

THE SUBPRIME MORTGAGE CRISIS: ISLAMIC ECONOMICS PERSPECTIVE

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Abstract

*The bursting of the housing bubble forced banks to write down several hundred billion dollars in bad loans caused by mortgage delinquencies. Two trends in the banking industry contributed significantly to the lending boom and housing frenzy that laid the foundations for the crisis. First, instead of holding loans on banks' balance sheets, banks moved to an—originate and distribute model. Second, banks increasingly financed their asset holdings with shorter maturity instruments. This left banks particularly exposed to a dry-up in funding liquidity. From Islamic economics point of view, no doubt, *riba* (interest, usury) and *maysir* (gambling, speculative activities similar to gambling) are the major factors leading to the current financial crisis. Keeping individuals and society free from financial and economic crises can clearly be seen as one of the objectives of such institutions. While the conventional financial system disintegrates, Islamic banking seems to be flourishing, accounting for 17 percent of Qatari and 15 percent of Malaysian banking assets and impressively, over 95 percent of banking activity in Saudi.*

Keywords: *Subprime mortgage, bubble economics, Islamic banking, financial crisis*

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INTRODUCTION

The financial market turmoil in 2007 and 2008 has led to the most severe financial crisis since the Great Depression and threatens to have large impacts on the real economy. The bursting of the housing bubble forced banks to write down several hundred billion dollars in bad loans caused by mortgage delinquencies. At the same time, the stock market capitalization of the major banks declined by more than twice as much. While the overall mortgage losses are large on an absolute scale, they are still relatively modest compared to the \$8 trillion of stock market wealth lost between October 2007, when the stock market reached an all-time high, and October 2008 (Brunnermeier, 2008)

So what does all this mean? It means two main things. Firstly, there is a significant concern about the conventional financial system and indeed the model used by many investment banks (Lehman Brothers) and retail banks has been questioned. Secondly, these indicators show that there is a large flight to quality, with gold prices surging and money managers facing mounting challenges of buying treasury bills.

Confidence and trust, two of the most precious commodities, are at record low following the bailout of Fannie Mae, Freddie Mac and AIG. The collapse of Lehman Brothers, Bear Stearns and Merrill Lynch's takeover by Bank of America makes this crisis arguably the worst since 1929. This chaos has led many observers perplexed, with the BBC asking: Where now for capitalism?

From Islamic economics point of view, no doubt, *riba* (interest, usury) and *maysir* (gambling, speculative activities similar to gambling) are the major factors leading to the current financial crisis. Islam's prohibition of *riba* and *maysir* along with Islamic values and morals, and recognizing others' interest in one's economic fortunes, if adhered to, could not have lead the world to the present day financial crisis. Keeping individuals and society free from financial and economic crises can clearly be seen as one of the objectives of such institutions. While the conventional financial system disintegrates, Islamic banking seems to be flourishing, accounting for 17 percent of Qatari and 15 percent of Malaysian banking assets and impressively, over 95 percent of banking activity in Saudi Arabia conforms to Islamic principles.

Given this level excitement around this fledgling, but promising industry – we must ask ourselves “What are the main challenges facing the industry and what can we learn from the credit crisis?” (Brunnermeier, 2008).

THE UNFOLDING OF THE CRISIS

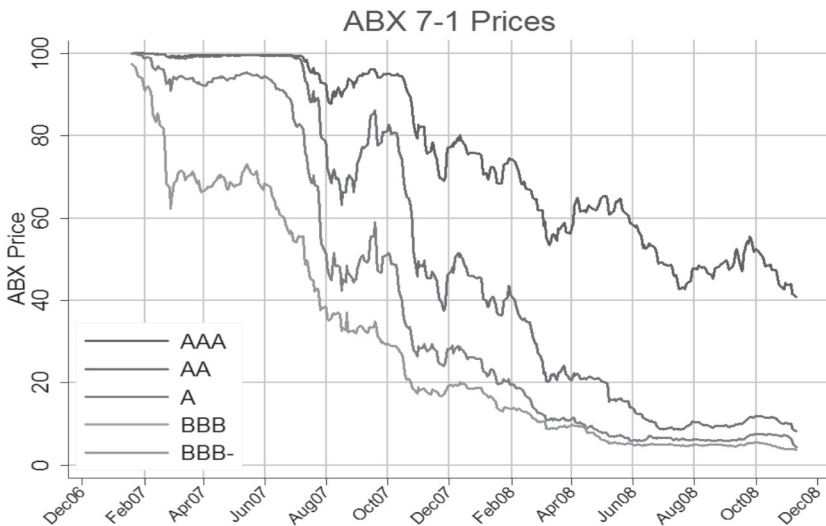
Brunnermeier (2008) said that to understand these threads, it is useful to recall some key factors leading up to the housing bubble. The U.S. economy was experiencing a low interest-rate environment, both because of large capital inflows from abroad, especially from Asian countries, and because the Federal Reserve had adopted a lax interest rate policy. Asian countries bought U.S. securities both to peg the exchange rate on an export-friendly level and to hedge against a depreciation of their own currency against the dollar, a lesson learned from South-East Asia crisis in the late 1990s. The Federal Reserve Bank feared a deflationary period after the bursting of the internet bubble and thus did not counteract the buildup of the housing bubble. At the same time, the banking system underwent an important transformation. The traditional banking model, in which the issuing banks hold loans until they are repaid, was replaced by the – “originate and

distribute” - banking model, in which loans are pooled, trashed and then resold via securitization. The creation of new securities facilitated the large capital inflows from abroad.

Brunnermeier (2008) indicates that two trends in the banking industry contributed significantly to the lending boom and housing frenzy that laid the foundations for the crisis. First, instead of holding loans on banks’ balance sheets, banks moved to an originate and distribute - model. Banks repackaged loans and passed them on to various other financial investors, thereby off-loading risk. Second, banks increasingly financed their asset holdings with shorter maturity instruments. This left banks particularly exposed to a dry-up in funding liquidity. The trigger for the liquidity crisis was an increase in subprime mortgage defaults, which was first noted in February 2007. Figure 1 shows the ABX price index, which is based on the price of credit default swaps. As this price index declines, the cost of insuring a basket of mortgages of a certain rating against default increases. On May 4, 2007, UBS shut down its internal hedge fund, Dillon Read, after suffering about \$125 million of subprime-related losses. Later that month, Moody’s put 62 tranches across 21 U.S. subprime deals on downgrade review, indicating that it was likely these tranches would be downgraded in the near future. This led to a deterioration of the prices of mortgage-related products.

