# Pension Funds as Financial Intermediaries: A Literature Review

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### Abstract

Pension funds have gradually become one of the biggest institutional investors the world over. Even as their role in moving or stabilizing the capital markets is widely understood and well documented, the role performed by pension funds as financial intermediaries is less recognized and rarely mentioned. This paper presents a literature review to look at various facets of financial intermediation performed by pension funds. In the process, paper also mentions some unique characteristics of such funds, such as being custodians of very long term funds, which differentiate pension funds from other intermediaries such as Banks. Paper concludes by observing that pension funds are expected to become very significant intermediaries going forward because of not only the economic factors such as increase in global wealth, but also the sociological factors such as ageing population and improving longevity.

## 1. Introduction

By the end of 1995, pension funds in Finland, the UK, Switzerland, and the Netherlands already had total investment corpuses exceeding GDP of the respective countries; in fact in the Netherlands, the pension funds' investments were twice as large as the GDP (Iorgova&Ong, 2008). In the US, share of investments by pension funds in domestic corporate equity rose from about 5% in 1966 to about 25% in 1995, outstripping any other class of institutional investors such as insurance companies or mutual funds (Allen &Santomero, 1998). As of 2013, assets held by pension funds in the US were about 83% of the GDP (OECD, 2014). Talking about all OECD countries, pension fund investments were 84.2% of GDP on a weighted average basis (OECD, 2014). Looking at India, an emerging economy, where pension funds are still in nascent stage and population at large is still unconcerned about old age social security, total investment corpus held by such funds have reachedRs 12 lakh croresin 2012, which would be about 11% of the then GDP (EY, 2013).

The preceding discussion clearly points out the role and significance of pension funds in overall accumulation and investment of domestic financial savings. As people around the world get more and more concerned about savings for their sunset years, pension funds are expected to get even more significant going forward. Another booster to such funds would be adoption of defined contribution schemes in many countries such as Chile, Peru, Sweden or even India[1]..

Despite the important role of financial intermediation performed by pension funds, they are scantily recognized as such.As pension funds collect their periodic contributions from households and as they keep on doing the same for years together, their role as financial intermediaries should have significant repercussions for capital formation and economic growth in a country. Through literature review, this paper advocates consideration of pension funds as valuable financial intermediaries and seeks to delve deeper into the aspect of financial intermediation done by the pension funds in an economy-how they facilitate channelization of financial savings of households, the fund-surplus units, to corporates and governments, the fund-deficit units.

## 2. Growth of Pension Funds

Pension funds have grown substantially in the past four decades majorly due to increased economic prosperity that nudges people to care more for their future and increased number of people covered under a pension fund scheme even as the number of schemes themselves hasincreased. Significantly positive increments in life expectancy the world over have also contributed to greater demand for pension products.

1 In India, all the government officials joining services after 01/01/2004 have been made a member of the New Pension Scheme (NPS), which is a defined contribution (DC) scheme offering benefits based on accumulated contributions and income earned thereon rather than a defined benefit (DB) scheme, which typically guarantees the benefits based on service length and last drawn salary

Moreover, incentives given by governments in form of tax concessions also have played a crucial role in increased popularity of pension plans (Pilbeam, 2005). Why increased economic prosperity should enhance the demand for pension products? One can put forth a proposition that savings for pension is a luxury good, and hence the income elasticity for this good would be greater than one. This explains why pension savings grow at a more rapid pace than the income itself. Apart from these attributes, pension savings in many countries have been made compulsory and social security contributions are deducted at the time of disbursements of salary itself (which can be termed as a modified version of the tax deducted at source (TDS)), which also plays a significant role in enhancing the overall fund size available with the pension funds. Yet another factor for popularity of pension funds is the portfolio diversification/professional fund management service offered by them at reasonable cost due to economies of scale achieved in their operation (Sellon, 1992). Proponents of pension plans say that provisioning of such schemes ends up increasing the net domestic financial savings (Munnel&Yohn, 1991).

