CHAPTER 1
INTRODUCTION

1.1 Background of the study

Risk is omnipresent in all walks of life. Prudence requires for risk management to minimise the impact of loss, be it to property or life. In Economics, ‘insurance’ is a form of risk management primarily used to hedge against the risk of a contingent uncertain loss. Insurance is a dynamic and growing part of the financial sector, in both developing and the developed economies. Insurance business is usually divided into two main classes namely; general or non-life insurance and life insurance.

In India, life insurance is not just a risk management tool. Here, insurers are acting more as mobilising agents of contractual savings than as providers of risk management solutions. The Indian Insurance Industry is as old as it is in any other part of the world. The first of the life insurance companies was started in India in 1818 at Kolkata. India had a number of foreign and Indian life insurers operating in the Indian market till the nationalization of the industry took place in 1956. The reasons for the nationalisation of the industry are rather well known and concerned mostly the unethical practices adopted by some of the players against the interests of the insurance consumers. Nationalisation and the resultant birth of Life Insurance Corporation of India (LIC) have lent the industry solidity, growth and reach which is un-paralleled. However, along with these achievements, there also grew a feeling of insensitivity to the needs of the market, tardiness in adoption of modern practices to upgrade technical skills coupled with a sense of lethargy.
The process of opening up the insurance sector was initiated against the background of the economic reform process which commenced in the year 1991. The reform process was aimed at freeing the Indian manufacturing and services sectors from the shackles of controls that inhibited their growth and make them attain high standards to facilitate the process of integration with the world economy. It was perceived that with the markets world over becoming highly dynamic and integrated, the economic reforms process within the country was required to enable India to integrate with these markets. Steps were, therefore, initiated to elevate the Indian economic system to international standards in terms of its financial viability, competence, technology, prudential requirements, regulation and credibility. The constitution of Malhotra Committee for insurance reforms was another step in the initiatives on account of financial sector reforms.

The Malhotra Committee (1994) which went into the question of reforms in the insurance sector recommended the throwing open of the sector to private participation, to induce a spirit of competition and to provide a choice to the consumers. Also, it was the hope of the Committee that such a broad basing of the industry would ensure a better penetration of the insurance market of the country in terms of the Gross Domestic Product, which remains at very low levels in comparison to some of the developing countries in the Asian region. India is regarded as one of the two emerging markets in the Asian region and global players are eyeing the market to tap the opportunities.

The Indian insurance industry witnessed a landmark event with the enactment of the Insurance Regulatory and Development Authority (IRDA) Act in 1999 to regulate, promote and ensure orderly growth of the insurance industry. India finally allowed
private sector in favour of market-driven competition and the first licensed private insurance company set up in India in 2000. The process of de-monopolisation has opened wide vistas with the advent of the private players. A number of foreign players, from across the globe have entered the industry as joint venture partners to established Indian Promoter groups. By 2010, 22 privately held life insurance companies have opened their doors for business and 20 of which are Indo-foreign joint ventures.

1.2 Statement of the research problem

The socio-economic configuration of Indian society and its dynamic change pattern offer enormous possibilities for insurance industry which tempt the inflow of Foreign Direct Investment (FDI). Despite the inroads made by private players, the domination of LIC continues. “While selecting an insurance company, financial strength of the company must be considered as viability of the insurance provider is extremely crucial” (Bhargava, 2008:9). The inbuilt information asymmetry embedded with the life insurance industry is further enhanced by the process of privatisation and globalisation where the incapability of consumers to analyse the strength and viability of a life insurer has been strengthened. Revisions on life insurance legislation and regulation are critical to the industry as methods of strengthening the financial stability of the industry because ‘insolvency episodes’ of insurance companies are reported globally (Palande et al., 2003). In the light of a completed decade since the advent of the private players in the liberalised environment, it is perhaps the opportunity to look back and review the performance and the expectations of the industry at large and the extent to which these aspirations and commitments have been achieved or addressed.
The review of the industry’s supply-demand sides and performance over the post-liberalisation decade has been done by this study with a view to reflect the developments that have taken place in the industry since its broad basing, and to take stock of the lessons and dynamics in the background of the parameters that have been set. Above all, as the industry is about to wed transitions with the proposed regulation regarding the introduction of ‘Issuance of capital though Initial Public Offering (IPO)’, an investigation through the operational behaviours of public and private insurers is being called for.

1.3 Literature Review

For the effectiveness of discussion, we think ‘sectioning’ of literature on the basis of the thrust areas of relevant studies is rational and convenient.

1.3.1 Life insurance and Economic Development/Growth.

The role of life insurance services in contributing to the process of economic development has not been properly appreciated and examined in literature. While a large number of studies and research materials are available on the role played by other services, there is a dearth of material on inter linkages between economic developments on the one hand and insurance services on the other (Srivastava, 2001). Researchers have looked at life insurance markets in different countries and over different time periods, applying econometric techniques to separate and analyse the effects of many known factors in growth, as well as to identify the probable casual direction between these factors and growth. Many of these researchers have attempted to answer the question: Does life insurance contribute to economic growth or is it simply a by-product of growth? The importance of the life insurance- economic growth nexus is a
growing concern for researchers due to the increasing share of the aggregate financial sector in almost every developing and developed country. Within this research agenda, the objective is to investigate the literature on the link between life insurance development and economic growth and hence to find a gap in the existing literature.

