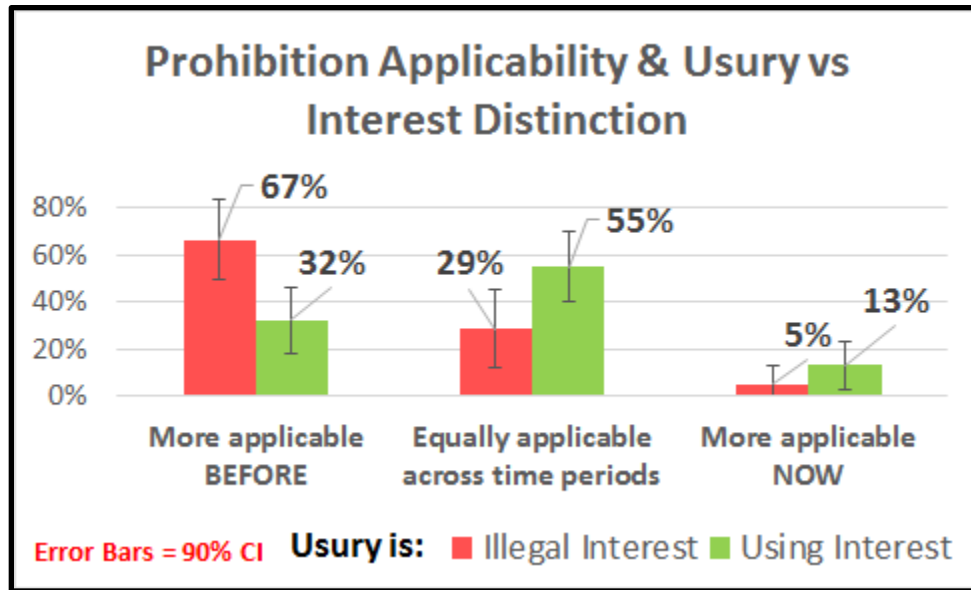


Figure 41. Muslims' perception of the applicability of Islam's prohibition on interest based on whether they considered usury to be an illegal interest rate or the act of using interest. Muslims who viewed the term to mean an illegal interest rate were more likely to regard Islam's prohibition on interest as more applicable historically than in modern times.

Those who regarded usury as an “illegal interest rate” were more likely to regard interest prohibition as more applicable before than equally applicable or more applicable now. ($P = 0.029$ and $P = 0.00005$) (Fisher's Exact). This finding again supports the notion that Islam's intention is to prevent exploitation, and indicates that Islam's stance on interest may be misinterpreted.

People who viewed usury as illegal interest were more likely to think it is more applicable historically than those who regard it as simply using interest ($P < 0.05$) ($P = 0.023$) (Fisher's Exact). People who view usury as the same as using interest (meaning the terms are synonymous) are more likely to view prohibition as equally applicable across time periods than those who think it is an illegal interest rate ($P < 0.10$) ($P = 0.089$). But they are more likely to think prohibition is equally applicable or more applicable now (when combined) than those who regard it as an illegal interest rate (equally + now) ($P < 0.05$) ($P = 0.023$).

