Project Dissertation Report on

"Analysis of Life Insurance Profitability in India"

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2K17/MBA/065

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CERTIFICATE FROM THE INSTITUTE

This is to certify that Priyanka Dang, a student of MBA from Delhi School of Management, Delhi Technological University has submitted a report on the topic **'Analysis of Life Insurance Profitability in India'.**

During the project, I found her to be very hardworking, sincere and inquisitive to explore new things. She is able to get across her points effectively and convincingly. She has the ability to withstand stressful project conditions and meet the deadlines.

I wish her all the success in her career and life.

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Place:

Date:

DECLARATION

I hereby declare that the report submitted by me entitled **'Analysis of Life Insurance profitability in India'** to Delhi School of Management, Delhi Technological University, Delhi in partial fulfillment of the requirement for the award of the degree of MBA, is a record of bonafide work carried out by me under the guidance of Asstt. Prof. Sonal Thukral.

I further declare that the matter embodied in this report is original and comprises only of my own work. Also, work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma to the best of my knowledge and belief.

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EXECUTIVE SUMMARY

During the course of this project, we aim to understand how the profitability of the life insurance sector varies with different parameters. We try to understand the parameters that can affect the profitability of the life insurance sector.

Indian Insurance Industry remains the most attractive destination for foreign players with penetration as low as close to 3.69% and density at USD73. Opening the sector for private players can be traced back to the passage of IRDAI Act 1999 which allowed foreign players to tie up with domestic insurers in setting up their operations. As of now Life Insurance Industry has 24 players which include the Government owned Life Insurance Corporation. In spite of LIC being operational for 44 yrs. i.e. from 1956 to 2000 our penetration remains one of the lowest across the globe. With the advent of private insurance companies we could witness great awareness being created for life insurance products and also product innovation which was missing for quite a long time. At present we have 24 Life Insurance Companies including LIC.

As of 31st December 2018 we have a total deployed capital of ~27000 crores with over 11,190 branches and more than ~21 lakh agents. Going slow on expansion, Insurance companies are attempting to take an evaluated risk. Commencing operations without grasping the determinants of profitability is bound to be fragmentary and incomplete.

Keeping these things in mind, the project was undertaken and careful analysis was done to measure the impact of paid up capital on profitability.

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1.INTRODUCTION

Everyone is exposed to different kinds of risks. Future is not at all uncertain, but there is way to protect one's family and make one's children's future safe. Life Insurance companies helps to ensure that the family's future is not just secure but also prosperous. Insurance is an instrument by which families of a small number are compensated out of funds that is the premium amount collected from large number of people. Insurance firms pay for financial losses arising out of happening of certain events which are insured for example: in a personal accident death, in fire policy the insured events are fireplace and alternative allied perils like riot and strike, explosion etc. thus insurance safeguard against uncertainties. It helps in providing financial recompense for the losses incurred because of the incident of unanticipated events, insured with in the policy of insurance. Moreover, through variety of acts of passed by parliament, certain types of insurance are legally enforced in our country for example third party insurance under motor vehicles Act, public insurance for handlers of dangerous substances below surroundings protection Act etc. Insurance companies are in the business of taking variety of risks. The insurance companies write different policies that deal with risks, and even underwrite exotic risks. Thus, insurance companies should be really good at managing their own risks. However the reality is different. These companies are good at assessing insurance risks for their policy holders, but not that good at setting up structures for managing their own business and operating risks.

Insurance is a system in which the risk of one is spread on the shoulders of many. While it becomes impossible for a person to bear by himself/herself all kinds of losses right from his/her own health, property or interest arising out of an unforeseen contingent situation, insurance is a process which distributes the loss on a number of people within the group formed for this particular purpose. Risk and uncertainty are inseparable twins. The insurance companies cover the uncertainties of the financial losses. The insurance companies' do not have any command over the uncertainties. This makes it essential that these companies to work in a manner that becomes instrumental in spreading the losses.

The insurance companies have to struggle with drastic, and sometimes sudden changes to government policies, regulations, and risks associated with natural environmental disasters. Predictive models called as generalized linear models (GLMs), have become the standard for various insurance companies round the globe. GLMs are used to foresee the plausible risks a particular sector might face by taking into account the various problems that may arise in the particular sector. Once acquainted with this knowledge, insurance companies can price policies that can ensure their continued service to consumers, solvency of the organization, as well as their profits. Most economic risk comes from the variation in the expected outcome. Insurer uses various techniques to identify, monitor and manage the risks. Some of them include stochastic modeling, value at risk (VaR), tail risk (Tail VaR), calculations of economic capital, stress tests and more and identify the negative impact. Identification of risk is the process of determining where the risk lies. The risk may be relating to property, damage, Nature, Life, Fire, Liability, natural calamities, theft are the various hazard.

The life insurance industry has long been interesting in making note of the changes that can affect the exposure to various risk and financial losses. Over the many years of its existence, the insurance industry has been efficient enough in forecasting the future and making changes according to the problems it foresees. This is primarily because of the introduction of predictive models, a tool that is used in the industry to calculate risk and price coverage accordingly.
The insurer makes assumptions for the future for various parameters such as expenses, mortality, morbidity, interest etc. Sub regulation (b) of Regulation 5 of IRDA Regulations (Assets, Liabilities and Solvency Margin of Insurers) 2000; specifies that the best estimate assumption shall be adjusted by an appropriate Margin for Adverse Deviation (MAD) that depends upon the degree confidence. The purpose of Margin for Adverse Deviation is to have a buffer for wrong estimations of the best estimate or adverse fluctuations. But it does not include

volatility and catastrophic risks Risks based capital includes for default risk, mortality morbidity risk, volatility risk, catastrophe risk, margin risk and fund risk. Each company has to develop implement and maintain applicable and effective procedures to manage its capital position, i.e. ongoing minimum capital requirements, and future capital requirements.

The capital management designing identifies the amount, quality and sources of additional capital required, availability of any external sources, estimating the financial impact of raising additional capital, taking into account the plans and needs of assorted business units of the corporate, Risk Based Capital is an amount of capital based on an assessment of risk that a company should hold to protect policy holders against adverse developments. Risk based capital involves identifying the key risks and quantifying them.

The types of risks being faced by insurance corporations are listed with a short description:

(i) Insurance Risk: It is underwriting, risk associated with the uncertainty of business written in the future

(ii) Market Risk: It is the risk associated with movements in interest rates, forcing exchange rates or asset prices lead to an adverse movement in asset values

(iii) Credit Risk: If another party fails to perform them in time i.e. If the party fails to pay the credit. So, allowance should be made for the financial effect of non-payment of reinsurance and of the non- payment of premium debtors.