As a financial intermediary, Life insurance is of great importance throughout the world. Life insurance policies constitute one of the major components of financial saving. Conyon and Leech (1994) state that the primary impact of life insurance comes from its financial intermediary activities; linking life insurance market development to the accumulation of productive capital within an economy. Resolution 21(X), UNCTAD Committee (1982) recognised that life insurance can play an important role in providing individual economic security and in national development efforts, including the mobilization of personal saving. The World Bank Development Report (1994) highlights the fact that the growth in life insurance assets provides a scarce, but highly valuable component in developing country’s long term finance and saying that contractual saving institutions, such as pension funds and life insurance companies are particularly suited to make long term investments. These institutions levy fixed premiums, have steady and predictable cash inflows and incur long term liabilities. All these making them ideal suppliers of long term finance for infrastructure projects. Using Granger casualty tests, Soo (1996) found that life insurance contributed to the productivity and economic growth of the United States. His study concluded that much of life insurance’s impact growth was likely due to the huge contribution that life

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1While causality in the strict scientific sense of “A causes B” generally does not apply in the sphere of economic events due to inability to control conditions in a laboratory sense, econometricians have developed techniques that can suggest the likelihood that there may be a casual relationships between events. One such uses time series analysis with what is referred to as “Granger Casualty Tests”.

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insurance made to US financial intermediation and investment. Catalan, Impavido and Musalem (2000) in their study state that a strong Life insurance industry promotes a developed contractual saving sector which contributes a more resilient economy; one that would be less vulnerable to interest rate and demand shocks and thus creates a more stable business environment including macroeconomic stability.

The role of Life insurance is not only determined by its own financial intermediary status, but the linkages with other financial intermediaries also. Life insurance companies and pension funds can provide a strong stimulus to the development of securities market (Vittas, 1998). This relationship occurs because life insurers and pension funds can accumulate large amounts of savings, which in turn are invested in business through equities and bonds. The result is that as life insurers grow, they channel large amounts of medium to long term funds through capital markets which deepen the country’s financial sector. They describe the important role that life insurers have to perform as enhancing of corporate governance by requiring greater information disclosure and stimulating financial innovation and modernizing capital markets mostly in mid-level developing to developed countries. There are certain studies (Grace and Rebello, 1993; Holsboer, 1999; Catalan et al, 2000) which have analysed the effectiveness of competition among various financial intermediaries on the efficiency enhancement. Efficiency improvement in the insurance market can put additional pressure onto other financial intermediaries and improve the contribution of overall financial sector to real growth and vice versa. Impavido (2001) studied the relationship among Life insurance companies, pension funds and banks in 34 countries and found that the development of life insurance companies and pension funds are associated with
more efficient banking system. Their explanation is that, life insurance and pension funds are contractual saving institutions which compete with banks.

Many studies have upheld the strength of life insurance as a social security measure. There is substantial potential for life insurance to make a greater contribution to economic growth and social welfare in many lower and middle income countries (Gibbons, 2007). Skipper (1987:58) in the study related to Organisation for Economic Cooperation and Development (OECD) countries comments, “The fact that so many life insurance policies are purchased undoubtedly releases pressure on the social welfare systems in many states. To that extent, life insurance is an advantage in the context of public finance and as a result, is generally viewed with favour by governments.” One of the studies conducted by Swiss Re (1987) has established that in OECD countries, there was a negative correlation between the spread of life insurance on the one hand and the social security programmes funded by the governments on the other. Kim (1988) postulates in his study that social security system displaces private insurance. The study uses the share of public expenditures on social security and welfare as a share of GDP as an indicator of the social security system. The effectiveness of Life insurance as a tool of social welfare or social security is heavily relied on its risk aversion capacity. Insurance will offer important economic benefits when activities generally are seen as risky and when the possibility of adversity is managed optimally through insurance contracts rather than other risk transfer mechanisms (Fukuyama, 1995). The main purpose of the model by Das, Davies and Podpiera (2003) is to identify and develop new financial soundness indicators for life insurance companies by joining their experiences gained. In their model, insurance performs the role as a risk pass through mechanism and the asset allocation and the
insurer’s ability to alter the behaviour of clients and the public contribute to economic growth. Their findings were underlined by a subsequent study (Moser, 2007), which places extensive evidences that, in the absence of formal insurance, poor households and communities attempt to ‘self insurance’ through a combination of building assets and diversifying sources of income. The result most likely is the investment in a set of lower risk - lower return activities but the degree of self insurance is highly incomplete here.