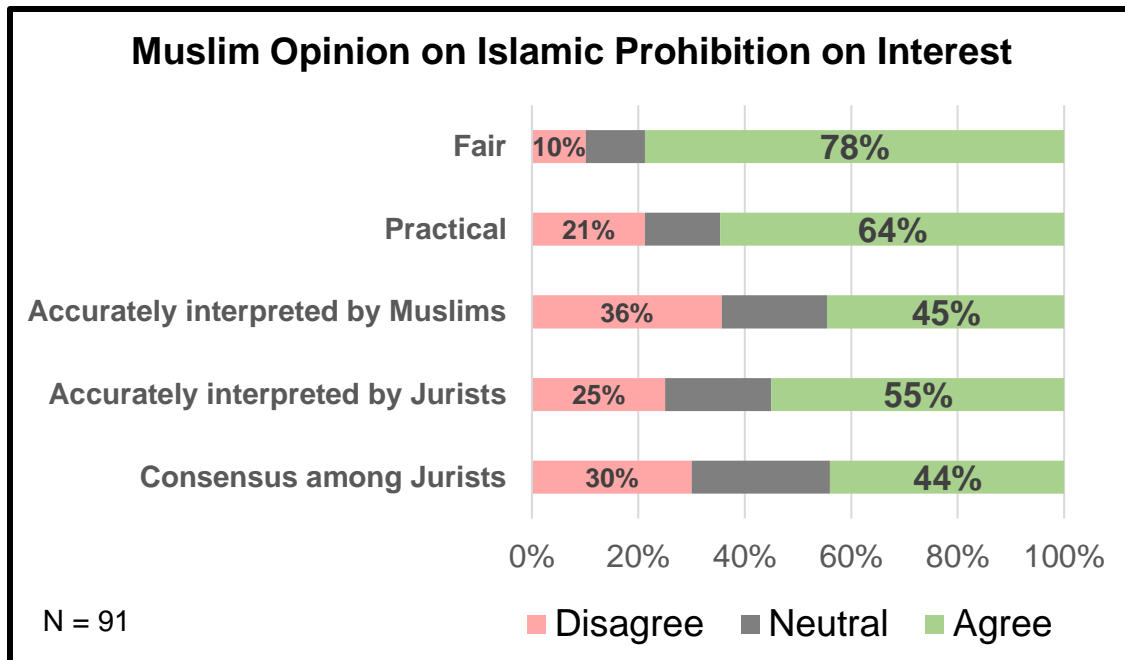


Figure 42. Muslims’ opinions about Islam’s prohibition on interest and whether they view the prohibition as fair, practical, and accurately interpreted. Muslim respondents tended to favorably view the prohibition.

Saving Attitude and Behavior

14. How important is saving to Muslim Americans relative to Non-Muslims?

- Both Muslims and non-Muslims said saving was very important to them; 92% of Muslims said saving was highly important compared to 81% non-Muslims.

15. What proportion of Muslim Americans save their earnings relative to Non-Muslims?

- Savings behavior was generally high among respondents. Muslims and non-Muslims exhibited equal levels of saving behavior as 77% of each group indicated they save.

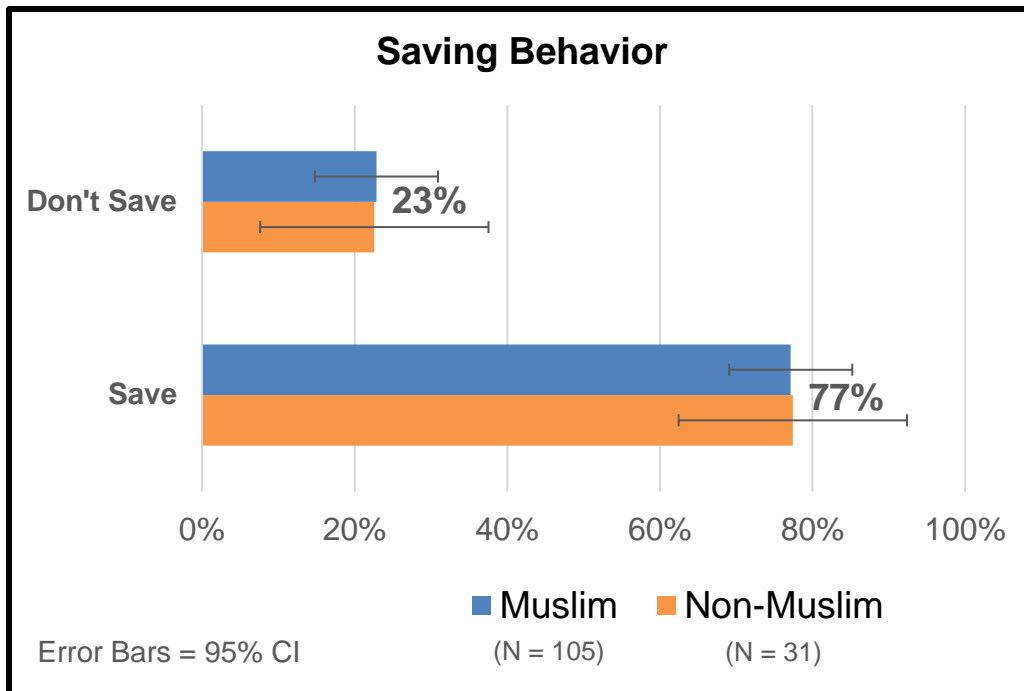


Figure 43. Saving behavior. Three-fourths of respondents indicated they save their earnings. There was no difference in saving behavior between Muslims and non-Muslims.

16. How important is investing to Muslim Americans relative to Non-Muslims?

- Investing, although not ranked as highly as saving, was still ranked as important for the majority of respondents; 67% of Muslims said investing is highly important compared to 58% of non-Muslims.

17. What proportion of Muslim Americans invest their earnings relative to Non-Muslims?

- There was no difference in investing behavior between Muslims and non-Muslims ($P > 0.05$). Of respondents, 31% of Muslims reported that they invest, compared to 33% of non-Muslims.