The ABX index is based on a basket of 20 credit default swaps referencing asset-backed

Figure 1: Rising Losses on Mortgage Credit Default Swaps.



Source: LehmanLive (Brunnermeier, 2008)

securities containing subprime mortgages (rated, for example, BBB-). An investor seeking to insure against the default of the underlying securities pays a periodic fee (spread) which – at initiation of the series – is set to guarantee an index price of 100. As the price of the ABX drops, the protection buyer has to pay an additional fee of $(100 - \text{ABX price})$, when purchasing the default insurance.

Rating downgrades of other tranches by Moody's, Standard & Poor's, and Fitch unnerved the credit markets in June and July 2007. In mid-June, two hedge funds run by Bear Stearns had trouble meeting margin calls, leading Bear Stearns to inject \$3.2 billion in order to protect its reputation. Then a major U.S. home loan lender, Countrywide Financial Corp., announced a 12 earnings drop on July 24 and on July 26, an index from the National Association of Home Builders revealed that new home sales had declined 6.6 percent year-on-year, and the largest U.S. home builder reported a loss in that quarter. Ever since then, house prices and sales have continued to drop.

Umer Chapra quoted by Ghafour (2008) says that the Islamic finance system, which introduces greater discipline into the economy and links credit expansion to the growth of the real economy, is capable of minimizing the severity and frequency of financial crises. Islamic finance can also reduce the problem of subprime borrowers by providing them loans at affordable terms. This will save billions of dollars that are spent to bail out the rich bankers. Chapra estimated the derivatives market at \$600 trillion, more than 10 times the size of the world economy. George Soros described derivatives as hydrogen bombs while Warren Buffett called them financial weapons of mass destruction. The derivatives include credit default swaps (CDS) worth \$54.6 trillion.

OVERVIEW OF SECURITIZATION

Securitization is the process of packaging designated pools of assets with or without credit enhancement into securities, and the sale of these securities to the appropriate investors. The process involves the creation of homogenous assets - both in kind and in underwriting criteria and then pooling them into a significant saleable size. Generally, a pool, on the whole, has a better credit characteristic (through diversification of credit risk, transaction size, geography, etc.) than an individual asset. The process may also involve the provision of additional protection for the investors against late payments, pre-payments, potential write-offs, as well as cash-flow timing mismatches.

The collapse of the securitization market and the ensuing market turbulence, however, have cast serious doubt on this economic proposition of unbundling, transforming and redistributing credit risk via structured finance instruments. In view of sweeping fiscal intervention in the financial sector, a widespread retrenchment of mortgage exposures, and substantial liquidity injections by central banks to support inter-bank money markets, both the scale and persistence of the current credit crisis, seem to suggest that pervasive securitization — together with improvident credit origination, inadequate valuation methods, and insufficient regulatory oversight — can perpetuate market disruptions, with potentially adverse consequences for financial stability and economic growth.

The growth of securitization is basically driven by four factors; first, the imposition of capital adequacy ratios and reserve requirements on financial institutions by the regulatory agencies have made financial institutions safer place to invest in. However, these restrictions have “costs” as they either add direct cost or restrict the ability of these financial institutions to increase their volume of business. Securitization enables these institutions to efficiently remove assets from their balance sheet. It allows them to monetize previously illiquid assets, recycle cash to be reinvested and, hence, expand the volume of their business without a corresponding increase in

their equity capital. In simple terms, securitization allows financial institutions to serve more customers without having to raise new funds in the form of either equity or deposits. Second, whenever the global cost of capital increases, securitization helps financial institutions to raise cheaper capital for their businesses at the asset level instead of the enterprise level. Third, there is a growing convergence of many capital markets into one, as the barriers between them were removed. As all segments of the economy now compete for the same capital, efficient, low cost of financing have become more necessary. Fourth, increased ability to generate and utilize information through popular use of rapidly improving computer technology has resulted in significant gains for the securitization business. It is now possible to obtain credit and liquidity information on millions of financial assets, enabling the market players to isolate certain types of assets with the objective of making them self-financing. The availability of information enables institutions to remove certain assets from their balance sheets and obtain better credit than what the originators could command in the market, and, hence, lower cost of funding.

The Subprime Mortgage Credit Securitization

Until very recently, the origination of mortgages and issuance of mortgage-backed securities (MBS) were dominated by loans to prime borrowers conforming to underwriting standards set by the Government Sponsored Agencies (GSEs). Outside of conforming loans are non-agency asset classes that include Jumbo, Alt-A, and Subprime. Loosely speaking, the Jumbo asset class includes loans to prime borrowers with an original principal balance larger than the conforming limits imposed on the agencies by Congress; the Alt-A asset class involves loans to borrowers with good credit but include more aggressive underwriting than the conforming or Jumbo classes (i.e. no documentation of income, high leverage); and the Subprime asset class involves loans to borrowers with poor credit history.

Table 1 documents origination and issuance since 2001 in each of four asset classes. In 2001, banks originated \$1.433 trillion in conforming mortgage loans and issued \$1.087 trillion in mortgage-backed securities secured by those mortgages, shown in the “Agency” columns of Table 1. In contrast, the non-agency sector originated \$680 billion (\$190 billion subprime + \$60 billion Alt-A + \$430 billion jumbo) and issued \$240 billion (\$87.1 billion subprime + \$11.4 Alt-A + \$142.2 billion jumbo), and most of these were in the Jumbo sector. The Alt-A and Subprime sectors were relatively small, together comprising \$250 billion of \$2.1 trillion (12 percent) in total origination during 2001.

Table 1: Origination and Issue of Non-Agency Mortgage Loans

Year	Sub-prime			Alt-A			Jumbo			Agency		
	Origination	Issuance	Ratio	Origination	Issuance	Ratio	Origination	Issuance	Ratio	Origination	Issuance	Ratio
2001	\$ 190.00	\$ 87.10	46%	\$ 60.00	\$ 11.40	19%	\$ 430.00	\$ 142.20	33%	\$ 1,433.00	\$ 1,087.00	76%
2002	\$ 231.00	\$ 122.70	53%	\$ 68.00	\$ 53.50	79%	\$ 576.00	\$ 171.50	30%	\$ 1,898.00	\$ 1,442.00	76%
2003	\$ 335.00	\$ 195.00	58%	\$ 85.00	\$ 74.10	87%	\$ 655.00	\$ 237.50	36%	\$ 2,690.00	\$ 2,130.90	79%
2004	\$ 540.00	\$ 362.63	67%	\$ 200.00	\$ 158.60	79%	\$ 515.00	\$ 233.40	45%	\$ 1,345.00	\$ 1,018.60	76%
2005	\$ 625.00	\$ 465.00	74%	\$ 380.00	\$ 332.30	87%	\$ 570.00	\$ 280.70	49%	\$ 1,180.00	\$ 964.00	82%
2006	\$ 600.00	\$ 448.60	75%	\$ 400.00	\$ 365.70	91%	\$ 480.00	\$ 219.00	46%	\$ 1,040.00	\$ 904.60	87%

