

Financial Innovation and the Future of Financial Intermediation

Otieno Caroline Achieng (corresponding Author)

Jomo Kenyatta University of Agriculture and Technology, College of Human Resource and Development, P.O. Box 8895 -00200, Nairobi, Kenya

E-mail: carolotieno23@gmail.com

Tel: +254714115184

Kagira Peter karani

Jomo Kenyatta University of Agriculture and Technology, College of Human Resource and Development, P.O. Box 62000 -00200, Nairobi, Kenya

Dr. Nasieku Tabitha, PhD Finance

Jomo Kenyatta University of Agriculture and Technology, College of Human Resource and Development, P.O. Box 62000 -00200, Nairobi, Kenya

Abstract

Due to financial innovation, financial system ability would improve in terms of determining the market price and guaranteed liquidity for instruments, source for company's capital, encourage savings and investments through risk sharing and risk management products. The benefits accrued include avoiding regulations and optimizing taxes, reducing transaction costs and increasing liquidity of market-based products, reducing agency costs, reducing informational asymmetry, increasing risk sharing opportunities and making capital intermediation more efficient and cheaper for clients. However, new financial instruments generate repercussions via various channels. For instance, credit flows are stimulated by use of interest rates options and forward rates agreements and customers are more likely to request and commit debts. Financial intermediaries have seen a bright future due to constant innovation of financial instruments such as derivative market. Innovation in the financial sector is promoted by factors such as technological dynamism and globalization amongst others.

Key words: Financial Intermediation, Financial innovation, Financial Markets

1.0 Introduction

According to Lawrence and Scott (2001), financial innovation is a broad concept covering areas that include; usage of new financial intermediation methods, foundation of new financial institutions, changes in legislation or financial supervision, changes in business processes and changes in services such as new deposits and loan products, derivative instruments, insurance and investment products. As a result of financial innovation, the ability of financial system to fulfill functions such as determination of market prices of financial instruments, sourcing for capital, encouraging of savings and investments through risk sharing and diversification and provision of risk management products would improve (Miller 1989; Harris and Raviv 1989).

According to Allan and Gale (1994), the benefits of financial innovation include avoiding regulations and optimizing taxes, reducing transaction costs and increasing liquidity of market-based products, reducing agency costs between executive management and shareholders and between shareholders and creditors, reducing informational asymmetry between corporate insiders and outsiders, increasing risk sharing opportunities and making capital intermediation more efficient and cheaper for clients. Johnson, (1991) observes that new financial instruments generate repercussions via various channels: credit flows are stimulated, for instance, with interest rates options and forward rates agreements, customers are more likely to request and commit debts. The note issuance facilities (NIFs) and floating rate notes (FRNs), which are direct financing, help, reinforce the purchasing power of borrowers.

1.1 Types of Financial Innovation.

Some of the types of financial innovation are discussed in the subsequent section.

1.1.1 Institutional innovation. These innovations lead to the establishment of new types of intermediaries, or to changes in the legal and supervisory framework. (Allan and Gale 1994).

1.1.2 Process innovations. Such innovations cover the introduction of new business processes leading to increased efficiency, market expansion, etc. Examples include office automation and use of computers (Lawrence and Scott (2001)).

1.1.3 Product innovations. Such innovations include the introduction of new credit, deposit, insurance, leasing, hire purchase, and other financial products. Product innovations are introduced to respond better to changes in market demand (Lawrence and Scott 2001).

1.2 Benefits and Speed of Adoption of Financial Innovation

Since the mid-1980s governments of various industrial countries have, to a large extent, relaxed their controls on financial institutions. Such liberalization, together with a volatility of exchange and interest rates never before experienced, generated a string of new financial instruments specially designed to handle different kinds of risks. These instruments have been widely accepted in the international financial community, and it is notable that the volume of their transactions in any period of time varies directly with the degree of turbulence in money markets. New financial instruments are issued from academic research and/or the macro finance crisis and/or the financial needs of large international companies (Tufano, 2003).

