ISLAMIC FINANCE AS A STRUCTURED PRODUCTS BUSINESS LINE

ACUTE COMPLEXITY AND THE NEED FOR STANDARDISATION

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Islamic finance and structured products are two of the most successful financial market innovations of the last 30 years. They have also become intertwined in the dealing rooms of the large western banks that treat Islamic finance as a kind of fixed income structured product.

As a result, the Islamic fixed income products created by these banks share many of the same problems as conventional structured products, including complexity and a lack of transparency.

In the article, I examine the impact of these problems on the development of the Islamic fixed income market, and argue for greater standardization of products as a cure for these problems.

INTRODUCTION

The roots of Islamic finance go back more than a thousand years.[1] Based on Islamic law, as derived from the Koran, the Sunnah and many centuries of scholarly interpretations[2], it is grounded in the principles of economic fairness and the equitable sharing of risks.[3] While other religions also include edicts and prescriptions that are relevant to financial transactions[4], Islamic finance is the only large-scale, global effort to create financial instruments in accordance with religious texts.[5]

Structured products, on the other hand, are a quintessentially modern and secular area of finance. Based on mathematical modeling and the use of financial derivatives, the guiding principle underlying the structured products market is not economic fairness or equitable risk sharing, but rather the more mundane goal of yield enhancement.[6] The central concept behind structured products is that the yields achievable through combining different assets and risks into a single product can be greater than the sum of the component parts. Although structured products can be created to facilitate ethical investment[7], structured product technology itself is entirely ethically agnostic.

Despite these fundamental differences, Islamic finance and structured products share the similarity of being two of the biggest financial market success stories of the past 30 years.[8] Both areas came of age in the 1980s, and have grown exponentially since then. Beginning with the establishment of the first, fully-fledged modern day Islamic bank in Dubai in 1975,[9] Islamic finance has grown to encompass every aspect of the financial sector, including commercial and investment banking, insurance and capital markets.[10] By some estimates, the total volume of Islamic financial assets has grown 15 to 20 per cent a year since 2000 and now exceeds US$1 trillion.[11]

The market for structured products has grown at a similarly rapid rate during the same time period.[12] Since becoming an identifiable asset class in the 1980s with the development of financial derivatives, structured products have become a mainstream investment tool for both retail and institutional investors.[13] Although structured products have been associated with some of the most widely-publicised financial mishaps during that period, including the collapse or near collapse of Enron,[14] Parmalat,[15] AIG[16] and Bear Stearns,[17] the market for structured products has continued to expand.[18] In addition to sharing a similar growth trajectory, over the past decade these two areas of finance have become inextricably intertwined. The growing demand for Shariah[19]-compliant investments from increasingly wealthy areas of the world[20] has naturally drawn the attention of the large western banks,[21] and in response, these banks have all developed their Islamic finance capabilities.[22] They have focused much of their attention on developing the fixed income side of the Islamic capital market.[23] The western banks have done so largely by treating Islamic finance as a type of structured product, applying the same skills, and in many cases the same staff used in the structured products field to create Shariah-compliant, fixed income instruments.[24] In other words, the large western banks are creating Islamic fixed income securities that are essentially a new type of structured product.[25]

ISLAMIC FINANCE AS A TYPE OF STRUCTURED PRODUCT

The combination of the words 'Islamic' and 'fixed income' may appear to be oxymoronic. Given that interest is prohibited,[26] and that risk sharing is encouraged[27] in Islamic finance, an investment instrument that pays a fixed return is inherently problematic under Shariah.[28] However, proponents of Islamic finance have long understood that the existence of fixed income type instruments is critical to the development of a fully-functioning capital market.[29] A great deal of effort, therefore, has gone into creating fixed income securities that are Shariah-compliant.[30]

To be recognisable as a fixed income investment and, at the same time, be deemed Shariah-compliant, the product must pay a fixed or floating rate of return without having any portion of that return deemed to represent interest payable on borrowed money.[31] Since all major conventional fixed income products, such as bonds, notes and commercial paper, are debt instruments that pay interest, significant structuring is required in order to create equivalent products that are or can be deemed to be Shariah-compliant.[32]

The structuring used to create products that pay a fixed return not characterised as interest involves many of the same techniques used in the creation of conventional structured products. These techniques include the use of special purpose vehicles ('SPVs'),[33] pledges of assets and the manipulation of cash flows to achieve the desired characterisation of the return on a product. The use of such techniques is often referred to as 'financial engineering', which is the process of creating customised financial instruments. [34]

For example, with Shariah-compliant fixed income products, a SPV is often interposed between the underlying obligor and the investors. [35] The SPV and the obligor (ie. the party responsible for generating the return) enter into a transaction that creates an obligation on the obligor to make periodic payments to the SPV. Such a transaction may take various forms, such as the lease of an asset by the SPV to the obligor in exchange for periodic lease payments or the sale of an asset by the SPV to the obligor in exchange for periodic deferred payments of the purchase price. The SPV in turn uses the payments it receives from the obligor to pay the investors. As the payments that fund the return on the product relate to a transaction (ie. a lease or a sale of an asset) and do not represent interest payable on a debt, the product is considered to be Shariah-compliant. [36]

An example of this type of Islamic finance product is a sukuk based on the principle of ijarah.[37] Sukuk is the Islamic finance product most similar to a conventional bond. They are certificates that represent a right to receive payments from an underlying asset, transaction or business venture. Sometimes referred to as 'Islamic bonds', [39] sukuk are the principal fixed income type of product in the Islamic capital market.

Ijarah, on the other hand, is a type of transaction which is closely analogous to a conventional lease.[40] Ijarah contracts permit a form of financing that is Shariah-compliant but, in purely economic terms, can be very similar to a loan.[41] Because of the Shariah prohibition on interest, an Islamic bank would not be allowed to make a $100 one-year loan to a farmer to buy a hoe and charge the farmer 5 per cent interest. However, the bank could purchase the hoe, lease it to the farmer for one year using an ijarah contract that provides for a $5 lease payment and then require the farmer to buy the hoe for $100 upon the expiration of the lease. Both the loan and the ijarah contract allow the farmer to finance the purchase of a hoe for one year at a total cost of $105, but the latter is Shariah-compliant and the former is not.

In a typical sukuk based on the principle of ijarah, a SPV issues the sukuk certificates to investors and uses the proceeds to purchase a physical asset, such as land or equipment. [42] The SPV then leases that asset to a lessee, and the flow of lease payments from the lessee to the SPV creates the cash flow that is used by the SPV to pay the amounts due on the sukuk certificates.[43] On maturity of the sukuk, the lessee typically purchases the asset from the SPV at a pre-determined price, and the proceeds of that sale are used to re-pay the sukuk holders their principal investment. Since the cash flows from the lessee fund the returns on the sukuk, the credit of the lessee underlies the credit of the sukuk certificates. [44]

The elements of a typical ijarah sukuk are familiar to any structured products professional. Aside from the use of Arabic words, an ijarah sukuk looks in many ways like a typical repackaged fixed income structured product.[45] Repackagings, which are a staple of the structured products market, involve a SPV issuing notes and using the proceeds of the issue to acquire assets or enter into transactions that generate the payments that are then used to repay the notes.[46] In other words, the payments from an underlying asset or transaction are 'repackaged' into notes issued by a SPV. An ijarah sukuk can therefore be considered a kind of repackaging.[47] The payment obligations of one party, in this case the lessee under the ijarah contract, are repackaged into sukuk certificates issued by a SPV and sold to investors.

