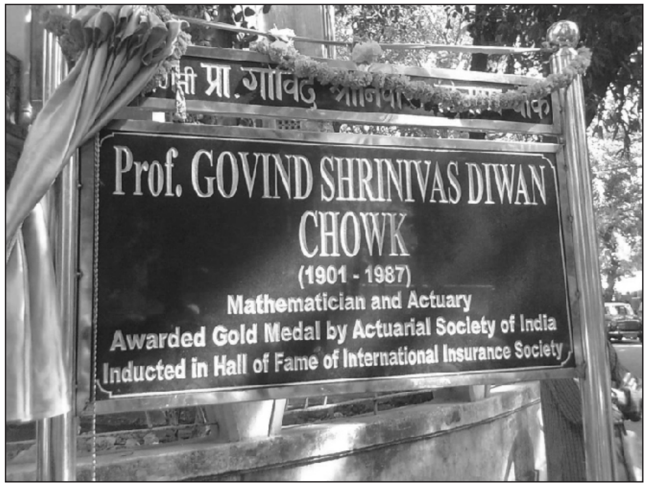

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w w w . d s a c t e d . c o m

EMERGING CRISIS OF AGEING : PENSION REFORMS AND LIFE INSURANCE IN INDIA

EIGHTH
PROF. G.S. DIWAN
MEMORIAL LECTURE
DELIVERED BY
DR. HIRA SADHAK

This is the Eighth
Prof. G.S. Diwan Memorial Lecture
Delivered at the
Smt. Deviben Hasmukh Mehta Auditorium,
The Juhu Parle Education Society's
Utpal Shanghvi School,
East West Road No. 3,
Juhu, Mumbai - 400049

On Saturday, 23rd October, 2010

To pay a tribute to Prof. G. S. Diwan's philosophy and his work we like to quote the following :-

“Whose woods these are I think I know,
His house is in the village though.
He will not see me stopping here,
To watch his woods fill up with snow.

My little horse must think it queer,
To stop without a farmhouse near,
Between the woods and frozen lake,
The darkest evening of the year.

He gives his harness bells a shake,
To ask if there is some mistake.
The only other sound's the sweep,
Of easy wind and downy flake.

The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.”

.... Robert Frost

Emerging Crisis of Ageing : Pension Reforms and Life insurance in India

....By DR. H. SADHAK

Bio-sketch of Prof. G. S. Diwan (1901-1987)

July 14th, 2008 is a memorable day for the Insurance Industry in India, for it was on this day that Professor G. S. Diwan was posthumously inducted into the Insurance Hall of Fame. He is the third Indian to receive this honour.

Professor Diwan was a man, small only in stature. He was a storehouse for the knowledge that he imparted on his students, and for the affection that he showered on everyone he knew. His journey up to the insurance hall of fame was with a lot of obstacles though.

Professor G. S. Diwan, or Bapu, as he was fondly known to his family and friends, was born on September 10th, 1901, in Kolhapur. Professor Diwan received his early education at Rajaram High School (1918), and completed his first year of college at Rajaram College (1919), in Kolhapur. Prof. Diwan completed his graduation and post-graduation in Mathematics at Deccan College, Pune. Prof. Diwan became Associate Actuary in 1933 and Fellow Actuary in 1942. In 1937, Prof. Diwan joined Sydenham College as a teacher in Actuarial Science. He taught several students who turned actuaries later. At the age of 55 years, Professor Diwan retired from his teaching career (1956-1957). His students arranged a farewell function for him, where they presented him with a silver casket and a citation, which expressed their sentiments. An extract from it read:

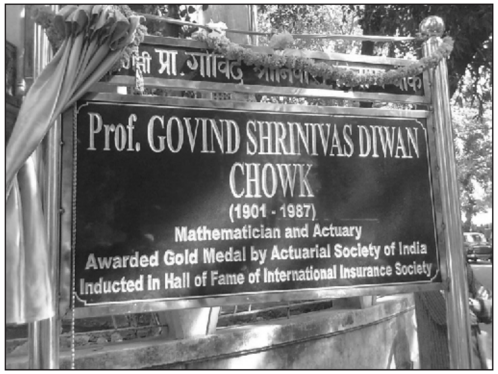
"It is generally said that "Every man is a debtor to his profession". In your case, Sir, it is not the proverb but the converse that approximates to a correct rendering of the case……… We shall always look upon you as the maker of our careers and, in whatever sphere of our life we may be placed, the memory of your teaching will be printed in our hearts and

minds. We further assure you that no lapse of time and distance will lessen our regard for you."

After qualifying as a Fellow, Prof. Diwan had set up an actuarial consulting practice in Bombay with the permission of the Government, even while he continued to teach Actuarial Science. Professor Diwan played a pioneering role in the newly established Insurance Division of the Finance Department of the Government of Bombay. In 1962, Professor Diwan was appointed as the non-executive Director on the board of the newly formed Deposit Insurance Corporation, which was formed to provide insurance protection to bank depositors.

The Actuarial Society of India was formed in the year 1944 in Bombay. Prof. Diwan was an active member of the Society. He presented numerous papers on various subjects which he encountered in his professional work. In 1980, the Actuarial Society honoured him for all his contributions by presenting him with a Gold Medal at a special function. Till today, Prof. Diwan is the only actuary to have received such an honour. In the new office of Actuarial Society of India, now known as Institute of Actuaries of India, a room is named after Prof. Diwan.

It was a dream of his that the Actuarial Society of India should conduct its own examinations leading to the Fellowship qualification. However, this dream remained unfulfilled until much after he had passed away in 1987.



On 26th February, 2010, a corner of 5th Road of Hindu Colony with Sir Bhalchandra Road in Dadar (E), Mumbai was named after Prof. Diwan as Prof. G. S. Diwan Chowk.

President : Shri Jayesh Choksi

Shri Jayesh P. Choksi started his professional career in the year 1979 after attaining the Bachelor in Pharmacy from Mumbai University.

He then joined his family company which was in its nascent stage and mainly dealing in API and bulk drugs. Since joining he lead the company's entry into branded formulations and OTC products which went on to become big brands. Under his leadership and guidance the company had become a part of the top 25 Pharma companies in India in the mid nineties.

Post 1995 when intellectual property and patent treaty was signed by our Indian government, Mr. Choksi decided to exit some part of branded formulation and focus on Innovative research and other sectors.

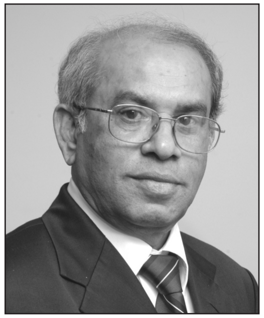
Currently his group companies focus mainly in Pharma, Consumer, Construction and Edible oil and have a combined turnover of about 1500 crores.

Apart from his professional commitments, Mr. Choksi is actively involved in Educational, Social and religious activities and projects. Mr. Jayesh P.Choksi is a part of the Executive Committee of the Shree Vile Parle Kelwani Mandal and the Mahila Sangh.

Mr. Jayesh P. Choksi became the Hon. Secretary of the Juhu Parle Education Society in 1989 and its President in 1999. A man with a vision, clearly focused with a deep insight in foreseeing the future trends in Education, he has been instrumental in bringing about initiatives which resulted in the Juhu Parle Education Society's Utpal Shanghvi School and the Prabhavati Padamshi Soni International Junior College winning National and International awards and recognitions in academic as well as non-academic areas.

Keynote Speaker : DR. H. SADHAK

CEO, LIC Pension Fund Ltd.



Dr. H. Sadhak is a highly experienced Professional in Financial Services industry. He occupied many important management positions in Pension Fund, Mutual Fund, Life Insurance and Bank having experience in Research and teaching in Economics & Finance. Currently, he is the Chief Executive Officer, LIC Pension Fund Ltd, the position he occupied since inception in 2007. Prior to the present assignment he was an Executive Director, LIC Director, LIC Management Development Centre. He was actively associated with formation of LIC Mutual Fund and held several positions in it.

Dr.Sadhak was associated as a member with many Expert Committees/ Working Groups including Technical Committee on Accounting Policy for NPS, PFRDA and Technical Advisory Group, Real Estate Price Index, Govt of India.

A *Post Graduate in Economics* from University of Kalyani and *Ph.D. in Industrial Finance* from University of Poona, Dr. Sadhak has authored 5 books and contributed about 200 articles and research papers on various issues on Finance, Economics, Industrial Development and Management in journals and news papers in India and abroad.