Financial innovation is viewed as the engine driving the financial system towards its goal of improving the economy. Merton (1986) cites the U.S national mortgage market, the development of international markets for financial derivatives and the growth of the mutual funds and investment industries as examples where financial innovation has produced enormous social welfare gains. The aim of financial innovation is to make different services offered by financial system cheaper and more available for clients and to increase their quality, which is an assumption for a long run sustainable growth of economy.

Secondly, financial innovations raise the extent and speed of capital mobility into and out of the country. Currency swaps, currency options, and swap options, for example, facilitate foreign borrowing. Net inflows of funds from abroad directly affect the amount of local money supply, thus the effectiveness of implemented monetary policies. The popularity of the new instruments may also give rise to some constraints on local banks regarding their capacity to finance fiscal deficits. Because of these constraints, fiscal policies could be hindered and inflationary sources of financing, such as central banks or external loans, may be resorted to. Public agencies themselves utilize new financial instruments by enabling government agencies to cover all costs of investment or maintenance projects. Hence, the direction and degree of desirable fiscal policies could vary. (Campbell, 1988).

There are also, benefits that accrue to borrowers and savers as they have more alternatives to choose from in attempts to find credit, avert risk, or invest, banks and other financial institutions are pressured to improve their services. Financial innovations, as such, encourage efficiency in and further development of money markets. However, financial innovations function as automatic stabilizers within the financial system. This stability is crucial; otherwise private enterprises could experience a greater frequency of business failures because of wild fluctuations of interest rates, exchange rates, and money market liquidity. It has also improved market integration and efficiency of international markets by bringing broader and more flexible range of instruments. This has resulted in improved allocation of financial resources and better distribution of portfolio risks. Also, substitution of direct transaction in securities for bank credits and competition has reduced intermediation cost.

However, innovation and its consequences have also created new concern as observed by Simpson and Parkinson (1988), about the functioning and management of international and domestic financial systems. With new benefits new risk came into view. These risks relate to the quality of the banks' assets, the pricing of new instruments, and the aggregate liquidity of the system, the risk transfer mechanism and the effects of innovation on markets volatility.

1.3 Reasons for financial innovation

Innovation exists to complete inherently incomplete markets. In incomplete financial markets, not all the needs of investors are met (Horne, 1985). Adverse selection, moral hazards, high transaction costs and information asymmetries, may prevent agents from entering into agreements to share risks. However, introduction of financial innovations shields individuals from risks associated with market imperfections.

Innovation persists to address inherent agency concerns and information asymmetries: Much of contracting theory (or the security design literature) explores how contracts can be written to better align the interests of different parties or to force the revelation of private information by managers (Harris and Raviv, 1989). Persistent conflicts of interest between outside capital providers and self-interested managers, and asymmetric information between informed insiders and uninformed outsiders, leads to equilibrium in which firms issue a multiplicity of securities (Allen and Gale 1994).

Innovation exists so parties can minimize transaction, marketing costs. Many of the process innovations in payment systems technologies are aimed at lowering transaction costs. ATMs, smart cards, and many other new businesses are legitimate financial innovations that seek to dramatically lower costs of processing transactions. By some estimates, these innovations have the potential to lower the cost of transaction between buyers and sellers. History shows that as marketing costs fall, financial innovations exploit the easier access to buyers and sellers of securities (Merton, 1989).

According to Miller (1986), argue that the major impulses to successful innovations have come from regulation and taxes as this spurs the need to circumvent regulations and legislation giving rise to new financial products. Tax driven innovations include Euro Bonds and are designed to be free of withholding tax, and include many features that offer tax advantage to issuers as well as investors.

According to Campbell (1988), to the extent that a tax system levies differential taxes on different streams of income or on different categories of assets, the higher taxed parties will seek ways of reducing their taxes. Since it is a two edged sword, some forms of regulation must inhibit innovation. For example, if a regulation prevents commercial banks from owning insurance companies (and vice-versa), then whatever innovations might arise from joint ownership and operation will not occur. If cross ownership is prevented, then banks will have the incentive to create insurance like products and services.