Generally the nexus between life insurance and economic development can be diagnosed by measuring the linkages between life insurance business and GDP. The work of Outreville (1992) is remarkable for the finding links between the economy’s financial and life insurance market development. The study shows a positive relationship between economic expansion and insurance sector growth. Insurance market penetration (ratio of insurance premium to GDP) is also shown to depend significantly on a country’s financial development. Carter and Dickinson (1992) and Enz (2000) developed logistic models to describe the relationship between insurance penetration and GDP per capita. Under these growth models, the regression curves for insurance depict ‘S-shaped relationship’ and have been referred as the S-curve models. Rubayah and Zaidi (2000) conducted a study in Malaysia covering the period 1971-1997 and unveil the finding that, in the initial stage both the GDP and income per capita are found to have a positive relationship with the demand for life insurance but are not significant. It is only when step wise regression analysis is applied in the latter stage that GDP appears to have a significant positive relationship with the demand for life insurance but income per capita has been aborted.
For the analysis of market structure, Ward and Zurbruegg (2000) employed Granger casualty test between total real insurance premiums and real GDP for nine OECD countries over the 1961 to 1996 period. Regarding Canada and Japan, they found that insurance market leading to GDP growth and to Italy they recognised a bidirectional relationship. The results related to other countries showed no casual relationship. Webb, Grace and Skipper (2002) in a multiple-country study using different econometric techniques found that both banking and life insurance penetration were robustly indicative of increased productivity (as measured by increase in growth rate of real GDP per capita) in 55 countries over the period from 1980 to 1996. The European Commission (2005) assumes a linkage between GDP per capita growth and the development of banking and insurance sector. The study traces institutional, legal and market changes in both the ‘old’ EU-15 members and the former transition countries in Central and Eastern Europe (CEE); which became new EU Member states (NMS) in 2004. Boon (2005) investigates the growth supportive role of commercial banks, stock markets and insurance sector. With respect to insurance, he finds total insurance funds affect GDP growth in the long run and capital formation both in the short and long runs. Arena (2006) highlighted the evidence that in the case of life insurance, impact on economic growth is seen only in high income countries. The inconclusiveness revealed by different studies suggests the importance of accommodating casual relationships to cross-country differences in size and direction. The culture of a nations is becoming more important at higher levels of education and GDP (Chui and Kwok 2008 and 2009; Park and Lemaire 2011). This is the issue of ‘heterogeneity’ mentioned in certain earlier studies (Demitriades, 1996), which is crucial in gauging the economic role of life insurance across different countries.
In short, the reviewed studies have attempted not only to analyse whether life insurance makes an important contribution, but also whether this contribution can be measured empirically. While the number of studies carried out to date is limited, being greatly constrained by the lack of available data, a few existing studies present a number of strong arguments backed up by rigorous and methodological data analysis; advancing the conclusion that ‘Life insurance is an agent and not just a by-product of growth and development.’ Yet, as Outreville (1992) finds, developing countries have a supply casualty pattern to their development, which demands ‘supply-side factors should receive more research and policy attention.’

1.3.2. Empirical Demand Studies

Life insurance attributes are not precisely duplicated by any other combination of commonly available contracts (Smith, 1982). Viewed from this perspective, life insurance enjoys a unique position in the field of investments and its analysis should be judged in the same sense. Given the large variation in the role of insurance across countries, the question of causes of this variation and the determinants of insurance consumption arises (USAID, 2006). Innumerable economic, demographic, socio-cultural, political and other factors determine each economy’s consumption of life insurance.

1.3.2.1. Economic factors

The prices that insurers charge are influenced by their cost structures, competitiveness, government tax and other policies. Unfortunately, no completely satisfactory national measures of price exist. Proxies are used, but the fact remains that the price elasticity of life insurance is not well understood. Babbel (1985) examined the price elasticity of life
insurance policies issued in United States using various price measures. He found that prices to be negatively related to the new sales with elasticity ranging from -0.32 to -0.92 depending upon policy type and price index used. Income level significantly affects the demand for life insurance. Lim and Haberman (2003) have observed that the elasticity of demand with respect to price change is -1.115. The demand for life insurance tends to have a greater magnitude of change when there is a small change in the price of life insurance. A small percentage reduction in price would help to increase the demand for life insurance. Tienyu and Brain (2005) examine some of the key factors affecting life insurance consumption in China, where price is found to be insignificant, largely conflicting with previous studies.


Inflation has long been considered detrimental to life insurance supply and demand. It has been found to be negatively associated with life insurance consumption as the findings of many studies suggest (Cummins, 1975; Cargill, 1979; Babbel: 1981, Zhuo,
With respect to the inflationary effect, Cummins (1975) argued that inflation could impact adversely on saving through life insurance because of substitution from life insurance assets to physical assets and to other saving media like inflation indexed pension funds, which are considered as a better hedge against inflation. Cargill (1979) also makes an investigation that whether life insurance is perceived as protection or saving or a combination of both. And he finds that the benefits afforded by the majority of contract guarantees are fixed in mortality terms to the extent that anticipation in the price level changes lower the perceived real value of the life insurance guarantees. Then the demand for life insurance should be expected to decrease as fears of inflation increase. Studies outlined two avenues which inflation can influence the life insurance industry are expected to be of particular importance. The first is the financial disintermediation (process in which customs remove money from a financial intermediary) and the second is the alteration of the consumption pattern of industry’s products (Conant et al, 1996).

The relationship between interest rate and demand for life insurance is inconclusive. Headen and Lee (1974) in their findings reveal that interest rates playing a role in the short run as well as in the long run. Cargill and Troxell (1979) examine two kinds of interest rates in their study- the competing yield on other savings products (external) and the return earned by life insurance (internal). The findings on the competing yield are inconsistent. However the competing yield tends to be negatively related to life insurance saving. A higher interest rate on alternative saving products tends to cause life insurance products to become less alternative as a saving instrument. The internal rate connects industry with the asset-liability management of life insurers and further such environment surrounds the asset-liability management as economic and financial
climate. With this background, savings flow to life insurance companies is to respond positively to internal rates on life insurance savings assuming all other things equally compared with other assets in a financial market. The internal rate on cash value life contract follows market interest rates with a considerable lag, where one would expect a strong adverse impact of external rates on saving through life insurance in light of the high interest sensitivity of saving if market rates were to increase. It should be noted that there have generally opposite impacts on savings through life insurance between internal and external rates. “Some scholars have taken the offset function into consideration and indicated if both internal and alternative real rates change by equivalent amounts, there is no impact on saving through those policies. Thus implying that those policies and other financial assets are, in general one-for-one substitution” (Cargill and Troxell, 1979: 430). Beenstock et al. (1988) by using an international data set (12 countries over a period of 12 years) found that marginal propensity to insure differs from country to country and premiums vary directly with real rate of interest. Outreville (1996) has shown that interest rate such as the real interest rate is not a determining factor affecting the demand for life insurance. On the other hand, Rubayah and Zaidi (2000) investigate three types of interest rates in their study-the personal saving rate, short term interest rate and current interest rate. The personal saving rate and short interest rates are found to have no significant effect on life insurance demand.