A schematic representation of the arguments made above is given in the Annexure-1.

## 3. Intermediation by Pension Funds

Allen and Santomero, in their seminal paper, point out that the traditional roles performed by financial intermediaries on the basis of reduction of 'transaction costs' and 'information asymmetry' were passé, and intermediation was much more about risk management, risk transfer, and dealing with complex financial instruments in the present economic setup (Allen &Santomero, 1998). Hence, if viewed through the lens of traditional theory, pension funds may be asked whether they are really doing the role of intermediation as they hardly involve themselves in reducing the information asymmetry through repeated contacts and transactions with their depositors and borrowers as banks do, nor do they have any incentive to do so. But when viewed in terms of the broader definition suggested by Allen and Santomero, pension funds surely facilitate risk transfer by providing their members good opportunity to diversify among different asset classes; and also facilitate innovations in financial product development if not developing such products themselves. On the top of that, they certainly reduce transaction costs as they also function on the basis of pooling of resources and lending the same to needy borrowers as banks do.

Davis (2000) studied various intermediation roles performed by pension funds as per the criteria prescribed by Merton and Bodie (1995). As per his study, pension funds must be termed as financial intermediaries based on a number of attributes. First, they indirectly affect the "clearing and settlement of payments" in an economy for bringing in efficiency in the overall financial system in general and securities markets in particular as they are often counted among the largest institutional investors in capital markets. Second, they provide for "a mechanism for pooling of funds and subdivision of shares" as by collecting contribution from thousands and millions of depositors, pension funds are performing exactly thatfunction. Third, pension funds have "ways of transferring economic resources" across time, as they eventually deal with different phases of lives of members, and space, as they assist members by diversifying to include international securities in their portfolios. Fourth, they demonstrate "ways and means to manage uncertainty and control risk" by providing insured retirement income to households and also by diversifying while making investment decisions.Fifth, pension funds assist in "providing price information" by requiring companies to adhere to strict disclosure norms.Lastly, pension funds also "provide ways to deal with incentive problems" by having an edge over individual investors due to voting rights and professional competence[2]. As pension funds meet all the criteria put forth by Merton and Bodie (1995), they should be rightfully recognized as financial intermediaries.

Pension funds, however, possess unique characteristics and need to be considered separately from other recognized intermediaries such as banks and insurance companies.There are many aspects that are distinctive to intermediation by pension funds in an economy. As happens in case of other forms of intermediation, pension funds also collect their funds from households, but they have historically been less regulated than the traditional intermediaries such as banks (that

2 Agency problems could still arise when pension funds are involved as in case of any other intermediary because ownership and management are often dissociated and agency problems arise precisely due to this fact.

specialised in short term lending), insurance companies, or thrift institutions (that catered to home loans) and hence could invest more aggressively in stocks and could lend not only to satisfy short term needs of corporates by subscribing to their commercial papers but also invest in long term projects as they could hold long -maturity funds (Sellon, 1992). Developments in the US as mentioned before are testimony to this effect[3].

Another aspect of pension funds is long term horizon and very stringent terms and conditions regarding premature withdrawal. This aspect of 'extent of certainty' about non-withdrawal of funds has significant repercussion regarding the kind of investment avenues that could be explored and also regarding how asset-liability matching should be reached at. Banks, the most well-known financial intermediaries, have to be content with withdrawal by a depositor at his whims and fancy- in fact their term deposits could also be broken easily. On the other hand, banks cannot demand back their disbursed loans as and when they need the money back. This dichotomy in their operations keeps banks busy in money markets while trying to meet various prudential norms. Pension funds hardly have to worry on these counts. Once money flows into their coffers, they are assured that it will flow out only at a certain future point of time unless or until some very stringent conditions/eventualities (such as death of a subscriber) occur/take place. This gives the pension funds a great leeway in choosing their investments, but then this is why the subscribers expect much better returns from their pension fund managers than from their bankers.