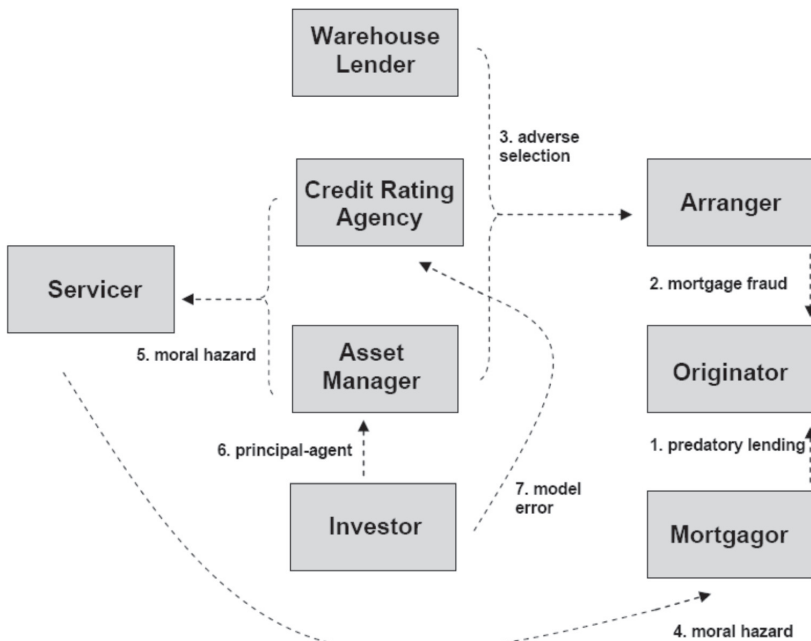
Source: Brunnermeier (2008)

A reduction in long-term interest rates through the end of 2003 was associated with a sharp increase in origination and issuance across all asset classes. While the conforming markets peaked in 2003, the non-agency markets continued rapid growth through 2005, eventually eclipsing activity in the conforming market. In 2006, non-agency production of \$1.480 trillion was more than 45 percent larger than agency production, and non-agency issuance of \$1.033 trillion was larger than agency issuance of \$905 billion.

Interestingly, the increase in Subprime and Alt-A origination was associated with a significant increase in the ratio of issuance to origination, which is a reasonable proxy for the fraction of loans sold. In particular, the ratio of subprime MBS issuance to subprime mortgage origination was close to 75 percent in both 2005 and 2006. While there is typically a one-quarter lag between origination and issuance, the data document that a large and increasing fraction of both subprime and Alt-A loans are sold to investors, and very little is retained on the balance sheets of the institutions who originate them. The process through which loans are removed from the balance sheet of lenders and transformed into debt securities purchased by investors is called securitization.

The securitization of mortgage loans is a complex process that involves a number of different players. Figure 2 provides an overview of the players, their responsibilities, the important frictions that exist between the players, and the mechanisms used in order to mitigate these frictions. An overarching friction which plagues every step in the process is asymmetric information: usually one party has more information about the asset than another. Ashcraft and Schuermann (2007) discuss the seven frictions and evaluating the mechanisms designed to mitigate and understand how the securitization of subprime loans could generate bad outcomes:

Figure 2: Key Players and Frictions in Subprime Mortgage Credit Securitization



Source: Ashcraft and Schuermann (2007)

1. Frictions between the mortgagor and originator: Predatory lending

The process starts with the mortgagor or borrower, who applies for a mortgage in order to purchase a property or to refinance an existing mortgage. The originator, possibly through a broker (yet another intermediary in this process), underwrites and initially funds and services the mortgage loans.

The first friction in securitization is between the borrower and the originator. In particular, subprime borrowers can be financially unsophisticated. For example, a borrower might be unaware of all of the financial options available to him. Moreover, even if these options are known, the borrower might be unable to make a choice between different financial options that is in his own best interest. This friction leads to the possibility of predatory lending, defined by Morgan as the welfare-reducing provision of credit. The main safeguards against these practices are federal, state, and local laws prohibiting certain lending practices, as well as the recent regulatory guidance on subprime lending.

2. Frictions between the originator and the arranger: Predatory lending and borrowing

The pool of mortgage loans is typically purchased from the originator by an institution known as the arranger or issuer. The first responsibility of the arranger is to conduct due diligence on the originator. This review includes but is not limited to financial statements, underwriting guidelines, discussions with senior management, and background checks. The arranger is responsible for bringing together all the elements for the deal to close. In particular, the arranger creates a bankruptcy-remote trust that will purchase the mortgage loans, consults with the credit rating agencies in order to finalize the details about deal structure, makes necessary filings with the SEC, and underwrites the issuance of securities by the trust to investors. The arranger is typically compensated through fees charged to investors and through any premium that investors pay on the issued securities over their par value.

The second friction in the process of securitization involves an information problem between the originator and arranger. In particular, the originator has an information advantage over the arranger with regard to the quality of the borrower. Without adequate safeguards in place, an originator can have the incentive to collaborate with a borrower in order to make significant misrepresentations on the loan application, which, depending on the situation, could be either construed as predatory lending (the lender convinces the borrower to borrow "too much") or predatory borrowing (the borrower convinces the lender to lend "too much").

There are several important checks designed to prevent mortgage fraud, the first is the due diligence of the arranger. In addition, the originator typically makes a number of representations and warranties (R&W) about the borrower and the underwriting process. When these are violated, the originator generally must repurchase the problem loans. However, in order for these promises to have a meaningful impact on the friction, the originator must have adequate capital to buy back those problem loans. Moreover, when an arranger does not conduct or routinely ignores its own due diligence, as suggested in a recent Reuters piece by Rucker, there is little to stop the originator from committing widespread mortgage fraud.

3. Frictions between the arranger and third-parties: Adverse selection

There is an important information asymmetry between the arranger and third-parties concerning the quality of mortgage loans. In particular, the fact that the arranger has more information about the quality of the mortgage loans creates an adverse selection problem: the arranger can securitize bad loans (the lemons) and keep the good ones (or securitize them elsewhere). This third friction in the securitization of subprime loans affects the relationship that the arranger has with the warehouse lender, the credit rating agency (CRA), and the asset manager.