In many countries, life insurance companies get benefit from significant tax privileges, both regarding deductibility of personal premium from income tax and tax privilege for such premiums paid by employees. On the other hand, taxation can also diminish the attractiveness of returns earned on the asset portfolio moreover declines the amount of saving through life insurance (Davis, 1988). No matter which ways, one of the key
attractiveness of life insurance products compared with other financial service products will be the relative tax treatment of life insurance in comparison with other saving products. For competitors in the financial service industry, the critical issues will be the increase in saving resulting from tax reform and the form of that savings (Rochers, 1996).

1.3.2.2. Non-Economic factors

An increasing life expectancy has resulted in an increasing proportion of older persons in many societies. Increasing life expectancy translates into a greater demand for saving-based life insurance products as well as for long term care insurance (Outreville, 1996). In the study of Browne and Kim (1993), average life expectancy is found to be an insignificant factor affecting the demand for life insurance. The variable of life expectancy in the study of Outreville is different from that in the study of Browne and Kim. The former is used to reflect the actuarially fair price of life insurance in a country whereas the latter is adopted to represent the probability of death in a country. The positive relationship between life expectancy at birth and the demand for life insurance implies that population with a longer life span tend to buy life insurance policies. This is because they would expect to enjoy a lower cost for life insurance and a greater incentive for human capital accumulation as the cost is being spread over a longer period and the cash value is being accumulated for a longer duration. Dragos and Dragos (2009) in their empirical study state that the demand for products with lower risk level increases, as a person is getting older.
The educational level of population or of a household affects life insurance consumption. The expectation is that the more educated a population, the greater the likelihood of understanding the need for life insurance. This seems to be true even after allowing for the higher incomes associated with higher education (Burnett and Palmer: 1984). Truett and Truett (1990), Beck and Webb (2003), Szablicki (2002), Tienyu and Brain (2005) and Yusuf, et.al (2009) uphold a positive relation between life insurance consumption and level of education. Szablicki (2002) conducts a cross-sectional analysis and a panel regression for casualty between three different life insurance figures and socio-economic variables for the time period from 1960 to 1996. The analysis of the data from 63 developing countries and developed countries is one of the few to find education level to enter significantly. But according to Goldsmith (1983), Browne and Kim (1993) and Zhuo (1998) overall effect of education on a household’s life insurance holding is uncertain.

Religious and cultural components may affect the risk aversion and attitude towards the institutional arrangements of insurance. Religious opposition against life insurance, while stronger in European countries before 19th century still persists in several Islamic countries today. Followers of Islam have traditionally been known to disapprove of life insurance because it is considered as a hedge against the Will of Allah. Zelizer (1979) studies that religion historically has provided a strong source of cultural opposition to life insurance as many religious people believe that a reliance on life insurance results from distrust of God’s protecting care. Until the nineteenth century, many European nations condemned and banned life insurance on religious grounds. The study could identify the religious antagonism to life insurance still remaining in several Islamic countries. Unsurprisingly, Warsaw and Hill (1986), Browne and Kim (1993) and Meng
(1994) find a dummy variable for Islamic countries to be negatively correlated with life insurance demand. Eck and Nizovtsev (2006) analysed the impact of culture on the purchase of life insurance. They identified a strong correlation between religious beliefs and risk preferences. Building a database that includes values of 17 variables for 27 countries over a period of nine years; Park and Lemaire (2011) applied an unbalanced panel GLS regression model to prove that cultural factors have a strong and positive influence on life insurance sales.

Lin and Grace (2007) examine the life cycle demand for different types of life insurance. The study provides evidence that life insurance demand is jointly determined as part of a household portfolio. In traditional societies such as India, the joint family system itself provided an insurance umbrella and succour to surviving family members.\(^2\) In modern times with the proliferation of nuclear families, such arrangements are now increasingly made through the market mechanism of ‘buying life insurance’. Further contraction in the family size may be an attack on life insurance business. The positioning of life insurance around family security has run into rough weather with the erosion of family concept in Western countries during the last few decades. In the United States, for example the average size of the family fell from 3.14 in 1970 to about 2.63 in 1990. One person family rose from 18 per cent in 1970 to 24 per cent in this period. The fall in household size has been witnessed in most industrial countries. Family changes add a new dimension to the prospect of living too long and

\(^2\) A simple mathematical device that explains why joint families would require less market insurance could be as follows. Imagine a joint family household of ‘n’ earning individuals, whose income generation is given by independently fluctuating random variables \(x_1\) to \(x_n\). The per capita income of this household is \((x_1 + x_2 + \ldots + x_n)\). The per capita of this household is \((x_1 + x_2 + \ldots + x_n) / n\) which is much more stable (less variance) than the entire individual \(x\)’s. When such household breaks up into ‘n’ households, there is increased risk (greater variance) and have a greater need to buy market insurance (Ranade and Ahuja, 1999).
often with impairment, which may pave the way for increased scope for annuities and pension products.

According to Belth (1985), life insurance purchase depends on how much and how long the needs of the beneficiary are. Young children, particularly pre-teens who are liquidity constrained, certainly need the breadwinner’s support until they attain economic independence. The study of Chang (2001) provides some new insights into the life cycle theory. The breadwinners own life time uncertainty and the altruism toward heirs are incentives for precautionary saving. The study sheds some lights on the role of dependents’ ages in the breadwinner’s decision making. The demand for life insurance clearly reflects the number and the needs of the beneficiaries. The result is consistent with the findings of Zhuo (1998).