Bodie (1990) notes that removing regulatory barriers to the entry of foreign players boosts competition in the stock market. Increased competition between market participants also fosters discipline and financial innovation in the equity market. Competition is a means to achieve the stock market objective of instituting an alternative mode of financing that serves domestic investors' needs and allows public and private enterprises to recycle their portfolios in good market conditions because of increased trading.

Financial innovations occur because agents in market are searching for new ways to make profits, such as circumventing regulations. A change in the economic environment will stimulate a search for innovations that are likely to be profitable. Regulation and innovation are intricately linked since regulation is a major cause of innovation whilst innovation sometimes leads to a need for new regulations. Regulation can lead to financial innovation by creating incentive for firms and banks to evade regulations that restrict their ability to earn profits. Kane (1987) describes this process of avoiding regulations as "loophole mining". The economic analysis of innovation suggests that when

regulatory constraints are so burdensome, avoiding them can make large profits, and loophole mining and innovation are more likely occur.

2.0 Evolution of Money

2.1 Evolution of the International Monetary System (IMS)

IMS is institutional framework within which international payments are made, movements of capital are accommodated, and exchange rates among currencies are determined.

2.1.1 Bimetallism: Before 1875

Gold and silver was used as international means of payment and the exchange rate among currencies was determined by either their gold or silver content. Gresham's law exchange ratio between two metals was officially fixed; therefore only more abundant metal was used, driving the more scarce metal out of circulation.

2.1.2 Classical Gold Standard: 1875-1914

During this period, most major countries were assured of unrestricted coinage and therefore, there were two-way convertibility between gold and national currencies at a stable ratio where gold was freely exported or imported. The exchange rate between two country's currencies was determined by their relative gold contents and highly stable exchange rates under the classical gold standard provided an environment that was conducive to international trade and investment.

2.1.3 Interwar Period: 1915-1944

During this period the economy was characterized by economic nationalism, failure to restore gold standard and economic and political instability. These were some of the shortcomings of the gold standard and as a result, international trade and investment was profoundly detrimental.

2.1.4 Bretton Woods System: 1945-1972

The purpose of Bretton Woods System was to design post war international monetary system. It resulted to creation of the International Monetary Fund (IMF) and the World Bank. Under the Bretton Woods system, the U.S. dollar was pegged to gold at \$35 per ounce and other currencies were pegged to the U.S. dollar. Each country was responsible for maintaining its exchange rate within $\pm 1\%$ of the adopted par value by buying or selling foreign reserves as necessary.

2.1.5 The Flexible Exchange Rate Regime: 1973-Present

According to Jamaica Agreement of 1976, Flexible exchange rates were declared acceptable to the IMF members where Central banks were allowed to intervene in the exchange rate markets to iron out unwarranted volatilities. Gold was abandoned as an international reserve asset and non-oil-exporting countries and less-developed countries were given greater access to IMF funds.

2.2 Theories of financial innovation

Several theories have been designed by different scholars to explain financial innovation. These include constraint-induced financial innovation theory, circumvention-innovation theory, regulation innovation theory, transaction cost innovation theory and location theory among others.

2.2.1 Constraint-induced financial innovation theory

Silber (1983) advanced constraint-induced financial innovation theory. This theory pointed out that the purpose of profit maximization of financial institution is the key reason of financial innovation. There are some restrictions, including external handicaps such as policy and internal handicaps such

as organizational management in the process of pursuing profit maximization. Though these restrictions not only guarantee the stability of management, they reduce the efficiency of financial institution, so financial institutions strive toward casting them off. Constraint-induced innovation theory discusses financial innovation from microeconomics, so it is representative. However, it emphasizes innovation in adversity excessively and therefore it cannot express the phenomenon of financial innovation in the trend of liberal finance comprehensively.