Structuring an investment instrument in order for the return to be characterised in a specific way is also a familiar goal to structured products professionals. In the conventional market, the goal of such structuring is often tax-related. Products are created specifically so that the return is characterised in a way that entitles it to benefit from the most favorable possible tax treatment. For example, in jurisdictions in which capital gains are taxed at a more favorable tax rate than interest income, products are structured with the goal of having as much of the return as possible characterised as capital gain rather than interest. [48]

These kinds of transactions are often referred to as 'tax arbitrage'. [49] While tax arbitrage transactions can facilitate legitimate and efficient tax management, they are sometimes criticised as exercises in exploiting loopholes. [50] Structured product professionals closely examine a jurisdiction's tax laws and regulations in search of ways to create transactions that meet investors' economic objectives while also maximising the potential tax benefits and avoiding any tax-related prohibitions. The same skills have been applied by structured products professionals in examining the financial prohibitions of the Shariah, resulting in a form of religious arbitrage.

There is a significant philosophical difference between arbitraging a tax code and arbitraging religious texts.

Although tax authorities are likely to object to a structure which takes advantage of a loophole in the tax code, the morality of such structures is not generally questioned, since even the most zealous tax collector is unlikely to regard the tax code as a sacred text. On the other hand, probing religious laws for what could be considered loopholes is a more morally ambiguous endeavor. [51] Nevertheless, in terms of the skills employed and the techniques used, the practice of tax arbitrage has informed the way structured products professionals approach Islamic finance.

Since the creation of Shariah-compliant fixed income products requires very similar tools to those used to create structured products, Islamic finance has become a new product line for the structured products professionals at the large western banks.[52] As a result, the Islamic financial products offered by these banks resemble conventional structured products and raise many of the same legal and reputational issues. These issues stem principally from the complexity and lack of transparency of the products.

PROBLEMS STEMMING FROM STRUCTURED PRODUCT COMPLEXITY

Structured products are financial instruments with cash flows that depend on the value or performance of underlying assets or embedded derivatives.[53] They are customised financial products that permit parties to meet specific risk-return objectives that cannot be met using only plain vanilla instruments[54] or to hedge exposures that cannot be adequately hedged using only plain vanilla instruments.[55] As such, structured products are more complex than plain vanilla products and are significantly more difficult for investors to understand and to price.

The complexity of structured products has attracted a great deal of criticism since the financial crisis[56] that began with the collapse of the sub-prime mortgage market in the United States in 2007. During the financial crisis, there were widespread credit rating downgrades and defaults involving structured products, in particular sub-prime mortgage-backed collateralised debt obligations ('CDOs').[58] Many commentators identified the complexity of these products as being a significant contributing factor in their demise.[59] Structured products were criticised, for example, in a report on the causes of the financial crisis issued by the government of the United Kingdom, as being 'ludicrously complex'.[60]

The argument that structured products are dangerously and unnecessarily complex is an exaggeration.[61] To a large degree, the complexity of these products reflects the inherent complexity of the risks and underlying variables that these products now encompass. Often a complex product's structure is simply a consequence of it having been tailored to meet an investor's specific investment or hedging needs.[62] In addition, over the past few decades, the structured products market has grown to include products that reference a wide variety of underlying variables, including such exotic factors as inflation rates, commodity prices, mortality statistics, and hedge fund returns.[63] As these variables are complex, products that reference them are complex as well.

Moreover, a simple structure does not guarantee that a financial instrument will be a good investment, as plain vanilla products are capable of causing investment losses as great as complex ones. For example, as many investors lost money on the relatively easy to understand plain vanilla equity and bonds of financial institutions that were involved in the sub-prime mortgage business as lost money on complex sub-prime mortgage-backed CDOs. [64] Although the price of structured products may fall faster and farther than many plain vanilla products, in general, in rapidly declining markets, financial products suffer losses, regardless of their complexity or structure.

Therefore, the demonisation of the complexity of structured products that occurred in the wake of the financial crisis was excessive.[65] However, complex financial products do create certain unique problems for investors. For example, it may be difficult for investors to understand the nature and extent of the risks that they are taking when they purchase a complex product.[66] In particular, it is difficult, if not impossible, for many investors to evaluate whether the price of a structured product is fair. [67] Because most structured products include embedded derivatives, investors need to have a sophisticated understanding of derivatives pricing in order to evaluate the price of a structured product. [68]

Complex products also tend to be relatively illiquid. [69] Liquidity is a measure of the ability to sell a financial instrument with minimal price disturbance.[70] Structured products are generally illiquid for two reasons. First, the number of investors interested in any particular structure is limited, meaning that the number of potential buyers of a structured product is very small relative to the market as a whole.[71] Second, the lack of pricing transparency discourages the development of a liquid secondary market, because price negotiations for each sale are often lengthy and contentious. [72]

Without a liquid secondary market, product prior to maturity usually must sell it back to the bank that originally distributed it.[73] Although a bank has no formal obligation to make a market in all of the products it has sold, it will generally provide a quote to its customers. [74] The bank will have great flexibility, however, in determining that quote since the pricing methodology is generally not transparent to the investor, and it will not face any competition from other bidders.[75]

In addition, if a complex product needs to be redeemed prior to maturity, for example in the event of a default on an underlying asset, unwinding the product can be extremely difficult.[76] In many cases the underlying asset is itself illiquid, making it difficult to sell the asset in order to fund early redemption of the product. The underlying asset may also be subject to claims by multiple parties.[77]

To understand how an underlying asset can be subject to multiple claims, consider the hypothetical example of a repackaging of a US-dollar denominated loan into a Japanese-yen denominated structured note that is sold to investors in Japan. The SPV that issues the note will enter into a US dollar/ Japanese yen foreign exchange swap transaction and will use the proceeds of the note issuance, after converting it from Japanese yen to US dollars, to purchase the loan. Under the terms of the swap transaction, the SPV will exchange the US dollar payments it receives under the loan for Japanese yen and it will use those Japanese yen amounts to make the payments due on the note.

In such a case, the loan is the only asset held by the SPV. Therefore, in the event of a default on the loan that causes an early redemption of the note, two different parties will be looking to the loan to satisfy their respective claims: the swap counterparty, to pay any amounts due from the SPV under the swap transaction, and the investors, to satisfy their claim under the structured note. Resolving such conflicting claims adds to the difficulty of unwinding structured products.