Research has established that improvements in a country’s political environment and legal system enhance insurance demand. Conversely, an unstable political environment depresses insurance demand. Ward and Zurbruegg (2000) state that an improvement in legal system has a significant and positive effect on life insurance demand. Park, et.al (2002) realise that deregulation was found to be a process, able to facilitate growth in the insurance industry. Socio- political instability was found to be more a proxy for poverty than an indicator for the need to issue. The study by Hussels, Ward and Zurbruegg (2005) is indicative of the fact that improved civil rights and political stability lead to an increase in the consumption of life insurance in the Asian region as well as in the OECD region. The non-insurance related decisions made by public policy makers, regulatory agencies, courts, legislative and others have a profound impact on all financial services including insurance (Skipper and Kwon, 2007).
1.3.3 Supply side Studies

In classical life insurance mathematics, the obligations of the insurance company towards the policy holders were calculated on artificial conservative assumptions on mortality and interest rates. However this approach is being superseded by developments in international accounting and solvency standards coupled with other advances enabling a market based valuation of risk. The inner valuations like product designing, price determination, risk calculations etc involve great deal of actuarial mathematics and complex technicalities. Since our study does not aim for that analysis, we exclude the literature on those and try to stick on other general studies on the supply side aspects of life insurance industry. Life insurance markets have been radically and deeply changed in the last two decades. Internationalization of insurance and financial institutions, increasing competition, electronic commerce and the emergence of new risks are among the challenges faced by insurers and other financial firms (Cummins and Vernard, 2006). These developing trends pose both global and local challenges for financial firms participating in insurance markets. The efficiency and solvency issues are the key challenging concerns in the globalization period.

1.3.3.1 Efficiency

The initial studies on the efficiency of life insurers are mostly focused on scale economies. The studies by Grace and Timme (1992), Yuengert (1993) and Gardner and Grace (1993) tend to find evidence of significant scale economies in the industry, although larger firms generally are found to exhibit decreasing returns to scale. Cummins, Tennyson and Weiss (1993) examined the relationship among mergers, acquisitions, efficiency and scale economies of life insurance industry. They
found that acquired firms achieve greater efficiency gains than firms that have not been involved in mergers or acquisitions. Cummins and Zi (1998) made comparative analysis of frontier cost efficiency methodologies by the application of a wide range of econometric and mathematical programming techniques. Most of the insurers in the sample display either increasing or decreasing returns to scale, and stock and mutual insurers were found to be equally efficient after controlling for firm size. The purpose of the paper by Jametti and Sternberg (2005) is to compare the cost efficiency of private and public insurance providers in Switzerland. The most commonly used measure for this kind of exercise is the claims- premium ratio. They develop a simple model to test whether the elasticity of premiums with respect to claims is less than unity. The study shows that the public insurance providers are about 20 per cent more cost efficient than their private counterparts. Gamarra (2007) estimated cost and profit efficiency of three groups of German life insurance companies; multi channel insurers, direct insurers and independent agent insurers. Non-parametric Data Envelopment approach (DEA) is used to estimate efficiencies for a sample of German life insurers for the years 1997-2005. Testing a set of hypothesis, she found economic evidence for the coexistence of the different distribution systems, the comparative performance advantage of specialized insurers and scale economies.

1.3.3.2. Solvency

Sutherland and Sherris (2005) study the issues in determining regulatory capital requirements using advanced modelling by assessing and comparing capital requirements under the two alternative approaches. A Dynamic Financial Analysis (DFA) model was used for this case study. The issues are of current international interest as regulators, insurers and actuaries facing with the introduction of Risk Based
Capital (RBC) criteria for judging life insurers’ solvency. Cocozza and Lorenzo (2006) deal with solvency assessment for life insurance business and some methodological issues concerning the solvency of life insurance companies particularly connected to the investment risk as suggested. Considerations about the technical equilibrium of an insurance portfolio and the financial regulation lead to a dynamic situation involving risk measure and solvency assessment. Sherris (2006) in his explorative article considers the links among solvency, capital allocation and fair rate of return in life insurance. A method to allocate capital in insurance to the lines of business developed is based on an economic definition of solvency and the market value of the insurer’s balance sheet. Solvency and its financial impact are determined by the value of the insolvency exchange option. The importance of managerial decisions related to interest-sensitive cash flows has received considerable attention in insurance literature. Consistent with the interest-sensitive nature of insurer’s assets and liabilities, the empirical research by Brewer and Carson (2007) has shown that insurer insolvency is significantly related to interest rate volatility. The results compliment many insolvency researches on insolvency, linking insurer’s financial performance to changes in interest rates. The economic reasons for life insurance regulation have not been well developed in the finance literature. Booth and Morrison (2007) in their paper discuss some justifications, which have been advanced for regulation and argue that they are not persuasive. The most rigorous argument in favour of the regulation of the life insurance is as follows. The regulation can prevent the adverse effects of information asymmetries in markets for illiquid contracts. This justification for regulation, combined with a public choice analysis of regulation led to conclude that the regulation should be voluntary and provided by competing private and government agencies.
1.3.4 Studies on Indian context

On Indian context, the studies related to life insurance business up to 2000 were the attempts to analyse only a company’s business behaviour- that of LIC. Although there have been a few serious studies (Agarwala, 1961; Desai, 1973; Bajpai, 1975; Ray, 1982; Misra, 1991 and various Administrative Reform Committees of 1966, 1971, 1974, 1977, 1979 etc) no systematic investigation released on the structure and pattern of life insurance atmosphere in India. Regarding the liberalization and privatization of life insurance in India, though there are many published articles written by various authors and experts, no specific and detailed study conducted so far. Rather than reviewing all the articles, we place here an attempt of presenting only a few relevant studies.