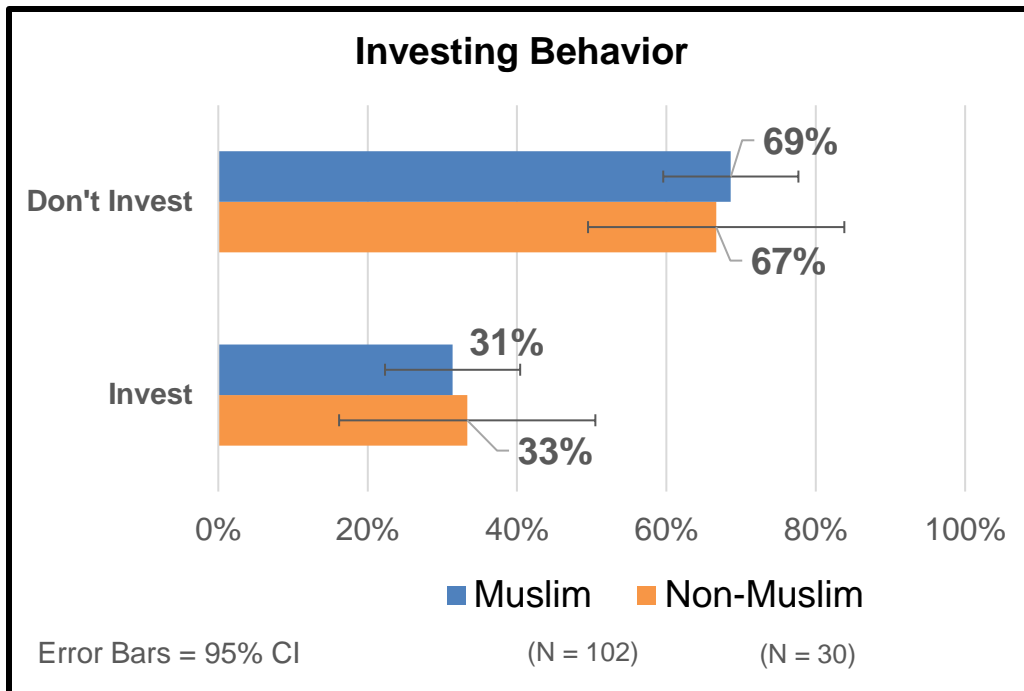


Figure 44. Investing behavior. Two-thirds of respondents indicated they invest their money. There was no difference in investing behavior between Muslims and non-Muslims.

Cryptocurrency Awareness and Usage

18. What proportion of Muslim Americans are aware of Cryptocurrency?

- Awareness of cryptocurrency was relatively high among respondents. However, there was no observed difference ($P > 0.05$) ($P = 0.16$) between awareness levels of Muslims and non-Muslims; 79% of Muslims were aware of cryptocurrency, compared to 90% of non-Muslims.

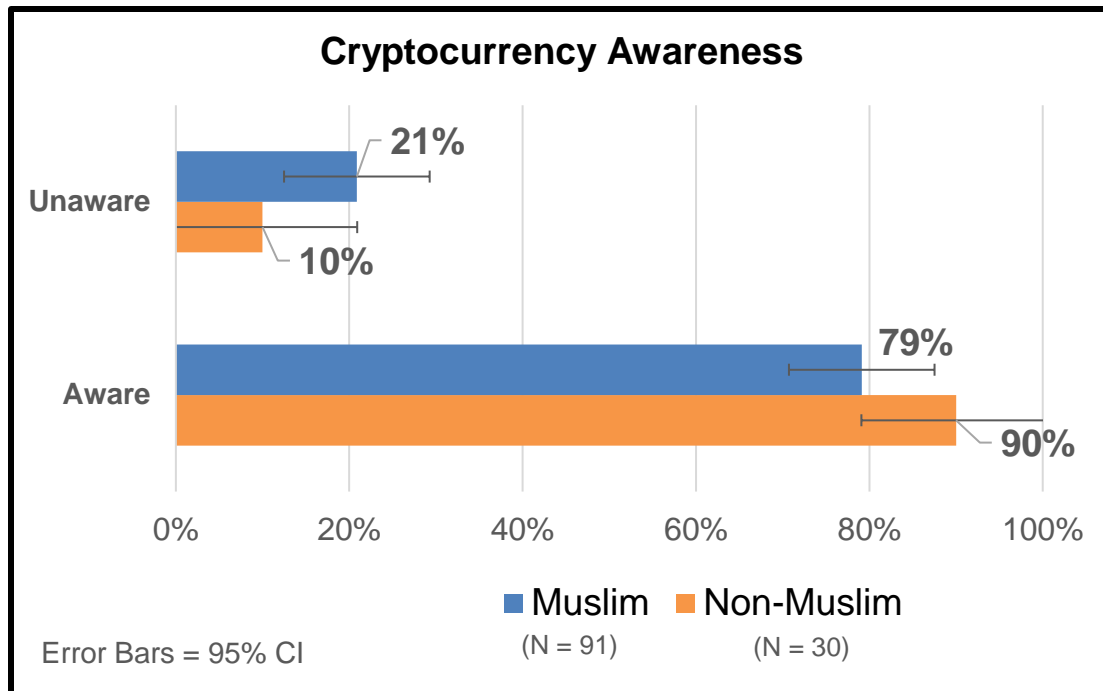


Figure 45. Cryptocurrency awareness. The majority of respondents were aware of cryptocurrencies such as Bitcoin. There were no differences between Muslims and non-Muslims

