Optimal pension financing

Optimal financing of social security pension schemes

Yves Guérard
Secretary General
International Actuarial Association (IAA)
Canada

Optimal financing starts with a design that is financeable. As Design drives costs, it is a very important consideration in exploring optimal financing paths of social security schemes, which the Organizing Committee recognized by devoting the next session to this very topic i.e. *"Competing views of social security pension design and its impact on financing"*. Therefore to define the context in which we search for optimal financing paths but not pre-empt that discussion we refer only briefly to design considerations as they will be analyzed later in greater details.

Current financing decisions for social security schemes have to be made mainly in the context of reforming existing Pay-As-You-Go (PAYGO). Defined Benefits program or implementing new national programs where none exists. Most countries are expected to continue to face demographic aging due to increasing longevity and decreasing fertility. There are a few disaccording views regarding continuing increases in longevity. Some experts anticipate indeed slower mortality improvements due to growing rates of obesity particularly in the United States (US).[1] However in many countries and especially those with a substantial informal economic sector the impact of aging on national pension schemes may be significantly slower due to increases in labour force participation rates and gradual shifting of the informal workforce to the organized sector. One should anticipate that this phenomenon would affect women considerably more than men.

Aging is not a new development. It has long been recognized as a threat to social security as reflected in the following comments written a decade ago: *"Social security pension schemes around the world have been coming under increasing pressure as a result of a combination of factors, foremost amongst which is the expected demographic ageing of the population. In many countries the increasing demographic imbalance will be exacerbated by the maturing of the provisions of social security schemes which have been set up, or significantly improved, in the last 20 or 30 years."*[2] *The authors noted that "Consideration is given to the possibilities for increasing the level of funding in social security pension schemes or developing funded complementary pension schemes."*

[1] *Obesity: preventing and managing the global Epidemic*. WHO, 1998. See also *Toxic* by William Reymond, Flammarion 2007.

[2] Daykin, C.D. and Lewis, D. (1998). *A crisis of longer life – Reforming pension systems.* British Actuarial Journal 5, 55-114

The experience in various countries and the prevailing general consensus is that the increasing burden of higher old age dependency ratios should be shared by shifting part of it to the private sector and individuals through multi-layer approaches comprising complementary pension schemes. The regulatory framework and reporting rules are expected to continue to push employers towards DC rather than DB programs; individual savings are naturally generating DC benefits. This is seen by some as welcome diversification increasing the control that individuals have over their own destiny and choices of life style.

The counterpart is that it decreases the solidarity between individuals and successive cohorts by emphasizing individual accounts with no cross-subsidy and little concept of social protection. An expected consequence is that the state needs to compensate through more secure basic protection that will reduce the longevity and financial risks by providing DB type guarantees. Shifting part of the burden means that the state will limit its share to the provision of a minimum income set by relation to average income levels but not reflecting variations in individual income and standards of living.

Searching for optimal financing paths

Thus the context in which we will examine what is "optimal financing" for the public component of financial security in retirement, that is social security programs, is that of a basic level of protection guaranteeing lifetime defined benefits to participants and their beneficiaries, replacing a low fraction of pre-retirement average earned income. Even in this context there can be many definitions of "optimal ":

- fairness to participants, current workers, retirees, future generations;
- maximize pensions/costs ratios;
- minimize risks due to corruption, mismanagement, market losses;
- amount or security of pension expectations;
- social impacts such as redistribution or job creation;
- risks for development in a globally competitive economic; and,
- well-being of the society as a whole.

Neither funding nor PAYGO are perfect solutions in all cases and neither makes costs disappear. It should be noted that references to PAYGO and funding are simplifications since in practice minimum assets are maintained under PAYGO programs to smooth out variations and cover potential delays in appropriations while funded programs will often be only partially funded due to recent changes or adverse fluctuations in emerging experience. Thus financing paths vary in a range from low funding to high funding depending on the method selected to allocate costs over the years.

To fund or not to fund?