Complexity also creates costs. Although one of the goals of structured products is to use financial engineering to generate economic efficiencies, the engineering often involves significant transaction costs.[78] The costs of setting up and maintaining SPVs, for example, must be borne by every transaction that makes use of one.[79] The costs generally include hiring a local law firm and administration company in the jurisdiction where the SPV is established. Depending on the nature of the transaction, the SPV may also need to employ an auditing firm to prepare audited financial accounts, which creates a recurring expense for each accounting period.[80] In addition, many structured products require lengthy documentation, meaning that legal costs associated with creating the products are often high as well. [81]

Finally, complexity can accelerate price declines during market downturns. Few investors are willing to read through the extensive legal documentation that underlies most complex products, let alone test all of the underlying assumptions. Instead, the structured products market relies heavily on trust, whether that is trust in the credit ratings agency that has rated a product or trust in the professional knowledge and ability of the bank that has created a structure.[82] During times of market distress, such as during the recent financial crisis, such trust tends to evaporate quickly. [83] In a market where prices are falling rapidly, previous toleration of the opaqueness of structures begins to be viewed as a significant weakness, often resulting in sharp sell-offs of structured products.[84]

Therefore, while complexity is not, as some commentators and politicians have alleged, the root of all financial evil[85], the complex nature of structured products does cause certain problems. These problems are not entirely unique to structured products. Some plain vanilla products are illiquid, for example, and some investment funds incur heavy transaction costs. However, these problems are all exacerbated by complexity.

ADDITIONAL PROBLEMS POSED BY THE COMPLEXITY OF SHARIAH-COMPLIANT PRODUCTS

Because the same financial engineering techniques used to create structured products have been applied to create Shariah-compliant fixed income products, these products suffer from the same problems observed in the structured products market.[86] The risks of the products are often non-transparent, [87] they are difficult, if not impossible, for many investors to price, largely illiquid, [88] extremely tricky to unwind and often burdened by very high transaction costs.[89] These problems have impeded the development of the fixed income side of the Islamic capital market.

The complexity of Islamic fixed income products also creates difficulties because of the requirement in Islamic finance that every product must be certified as Shariah-compliant by a board of Islamic scholars.[90] Given the very limited number of scholars who are experts in both Islamic law and complex financial structures[91], the certification process can become a bottleneck that constrains the ability of banks to get new products approved in a timely way. [92]

In addition, Islamic finance lacks a system of mutual recognition among Shariah scholars, creating the risk that products approved as Shariah-compliant by some scholars will be turned down by others.[93] In general, the more complex the product, the greater the risk there will be a divergence of opinion among scholars, and consequently the greater the risk that fragmented markets will develop where products are acceptable to some investors but not to others.[94] Any such fragmentation will exacerbate market illiquidity since it will restrict the potential pool of buyers for any particular product. [95]

Moreover, a certification of Shariah compliance does not mitigate any of the other problems caused by product complexity. The certification only signifies that the structure of the product meets the requirement imposed by Islamic law.[96] It does not imply anything about how the product is priced, how it will perform as an investment or how it might be able to be unwound.

Since Shariah is fundamentally a system of religious laws and ethics, some investors might assume that the same ethics will guide the way that Shariah-compliant financial products are priced and traded. [97] However, such an assumption may prove to be incorrect. A bushel of apples is a Shariah-compliant product, but it may be sold in a non-transparent, or even deceptive, manner. In the same way, Shariah-compliant financial products do not come with any sort of guarantee that they will be priced and traded fairly or that, in unwinding such products, parties with competing claims on the underlying assets will always act according to the highest ethical standards.[98]

The problems posed by the complexity of Shariah-compliant products are further compounded by the lack of plain vanilla alternatives in the Islamic fixed income market. Products must all be structured around an underlying transaction in order to generate payment flows that are not deemed to represent interest. As a result, all Islamic financial products that provide fixed income type returns are structured products.[99]

With conventional financial products, fixed income investors may choose the level of complexity they are willing to accept in the instruments they buy. If they are uncomfortable with complex products, they can invest in only plain vanilla instruments or alternatively allocate just a small portion of their portfolios to structured products. However, Islamic fixed income investors are not afforded such a choice. Investors who want to purchase only Shariah-compliant fixed income type instruments are required, by the nature of these instruments, to have portfolios composed entirely of relatively complex products. Almost no conventional fixed income investor would hold such a portfolio.

The structured nature of all Islamic fixed income products also makes it difficult for dealers that sell these products to meet their investor suitability obligations. 'Investor suitability' is the term used in the financial services industry to describe the obligation of licensed securities dealers to only recommend to their clients investment products that are suitable for those clients in light of their financial knowledge, investment objectives and means.[100] Although the precise nature of the investor suitability obligations on dealers varies by jurisdiction, some obligation of this type exists in most major securities markets.[101] For example, Malaysia, the largest jurisdiction for Islamic fixed income issuance,[102] imposes an obligation on licensed dealers to ensure the suitability of their advice to clients, including requiring dealers to make a determination that clients have the necessary knowledge or experience to understand the risks of products they recommend.[103]

In the conventional fixed income markets, a dealer can determine a client's relative level of sophistication and make recommendations to that client accordingly. If the dealer determines, for example, that a client does not have the financial knowledge needed to evaluate the risks of structured products, the dealer can choose to recommend only plain vanilla investments.

For clients who wish to invest entirely in Shariah-compliant products, however, a dealer's ability to tailor investment recommendations to match the client's financial acumen is very constrained.

Regardless of the client's knowledge level, the dealer will have to make recommendations from a limited pool of Shariah-compliant products that are all relatively complex. If a client does not have the requisite knowledge or experience to understand Shariah-compliant structures, the dealer would be breaching the investor suitability obligation with every recommendation.

Another consequence of the fact that all Islamic fixed income products are structured products is the lack of effective benchmark instruments.[104] In conventional fixed income markets, benchmark issues play an important role in providing a standard against which the price and performance of other issues can be measured. [105] To serve as an effective benchmark, an issue needs to be highly liquid so that on any day its current market value can be readily and objectively determined based on actual transactions in the market.[106] In addition, in order for it to serve as a clear point of comparison, it should be a plain vanilla issue. Structured products are usually illiquid and cannot be easily compared to other issues since few would share precisely the same structure.

For marketing purposes, several large sukuk issues have been labelled as benchmarks.[107] However, compared with conventional benchmark bonds, these issues all fall short of deserving the benchmark designation. Although in terms of size they resemble conventional benchmark bonds,[108] they are highly structured issues, meaning it is unlikely that other issues will be directly comparable.

In 2006, for example, the Dubai property company Nakheel issued a $3.52 billion sukuk that was considered a benchmark transaction for the sukuk market.[109] The Nakheel sukuk, however, involved an extremely complicated structure.[110] It was based on the principle of ijarah, but included a complex web of underlying co-obligors and co-guarantors and an equity conversion feature.[111] In conventional fixed income markets, an issue of this type would be classified as a highly complex structured note, albeit a very large one, rather than as a benchmark bond.[112]

With few usable price comparators, investors must research and determine an appropriate price for each issue. This research can be time-consuming since each issue is structured around a unique underlying transaction. Moreover, tracking the performance of benchmark issues is the main portfolio performance tool used by conventional investors. [113] Without such benchmarks, it is difficult for investors to evaluate the performance of their portfolios relative to the market as a whole. As a result, the entry barriers to new investors coming into the Islamic fixed income market are high.

The lack of benchmarks also discourages potential new institutions from deciding to fund themselves in the Islamic fixed income market since, without easy to identify and liquid comparators, it is difficult for them to determine the correct level to price their credit.[114] The reluctance of new institutions to fund in the market in turn impairs the liquidity of the market, since a dearth of supply of new issues means that investors are less willing to trade existing issues.[115] They assume a 'buy and hold' attitude and are reluctant to sell any instruments in their portfolios since they have no assurance they will be able to find new instruments to replace them. [116]

Given these problems, and viewed from a purely economic perspective, the Islamic fixed income products created by the large western banks could be considered a uniquely problematic form of structured products. They are created using the same financial engineering techniques as conventional structured products and, as a result, they suffer from the same problems, such as opaqueness and illiquidity. However, they also are afflicted with an additional and idiosyncratic set of problems because of the need for Shariah certification and the fact that there are no plain vanilla alternatives in the market.