19. What proportion of Muslim Americans use Cryptocurrency?

- There was no significant difference ($P > 0.05$) in cryptocurrency usage between Muslims and non-Muslims; 15% of Muslims indicated they have bought or sold cryptocurrency, compared to 12% of non-Muslims.

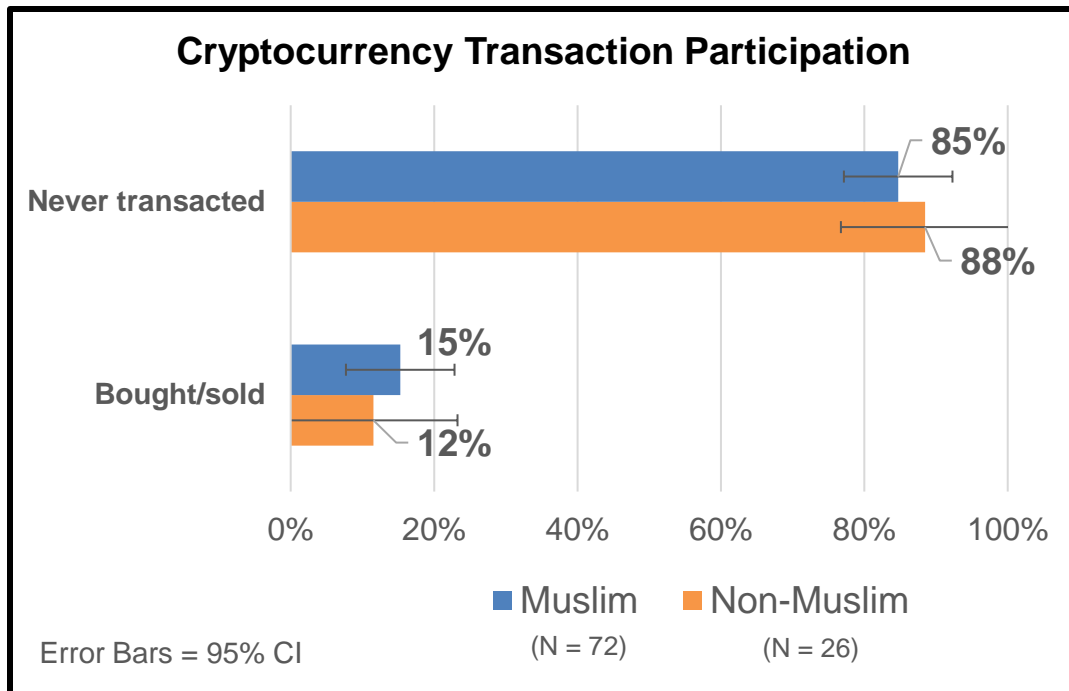


Figure 46. Participation in cryptocurrency transactions. The majority of respondents have never bought or sold cryptocurrencies. There were no differences between Muslims and non-Muslims.

