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To what extent are financial innovations facilitating greater efficiency and accessibility in the economy?

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Abstract

Within the world of finance and economics, the concept of financial innovations has started to come to the forefront to a great extent. Financial innovations essentially entail the creation of new financial products, processes and institutions. As technology has been advancing at an unprecedented rate, many more forms of financial innovation have been facilitated and introduced to the market in recent years. This research paper aims to uncover the literature present on financial innovation as well as the varying examples of it including product innovations such as high yield/junk bonds and institutional innovations such as Special Purpose Acquisition companies (SPACS). Additionally, the latter half of the paper also discusses the concept of 'Fintech' - another example of financial innovation that has greatly been influenced by technology. The paper concludes with an evaluation of financial innovation.

Introduction

It is very common for many to think that the financial world is highly stylized with limited types of securities, such as debt and equity, and simple financial institutions, like banks or exchanges, as a result of the manner in which it is depicted in theoretical and empirical works. However, research suggests that this is far from the truth as in reality there are a vast array of financial products, many different kinds of financial institutions as well as a range of processes that are employed to conduct business by these institutions (Tufano, 2003).

Whilst the layman knows 'innovate' to be defined as 'to introduce as or as if new' (Merrian-Webster Collegiate Dictionary, 2022), economists use the word 'innovation' in a very expansive manner. For example, they may commonly use it to describe shocks to the economy, such as fiscal policy innovations, or even to describe the response to these shocks. When we speak of financial innovation, particularly, it is most broadly defined as the act of creating and then popularizing new financial products, institutions and processes.

Through the literature published, over the years, there have been many theories presented that attempt to argue why financial innovations occur. Whilst some have concluded that they are by-products of regulation, others have hypothesized that they occur to limit the financial constraints on firms. Regardless of what the reason may be, many have come to find that financial innovations can be very important as they ultimately improve allocative efficiency and enable economic growth.

This research paper aims to provide an overview of financial innovation, the different examples of it as well as an evaluation of the concept. In doing so, the research question to be answered is **"To what extent are financial innovations facilitating greater efficiency and accessibility in the economy?"**

Financial innovation - literature review

The main functions of the financial system have been identified by several researchers in the existing literature. The most commonly referred to, for example, are the six primary functions proposed by Merton (1993;1995) including; (1) moving funds across time and space; (2) the pooling of funds; (3) managing risk; (4) extracting information to support decision-making; (5) addressing moral hazard and asymmetric information problems; and (6) facilitating the sale or purchase of goods and services through a payment system. Finnerty (1992) also identified a set of functions including the reallocation of risks, reduction of agency costs and an increase in liquidity, with the first two corresponding closely to those proposed by Merton. In light of these functions representing timeless demands on financial systems, one commonly asked question is why is innovation observed? In a bid to understand the varying reasons provided for this question in the literature, it is first important to understand the very concept of financial innovation. Referring back to the definition provided by Merton (1992), "financial innovation is the creation of new financial instruments, technologies, institutions, and markets. As in other technologies, innovation in finance includes research and development functions as well as the demonstration, diffusion, and adoption of these new products or services". When we speak of innovations in the world of finance, particularly, they are most commonly seen as adaptations and improvisations of existing products and concepts.

With regard to why these innovations occur, much of the literature points to how 'imperfections' in the market stimulate financial innovation. A paper by Silber (1983), for example, acknowledges that for a very long time, most analysts have viewed financial innovations to be a by-product of regulation i.e. new financial products, processes and institutions are created in a bid to circumvent the regulatory constraints. Whilst this argument holds credibility, Silber believes that the perspective is too narrow to explain the entire process of financial innovation. Instead, he hypothesizes that "new financial instruments or practices are innovated to lessen the financial constraints imposed on firms". This is explained further based on the reasoning that firms maximise utility subject to several constraints, which are imposed both internally and externally. When discussing external constraints, for example, government regulations undoubtedly appear as one of the most prominent, however, there are many others constraining the firm's optimization problem including the marketplace. The underlying justification for the marketplace being a constraint is based on basic economic working; the marketplace ultimately has the power to define the demand and supply for different financial products and simultaneously identify the policy tools available to the firm in question. Moreover, the internal constraints set by the firm will also influence its optimization problem. A set target rate for the growth of assets and self-imposed liquidity constraints, for instance, are two common examples. It is these very constraints within which a firm attempts to maximise its objective function. That being said, the model suggests that if and when the costs of adhering to these constraints increase, firms are likely to seek out financial innovations.