Such a perspective ignores the religious significance of Islamic fixed income products.[117] These products are designed specifically to meet both the religious and economic objectives of investors that want instruments that generate a fixed income type of return without having the return deemed to represent interest or otherwise to be incompatible with Shariah. For these investors, the complexity of the products, and the problems that arise from it, may simply be seen as necessary and unavoidable consequences of investing in instruments that conform to their religious beliefs.[118]

In addition, a capital market that includes no plain vanilla instruments does offer one inherent benefit. In conventional fixed income markets, which have both structured and plain vanilla alternatives, market downturns frequently cause investors to flee structured products and seek out the relative simplicity and comfort of plain vanilla instruments. This phenomenon may cause the prices of structured products to fall even more quickly than other types of instruments during periods of market distress, because the supply side of the market surges while the demand side collapses.

In the Islamic fixed income market, however, investors cannot easily flee complex products, because there are no simple alternatives they can turn to instead. As a result, the Islamic fixed income market may be structurally less prone to rapid sell-offs and sharp price falls than the conventional structured products market. This hypothesis is consistent with how the Islamic fixed income market reacted during the financial crisis. Although there were defaults on a number of sukuk[119] and new issuance of sukuk fell sharply for a period of a time in several important Gulf countries, [120] the market generally held up better than many conventional structured product markets.[121]

CONCLUSION: THE NEED FOR STANDARDISATION

During the last decade, the large western banks have been attracted to the significant profit opportunities that exist in Islamic finance. [122] The attraction stems largely from high oil prices and the massive outflow of 'petrodollars' from the Arabian Gulf countries.[123] However, even if global petroleum prices were to decline, the interest of western banks in Islamic finance is unlikely to wane. Considering the growing economies of many predominantly Muslim countries, as well as their youthful demographic make-ups,[125] the future growth potential of the market for financial products that comply with Shariah is obvious and substantial. [126]

The western banks have focused much of their attention on developing the fixed income side of the Islamic capital markets, because it is where they have a competitive advantage. Other areas, such as consumer banking, are denominated in most Muslim majority countries by domestic Islamic institutions that have larger local customer bases. Where the western banks have a significant advantage relative to local Islamic institutions is in their skill at financial engineering and innovation, which is the reason for their focus on the fixed income market. Given the Shariah prohibition against all interest-bearing securities, the fixed income market is seen as the area in Islamic finance that is most in need of innovation.[129]

The approach the western banks take to the market is to apply structured products knowledge and techniques to create Shariah-compliant equivalents of conventional fixed income products.[130] In other words, for every conventional instrument, the banks seek to structure an Islamic analogue that provides the same risk profile and economic return, but in a form that is consistent with Shariah. [131] This approach is crudely comparable to the 'tofu hamburger' approach to vegetarianism, which is based around creating vegetarian versions of popular meat dishes. The philosophical starting point for the large western banks is that all investors need conventional instruments, but since Shariah-compliant investors cannot have them, the banks will provide them with the closest possible Islamic variant. [132]

A significant problem with this approach is that it leads to very high levels of complexity. The Shariah compliant analogue of a conventional fixed income instrument is always more complex than the original. Moreover, in many cases, investors use certain conventional fixed income instruments specifically because they are simple and highly liquid. A structured version of such an instrument may have very little practical value. [133]

Through the application of enough imagination and financial engineering, structured products professionals may be able to replicate almost every existing fixed income instrument in a Shariah-compliant form. [134] However, that may not be a useful goal. The result would be an Islamic fixed income market that in some sense perfectly replicates the conventional market, but is many times more complex. Because of the problems discussed in this article that come with complexity, such an Islamic fixed income market would be a more opaque, illiquid and inefficient version of its conventional market archetype.

A better solution to building the fixed income side of the Islamic capital markets is to focus on simplification and standardisation.[135] A small number of standardised products will better serve the interests of most Islamic investors than a larger, but more complex, set of products that approximate the full range of conventional instruments. At least in the near term, creating such standardised products should be the principal goal of banks interested in developing the Islamic fixed income market.

Standardisation of Islamic fixed income instruments is difficult, because of the lack of uniform interpretations among Shariah advisors and among jurisdictions.[136] While a diversity of opinion among scholars can facilitate growth and the development of innovative new products, such diversity inhibits standardisation.[137] Given there is no systematic way to obtain consensus among Shariah scholars, it is unlikely any fixed income product will achieve truly universal acceptance.

Moreover, Islamic jurisprudence gives only limited importance to precedent.[138] There is no assurance, therefore, that products approved by a majority of Shariah scholars today will continue to be approved in the future. In 2007, for example, leading Shariah scholar Sheikh Muhammad Taqi Usmani, circulated a paper in which he argued that the majority of outstanding sukuk in the market were not actually in compliance with Shariah.[139] Because of Sheikh Usmani's high standing in the Islamic finance community[140], his paper had the effect of putting into doubt the permissibility of the structures behind most of the Islamic fixed income market at that time.[141] The precedent created by other scholars who had previously certified the structures as being Shariah-compliant did not prevent Sheikh Usmani from taking a contradictory position.

Nonetheless, a number of efforts are underway to create relatively simple and standardised products. These efforts are led in part by the principal standard setting bodies in Islamic finance, including the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) and the Islamic Financial Services Board (IFSB)[142]. The IFSB, for example, has led the work to create a standardised liquidity instrument for Islamic financial institutions, the lack of which has posed a serious limitation on the ability of these institutions to manage their assets and liabilities efficiently. [143] Although greater standardisation is unlikely to eliminate entirely the need for individual products to receive a Shariah certification, it should provide greater ex-ante certainty and lessen the time and effort needed for the certification process.

In order for the large western banks to participate fully in the standardisation and simplification process, they will need to take Islamic fixed income out of the structured products area and make it a more mainstream part of their business. The structured products business model is based around continuous innovation and large profit margins. Although the opaqueness of complex products leads to the problems discussed in this article, it is also a source of the profit margins earned by structured products teams. [145] Since structured products are difficult for investors to price, it is also difficult for investors to know how much profit margin the banks are making from the sale of these products. [146]

As a result, standardisation is not generally in the interest of a bank's structured products team. As products become more standardised, profit margins usually decline, often substantially. For the bank as a whole, such a reduction in profit margins may be more than offset by the higher revenues that come with the increased trading of standardised products as opposed to complex ones. However, this increased revenue will accrue to the trading desks and not to the structured products team. Therefore, moving to more simplified and standardised Islamic fixed income products will require a change in mindset at the large western banks. Rather than continuing to treat this area as a high margin, structured products business line, they need to look at Islamic fixed income as a potential source of steady revenue from trading a smaller set of relatively simple products.