What is the optimal financing remains an open question: *"Some scholars hold that the unbalance has to be warded off by a courageous process of liberation from the "trap" of pay-as-you-go to arrive ultimately, if after a lengthy and costly transitional phase, at the safe haven of funded public retirement systems or private ones. Others question the curative powers of funding, while still others call for facing the demographic emergency by simply revising the parameters to make the traditional award and indexation rules less generous. The debate on the "virtues and vices" of the two types of pension plan and their ability to weather demographic cycles has not yet produced a victor, although the recent difficulties of the*

financial markets appear to have temporarily clipped the wings of the most ardent advocates of funding.[3] "

It used to be that the question about funding was limited to DB type promises since defined contributions went to individual accounts that were automatically funded. It has been long accepted that average retirement ages must also be increased to reflect better working conditions and cumulative gains in disability-free longevity. PAYGO DBs can be restructured using dynamic retirement ages that reflect continuing gains in longevity to mitigate the impact of population aging. But as the authors further explain, the choices have been expanded by a "genetic innovation", *the notionally funded or non-financial defined contribution programs* better known by their acronym NDC.[4] However it must be said that many actuaries consider NDCs as DB benefits of a type not dissimilar to occupational private pension career-indexed benefit formula or to the type of career averaging used for example by the Canada Pension Plan and many repartition systems based on adjusted values of units.

Funding requirements for private programs need not govern financing strategies of sovereign governments. Contrary to some expectations full funding does not result in more stable contributions but increases exposure to market volatility. PAYGO can be an optimal financing method to ensure the long term sustainability of the delivery of the benefit promises offering lower expenses and no exposure to inflation, market or mismatch risks. It can reduce management risks, increase equity, facilitate indexation and annuitization, and accelerate coverage. But proper reporting is required to enhance discipline and transparency.

The Implicit Pension Debt (IPD)

Funding is seen as a way to improve the balance sheet of a country by reducing the IPD. A recent International Monetary Fund (IMF) Working Paper[5] discusses the differential impact of financial debt and Implicit Pension Liabilities (IPD). In this paper pension "privatization" is defined as a social security reform characterized by the introduction of a defined contribution pension scheme that aims at correcting actuarial imbalances at the root of long-run solvency problems in pre-existing PAYGO defined-benefit public pension systems. It is typical of the wave of pension reforms in the 1990s when it was argued that issuing debt to cover imbalances just meant replacing implicit debt by "explicit" public debt. The IMF paper explores the effect of these pension reforms on country risk perceptions. The key finding is that rating agencies do not take into account IPD when assessing sovereign risk contrary to what is prevailing in the corporate world. The conclusion of the paper reads as follows:

> "*A clear policy implication of the paper is that a radical pension reform that aims at improving a sovereign's long-term solvency by reducing implicit pension liabilities could end up increasing the riskiness of the government's balance sheet in the short and medium term, thereby hurting the country's credit rating, unless fiscal adjustment keeps the explicit debt trajectory from deteriorating. There are two corollaries to this conclusion.*

[3] Sandro Gronchi and Sergio Nisticò, in Chapter 19, "Pension Reform: Issues and Prospects for Non-Financial Defined Contributions (NDC) Schemes"; edited by Robert Holzmann and Edward Palmer, World Bank 2006.

[4] Idem, p. 494: Retaining the PAYGO financial architecture, meaning that current pension expenditure is still financed by current contribution revenues, the new scheme switches over to the award formula and indexation rule typical of funded, defined contribution systems.

[5] Pension Privatization and Country Risk, August 2008, WP/08/195; Alfredo Cuevas, María González, Davide Lombardo and Arnoldo López-Marmolejo.

> *The first is that pension reforms require fiscal space to be implemented, to help compensate their transition costs in the short and medium terms. In support of pension privatization, the reforming government would be well advised to take policy actions to offset some or all of the transitional costs of the reform and their effects on the path of financial debt.*
>
> *The second is that when governments do not have room to implement the needed fiscal adjustment to offset the near- and medium-term cash costs of a pension privatization, it might be preferable to follow a gradual but decisive parametric approach to improve the sustainability to the PAYGO pension system before a transition to a fully-funded system might be undertaken."*

This opinion is confirmed by Nicholas Barr who concludes as follows:

> *Countries with large, unsustainable PAYGO systems have very little choice: the only solution is to make the PAYGO system sustainable, by reducing benefits, by increasing contributions or by a mix of the two. Since privatizing a PAYGO scheme is more expensive when it is bloated, making the scheme sustainable is essential whether or not policymakers wish aggressively to pursue a move towards private, funded arrangements.*[6]

We agree with these prudent recommendations and would add other conditions before a switch to a fully-funded system can be considered. The authors point out seven differences that may explain their findings:

- IPD is seen as a contingent liability whereas explicit financial debt is a firm commitment;
- IPD is a very long-dated liability, payable in the country own currency, positively correlated with the tax base;
- Financial debt has generally a shorter average maturity, is often denominated in foreign currency and may even be negatively correlated with the tax base;
- Financial debt is held by creditors on a voluntary basis, with relatively high rollover risks whereas social security contributions are mandatory;
- Government can and often do change the terms of PAYGO schemes whereas the terms of financial debt cannot be unilaterally modified;
- Under a Defined benefit PAYGO financed scheme, workers and retirees hold junior claims on the government whereas bondholders and creditors hold more senior claims; workers and retirees are like equity holders, subject to residual risk;
- The bonds held by pension fund managers are similar to those held by other investors thus a reform that kept the size of total obligations unchanged but transformed IPD into financial debt increases the riskiness of the government’s balance sheet and dilute the value of the financial claims already held by creditors.

Actuaries’ point of view

As an actuary I subscribe to a definition of professionalism that our profession sees as part of its mission which reads:

> *"Actuaries serve the public interest by adding value in terms of well-being for the society as a whole by reducing the adverse financial impact of risks and uncertainty while increasing fairness and security."*

[6] Reforming Pensions: Myths, Truths, and Policy Choices, Nicholas Barr, IMF Working Paper, August 2000, p. 49.

Thus we deem important when discussing public interest issues to contribute to enhance the capacity of the civil society and of the decision makers to make informed judgements by presenting a representative range of policy options with an explanation of the consequences especially for the longer term to counterbalance the natural tendency to focus on short term outcomes. However in addition to more neutral observations I will also offer some personal opinions or preferences that are not necessarily those of the IAA or its Social Security Committee.

Actuaries and economists agree that retiree's ownership of "*income generating assets*" is positive provided there is an adequate prudential environment. However for actuaries the important word is *income* as they focus on the pay-out phase while for many economists, it is *assets* as they focus on the accumulation phase. In general actuaries do not view pension funds, including social security, primarily as financial institutions that help develop capital markets and support economic development but more as a means to provide lifetime financial security during retirement. Security means protection against risks and volatility; for retirees peace of mind is also important. Thus mobilizing the *Law of large numbers* through pooling and risk sharing is beneficial especially for social security programs where the use of the coercive power of the state to mandate contributions, or collect taxes, is justified by the need for redistribution and the achievement of social objectives as opposed to the protection of individual equity and ownership of assets through allocated funding in individual accounts.

There is a general agreement that social security cash flows have an impact on fiscal and monetary policies, government budget equilibrium, sponsor solvency and competitivity of the domestic economy. Thus it is important to minimize potential distortions in the labour markets, favour mobility and portability. But while some will tend to see benefit promises as creating a pension debt to be liquidated by funding and focus on market value of assets, actuaries think of financing methods as ways to ensure the delivery of the promise. They watch the evolution of relevant critical ratios rather than focus on the comparative value of invested assets and liabilities as in the case of private programs.

Broader long-term sustainability

In our opinion, long-term sustainability, the continued capacity to sustain the benefits outflows, not the funded ratio or the level of the IPD, is the dominant concept when searching for an optimal financing path. Our concept of sustainability is broader than long-term fiscal sustainability as it considers not only the financial but also the real constraints that are the availability of goods and services that are needed by retirees therefore to the proportion of the output that in any given period must be diverted to support them. In his paper Barr explains that if the output of goods and services does not rise sufficiently, the resulting disequilibrium manifests itself in either of two ways:

> *(a) Suppose that pensioners seek power over future production by building up piles of money, for example, government bonds. In that case, desired pensioner consumption exceeds desired saving by workers. Excess demand in the good market causes price inflation, reducing the purchasing power of pensioners' annuities.*
>
> *(b) Suppose, instead, that pensioners seek power over future production by accumulating Non-money assets, for example, equities. In that case, pensioners' desired asset sales exceed desired asset purchases by workers. Excess supply in the*

> *assets market reduces asset prices, reducing pension accumulations and hence the resulting annuity.*[7]

Funded pensions and PAYGO schemes face similar problems for exactly the same reason: a shortage of output. The only difference is that *"with funding the process is less transparent and, for that reason, is perhaps preferable to politicians, who prefer bad news be seen to arise through market outcomes rather than political decision"*.