(iv) Liquidity Risk: It is the risk that a firm has insufficient financial resources to meet its obligation as they fall due or can only secure the resources at excessive cost.

(v) Operational Risk: It in the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and system or from External events. It is general knowledge that life insurance firms square measure subject to 3 major risks while moving into contracts with the policy holders: first, the death rate of the insured lives may turn out to be higher than expected second, the management expenses of the firms may be higher than the forecasted and third, circumstances can result in a portfolio yield lower than that assured while calculating the premiums.

1.1 Industry Profile

Indian Insurance business has seen a serious growth within the last decade in conjunction with associate degree introduction of an enormous range of advanced product. This has led to a tough competition with a positive and healthy outcome. Indian Insurance sector plays a dynamic role within the eudaimonia of its economy. It considerably will increase the opportunities for savings amongst the people, safeguards their future and helps the insurance sector type a colossal pool of funds.

With the help of these funds, the insurance sector highly contributes to the capital markets, thereby increasing large infrastructure developments in India.
The Indian Insurance Sector is essentially divided into 2 classes – life assurance and Non-life Insurance.

The Non-life Insurance sector is additionally termed as General Insurance.
Both the life assurance and the Non-life Insurance is governed by the IRDAI (Insurance Regulatory and Development Authority of India).
This government organization totally monitors the complete insurance sector of India and additionally acts like a protector of all the insurance consumer rights.
This is the reason behind why all the insurers are compelled to abide by the foundations and rules of the IRDAI.

The insurance business in India consists of 63 insurance corporations of that twenty four are in the life assurance business and thirty-nine are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is that the sole public sector company.
Apart from that, among the non-life insurers, there are seven public sector insurers.

In addition to these, there are two national re-insurers. Other stakeholders in Indian Insurance market embody agents (individual and corporate), brokers, surveyors and third party administrators servicing health insurance claims.

Life insurance companies offer coverage to the life of the individuals, whereas the non-life insurance companies offer coverage with our day-to-day living like travel, health, our car and bikes, and home insurance. Not solely this, but the non-life insurance companies provide coverage for our industrial equipment's as well. Crop insurance for our farmers, gadget insurance for mobiles, pet insurance etc. are some a lot of insurance product being created offered by the insurance corporations in India.

The life insurance companies have gained a considerable investment prospectus within the recent times with an idea of providing insurance in conjunction with a growth of the savings. But, the general insurance corporations stay reluctant to provide pure risk cover to the people.

Market Size

Government's policy of insuring the uninsured has slowly pushed insurance penetration within the country and proliferation of insurance schemes.
Gross premiums written in India reached Rs 5.53 trillion (US$ 94.48 billion) in FY18, with Rs 4.58 trillion (US$ 71.1 billion) from life insurance and Rs 1.51 trillion (US$ 23.38 billion) from non-life insurance. Overall insurance penetration (premiums as % of GDP) in India reached 3.69 per cent in 2017 from 2.71 per cent in 2001. In FY19 (up to Jan 2019), premium from new life insurance business increased 3.91 per cent year-on-year to Rs 1.59 trillion (US$ 22.04 billion). In FY19 (up to Jan 2019), gross direct premiums of non-life insurers reached Rs 1.39 trillion (US$ 19.28 billion), showing a year-on-year growth rate of 12.65 per cent.
Investments and Recent Developments

The following are some of the main investments and developments within the Indian insurance sector.

• As of November 2018, HDFC Ergo is in advanced talks to acquire Apollo Munich Health Insurance at a valuation of around Rs 2,600 crore (US$ 370.05 million).
• In October 2018, Indian e-commerce major Flipkart entered the insurance space in partnership with Bajaj Allianz to offer mobile insurance.
• In August 2018, a consortium of WestBridge Capital, billionaire investor Mr Rakesh Jhunjunwala announced that it would acquire India's largest health insurer Star Health and Allied Insurance in a deal estimated at around US$ 1 billion.
• In September 2018, HDFC Ergo launched 'E@Secure' a cyber insurance policy for individuals.
• Insurance sector companies in India raised around Rs 434.3 billion (US$ 6.7 billion) through public issues in 2017.
• In 2017, insurance sector in India saw 10 merger and acquisition (M&A) deals worth US$ 903 million.
• India's leading bourse Bombay Stock Exchange (BSE) will set up a joint venture with Ebix Inc to build a robust insurance distribution network in the country through a new distribution exchange platform.

Government Initiatives

The Indian Government has taken variety of initiatives to spice up the insurance business.
Some of them are as follows:
• In September 2018, National Health Protection Scheme was launched under Ayushman Bharat to provide coverage of up to Rs 500,000 (US$ 7,723) to more than 100 million vulnerable families.
The theme is anticipated to extend penetration of insurance in Bharat from thirty four per cent to fifty per cent.
• Over 47.9 million famers were benefitted under Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2017-18.
• The Insurance Regulatory and Development Authority of India (IRDAI) plans to issue redesigned initial public offering (IPO) guidelines for insurance companies in

India, which are to looking to divest equity through the IPO route.
• IRDAI has allowed insurers to invest up to 10 per cent in additional tier 1 (AT1) bonds that are issued by banks to augment their tier 1 capital, in order to expand the pool of eligible investors for the banks.
• Post-liberalisation, the insurance industry in India has recorded significant growth.