A recipient of *National Scholarship* and *University Merit Scholarship,* Dr Sadhak has received several Awards/ Prizes for research and policy papers. Dr Sadhak has attended several National and International Seminar/ Conferences mostly as a speaker including World Bank Conference on Contractual Savings in Washington., Top Management Seminar Tokyo, **6th Asian Conference on Pension and Retirement Planning, Singapore,** 4th Asian *Conference on Retirement Planning*, Kualalampur in2007.

Dr H Sadhak can be contacted at hsadhak@rediff.com

Emerging Crisis of Ageing : Pension Reforms and Life insurance in India

By H. Sadhak

INTRODUCTION

Old age income security is one of the oldest socio economic concerns of the society which in course of time with the progress of civilization and economic progress became an important political issue and socio economic governance system. The thoughts of supporting those who protected and supported our growth gradually emerged as an important factor influencing state policy. Though the concept and importance of old age economic support to the elderly remained the same, the format has changed over the time with the changing dynamics, social policy and philosophy of economic policy. Faster economic growth has induced higher employment and income generation leading to better medical service and good health care which have improved the per capita consumption and the average longevity of people. Increased longevity forced the states and statesmen to focus serious attention to old age pension and social security through innovative strategy and policy within given limitation of resources and political framework. A new dimension has been further added to the problem of old age social security due to the gradual dismantling of the concept of Welfare States in many developed and emerging market economy reducing the responsibility for social assistance and passing the responsibility to the individual . In the new world, economic security of its members is no more the sole concern of parental state and the economic restructuring advocates passing the same to the private enterprise. Like many other areas of economic functions, pension has also become an area of dual control – public as well as private sector, through the process of reforms.

Many authors trace the roots of modern social security to the social insurance introduced by German Chancellor Ottovon Bismark during 1881-1892. Three laws considered to be the foundation of Bismark's social security: Laws concerning *Health Insurance for workers of June 15, 1883*, followed by *Accident Insurance Act July 6, 1884*, and the *Law on Invalidity and Old Age Insurance for Workers in June 1889.* All these acts finally promulgated afresh in the form of the Health Insurance Act on April 10, 1892 (Eurofound 2009). Bismark's Health Insurance Regulation brought to the fore the importance of Social security to the old and disabled and the role of state in protecting through legislative measures. Subsequent to this development many countries introduced laws regarding social insurance and social security for their citizens particularly for the workers and elderly population, the important among them being The *Social Security Act 1935* of the USA, which was signed by President Roosevelt, on August 14, 1935. This Act in addition to several provision for general welfare, created a Social Insurance Programme to pay retired workers age 65 or older a continuing income after retirement. (Social Security Online). Another landmark development which aimed at strengthening the social security programme was the International Labour Organisation(ILO) Declaration of Philadelphia in 1944 and its income security recommendation 1944(No 67). Social Security was declared as fundamental human rights, in 1944 declaration which was upheld in the Universal Declaration of Human Rights in 1948. Which many countries have adopted world wide. However a new dimension to social security movement was added when the World Bank published its policy research report *Averting the Old Age Crisis* in 1994 which not only provided a blueprint of impending crisis owing to increased longevity and population aging but also a strategic model for pension reforms based on public private partnership. Averting the Old Age *Crisis* considered to be the most powerful guide map for future pension strategy and reforms. The crisis in respect of social security though basically arises out of increased longevity due to better health care and improved medical facility, accentuated by increased unsustainable pressure on exchequer due to defined contribution pension system and low coverage of formal social security. We would therefore, make an attempt in this section to examine the nature of pressure exerting by the demographic transition, weakness of defined contribution pension system , various initiatives taken by the countries to protect and promote social security and pension system. *Pension Reforms has thus , taken the centre stage in developed and developing countries as one of the most critical policy issues during recent times .*

The Old Age Crisis : The major concern for old age social security and pension arises out of increased longevity and people living much beyond their normal working life. This creates several socio economic and political problems. Increased longevity creates burdens on national exchequer due to higher spending on pension and social security, increased expenses on health care, imbalance in intergenerational transfer of resources, growing burden on youth, reduced labour supply and adverse impact on national savings. Changes in population age structure and ageing will adversely impact economic growth; it will reduce working age population hence labour supply. It will also reduce total productivity due to reduction of working age population and impact earnings. Ageing will also adversely impact the domestic savings. Elderly population have higher propensity to consume and lower propensity to save than the working age population. It's an important political issue since ageing will emerge as a very strong political agenda which may overshadow the issues of youths as well as development. Peter G Peterson (1999) in his paper "Gray dawn: The global aging crisis" said that "global aging will become not just the transcendent economic issue of the 21st century, but the transcendent political issue as well. It will dominate and daunt the public policy agenda of developed countries and force the renegotiation of their social contracts. It will also reshape foreign policy strategies and the geographical order" We may look into the changing dynamics of world population and changing scenario of population ageing with the help of data from World Population Prospects (the 2008 revision), United Nations.

2. Population Growth and Global Ageing:

World demographic changes distinctly characterised by three important trend namely reduction in mortality and fertility, increase in longevity, decrease in the growth rates in population in the younger cohort (age 0-14), slow growth in working age population (age 15- 59) and rapid growth in elderly population (age 60+) The United Nations publication *World Populations Prospects – The 2008 Revision* has estimated that there will be a sharp decline in **average annual growth rate** during 2009-2050. The average annual rates of change in the world population during 1975-2009 were 1.53 percent, while the same for the developed countries was 0.48 percent as against 1.82 percent in less developed countries. The average annual growth rate during 2009-2050 for the world as whole expected to be 0.71% while the same for the developed countries would be 0.08% as against 0.83% for the less developed countries. In spite of the sharp decline in growth rates in world population, **world population** will grow by 2.3 million during 2009 and 2050, i.e. the population will increase from 6829 million in 2009 to 9150 million in 2050 at medium variant, but it will be 11030 million at constant fertility rate. The UN estimates also indicates that by 2028 India will surpass China in terms of population and by 2050 projected population of India will be 1755.2 million as against 1437 million of Chinese population. *(Table-1)*

Decline in **fertility** resulting into growth rates in younger cohort will affect slower growth rates in working age population. Projection by the UN shows that total fertility will decline from 2.56 (average no of children that a woman would bear) would decline from 2.56 in 2005-2010 to 2.02 in 2045-2050 at the medium variant. Though the fertility of less developed countries will decline from 2.73 to 2.05, the same would increase from 1.64 to 1.80 in more developed countries.

Economic prosperity in 20th century enhanced income and per capita income, new discovery in medicine and ability to afford better health care by people in general significantly reduced the **mortality rates**. The World Population Prospects: Revision 2008, mentioned that

the average life expectancy in 2005-2010 was 67.6 years as against 47 years in 1950-1955, which is further expected to go up to 75.5 years in 2045-2050.The **life expectancy** in the more developed countries will go up from 77.1 years during 2005-10 to 82.8 years in 2045-50, while the same in less developed countries will go up from 65.6 years to 74.3 years. The general improvement in life expectancy particularly in less developed countries will push up the number of elderly population, increase old age dependency and the social and state concern for old age social security

The UN publication *World Population Ageing 2009* indicated that "Globally the population of **older persons** is growing at a rate of 2.6 percent per year considerably faster than the population as a whole, which is increasing at 1.2 per cent annually. At least until 2050, the older population is expected to continue growing more rapidly than the population in other age group". It has been further estimated that the population aged 60 years and above, numbered 600 millions in 2000, surpassed 700 million in 2009 and expected to be 2 billion in 2050.The *Oldest Old* (age 80 years and above) will grow at a faster rate than the older persons. As a result the ratio of oldest old to old will decline from currently 1 oldest for every 7 old persons to 1 oldest to 5 old persons. Slow growth in working age population and faster growth in older population will see a sharp decline in Potential Support Ratio (PSR) and increase in the Dependency Ratio (DR). Potential Support Ratio is the number of working age population per older person aged 65 years or more, which will decline from 9 in 2009 to 4 in 2050. A decline in old age support ratio will increase in old age dependency ratio as older people need to be supported by less number of working age population.

India is going to be the most populous country of the world in 2050 leaving behind China. While Chinese population will increase from 1324.7 million in 2008 to 1437 million in 2050, Indian population will surpass Chinese population, which will increase from 1149.3 million to 1755.2 million (Table-1). Also the number of elderly population will grow. Population aged 60+ will go up from 8% to 21%, while population above 80+ will go up from 8% to 15% during 2008-2050 .(Table 2). As a result rapid growth of elderly population and the old age dependency will also increase significantly. National Sample Survey 52nd round made some estimates about old age dependency in India, which will however increase further. (Table 3& 4) The faster growth of population and ageing has serious economic consequences and need to be addressed immediately.