4. Frictions between the servicer and the mortgagor: Moral hazard

The trust employs a servicer who is responsible for collection and remittance of loan payments, making advances of unpaid interest by borrowers to the trust, accounting for principal and interest, customer service to the mortgagors, holding escrow or impounding funds related to payment of taxes and insurance, contacting delinquent borrowers, and supervising foreclosures and property dispositions. The servicer is compensated through a periodic fee by paid the trust.

Moral hazard refers to changes in behavior in response to redistribution of risk, e.g., insurance may induce risk-taking behavior if the insured does not bear the full consequences of bad outcomes. Here we have a problem where one party (the mortgagor) has unobserved costly effort that affects the distribution over cash flows which are shared with another party (the servicer), and the first party has limited liability (it does not share in downside risk). In managing delinquent loans, the servicer is faced with a standard moral hazard problem vis-à-vis the mortgagor. When a servicer has the incentive to work in investors' best interest, it will manage delinquent loans in a fashion to minimize losses. A mortgagor struggling to make a mortgage payment is also likely struggling to keep hazard insurance and property tax bills current, as well as conduct adequate maintenance on the property. The failure to pay property taxes could result in costly liens on the property that increase the costs to investors of ultimately foreclosing on the property. The failure to pay hazard insurance premiums could result in a lapse in coverage, exposing investors to the risk of significant loss and the failure to maintain the property will increase expenses to investors in marketing the property after foreclosure and possibly reduce the sale price. The mortgagor has little incentive to expend effort or resources to maintain a property close to foreclosure.

In order to prevent these potential problems from surfacing, it is standard practice to require the mortgagor to regularly escrow funds for both insurance and property taxes. When the borrower fails to advance these funds, the servicer is typically required to make these payments on behalf of the investor. In order to prevent lapses in maintenance from creating losses, the servicer is encouraged to foreclose promptly on the property once it is deemed uncollectible. An important constraint in resolving this latter issue is that the ability of a servicer to collect on a delinquent debt is generally restricted under the Real Estate Settlement Procedures Act, Fair Debt Collection Practices Act and state deceptive trade practices statutes. In a recent court case, a plaintiff in Texas alleging unlawful collection activities against Ocwen Financial was awarded \$12.5 million in actual and punitive damages.

5. Frictions between the servicer and third-parties: Moral hazard

The servicer can have a significantly positive or negative effect on the losses realized from the mortgage pool. Moody's estimates that servicer quality can affect the realized level of losses by plus or minus 10 percent. This impact of servicer quality on losses has important implications for both investors and credit rating agencies. In particular, investors want to minimize losses while credit rating agencies want to minimize the uncertainty about losses in order to make accurate opinions. We have a similar problem as in the fourth friction, namely where one party (here the servicer) has unobserved costly effort that affects the distribution over cash flows which are shared with other parties, and the first party has limited liability (it does not share in downside risk).

6. Frictions between the asset manager and investor: Principal-agent

The investor provides the funding for the purchase of the mortgage-backed security. As the investor is typically financially unsophisticated, an agent is employed to formulate an investment strategy, conduct due diligence on potential investments, and find the best price for trades. Given differences in the degree of financial sophistication between the investor and an asset manager, there is an obvious information problem between the investor and portfolio manager that gives rise to the sixth friction.

In particular, the investor will not fully understand the investment strategy of the manager, has uncertainty about the manager's ability, and does not observe any effort that the manager makes to conduct due diligence. This principal (investor)-agent (manager) problem is mitigated through the use of investment mandates, and the evaluation of manager performance relative to a peer benchmark or its peers.

As one example, a public pension might restrict the investments of an asset manager to debt securities with an investment grade credit rating and evaluate the performance of an asset manager relative to a benchmark index. However, there are other relevant examples. The FDIC, which is an implicit investor in commercial banks through the provision of deposit insurance, prevents insured banks from investing in speculative-grade securities or enforces risk-based capital requirements that use credit ratings to assess risk-weights. An actively managed collateralized debt obligation (CDO) imposes covenants on the weighted average rating of securities in an actively-managed portfolio as well as the fraction of securities with a low credit rating.

As investment mandates typically involve credit ratings, it should be clear that this is another point where the credit rating agencies play an important role in the securitization process. By presenting an opinion on the riskiness of offered securities, the rating agencies help resolve the information frictions that exist between the investor and the portfolio manager. Credit ratings are intended to capture the expectations about the long-run or through-the-cycle performance of a debt security. A credit rating is fundamentally a statement about the suitability of an instrument to be included in a risk class, but importantly, it is an opinion only about credit risk. It follows that the opinion of credit rating agencies is a crucial part of securitization, because in the end the rating is the means through which much of the funding by investors finds its way into the deal.

7. Frictions between the investor and the credit rating agencies: Model error

The rating agencies are paid by the arranger and not investors for their opinion, which creates a potential conflict of interest. Since an investor is not able to assess the efficacy of rating agency models, they are susceptible to both honest and dishonest errors on the agencies' part. The information asymmetry between investors and the credit rating agencies is the seventh and final friction in the securitization process. Honest errors are a natural byproduct of rapid financial innovation and complexity. On the other hand, dishonest errors could be driven by the dependence of rating agencies on fees paid by the arranger (the conflict of interest).

Some critics claim that the rating agencies are unable to objectively rate structured products due to conflicts of interest created by issuer-paid fees. Moody's, for example, made 44 per cent of its revenue last year from structured finance deals. Such assessments also command more than double the fee rates of simpler corporate ratings, helping keep Moody's operating margins above 50 per cent.

Beales, Scholtes and Tett (quoted by Ashcraft and Schuermann,2007) write in the Financial Times:

The potential for conflicts of interest in the agencies' "issuer pays" model has drawn fire before, but the scale of their dependence on investment banks for structured finance business gives them a significant incentive to look kindly on the products they are rating, critics say. From his office in Paris, the head of the *Autorité des Marchés Financiers*, the main French financial regulator, is raising fresh questions over their role and objectivity. Mr Prada sees the possibility for conflicts of interest similar to those that emerged in the audit profession when it drifted into consulting. Here, the integrity of the auditing work was threatened by the demands of winning and retaining clients in the more lucrative consultancy business, a conflict that ultimately helped bring down accountants Arthur Andersen in the wake of Enron's collapse. "I do hope that it does not take another Enron for everyone to look at the issue of rating agencies," he says.

