



FINANCIAL INNOVATION: AS SEEN AS THE GAME CHANGER IN THE INDIAN FINANCIAL SECTOR

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ABSTRACT

India is on board towards robust growth to achieve the position within top 5 economies of the world. In order to achieve that benchmark, India requires massive development in infrastructure, industrial & manufacturing front. Hence there is a significant need for financial innovation in the Indian industries, which is a key to the development. Financial innovation has been a continuous and integral part of growth of the capital markets. Greater freedom and flexibility have enabled companies to reinvent and innovate financial instruments. Many factors such as increased interest rate, volatility, frequency of tax and regulatory changes etc. have stimulated the process of financial innovation. The deregulation of financial service industry and increased competition within investment banking also led to increased activities to design new products, develop better processes, and implement more effective solution for increasingly complex financial problems. The main objective of the study is to understand financial innovation in depth. And also to understand various factors that contribute towards expansion of financial innovation across different sectors of the economy.

Key words: Financial innovation, Product innovation, Process innovation, spot market, index funds, index futures, index options



INTRODUCTION

Financial innovation can be defined as the act of creating and then popularising new financial instruments as well as new financial technologies, institutions and markets. It includes institutional, product and process innovation. In India, reforms to perk up efficiency and accuracy of the financial sector started early in the reform cycle that commenced in 1991 - in some ways anticipating the gains that would amass from the resultant flexibility in product and factor markets. However, the process of intensification of the functioning of the financial institutions in terms of prudential framework, operational efficiency and regulatory / supervisory regimes has been ongoing. It was also aligned with the development of money, FOREX, Govt. securities and equity markets. The velocity of capital & credit reforms is brisk & is transforming the scenario. The existence of assortment of financial innovations with different terms & conditions, now endow with a wider choice of instruments that suits the investment portfolio needs.

In simple words, “Financial Innovation is to activate, create and then popularise new financial instruments as well as new financial technologies, institutions and markets.”

Financial Innovation is the creation of a new investment vehicle. For example, one may structure a derivative in a way that has never been done before. Financial innovation can increase efficiency and profits for certain parties. However, it often takes time for regulation to catch up to financial innovation, which can make it risky.

Financial innovation, as the name suggests, means an innovation in finance field.

Financial innovation refers to advances over time in the financial instruments and payment systems used in the lending and borrowing of funds. “These changes which include innovations in technology, risk transfer and credit and equity generation, have increased available credit for borrowers and given banks new and less costly ways to raise equity capital. Certainly the financial services industry has taken advantage of technological innovation you can now access your financial statements and pay your bills online, for example. However, these innovations do not affect the core function of the financial sector which is financial intermediation moving funds from one place where they are not needed to another place where they are worth more. The classic example of financial intermediation is the archetypal community savings bank. Ordinary people put their excess cash into savings



accounts the bank accumulates those deposits and loans out as equivalent amount as mortgages or commercial loans. Savers earn interest, homebuyers can buy homes without having to save for decades or entrepreneurs can start or expand businesses and the bank makes a profit on the spread the difference between the interest paid to depositors and the interest charged to borrowers. A principal purpose of financial innovation is to make financial intermediation happen where it would not have happened before. And that is what innovation has given us over the last thirty years.” New vehicles like hedge funds gave investors like pension funds and endowments vastly more to choose from than the time honored choice among cash, bonds and stocks. Likewise innovations like securitization lowered borrowing costs for most consumers.

LITERATURE REVIEW

Financial innovation is a general term and can be broken down into specific categories, based on updates to various spheres of the financial system. “While the following is not an exhaustive list, major financial innovations have come in the raising of equity capital, remittances, and mobile banking.” (James Chen)

Peter Tufano(2002) in his paper identifies following functions of Financial Innovation: “1. Innovation occurs to check market imperfections. Because of inherent market imperfections the market players are not able to move funds freely across time and space. 2. Innovations occur to answer innate agency concerns and information asymmetries: earlier researchers study how contracts can be written to better configure the interests of various parties or to make managers release private information to public. 3. Transaction reduction, search or marketing costs cutting takes place due to Innovation: Transaction costs play a vital role for financial intermediaries. Financial intermediaries allow households facing transaction costs to achieve their optimal consumption-investment program. Merton puts up the same reason to explain how equity swaps can be an efficient way to deliver returns to multinational investors. Payment systems backed by latest technological process innovations are lowering transaction costs. ATMs, smart cards, ACH technologies, e-401k programs and many other new businesses are legitimate financial innovations that seek to drastically cut the heavy costs of processing transactions. 4. Innovation occurs whenever taxes, policy & procedures change: 5. Globalisation of economy leading to higher risk in turn initiates innovation: With increase of globalisation, market volatility and fluctuations have increased manifolds. In this type of



uncertain market situation, financial innovations emerge to manage financial risk or to cover financial exposures. 6. Modern sophisticated technology induces innovation: IT has always been making process in financial transaction simplified and fast which has led to many innovation. IT and improvements in telecommunications, Internet etc has facilitated a number of innovations, such as new methods of underwriting securities (e.g., Open IPO), assembling portfolios of stocks (folio FN), new markets for securities and new avenues of executing security transactions.”