Except for a small domestic economy in favourable market conditions, importing the goods in significant proportion is not sustainable and importing the services is not a viable option either. The recent food shortage and the resulting rapid increases of prices should constitute a timely warning about the need to manage dependency ratios rather than pre-fund benefits.

Other non-fiscal concerns are the robustness of the administrative set-up to prevent leakage or evasion, corruption and political interference in the implementation. According to Barr, *"it is not possible to get the government out of the pensions business"*, thus the key variable is *"effective government"* and the difference between PAYGO and funding is of second order as both are *"simply different financial mechanisms for organizing claims on future output"*.[8]

We need to look more critically at the "politically correct" bias towards funding that rests on a variety of myths and disregards the centrality of output to the macroeconomic viability of pensions. Increasing the funding may result in delaying more essential reforms of the design which is the key cost driver.

Solvency versus sustainability

The IAA through its Social Security Committee has been critical of the Exposure draft No. 34 dated March 2008 recently released by the International Public Sector Accounting Standards Board which focuses on solvency at a given point of time as opposed to the more dynamic concept of sustainability. In developing this Exposure Draft the IPSASB considered "*Whether the financial position of governments would be faithfully represented by recognizing liabilities associated with expected future outflows for social programs, while at the same time not recognizing the future inflows of future tax revenue as an asset.*"[9] The IAA was more supportive of a companion document, a Project Brief also dated March 2008 entitled "Long-Term Fiscal Sustainability Reporting".

While recognizing that there is no globally accepted definition of fiscal sustainability and that the concept is sometimes coupled with the broad concept of inter-generational equity, the Project Brief states that "*At a very high level, long-term fiscal sustainability reporting involves an assessment of the extent to which service delivery can be maintained at existing levels, and the extent to which governmental obligations to citizens under existing legal frameworks, can be met from predicted inflows over a determined future period. The analysis of long-term fiscal sustainability therefore takes account of both current and future beneficiaries, regardless of whether governments have present obligations to them, determined in accordance with accrual accounting principles at the reporting date.*"[10]

---

[7] Nicholas Barr, idem, p. 9.

[8] Nicholas Barr, idem, p. 48.

[9] Consultation Paper, March 2008: Social Benefits: Issues in Recognition and Measurement. International Federation of Accountants, p. 4 [http://ifac.org].

[10] Project Brief, pp. 4-5, International Federation of Accountants [*http://ifac.org*].

We have not found a clear benchmark for the optimal ratio of liabilities to GDP; both will tend to be very large numbers that are hard to appreciate even in real terms, let alone in nominal terms. The measurement of liabilities entails significant uncertainties due to the long period over which parameters need to be forecasted, especially the discount rate. It is thus important to disclose clearly what are the key assumptions and point out that projections are not predictions but are estimates that need to be revised from time to time. Stochastic projections that make more explicit the probabilities of deviations are becoming more popular but in the meantime showing a reasonable range enhances the transparency. The percent of the GDP that must be appropriated to pay pensions as they fall due is easier to understand and compare with similar percentages applicable to health, education, defense, infrastructure or other strategic expenditures. Again as noted above when examining the Exposure Draft released by IPSASB[11] sustainability can be assessed by comparing the sustainable percentage with 100 % of the GDP, or other proxy, but assessing liabilities is a greater challenge since the multiple is open ended.

Similarly the lifetime retirement income and the replacement ratio are more transparent benchmarks than a capital accumulation or a virtual capital accumulation that can be seen as a virtual or actual liability. In many cases participants or retirees do not own that "capital" which they cannot assign, alienate or withdraw but are only beneficial owners of the rights to a given income.