This friction is minimized through two devices: the reputation of the rating agencies and the public disclosure of ratings and downgrade criteria. For the rating agencies, their business is their reputation, so it is difficult – though not impossible – to imagine that they would risk deliberately inflating credit ratings in order to earn structuring fees, thus jeopardizing their franchise. Moreover, with public rating and downgrade criteria, any deviations in credit ratings from their models are easily observed by the public

FIVE FRICTIONS THAT CAUSED THE SUBPRIME CRISIS

Ashcraft and Schuermann (2007) believe that five of the seven frictions discussed above help to explain the breakdown in the subprime mortgage market.

The problem starts with friction #1: many products offered to sub-prime borrowers are very complex and subject to misunderstanding and/or misrepresentation. This opened the possibility of both excessive borrowing (predatory borrowing) and excessive lending (predatory lending).

At the other end of the process, we have the principal-agent problem between the investor and asset manager (friction #6). In particular, it seems that investment mandates do not adequately distinguish between structured and corporate credit ratings. This is a problem because asset manager performance is evaluated relative to peers or relative to a benchmark index. It follows that asset managers have an incentive to reach for yield by purchasing structured

debt issues with the same credit rating but higher coupons as corporate debt issues. The fact that the market demands a higher yield for similarly rated structured products than for straight corporate bonds ought to provide a clue to the potential of higher risk.

Initially, this portfolio shift was likely led by asset managers with the ability to conduct their own due diligence, recognizing value in the wide pricing of subprime mortgage-backed securities. However, once the other asset managers started to under-perform their peers, they likely made similar portfolio shifts, but did not invest the same effort into due diligence of the arranger and originator.

This phenomenon worsened the friction between the arranger and the asset manager (friction #3). In particular, without due diligence by the asset manager, the arranger's incentives to conduct its own due diligence are reduced. Moreover, as the market for credit derivatives developed, including but not limited to the ABX, the arranger was able to limit its funded exposure to securitizations of risky loans. Together, these considerations worsened the friction between the originator and arranger, opening the door for predatory borrowing and provides incentives for predatory lending (friction #2). In the end, the only constraint on underwriting standards was the opinion of the rating agencies. With limited capital backing representations and warranties, an originator could easily arbitrage rating agency models, exploiting the weak historical relationship between aggressive underwriting and losses in the data used to calibrate required credit enhancement.

The inability of the rating agencies to recognize this arbitrage by originators and respond appropriately meant that credit ratings were assigned to subprime mortgage-backed securities with significant error. The friction between investors and the rating agencies is the final nail in the coffin (friction #7). Even though the rating agencies publicly disclosed their rating criteria for subprime, investors lacked the ability to evaluate the efficacy of these models.

Saqlain (2008) observes that the collapse of Bear Stearns had ironically little to do with sub prime mortgage meltdown, in which it was a major stakeholder. It collapsed as a result of plummeting market value for ultra safe assets, such as the triple A rated bonds by Freddie Mac and Fannie Mae. Peloton, Carlyle Capital and many other hedge funds, which had absurd level of leverage, were forced to sell their ultra safe assets, after banks became reluctant to roll over short term loans held by these hedge funds. This was followed by a fall in the prices of the triple A rated assets, even though there was little change in the probability of default for many of these bonds. Given the fall in prices of these "safe" assets and multiplied by the leverage, many hedge funds went bankrupt. Bear Stearns was a significant holder of these ultra safe assets, which were used as collateral to fund its obligations to other banks. Following these price falls, other banks were simply not willing to accept the triple A value of Bear's collateral. The latter point was confirmed by a Standard and Poor's research note before the collapse of Bear Stearns, which reiterated that most of the subprime losses had been realized. Therefore, the final "knock out" came from the lack of liquidity for these triple A rated assets, rather than sub prime losses.

From an Islamic banking perspective – liquidity risk is one of the key concerns, which has been given extra heat by recent events around the credit crisis. Of course, the money market is out of reach for Islamic banks, due to Shariah constraints. In addition, surplus liquidity cannot simply be given to conventional banks, since the interest revenue would be prohibited. Having said this, it is possible for exchange of funds between Islamic banks, by the use of Mudarabah

and Musharakah instruments. The effectiveness of this depends on number and diversity of Islamic banks. It is promising to see some of the most respected names in Islamic banking playing an important role in this area, such as the Islamic Development Bank, Bahrain Monetary Agency and Bank Negara Malaysia. Currently, the focus is on learning from some of the liquidity management schemes operating in Bahrain. In addition, Bank Negara Malaysia has introduced a PLS scheme for Islamic banks to obtain short term funds. With the credit crisis in mind, efforts that are currently underway, need to be extended.

Islamic Securitization

An Islamic economic and financial system is a rule-based system comprising a set of rules and laws, collectively referred to as Shariah governing economic, social, political and cultural aspects of Muslim societies. Shariah originates from the rules dictated by the Quran, from the practices of the Prophet Muhammad, and further elaboration of the rules by scholars in Islamic jurisprudence through the process of deduction (*qiyas*) and consensus (*ijma'*). Over time, four different schools of thought – Hanafi, Maliki, Shafei and Hanbali have emerged with some variations on the rules depending on respective interpretations.

Islamic finance is limited to financial relationships involving entrepreneurial investment subject to the moral prohibition of (i) interest earnings or usury (*riba*) and money lending, (ii) *haram* (sinful activity), such as direct or indirect association with lines of business involving alcohol, pork products, firearms, tobacco, and adult entertainment, (iii) speculation, betting, and gambling (*maisir*), including the speculative trade or exchange of money for debt without an underlying asset transfer, (iv) the trading of the same object between buyer and seller (*bay' al inah*), as well as (v) preventable uncertainty (*gharar*) such as all financial derivative instruments, forwarding contracts, and future agreements (Jobst, 2007)

These distinctive properties derive from two religious sources predicated on the creation of an equitable system of distributive justice and the promotion of permitted activities (*halal*) and public goods (*maslaha*): (i) the shari'ah (or shariah) which comprises the qur'an (literally, "the way") and the sayings and actions of the prophet Mohammed recorded in a collection of books known as the *sahih hadith*, and (ii) the fiqh, which represents Islamic jurisprudence based on a body of laws deducted from the shariah by Islamic scholars.