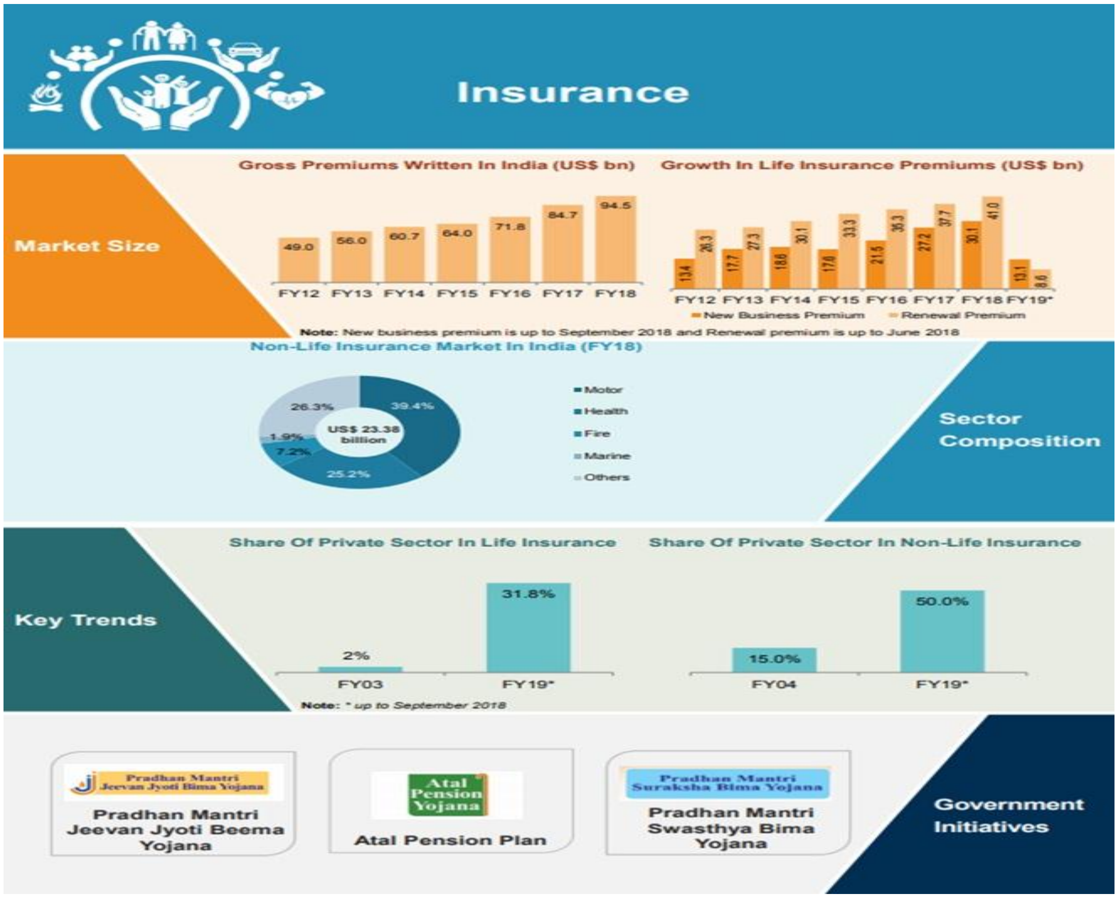
The Indian insurance business is anticipated to grow to US$ 280 billion by FY2020, because of the solid economic process and better personal disposable incomes within the country.

Overall insurance penetration in India reached 3.69 per cent in 2017 from 2.71 per cent in 2001. Gross premiums written in India reached Rs 5.53 trillion (US$ 94.48 billion) in FY18, with Rs 4.58 trillion (US$ 71.1 billion) from life insurance and Rs 1.51 trillion (US$ 23.38 billion) from non-life insurance.

- Over FY12–18, premium from new business of life insurance companies in India have increased at a 14.44 per cent CAGR to reach Rs 1.94 trillion (US$ 30.1 billion) and non-life insurance premiums (in Rs) increased at a CAGR of 16.65 per cent. In FY19 (up to Jan 2019), premium from new life insurance business increased 3.91 per cent year-on-year to Rs 1.77 trillion (US$ 24.6 billion).
  Life insurance industry in the country is expected grow 12-15 per cent annually for the next three to five years.
- In FY19 (up to Feb 2019), gross direct premiums of non-life insurers reached Rs 1.51 trillion (US$ 23.38 billion), showing a year-on-year growth rate of 13.43 per cent.
- There are 24 life insurance and 33 non-life insurance companies in the Indian market who compete on price and services to attract customers. There are two reinsurance companies. The industry has been spurred by product innovation, vibrant distribution channels, coupled with targeted publicity and promotional campaigns by the insurers. The market share of private sector companies in the non-life insurance market rose from 13.12 per cent in FY03 to 54.72 per cent in FY19 (up to Feb 2019). In life insurance

segment, private players had a market share of 33.74 per cent in new business in FY19 (up to Feb 2019).

- Government has approved the ordinance to increase Foreign Direct Investment (FDI) limit in Insurance sector from 26 per cent to 49 per cent which would further help attract investments in the sector.
- In 2017, insurance sector in India saw 10 merger and acquisition (M&A) deals worth US$ 903 million. Enrolments under the Pradhan Mantri Suraksha Bima Yojana (PMSBY) reached 130.41 million in 2017-18. National Health Protection Scheme was announced under Budget 2018-19 as a part of Ayushman Bharat. The scheme will provide insurance cover of up to Rs 500,000 (US$ 7,723) to more than 100 million vulnerable families in India.
- Going forward, increasing life expectancy, favourable savings and greater employment in the private sector is expected to fuel demand for pension plans. Likewise, strong growth in the automotive industry over the next decade would be a key driver for the motor insurance market.



Focusing on LIFE INSURANCE BUSINESS

Life Insurance is a contract between a person and a life insurance company, that provides the beneficiary with a pre-determined amount in case of the death during the contract term. Buying insurance is very helpful if a person is the principal earning member of the family. In case of your unfortunate premature death, the family will stay financially secure because of the life assurance policy that has been purchased. The primary purpose of life insurance is thus protection of the family within the event of death.

Today, insurance is additionally seen as a tool to arrange effectively for the future years, retirement, and for children's future needs. Today, the market offers insurance plans that not simply cover for life and but also with time grow wealth too. When you insure your life, in impact what you're doing is insuring your earning capability that your dependants are going to be able to continue living while not money hardships even in case of your demise.

Most insurance plans obtainable nowadays keep company with a savings part engineered into it.

These policies assist you arrange not just for protection against death however additionally for a financially freelance future, which might alter you to own a snug retirement.

For example, Kotak Preferred Retirement Plans such as Kotak Retirement Income Plan and Kotak Capital Multiplier Plan.

The primary want is shopping for money security for your family.

Other aspects that insurance you may avail of a loan from the insurance company against certain plans. Your policy could also be pledged as collateral to raise funds from banks and other financial institutions. In case of your unfortunate death the loans may be repaid from the proceeds of the life insurance policy.

NEED FOR LIFE INSURANCE

Risks and uncertainties are a part of life's nice journey -- accident, illness, theft, natural disaster

- they're all built into the working of the Universe, waiting to happen.

Insurance then is man's answer to the vagaries of life.
If you can not beat artificial and natural calamities, well, a minimum of be ready for them and their aftermath

Insurance could be a contract between 2 parties - the insurance company (the insurance company) and therefore the insured (the person or entity seeking the cover) - whereby the insurance company agrees to pay
the insured for money losses arising out of any unforeseen events reciprocally for a daily payment of "premium”.

These unforeseen events are outlined as "risk" which is why insurance is termed a risk cover.
Hence, insurance is basically the means that to financially atone for losses that life throws at individuals - company and otherwise.

In order to calculate the number of insurance that you simply need, supported your life stage and life want.