Silber's view on financial innovation was adapted by many as per the available literature. Two examples include an explicit mention by Richard Sylla (1982) which relates to collective action and monetary innovation specifically while the other observation was implicit and in a paper about the treatment of credit crunches and deals with the nature of new financial products by Wojnilower (1980). Sylla's main argument was that new monetary standards including the likes of Fiat Currency (a government-issued currency that is not backed by a physical commodity, such as gold or silver, but rather by the government that issued it (Chen, 2022b)), were introduced at a time when the governments were forced to overhaul the payments mechanism as a result of crises in the existing monetary system. Sylla's application of Silber's perspective allows him to explain how the rising costs of adhering to the existing constraints, felt both by the individuals and firms simultaneously, represent crises which induce separate interest groups to jointly innovate products. On the other hand, Wojnilower's paper focuses on his interest in how financial responses to credit crunches are able to set the stage for future cycles of recession and inflation. His perspective fits in line with Silber's while further emphasizing that new financial products are designed to sustain financing flexibility for the firm.

On the basis of what has been briefly mentioned before, financial innovation usually occurs in products, processes and institutions. In line with this, Abor (2005) recognizes *process innovation* as the new ways in which businesses operate and implement information technology. Some of the most common examples include Automated Teller Machines (ATMs) and mobile banking. *Product innovation*, on the other hand, includes any new financial products that are introduced to the market like securitized assets, foreign currency mortgages, huge funds, private equity and high yield/junk bonds (Financial Times, n.d.). Lastly, *institutional innovations* include the introduction of new types of financial firms such as specialist credit card firms and Special Purpose Acquisition companies (commonly known as SPACS) (Tahir et al., 2018). Regardless of the type of financial innovation occurring, each one of these is created with the main aim of improving payment systems that are used in the borrowing and lending of funds (which is the ultimate role of the financial markets as per traditional finance).

Examples of financial innovation

Junk or high-yield bonds

An example of one of the most common financial instruments is a bond - a fixed-income instrument that represents a loan made by an investor to a borrower (Fernando, 2022). There are several different types of bonds including corporate bonds, government bonds, agency bonds etc. However, regardless of the category of bonds, prior to issuance, each bond is assessed and given a rating by the major rating agencies, such as Standard & Poor's or Moody's, tasked with the job of determining the financial ability of the issuer to repay the debt they are taking. These ratings differ slightly as per the agency but most commonly range from AAA i.e. the best to D i.e. a company in default. On the basis of this scale, bonds are widely categorized into two categories. Firstly, there are *'investment-grade bonds*' which are issued by low to medium-risk lenders with a rating ranging from AAA to BBB. These bonds are most commonly known for paying lower interest as they are not very risky. On the other hand, however, the second category of bonds is known as *'junk bonds'* and is rated BB or lower. They tend to pay a higher yield to the investors as compensation for the greater risk being taken (Chen, 2022a). Furthermore, investors break down junk bonds into two different categories. *Fallen angels*, for example, are those bonds that were once rated investment grade but have been reduced to junk-bond status over time as a result of concerns emerging regarding the financial health of the issuers. *Rising stars*, on the other hand, are the opposite and are issued by those companies that are showing some form of financial improvement. Whilst their bonds are still considered junk, they have gradually upgraded to higher levels of junk and can be expected to be on their way to investment quality in the future (Investopedia, 2022).