3. Urgency of Pension Reforms:

The population ageing and the growing number of old and oldest of old has thrown unprecedented challenges to the policy makers to provide secure and broad based source of old age income to this growing number of older and oldest of the old. Because living an active life after normal retirement and working life is a right of every citizen who have contributed to the growth and development of nation while they were young and working. They can not be thrown out, but the ability of the nation also to be considered along with this right. As mentioned by OECD Secretary General, Donald J. Johnston at the opening of the Active Ageing Session, G8 Meeting of Labour Ministers, on 10th November, 2000, at Turin, Italy "the concept of Active Ageing Captures the essence of the policy challenge of ageing populations. It emphasizes the importance of providing opportunities for people to contribute longer in the Labour Market and to be more active in the community as they grow older. Active ageing is a good deal for social economic policy and provides opportunities for win-win solutions, at least in the medium and Long run*"*. However the concept of active ageing can be implemented by providing opportunity to older people to remain engaged in productive activities and by ensuring flow of income when they ceased to be employed. In order to keep the older people engaged in productive activities initiatives have been taken by many countries to move retirement and pension entitlement age upwards.

To ensure flow of sustainable old age income pension system, reforms have been introduced by a large number of countries, which is also a political initiative. Therefore, social security is no more a socio-political but a socio-fiscal-economic-political problems being confronted by developed as well developing countries. To confront the challenges arising out of ageing and old age income instability a strong non partisan political desire is required to put in place a well meaning sustainable pension and old age social security system. It is no doubt a very complex issue and a number of stakeholders with cross purpose diverse interests are present. It is also very difficult to satisfy these cross purpose interested group with a single set of solutions but a solution that aims at attaining the long term socio economic objectives to protect the interest of older people and creating the space for economic growth need to be attempted.

Living a life of active Ageing is a right of every citizen who have contributed to the growth and development of nation while they were young and working. They can not be thrown out, but the ability of the nation is also to be considered along with this right. Therefore active ageing is an important policy consideration from the point of view of socio economic policy perspective. Policy of active ageing to be built

among others on the policy of Social Security and system of Pension.

The present demographic transition improved medical service and good health care increased the longevity, and slow growth in working age population has created imbalance in the ratio of workers to social security beneficiaries. Further the unfunded Pay-As-You-Go (PAYG) or Defined Benefit (DB) pension has also created serious financial concern and sustainability of DB pension system. Another important structural issue regarding the responsibility of providing pension and retirement income to the worker. Therefore an intense debate has been going on since 1980's about the right type of pension reform model. A variety of measures and models have been suggested by many economists and policy makers .Though there are several programmes, the major debates and initiatives on pension reforms world over centred around the Privatized Funded Defined Contribution (DC).

While DB is a publicly managed pension system financed through pay roll taxes and organized around certain predetermined formulas and the post retirement pension based on the history of employment earnings, DC on the other hand is a pension system organized around employees contribution rate and flows of retirement pension determined solely by the history of individual contribution and investment return. The defined contribution system is fully funded and financed solely by the individual unlike un-funded pay–as-you-go (PAYG) system. Defined Benefit (DB) System has been criticized on the ground that the system impose burden on exchequer, generates unemployment, weak in resource allocation, does not provide boost to long term savings, capital market development and impede the growth of economy. However, there are few other models for pension programmes like Notional Defined Contribution (NDC) in Sweden, Central Provident Fund (CPF) System in Singapore, Employees' Provident Fund (EPF) system in Malaysia. While DC and NDC suggest minimising or eliminating the role of state and transferring the pension system to the private sector, others like CPF and EPF type reforms system controls remain within the public system.

4. Pension Reform Models :-

Though both the developed and emerging countries are facing a pension reform dilemma, there is no uniformity among them in respect of an appropriate model of reforms and each country has adopted its own pension system depending on social-political and economic needs and circumstances. However, in course of time distinct trends have emerged among the groups of countries which can be clustered around few models, and reforms can be grouped into three categories, namely Parametric ***Reforms, Systemic Reforms and Notional Defined Contribution.***

The prime objectives of these reforms are the same i.e. to enhance the pension entitlement. However, there is a difference between the two regarding the entities which shoulder the Longevity Risk. While in the parametric reforms the risk is still borne by the pension providers but in case of systemic reforms longevity risks are transferred to the pensioners since the basic structure of pension changes from DB to DC system.

Parametric Reforms : Parametric reforms have undertaken by the countries which want to retain the existing unfunded Pay-As-You-Go (PAYG) System through substantial changes in rate of contribution to enhance the benefits, to take care of increased longevity. The important instruments to implement the parametric reforms are: *Increasing the Pensionable Age, Changes in the Rate of contribution Changing the of Earning Base for Calculation of pension, Revaluation of past Earnings for Pension, Indexation of pension etc.* Most of the OECD including Austria, Denmark, Germany, UK, Netherlands Italy, Hungary etc. introduced Parametric reforms.

Systemic Reforms : Systemic reforms adopt a new system of funded Defined Contribution (DC) by replacing unfunded DB structure. As noted earlier the longevity risk also transferred from the pension provider (under DB system) to the pensioners (under DC system). The World Bank has suggested a Multi Pillar Defined Contribution Model (DC). Under the DC, many countries have transformed their pension structure from defined benefits to defined contribution through mandatory privately managed individual accounts. The switchover to new pension model has also encouraged replacing single pillar system by a multi pillar, mostly consisting Tax *financed unfunded first pillar for redistribution, A mandatory, privately managed fully funded pillar for retirement savings and A voluntary pillar for additional savings for old age protection.* The first pillar is just like public pension plans, which provide a social safety net for the old, while the second pillar is fully funded and privately managed. The third pillar, is voluntary savings would provide supplementary benefits to those who want more generous old age

Notional Defined Contribution (NDC): Another kind of pension reforms that is slowly being accepted by many countries is the *Notional Defined Contribution,* which attempts to integrate some characteristics of DB and DC system. NDC is a shift from DB Plans to a Notional Account, under which pension depends on the contribution of the member but the interest rate (notional) decided by the Government. Therefore, the rate of return and risk of investment depends on the centrally determined interest rate by the Govt and thus, individual investment risk is relatively lower compared to the risk in the DC system.

The most important feature of the newly reformed pension system is the introduction of Individual *Account Number*, *Multiple*

Private Funds and Fund Managers and Active Investment Choice by the members. Individual Accounts are expected to provide workers *ownership* claims on a particular mix of financial assets, and linking the *future benefits to the size of the assets.* P*rivate funds managers* in DC system have replaced the states as the fund managers. Private fund managers are considered to be more efficient and able to provide better return due to required expertise in investment management.

5. Some Observations about Reform Models :

There are several arguments about the inherent weakness of the State supported PAYG defined benefit system. Some such arguments are given below :

***Issue of Solvency* :** A PAYG system is basically unfunded and current pension payments are made out of current contribution received. It is an unfunded system and there is hidden liability size of which will only increase over time since pension support ratio will decline and dependency ration will increase. In order to have a liability matching asset portfolio, there is a need for regular increase in matching contribution, which normally may not happen and generate asset liability mismatch.

***Burden on Exchequer* :** Defined Benefit System has been criticized on the ground that the system impose burden on exchequer when anticipated liabilities are larger than actual assets portfolio the system tend to be insolvent and rescued by the government subsidy. However, the nature of insolvency will depend on the nature of funding. Hidden pension liability of the govt may be lower in a partially funded system than in fully unfunded system.

***Political Risks* :** State mandated PAYG system runs into political risks since the legislature and political parties control the system. Often the political interest prevails over the economic interest of the pensioners and external shocks are resisted through internal changes to protect interest of the pressure groups. Therefore misdirected political intervention in social security system may cost the exchequer dearly and harm the pensioners' interest adversely.

***Lack of Transparency* :** It is often argued that the PAYG system is not transparent enough since mostly the fund information are not publicly available and workers are unable see the performance and progress of the fund and the country is unaware of the changing trend in the hidden pension liability which generates public debt.

There is a wider agreement that the politically vulnerable social security system need to be replaced by Market based Social security system through individual accounts with rule based approach to risk allocation(Valde's - Prieto 2005). Individual Account based social security is basically a Defined Contribution (DC) pension system fully funded by the members and the funds are managed by the professional fund managers. The DC system has several potential strengths and can avoid some inherent weaknesses of the PAYG defined benefit system.