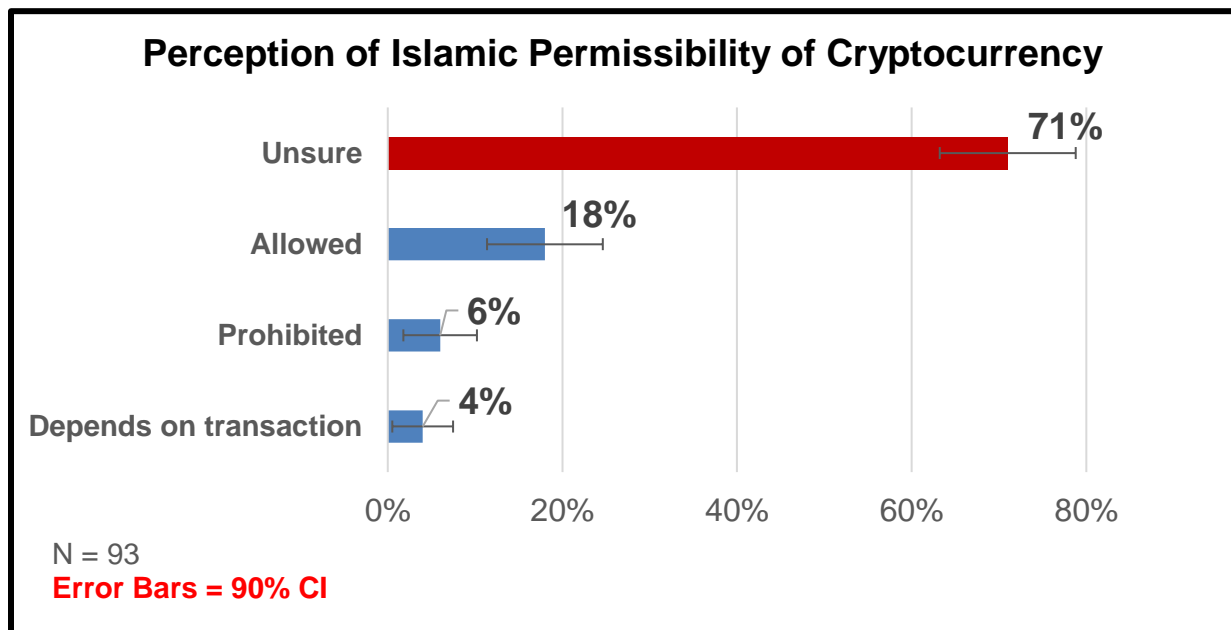


Figure 47. Muslims' perception of whether Islam allows or prohibits cryptocurrency transactions. The majority of respondents were unsure about

Islam's stance. Muslim respondents were significantly more likely to believe cryptocurrency is allowed than those who believe it is prohibited.

20. Do more Muslims think Cryptocurrency is allowed or prohibited in Islam?

- The majority of Muslim respondents were unsure whether Islam permits or prohibits the use of cryptocurrency. Significantly more Muslims believed it was allowed (18%) than those who believed it was prohibited (6%) ($P < 0.05$) ($P = 0.025$).

Future Research

The findings and trends of this study have inspired many new questions for future research to better understand trends among Muslim Americans in financial understandings, attitudes, and behavior.

Foremost, it would be interesting to see how the observed trends change over time with increased globalization and as more Muslims are born in western countries. With a growing Muslim population in the U.S. it is suggested that large research centers and data aggregators increase their scope and collect more information on Muslim trends in finance. It is anticipated that better understandings would lead to increased inclusion of Muslims in finance and increase their contribution to the economy.

Future studies should also take into account the degree of religiosity of respondents, as it has been shown in previously cited studies that an individual's self-declared level of strictness or adherence to their religion at least impacts their intention of performing certain actions.

Due to limited scope, this study's focus was only on a binary comparison between Muslims and non-Muslims. While some of the non-Muslim respondents listed other religious affiliations, their sample sizes were not large enough for robust comparison. In future studies, it would be valuable to understand how understandings, attitudes, and behaviors differ between religions, especially among the two other Abrahamic faiths of Judaism and Christianity, as they also have historical and moral condemnations of interest. Though the differences between Sunni and Shiite Muslims may be subtle, it could be worth investigating differences in jurisprudence among scholars and adherents since this study did not differentiate between these two branches of Islam.

Since credit cards are notorious for high interest rates, future studies should examine how Muslims perceive credit cards and how their usage differs compared to non-Muslims in the U.S.. Studies could measure the proportion of Muslims and non-Muslims that own credit cards, the number of cards held, the proportion of Muslims that completely pay their balances versus the proportion that pays interest on late payments. It could be predicted that Muslims, based on religious prohibition of interest, would own fewer credit cards, use them less frequently, and be more likely to make debit based purchases or pay balances in full.

While this study gathered some information on how Muslim students pay for their educational costs, it was not the main objective, and provided only some indications. The implementation of a larger study would help to better understand how Muslim students respond to conflicting pressures to attain education degrees amid rising tuition costs, and how Muslims who take out interest-bearing loans justify their actions and view or reconcile them based on religious restrictions.

Finally, with the relatively new emergence and popularity of blockchain technology and cryptocurrency transactions, it would be interesting to understand how Muslims and non-Muslims regard the legitimacy of cryptocurrency as assets and instruments of financial exchange. Furthermore, what do Islamic scholars say about the concept of cryptocurrencies and those that are circulating today. Additionally, to what degree are people adopting these services as society continues its transition towards paperless transactions?

References

¹ Baele, Lieven, Moazzam Farooq, and Steven R. G. Ongena, 2010, Of Religion and Redemption: Evidence from Default on Islamic Loans, *SSRN Electronic Journal*.

² Demirguc-Kunt, Asli, Leora Klapper, and Douglas Randall, 2014, Islamic Finance and Financial Inclusion: Measuring Use of and Demand for Formal Financial Services among Muslim Adults, *Review of Middle East Economics and Finance*.