2.2.2 Circumvention innovation theory

Kane (1981) postulated that many forms of government regulations and controls which have the same property of implicit taxation embarrass the profitable activity engaged in by companies towards realizing profits. The market innovation and regulation innovation should therefore be regarded as the continuous fighting process between independent economic force and political force. Financial institutions deal with the status such as the reduction of profit and the failure of management induced by government regulations in order to reduce the potential loss to the minimum. Therefore, financial innovation is mostly induced by the purpose of earning profit and circumventing government regulations. Kane's theory is different from the reality.

2.2.3 Regulation innovation theory

Regulation innovation theory was put forward by Scylla *et al.*, (1982). It explains financial innovation from the perspective of economy development history. The theory proposes that financial innovation connects with social regulation closely, and it is a regulation transformation which has mutual influence and has mutual causality with economic regulation. Scylla *et al.*, (1982) thought that it is very difficult to have space of financial innovation in the planned economy with strict control and in the pure free-market economy and thus any change brought about by regulation reform in financial system can be regarded as financial innovation. The Omni-directional finance innovative activities can only appear in the market economy controlled by government. When government's intervention and the management have hindered the finance activities, there will be many kinds of financial innovation which intend to circumvent or get rid of government controls. The game between the market and government finally form the spiral development process, namely, "control-innovate, controls again-innovates again".

2.2.4 The transaction cost innovation theory

This theory was pioneered by Hicks & Niehans (1983). They thought that the dominant factor of financial innovation is the reduction of transaction cost. Financial innovation is the response of the advance in technology which caused the transaction cost to reduce. The reduction of transaction cost can stimulate financial innovation and improvement in financial services. This theory studied the financial innovation from the perspective of microscopic economic structure change.

2.2.5 The location theory

According to this theory, financial innovation is the method which can make the integrity of financial market come true. They advanced the financial innovation microscopic economic model. Desai & Low (1987) utilized this theory to confirm and measure the gap in the scope of acquirable product in financial market, which indicates the potential opportunity of the new products' innovation and promotion.

2.2.6 Financial intermediacy model

Desai & Low (1987) built the financial intermediacy model in which new security secured by old security is created. In the period of decomposing the old securities and opening new market, innovators play an influential economical role in designing incomplete financial markets. For example, investors can obtain the consumption at lower cost and realize a better share of risks in the security market. His model indicated that even when introducing the surplus securities which are not distributed yet, the innovators can also play these roles.

2.2 Functions of financial innovation

Payments system helps to reduce the cost of processing payments for transactions by use of SWIFT and CHIPS. Thus, increasing the speed and decreasing the possibility of fraud during the exchange of goods such as Credit cards & debit cards (Arnoud and Thakor 2001).

It is a mechanism for the pooling of funds to create large-scale indivisible enterprises by creating a mechanism for pooling capital in a low-cost way and/or minimizing related agency problems e.g. Limited Liability Companies, hedge funds, mutual funds, private equity funds (Arnoud and Thakor, 2001).

It assists in transfer of economic resources through time and across geographic regions and industries. Investors need ways of transferring savings from the present to the future. They might also need to transfer resources through space and the same applies to borrowers such as Bonds, Currency Swaps (Greenspan 2000).

It helps in management of uncertainty and controlling of risk. In general, adjusting a portfolio by moving from risky assets to a riskless asset to reduce risk is called hedging; done either in the post cash market or in a futures or forward market (Arnoud and Thakor, 2001).

It provides price information to coordinate decentralized decision-making. Decision makers need information about demand and supply and prices in their own and in other sectors of the economy (Arnoud and Thakor, 2001).

It Manages agency costs and enhancing liquidity. Investors and Issuers may be unwilling to trade because of concerns as to whether the other party to the trade is informed or not. The benefits to trade might decrease if the relationship is long-lived and there are negative incentives for the participants in the trade (Arnoud and Thakor, 2001).

2.3 Factors Influencing Financial Innovation

2.3.1 Macro Environmental Factors

Technological advances in telecommunications, information processing and computing are universally agreed to be a major factor underlying the growth of financial innovations. Firstly, the greatly reduced costs and expanded scope of telecommunications have created a global financial market. This has allowed providers of innovations to match end-users, either directly or indirectly, who were previously in isolated markets. It has also given the greater breadth and depth trading, thereby encouraging financial institutions to make markets in new instruments. (Cooper, 2002).