Consistency with post-retirement health costs

There is also an issue of consistency. Many seem more concerned about funding future retirement income than funding future post-retirement health costs. My hypothesis is that two factors have contributed to this different attitude:

- the tax treatment of pension funding contributions which in many countries is based on a EET[12] approach has increased the interest in a funding approach;
- retirement income is generally related to pre-retirement income which varies over a wide range for individuals whereas there is a presumption that although there is a variations between individual actual health costs, all individuals are entitled to equal treatment thus it is not unfair to keep it as a collective responsibility with a more or less equal sharing of costs.

If the social security program is limited to a basic amount, sufficient to keep people above the poverty line but not related to individual life styles, then the future burden of social security becomes more comparable to the burden of health costs. Therefore the argument for consistency in a non-funding approach becomes stronger.

That leaves in both cases the issue of intergenerational equity which needs to be examined in a wider context than health and retirement income. Indeed each generation is passing to the next not only liabilities but assets in the form of infrastructure, equipments, technologies, education just to name a few. In general the implicit or explicit liability for a social program

[11] International Public Sector Accounting Standards Board, an independent standard-setting body within the International Federation of Accountants.

[12] EET is a short for Exempt, Exempt, Taxable which identifies a preferential tax treatment comprising the deductibility of contributions from taxable income, the deferred taxation of returns on invested pension assets and the taxation of benefits as income only when received. Note that the word "Exempt" is misleading since in fact the tax preference is only a deferment not an exemption although in some cases the tax payable on retirement income can be lower or even zero because post-retirement income is generally lower and progressive tax schedules include a basic exemption.

that offers only basic income and basic health services will be a small percentage of either the national assets or the national debt that is passed to the next generation, so better equity cannot be improved, except by chance, when considering only part of the reality.

Reporting basis and financing paths

An actuarial method can be a financing method or a reporting method or both. The choice of the financing method is a policy decision independent from the choice of the reporting method and vice-versa. Accounting and reporting for costs and liabilities using a fully funded actuarial method is clearly the best practice, matches expenses with the period of participation and is prescribed for the private sector under IAIS 19 and its equivalent for public sector entities. There are more variations regarding the financing paths but the financing methods do not change the costs of the programs, only allocates different amount of contributions to different years.

When benefit costs as reported in the financial statements are determined on a fully funded basis, they are independent of the financing path. It is important to note that under that prescribed reporting approach the interest charge on the unfunded liability – (calculated on some agreed basis such as the average yield on domestic government debt) – is reported as financial costs not program costs, which provides for transparency and better management information. It makes clear that money is not free: there are no miracles. Financing decisions can be driven by the comparison of the opportunity cost of capital with the clearly identified cost of servicing the pension obligations and by other considerations.

Operating the social security program sponsored by a sovereign government on a PAYGO basis as a non-funded plan but with accounting and reporting done on a fully funded basis is a practice followed in many countries known to implement good governance, transparent reporting and financial discipline.

Financing paths

Financing decisions are not constrained by a binary choice between full funding and PAYGO. There are many intermediate methods to accommodate different or changing circumstances.

Full funding

The pension obligation recognized under a full funding actuarial method corresponds to the discounted value of future benefits less future contributions in accordance with the selected cost method:

APV Future Benefits – APV Future Normal Contributions =

Current pension obligations = Required assets

where APV stands for Actuarial Present Value; assets can be real or virtual.

Target funding

Segregating the reporting from the financing opens intermediate policy options for a program to be on a funded, unfunded, partially or gradually funded financing path. The rule to determine Normal contributions can be a constant or variable annual percentage so that virtual or real assets are accumulated to reach in the long term a given multiple of the benefits

payable. A long period can be 75 years or more and the multiple chosen from half to 10 times or 25+ times the annual benefits.

Level financing alternative

A particularly attractive alternative target funding method exists which addresses more directly intergenerational equity. The Full Funding "Normal Cost" is replaced by the level annual percent charge that will finance the benefits in perpetuity and thus equalizes the burden between successive cohorts. This constant percentage charge may be calculated by reference to the GDP, aggregate payrolls, government budgets or other relevant proxy. The pension unfunded liability or the pension surplus under this method is the variable buffer that balances the value of future benefits with the value of future contributions. This method takes advantage of the unique characteristics of a sovereign government to justify recognizing a lower pension obligation:

- a normal expectation of indefinite duration;
- power to mandate contributions;
- full control of the fiscal and monetary policy;
- a debt rating that is the benchmark for the lowest financial risk in the country.