As opposed to conventional finance, where interest represents the contractible cost for funds tied to the amount of principal over a pre-specified lending period, the central tenet of the Islamic financial system is the prohibition of *riba*, whose literal meaning "an excess" is interpreted as any unjustifiable increase of capital whether through loans or sales. The general consensus among Islamic scholars is that *riba* covers not only usury but also the charging of interest and any positive, fixed, predetermined rate of return that are guaranteed regardless of the performance of an investment. Since only interest-free forms of finance are considered permissible in Islamic finance, financial relationships between financiers and borrowers are governed by shared business risk (and returns) from investment in lawful activities (*halal*). Islamic law does not object to payment for the use of an asset, and the earning of profits or returns from assets is indeed encouraged as long as both lender and borrower share the investment risk together. Profits must not be guaranteed based on assumption and can only accrue if the investment itself yields income. Any financial transaction under Islamic law assigns to investors

clearly identifiable rights and obligations for which they are entitled to receive commensurate return. Hence, Islamic finance literally “outlaws” capital-based investment gains without entrepreneurial risk. In light of these moral impediments to “passive” investment and secured interest as form of compensation, Shariah compliant lending in Islamic finance requires the replication of interest-bearing, conventional finance via more complex structural arrangements of contingent claims. The permissibility of risky capital investment without explicit interest earning has spawned several finance techniques under Islamic law. We distinguish among three basic forms of Islamic financing methods for both investment and trade finance: (i) synthetic loans (debt-based) through a sale-repurchase agreement or back-to-back sale of borrower or third party-held assets, (ii) lease contracts (asset-based) through a sale-leaseback agreement (operating lease) or the lease of third-party acquired assets with purchase obligation components (financing lease), and (iii) profit-sharing contracts (equity-based) of future assets. As opposed to equity-based contracts, both debt- and asset-based contracts are initiated by a temporary transfer of existing assets from the borrower to the lender or the acquisition of third-party assets by the lender on behalf of the borrower.

In defining securitization we need to focus on processes - the process of pooling assets, the process of packaging them into securities, and the process of distributing securities to investors. As Islamic institutions are more concerned with the Islamic acceptability of the securitization business, their focus is more on the content of the “package” rather than the process of packaging. Therefore, they tend to ensure that the assets in the package - and not the package alone - are Islamically acceptable.

Banks operating under Islamic law are predisposed to adopt “buy-and-hold” (as opposed to “originate-and-distribute” under conventional banks) investment strategies and carry excess short-term reserves for lack of sufficient long-term reinvestment opportunities, which has inhibited efficient financial intermediation and capital-market deepening. Nonetheless, financial institutions have been able to develop various forms of Islamic finance instruments that are virtually identical to their conventional counterparts in substance. However, these securities are not surrogates for conventional interest-based securities that mimic the interest rate structure.

Global securitization market has been driven by several factors. The major ones among which are the case that the cost of capital tends to be tremendously increasing especially in those countries which have a low credit rating class (where major Arab countries listed), in addition to capital regulatory requirements imposed by monetary and supervisory bodies. So, it's inevitably for institutions there to resort to another innovative, cheaper sources of capital, and the securitization can help actively in this connection. Also, alongside with the growing convergence of capital markets through global financial dynamism, and ongoing technological advancement, the barriers among such markets were removed, so severe competition for efficient type of capital has been aggravated made the reliance upon new sources is inevitably art for business survival.

Another important dimension that made securitization very appreciable industry for Islamic institutions is that it can be viewed as a viable bridge for those institutions to money market environment. This merit, and others, allows Muslim investors to deal successfully in money market instruments, and permitting corporate institutions to manage their A/L actively. Considering the fact that bond issuance and trading are important means of investment in the

modern economic systems, Muslim jurists are striving to find alternatives. As Islamic jurisdiction prohibit dealings through interest-based transactions, so all financial and credit dealings under Islamic philosophy tend to relate finance to assets, asset-backed securities (ABS) become islamically possible to be structured as long as it conveyed to Islamic principles. Therefore, the use of securitization will bring in much needed liquidity to these institutions by enabling them to free part of their capital which is tied-up with these illiquid assets into short, partnership-based unpre-determined rate of return instruments. Obviously, we cannot ignore the huge benefit that realized to the macro economy form the evolvement of securitization process.

According to the above mentioned constrains that bound the working of Islamic entities, there are several regulatory issues that organize securitization process, such issues include,

The type of assets to be securitized:

As securitization is evolved tremendously in non-Islamic world, the ABS generated there does not necessarily conform to Islamic principles (Interest -bearing credit and receivables, etc.) So according to prescribed guidance, the assets to be securitized might include leasing contracts can be used in different business lines - equity ownership, murabahah and other sales contracts, in addition to current tangible assets that generate systematic cash flows, which acceptable to be traded by Islamic investors.

The securitization structure:

The structure of securitization under Islamic philosophy in its features does not differ greatly from that of conventional type. The major player composed of the originator, trustee, servicer, special purpose vehicle (SPV), investment bankers, credit enhancer and rating agency. Without keeping close specifications of their functions in securitization process, we confine merely to describe the differences in their roles under Islamic philosophy as follows:

1. The securities that issued by SPV are claims on assets held by the issuer SPV. Such that claims are closely attached to the ownership of such assets.
2. Accordingly, ABS does not guarantee a pre-determined rate of return but variable one alongside with the performance of the assets under securitization.
3. The credit enhancer provide that required credit (if needed) could be either part of the fund generated from asset cash flows, or collateral pledged to support assets, or guarantee in order to obtain sound credit rating.
4. The pass - through securitization structure can be visualized as closest arrangement that satisfy Islamic principles.
5. The transfer of assets from an originator to an SPV should be in true sale basis, in some securitization cases that related to productive investment project, the originator has a right to compete in the repurchasing of the assets underlying after selling it to an SPV, when securitization deal is finalized. This always done in securitizing government productive assets where the public interest dictate the retention of government ownership to specific strategic venture.

The major securitization experiences in Arab and Muslim countries is adopted under the case of financing specific-contained project through securities (with variable return according to the asset performance, for short duration backed by the expected flows of such specific project.

As the most Arab and Muslim countries are banking-based economies rather than financial-based economies, this made securitization and financial instruments transaction very rarely used. So, at first glance to Arab and Muslim financial statistics we can realize that their ratio of market capitalization to GDP is almost not more than 10 percent generally, where in an emerging market tends to approach more than 50 percent. Probably the securitization would be in Arab region as low as compared to that of advanced economies. Such situation, can be attributed to several factors, the important among which are:

- As Islamic entities conduct their major part of businesses in Muslim world. Being a regulating-driven process, securitization, however, is prevalent only in countries with developed regulatory framework with adequately institutional settings, like that of most advanced countries, in addition to few emerging countries i.e. Malaysia and Taiwan. While Islamic institutions, therefore can easily securitize the assets they own in most developed economies, they may not easily do the same with the bulk of their assets in Muslim world due to insufficient organizational arrangements
- In addition, securitization process requires availability of sophisticated credit and financial information on the underlying assets, and existence of proper accounting standards which might not be adequate under Arab region.
- Most of Arab and Muslim countries are creditably unrated, and this might jeopardize their chances in promoting securitization products esp. abroad.
- One of the main factors that hinder spreading of securitization know-how practices in Arab economies, is the poor financial structures and consciousness among individuals and institutional bodies.