In the conventional fixed income market, there are precedents for new instruments developing first as structured products and over time being standardised and mainstreamed. Credit default swaps (CDS), for example, came into existence in the 1990s as a type of structured product.[147] Over the past decade, they have become increasingly standardised, and most large western banks have begun to treat CDS as a commodity product that is priced and traded by their mainstream credit trading desks.[148] Although the increasing commoditisation of CDS has driven down profit margins,[149] it has also helped propel an increase in trading volumes.[150] Creating more commodity-type Islamic fixed income products should lead to similar results.

Islamic finance is one of the boldest and most successful financial innovations of the last 30 years. Innovation has driven its growth, particularly with respect to the development of the Islamic fixed income market. However, as the large western banks have entered the market, the focus of much of the innovation has been on creating ever more complex replications of conventional instruments. This sort of innovation should no longer be a priority. Rather, what the market needs now to sustain its growth is a more standardised set of relatively simple products. Although such a shift in emphasis from innovation to commoditisation may make Islamic finance less attractive as a structured products business line, it should make it more attractive as an investment tool for millions of Islamic investors.

NOTES

[1] See, for example, Natalie Schoon, 'Islamic

Finance — A History', *Financial Services Review,* August 2008 <http://www.assaif.org/content/download/.../Islamic%20Finance%20History.pdf) (hereafter, 'Islamic Finance — A History'); Shinsuke Nagaoka, 'Islamic Finance in Economic History: Marginal System or Another Universal System?' (Paper presented at Second Workshop on Islamic Finance, EM Strasbourg Business School, March 2010) <http://www.em-strasbourg.eu/docs/iw/papers/Nagaoka.pdf>.

[2] On the sources of Islamic law, see Abu Umar Faruq Ahmad, *Theory and Practice of Modern Islamic Finance: The Case Analysis from Australia* (2010) 55.

[3] Schoon, above n 1.

[4] On some of the tenets of other religions that are relevant to finance, see, for example, David Van Bema, 'The Financial Crisis: What Would The Talmud Do?', *Time* (online), 10 October 2008 <http://www.time.com/time/business/article/0,8599,1849231,00.html>; Wayne A M Visser and Alastair McIntosh, *A Short Review of the Historical Critique of Usury* (July 1998) <http://www.alastairmcintosh.com/articles/1998_usury.htm>.

[5] On the question of whether other religious-based financial systems could obtain the same size and status as Islamic finance, see Geoffrey Gresh, 'Money and Morality', *Business Management* (New York), 14 February 2011 (available at http://www.busmanagementme.com/article/Money-and-morality/).

[6] See, for example, 'Structured Finance: Issues of Valuation and Disclosure' in *IMF Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness* (April 2008) at 57 (commenting that the 'search for yield' has driven growth in the structured products market) (available at http://www.imf.org/external/pubs/ft/gfsr/2008/01/pdf/chap2.pdf).

[7] On ethical investment generally, see, for example, Katen Patel, *Ethical Investments — From Niche to Mainstream* (10 November 2010) What Investment <http://www.whatinvestment.co.uk/funds/1297733/ethical-investments-from-niche-to-mainstream.thtml>; Rupert Bruce, 'Ethical Investing: Doing Good or Massaging Consciences?', *New York Times* (online), 20 November 1993 <http://www.nytimes.com/1993/11/20/your-money/20iht-mrethic.html>.

[8] On the growth of Islamic finance, see, for example, Karina Robinson, 'Islamic Finance is Seeing Spectacular Growth', *New York Times* (online), 6 November 2007 <http://www.nytimes.com/2007/11/05/business/worldbusiness/05iht-bankcol06.3.8193171.html)>; Paul Errington, *56% Growth in Islamic Finance* (22 September 2010) Asset Finance International <http://www.assetfinanceinternational.com/asia-pacific/683-regional/2731-islamic-finance-grew-by-56-last-year-paul-errington-examines-the-current-state-of-the-sector>.

[9] Dubai Islamic Bank is generally credited with being the first Islamic bank. See, for example, ALM Abdul Gafoor, 'Islamic Banking' in *Interest-Free Commercial Banking* (1995) <http://users.bart.nl/~abdul/chap4.html>. See also Schoon, above n 1.

[10] See Islamic Capital Market Fact Finding Report, *Report of the Islamic Capital Market Task Force of the International Organization of Securities Commissions* (July 2004) 1 (hereafter, 'IOSCO Report').

[11] Because Islamic finance encompasses so many different areas, and also includes privately-held assets that are not publicly disclosed, it is difficult to accurately estimate the precise size of the Islamic financial market as a whole. For some of the estimates of the size of the market, see, for example, Hennie Van Greuning and Zamir Iqbal, *Risk Analysis for Islamic Banks* (2008) <http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2008/02/15/000333038_20080215040954/Rendered/PDF/424810PUB00ISB101OFFICIAL0USE0ONLY1.pdf)>; Blominvest Bank, *Islamic Banking in the MENA Region* (February 2009) <http://www.blominvestbank.com/Library/Files/Islamic%20Banking.pdf>. See also Mckean James Evans, 'The Future of Conflict between Islamic and Western Financial Systems: Profit, Principle and Pragmatism', 71 *U Pitt L Rev* 819 (Summer 2010).

[12] See, for example, Shrikant Bhat, 'Taking Stock of Structured Products', *AsiaOne Business* (online), 27 November 2009 <http://www.asiaone.com/Business/My+Money/Building+Your+Nest+Egg/Investments+And+Savings/Story/A1Story20091125-182276.html>.

[13] See, for example, Craig McCann and Dengpan Luo, *Are Structured Products Suitable for Retail Investors?* (15 December 2006) Securities Litigation and Consulting Group <http://www.slcg.

com/documents/StructuredProductsWorkingPaper-_11_2_06_-_with_Releases.pdf>.

[14] See Barbara Kavanagh, *The Uses and Abuses of Structured Finance* (29 July 2003) Cato Institute <http://www.cato.org/pub_display.php?pub_id=1338>.

[15] See James Pressley and Andrew Davis, 'Morgan, UBS Helped Parmalat Hide Costs, Study Alleges', *Bloomberg* (online), 18 March 2005 <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aunKDJ.G6VVM&refer=europe>.

[16] See Adam Davidson, 'How AIG Fell Apart', *Reuters* (online), 18 September 2008 <http://www.reuters.com/article/idUSMAR85972720080918>.

[17] See Kate Kelly, 'Inside the Fall of Bear Stearns', *The Wall Street Journal* (online), 9 May 2009 <http://online.wsj.com/article/SB124182740622102431.html>.

[18] On the continued growth of the structured products market, see John F Wasik, 'An Investment for the Experienced', *New York Times* (online), 20 October 2010 <http://www.nytimes.com/2010/10/21/business/businessspecial3/21PRODUCT.html>. See also Christopher Ellis, 'UK Hot Topic: Structured Products Plot Their Comeback', *Westlaw Business Currents*, 27 May 2010 <http://currents.westlawbusiness.com/Article.aspx?id=91c37ad8-dc9e-415e-98a7-fc2c9724eaab>.

[19] The word 'Shariah' refers to Islamic law, ethics and codes of conduct. The Arabic word 'Shariah' literally means a waterway that leads to a main water source. See, for example, Christine Benalafquih, *What is Shariah? Understanding Islamic Law (Shariah) and Jurisprudence (Fiqh)* (5 October 2008) Suite 101.com <http://www.suite101.com/content/what-is-shariah-a71667>. Various alternative English spellings are used, including Sharia, Shari'a and Shari'ah.