This method is referred to as the General Average Premium system (GAP) in a Joint technical publication of the International Labour Office (ILO) and the International Social Security Association (ISSA).[13] A variation of the method used by the Actuary of the Canada Pension Plan to determine the minimum contribution required to sustain the program as a level annual percent charge balanced over a 75 year period.

The recognized pension unfunded liability under that method, if any, would be much lower than the accrued liabilities that constitute the pension obligations under a fully funded method; it is more in the nature of a stabilization fund that evens out the fluctuations in the flow of payments.

"Real funding" or virtual funding?

Funding means different things in different context. There are various types of funding, as there are various ways to implement pay-as-you-go financing. The key choices are between:

- matching the pension obligations by virtual assets that are part of the Government debt, which is operating the program on a pure PAYGO basis;
- partially or fully funding the pension obligations in non-government market securities.

Many programs that appear funded are really operated on a PAYGO or partially PAYGO basis since the funding is in government debt instruments that need to be liquidated by collecting taxes from taxpayers when needed to pay the pension benefits. That means that the costs are deferred to future taxpayers as they are under PAYGO financing.

Real funding is investing in marketable securities freely traded in the open capital market and generating returns that need not be financed by future taxes. Virtual funding can be an entry for the pension obligations in the liability side of the balance sheet or the virtual assets matching the pension obligation can be made more explicit by converting it into IOUs or Government bonds. All of these variations in virtual funding can be considered equivalent to

[13] *Actuarial Mathematics of Social Security Pensions*, (Subramaniam Iver, 1999).

PAYGO. As part of the budgetary process, the US issues non-marketable bonds to cover part of the debt. This equivalence is well explained in a very authoritative Report of the United States General Accounting Office to the Congress dated February 1996:

"*Differences exist in the funding of federal government defined benefit plans. Most agency plans have trust funds to account for government and employee contributions, investments, and benefits paid. The agency trust funds, with one exception, invest in special issue Treasury securities, which are non-marketable. The Treasury must obtain the necessary money through tax receipts or borrowing to pay plan benefits to annuitants when those benefits are due. <u>This financing approach enables the federal government to defer obtaining the money until it is needed to pay the benefits.</u>*

The provisions for eliminating these unfunded liabilities will provide sufficient budget authority to cover the future benefit payments but will not reduce the federal government's liability for the benefit obligations because the plan assets are invested in special issue Treasury securities, as are assets of other federal trust funds. Because the plan assets are invested in this way, <u>whether this obligation is funded or unfunded has no effect on current budget outlays." (underlines added)</u>

Moving to real market assets

The selection of the financing method is a decision that can be adapted to changing circumstances in the demographic, financial markets or fiscal environment. Under a method other than full funding, the option to convert part of the virtual assets carried as Government obligations into external assets generating real returns remains available at all times on an opportunistic basis. A few countries have taken steps in that direction in order to mitigate the potential rise in future budget appropriations.

Of course the management of real assets entails more volatility, mismatch, mismanagement, leakage, misappropriation, political interference, moral hazards and corruption risks than virtual assets or debts! Investing in market assets supposes there is adequate market capacity, a prudential framework, adequate supervision and requires special qualifications and a decision-making structure to invest such funds at arm's length in an efficient and neutral way to avoid political interference in the markets in contradiction to a privatization policy.

The administration of the benefit side of a social security program that promises long term benefits is already a challenging task. Adding the management of market investments adds another dimension that requires another set of qualifications, a different organization structure as well as strong governance. The trend is to delegate the management of investments to a distinct entity.