## 4. Economic Aspects of Intermediation by Pension Funds

We may now discuss the economic impact of pension funds, both at macro level (i.e. national level) and micro level (a household, or an individual member of a pension fund).

### *I. Impact on National Savings*

As per Munnell and Yohn, if employees and employers both know about how pension provisioning would affect disbursements to employees in short vs. long term, pension benefits will be exactly offset by reduction in savings from current income (1991: 6). They argue that any diversion to pension benefits would enhance postretirement income for an employee, who, knowing fully well the implications will reduce his current saving to enjoy the same benefits he would have otherwise got if left to fend for himself (Munell & Yohn, 1991). This will result in no enhancement of national savings contrary to argument given earlier. This theoretical conclusion using idealized setup involving fully rational human-beings and applying the life-cycle hypothesis (which itself has been questioned on the basis that savers do save for inter-generational transfer of funds and not only for their own life-time consumption), however, could be questioned.

A study has been done by Sadhak (2004), wherein he has observed the savings rates, capital formation, and GDP growth rates in countries that undertook pension reforms. Such countries include Chile (1981), Peru (1993), Colombia (1994), Argentina (1994), Uruguay (1996), Mexico (1997), Bolivia (1997) in the Latin America, apart from Sweden (1998) in Europe, and Singapore and Malaysia in Asia[4]. The study found that the gross domestic savings in most of the Latin American Countries increased post pension reforms, though they declined afterwards, e.g., Chile that took reforms in 1981, had domestic savings at 20% of GDP in 1980, which increased to 28% in 1990 and to 29% in 1995 before declining to 23% in 1999[5]. Similarly, for Sweden, which had domestic savings at 19% of GDP in 1980, it increased to 22.4% of GDP in 1999 and further to 27.1 of GDP during 2010-14. For Singapore, the savings were at 38% of GDP in 1980, but increased to a very impressive 52.1% of GDP in 2010-14[6]. Evidences for gross domestic capital formation and the GDP growth rate are, however, mixed. Some LACs such as Chile or Mexico saw appreciable growth in capital formation and the GDP post pension reforms, while others such as Peru or Columbia did not notice the same. For Sweden, the effects have been positive,

3 The Indian pension funds market is still in nascent stage; hence studies done in advanced economies such as the US have been referred to more readily.

4 In Singapore and Malaysia, reforms have been gradual. India has also been included in the study, but the pension reforms were too recent to allow any significant effect on macroeconomic parameters in India.

5 As per the latest world bank estimates, Chile's domestic savings were 23.6% of GDP for the period 2010-2014.

6 Data taken from Sadhak, 2004 and the web-page of the World Bank; Singapore, at 37%, has one of the highest contribution rates for a social security scheme globally.

while for Singapore and Malaysia the results have been mixed. It would, however, be naïve to conclude that significant or noticeable changes took place or not due only to pension reforms. To check the overall effect, it would be better to control for other factors that could impact the macroeconomic factors (such as business cycles, rains, business environment, political milieu etc.) and then only to carry out the required regression to see the results. One must factor in the time variable in the equations as well because pension reforms are expected to impact the macroeconomic variables only with a lag.

### *II. Returns generated by pension funds*

Another problem could arise due to agency problem. Though the funds are collected from households (the principals) by pension funds, they are managed by professional fund managers (the agents), who may very often be a third party exacerbating the agency problem as such fund managers may not work in the best interest of original principals being so far away (Klumpes& McCrae, 1999). In fact Klumpes and McCrae cite Ippolito and Turner (1987) who studied the performance of pension fund managers with respect to the markets they were investing in and also compared the performance of pension fund managers with performance of equivalent mutual fund managers and found that that pension fund managers significantly underperformed both the benchmarks and mutual fund managers (1999: 262).One of the reasons cited in the paper is that even as pension trusts appoint reputed fund managers in order to discharge their fiduciary duty to their members, they are often naïve financially and cannot keep the required tab on performance of such fund managers, who can take benefit of information asymmetry arising in such circumstances (1999: 262).