ROLE OF LIFE INSURANCE

Role 1: Life Insurance as “Investment”
Insurance is an attractive option for investment.
While most of the people acknowledge the danger hedging and tax saving potential of insurance, several aren'tconscious of its blessings as associate
degree investment possibility also.
Insurance product yield a lot of compared to regular investment choices, and this can be besides the supplementalincentives (read bonuses offered) by insurers.

You cannot compare associate degree insurance product with different investment schemes for the easy reason that it offers money protection from risks, something that is missing that in non-insurance products.

In fact, the premium you pay money for associate degree contract is associate degree investment against risk.
Thus, before comparing with other schemes, you must accept that a part of the total amount invested in life insurance goes towards providing for the risk cover, while the rest is used for savings.
In life assurance, not like non-life product, you get maturity edges on survival at the top of the term.
In different words, if you take a life insurance policy for 20 years and survive the term, the amount invested as premium in the policy will come back to you with added returns.
In the unfortunate event of death inside the tenure of the policy,the family of the deceased can receive the totalassured.

Now, allow us to compare insurance as associate degree investment choices.
If you invest Rs ten,000 in PPF, your cash grows to Rs ten,950 at 9.5 per cent interest over a year.
But in this case, the access to your funds will be limited.
One will withdraw five hundredth of the initial deposit solely when four years.

The same quantity of Rs ten,000 can give you an insurance cover of up to approximately Rs 5-12 lakh (depending upon the plan, age and medical condition of the life insured, etc) and this quantity will become forthwith obtainable to the politico of the client on death.

Role 2: Life Insurance as “Risk Cover”
First and foremost, insurance is concerning risk cowl and protection - money protection, to be more precise - to help outlast life's unpredictable losses.
Designed to safeguard against losses suffered on account of any unforeseen event, insurance provides you with that unique sense of security that no other form of investment provides.

By shopping for life assurance, you buy peace of mind and are prepared to face any financial demand that would hit the family in case of an untimely demise.

To provide such protection, insurance firms collect contributions from many people who face the same risk.
A loss claim is paid out of the overall premium collected by the insurance firms, who act as trustees to the monies.

Insurance additionally provides a safeguard within the case of accidents or a visit financial gain when retirement.
An accident or incapacity may be devastating, and an insurance policy can lend timely support to the family in such times.
It additionally comes as an excellent facilitate after you retire, just in case no untoward incident happens throughout the term of the policy
With the entry of personal sector players in insurance, you've got a large vary of product and services to settle onfrom.
Further, several of those are often additional bespoken to suit individual/group specific wants.
Considering the number you've got to pay currently, it's worth buying some extra sleep.

Role 3: Life Insurance as “Tax Planning”
Insurance is a wonderful tax saving mechanism too.
The Government of Republic of India has offered tax incentives to life assurance product so as to facilitate the flow of funds into productive assets.
Under Section eighty eight of tax Act 1961, an individual is entitled to a rebate of 20 per cent on the annual premium payable on his/her life and life of his/her children or adult children.
The rebate is deductible from tax collectible by the individual or a Hindu Undivided Family.
This rebate is are often availed upto a most of Rs twelve,000 on payment of yearly premium of Rs 60,000.

By paying Rs sixty,000 a year, you can buy anything upwards of Rs 10 lakh in sum assured.

(Depending upon the age of the insured and term of the policy) this implies that you just get a Rs twelve,000 tax benefit.

The rebate is deductible from the tax collectible by a private or a Hindu Undivided Family

1.2 Organization Profile

Life Insurance is the fastest growing sector in India. Since 2000 as Government allowed Private players and FDI up to 26% and recently Cabinet approved a proposal to increase it to 49%. Life Insurance in India was nationalised by incorporating Life Insurance Corporation (LIC) in 1956. All private life insurance companies at that time were taken over by LIC. All life insurance companies in India have to comply with the strict regulations laid out by Insurance Regulatory and Development Authority of India (IRDA).

Life Insurance Corporation of India (LIC), the state owned behemoth, remains by far the largest player in the market. The private companies have come out with products called ULIPs (Unit Linked Investment Plans) which offer both life cover as well as scope for savings or investment options as the customer desires.

Here is a list of life insurance companies registered by IRDA.

1. Aegon Religare Life Insurance Co. Ltd.
2. Aviva Life Insurance Co. India Ltd.
3. Bajaj Allianz Life Insurance Co. Ltd.
4. Bharti AXA Life Insurance Co. Ltd.
5. Birla Sun Life Insurance Co. Ltd.
6. Canara HSBC Oriental Bank of Commerce Life Insurance Co. Ltd.
7. DHFL Pramerica Life Insurance Co. Ltd.
8. Edelweiss Tokio Life Insurance Co. Ltd.

9. Exide Life Insurance Co. Ltd.
10. Future Generali India Life Insurance Co. Ltd.
11. HDFC Standard Life Insurance Co. Ltd.
12. ICICI Prudential Life Insurance Co. Ltd.
13. IDBI Federal Life Insurance Co. Ltd.
14. India First Life Insurance Co. Ltd.
15. Kotak Mahindra Old Mutual Life Insurance Ltd.
16. Life Insurance Corporation of India (Public Sector)
17. Max Life Insurance Co. Ltd.
18. PNB Met Life India Insurance Co. Ltd.
19. Reliance Life Insurance Co. Ltd.
20. Sahara India Life Insurance Co. Ltd.
21. SBI Life Insurance Co. Ltd.
22. Shriram Life Insurance Co. Ltd.
23. Star Union Dai- Ichi Life Insurance Co. Ltd.
24. Tata AIA Life Insurance Co. Ltd.

1.3 Objectives of the Study

- **To get a basic overview of the Insurance sector.**
- **To understand the basics of Insurance and how an Insurance Company functions**
- **To illustrate how the techniques can be applied to a data set.**
- **To examine the financial performance of Life Insurance Industry in India**
- **To analyze correlation between Profit and Paid-up Capital**

2.LITERATURE REVIEW

2.1 Introduction to Insurance

Insurance refers to a contract in which one party (known as insurer) promises to bear the financial loss of another party (known as insured) in case of any such event, in return of consideration /payment (known as premium).

The loss can or cannot be financial, but it should be reducible to financial terms, and must involve something in which the one who has paid the premium (insured) has an insurable interest established by possession, ownership, or some pre-existing relationship.

The one who paid the premium receives a contract, called as the insurance policy, which provide details regarding conditions and circumstances under which the one who received the premium (insurer) will compensate for the losses of the insured. The amount of money charged called as the premium amount is set by the insurer for the coverage set in the insurance policy. If the insured person experiences a loss which is covered in the insurance policy, the insured submits a claim to the insurer for processing by the claims adjuster. The insurer can hedge his own risk by taking reinsurance, where another insurance company agrees to bear some of the risk, especially the primary insurer deems the risk too large for it to carry.