These very 'junk bonds' (also known as high yield bonds) were one of the most popular examples of product innovation in the financial market when Bear Stearns and Company underwrote the first new-issue junk bond in 1977, after decades. Shortly after this, Burnham brought the debt of around seven below-investment-grade companies to the market. More than one-third of all corporate bonds issued were non-investment grade by 1983 (Yago, 1991). When considering the reasons for the explosive growth of this innovation, there were many. Firstly, there was the obvious advantage of the generation of higher incomes. Despite the risk that investing in these bonds presents, as per a paper from Vanguard, they generally tend to outperform investment-grade corporate bonds. For example, from 1987 to 2018, junk bonds, on average, offered yields that were 4.76% more than those offered by investment-grade bonds. In fact, if general interest rates are low, as they tend to be during economic downturns, then it is even more beneficial to buy junk bonds as they present the opportunity of making great profits if sold during an upswing (Chandler and Kim, 2022). Moreover, with traditional sources of financing, such as commercial papers and bank loans, favouring companies that had proven financial strength, the introduction of junk bonds were welcomed by many. The reason for this is that these bonds opened a door for companies with less-robust finances to raise money (Pitcher, Gonzalez and Seligson, 2021).

At today's date, the junk-bond market, by most definitions, exceeds half a trillion dollars. In fact, some of the biggest companies have/ have had below investment-grade or 'junk' credit ratings. Netflix, for example, started their company with a great strategy which entailed licensing movies and TV shows from the companies making them and then offering them to the public in exchange for a fee (Smith and Garcia, 2020). However, many content providers started to see potential in the model and investment in it themselves leading to content being pulled off the Netflix service. As a result of this, Netflix decided to create their own content which undoubtedly required a huge amount of money. Regardless of having a great subscriber base, Netflix was running on a negative free cash flow for years and therefore, had to turn to the junk bond market to raise debt. As per an article published in April 2022, Moody's rating for Netflix Inc. was 'NFLX, +1.46% Ba1'. This is the highest non-investment grade or junk rating and classifies the company as a rising star - meaning that the next move could be to an investment-grade rating (Kilgore, 2022).

Special Purpose Acquisition companies (SPACS)

When discussing the route through which many companies raise capital to fund their operations, an IPO or Initial Public Offering is commonly heard of. An IPO essentially represents a key milestone for any private company as it goes public by selling new shares on the stock market. Whilst this option has proven incredibly successful for some companies and investors in the past, it must be acknowledged that the IPO process remains extensive and expensive. For example, a company willing to go public has to hire an underwriter i.e. an investment bank that leads the IPO process. Considering the success of an IPO is greatly dependent on the underwriter or group of underwriters chosen, companies understandably have to go through a lengthy process to ensure they are making the right choices. Furthermore, aside from the high underwriter fees, companies wanting to go public also have to be ready to open their wallets to conduct a great deal of due diligence and meet certain requirements as set by the Securities and Exchange Commission (SEC) (PitchBook, 2021).

In light of the above, an institutional innovation which has existed for many years but has only recently gained much popularity in the financial market as an alternative to the traditional IPO is Special Purpose Acquisition companies (SPACs). A SPAC is a "company without commercial operations and is formed strictly to raise capital through an initial public offering (IPO) or the purpose of acquiring or merging with an existing company" (Young, 2020). Essentially, SPACs have no commercial operations i.e. they do not make or sell any products or services (Huddleston, 2021). They merely exist to acquire or merge with promising private businesses, which would subsequently take those businesses public without the need for an IPO (IPO). However, investors in a SPAC are unaware of the identities of the target companies. Therefore, investors are effectively writing a "blank check" when they decide to invest in an unidentified business (Chen, 2021). Whilst much debate has arisen regarding SPACs, there is no doubt that they have been approved by many companies. For example, as per an HBR article, "in 2019, 59 were created, with $13 billion invested; in 2020, 247 were created, with $80 billion invested; and in the first quarter alone of 2021, 295 were created, with $96 billion invested. Then there's this remarkable fact: In 2020, SPACs accounted for more than 50% of new publicly listed U.S. companies" (Bazerman & Patel, 2021).

The reason that many favour SPACs is that they provide investors and targets with a new set of financing opportunities. However, other than being an example of innovation itself, SPACs also enable a great amount of innovation. The reason for this is that at today's date, most SPACs focus on companies that are disrupting consumer, technology, or biotech markets. These industries are paving the future for the world and have been able to raise a lot more funds than they otherwise would because of the existence of SPACs (Bazerman & Patel, 2021).