Better Return **:** Since this is a market based system and investment portfolio contains a higher portion of equity which have potential to generate relatively higher rate of return, total return of the portfolio expected to higher in DC than in PAYG defined benefit system, which depends on the wage growth and debt centric investment strategy.

Reduced Political intervention **:** Since the DC system is fully funded by the individual, and there is minimal state role in running the system, the scope of political intervention will also be minimal and can serve the interest of the members better.

No burden on exchequer : DC is a fully funded individual account and therefore there is no burden on the exchequer except in case of any subsidy (as in case of India in NPS Light under the NPS) or minimum return guarantee (as in many Latin America and East European Pension funds).

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Solvency **:** Since pension funds under DC system is pre funded and there is no agreed pension liability , long term insolvency problem does not arise as in case of unfunded defined benefit system which assure certain guaranteed pension to the members.

Wider option and active choice **:** In a defined benefit pension system the members generally participate in portfolio selection, but in defined contribution system members can exercise active choice and select a fund / portfolio depending on individual risk tolerance level.

More Transparency : Pension funds in an individual account system operate in a more transparent way and there is continuous information disclosure by the fund managers, Trusts and Regulators. Members through their fund ID or permanent account no can also see the performance of investment, accumulation of amount etc. This transparency is not there in PAYG defined benefit system.

In addition to the above, there are several other potential advantages of individual account based defined contribution system, like *Supports to Capital Market Development*, boost to the growth of Domestic Savings reduce the burden on exchequer due to less public expenditure on pension spending and finally generates momentum of growth. However, experts have also pointed out several weakness in the individual account based defined contribution system.

High Costs of DC system : Experts have pointed out several costs associated with individual account based DC system. These costs arise out of Product Marketing, Accounting and Fund Administration, Investment Management Fees, system regulation and oversight fees, Costs of Purchasing Annuity etc.

Administration Costs : One of the major criticism of the individual account based funded system is the cost of system administration. This cost arises out of product marketing, administration and fund management costs which are fully borne by the individual. Such costs are required in PAYG defined contribution system, even if some implicit costs are incurred the same is borne by the employers and retirees are not affected. Quoting the World Bank Baker and Kar (2002) mentioned that the cost of running a privatized individual account is 10 to 50 times higher than running the public social security system in the United States. Further the cost of converting accumulated assets into annuity is between 11and 22 times costs of operating the Social Security in the United States. Running a public agency which supervises such a system is much higher than the whole social security in the United States. Many authors have pointed out that administrative costs are higher in Latin American countries, while some have pointed out that it is quite low when compared with other fund management industry. According to Vial (2007), the issue is clouded because contribution to pension expressed as fraction of wages, while financial market fees are calculated as a fraction of the assets under management. Administrative costs calculated as a difference of the internal rate of return of pension investment, with or without fee were estimated as 0.39% for men and 0.42% for women.

Costs of Annuity : Another argument relating to the costs is the costs of annuity. There are two stages in Defined contribution pensions namely accumulation and pay outs. Pay outs stage provides regular flow of annuity income which a member purchases at the end of accumulation period. Though investment return in the accumulation may be higher it may not be sufficient to purchase an annuity which would provide real income higher than that would have been possible through a life annuity policy at the beginning. “The issue is the cost that would be required for private market to offer the same level of longevity and inflation protection to all participants” (Heller 1998)

Return related Risks : Individual Account based pension system rely on Market particularly the equity market to provide higher return on investment to enhance the value of accumulated amounts. However, it has also an implicit costs associated with inefficiency of fund managers, in appropriate portfolio composition, unethical practices, hidden motives of self advancements etc which may arise out of weak oversight and regulation.

Inflation Risks : Inflation in absence of any indexation reduces the consumption level; hence the worst enemy of pensioners since mostly depend on the pension income. In a DB system inflation risk is automatically covered by indexation but in an individual account based private pension no such indexation is usually available. A member need to purchase annuity after accumulated period is over and the ordinary annuity is not inflation adjusted. There will be additional cost for inflation protection.

Irregular contribution : Individual Account based mandatory pension system also suffer from irregular contribution by the members. Valente (2008) pointed out that according to the International Association of Latin American Pension Fund Supervisors (AIOS), which are the members of AIOS had 76 million pension fund affiliates in late 2007, but only 32 million i.e. 37% of economically active population made regular payments.

6. What Ails Indian Pension System?

India is a young Country with average age of population being 26 years. But youthfulness may not continue for long as the growth rate of elderly population (Age 60+) is 3.8% as against general population growth of 1.8%. The changes in demographical scenario increased the concerned about old age financial support particularly in view of the fact that there is no universal social security in India. Available study indicate that 1114 million population (2006) going touch the level of 1411 million in 2026, while average life expectancy will increase from 63 years to 67 years for male and 68.8 years for female in 2016. India also suffers from acute problem of unemployment. According to 2001 census, only 402 million people were employed. Out of the total employment of 402 million 7% was in organized sector and 93% in unorganized sector. Further out of 27.79 million organized sectors employing 19.14 million was employed in Public Sector and 8.65 million in Private Sector.

However, the current Social Security and Pension exist mainly for organized sector covers only 11% of workers and 89% do not have any formal Social Security and Pension coverage. While Civil Service and Public Sector employees enjoy the benefits of Pension (Defined Benefit) Provident Fund and Gratuity, organized Private Sector employees are

covered by Provident Fund (Defined Contribution) Pension (Defined Benefit) managed by Employees Provident Fund Organization (EPFO). There are some other statutory Provident funds for employees in specific sector like Coal mine, Assam Tea Plantation, Seamen's, State of Jammu & Kashmir etc. By March 2007, EPFO, Provident Fund had membership of 44 million employees and Pension fund membership was 35 million.

Demographic Trend : India is a young country, the average age being 26 years but this is changing very fast due to fast growth in the no of elderly population. However the Growth rate of elderly population in India is 3.8% as against general population growth rate of 1.8% and the number of elderly population will be more than double in the next 20 years. Further life expectancy has been steadily increasing, and estimated to go up from 63.7 yrs at present to 67 yrs for male & 68.8 yrs for female in 2016. (Table 3). Higher longevity, absence own income and any type of universal social security make the Indian elderly to depend on the others- relatives and non relative. Old age dependency ration (per 1000) in India between the census 1981 and 1991 had gone up 81 to 118 (Table 4). As per NSS 52nd round (July 1995-96), partially dependent male and female in India was 163 in rural areas and 139 in urban areas while fully dependent in rural and urban areas were 511 and 532 respectively (Table 5).

High Cost Defined Benefit Pension : The Defined Benefit pension for the organised segments of Civil Service and Public sector seems to be unsustainable in the future. Civil Services pension, which covers employees of Central Government and State Governments and provides defined benefit pension is critically unsustainable as annual pension payments increasing steadily. Data provided in Indian Public Finance Statistics 2009-10, shows that combined pension liability of central and state government went up from Rs 5183.75 crore in 1990 to Rs 119385.75 crore in 2009-10 which in terms GDP went up from 0.91% to 1.92% during the same period (Table-6).

Low Coverage : The unorganised sector constitutes the bulk of the labour force in the country and there should be certain avenue to provide them pension/ social security. According to 61st round of NSS Survey (2004-05), out of total labour force of 457.5 million, 62.5 million was employed in organised sector, while 395 million was employed in unorganised sector, i.e. only 13.66% employed in the organised sector while the bulk 86.34% in unorganised sector. However the Current social security and pension system mainly covers the organized sector that too the organized Civil Service, public sector and some segment of organize private sector.

For Civil Service and Public sector there are Defined Benefit Pension & Gratuity and Defined Contribution Provident Fund, while for the organized private sector, EPFO offers Employees Provident Fund (DC) Employees Pension Scheme (EPS) Employees Deposit Linked Insurance Scheme (DB). There are also some, Special Provident Funds like coal miners Provident Fund, seamen's Provident Fund, and Assam Tea Planters' Provident Fund etc. But there is no formal social security for the vast majority of unorganized sector .It has been estimated that, only 11% of workers are covered by formal pension system while 89% still remain uncovered. Study has shown that there is no formal pension system for informal sector workers- about 310 million willing workers are uncovered.

Therefore it is obvious from the above that India need to introduce a pension system that would be able to face the challenges of demographic change, would be able to extend the coverage and provide a low cost pension system with better return to generate sufficient retirement income .In order to tackle the challenges posed by the high cost low coverage pension system in the country the Government of India introduced the contributory and funded pension system in January 2004, which is called New Pension System (NPS).