Allen and Gale (1988) is one of the first papers to endogenize security issuance contingent on financial regulation—specifically, bans on short sales. “In these circumstances, they find that the traditional split of cash flows between debt and equity is not optimal, and that state-contingent securities are preferred. Ross (1989) develops a model in which new financial products must overcome marketing and distribution costs. Persons and Warther (1997) studied booms and busts associated with financial innovation.”

An article published in The Daily Hunt (2018) mentions about “the need of financial innovations in banking sector. Taxes, regulation, irrelevance information, transaction costs, and moral hazard exist in the real world making the market imperfect. This affects the financial instruments and makes them obsolete as the new requirements arise. Without Financial innovations new financial process and products will not emerge in the market. These imperfections prevent participants in the economy from efficiently obtaining the functions they need from the financial system. To remove all these imperfections, Indian Banking system has taken some innovative activities and function.

Tufano (1989) examines a cross-section of new securities to examine whether financial product innovators enjoy first mover advantages. Specifically, he uses a sample of 58 innovations (representing 1,944 public offerings) to test whether investment banks that create new securities benefit by charging higher prices (underwriting spreads) than imitators or by capturing larger quantities. Ross (1989) develops a model in which new financial products must overcome marketing and distribution costs. Persons and Warther (1997) studied booms and busts associated with financial innovation. Tufano (2003) and Duffie and Rahi (1995) provided useful reviews of the literature. The extensive literature on principal–agent problems, adverse selection, and information asymmetry points to why investors might prefer



some types of securities, such as debt, over others like equity. Shiller (2008) described some of the frustrations involved with creating a market for house price futures.

Financial innovation can be any new way of working with money, - be that investments, new ways of banking, new ways of saving and so on. For example, there are lots of new banks springing up across the UK known as challenger banks. These are trying to compete with the major high street banks by offering services to customers that the large banks may not be able to. For example, they may be able to provide mortgages or other loans to a wider range of people or businesses that banks don't lend to currently. Equally innovative ways of raising capital can be regarded as financial innovation. One of the most famous financial innovations in recent times is that of securitisation, whereby debt is essentially converted to securities or bonds, which can be purchased as an investment by other firms. By doing this companies can raise money and also manage their risk more effectively by moving capital off their balance sheet. (Richard, 2017)

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RESEARCH OBJECTIVES

The main objective of the study is to understand financial innovation in depth. And also to understand various factors that contribute towards expansion of financial innovation across different sectors of the economy.

RESEARCH METHODOLOGY

Secondary data has been taken for this study, which is gathered from different sources such as Research papers, Newspapers articles, Internet etc. The specific type of information and data needed to conduct a secondary analysis will depend on the focus of study. For this research purpose, secondary data analysis is usually conducted to gain in-depth understanding.



DISCUSSION

Types of Financial Innovation

Financial system/institutional innovations: Such innovations can affect the financial sector as a whole, relate to changes in business structures, to the establishment of new types of financial intermediaries, or to changes in the legal and supervisory framework. “Important examples include the use of the group mechanism to retail financial services, formalizing informal finance systems, reducing the access barriers for women, or setting up a completely new service structure.

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 with accounting and client data management software.

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 or to improve the efficiency of product markets. After the liberalization measures were announced in 1991, Indian Company under took issuance of new instruments seriously in order to attract large section of investors. Essar Steel used convertible debentures with warrants and loyalty coupons, Tata Iron and Steel Company Limited issued secured Premium Notes with warrants, Flex Industries issued partly convertible debentures and non convertible debentures with warrant attached to each instrument DLF aments issued multiple option bonds, Essar oil issued optionally fully convertible debentures and Reliance Petroleum issued triple option convertible with equity warrant and Esab India issued partly convertible debenture. This burst of innovation has seen a typical shift in the design and development of new instrument. The classic conversion is that of debt in to equity. Offering the investor the option of conversion keeps the cost of his convertible debt lower than straight debt, thus minimizing the cash out flows during the gestation period. Once the project yields steady profits, the equity conversion results in a relatively- expensive dilution. The use of fectures like warrants makes the equity and convertible less expensive for the investor. It creates possibilities for their full subscription by the investors and also turns out to be cheaper for the issuing company. The worldwide financial industry is filled with innovative product design. New financial products become popular because people find them useful. New products like index funds, index futures, index



options, etc., became internationally successful because they fulfill basic economic objectives of people in the economy. The relationship between the underlying spot market, index funds, index futures and index options: are explained as follows: The prerequisites for an index fund are program trading facilities and an index where all components are liquid and convenient to trade. Index funds fulfilling these conditions have now come to exist in India. Index funds make it possible for people to sell options on the index while being covered this could happen on exchanges which trade index options or over the counter. Index futures make the implementation of index funds easier. Index funds generate an order flow for index futures markets, and help make them more liquid. Index futures markets enable index options markets. Access to index futures and index options make index funds more attractive, since users can couple their investments in index funds with risk management using the futures and options. Index options make possible innovative new products like 'guaranteed return funds'.