1.3.4.1 Supply side

An analysis of operational efficiency of LIC of India done by Rao (1998) suggests that life insurance policies are no longer looked upon as merely insurance products or ‘death tax’. In advanced countries it is treated as one among other alternative financial forms of saving. Consequently people are weighing life insurance product vis-à-vis other financial instruments in terms of incentive structures. The study overlooks the declared privatisation drive and observes that, in a competitive atmosphere, with changing tastes and preferences, different tailor-made products should be devised to suit different categories. In the Indian context, Tone and Sahoo (2002) were the first to study the efficiency of the life insurance sector as they applied new cost efficiency model to examine the performance of LIC of India. The findings show a significant heterogeneity in the cost efficiency scores over the course of 19 years. A decline in performance after 1994-95 can be taken as evidence of increasing allocation
inefficiencies aroused from the huge initial fixed cost undertaken by LIC in modernizing its operations. A significant increase in cost efficiency in 2000-01 however, caused for optimism for LIC. This would stand them in good stead in terms of future competition. Kumar (2002) emphasized on the investment management in the light of asset liability match, interest rate risk, risk mitigation measures and derivative investment by the life insurers. A life insurer puts money in government bonds which carry almost no default risk and consequently have lower expected returns in comparison to riskier investments. This is done because security of the funds is among the life insurer’s foremost concerns. Sinha (2007) in his paper assessed total factor productivity growth in the life insurance industry for the period 2003-05. Comparison of technical efficiency scores of the life insurance companies’ shows that the private insurance companies were behind the Life Insurance Corporation of India (LIC). For all the observed years, LIC and SBI Life have a technical efficiency score of 1. All other life insurance firms were technically inefficient. All the life insurers exhibited positive total factor productivity growth. Obviously, the total factor productivity growth rates of private life insurers were much higher than LIC. Sinha compared thirteen life insurance companies in respect of technical efficiency for the period 2002-03 to 2005-06. In their article Singhvi and Batt (2008) highlight the need of alternative distribution channels of life insurance in India.

1.3.4.2. Demand side

Kutty (2001) conducted a research at National Insurance Academy, Pune regarding the formal sector development and life insurance demand. The study highlights considerable correlation between the variables. Gupta (2004) in his study, done a factorial analysis of rural customer preferences for life insurance products indicates the
consistency of income is on the top of the rural consumers mind. The rural customers consider safety of invested funds as the most important factor in buying a life insurance followed by claim settlement. Palli (2006) in the survey based analysis regarding the life insurance potential in India finds that the primary drivers of demand for risk security are age, income, affordability, wealth and finally the desires to protect income from inflation. There is little correlation between specific family’s need for security and its actual purchase of life insurance. Many families, especially young ones have either no risk security or inadequate security. Buoyed by an ability to provide life insurance protection to nearly two people every second, the need for awareness of risk and education in the insurance sector is gaining critical kinetic momentum. Sadhak (2006) in his empirical study related to India covering 1980-2004 period observed that there is a very significant relationship between the demand for life insurance and various macro economic variables. High growth of GDP induces an economic effect through higher per capita and disposable income and savings, which in turn crate a favourable market demand for life insurance. In their study, Sen and Madheswaran (2007), find that if income to be a crucial factor in explaining the life insurance consumption, economic variables of importance would be gross domestic savings, level of financial sector development and inflation. Their results based on a panel of 12 economies over 11 years supports the fact that demographic variables like life expectancy, young and old dependency ratio, adult literacy rate and rate of urbanization are significant determinants of life insurance demand. However the same can not be concluded from the time series analysis on India as only urbanization has some significant relation to the demand proxies. The paper by Rao (2008) tries to explore the unique approaches and possibilities for innovation to raise risk awareness and education of insurance in rural India. Das, Mohanty and Shil (2008) in their behavioral analysis of retail investors
of life insurance in India, reveal that majority of the investors are of the view that public sector insurance is better than the private sector. Sahu, Jaiswal and Pandey (2009) in their study narrate that the consumer’s perception towards life insurance policies is positive. And the study finds a developed and positive mind set emerged among customers for their investment pattern in life insurance policies. Prabhakara (2011) observes that the stiff competition amongst the insurers in the last ten years has constructively enhanced awareness amongst insuring public.

Through this attempt of reviewing the available literature, we realise a research gap to address the dynamics of life insurance business registered since the post-privatisation regime, in a comprehensive and explorative way covering the entire period of the decade 2000-2010. Above all many dynamic aspects like the regional disparity in life insurance spreading, investment behaviours etc are left untouched so far. The present study is an attempt to tap that research opportunity.

1.4 Objectives of the Study

The present study is done with the following specific objectives.

1. To trace out the evolution of Indian life insurance industry and identify the international position and future potentiality.

2. To find out the major dynamics emerged in the areas of real growth in the volume of business, market sharing, distribution channels, profitability and productivity of Indian life insurance scenario in the post-liberalisation decade.

3. To dissect and compare the investment behaviour of private and public life insurers in India and to evaluate their degree of obligation to the regulatory targets.
4. To analyse the relation between selected macro variables (economic and demographic) and life insurance business in the post-liberalisation decade.

5. To identify the disparity in the geographical spreading of life insurance business in India by making an analysis of inter-state comparison with emphasis on determinants of disparity.

6. To explore the life insurance customer’s purchase decision process, attitude, awareness level and determinants of demand.

1.5 Scope of the Study

Although there have been a bundle of studies clustering around LIC during its monolithic period, no comprehensive and academically oriented work is coined, based on the post-liberalisation (insurance) dynamics of life insurance industry in India. In the eve of the second decade of insurance liberalisation, especially in the midst of certain expected regulatory changes such as IPO listing of life insurance companies, raising of FDI cap, revision of Solvency criterion etc, such a study is vital and indicative not only to the industry personnel and the regulator, but to the present and future consumers also. The life insurance companies who have completed ten years of operations are allowed to enter into the capital market with the public offering of their shares. In the occasion of the warming up of the selected companies for IPO, such a study may be a guide post for all those who wish to become the part of the life insurance industry in any way.