According to Cohen, Wesley and Levine (1989), improvements in computing and information processing have made it possible for market- makers to design and price on continuing basis new

instruments with relatively complex financial structures. These improvements have also allowed market makers to monitor almost continuously the exposures they have generated from running books and new instruments and to design and carry out complex hedges for those exposures.

Regulation and innovation cause the other, but regulation and innovation are intricately linked since regulation is a major cause of innovation whilst innovation sometimes leads to a need for new regulations. Regulation can lead to financial innovation by creating incentive for firms and banks to evade regulations that restrict their ability to earn profits. (Kane, 1982) describes this process of avoiding regulations as "loophole mining".

Competition has contributed to the willingness of financial institutions to supply new instruments. Greenspan (2005) observes that competition has come in two forms, that between different national financial systems and that between banks and non-banks financial institutions within national financial systems. Both of these tendencies have been supported a global regulatory environment that has become increasingly sympathetic to deregulation and liberalization. Financial innovation is fundamentally market driven and firms offer new products because it is profitable. This is because the customer will demand them or at least will pay for them. The existing structure of the financial industry, degree of concentration and competition in the banking sector, ease of entry, profitability, extent of development and of specialization among different types of financial instruments, available choice of portfolio assets, interaction of market forces with regulations effects financial innovations.

Harrington (1992) contends that financial liberalization and innovation are directly interconnected. Removing strict financial rules assist banks penetrate new markets and offer their services there; correspondingly, financial innovations force authorities to relax regulations in the financial market. For example, dismantling interest rate control has encouraged innovations such as swaps and options. Innovation and liberalization boost the number of players and the amount of financial instruments in the marketplace. With greater financial liberalization, firms, investors and governments are exposed to new risks (exchange rates or political risks), and innovations help them manage these risks. For example, financial liberalization enables capital raisers to tap larger and more diverse populations of potential investors. A variety of innovations are attributed to attempts to meet the needs of specific investor clienteles.

This has been cited as one of the reason behind the supply of new financial instruments. Frank and White (2004) observe that new innovations are based on the older ones. Swaps, options, forward rate agreements, assets sales, and the like represent a new wave of financial innovations which helps in risk sharing and pool of funds. These instruments followed earlier ones that have become more traditional such as futures, letters of credit, floating rate notes, and so on. Some element of the new wave would not have been active market makers if previous innovations had not been established Tufano (2003).

2.3.2 Micro Environmental Factors

Aladwamin (2001), notes that one of the methods utilized by financial institutions to respond to increased market risk is by introducing new financial instruments. They also use those products to hedge against interest rate fluctuations and foreign exchange rate risks by use of derivatives. Sophisticated technologies make new products less costly and more liquid.

Tufano (2003), contends that new financial instruments such as derivatives provide market participants with more efficient means for dealing with price or exchange rate risk. The most prominent elements of the new wave of financial innovations are of price risk transferring nature price risk. All observers agree that the principal force behind such perceptions has been the volatility of price changes. The process of inflation itself, which proceeds unevenly, both overtime and among countries have also certainly played a role.

Greenspan (2005) contends that increased demands for credit generally or for broad subclasses of credit is a driving force behind credit-generating innovations. In recent years such demands have been particularly pronounced in US markets, where financial innovations has been most advanced. A classic example is credit derivatives.

Increased liquidity of the market allows borrowers to draw upon new sources of funds and they allow market participants to circumvent capital constraints imposed by regulations. Laschelles (2005) notes that innovations to enhance liquidity arose from increased demand for liquidity generally. The first generation of these innovations occurred in the late 1970s and has been extensively analyzed. In general, it involved new techniques for providing transactions liquidity as high interest rates greatly increased the opportunity costs of holding transactions liquidity in transaction form. Cash management programmes, money market and mutual funds and new types of negotiable deposit accounts all played this role. The most recent liquidity enhancements are geared to improving the liquidity of capital market-type instruments.