Benefit administration	Asset management
• Transaction intensive	• Low transaction activity
• Lower risk operation	• High risk operations
• Control of quality of services to participants	• Requires strong organizational & governance structure
• Mostly clerical personnel	• Mostly professional personnel
• IT support for database maintenance	• IT support for online evaluation & transactions
• Some outsourcing to call centers	• Trend is to outsourcing totally or partially to professional managers
• Deals with individual members & beneficiaries	• No dealing with individual members & beneficiaries
• Regional & Local services	• No need for regional/local presence

An analysis of the average experience in 21 countries, some developed, some developing, shows that returns on publicly administered assets have been very low, averaging 1,8 % less than the average returns on bank deposits.[14] A better strategy is to concentrate retirement assets in funded complementary private plans.

In many countries it is doubtful that the prerequisite market conditions mentioned above can be met even in the medium term. The other constraint is the budgetary capacity to meet current pension obligations while pre-funding future pension obligations since transforming the IPD in financial debt is not neutral for the credit rating. For the foreseeable future, the demographic balance remains relatively favourable in many developing countries in particular and the public debt is likely to remain substantial, so a normal policy option would be first to reduce the national debt systematically rather than incur opportunity costs to fund differently a particular segment of that debt.

The combination of a Social Security Account and virtual assets in the audited Financial Statements of the Government allows doing at a lower cost as well as lower inflation and market risks what can be done with a distinct Pension Fund invested in market securities, while at the same time exposing the sponsor, the participants and their beneficiaries to less uncertainty.

Corruption Perception Index

It takes a strong governance structure to avoid mismanagement, misappropriation, leakage and to mitigate moral hazards. A Corruption Perceptions Index[15] is published annually by the Berlin-based organization Transparency International. The scores range from ten (squeaky clean) to zero (highly corrupt). According to the 2006 survey no country has obtained a perfect score but 8 are at 9.0 or above. Only 48 out of the 180 countries surveyed are ranked at 5.0 or above which is deemed the borderline figure below which there is a serious corruption problem. The other 132 countries thus have a serious corruption problem and 75 of them are below 3.0. Another 13 countries are not ranked at all for lack of reliable information.

Conclusion

The basic premise is that a national social security system exists to provide lifetime financial security throughout retirement to participants meeting qualifying conditions. Thus the primary objective is to ensure the sustainability of the program so that funds will be available when needed to meet pension payments falling due. Very little weight if any is given to secondary objectives like increasing the national savings or stimulating the financial markets. Such secondary objectives can easily work against sustainable financial security in retirement by making future retirees indirectly subsidizing incentives. The subsidy can be indirect in the form of a reduced amount payable to retirees or exposure to higher or unnecessary risks.

In many countries a common approach is to diversify the sources of retirement income thus reducing the risks for the retirees by limiting the public program to basic coverage while complementary private programs allow more flexibility in the aggregate amount of coverage reflecting individual preferences in life style in the pre and post-retirement period. This

[14] Robert Palacios in World Bank Conference on Public Pension Fund Management, September 2001.

[15] Transparency International Secretariat Otto-Suhr-Allee 97-99, 10585 Berlin, Germany *http://www.transparency.org.*

allows also for different financing paths to be selected. As the private sector must generally apply a full funding method, diversification calls for the public programs to follow a PAYGO or lower funding method thus not competing against private funds in the financial markets. Avoiding a high concentration of assets in public entities provides for more diversified decision centers making financial markets more competitive and allocating money for development on the basis of economic rather than political rationale. Experience in a number of countries indicates it has a better chance of generating more economic growth thus the capacity to produce more goods and services to be shared with more retirees.

The Law of Composition applies to economic functions of retirement schemes: for individuals it achieves a transfer of consumption over time but in aggregate it divides total production between workers and retirees. Pensions are a claim on future output: money is irrelevant unless the production is there for retirees to buy.

To enhance sustainability, increasing the retirement age is a better strategy than increasing the funding. It benefits not only the social security program but the whole economy including the sustainability of private plans. More funding should be considered as a way to enhance sustainability only when there is no better way to do it.

Ultimately when a country enjoys a sustainable program and has eliminated its national debt, instead of allocating available fiscal room to reduce the retirement age or increase the funding, it should increase the leisure time of the working population as a way to enhance sustainability: reducing the difference in life style between the retirees and the working population will enhance support for the program while increasing the quality of life of workers and their family, an outcome that contributes to the well being of the society as a whole!