Technology driven financial innovation: Advancements in Information Technology have facilitated a number of innovations, such as new methods of underwriting securities, Assembling portfolios of stocks, New markets for securities, New means of executing security transactions, Many new forms of derivatives have been made possible because business people could have some confidence in the methods of pricing and hedging the risks of these new contracts. Various forms of innovations such as new risk management systems and measures, on-line retirement planning services and new valuation techniques were clearly facilitated by both intellectual and information technology innovations. Advancements in Information Technology have facilitated a number of innovations, such as

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- new markets for securities
- new means of executing security transactions

New intellectual technologies, such as derivative pricing models, are credited with stimulating the growth and popularization of a variety of new contracts. Many new forms of derivatives have been made possible because business people could have some confidence in the methods of pricing and hedging the risks of these new contracts. Various forms of innovations such as new risk management systems and measures, on-line retirement planning



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Role of Technology in Financial Innovation

Some types of financial innovation are driven by improvements in computer and telecommunication technology. For example, Paul Volcker suggested that for most people, the creation of the ATM was a greater financial innovation than asset-backed securitization. Other types of financial innovation affecting the payments system include credit and debit cards and online payment systems like e-wallet. These types of innovations are notable because they reduce transaction costs. Households need to keep lower cash balances if the economy exhibits cash-in-advance constraints then these kinds of financial innovations can contribute to greater efficiency. These types of innovations may also affect monetary policy by reducing real household balances. Especially with the increased popularity of online banking, households are able to keep greater percentages of their wealth in non-cash instruments. The commercial banking business has changed dramatically over the past 25 years, due in large part to technological change. Advances in telecommunications, information technology, and financial theory and practice have jointly transformed many of the relationship focused intermediaries of yesteryear into data-intensive risk management operations of today. Consistent with this, we now find many commercial banks embedded as part of global financial institutions that engage in a wide variety of financial activities. To be more specific, technological changes relating to telecommunications and data processing have spurred financial innovations that have altered bank products and services and production processes. For example, the ability to use applied statistics cost-effectively (via software and computing power) has markedly altered the process of financial intermediation. Retail loan applications are now routinely evaluated using credit scoring tools, rather than using human judgment. Such an approach makes underwriting much more transparent to third parties and hence facilitates secondary markets for retail credits (e.g., mortgages and credit card receivables) via securitization. Statistically based risk measurement tools are also used to measure and manage other types of credit risks – as well as interest rate risks – on an ongoing basis across entire portfolios. Indeed, tools like value-at-risk are even used to determine the appropriate allocation of risk-based capital for actively managed (trading) portfolios.



Classification Of Financial Products

The classification of the Financial Products is illustrated as below:

| Sl.No | Product | Elements |
|-------|--|---|
| 1 | Payment products | Retail, corporate and trade-related products, and financial/securities products. |
| 2 | Trade finance | bills of exchange, collection bills, letters of credit, factoring, forfeiting, performance/bank guarantee, and export and import bills |
| 3 | Commercial lending | overdrafts, cash-credits, open loans, goods loans, hypothecation of stock-in-trade facilities, medium-term loans, syndicated loans, financial guarantees, acceptance instruments, etc |
| 4 | Structured finance | commercial and real-estate finance, project and start-up finance or equity loans, buy-outs of management or leveraged buy-outs, subordinated debts, etc. |
| 5 | Equipment finance | project loans or long-term acceptance bills, leasing and hire purchases |
| 6 | Money market products | certificate of deposits, commercial paper, treasury receipts/bills and repurchase agreements and also, money market mutual fund units |
| 7 | Capital market products | bonds and debentures, government bonds/gilt-edged securities, equities of all types, including preference and ordinary |
| 8 | Derivative products & Risk Management products | foreign exchange forward covers, rate agreements, financial futures, swap and options |
| 9 | Consumer products | personal loans, housing loans, car loans, hire-purchase and lease arrangements, mutual and pension-related funds and Credit/debit cards/ other types of cards |



| | |
|---------------------|---|
| Indigenous products | both local and ethnic financial products such as chit funds and benefit funds |
| Postal products | National Saving schemes |

Some of the innovative financial instruments used by the companies in the Indian Financial Market are explained as follows:

1) TRIPLE OPTION CONVERTIBLE DEBENTURES (TOCD):

- First Issued by Reliance Power Limited with an issue size of Rs. 2,172 Cr.
- There was no outflow of interest for first five years.
- Equity increase was in phases.
- No put option to investors and no takeover threat.
- Reduced dependence on the financial institutions.
- The expenses for floating the issue was just 2.62% of the issue size which was very less when compared to the 10-12% for a general public issue.