7. The New Pension System :

Indian pension reform through NPS is a distinct system, little closer to Systemic Reform, as mentioned above. India has retained its existing DB system in the organised sector- retained DB pension for Civil Service Servants and also allowed the EPFO and other statutory pension/ provident fund system like EPF, EPS etc. but made the NPS mandatory for central government employees who joined services on or after 1st January, 2004. NPS was not mandatory even for the State Govt employees, though already 21 State and Union Territory have joined the NPS. It is also voluntary for all other citizens of the country. This makes Indian reform distinct from many countries which have initiated pension reforms in the recent times.

The Structure of NPS :

Central Government Employees (except the armed forces) who joined services w.e.f. 1st January 2004.The NPS was further extended to all Citizens of India with effect from 1st May 2009.

The Individual Account based NPS is a *Two Tier system:*

Tier -1: is Mandatory, Non Withdraw able Pension Account. As per the NPS rules, the employees will contribute 10% of the salary and an identical matching contribution will be made by the Government, totalling 20% contribution to the pension account of the employees.

Tier-11: Tier 11 is Voluntary, withdraw able Savings Account. No contribution will be made by the Government.

Individual Account Number: Under NPS every subscriber will be issued a unique Permanent Retirement Account Number (PRAN) by the Central Record keeping Agency (CRA).

Portability: NPS is Portable and the pension benefits will never cease even if she/he change the job and move from one place to another. Subscribers will also be entitled to switch over from one scheme to another scheme as well as from one Fund Manager to another Fund Manager.

Multiple investment Option: Under the NPS, the Pension Fund Managers will offer multiple Schemes to the subscribers .At present, however, schemes offer to the central Government employees and other citizens are bit different.

Funds offered to Central Govt. Employees **:** There are two Schemes, *Scheme-1*: under which 85% assets are invested in Debt instruments and 10% assets to be invested in Equity Mutual Funds/ Corporate Bonds and 5% assets to be invested in Equity. Under Scheme-11, 100% pension assets will be invested in Govt. Securities. However at present only Scheme I is operational.

Funds offered to All Citizens (other than Central Govt. Employees): One of the most significant features of the NPS is flexible investment option. One can select a scheme depending oh her/his risk tolerance capacity from a basket of three schemes under active choice. However those who are unable to decide any scheme by themselves, can simply opt for a pre determined investment portfolio called Auto Choice.

Schemes under Active Choice : Under Active Choice there are three options to select an investment portfolio with different asset classes with varying degree of risks. Three asset classes are:

Asset Class E : Investment in predominantly equity market instruments

Asset Class C : Investment in Fixed income instruments other than the Govt. Securities.

Asset Class G : Investment in Government Securities

However, one can select a portfolio with Asset class E (Equity) investment maximum up to 50%.

Auto Choice **:** This is known as Default Option in DC Pension system abroad**.** There is need for Default Option or Auto Choice in view of low level of financial literacy. Even countries like USA, UK Sweden, having higher level of financial literacy offer Default Option. In fact in US and UK, more than 80% of new entrants and in Sweden more than 90 % new entrants select Default Option. In a default option investment portfolio is pre determined and investors pass a part of the risk to fund managers' choice. In Auto Choice Life Cycle Fund pattern of investment changes from higher risk higher return portfolio to lower risk lower return portfolio. To begin with higher investment is made in Equity (Max 50%) at a lower age, which gradually declined with age of the investors. An Auto Choice portfolio begins 50% investment in equity, (Asset Class E), 30% Investment In Asset Class C And 20% Investment in Asset Class G. (Up to Age 35 Years and at the age of 55 years and beyond, portfolio consist of 10% investment in asset class E, 10% Investment in Asset Class C And 80% Investment in Asset Class G.

Pay outs in NPS :

The Government of India has introduced New Pension System (NPS) in January 2004 which is mandatory for employees joining services w.e.f. January 2004. NPS has been extended to all citizens as a voluntary pension w.e.f. 1st May 2009. However two different types of pay out mechanisms have been introduced by PFRDA

Pay out in NPS for Central Govt Employees **:** At the time of retirement / age of 60, when accumulation period ends an employee has the option to invest at least 40% accumulated wealth in purchasing an annuity plan from a life insurance company approved by IRDA and to take maximum 60% of as lump sum withdrawal.

Pay out in NPS for all citizens **:** Voluntary NPS allows an investor , withdraw before age 60 at any point of time but has to invest at least 80% of accumulated wealth to purchase an annuity from a life insurance company approved by IRDA and 20% as lump sum withdrawal. However, under voluntary NPS , when an investor exit at the age 60 from the system has to invest at least 40% of wealth in annuity and the remaining amount can be withdrawn as lump or as a phased withdrawal between the age 60 and 70 This Phased withdrawal is an additional facilities in voluntary NPS.

NPS Lite :

NPS Lite is a significant step towards providing low cost social security pension to the weaker and economically disadvantaged sections of the society particularly in the rural areas. This is a subsidised scheme, a part of contribution being paid by the government of India. The Scheme is known as **Swavalamban Yojana.**

The Scheme : The Swavalamban Yojana is open to all citizens in the unorganised sector who join the New Pension System (NPS) administered by the Interim Pension Fund Regulatory and Development Authority (PFRDA). *(For the purpose of the scheme a person will be deemed to belong to the unorganised sector if that person is not in regular employment of the Central or a state government, or an autonomous body/ public sector undertaking of the Central or state government having employer assisted retirement benefit scheme, or is not covered under any scheme like Employees' Provident Fund and miscellaneous Provisions Act, 1952, The Coal Mines Provident Fund and Miscellaneous Provisions Act, 1948 , The Seamen's Provident Fund Act, 1966, The Assam Tea Plantations Provident Fund and Pension Fund Scheme Act, 1955,The Jammu and Kashmir Employees' Provident Fund Act, 1961.)*

Contribution : Under the scheme minimum and maximum contribution per annum is Rs.1,000 and Rs. 12,000 respectively for both Tier I and II taken together, provided that the person makes a minimum contribution of Rs. 1000 per annum to his Tier I NPS account. Under the scheme, Government will contribute Rs. 1000 per year to each NPS account opened in the year 2010-11 and for the next three years, that is, 2011-12, 2012-13 and 2013-14. All NPS accounts opened in 2009-10 will also be entitled to the benefit of Government contribution under this scheme as if they were opened as new accounts in 2010-11 subject to the condition that they fulfilment of all the eligibility criteria prescribed under these guidelines.

Entry and Exit from NPS Lite **:** A person will have the option to join the NPS as an individual as per the existing scheme or through the CRA Lite approved by PFRDA. The exit from the Swavalamban Scheme would be on the same terms and conditions on which exit from Tier-I account of NPS is permitted, that is, exit at age 60 with 40% minimum annuilisation of pension wealth and exit before age 60, with 80% minimum annuitisation of pension wealth. However, the exit would be subject to the overriding condition that the amount of pension wealth to be annuitised should be sufficient to yield a minimum amount of Rs. 1,000 per month may be revised from time to time."

Cost of New Pension System :

NPS is one of the low cost pension systems in the world. The cost structure is also very transparent and there is no hidden cost. Some costs like CRA charges, often criticised as high at the initial stage, however, the same would decline with the increase in number of accounts. The most significant is the fund management charges, which at present is 0.0009% (based on assets under management. Low cost means more amount for investment leading to higher accumulated wealth at the time of termination from the scheme. Various charges under NPS-Government Scheme, All Citizens Scheme and NPS Lite are shown in Table 7 & 8.

Tax Benefits : There are tax benefits for participating employees. Currently EET Tax is applicable for mandatory contribution to NPS.

8. NPS Architecture:

NPS is a well structured Defined Contribution Pension system with well defined system architecture having specified roles of various entities.

Pension Fund Regulatory and Development Authority (PFRDA) **:** The Pension Fund Regulatory and Development Authority (PFRDA) is entrusted the responsibility to regulate and develop the pension market in India. The roles and responsibility of PFRDA include carrying out regulatory changes, overseeing quality and provision of services of NPSCAN, CRA, PFs Trustee Banks etc.,

New Pension System (NPS) Trustee : NPS Trust has been set up for taking care of assets and funds under the NPS. Trust has been appointed by PFRDA. Trustee is responsible for taking care of Funds under NPS. The securities shall be purchased by the PF(s) on behalf of and in the name of Trustees and the Securities purchased by each PF shall be held in the Custodial Account of NPS Trust. However, Individual subscriber shall remain beneficial owner of these securities assets and funds. NPS Trust will appoint Trustee Bank, Custodian NPS Trust will hold an account with it. Trustee Bank would receive Funds from Govt. / NPSCAN and send to PFs, ASPs Trustee Bank.