2.2 Principles of Insurance

1.

Utmost Good Faith

- Both the parties i.e. the insured and the insurer should a good faith towards each other.
- The insurer must provide the insured complete ,correct and clear information of subject matter.
- The insurer must provide the insured complete ,correct and clear information regarding terms and conditions of the contract.
- This principle is applicable to all contracts of insurance i.e. life, fire and marine insurance.

2.

Insurable Interest

- The insured must have insurable interest in the subject matter of insurance.
- In life insurance it refers to the life insured.
- In marine insurance it is enough if the insurable interest exits only at the time of occurrence of the loss
- In fire and general insurance it must be present at the time of taking policy and also at the time of the occurrence of loss.
- The owner of the party is said to have insurable interest as long as he is the owner of the it.
- It is applicable to all contracts of insurance.

3.

Principle of Indemnity

- Indemnity means a guarantee or assurance to put the insured in the same position in which he was immediately prior to the happening of the uncertain event. The insurer undertakes to make good the loss.
- It is applicable to fire ,marine and other general insurance.
- Under this the insurer agrees to compensate the insured for the actual loss suffered.

4.

Principle of Contribution

- The principle is a corollary of the principle of indemnity.
- It is applicable to all contracts of indemnity.
- Under this principle the insured can claim the compensation only to the extent of actual loss either from any one insurer or all the insurers.

5.

Principle of Subrogation

- As per this principle after the insured is compensated for the loss due to damage to property insured , then the right of ownership of such property passes on to the insurer.
- This principle is corollary of the principle of indemnity and is applicable to all contracts of indemnity

6.

Principle of Loss of Minimization

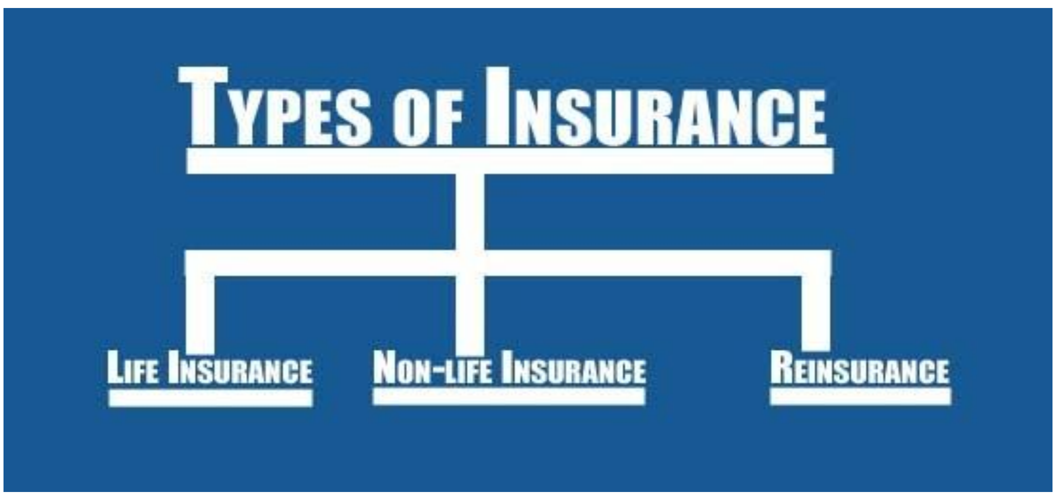
Under this principle it is the duty of the insured to take all possible steps to minimize the loss to the insured property on the happening of uncertain event.

7.

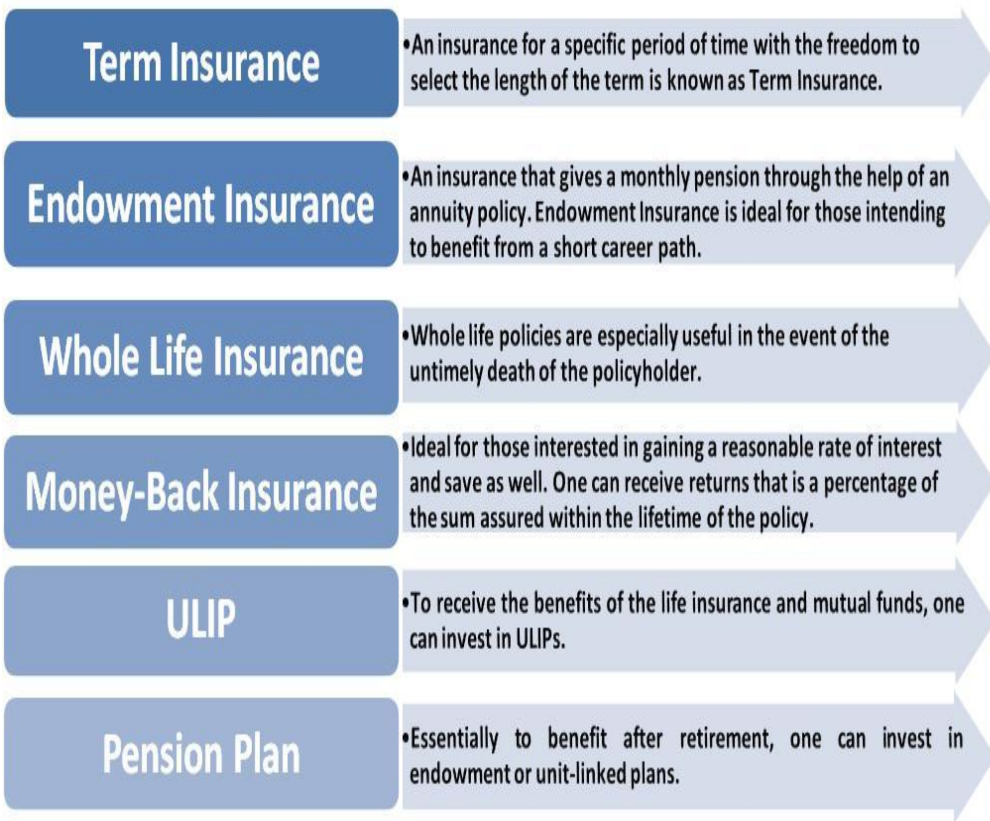
Principle of 'Causa Proxima'

- The loss of insured property can be caused by more than one cause in succession to another.
- The property may be insured against some causes and not against all causes.
- In such an instance, the proximate cause or nearest cause of loss is to be found out.
- If the proximate cause is the one which is insured against ,the insurance company is bound to pay the compensation and vice versa.