THE EFFECT OF SUBPRIME MORTGAGE TO ISLAMIC BANKS

Al-Hamzani (2008) noted that a number of experts and officials of Islamic banks and financial institutions have confirmed that Islamic banks have not been affected by the global financial crisis, and that any effects would be limited due to the nature of Islamic banking. Islamic banks are untouched by the current crisis due to the nature of Islamic banking especially that it does not deal in debt trading and distances itself from market speculation that takes place in European and American banks.

CEO of the Bahraini-based Albaraka Banking Group Adnan Ahmed Yousif stated that Islamic banks do not rely on bonds or stocks, and are not involved in the buying and selling of debt unlike most conventional European and US banks. He noted that Islamic banking is distinguished by the fact that it is prohibited from buying debts under Islamic Shariah law; therefore, Islamic banks are safe from the effects of the global financial crisis.

Adnan Yousif, who also chairs the Union of Arab Banks, reiterated that Islamic banks are largely sheltered from this crisis; however, it is inevitable that they will be affected to a certain degree as they are part of the wider global financial system and consequently will be affected by all global financial dealings, even if only in an indirect manner. Yousif predicted that this global crisis will continue for two years or more. He argued that Islamic banks have become a safe haven for secured liquidity and are in a good position. The success of Islamic banking will lead to serious consideration of Islamic economics, which continues to realize numerous achievements, as a viable alternative to the current global economic system which continues to

be hit by these crises. The expected losses to be incurred by a number of banks in the Gulf region and Arab countries will not be declared, as major banks and investment funds, and sovereign wealth funds in particular, have investments in Europe and America.

General Manager and board member of the Arab Finance House Dr. Fouad Nadim Matraji explained that Islamic banks have not been affected by the mortgage crisis that afflicted the international financial markets and that they are largely immune against such crisis thanks to inherent factors within Islamic banking. The most important of these factors is the prohibition of debt trading, taking precautions against money laundering, as well as the official and professional restraints upon which banks are based such as caution against embarking upon projects that entail financial difficulties and risks. Islamic banks have several alternatives to conventional banking products such as Ijarah Bitamlik (a renting contract that ends in ownership), Murabaha etc. which demonstrates that Islamic banking is a sound and systematic alternative banking system that others should take as an example. Islamic finance is expected to increase on the international level and its number of customers is also expected to rise as they search for an alternative banking system. Islamic banking is distinguished by a commitment to uphold integrity and its distancing from risky projects. The crisis has caused significant global inflation in world banks because they buy debts and enlarge accounts without tangible transactions taking place or without brokers being aware of them, highlighting that Islamic banks do not engage in such ventures. Only the profits of Islamic banks could be affected by the international financial crisis, but not the capital, which is protected by Islamic banking unlike conventional banks.

THE CURRENT STATE OF ISLAMIC CAPITAL MARKET SECURITIES (SUKUK)

Of all the rapidly growing Islamic capital market securities none is gaining in popularity as much as sukuk. The Islamic finance industry has grown by about 15 percent on average over the last three years in response to a profusion of investment products, which has been fueled by an increasing demand for investments that comply with Islamic law. Currently, more than US\$800 billion are lodged in Islamic banks, mutual funds, insurance schemes (takaful), and Islamic branches of conventional banks (Jobst et al., 2008). The most popular form of Islamic finance is commonly referred to as sukuk, which are wholesale, asset-based capital market securities. Recent years have witnessed a surge in the issuance of sukuk by corporate and public sector entities amid growing demand for alternative investments.

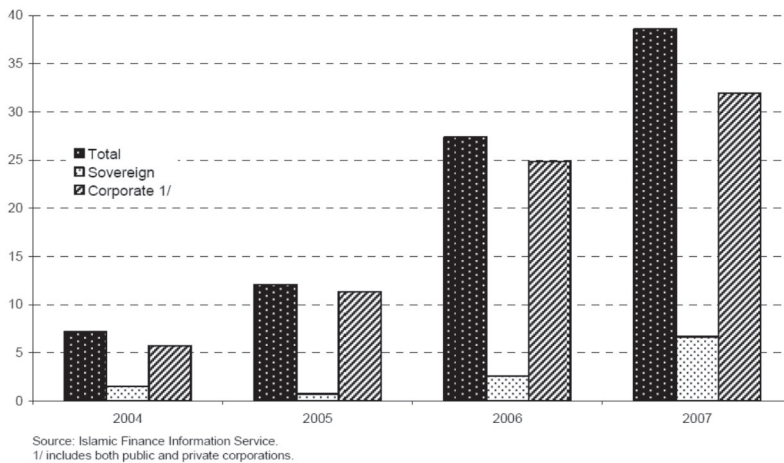
Sukuk do not pay interest, but generate returns through actual transactions, such as profit-sharing or leasing. While sukuk are structured in a similar way to conventional asset-backed securities (ABS) or covered bonds, they can have significantly different underlying structures and provisions. Most importantly, sukuk—like Islamic financial instruments in general—need to comply with Shariah, which prohibits the receipt and payment of interest and stipulates that income must be derived from an underlying real business risk rather than as a guaranteed return from a loan. Thus, sukuk do not provide an explicit return guarantee or investment protection. As such, investors own the underlying asset(s) via a special purpose vehicle (SPV), which funds unsecured payments to investors from direct investment in real, religiously-sanctioned economic activity.

Sukuk commoditize the proceeds from asset transfers between capital providers and

users of different Islamic finance contracts. Issuers of sukuk substitute capital market investors for traditional lenders as source of funding by converting the expected proceeds from bilateral risk sharing between borrowers and lenders in Shariah-compliant finance contracts—such as lending transactions (installment sale) or trust-based investments in existing or future assets—into marketable securities. Hence, sukuk usually refinance the assets of one (or a combination) of three basic forms of Islamic finance³—synthetic loans (*murabaha*), sale-leasebacks (*ijara*), or profit-sharing arrangements (*musharaka* or *mudharabah*).