Central Record Keeping Agency (CRA) : CRA would undertake Record Keeping, Administration and Customers service. National Securities Depository Ltd (NSDL) has been appointed as the CRA for the NPS. The main functions and responsibilities of CRA will include: Recordkeeping, Administration, and Customers Service function for all subscribers of the New Pension System. Issue of unique Permanent Retirement Account Number (PRAN) to each subscriber, maintaining a data base of all subscribers, and recording transaction relating to each subscriber.

Pension Fund Managers **:** In order to introduce competition and to provide wider choice to the subscribers, PFRDA has allowed multiple fund mangers. The subscriber will have a choice to select from multiple pension fund managers and multiple schemes. Pension Fund Managers will manage investment of Retirement Savings of NPS. There will be no implicit or explicit assurance of benefits except market based guarantee mechanism to be purchased by the subscriber. PFRDA has appointed three pension fund managers, namely LIC Pension Fund Ltd., SBI Pension Fund Ltd. and UTI Retirement Solutions Ltd. for managing funds of Central Govt. employees (who will also manage State Govt Funds. Further, PFRDA has appointed six fund managers to manage funds of all citizens (excluding Central and State Govt Fund), which was opened to the public from 1st May 2009.

Point of Presence (POPs) : PFRDA has appointed 22 POPs who will act as Collection Centre for NPS, will collect application forms from the subscribers (under All Citizens category) and send the same to the CRA**.**

Trustee Bank : The Trustee Bank will maintain the account of the Trustee and will receive credits from the government department or its agencies

and transmit the information to the CRA for reconciliation. The Trustee bank shall remit the funds to the Pension Fund Managers, Annuity Service Providers (ASP). NPS Trust has appointed Bank of India as the Trustee Bank

Custodian : The Custodian will provide Custodial Services to the Pension Funds, which will include among others to ensure that benefits due on the holdings are received, provide detailed reports to the PFs etc. NPS Trust has appointed Stock Holding Corporation of India Ltd as the custodian for the new pension system.

Annuity Service Providers (ASP) : The role of annuity service providers (ASPs) will be critical in the NPS, since they will offer annuity to the subscribers when members reach superannuation or withdraw pension assets. As per the provision there would be mandatory annuitization, and the members have to purchase annuity from ASPs. The ASPs will offer annuity products to the subscribers receive funds from CRA and pay regular monthly annuity.

NPS Lite Architecture : NPS Lite is based on same unbundled architecture as available for NPS. Only the subscriber interface role shall be performed by “Aggregators”. Aggregators are the intermediaries identified and approved by PFRDA. The aggregators perform the subscriber interface functions under NPS-Lite in respect of their constituent groups.

The *Aggregators* are responsible for collection of contribution amounts from the subscribers and uploading the contribution files into the CRA Lite system. The investment of the amount comprising of NPS-Lite subscriber will be done through an Aggregator level PRA in the main CRA system. Units allocated to this Aggregator Level PRA will be distributed across all the under lying subscribers in the ratio of their investments and the same (units) would then be credited to individual subscribers' (NPS – Lite) accounts. The subscriber under NPS Lite will have a common scheme preference and PFM as prescribed by PFRDA from time to time.

9. Role of Annuity Market in NPS :

Pension System, particularly the DC, has two distinct phases, i.e. accumulation and decumulation. Accumulation is the phase when employee/member accumulates savings and creates pension wealth for future. Decumulation is a payout phase. Under NPS, accumulation phase is managed by the fund manager approved by the Regulation, Pension Fund Regulatory and Development Authority (PFRDA). Decumulation phase will be managed by a Life Insurance Company approved by Insurance Regulatory & Development Authority (IRDA) – Indian Regulator of Insurance Industry.

Decumulation or Pay out under Defined Contribution pension system can be managed through various methods like Annuity, systematic or Lump sum withdrawals etc. However, most important and widely accepted method is Annuity. Most of the countries which have reformed their Pension System and introduced DC Pension opted for Annuitization. Annuitization, no doubt is a difficult institutional proposition but relatively more effective to provide retirement.

Income to a member, comparing to Lump sum or programme withdrawal. Most of the Latin American countries linked their Pension reform to mandatory Annuitisation.

India has introduced mandatory annuitisation in its New Pension System (NPS). According to the NPS Provision, a member will exit from NPS at age 60 (Retirement age in India). However she/he has to mandatorily spend at least 40% of his/her Pension wealth to purchase an annuity from a Life Insurance Company approved by the Insurance Regulatory and Development Authority (IRDA). In case she/he exit before the age 60 years , she/he has to 80% of accumulated assets to buy annuity policy. Effective implementation of mandatory annuitization will however, depend on a vibrant and dynamic life insurance market to supply appropriate annuity products. Annuitizatin will also need support of a Debt Capital Market to facilitate long term investment of pension assets like long term inflation linked bonds. Since the development of annuity market need the support of a vibrant life insurance market, let us examine the state of recent Life Insurance and annuity market in India.

Growth of Life Insurance business is influenced by several factors including rate of growth of GDP, financial savings, personal disposable income, availability of various alternative savings instruments, financial literacy etc. Further, segmented growth of Life Insurance business influenced by the State of Capital market (for Investment products like Unit Linked) Demographic profile like Ageing etc. (for Pension and Annuity Business).

Growth in Household savings in India has been the single most important contributor to Domestic Savings and its contribution steadily increased from 19.8% in 1999-00 to 23.8% in 2006-07. Though Indian household still prefer to put a large part of its savings in Bank Deposit (54.3% in 2006-07), Life Insurance Savings has been steadily increasing. The share of Life Fund in household financial assets increased from 11.8% in 1999 – 00 to 14.9% in 2006-07. In terms of GDP Life Fund, share went up from 1.5% to 2.8% during the same period.

It can be noted from the Table 9, that the, the share of P&GA Policies in total life Policies sold went up significantly from 6.84% in 2004-05 to 19.5% in 2007-08. Also most significant is the share of P&GA

in total premium income which went up from 15.03% in 2004-05 to 40.4% in during the same period, but in terms of Sum Assured it went up from 0.67% to only 1.1%. Indian Annuity market is relatively small, growing slowly but need to grow faster to support the growing demand of NPS.

Indian Pension Market is still very small compared with other countries having similar GDP Pension Assets in terms of GDP was only 5.3% in 2005 (OECD). However, available estimates indicate a significant growth in very near future. Since NPS will expand the coverage, survey of ADB and Ministry of Finance (India) in 2004, shows that 310 million workers in the unorganized sector are uncovered and 20 millions are able and willing to join NPS immediately. In addition to that all the new employees in Central and State Governments are to join NPS. This will expand scope of annuity market in India and provide a significant boost to annuity Business. Subscribers and spending of minimum 40% pension wealth to purchase annuity policy from Life Insurance Companies would support multifold increase in demand for annuity products in Indian Life Insurance market. But a natural question one would ask, Is the market ready to provide necessary products to the prospective buyers of annuity? Is Indian market innovative enough to supply annuity products that would create enough regular income to the Pensioners? Whether there are enough financial instruments in the Capital market that would enable the Life Insurance Companies to invest retirement funds to generate enough inflation adjusted income? The answer is probably 'No'.

10. Expected Impact of NPS :

Introduction of Funded Defined Contribution pension system will have a far reaching impact on Indian society and economy. NPS will not only extend the necessary pension coverage and retirement income to those who are at present do not have any access to formal social security/ pension, but will also provide significant growth momentum to Economy ,Financial and Life Insurance Market.

***Pension coverage* :** We have noted above that a large majority of workers; about 310 million are yet to be offered pension / social security cover. NPS will create an avenue to them for retirement savings .Moreover, it will spread financial literacy and induce the citizens to save for old age income through regular savings while they are earning.

***Savings, Investment and Growth** :* There is a very strong relationship between pension reforms, domestic Savings and Capital Markets. NPS would have far reaching impact on domestic savings, since a member of NPS need to contribute on continuous basis for a long time normally till the age of 60 years. This would boost up savings for long term investment and India is already in a high growth trajectory and enhanced domestic savings would support investment activities and macro economic growth. Research have indicated that Pension Reforms have boosted up GDP growth rate in Chile and other countries, induced domestic savings rate and significantly influenced the Capital market. Research has found that Pension Reforms through introduction of DC System affects the macro economic stability which in turn induced capital market stability and orderly growth.