Life insurance industry in India will be undeniably competitive not only from within the industry but also from other financial products that may offer many of the same economic functions. This heightens the consumer’s confusion in the selection of
investment venues to park their funds. In the post-globalisation period, India is experiencing an upsurge in volume of saving, especially financial saving. So, investment companies should continually introduce product and fund diversifications to attract household saving and maximize assets under management (Khorana and Servaes, 1999). However consumer decision is increasingly considered as a subject, falling under the behavioural science rather than the normative economics. It is governed more by trends and behaviour rather than rationality and cold calculations. Moreover, financial investments are unique and are highly heterogeneous at the retail level. Hence, designing a general product and expecting a good response will be futile (Odean, 1999). Unless the life insurance products are tailored and services are tuned in accordance with the dynamics of consumer’s behaviour and needs, the growth in Indian life insurance business proposed by the economic and demographic opportunities, will be difficult. By identifying this scope, we incorporated a brief survey analysis regarding life insurance consumer behaviour with this study.

1.6 Data and Methodology

The study is both theoretical and empirical in nature. Theoretically the study tries to unveil various propositions related to the nature of life insurance market, information asymmetry tied with the market structure and the role of the industry as a financial intermediary especially in the light of financial liberalisation. In the wake of the heightened attention of economists and policy makers towards the economic and

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1 Consumer behaviour is defined as the observable activities chosen to maximize satisfaction through the attainment of economic goods and services (Baker, 1998). Life insurance can be considered as a product in terms of types of policies bought, and can be considered as a service, in terms of services rendered by the insurer and their distribution channels.
demographic factors underlined in the determination of life insurance demand, evolution of relevant theories and their significances are discussed in detail.

The data required for the empirical analysis are collected from both primary and secondary sources. Collected data are analysed with the help of various statistical and econometric tools such as Ratios, Averages, Standard Deviation, Correlation, OLS Regression, Cross-section Data analysis, Box Plot Analysis, Chi-square, ANOVA, Z-Test, Principal Component Analysis (PCA) etc. Taking into account the explanatory capacity of diagrams, this study finds places for them, wherever necessary.

1.6.1. Primary Data

For the collection of primary data related to the consumer behaviour, this study conducted a sample survey.

1.6.1.1 The Survey

The Survey includes data from three regions of Kerala (Thiruvananthapuram, Ernakulam and Kozhikode Districts), instrument being questionnaires filled up from the consumers and personal discussions with them. (An extensive exploration of the marketing practices of life insurers and discussions with 20 industry personnel at various levels both in the public (LIC) and the private sector has been carried out in the study, prior to the Survey).

A stratified random sampling has been done with a sample size of 300 respondents (100 each from Thiruvananthapuram, Ernakulam and Kozhikode Districts). Out of the 100 from a district, half of the samples are taken from the rural area i.e. 50 from rural and 50 from urban. The classification of ‘rural’ and ‘urban’ is on the basis of the nature of the local body in which the residence of the sample falls. ‘Panchayat’ represents rural
and ‘Municipality and Corporation’ as urban. No other classification criteria\textsuperscript{4} are taken due to its non-feasibility in data collection by an individual researcher.

\textit{1.6.1.2 Sample element}

Since the data was collected through personal contacts, the sample frames were the individuals who are investing in life insurance policies. The unit of observation and analysis of this survey is an individual who is at present a retail investor. Our definition of present retail investor is “An individual who has currently (i.e. March 2010, April, May and June of 2011) invested in any life insurance scheme.” As the sampling unit consists of owners of life insurance policy, all respondents are first screened on their ownership of life insurance policies and respondents who do not own any, will be automatically disqualified to participate in the survey.

\textit{1.6.1.3 Population}

The population was defined as residents of Thiruvananthapuram, Ernakulam and Kozhikode districts of Kerala who have life insurance policy in any company, which directly\textsuperscript{5} comes under Insurance Regulatory and Development Authority (IRDA) of India Regulations.

\textsuperscript{4}The term ‘rural’ sector is confusing because not all Government bodies use the same definition. Several distinct definitions (which are relevant for the insurance sector) have been used in the past. Under the regulation ‘Obligations of Insurers to Rural and Social sectors’, IRDA accepted the Census definition. According to this, the ‘rural’ sector shall mean any place which meets the following criteria (i) a population of less than 5000 (ii) density of population less than 400 per sq km and (iii) at least 75 per cent of male working population is engaged in agriculture (modified through the amendment in 2002 as “more than 25 per cent of the male working population is engaged in agricultural pursuits”)

\textsuperscript{5}Excluded the ‘Exempted insurers’ as per the Section 118 of Insurance Act1938. And those constitute, only less than 1% of total life insurance business in India ,which is negligible.( Section 118 of the Insurance Act, 1938 exempts the application of the Act to any trade union registered under the Indian Trade Union Act, 1926; or to any provident fund to which the provisions of the Provident Funds Act, 925 apply; or if the Central Government so orders in any case, and to such extent or subject to such conditions or modifications as may be specified in the Order, to any insurance business carried on by the Central Government or a State Government or a Government company as defined in Section 617 of Companies Act, 1956).
1.6.1.4 Tools for data collection

The contact method employed was personal survey, using a self designed questionnaire after a pilot study of the instrument with 25 sample respondents. Few minor modifications were made based on their feedback regarding the clarity of some questions. No major adverse comments were raised and thus the instrument was deemed ready for actual respondents. To get a sample representative of the whole population, it has been kept in mind to have respondents from all groups, depending upon the parameters such as Age, Income, Occupation, Gender and Educational Qualification.