[20] See, for example, *AMEInfo, Arabian Gulf Private Wealth Estimated at USD1.5 trillion* (7 September 2004) <http://pewforum.org/future-of-the-global-muslim-population-main-factors-age-structure.aspx>.

[21] In this article, the expression 'large western banks' is used to mean banks that have their headquarters in North America or Europe and also have large international operations.

[22] On the involvement of global banks in the Islamic finance market, see, for example, Farhan Bokhari, Kevin Morrison and Gillian Tett, 'Rush to Tap into Islamic Market', *Financial Times* (online), 2 October 2006 <http://www.ft.com/cms/s/0/a7ed6cd8-5232-11db-bce6-0000779e2340.html#axzz1CFp9enal> (hereafter, 'Rush to Tap'). See also IOSCO Report, above n 10, 16.

[23] Robin Wigglesworth, 'Products: Industry Strays Too Far From Its Roots', *Financial Times* (online), 12 May 2010 <http://www.ft.com/cms s/0/381852b6-5c91-11df-bb38-00144feab49a.html#axzz1DYykKPcN>.

[24] See Roula Khalaf and Gilliian Tett, 'Islamic Finance: An FT Special Report', *Financial Times* (online), 23 May 2007 <http://ftalphaville.ft.com/blog/2007/05/23/4731/islamic-finance-an-ft-special-report>.

[25] On the use of conventional structured products techniques in Islamic finance, see, for example, Volker Nienhaus, 'Islamic Finance and Financial Crisis: Implications for Islamic Banking' in *The Changing Landscape of Islamic Finance*, Islamic Financial Services Board (2010) 1. For an example of the approach taken by the large western banks, see Deutsche Bank, *Pioneering Innovative Shari'a Compliant Solutions* (2007), Deustche Bank Academic Paper <http://www.deutsche-bank.de/medien/de/downloads/White_Paper.pdf>.

[26] See, for example, Gabriel Sawma, *Prohibition on Interest in Islamic Finance* (5 August 2010), HG.org, <http://www.hg.org/article.asp?id=19530>.

[27] See Zamir Iqbal, Abbas Mirakhor, Hossein Askari and Noureddine Krichene, *Risk Sharing in Finance: The Islamic Finance Alternative* (2011).

[28] See, for example, Muhammad Imran Usmani, 'Fixed Income Securities: A Shari'a Perspective' (Paper prepared for the Fixed Income Market Development in Emerging Market Economies Conference, December 2006) <http://www.sbp.org.pk/research/iindconf/fixed-income-securities-sharia-

perspective.pdf>.

[29] Ibid.

[30] See M Fahim Khan, 'Islamic Methods for Government Borrowing and Monetary Management' in *Handbook of Islamic Banking* (2007) 288.

[31] Ibid.

[32] See Andreas Jobst, 'The Economics of Islamic Finance and Securitisation' (IMF Working Paper, May 2007).

[33] On the use of SPVs in structured transactions, see 'SPVs in Structured Finance Transactions', *Financial Express* (online), 1 October 2006 <http://www.financialexpress.com/news/spvs-in-structured-finance-transactions/179279/0)>. SPVs tend to be established either in tax-free jurisdictions, such as the Cayman Islands, or in jurisdictions that have special legislation that permits SPVs to operate on a tax-neutral basis, such as Ireland. See, for example, Alasdair Robertson and Rebecca Steller, 'Cayman Islands', *International Financial Law Review* (online), *Setting Up Special Purpose Vehicles Supplement* (23 May 2005) <http://www.iflr.com/Article/1984869/Channel/193438/Cayman-Islands.html>; Cormac Kissane and Conor Hurley, 'Ireland', *International Financial Law Review* (online), *Setting Up Special Purpose Vehicles Supplement* (23 May 2005) <http://www.iflr.com/Article/1984869/Channel/193438/Cayman-Islands.html>.

[34] See Sami Suwailam, *Financial Engineering: An Islamic Perspective*, IRTI, Islamic Development Bank <http://www.kantakji.com/fiqh/Files/Finance/Financial_Engineering_1-4_DrSami_Suwailam.pdf>.

[35] See, for example, Freshfields Bruckhaus Deringer, *Islamic Finance: Basic Principles and Structures* (January 2006) <http://www.freshfields.com/publications/pdfs/2006/13205.pdf> (hereinafter, 'Freshfields Memo').

[36] On typical Shariah-compliant fixed income type structures, see Mahmoud Amin El-Gamal, 'Overview of Islamic Finance' (Occasional Paper No 4, Department of Treasury, Office of International Affairs, August 2006) <http://www.ncusar.org/programs/09-02-17-materials/08042006_OccasionalPaper4.pdf>.

[37] On ijarah contracts and ijarah sukuk, see for example, Dinna Rohmatunnisa, *Design of Ijarah Sukuk* (2008) University of Nottingham <http://www.philadelphia.edu.jo/courses/Markets/Files/Markets/c44.pdf>.

[38] The word sukuk is the plural form of the Arabic word sakk, which is often translated as 'financial certificate'. On sukuk generally, see Faisal Hasan, *Global Sukuk Market* (9 March 2009) Sailanmuslim.com <http://www.sailanmuslim.com/news/global-sukuk-market-by-by-faisal-hasan-head-of-research-global-investment-house-kuwait/>.

[39] See, for example, *Shariq Nisar, Islamic Bonds (Sukuk): Its Introduction and Application*, Finance in Islam <http://www.financeinislam.com/article/8/1/546>.

[40] On the source of ijarah contracts under Islamic law, see 'Contract of Al-Ijarah' in *Concepts in Islamic Economics and Finance* (6 February 2006) <http://cief.wordpress.com/2006/02/06/contract-of-al-ijarah/>.

[41] See, for example, Mahmoud A El-Gamal, 'Mutuality as an Antidote to Rent-Seeking Shariah Arbitrage in Islamic Finance' (2007) 49(2) *Thunderbird International Business Review* 187, arguing that ijarah contracts could be considered a form of secured lending.

[42] See Shabnam Mokhtar and Abulkader Thomas, 'Ijarah Sukuk' in *Sukuk* (Securities Commission Malaysia, 2009).

[43] Ibid.

[44] On how rating agencies analyse ijarah sukuk, see Kristel Richard, *A Closer Look at Ijarah Sukuk* (March 2005) Islamic Business and Finance <http://www.cpifinancial.net/v2/Magazine.aspx?v=1&aid=805&cat=BME&in=57>.

[45] On repackaging, see, for example, Margaret E Boswell, *The Rise and Rise of Structured Finance* (1999) FindLaw.com <http://library.findlaw.com/1999/Jun/1/128377.html>.

[46] On recent development in repackaging,

see Linklaters, *Repackaging Version 2.0: The Next Generation of Repackaging Programmes (Asian Edition)* <http://www.linklaters.com/Publications/AsiaNews/AsiaCapitalMarkets/Pages/RepackagingVersion2.aspx>.

[47] For a comparison of Islamic and conventional securitisation techniques, see Yasemin Zongir, 'Comparison between Islamic and Conventional Securitization: A Survey' (2010) 13(2) *Review of Islamic Economics* 81.