2) DEEP DISCOUNT BONDS:

- The investor got a tax advantage and could eliminate the re-investment risk.
- From the issuer's point of view also, the issue cost was saved as it involved no immediate service cost and lower effective cost. The refinancing risk was also eliminated.

3) FLOATING RATE NOTES:

- First issued by Tata Sons with a floor rate of 12.5% and a cap of 15.5% and a reference rate of 364 T-Bill yield, which was 9.85% at the time of issue.
- The investors would get a minimum return of the floor rate and the maximum return was the cap rate. They would get higher than floor rate depending upon the fluctuations in the reference rate.



4) ZERO COUPON BONDS:

- It did not involve any annual interest on the bonds. But it had a higher maturity value on the initial investment for a particular time period.

5) CONVERTIBLE AND ZERO COUPON CONVERTIBLE BONDS:

- Similar to the zero coupon bonds except that the effective interest was lower because of the convertibility.

6) SECURED PREMIUM NOTES (SPNS):

- First issued by TISCO in July, 1992.
- These financial instruments were secured against the assets of the company but the investors had to pay a premium over the market price for these types of instruments.

7) EQUITY WITH DIFFERENTIAL VOTING RIGHTS:

- Issued by Tata Motors, in which the shares were classified as "Ordinary Shares" and "A Ordinary Shares".
- The ordinary shares were issued at Rs. 340 per share, had a voting right of one vote per share.
- On the other hand, the A ordinary shares were issued at Rs. 305 per share but the voting rights were limited to one vote for every 10 shares. In addition, they were paid extra dividend of five percentage points.



CONCLUSION

The role of innovations in the economic development is indisputable. The general definition of innovations explains that they appear when new ideas, solutions and instruments are implemented in order to change the conditions of business entity and to improve its situation. The application of innovations increases the competitiveness of a business entity and creates value for its owners. The financial innovations have had a long history of evolution. We can simplify it and say that any financial instruments (besides traditional shares and straight bonds), any financial institutions (besides traditional banks) and any financial markets (besides the traditional markets for the straight bonds and shares), for a certain period of time, can be classified as financial innovations.” In the 17th and the 18th century the new financial instruments – debt contracts together with high liquid markets were introduced to gather capital required to finance the oceanic expedition and trading voyage. Then, in the 19th century the investment banks together with the new accounting methods were established to evaluate the profitability of railroad companies and to provide them sources of funds. Next, in the 20th century, the private equity companies emerged to analyze and finance high-tech investment project. At the beginning of the 21st century, the new form of investment companies are evolving.

REFERENCES

Calem, P.S., Gillen, K. and Wachter, S. (2004). The neighborhood distribution of subprime mortgage lending, *Journal of Real Estate Finance and Economics*, 29(4), 393-410. Cantor, R. and Hu, J. (2006). Deal sponsor and credit risk of asset-backed and mortgage-backed securities, Unpublished Manuscript.

Capozza, D.R. and Thomson, T.A. (2005). Optimal stopping and losses on subprime mortgages, *Journal of Real Estate Finance and Economics*, 30(2), 115-131.

<https://m.dailyhunt.in/news/india/english/dailyhunt+examprep-epaper-dexampre/financial+reforms+banking+innovation+in+india-newsid-61665585>

<https://www.investopedia.com/terms/f/financial-innovation.asp>

Lax, H, Manti, M., Raca, P. and Zorn, P. (2004). Subprime lending: an investigation of economic efficiency, *Housing Policy Debate*, 15(3), 533-571. Leland, H.E. and Pyle, D.H.



(1977). Informational asymmetries, financial structure, and financial intermediation, *Journal of Finance*, 32(2), 371-387.

Lerner, J (2006). The new new financial thing: the origins of financial innovations, *Journal of Financial Economics*, 79(2), 223-255. Levine, R. (1997). Financial development and economic growth: views and agenda, *Journal of Economic Literature*, 35(2), 688-726.

Lerner, J. (2002). Where does State Street lead? A first look at finance patents, 1971-2000, *Journal of Finance*, 57(2), 901-930.

Tufano, Peter., (2002) "Financial Innovation", the *Handbook of the Economics of Finance* (North Holland), the Division of Research of the Harvard Business School.