Arnoud and Thakor (2001) are of the view that mandating the disclosure of information about total firm value that would otherwise not have become available to any investor is always good for issuing firms. It increases their expected revenues and also strengthens financial innovation incentives. Besides applying sound accounting treatments, Greenspan (2005) argues that company managers must ensure that public disclosures clearly identify all significant risk exposures whether on or off the balance sheet and their impact on the firm's financial condition and performance, cash flow, and earnings potential. With regard to securitizations, derivatives, and other innovative risk-transfer instruments, traditional accounting disclosures of a company's balance sheet at a point in time may not be sufficient to convey the full impact of a company's financial prospects.

According to Bies (2002), financial innovation has helped increase the importance of institutional investors, such as mutual funds and pension funds, in equity markets. Because shareholders play a key role in corporate governance, the emergence of institutional investors as major holders of corporate equity also has implications for corporate governance. A necessary response to the recent wave of financial innovation is a combination of enhanced transparency and market discipline applied by creditors, counter parties, and investors-including the institutional investors that now hold a large share of corporate equity.

2.3.3 The Future of Financial Innovation

Questions have been raised as to what extent dramatic growth of markets in new financial instruments will continue, and to what extent are the factors behind the rapid change temporary. Merton and Miller (1986) argue that certainly, the exceptional economic circumstances of the early 1980s-high inflation, volatile interest and exchange rates and the sharp changes in the credit worthiness of large economic sectors-were the major spurs to innovation. Within that environment,

the innovations themselves were, to some extent, an effort to the kind of world that existed before those events erupted. A more stable environment would therefore reduce many of these incentives for financial innovation, Laschelles (2005).

There are however, long lasting forces that support the growth and development of innovations even in a stable environment. Technological advance, both in its hardware aspect and soft ware aspects—sophisticated financial models and financial product designs are certainly going to continue. Matsushita (1996) and Greenspan (2005) contend that the momentum for the global integration of financial markets and the financial liberalization will continue to act as fertile ground for financial innovation.

2.3.4 Dangers of Financial Innovation

Emery and Finnerty (2002), argue that there is a close link between financial innovation and the cycle of speculative bubbles and catastrophic busts that has been the cause of much economic and social misery. For example the mortgage backed loans as a form of innovation in asset securitization. They exemplified by the collapse of Enron. However, they downplay the problem, focusing on the egregious examples of fraud within Enron rather than on the general decline of standards of financial probity that characterized the 1990s bubble as a whole.

However, Johnson (1991) argued that although financial innovations can enable each separate organization to handle its position comfortably, stability of the financial system as a whole may be endangered in three aspects: Firstly, the risks, after being segregated and transferred, may be clustered among few banks, exchange rates or interest rates, and maturity dates. Such bunching could arise due to the availability of very few banks with enough expertise or widespread networks, turbulent fluctuations of exchange or interest rates during particular intervals of time, and under pricing of financial services.

Secondly, most financial innovations are off-balance-sheet items for example securities offered for mortgages given are not included in the balance sheet and they may not be backed up by adequate capital funds of service suppliers. In addition, caps and swaps could bring too many low-ranking debtors into credit markets, thus depressing the asset quality of the markets. Similarly, direct modes of financing such as NIF and FRN, if popular, will not only take away high-quality borrowers from, but also weaken the deposit base of financial institutions. Because of the possible adverse effects on overall financial stability, it is recommended that financial companies and banks be required to report these activities more often and in more detail. Customers' motives should be included in these reports and details on whether or how much offering companies or banks hedge.

3.0 Conclusion and Recommendation

Innovation is influenced adversely by quite a number of macro environmental and micro environmental factors. Four out of the seven factors under regulatory factors had an influence on financial innovation while all the factors under global financial competition and integration had an impact on financial innovation. The regulatory authorities should enhance domestic capital market capacity to incorporate new financial instruments. In the context of the current legal, regulatory and institutional framework, there is need to address market imperfections such as moral hazard, informational asymmetry, and transaction costs if our domestic capital market is to edge closer to that of developed capital markets and reap the accompanying benefits associated with new financial innovations.