1.6.2. Secondary Data

Secondary data were collected mainly for the period 2000-2010, which is the post-reform decade. The first decade of privatisation is only an infancy stage of that process. A decade may not be a sufficient time for a detailed overhaul of the industry and many trends may only be indicative. So the study concentrates on a comprehensive overlook upon the dynamics rather than a microscopic dissection. Thus, we set the aim of the study to conclude whether liberalisation has resulted in any changes in the status of the life insurance sector and whether the move has helped to boost up a healthy growth. The study makes an attempt of comparison between the public and private sectors by scanning their various operational behaviours. Rather than clutter the research with all private players within the industry (22 in all, but some of which are marginal and new players), many detailed analysis are focussed on assessing top eleven players, those completed a decade of operation and comprise more than 90 per cent of life insurance market under the private domain. Above all, these eleven companies are the only
eligible companies for seeking IPO as per the ‘Experience criteria’ of IRDA Regulation, 2011. At the same time, this study is less serious to employ a ranking or benchmarking among the companies on account of operational efficiency, cost efficiency etc. because such a comparison may be illogical due to their heterogeneous nature attributed by the different life cycles.

The study resorted to various sources for the secondary data. For life insurance industry related data, the study mainly relied on IRDA Annual Reports from their inception in 2000-2001 to 2009-2010. As a part of their Annual Report, the authority publishes the balance sheet of companies, policy holders’ account and shareholders’ account besides various other parameters. This study had to browse the web sites of all life insurance companies for their individual annual reports published under the statutory obligation of ‘public disclosure’. Data regarding Global life insurance is collected from ‘Sigma’ (Swiss Reinsurance Company Reports), Life Insurance Fact Books, World Insurance Reports, UNCTAD reports etc. For other macro economic data, the study finds various sources with RBI web site, RBI Bulletin; Hand book of Statistics on Indian Economy, National Accounts Statistics published by CSO, Government Reports, SEBI Annual Reports etc.

1.7. Limitations of the Study

The paucity of literature on life insurance probably stems from the fact that it involves a great deal of technical and actuarial understanding to arrive at any sort of conclusion viz, the inner dynamics of premium determination and fund management under investment decision. The former depends on the mortality rates and the actuarial calculations and the later on the market conditions and options available. But given the
limited understanding of technical details at present, it is not possible to look upon all these in great details. Also a lot of disaggregated data like policies per person, differential yields from different investment operations are not available.

In this context, we wish to quote the words of the Director General of IRDA,

“...Brooking workshop in April 1998 extensively discussed a number of interlocking issues regarding measuring insurance. Trippett and Bosworth (2000) while analysing productivity in insurance, remarked ‘that there are reasons to believe that its output may still be mismeasured ...The above comment reflects the diverse views of experts on the way insurance services are perceived and the related measurement issues. Unless these issues are debated widely by the experts a proper measure does not evolve... Data on insurance are available. However, they are in a form prescribed by the regulator under various regulations. As such, the available data may be different from what economic statisticians look for building up important macro economic aggregates.” (Sastry, 2010: 26) [Emphasis added].

Since the post reform period rolled by the life insurance industry is only a decade, we have little chance to handle lengthy time series data. After all, we are forced to undertake many analyses with different sub periods due to the late entry of certain dynamics in the industry as well as the paucity of reliable data. Above all, it was not easy to elicit honest opinion on various matters from the life insurance officials and functionaries. However, the best possible efforts have been made to incorporate the available data. All these matters offer difficulty to set up and test well defined hypothesis.
Like most of the other social researches, our survey analysis suffers from the following limitations that should be considered carefully at the time of generalizing the findings of the study.

a. Sample size is limited to 300 life insurance policyholders in Kerala only. The sample size may not adequately represent the national market.

b. Kerala is unique in many counts (Literacy, Sex ratio, HDI etc) than her other counterparts in India. This reflects on the life insurance business also. Kerala comes under the region (Southern India) where high per capita volume of life insurance and per capita availability of life insurance infrastructure are registered. Therefore, the study area may not reasonably represent the national market.

c. The study did not capture the volatility of the markets over an extended period (valid for Unit Linked Insurance Policies in particular). The ‘market state’ has a significant influence on the buying pattern and preference.

1.8 Organisation of the Study

The present study is scheduled with the sequence of seven chapters. Chapter 1 presents the background, statement of the research problem, scope, objectives, literature review and methodology of the study. It also offers information related to sample survey, without failing to uphold the inherent limitations. Chapter 2 dissects the theoretical background and economics embedded with the concept of life insurance. This chapter unveils the various theoretical contributions in a linked way to conceive the structure and function of life insurance as a financial intermediary. Chapter 3 narrates the evolution of life insurance in India from the ancient period to the eve of the
second decade of the new millennium. In this chapter, we followed a strategy of reviewing the time path developments emerged in the life insurance arena of India and also search India’s present and future places in the Global platform. Chapter 4 makes an analysis on the dynamics of life insurance business in India and also make a comparison of operative aspects of public and private sector life insurers. Chapter 5 traces the macroeconomic reflections on life insurance business in India. Apart from the analysis on the interdependence between life insurance parameters and major other macro economic variables, the inter-state comparison of life insurance spreading is also dealt here. Chapter 6 presents an empirical analysis on the consumer behaviour based on the sample survey conducted. Chapter 7 is the concluding chapter where we present the summary, findings, policy implications and conclusion of our research.