(QE)

<https://read.quranexplorer.com/1/1/7/Usmani/Mishari-Rashid/Eng-Pickthal-Audio/Tajweed-OFF>

(Ahmad, Kashif-Ur-Rehman, and Humayoun)

Ahmad, Ashfaq, Asad Afzal Kashif-Ur-Rehman, and A. Humayoun. "Islamic Banking and Prohibition of Riba/interest." *African Journal Of Business Management* 5.5 (2011): 1763-767. Web.

(FDIC-2015)

<https://www.fdic.gov/householdsurvey/>

(Board of Governors of the Federal Reserve System (US))

<https://fred.stlouisfed.org/series/DRSFRMACBS#0>

(Naveed-History)

<https://www.islamicfinance.com/2015/02/an-overview-of-the-history-of-islamic-finance/>

(Alrifai)

Alrifai, T. (2015). *Islamic finance and the new financial system : An ethical approach to preventing future financial crises* (Wiley finance series). Singapore: Wiley.

https://search.library.oregonstate.edu/primo-explore/fulldisplay?docid=CP51254404920001451&context=L&vid=OSU&search_scope=everything&tab=default_tab&lang=en_US

(Abdul-Rahman)

Abdul-Rahman, Y. (2014). *The art of RF (Riba-Free) Islamic banking and finance : Tools and techniques for community-based banking* (Second ed., Wiley finance series). Hoboken, New Jersey: Wiley.

(Invest-leverage)

<https://www.investopedia.com/terms/l/leverage.asp>

(BBC-Sunni)

http://www.bbc.co.uk/religion/religions/islam/subdivisions/sunnishia_1.shtml

Ayoub, Nina C. "Nota Bene.(Koran's Prohibition on the Payment of Interest)." *The Chronicle of Higher Education* 52.34 (2006): A26. Print.

(Badr)

Badr, Gamal. "INTEREST ON CAPITAL IN ISLAMIC LAW." *American - Arab Affairs* 29 (1989): 86. Web.

(Farooq)

Farooq, Muhammad. "Interest, Usury and Its Impact on the Economy." *The Dialogue* 7.3 (2012): The Dialogue, Sept 30, 2012, Vol.7(3). Web.

Guidance Residential, LLC. "Declining Balance Co-ownership Program." *Interest Free, Islamic Home Partnership Program*. N.p., 2015. Web. 29 Nov. 2015.

Hashim, Muhammad. "Islamic Perception of Business Ethics and the Impact of Secular Thoughts on Islamic Business Ethics." *International Journal of Academic Research in Business and Social Sciences* 2.1 (2012): International Journal of Academic Research in Business and Social Sciences, Jan 31, 2012, Vol.2(1). Web.

Kennon, Joshua. "The Power of Compound Interest: How Compound Interest Can Make You Rich Through Sound Investments." About Money. About.com, n.d. Web. 24 Nov. 2015.

Mews, Constant, and I. Abraham. "Usury and Just Compensation: Religious and Financial Ethics in Historical Perspective." *Journal of Business Ethics* 72.1 (2007): 1-15. Web.

PR Newswire. "CreditCards.com Weekly Credit Card Rate Report: Average Credit Card Interest Rates Remain Unchanged at 15.01 Percent." *PR Newswire* 28 Oct. 2015. Web.

Quran.com. "AL-BAQARAH (THE COW)." *The Noble Quran*. Sahih International, 2015. Web. 1 Dec. 2015.

(Wilson, Christine.)

Wilson, Christine. "Appropriate Use of Financial Leverage in Your Feed and Grain Business.(Manager's Notebook)." *Feed & Grain* 50.2 (2011): 46. Web.

(Wilson, Paul)

Wilson, Paul. "How to Use Interest-only Loans to Your Advantage." Smart Property Investment. Sterling Publishing PTY LTD, 13 May 2015. Web. 23 Nov. 2015.

(Rubin)

Rubin, J. (2011). Institutions, the Rise of Commerce and the Persistence of Laws: Interest Restrictions in Islam and Christianity. *Economic Journal*, 121(557), 1310-1339.

(Poitras)

Poitras, G. (2000). The early history of financial economics, 1478-1776 : From commercial arithmetic to life annuities and joint stocks. Cheltenham, UK ; Northampton, MA: Edward Elgar.

(Pew-Mar)

<http://www.pewresearch.org/fact-tank/2018/03/19/share-of-married-adults-varies-widely-across-u-s-religious-groups/>

(Globalindex1)

<https://globalindex.worldbank.org/>

(World Bank2-unbanked)

https://globalindex.worldbank.org/sites/globalindex/files/chapters/2017%20Index%20full%20report_chapter2.pdf

(Demirguc-Kunt, et al)

Demirguc-Kunt, Asli, Leora Klapper, and Douglas Randall, 2014, Islamic Finance and Financial Inclusion: Measuring Use of and Demand for Formal Financial Services among Muslim Adults, *Review of Middle East Economics and Finance*.