2.3 Types of Insurance



2.3.1 Life Insurance



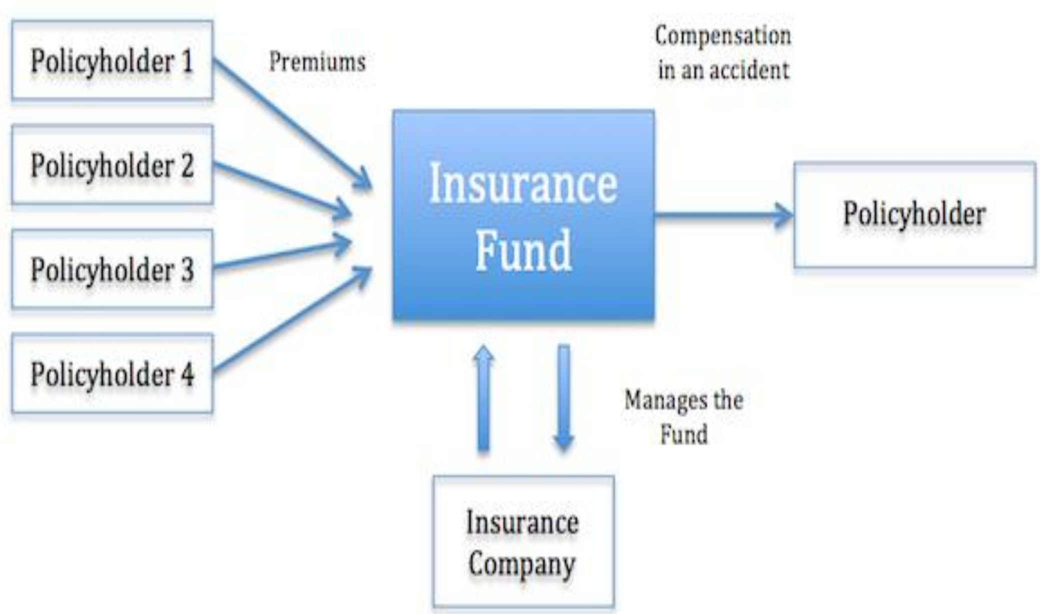
2.3.2 Non-Life (General) Insurance

2.3.3 Reinsurance

Reinsurance agreement is an agreement in which the insurance company further takes up insurance with another party which is known as the "Reinsurer". It resembles the insurance agreement except the parties in consideration change i.e. rather than "insurer" and "insured", its "reinsurer" and "insurance company". Reinsurance is an important as insurance because insurance companies themselves need to make sure that they are able to pay the claims in full and on time, so, reinsurance agreement is a way for them to reduce risk of default and also reduce the "standard deviation" and "expected value" of claims paid

2.4 How Insurance Company works?

Insurance Company deals with the settlement of claims to its policyholders in the event of loss, in return of the premium that policyholders pay. The claim settled is usually much larger than the underlying premium. So, how does the company manage to pay such large amounts to policyholders in return of such small premiums? ……the answer is "Pooling of Funds". This is better explained in the diagram below.



So, we see that "Insurance Fund" refers to the pool of funds that represents the aggregate of all the premiums paid by the policyholders. Now, as the underlying peril or risk affects a small proportion of these policyholders, their claims can be settled using this pool of funds.

For Ex: Risk of death affects a very small proportion of people in an year. So, life insurance holders pay premiums, which create a pool of funds. Out of this pool of funds, claims of those who die in that year can be settled. This "pooling of funds" works with any peril in consideration such as theft, natural calamities etc.

2.5 Risks in Life Insurance

There are various types of risks in Life Insurance. Some of them are as follows:

1) Longevity Risk& Mortality Risk

Longevity risk is the risk that a person, or persons, lives longer. In the corporate world, this affects pension funds and insurance companies. The corporate sponsor of a pension plan, or insurer providing life assurance facilities, has the risk of higher than expected pay-outs as a result of the increasing longevity of pension plan or insurance policy holders.

Mortality risk covers not only the risks associated with recipients of annuities who are living longer than expected, but also the opposite risk that the holder of a life insurance policy dies earlier than expected during the term of the policy.

2) Liquidity Risk

Liquidity Risk is the risk of failing to maintain requisite levels of cash and cash equivalents and being unable to pay the claims of the policyholders in full.

3) Asset Liability Mismatch

The present value of assets should be greater than the present value of present value of liabilities so as to ensure that the company would be able to meet the liabilities by liquidating the assets. These present values are not fixed and keep on changing according to the interest rates prevailing in the market.

If the interest rates are high, the present values would decrease and vice versa. So, the assets to be invested in have to be carefully selected so as to achieve proper Asset-Liability matching. There are various techniques that can be used to minimize this interest rate risk like Reddington's Immunization in which assets are chosen in such a way that irrespective of the interest fluctuations, the present value of assets remains larger than that of the liabilities.

4) Technological Advancements

In the world of ever changing technology, its of utmost importance to be conversant and well versed with the current technology.

AI (Artificial Intelligence) is becoming increasingly popularly in the world, which affects insurance industry as well. The way people approach insurance from “insured” side as well as “insurer” side would have to adapt if AI was to become prominent in the future.

5) Competitors

In Life Insurance Industry, LIC (Life Insurance Corporation) is a major market player with which other life insurance companies such as IDBI Federal Life competes for capturing the market share. The strategies, policies launched by the competitors tend to affect the company in consideration.

6) Political Situation

The political situation of the country majorly affects the way policies, and operations are executed. In corporate world, lobbying (influencing political parties directly or indirectly to get the work done)plays an important role in smooth operations of the company. If the political scenario is chaotic, the business may be adversely affected.

7) Law and Order

The Insurance business in India is regulated by IRDAI (Insurance Regulatory and Development Authority of India) which is responsible for setting rules and standards for the insurance companies in the country.

8) Investment Risk

Investment risk is the risk of incurring loss due to fluctuations in the market value of the investments. These fluctuations may be due to market factors which affect the entire market like inflation, rate of interest or firm/industry specific factors. The investment is mainly done in 3 types of funds: Debt, Equity, and Hybrid.

3. RESEARCH METHODOLOGY:

An investigative study was carried out through a search of the available literature to identify the exact components of the model. Further literature search was conducted to find other factors which could potentially and clearly affect profitability of life insurance companies in India.

Given the research objectives coupled with the hypothesis, we will be considering all insurance companies for the analysis established and serving with in the specified period of time.

The present study is based on the secondary data and has been extracted through the IRDAI website.

We have used simple linear regression, Anova to study the relationship of profitability with paid up capital.