FinTech

Financial innovations that have been made possible mostly by technology are referred to as "financial technology" or "fintech." Fintech innovations also result in the development of new financial services, intermediaries, or instruments, much like conventional financial innovations. Fintech products can be roughly categorized as either consumer (B2C) or business (B2B) solutions, back-office applications, or alternative methods of performing the fundamental tasks of conventional financial intermediaries (such as lending, payments or asset management). In a narrow sense, fintech is commonly used to refer to the companies that offer these technologically enabled financial innovations. These players carve out, automate and rearrange parts of the value-added chain of traditional financial intermediaries (Deutsche Bundesbank, 2021).

Some of the biggest examples of fintech have been seen in the field of online financing. Understanding that many individuals do not want or have credit cards but still want the flexibility to make purchases online and pay over time, companies like Klarna, Affirm and AfterPay, for example, have formed to provide solutions. Depending on the size and nature of the purchase, interest-free options are made available to consumers making online shopping a much more accessible experience. Moreover, even e-commerce businesses can benefit greatly as offering such payment options help attract a larger customer base. Other forms of financing are also becoming available online to enhance the traditional options available. For instance, Better Mortgage aims to streamline the mortgage process and bypass brokers. They give customers a digital-only offering, providing a verified pre-approval letter within 24 hours of applying. Furthermore, a micro-loan company, Tala, focuses on consumers in the developing world by using big data available from their smartphones to better understand their transaction history and subsequently offer more suitable loan options than those that may be offered by local banks (Biedron, 2020).

Overall, financial services institutions have almost always been known to offer an array of services under a single umbrella. These services ranged from traditional banking activities all the way through to mortgages and trading services. Fintech, however, as an industry has challenged this foundation by unbundling the services and offering them individually. The reason this works is that when streamlined offerings combine with technology, more efficiency and lower costs are enabled for all stakeholders using the services (Kagan, 2020). The impact of fintech innovations on traditional trading, banking, financial advice, and products is stated best in an Investopedia article as 'disruption' - in many cases, a positive and welcomed one.

The impact of financial innovation on efficiency

When attempting to answer the question of if financial innovations enable greater efficiency in the financial world, most of the literature points toward a positive answer. It has most commonly been highlighted that as a result of financial innovations, the existing financial systems and structures are enhanced in both developed and developing countries around the world. For example, a paper by Nkem and Akujinma (2017) focused on conducting a study in Nigeria and ultimately concluded that the banking sector in the developing economy is strengthened due to financial innovations in various payment methods/systems, including the implementation and use of automated teller machines, mobile banking, and electronic banking. Moreover, this technological progress has increased competition in the banking sector as the number of institutions has grown. When basic economic knowledge is applied to this, the increased competition translates to greater productivity from the existing institutions. Therefore, there is an observed positive correlation between financial innovation products and enhanced bank efficiency, as well as customer satisfaction.

Whilst the above example is based on the banking industry specifically, some studies including that by Beck (2013) look at the impact of financial innovation on the efficiency of the wider economy. By applying a cross-country indicator of financial innovation to an array of real and financial sector outcomes, the author found some interesting results including better translation of growth opportunities into GDP per capita growth in countries wherein financial institutions have spent money on financial innovation and greater reductions in profits, relative to both total assets and equity, in countries where banks have spent more on financial innovation prior to observed market crises. However, that being said, the paper also importantly highlights that regardless of the efficiency that financial innovation introduces to individual economies and the global economy, it does have certain risks which must be managed by the implementation of proper regulatory forces.

Conclusion

Financial innovations are becoming increasingly important in the field of finance as well as for economies globally. By facilitating the creation of new products, processes and institutions, the process of financial innovation is undoubtedly making the traditional financial system more accessible and efficient than before.

This research paper aimed to examine examples of financial innovation that have taken the world by storm in recent times. In order to do this, junk bonds were analysed as a product innovation that opened doors for companies with weak credit ratings to raise debt in a manner that is easier than what traditional institutions enable. Even SPACS, an institutional innovation, was discussed as an innovation that offers companies looking to go public a quicker and cheaper solution than the traditional IPO route. Lastly, FinTech, an industry making unfathomable growth based on innovation enabled purely by technology was also discussed with a special focus on online funding being made more accessible than ever before.

On the whole, as has been indicated by the literature and the examples provided, it can be concluded that financial innovations enable greater efficiency and accessibility in the economy to a great extent.

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