[48] An example of such a product is a long-dated zero coupon bond, combined with a put option exercisable close to the maturity date. A zero coupon bond does not pay regular interest, but rather redeems for an amount that is higher than the original issue price. The difference between the redemption amount and the issue price is generally treated for tax purposes as equivalent to interest income. However, in some jurisdictions, if a zero coupon bond is sold prior to its maturity date, the amount received on the sale in excess of the issue price is taxed more favorably as capital gain. In those jurisdictions, banks can sell zero coupon bonds together with put options that give the investors the right to sell the bonds back to the bank just prior to maturity. By exercising the put option, the investor effectively will convert all of the interest income it would have received on the maturity date of the bond into capital gain that it receives just prior to the maturity date. On the favorable tax treatment afforded zero coupon bonds in some jurisdictions, see Peter Nevitt and Frank Fabrozzi, *Project Financing* (7th ed, 2000) 90.

[49] On tax arbitrage generally, see Yaron Z Reich, 'International Arbitrage Transactions Involving Credible Taxes', *The Tax Magazine,* March 2007, 53 <http://www.cgsh.com/files/Publication/1321f86f-8f3b-448a-bd58-8382521c7a53/Presentation/PublicationAttachment/29c0faa7-2114-46e4-867f-88457f31d2a9/Reich_MAG_03-07.pdf>; Adam H Rosenzweig, 'Harnessing the Costs of International Tax Arbitrage', *Washington University Law Magazine*, Spring 2009, 14 <http://law.wustl.edu/magazine/spring2009/TaxArbitrage.pdf>.

[50] See Gaston Siegelaer and Pieter Walhof, 'Regulatory Arbitrage: Between the Art of Exploiting Loopholes and the Spirit of Innovation', *De Actuaris*, September 2007 <http://www.ag-ai.nl/download/819-15-1-PPSiegelaer%26Walhof.pdf>.

[51] Mahmoud A El-Gamal, *Limits and Dangers of Shari'a Arbitrage* <http://www.ruf.rice.edu/~elgamal/files/Arbitrage.pdf>.

[52] See Nikan Firooyze, 'Structured Products — The Most Suitable, Efficient and Fittest?', *Opalesque Islamic Finance Intelligence*, 28 July 2009 <http://www.kantakji.com/fiqh/Files/Finance/N365.pdf>.

[53] See, for example, US SEC Rule 434 which defines 'structured securities' as 'securities whose cash flow characteristics depend upon one or more indices or that have embedded forwards or options or securities where an investor's investment return and the issuer's payment obligations are contingent on, or highly sensitive to, changes in the value of the underlying assets, indices, interest rates or cash flows'.

[54] In finance, the term 'plain vanilla' is used to refer to basic or standard instruments such as simple, fixed rate bonds. See, for example, 'Plain Vanilla' at http://www.investopedia.com/terms/p/plainvanilla.asp.

[55] See, for example, Laurent Seyer, 'Swaying Investors to Benefits of Using Structured Products', *Professional Wealth Management*, 1 May 2006 <http://www.pwmnet.com/news/fullstory.php/aid/1513/Swaying_investors_to_benefits_of_using_structured_products.html>.

[56] For detailed information about the financial crisis, see http://www.ft.com/indepth/global-financial-crisis. See also Stephen G Cecchetti, *Monetary Policy and the Financial Crisis of 2007–2008* (March 2008) <http://fmwww.bc.edu/ec-j/sems2008/Cecchetti.pdf>.

[57] For information on the sub-prime mortgage backed securities market, see Benjamin J Keys, Tanmoy Mukherjee, Amit Seru and Vikrant Vig, *Securitisation and Screening: Evidence from Subprime Mortgage Backed Securities* (January 2008) <http://www2.law.columbia.edu/contracteconomics/conferences/laweconomicsS08/Vig%20paper.pdf>.

[58] A CDO is a type of asset-backed security whose

value and payments are derived from a portfolio of underlying debt obligations, usually bonds or loans. CDOs are typically split into different 'tranches' that reflect different levels of risk on the underlying portfolio. See Douglas J Lucas, Laurie S Goodman and Frank J Faboozi, *Collateralized Debt Obligations: Structures and Analysis* (2nd ed, 2006).

[59] See, for example, Mathias Dewatripont, Jean-Charles Rochet and Jean Tirole, *Balancing the Banks: Global Lessons from the Financial Crisis (Translated by Keith Tribe)* (2010) 3 <http://press.princeton.edu/chapters/s9155.pdf>.

[60] House of Commons Treasury Committee, *Financial Stability and Transparency,* House of Commons Sixth Report, Session 2007–08 (3 March 2008) 56 <http://www.publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/371/371.pdf> (hereafter, 'UK Treasury Committee Report').

[61] See, for example, Felix Salmon, 'Those Evil Synthetic CDO's' on Felix Salmon, *A Slice of Lime in the Soda*, Reuters (30 December 2009) <http://blogs.reuters.com/felix-salmon/2009/12/30/those-evil-synthetic-cdos/>.

[62] See, for example, Laurent Seyer, 'Swaying Investors to Benefits of Using Structured Products', *Professional Wealth Management* (online), 1 May 2006 <http://www.pwmnet.com/news/fullstory.php/aid/1513/Swaying_investors_to_benefits_of_using_structured_products.html>.

[63] On some of these exotic structured product areas, see Satyajit Das, *Structured Products Volume 2: Equity; Commodity; Credit & New Markets* (2005).

[64] On the equity market decline during the financial crisis, see Gerald P Dwyer, *Stock Prices in the Financial Crisis* (September 2009) Federal Reserve Bank of Atlanta <http://www.frbatlanta.org/cenfis/pubscf/stock_prices_infinancial_crisis.cfm>. On the losses to plain vanilla bank deposits, see Richard Barrington, *Hidden Losses: Decline in Purchasing Power of US Bank Deposits May Have Topped $140 Billion*, Money Rates.com <http://www.money-rates.com/news/hidden-losses-decline-in-purchasing-power-of-us-bank-deposits-may-have-topped-140-billion.htm>. In addition, many banks that suffered significant sub-prime mortgage related losses also eliminated or reduced the dividends they paid to shareholders. See, for example, Caroline Salas and Michael J Moore, 'Fed Said to Plan Guidelines for Bank Dividends, Stock Buybacks', *Bloomberg* (online), 5 November 2010 <http://www.bloomberg.com/news/2010-11-04/fed-said-to-prepare-guidelines-for-bank-dividend-boosts-jpmorgan-advances.html>. With respect to the specific case of Citibank eliminating its dividends, see Justin Baer and Francisco Guerrera, 'Citi Edges Closer to Recovery', *Financial Times* (online), 18 October 2010 <http://www.ft.com/cms/s/0/620f2b5c-dae1-11df-a5bb-00144feabdc0.html#axzz1BVzwupir>.

[65] For an example of the demonisation of the complexity of structured products, see Opening Statement of Senator Carl Levin, Senate Permanent Subcommittee on Investigations Hearing, Wall Street and the Financial Crisis (23 April 2010) <http://www.enewspf.com/index.php/latest-news/latest-national/15892-opening-statement-of-senator-carl-levin-senate-permanent-subcommittee-on-investigations-hearing-wall-street-and-the-financial-crisis>.