Although the current level of sukuk issuance remains a fraction of the global issuance of conventional bonds and ABS, the market for sukuk has been growing rapidly despite the global financial crisis triggered by the collapse of the U.S. subprime market. At the end of 2007, outstanding sukuk globally exceeded US\$90 billion. Gross issuance of Islamic structured securities has quadrupled over the past two years, rising from US\$7.2 billion in 2004 to close to US\$39 billion by the end of 2007 (Table 1 and Figure 3)—despite the financial market fallout of the U.S. subprime mortgage market crisis.

Figure 3. Global Issuance of Islamic Bonds (sukuk), 2004–07 (in US\$ billions)



Source: Jobst, et al., 2008

The number of sukuk transactions rose to 119 (up from 109 in 2006), while the average transaction size increased to about US\$270 million from US\$175 million. Based on current trends, the total amount of issued sukuk is likely to exceed US\$200 billion by 2010. Total issuance in 2007 was equivalent to roughly a quarter of conventional securitization in emerging markets but only two percent of conventional (local and foreign) bond issuance during the period. Although the issuance of sukuk has slowed to US\$2.3 billion in the first quarter of 2008 (down by almost half from the first quarter in 2007), the prevailing market uncertainty and the retrenchment of real estate exposures worldwide has created a significant backlog of planned sukuk issues, which could see a restoration over the course of this year.

Recent excesses in conventional financial markets have shed light on Islamic finance as an alternative framework for securitization. Predatory lending, deteriorating underwriting standards, and a series of incentive problems that have infested the conventional securitization process belie fundamental Islamic principles of not extending beyond one’s means and the

supremacy of public interest in social justice. Moreover, any financial transaction under shariah law implies direct participation in asset performance and assigns to financiers clearly identifiable rights and obligations for which they are entitled to receive commensurate return in the form of state-contingent payments. Profits are earned in line with shariah prescriptions and cannot be guaranteed *ex ante* but accrue only if the investment itself yields income. Thus, investment is not guaranteed but secured, mitigating adverse selection and moral hazard of both lenders and borrowers.

Sukuk might be a viable source of funds that could help stabilize the securitization market, as they already contain many contractual features that are now being considered instrumental to a resolution of inherent conflicts of interest in the conventional securitization model. While sukuk are structured in a similar way, risk-sharing and the full participation of both issuers and investors in the capital structure of the transaction offer an alternative mechanism to establish incentive compatible behavior. There are several Islamic principles of sukuk, which could potentially resolve many conflicts of interest and valuation problems that infested the conventional securitization process:

- between asset manager and investor (“principal-agent dilemma”):
 - The religious prohibition of both gambling (*maisir*) and speculation (*gharar*) prevents excessive risk taking (asset substitution) and commands clear object characteristics and/or delivery results as part of contractual certainty.
 - The trading activity of asset managers is restricted to bona fide merchant transactions on real debt while investor return must be derived from defined asset value associated with effective (or intended) ownership interest.
 - Since there is no mutual deferment of contractual obligations (and/or absence of actual and direct transfer of asset as object of unconditional sale) in Islamic finance, any contingency risk from unfunded claims is limited to pre-defined timing mismatch of delivery or payment in accepted contracts (*salam/istisna vs bay al’ajal/bay bithaman ajil*)
 - Asset managers cannot create leverage on the underlying asset portfolio as unilateral gains (i.e., benefit from moral hazard in response to redistribution of risk/no consequence of bad outcomes) are limited to the nominal value of the reference portfolio in asset-based contracts or the scope of distribution of profit in equity-based contracts respectively.
- between originator and issuer:

The shari’ah approval and certification process promote adequate disclosures underpinned by a solid foundation of religious standards.
- between issuer and investor:

Investor return derived from effective (or intended) ownership of real asset(s) underlying the securitization structure (after actual and direct transfer as object of an unconditional sale) generates indebtedness and amounts to direct recourse.
- between servicer and investor/asset manager:

Contract certainty rules out potential of inflated, back-loaded (and variable) servicer expenses (and cannot be prioritized due to prohibition of provisions aimed at creating unilateral gains from interim changes in asset characteristics and valuation). Servicer fees are fixed and defined *ex ante*.

- between borrower and originator:
The Islamic principle of social benefit as public interest (maslaha) and the precept of supporting a system of distributive justice would preclude any moral hazard of originators (“predatory lending” or borrowers (“walking away”). Moreover, the shari’ah prohibits debt modification and unilateral gains (which are considered exploitation).
- between arranger and guarantor:
Guarantees must not establish the possibility of mutual deferment of contractual obligations without actual transfer of asset. Thus, only funded agency contracts with pre-specified terms would be deemed sufficient to rule out contingency risk of payment and actual delivery.

CONCLUSION

Two trends in the banking industry contributed significantly to the lending boom and housing frenzy that laid the foundations for the crisis. First, instead of holding loans on banks’ balance sheets, banks moved to an - originate and distribute - model. Banks repackaged loans and passed them on to various other financial investors, thereby off-loading risk. Second, banks increasingly financed their asset holdings with shorter maturity instruments. This left banks particularly exposed to a dry-up in funding liquidity.

The Islamic system does not allow the creation of debt through direct lending and borrowing. It rather requires the creation of debt through the sale or lease of real assets by means of its sales- and lease-based modes of financing such as murabaha, ijara, salam, istisna and sukuk. The asset which is being sold or leased must be real, and not imaginary or notional; the seller must own and possess the goods being sold or leased; the transaction must be genuine with the full intention of giving and taking delivery; and the debt cannot be sold and thus the risk associated with it cannot be transferred to someone else. The conditions set by the Islamic system would help eliminate most of speculative transactions. Financing extended through the Islamic products can expand only in step with the rise of the real economy and thereby help curb excessive credit expansion. This is the significance of the condition that prevents a creditor from transferring the risk to someone else by selling the debt that will help eliminate a great deal of speculative and derivative transactions where there is no intention of giving or taking delivery. It will also help prevent an unnecessary explosion in the volume and value of transactions and the debt from rising far above the size of the real economy.

The sukuk market has expanded dramatically over the recent past and continues to generate strong interest by new issuers in Muslim and non-Muslim countries alike. Given the existing intensity of investor interest in Shariah-compliant assets, the potential of sukuk is likely to strengthen, especially given increasing opportunities from financial innovation. Sovereign sukuk are likely to gain popularity as more governments in both Muslim and non-Muslim countries explore options to diversify their traditional debt portfolios.

Securitization and structured finance is an inevitably financial technology that any institutions should adopt for their survival. This rule can be generalized to Islamic financial and business institutions where they are working, always in a risky environment. In spite of that, major Arab and Muslim countries are striking progressively toward setting the relevant institutional and regulatory structures for locating such new dynamic technology.

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