Capital Markets: Pension Funds are very active Financial Intermediary. Pension reforms will increase the retirement assets, which are required to be invested in debt and capital market thus supporting the capital market activities. Intermediary role of Pension Funds also helped to modernize Capital Markets, financial innovation and Risk transfer and improve the System of Corporate Governance. Further the emerging Pension Industry will increase the demand for Long term financial instruments like Inflation Index bonds, Zero Coupon Bonds etc. which will lead to financial innovation. A well developed Pension market thus provides stability to macro economy and financial market.

Life insurance and Annuity Market: India has adopted the third option – Mandatory Annuitization. Under the NPS, it is mandatory that at least 40% of Pension wealth will invest in life Annuity at the time of superannuation. The Annuity Policy will be purchased from on of the Life Insurance Company approved by the Insurance Regulatory and Development Authority (IRDA), which will provide a boost to the Life insurance annuity business in India.

11. Some Areas of Concern :

New Pension System, as discussed above, is one of the low cost but highly technology led Defined Contribution Pension system in the world, which has opened the avenue for retirement savings, particularly for the informal and unorganised sector, which was hitherto beyond the purview of formal social security. NPS Regulator PFRDA has also put in place a well thought out regulatory mechanism, which is highly transparent and NPS Trust also designed a very sound system of monitoring and performance review of Fund Managers. However, certain structural and generic issues need to address for better performance of the system, some of them indicated below:-

Economic Environment : Pension funds are long term investors and therefore, encounter several stages of uncertainty and various dimensions of market and systemic risks. Instability in credit market, interest rate regime and price volatility induces funds management constraints which may adversely affect the long term performance of the pension funds. Inflation and interest risks are huge and frequent fluctuations in interest

rates as well as high inflationary environment is not conducive for growth of pension fund investments with a long term perspective. The stability of macro economic environment is therefore an essential pre-requisite for efficient functioning of pension funds.

Timing Risks : Timing risks basically arises due strictly stipulated annuitization timing. For example NPS mandated annuitization of at least 40% accumulated amount at the time of exit / retirement by an investors. However, market at that point of time may not be favourable and the price of annuity may be high resulting into lower regular income during the rest of the life of the annuitant. This may be called unfavourable entry time. The problems of timing can be tackled by introducing a flexible period in the system to invest in annuity. For example, instead of mandatory purchase of annuity at the time of retirement, an employee may be allowed to buy annuity within a given period according to her/his choice. If an employee retires at the age of 60, she / he may be allowed to purchase annuity from age 55-60, with staggered vesting age. Thus an employee can take advantages of market movement and purchase, required annuity at a price beneficial to her/him.

Under development of Annuity Market : Mandatory annuitization in the NPS indicates that at least 40% of accumulated money to be invested in Annuity and no mention has been made about the type of annuity to be purchased by the pension investors. However Indian annuity market is very narrow in terms products and market size. Life insurance companies, particularly LIC of India are the annuity provider in India. An analysis of the annuity indicates that none linked pension and annuity policies as a percentage of life assurance has significantly declined from 1.80% in 2004-05 to 1.58% in 2007-08. Though life assurance policies increased by about 20% during this period, annuity and pension policies increased only marginally by 0.7%. Moreover, most of the annuity products are Immediate or Deferred Annuity – the new generation products like Variable Annuity, Inflation Indexed Annuity, and Equity Linked Annuities are not there in India. Innovations in annuity products are therefore necessary to provide wider choice to the investors. It has been noted that tax benefits on retirement savings play an important role in annuity market. Jeevan Dhara, Jeevan Akshay plans etc. of LIC were highly successful basically due to favourable tax benefits and lost attraction when they were withdrawn. However, the present tax treatment is not very conducive for annuity investment.

A well Developed Capital Markets : *Equity market* in India is quite developed and market infrastructure is also quite sophisticated. But the market remains quite volatile due to non fundamental factors which induce investment risk. Shareholding pattern is also skewed in favour of promoters. Some study shows that on an average the promoters held 57.9% of total shares while non promoters held 42.10%. This concentration may contribute to share price. And that may not be in the interest of Pension fund investing.

Though equity market has grown faster and provide reasonable liquidity, the same can not be said about debt market, which lacks liquidity and depth and thus a constraint for long term investment and risk management. Mortality and Financial risks associated with pension and annuity business come in the way of the growth and development of annuity market. The major risk factors associated with annuity market are mortality risks, investment and reinvestment risks. Absence of required technical knowledge to investigate and forecasting mortality increases indirect financial risks, while lack of depth in developed debt market deter the life insurance companies to enter into annuity market. Since annuity covers annuitant for an unknown long period, asset liability matching becomes a critical factor for an annuity company. Unless there are financial instruments for investing funds to earn that guaranteed return, there will be Long term liability mismatch. There should be asset liability matching on long term debt instruments like Government Securities, which are normally absent in less developed capital markets. Moreover, there is also necessity to introduce long term instrument to minimize long term longevity risks. In developed financial markets, innovative financial instruments like Longevity Bonds. Inflation indexed bonds have been introduced to hedge mortality and long term financial risks.

India has also made unsuccessful experiment with Capital Index Bonds. Only such Capital Index Bond was issued in India in 1997 which, however fail to attract investors interest. The 6 per cent Capital Indexed Bond 2002 was issued for the first time on December 29, 1997. Subsequent to that issuance, there was no further issuance of CIB mainly due to lack of an enthusiastic response of market participants for the instrument, both in primary and secondary markets. The reasons for lacklustre response to the bonds are cited as the Bond only offered inflation hedging for the principal, while the coupons of the bond were left unprotected against inflation and complexities involved in pricing of the instrument. The Government has come with a proposal to introduce further capital index bonds with certain modification of the feature of the previous bond issued in 1997. Government of India on 24th MAY, 2004 placed on its website (www.finmin.nic.in) the proposed structure of Capital Indexed Bonds for comments/suggestions. It is expected that this bond would provide some support to fund managers and annuity providers.

Fund Management Professionalism : Pension industry in India is slowly emerging as a giant industry in financial services sector. Industry would

need highly qualified technically competent managers. In pension industry investment risk is transferred to the investors. However, it may be mentioned here that pension fund investment management is totally different from investment management in Mutual Funds and Life insurance. One invests in mutual fund from short to medium term primarily for growth. Losing money in mutual fund may not affect the post retirement. Similarly in Life insurance, there is a provision to pay at least Sum Assured, but in Pension Fund nothing except investment and return on investment is paid. It is therefore necessary to involve competent managers in the interest of the investors.

Regulatory Capacity Building : One of areas of concern for any reform is to build up requisite capacity to implement, monitor and supervise reforms, which call for experience and expertise at the regulatory organisation. Capacities building by inducting experts, research, study etc are required.

Financial Literacy : Though India is one Retirement Savings has not been developed well. India has maintained steady growth in Domestic Savings which has increased from 22.3% in 1999-00 to 34.8% in 2006-07. However share of savings in Provident and Pension Funds declined gradually over a period of time from 22.2 % in 1999-00 to 8.2% in 2007-08. Though savings in life insurance increased from 11.8% to 17.5%. However, annuity investment did not increase proportionately, which is a cause of concern. There are several reasons, the primary reason being the less awareness about the necessity of retirement savings. NCAER Survey of Indian Investors (2000-01) observed that Indian investors investing in Capital market instruments prefer Equity, Bonds Mutual Funds. The NCAER-Max-New York Life (2008) thrown further lights on Savings behaviour of Indian household It was observed that due to lack of social security system over 80 percent of Indian save -- and less than one fourth into financial instruments and two third of all savings kept in Liquid assets. About 83% of household save for emergency including marriages and social events, children education and gifting. Nearly 69% of households in India save for old age financial security. Therefore nearly 31% of household do not have any provision for old age financial savings. All these put immense responsibility on the NPS to educate the households about the necessity for old age savings through financial literacy programme and to offer suitable financial products to channelize savings into old age pension. In such an environment of low level of financial literacy, low level of awareness of retirement savings, it can be assume that we have yet to promote an active decision making environment, particularly in the unorganized sector for retirement investing.

Conclusion :

India is going to face an unprecedented socio economic challenges in the very near future due to *age explosion* and unless that is tackled through a well structured social security policy, the result may tears the social fabric and impede the growth momentum.NPS is a well thought out initiative but not a very well designed programme. In the present form, it may not solve the old age income problems. Leaving the fate of investors in the hands of fund managers may not safeguard the interest of investors. There is need for more involvement of the government. There is a necessity to introduce minimum pension and minimum return guarantee. To attract the investors the current model also required to be modified. Greater public participation and awareness are the urgency of time.