4. ANALYSIS,DISCUSSION AND RECOMMENDATION

4.1 INTRODUCTION

Indian Insurance Industry is the most attractive destination for outside foreign players with penetration as low as close to 3.69% and density at USD73. Opening the sector for private players can be traced back to the passage of IRDAI Act 1999 which allowed foreign players to tie up with domestic insurers in setting up their operations. As of now Life Insurance Industry has 24 players which include the Government owned Life Insurance Corporation. In spite of LIC being operational for 44 yrs. i.e. from 1956 to 2000 our penetration remains one of the lowest across the globe.

With the advent of private insurance companies we could witness great awareness being created for life insurance products and also product innovation which was missing for quite a long time. At present we have 24 Life Insurance Companies including LIC.

As of 31st December 2018 we have a total deployed capital of ~27000 crores with over 11,190 branches and more than ~21 lakh agents. Going slow on expansion, Insurance companies are attempting to take an evaluated risk. Commencing operations without grasping the determinants of profitability is bound to be fragmentary and incomplete. Because of long term nature of Insurance business there is no predetermined criterion to measure the effectiveness of operating companies. Hence for accounting purpose insurance companies rely on book keeping practices to land at profit for the financial year. This may offer fractional information and will not provide the factual viewpoint.

STATEMENT OF THE PROBLEM

The absence of empirical studies in India, about the determinants of insurance companies' profitability became the motivation for the study. While the Industry completed 18yrs of operation since it was open to private players we still have 13 companies registering accumulated losses to a tune of ~9665 crores. This is an alarming situation and draws immediate attention from all the stakeholders.

CONCEPTUAL FRAMEWORK

While we have many determinants which impact profitability, we will emphasize on the key attribute which influence the profitability of life Insurance Companies.

HYPOTHESIS

We have profitability as the Dependent Variable and Paid-Up Capital as Independent Variable. Hypothesis for the proposed research will be as follows.

- ✓ H0: Profitability has no correlation with Paid-Up Capital
- ✓ H1: Profitability has a strong correlation with Paid-up Capital

4.2 SOURCES OF DATA

The data to be used in the study are to be collected only from secondary sources which include Annual Reports and Life Insurance Reports from IRDAI and Insurance Information Bureau.

SAMPLING DESIGN

We had taken data for the industry between 2011 and 2017. This is done keeping the fact that most of the companies started registering profit only post 2010 and considering data since inception will create an anomaly in the findings.

AREA OF THE STUDY

The area of the study is about the factors which influence the profitability of life insurance companies in India. At present there is one public sector company i.e., Life Insurance Corporation and 23 private life insurance companies. For the study purpose we had selected all Life Insurance Companies.

TOOLS AND TECHNIQUES USED FOR ANALYSIS

The following tools and techniques have been used for analyzing the data.

- ✓ **Mean**
- ✓ **Standard Deviation**
- ✓ **Correlation Coefficient**
- ✓ **Multiple Regression Analysis and**
- ✓ **ANOVA**

4.3 ANALYSIS AND INTERPRETATION

In order to find out "Factors that influence the profitability of Life Insurance Companies in India" the following methodology is adopted

Profit as Dependent Variable: Profit remains the ultimate objective of all insurance companies. With long term contracts in insurance, profit is arrived only once all the liabilities are met than focusing on accounting profit. Profit is the outcome of many Internal and External factors and hence it remains the dependent variable.

Paid-Up Capital as Independent Variable: Variable: Life Insurance Companies growth is assessed by the inflow of premium income. Total Premium will include both the new business and renewals. Premium income is dependent on deploying capital and expanding distribution. Efficiency has a limitation but scalability does not. Hence the need to have capital deployed to reach masses and enhance LI penetration.

DATA SHEET

In Crores

Financial Year	Paid-up Capital	Profit
2009-10	21019	2271
2010-11	23661	2657
2011-12	24932	5974
2012-13	25519	6948
2013-14	25938	7588
2014-15	26244	7611
2015-16	26691	7415
2016-17	26956	7728
2017-18	27264	8512

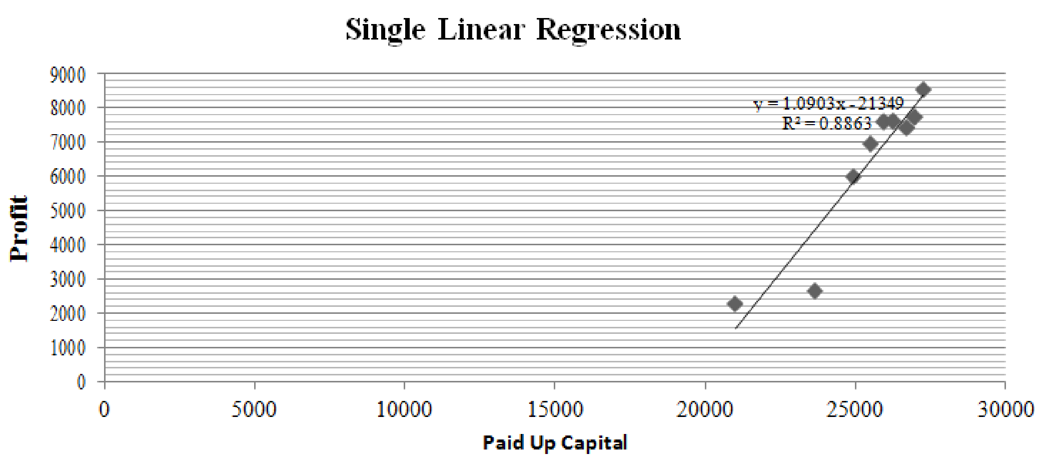
SUMMARY OUTPUT AND INTERPRETATION

Regression Statistics	
Multiple R	**0.941411296**
R Square	**0.886255227**
Adjusted R Square	**0.870005974**
Standard Error	**822.0139261**
Observations	**9**

ANOVA					
	DF	***SS***	***MS***	***F***	***Significance F***
Regression	**1**	**36853925.4**	**36853925**	**54.54129**	**0.000151316**
Residual	**7**	**4729948.26**	**675706.9**		
Total	**8**	**41583873.7**			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	**-21348.550**	**3753.850529**	**-5.68711**	**0.000745**	**-30224.99659**	**-12472.10459**	**-30225**	**-12472.1**
Paid-up Capital	**1.0903367**	**0.147637926**	**7.385207**	**0.000151**	**0.741228495**	**1.439444934**	**0.741228**	**1.439445**

RESIDUAL OUTPUT		
Observation	***Predicted Profit***	***Residuals***
1	**1569.236807**	**701.7631933**
2	**4449.906406**	**1792.906406**
3	**5835.637143**	**138.3628569**
4	**6475.446727**	**472.5532729**
5	**6932.603105**	**655.3968953**
6	**7266.246139**	**345.0638608**
7	**7754.128205**	**339.1582055**
8	**8042.56588**	**314.6758799**
9	**8378.389588**	**133.6004121**



Multiple R: Multiple R is the correlation coefficient. Multiple R of 0.94 clearly denotes that there is a strong positive correlation between Paid up Capital and Profit of Life Insurance Companies. This statistic, which ranges from -1 to +1, does not indicate statistical significance of this correlation. Any value closer to 1 is perfect positive correlation.