The government should have proper monetary and fiscal policies in order to promote financial innovation. Offering incentives like low tax rates and investment climate to investors. Efforts

should be made to Speed up integration of stock markets and increase the listing of securities in this market. Regulatory authorities should critically address the question of small, illiquid, in- effective, expensive and bothersome stock market and relax excessive barriers to entry to foreign investors and promote public knowledge of securities market. Every company should follow down accounting procedure and auditing standards, in order to narrow the areas of differences and minimize the dangers of bias, misinterpretation, inexactness and ambiguity which can mislead an investor thus making bad investment decisions. Efforts should also be made to enhancing information and disclosure requirements about securities for pricing efficiency and market confidence. Unique financial products suited to the Kenyan stock markets should be developed. Possibilities of introducing derivatives such as options and futures should be explored. Securities markets participants such as stockbrokers, fund managers, and other market participants should adhere to ethics and should have basic qualifications in investment as a qualification.

References

- Aladwani, A.M., (2001). "Online Banking. A Field Study of Drives, Development, Challenges and Expectations", *International Journal of Information and Management*, 21, 213-225.
- Allen, F., and Gale, D., (1994). *Financial Innovation and Risk-sharing*. MIT Press.
- Arnoud, W., and Thakor, A., (2001). "The Many Faces of Financial Disclosure": *Review of Financial Studies*, 14 (4), 1021-57.
- Basweti, K.A., (2002). *Factors Limiting The Development of Emerging Stock Markets: The case of Nairobi Stock Exchange*. Unpublished MBA Project, University of Nairobi.
- Bodie Z., (1990). "Pension Funds and Financial Innovation: Financial Management": pp 11-22.
- Campbell, T., (1988). "Money and Capital Markets". *General Review, IL*: Scott, Foresam.
- Cohen, Wesley and Levin, R. (1989). "Empirical Studies of Innovation and Market Structure".
- Cooper, I (2002). "Financial innovations: New Market Instruments": *Oxford Review of Economic Policy (November 1986)*.
- Emery, D., and Finnerty J., (2002). "Corporate Securities Innovation: An Update", *Journal of Applied Finance*, 12 (Spring/Summer), 21-47.
- Frank and White (2004). *Financial innovations: New Market Instruments*.
- Greenspan (2005). *Financial innovation and globalization*
- Harrington, R., (1992). *Financial Innovation and International Banking in H.Cavana (ed), Financial Innovation*, London: Routledge, 111-13.
- Harris, M., and Raviv, A., (1989). "The design of securities", *Journal of Financial Economics*, 24, 255-287.
- Horne, V.J., (1985). "Financial Innovations and Excesses", *Journal of Finance*, 40, 621-636.
- Johnson, L., (1991): "The Theory of Financial Innovations: A new Approach": *Research Working Papers in Banking and Finance*.
- Kane, F., (1987): "The Theory of Financial Innovations: A New Approach": *Research Papers In Banking and Finance*, 88/11.
- Laschelles, P., (2005): *Must The Beast Be Tamed: Center for Corporate Governance*, United States.

Merton, R. C., (1992). "Financial Innovation and Economic Performance", *Journal of Applied Corporate Finance*, 4 (Winter), 12-22.

Miller, M., and Merton C., (1992). "Financial Innovation: Achievements and Prospects", *Journal of Applied Corporate Finance*, 4, (Winter), 4-12.

Schumpeter, J., (1934). "The Theory of Economic Development". Translated by Redvers Opie
Cambridge, Mass: Harvard University Press.

Simpson. T., Parkinson (1984). Financial Innovations in the US": *Bank for International Settlement Economic Working Papers*, 1984, 232-258.

Tufano, P., (2003). "Securities Innovations: A Historical and Functional Perspective", *Journal of Applied Corporate Finance*, 4 (Winter), 90-104.