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Annexure

Table – 1: Most Populous Countries in 2008 and 2050

2008		2050	
Country	Population (Millions)	Country	Population (Millions)
China	1324.7	India	1755.2
India	1149.3	China	1437.0
United States	304.5	United States	438.2
Indonesia	239.9	Indonesia	343.1
Brazil	195.1	Pakistan	295.2
Pakistan	172.8	Nigeria	282.2
Nigeria	148.1	Brazil	259.8
Bangladesh	147.3	Bangladesh	215.1
Russia	141.9	Cong, Dem. Rep	189.3
Japan	127.7	Philippines	150.1

Source: 2008 World Population Data Sheet, Population Reference Bureau, http://www.prb.org/publications/datasheets/2008/2008wpds.aspx Prb.org

Table-2: Population Aged 60 years or Older

	India		China		World Total	
	2002	2050	2002	2050	2002	2050
Number (in 000)	81089	324316	143243	436980	628874	1963767
Percentage of total population 60 yrs. & above	8	21	10	30	10	21
Percentage of total population 80 years or Older	8	15	9	23	12	19
Potential Support Ratio	12	8	10	3	9	4
Life Expectancy at age 60	2000-05		2000-05		2000-05	
Men	17		16		17	
Women	18		20		20	

Source: Population Ageing -2000, United Nations, Population Division, Department of Economic and Social Affairs

Table -3: India –Selected health indicator :

	1981	1991	Current level
Crude Birth Rate)(Per 1000 population)	33.9	29.5	22.8 (2008)
Crude Death Rate (Per 1000 population	12.5	9.8	7.4 (2008)
Total Fertility Rate per woman	4.5	3.6	2.7 (2007)
Maternal Mortality Rate (Per 1000 lives)	NA	NA	254 (2004-06)
Infant Mortality Rate (Per 1000 live births) Child (0-4 years) Mortality Rate	110	80	53 (2008)
Per1000 children	41.2	26.5	16.0 (2007)
Life Expectancy at Birth	(1981-85)	(1989-93)	(2002-06)
Total	55.5	59.4	63.5
Male	55.4	59.0	62.6
Female	55.7	59.7	64.2

Source : Registrar General of India. (Our source: Economic Survey 2009-10, Govt of India)

Table 4: Old-age dependency ratio (per 1000) in India

Source	Rural	Urban	Combined
Census 1981	94	71	89
NSS 43rd round (1987)	111	88	103
Census 1991	123	96	118
NSS 50th round (1993-94)	108	90	104
NSS 52th round (1995-96	92	74	87

Source : "The Aged in India – A Socio Economic Profile" India NSS Fifty Second Round, (July 1995-June 1996), National Sample Survey Organisation, Department of Statistics, Ministry of Planning and Programme Implementation, Government of India.

Table 5: Per 1000 distribution of aged persons by state of economic independence.

Sex	State of economic independence			
	Not dependent on others	Partially dependent on others	Fully dependent on others	Total (include n.r.)
Rural				
Male	485 (511)	180 (162)	313 (327)	1000
Female	121 (88)	146 (137)	706 (775)	1000
Person	301 (340)	163 (152)	511 (508)	1000
Urban				
Male	515 (457)	169 (169)	297 (324)	1000
Female	115 (48)	110 (91)	757 (861)	1000
Person	311 (289)	139 (1372)	532 (574)	1000

Note :Figures in parentheses give the corresponding estimates obtained from NSS 42nd round (1986-87)

Source: "The Aged in India – A Socio Economic Profile" India NSS Fifty Second Round, (July 1995-June 1996), National Sample Survey Organisation, Department of Statistics, Ministry of Planning and Programme Implementation, Government of India

Table 6 : Combined Pension liabilities of Central & State Government

Year	Pension Liabilities	Tax Revenue	GDP at Current Price	Pension Liability as % of	
				Tax Revenue	GDP at factor cost
1990-91	5183.75	87723.28	569624	5.91	0.91
2000-01	38818.67	305320.24	2102314	12.71	1.851
2001-02	40321.2	314535.19	2278952	12.82	1.77
2002-03	43037.56	356638.23	2454561	12.07	1.75
2003-04	45226.76	414084.77	2754620	10.92	1.64
2004-05	55436.72	494370.1	3239224	11.21	1.71
2005-06	60871.14	587687.81	3706473	10.36	1.64
2006-07	69068.5	736707.71	4283979	9.38	1.61
2007-08	77634.2	870329.09	4947857	8.92	1.57
2008-09	97002.25	947659.91	5574449	10.24	1.74
2009-10	119385.75	996883.95	6231171	11.98	1.92

Source : Indian Public Finance Statistics 2009-10, Ministry of Finance, Department of Economic Affairs.

Table 7 : Schedule of Charges in NPS (Governments and All Citizens Scheme)

Intermediary	Charge head	Service charges*	Method of Deduction
Central Record Keeping Agency (CRA)	PRA opening charges	Rs. 50	Through cancellation of units
	Annual PRA Maintenance cost per account	Rs. 350	
	Charges per transaction	Rs. 10	
Point of Presence (POPO) (Max. Permissible charge for each subscriber)	Initial subscriber registration and contribution upload	Rs. 40	To be collected upfront
	Any subsequent transactgions	Rs. 20	
Trustee Bank	Per transaction emanating from a RBI location	Zero	Through NAV deduction
	Per transaction emanating from a RBI location	Rs. 15	
Custodian (On asset value in custody)	Asset Servicing charges	0.0075% p.a. for Electronic segment & 0.05% p.a. for Physical segment	Through NAV deduction
PFM Charges	Investment Management Fee	0.0075% p.a.	Through NAV deduction

Note : When the number of accounts in CRA reaches 10 lakh the service charges, exclusive of Service Tax and other taxes as applicable will be reduced to Rs. 280 (Rupees two hundred and eighty only) for annual PRA maintenance per account Rs. 6 (Rupees six only) for charges per transaction. Further, when the number of accounts in CRA reaches 30 lakh the service charges, exclusive of Service Tax and other taxes as applicable, will be reduced further to Rs. 250 (Rupees two hundred and fifty only) for annual PRA maintenance per account and Rs. 4 (Rupees four only) for charges per transaction.

Source : PFRA, *"New Pension System Offer Document"*

Table 8: Schedule of Charges in NPS Lite

Intermediary	Activity	Charges	Method of Deduction
Central Record Keeping Agency (CRA)	Account Opening Charges	Rs.35/- (Digitization will be carried out by CRA-FC)	Through cancellation of units from each subscriber pension account
	Annual Maintenance Charges	Rs.70/- per annum with 12 free subscriber contributions per financial year	
	Transaction Charges	Nil for first 12 transactions beyond 12 free subscriber contributions in each year	
Trustee Bank	Per transaction emanating from Non RBI location	Rs.15 (Trustee Bank, levies collection charges of Rs.15 per transaction for collection of funds, only at Non RBI Centres)	Through NAV deduction
Custodian (On asset value in custody)	Asset Servicing Charges	0.0075% p.a. for Electronic segment & 0.05% p.a. for Physical Segment	Through NAV deduction
PFM	Investment Management Fee	0.0009% p.a. (PFMs get a fee of Rs.90,000 for every Rs.1000 crores of corpus they manage	Through NAV deduction

Source : PFRDA, NPS Lite Offer Document.

Table 9: Pension and General Annuity Market in India

Sr.No.	Policies sold	2004-05	2005-06	2006-07	2007-08
1.	Pension & General Annuity	1792417	2116188	6760697	9924705
2.	Total Life Insurance	26187789	35440430	46128425	50848922
3.	% of (1) to (2)	6.84	5.97	14.66	19.5
	Premium (Rs. in Crore)				
4.	Pension & General Annuity	3150.71	13059.18	21935.96	31741.43
5.	Total Life Insurance	20962.07	30888.03	61468.5	78552.7
6.	% of (4) to (5)	15.03%	42.28%	34.05%	40.41%
	Sum Assured (Rs. Crore)				
7.	Pension & General Annuity	1582.69	594.79	1895.67	6265.17
8.	Total Life Insurance	236762.75	378270.95	485918.33	569759.05
9.	% of (4) to (5)	0.67	0.16	0.39%	1.1%

Source : Calculated by the author from data in IRDA Journal Vol IV, No. 9, August 2006, & IRDA Journal Vol VI. No. 7 June/July 2008. May not be actual but an approximation .
Rs 100 Crore = Rs 1 Billion

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