(Belfer)

<https://www.belfercenter.org/sites/default/files/legacy/files/uploads/mei/conference/farooq-default.pdf>

(Abdul Ghafar)

https://www.researchgate.net/publication/265237418_Default_and_Recovery_Rates_on_Islamic_Banks_Financing_Implications_for_the_New_Capital_Adequacy_Standard

(AMJA1)

<http://www.amjaonline.org/en/articles/entry/amja-resident-fatwa-committee-resolution-about-islamic-home-financing-companies-in-the-us>

(Guid-res)

<https://www.guidanceresidential.com/blog/news/guidance-encouraged-by-amja-resolution/>

(Sharma, et al)

Sharma, R., Newaz, F., & Fam, K. (2017). Muslim religiosity, generational cohorts and buying behaviour of Islamic financial products. Australian Journal of Management, 42(3), 482-501.

(Pew-sunni)

<http://www.pewforum.org/2011/01/27/future-of-the-global-muslim-population-sunni-and-shia/>

(Schoon)

Schoon, N. (2016). Modern Islamic banking : Products, processes in practice (Wiley finance series). Chichester, West Sussex: John Wiley & Son.

(Vincent)

http://scholarship.shu.edu/cgi/viewcontent.cgi?article=1600&context=student_scholarship

(Bible 2)

<https://bible.org/seriespage/2-introduction-new-testament>

(Lariba 1)

<https://www.lariba.com/knowledge-center/riba-history.htm>

(Visser and Macintosh)

Visser, W., & Macintosh, A. (1998). A short review of the historical critique of usury. Accounting, Business & Financial History, 8(2), 175-189.

(Jewish Virtual Library1)

<http://www.jewishvirtuallibrary.org/usury>

(Rummel)

<https://history.hanover.edu/courses/excerpts/165hammurabi.html>

(Calisch)

The Mosaic Code. (1907). The Virginia Law Register, 12(11), 851-865.
Rabbi Edward N. Calisch

(Dict 1)

<http://www.dictionary.com/browse/mosaic-law>

(Merriam)

<https://www.merriam-webster.com/dictionary/Pentateuch>

(Staff)

<https://www.myjewishlearning.com/article/talmud-101/>
MJL STAFF

(Wiki 1)

https://en.wikipedia.org/wiki/Judah_ha-Nasi

(Open Bible)

<https://www.openbible.info/topics/usury>

(Shurin)

Shurin, Jacob

Tradition: A Journal of Orthodox Jewish Thought

Vol. 18, No. 4 (WINTER 1980), pp. 357-364

https://www.jstor.org/stable/23258662?seq=1#page_scan_tab_contents

(Fried)

Fried, Ginnine. (2004). The collision of church and state: A primer to beth din arbitration and the New York secular courts. Fordham Urban Law Journal, 31(2), 633.

(Silver)

<http://traditionarchive.org/news/originals/Volume%2015/No.%203/The%20Prohibitin%20Against.pdf>

(Jewish Virtual Library2)

<http://www.jewishvirtuallibrary.org/chief-rabbis-of-israel>

(Sefaria)

https://www.sefaria.org/Introductions_to_the_Babylonian_Talmud,_Bava_Metzia,_Summary_of_Perek_V?lang=bi

(Levine)

<https://books.google.com/books?id=zf7MwGclHTQC&pg=PA223&lpg=PA223&dq=avak+ribbit&source=bl&ots=JzVkJDyyFj&sig=GZfWivmciYn3N6qm5yT2osoGgBU&hl=en&sa=X&ved=0ahUKEwip0LL8hPDZAhhVH2WMKHQnsAqgQ6AEIOzAE#v=onepage&q=avak%20ribbit&f=false>

(Grunfeld)

<http://www.jewishpress.com/judaism/halacha-hashkafa/laws-prohibiting-the-charging-of-interest-bava-metzia-63b/2016/12/15/>

(Khalil)

https://books.google.com/books?id=ybnkig5ci6cC&pg=PA60&lpg=PA60&dq=hiyal+double+sale&source=bl&ots=1yauR72grs&sig=TGyIUxS9jQDMxS3VoMzdo54obGU&hl=en&sa=X&ved=0ahUKEwjL6NTJgqzZAhhVE_mMKHe45BtAQ6AEIJzAA#v=twopage&q=hiyal%20double%20sale&f=false

(Sole)

<https://www.imf.org/external/pubs/ft/wp/2007/wp07175.pdf>

(Khan)

Khan, H. (2015). Optimal incentives for takaful (Islamic insurance) operators. Journal of Economic Behavior and Organization, 109, 135-144.