### *III. Nature of Pension Fund*

There is another matter of differentiating defined benefit (DB) schemes from defined contribution (DC) schemes. As has been pointed out briefly, defined benefit schemes that were more popular early on depended on inter-generational transfer of savings through pay-as-you-go (PAYG) systems. Retirement income of the previous generation was generated by taxing the income of the present generation. However, most of the countries (including India) and indeed institutions such as the World Bank consider such schemes unsustainable. DB schemes were thought to overburden the exchequer, and promote unemployment. Moreover, they did not induce the long term savings behaviour, and hence could not contribute to development of the capital market and economic growth in a country (Sadhak, 2004). As against this, defined contribution schemes are always fully funded and individuals take on all the responsibility of their retirement by regularly contributing to a scheme, which would offer annuity income after retirement based on the corpus accumulated during the working age. Such schemes are expected to promote savings in individuals, unburden the exchequer and channelize such funds to productive usage in the economy[7]. However, defined contribution schemes have also been criticised for not taking care of unemployed, underemployed, and self-employed (Tuesta, 2011). Moreover, such schemes also transfer the burden of uncertainty[8] to the individual, who might be less capable than the state to deal with any eventuality.However, a significant benefit of the contributory pension schemes (i.e. defined contribution plans) is greater availability of individual savings for investments in domestic capital markets. As has been pointed out earlier, pension funds have become one of the largest institutional investors in capital markets in many developed countries-be it the stock markets or the debt segment. In OECD[9] countries, weighted

7 A parallel phenomenon had taken place in India with regard to pension provisioning for central government's employees. All civil servants who joined their service before 01/01/2004 were covered under a defined benefit system, wherein they did not contribute a penny to any scheme, but were guaranteed a life time pension (which would be payable to the spouse after death of a pensioner, however, at reduced rate), whose quantum was based on the length of service rendered and the amount of salary last drawn. This pension burden would be charged to the consolidated fund of the country, which is largely derived from present tax payers. This is also called as the pay-as-you-go system. Realising that the government would not be able to meet the ever increasing burden of pension provisioning going forward, all the civil servants joining service after 01/01/2004 have been made members of the new pension scheme (NPS), which is a defined contribution scheme. Individual officials contribute 10% of their basic salary to the fund every month; government provides the matching contribution. Based on the scheme chosen by an individual (various schemes are available with different combinations of investments in equity (E), corporate debt (C), and government bonds (G)), he will accumulate certain corpus at the age of his retirement. This corpus will then be used to buy an annuity from a listed life insurance company. Government, hence, will not be concerned about the quantum of pension a person is getting, its only burden is to keep on providing the matching contribution during the length of service of a government employee.

8 What if corpus is majorly invested in stocks and markets crash just as a person is approaching his retirement.

9 Organization for Economic Cooperation and development-a group of 21 most developed countries.

average investment in equities was 40.3% of their total investments, and pension funds in these countries invested over 70% of their total corpus in two assets classes- equities and bonds (OECD, 2014). Considering that pension funds in these economies had accumulated investments of $24.7 trillion (OECD, 2014), and considering the proportion of this corpus flowing to capital markets, such funds must be playing significant role in deepening and widening of domestic capital markets while also enhancing overall liquidity.