While we have many factors influencing the profitability of life insurance companies' viz. Premium, Asset under Management, Commission disbursed and Operating Expenses we wanted to focus on the key parameter which influences the behavior of dependent variable.

R Square: R Square denotes the coefficient of determination. R Square denotes 0.88 which means 88% of moment of dependent variable can be predicted. 88% of the moment in profit can be explained by independent variable.

Adjusted R: Adjusted R Square adjusts for the number of items in a model. Adjusted R square would be very relevant when we have multiple independent variables.

Standard Error: The standard error of the regression is 822.0139261 which is an estimate of the variation of the observed profit of Life Insurance Industry. The standard error here refers to the estimated standard deviation of the error term u.

It is sometimes called the standard error of the regression. It equals sqrt (SSE/ (n-k)). It is not to be confused with the standard error of y itself (from descriptive statistics) or with the standard errors of the regression coefficients given below.

The above gives the overall goodness-of-fit measures:

- **R^2 = 0.8862**
- **Correlation between y and y-hat is 0.9414 (when squared gives 0.8862).**

R^2 = 0.8862 means that 88.62% of the variation of y_i around ybar (its mean) is explained by the regressor $x1$ .The regression line is

Y=Profitability=-21348.5506+1.090336714*Paid-up Capital.

This clearly depicts for each unit increase in paid up Capital, profit increases with 1.090336714units...

Residual: The residuals show you how far away the actual data points are from the predicted data points. We do have residual as the model fits in up to 88%.

Significance of F: The column labeled significance F has the associated P-value. Since 0.000151316< 0.05, we reject H0 at significance level 0.05. We can infer that Paid up Capital has strong correlation with profitability of life insurance companies.

Alpha or p value both me the same. It is a value which will help us reject the null hypothesis.

ANOVA: The analysis of variance information provides the breakdown of the total variation of the dependent variable in this case home prices) in to the explained and unexplained portions

The SS Regression is the variation explained by the regression line; SS Residual is the variation of the dependent variable that is not explained.

The F-statistic is calculated using the ratio of the mean square regression (MS Regression) to the mean square residual (MS Residual). This is statistic can then be compared with the critical F value for 9 and 56 degrees of freedom (available from an F-table) to test the null hypothesis.

CORRELATION

When using single linear regression to estimate a relationship, there is always the possibility of correlation within the variables. Looking at the correlation, generated by the Correlation function within Data Analysis, we see that there is positive correlation between variables:

	Paid-up Capital	*Profit*
Paid-up Capital	1	
Profit	0.941411296	1

However, we cannot conclude that these correlations are important until we test for significance.

DESCRIPTIVE STATISTICS

Paid-up Capital		Profit	
Mean	25358	Mean	6300
Standard Error	656	Standard Error	760
Median	25938	Median	7415
Standard Deviation	1969	Standard Deviation	2280
Sample Variance	3875007	Sample Variance	5197984
Kurtosis	2	Kurtosis	0
Skewness	-2	Skewness	-1
Range	6245	Range	6241
Minimum	21019	Minimum	2271
Maximum	27264	Maximum	8512
Sum	228224	Sum	56704
Count	9	Count	9
Confidence Level (95.0%)	1513	Confidence Level (95.0%)	1752

Paid Up Capital:

- We are witnessing consistent growth in deployed capital of life insurance industry since inception. Except between 2012 and 2014 where the growth remained muted, industry continues to growth on YOY basis.
- Mean paid-up capital is at ~25000 crores and we witnessed industry growing at 8% CAGR during the said period. Standard deviation for the

said period is at ~1900 crores which factors the growth.

- Also when we measure kurtosis we realize that capital is falling absolute normal distribution. We do not have heavier tails and distribution is shorter .
- Skewness value indicates that the capital is part of perfect normal distribution and we do not see any asymmetrical distribution. Also the data is positively skewed.
- We are also witnessing regular premium growth due to huge renewal base. This is huge considering most of the insurance companies have completed more than 10 yrs. of operations and their ~60% share is coming from renewals.

Profit:

- We are witnessing consistent growth in Profit in Life Insurance Industry except in 2015-16 where the growth remained muted.
- Mean Profit is at ~6300 crores and Standard deviation for the said period is at ~2200 crores which factor the growth.
- Also when we measure kurtosis we realize that profit is falling under normal distribution. We do not have heavier tails than the normal distribution.
- Skewness value indicates that the profit part of normal distribution and negatively skewed and we do not see any asymmetrical distribution.

4.4 LIMITATIONS OF THE STUDY

- ✓ The study is confined to the period between 2011 and 2018 and not since inception.
- ✓ The information collected for the secondary data based study carries all the limitations inherent with the secondary data

CONCLUSION

From the analysis it is evident that profit is highly correlated with the deployed capital. Higher the capital deployment, higher the top line or revenue which in turn helps companies register higher profit. It is almost 18yrs since the life industry opened for private players. While we have made decent progress we still need to achieve a lot.

Top 3 countries in penetration are Taiwan (17.89%), Hong Kong (14.58%) and South Africa (11.02%). In terms of Life Insurance Density we have Hong Kong (6756 US Dollars), Taiwan (4195 US Dollars) and Singapore (3835 US Dollars).Life Insurance Industry in India is at 2.7% life insurance penetration and 55 dollar density as on 31st March 2019. Considering the potentiality we need to grow a lot.

Till 2010 insurance companies were focusing completely on topline. Companies deployed capital and expanding branches across locations. Post 2010 regulator started focusing on bottom line and hence we do not see enough capital getting deployed for expansion. Even those companies who went for public issue or private placements did not deploy the money for building distribution. What is required now is scalability and we need more and more capital to be deployed.

Considering we still have 70% as the rural base we need to penetrate deeper into rural markets by setting up branches. This will immediately help us with top line. Also the regulator needs to bring in few changes in accounting practices so that the capital expenditure does not get booked in the same year of spending.

Needless to say efficiency is the key parameter for success of insurance industry but it has its own limitations. Considering we are still at 2.76% penetration we need to start focusing on expansion by leaps and bounds.

Once we achieve a volume proportionate to the potentiality then we should focus on building profitability and efficiency.

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