(World Bank1)

<http://www.irti.org/English/News/Documents/438.pdf>

(Investment Monitor)

Equity Vs Debt: The key difference is 'Risk'. (2011). Investment Monitor, Investment Monitor, Oct 24, 2011.

(Myers)

<https://www.quora.com/Why-do-large-companies-like-Apple-take-loans-even-when-they-make-large-profits>

(Quran-simple)

<https://www.quran.com/2/275-285>

(Nayeem...)

Nayeem, Omar, Shiliwala, Mohamed, & Shiliwala, Wasim. (2009). A CONFLICT OF INTEREST: ISLAMIC HOME FINANCING IN AMERICA. *Economic Affairs*, 29(2), 22-27.

https://search.library.oregonstate.edu/primo-explore/fulldisplay?docid=TN_wj10.1111/j.1468-0270.2009.01889.x&context=PC&vid=OSU&search_scope=everything&tab=default_tab&lang=en_US

(Wiseman)

<https://abcnews.go.com/Business/story?id=4532980&page=1>

(Aizenman)

<http://www.washingtonpost.com/wp-dyn/content/article/2008/05/12/AR2008051202740.html>

(Besheer)

<http://www.pewresearch.org/fact-tank/2018/01/03/new-estimates-show-u-s-muslim-population-continues-to-grow/>

(Shafiq)

ISLAMIC FINANCE AND THE ROLE OF QARD-AL-HASSAN (BENEVOLENT LOANS) IN ENHANCING INCLUSION: A CASE STUDY OF AKHUWAT

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(ISBI)

http://www.islamic-banking.com/mudarabah_sh_ruling.aspx

(Lexicon 1)

<http://lexicon.ft.com/Term?term=musharaka>

(Khorshid)

<https://books.google.com/books?id=riOKlqX1asMC&pg=PA35&lpg=PA35&dq=what+is+mal+ribawi&source=bl&ots=ZOmOupUPvg&sig=dK-ry6AWXMiCdR6xkU-IQ4rCFhU&hl=en&sa=X&ved=0ahUKEwjP2LKS1LDZAhUWzmMKHdGcDgcQ6AEILzAD#v=onepage&q=what%20is%20mal%20ribawi&f=false>

(Shahzad)

Qadri, Shahzad. (2009). Islamic finance: An alternative. *Banking & Financial Services Policy Report*, 28(1), 9-12.

(GIFR)

http://www.gifr.net/gifr2016/ch_10.pdf

GLOBAL ISLAMIC FINANCE REPORT 2016(Rep.). (2016). Retrieved http://www.gifr.net/gifr2016/ch_10.pdf

(Zamir)

https://books.google.com/books?id=SbVUt5X0R5MC&pg=PT72&lpg=PT72&dq=buddhism++interest+usury&source=bl&ots=Mp7zqzRopx&sig=rOcZlaYzG-2feKOITjupZ9yVK5Q&hl=en&sa=X&ved=0ahUKEwiU5b_5rcrZAhXL6oMKHdXzCtQ4FBD0AQguMAI#v=onepage&q=buddhism%20%20interest%20usury&f=false

(Masud)

<https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1093&context=jil>

(Invest-Takaful)

<https://www.investopedia.com/terms/t/takaful.asp>

(Takaful-Int)

<http://www.takaful.bh/default.asp?action=article&id=74&menuid=sub4>

(Islamic Banker)

<https://islamicbanker.com/education/istisna>

(IBRC)

<https://islamicbankers.me/islamic-banking-islamic-contracts/in-focus-bai-salam/>

(Lexicon 2)

[http://lexicon.ft.com/Term?term=sukuk-\(islamic-bonds\)](http://lexicon.ft.com/Term?term=sukuk-(islamic-bonds))

(I&F-Sukuk)

<http://www.investment-and-finance.net/islamic-finance/s/sukuk-al-istithmar.html>

(Zolfaghari)

http://www.jur.uu.se/digitalAssets/563/c_563862-1_3-k_wps2017-2.pdf

(Hidayat)

<http://pakacademicsearch.com/pdf-files/ech/188/24-31%20Vol.%201%20No.%202,%20July%202013.pdf>

(TFD)

<https://financial-dictionary.thefreedictionary.com/special-purpose+entity>

(Naveed 1)

<https://www.sukuk.com/article/sukuk-taxation-legal-structures-2332/>

(Naveed 2)

<https://www.sukuk.com/education/sukuk-bond-defaults-differ-role-trustee-purchase-undertaking-agreement-1522/>

(Naim)

<http://arzim.blogspot.com/2011/02/malaysia-tax-haven-for-islamic-finance.html>

(I&F-usu)

<http://www.investment-and-finance.net/islamic-finance/u/usufruct.html>