[66] See, for example, Firooyze, above n 52.

[67] On the difficulty of pricing structured products, see, for example, Michael Mahlknecht, 'Global Structured Products Survey: Trends and Issues in the Market', *Journal of Financial Transformation* <http://www.capco.com/files/pdf/515/02_DELIVERY/01_Global%20structured%20products%20survey%20Trends%20and%20issues%20in%20the%20market%20(Opinion).pdf>.

[68] See Philippe Selendy, 'Risk-Mispricing of Structured Products under New York Law' (2010) 5(1) *Capital Markets Law Journal* 30. On derivatives pricing generally, see, for example, The Options Industry Council, *Options Pricing* <http://www.optionseducation.org/basics/options_pricing.jsp>.

[69] See, for example, John Churchill, *A Tempest Over Structured Products* (1 February 2007) Registered Rep.com <http://registeredrep.com/investing/altinvestments/finance_tempest_structured_products/#>.

[70] On financial market liquidity generally, see, for example, Tarun Chordia, Asani Sarkar and Avanidhar Subrahmanyam, *An Empirical Analysis of Stock and Bond Market Liquidity* (30 July 2003) <http://www.ny.frb.org/research/economists/sarkar/stkbon5.pdf>. See also Asian Development Bank, *Domestic Bond Markets* <http://www.adb.org/Projects/Apec/DBM/chapter4.asp>.

[71] See, for example, Nigel Jenkinson, Adrian Penalver and Nicholas Vause, *Financial Innovation: What Have We Learnt?* (2008) Reserve Bank of Australia <http://www.rba.gov.au/publications/confs/2008/jenkinson-penalver-vause.pdf> (hereinafter, '*Financial Innovation*').

[72] On the illiquidity of structured products, see, for example, Katrina Lamb, *Understanding Structured Products*, Investopedia <http://www.investopedia.com/articles/optioninvestor/07/structured_products.asp#12954555819032&close>.

[73] See Dan Frohm, *The Pricing of Structured Products in Sweden: Empirical Findings for Index-linked Notes issued by Swedbank* (2005) Linkoping Institute of Technology, 11 <liu.diva-portal.org/smash/get/diva2:23763/FULLTEXT01>.

[74] Ibid.

[75] Ibid.

[76] For how the New York law firm Cadwalader, Wickersham and Taft describes the intricacies of dealing with distressed structured products, see Cadwalader, Wickersham and Taft, *Distressed Structured Products* <http://www.cadwalader.com/Practice/Distressed_tructured%20Products/209>.

[77] See, for example, Tara E Gaschler, *Understanding the Securitisation Process and the Impact on Consumer Bankruptcy Cases*, American Bankruptcy Institute <http://www.abiworld.org/committees/newsletters/consumer/vol7num12/securitization.pdf>.

[78] On the costs to the banks that create structured products, see Xenomorph, *Structured Products I: Process, Costs and Issues* (August 2003) <http://www.xenomorph.com/downloads/files/xenomorph-white-paper-structured-products-1.pdf>.

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[80] On certain accounting issues with respect to SPVs, see, for example, George J Benston, *The Evolving Accounting Standards for Special Purpose Entities and Consolidations* (1 September 2002) Allbusiness <http://www.allbusiness.com/accounting/methods-standards/276158-1.html>.

[81] For an example of an offering document prepared for a CDO, see ABACUS, *Offering Circular* (26 April 2007) <http://av.r.ftdata.co.uk/files/2010/04/30414220-ABACUS-Offer-Document.pdf>.

[82] On investor reliance on rating agency opinions, see, for example, Joshua Coval, Jakub Jurek and Erik Stafford, *Re-Examining the Role of Rating Agencies: Lessons from Structured Finance* (January 2008) <http://www.people.hbs.edu/estafford/Papers/CJS_Ratings.pdf>. See also Christopher Cox, *Statement on Proposal to Increase Investor Protection by Reducing Reliance on Credit Ratings* (25 September 2008) US Securities and Exchange Commission <http://www.sec.gov/news/speech/2008/spch062508cc_credit.htm>.

[83] See Financial Innovation, above n 71.

[84] On the opaqueness of complex structured products and its impact on the financial crisis, see for example, Nienhaus, above n 25, 4.

[85] On the tendency for commentators in the wake of the financial crisis to use 'structured product' as a general term for any investment that is evil and toxic, see Emma Cosgrove, 'Banking Special – Structured Products', *Executive Magazine* (online), 1 November 2010 <available at http://www.executive-magazine.com/getarticle.php?article=13608)>.

[86] On the complexity of Shariah-compliant structures, see, for example, Freshfields Bruckhaus

Deringer, above n 35.

[87] See, for example, International Financing Review, *Cross-Sell of Islamic Finance — IFR Islamic Finance Report* (2009) <http://www.ifre.com/cross-sell-of-islamic-finance/578645.article>, commenting on accusations that the Islamic finance market is non-transparent and opaque.

[88] On the lack of liquidity of Islamic fixed income instruments, see, for example, Selim Cakir and Faezeh Raei, 'Sukuk vs. Eurobonds: Is There A Difference in Value-at-Risk?' (Working Paper, Middle East and Central Asia Department, October 2007) <http://www.scribd.com/doc/23394220/Sukuk-vs-Eurobonds-is-There-a-Difference-in-Value-At-Risk>.

[89] Standard & Poor's, *Islamic Sukuk Come of Age in Infrastructure and Project Finance* (20 April 2009) <http://www2.standardandpoors.com/spf/pdf/media/Islamic_Sukuk_Come_Of_Age_In_Infrastructure_And_Project_Finance_20-Apr-09.pdf>.

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[92] See, for example, Joel Clark, 'Mastering Sharia', *Risk Magazine*, 30 March 2010 <http://www.risk.net/risk-magazine/feature/1598877/mastering-sharia>.

[93] See, for example, Muhammad Ayub, *Understanding Islamic Finance* (2007) 435.

[94] Vikram Modi, 'Writing the Rules: The Need for Standardized Regulation of Islamic Finance', *Harvard International Review* (online), 8 July 2007 <http://hir.harvard.edu/a-tilted-balance/writing-the-rules>.

[95] See, for example, Standard & Poor, *Islamic Finance Outlook 2010* <http://www2.standardandpoors.com/spf/pdf/media/Islamic_Finance_Outlook_2010.pdf>.

[96] On the history and legal significance of a certification of Shariah compliance, see Barry Rider, 'Islamic Financial Law: Back to Basics' in Islamic Financial Services Board, *The Changing Landscape of Islamic Finance — Imminent Challenges and Future Directions* (2010) 103.

[97] On the view of Islamic finance as rooted in ethics, see for example, Muhammad Nejatullah Siddiqi, *Evoution of Islamic Banking and Insurance as Systems Rooted in Ethics* (26 April 2000) SoundVision.com <http://www.soundvision.com/Info/money/islamicbanking.asp>.

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[99] On the structuring needed to create Shariah-compliant fixed income products and the complications and potential confusion that stem from it, see 'Sukuk It Up: Sharia-compliant Finance Is Not Broken But It Is Dented', *The Economist*, 15 April 2010 <http://www.economist.com/node/15908503>.

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