### *IV. Pension Funds as Conscience Keepers*

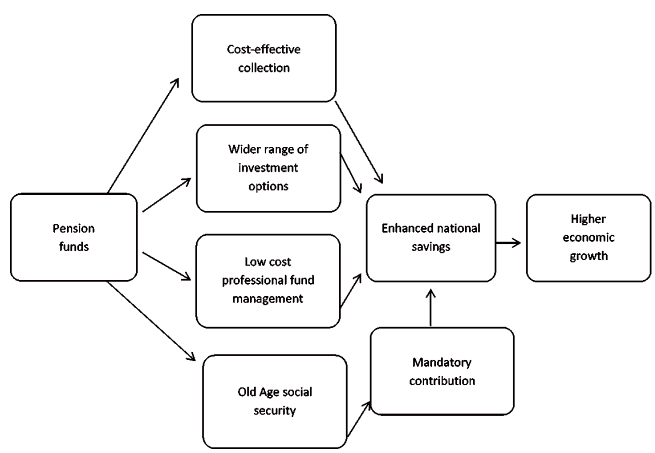
Many pension funds such as CalPERS[10] have been actively involved in investor activism and have tried to enforce high standards of social and human rights in such companies where they put in their money[11]. These investors i.e., pension funds have assisted in bettering the overall corporate governance standards. Pension funds also help in building the institutional capacity in the areas of fund management, offering innovativefinancial instruments, and prudent disclosure norms (Sadhak, 2004).

## 5. Conclusion

As per the discussion above, we can fairly conclude that pension funds have already become a significant financial intermediary in most of the developed economies. Even in emerging economies, they are destined to become significantly large intermediaries in not so distant future. Attributes such as assured contributions, long maturity periods, and relaxed regulation compared to other financial intermediaries such as banks or insurance companies; increasing economic prosperity; and ageing population coupled with increasing life expectancy place pension funds in a unique sweet spot. However, as noted earlier, many of the pension funds have underperformed the benchmark indices and have failed to protect the interest of their members- one recent case being that of filing of bankruptcy by Detroit in the US in 2014 because of inadequate funding of the defined benefit scheme run by the city administration. Pension funds assume a fiduciary responsibility by being trustees of old age related savings of their members and must work in the best interest of their subscribers; else any error might balloon into substantial socio-political problems[12] due to compounding of errors over long gestation periods.

There is also a need to test the effect of pension reforms in such countries that already have carried out such reforms. As of now, there are both proponents and opponents of the opinion that pension funds could affect macroeconomic indicators such as national savings, consumption, capital formation, and GDP growth rate positively. Not much of work has been done to empirically test the hypothesis that pension reforms should positively impact the parameters mentioned above. Researchers should try to fill this important research gap.

## Annexure-1




10 California Public Employees Retirement Scheme (CalPERS) is one of the biggest pension funds globally and is the biggest public pension fund in the US having a corpus of $299.6 billion as on 31/03/2015 (Source: CalPERS official website, accessed on 23/07/2015).

11 A related comment could be made about the Employees' Provident Fund Organization (EPFO) in India, which has an accumulated investment corpus of over $ 100 billion by the end of the FY 2014. EPFO has been exclusively investing in the debt segment and has helped in deepening this segment with some significance as one of the largest institutional investors in the segment. EPFO has, however, shunned investments in the stock markets, which, if allowed, could have provided much needed stability to the domestic stock market-to some extent at least. This appears going against the wind noticing the pattern largely adopted by pension funds across the world and considering that stocks have historically provided highest risk premiums over long horizons that match the liability schedules of such funds. In fact, investment by CalPERS in Indian currency dominated assets as on 30/06/2014 stood at $1.27 billion even as domestic pension and provident funds avoided investing in their own equities. EPFO has recently allowed investments in equities to the extent of 5% of the incremental funds and even though this money will be invested in index funds (passive investment), this augurs well for both the Indian capital markets and the members of EPFO.

12 As this paper was being written, on 16/06/2015, the talks between Greece and the IMF and other European lenders to Greece failed. In a televised address, the Greek Prime Minister put the blame on lenders for asking him to undertake austerity measures such as 'pension cuts' and 'tax increases'. This again underlines the sensitivity of issues related to pensions provisioning.

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