



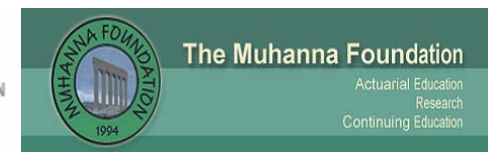
**Technical Seminar of the ISSA Technical Commission of
Statistical, Actuarial and Financial Studies
Limassol, Cyprus. – 30-31 October 2008**

Optimal financing of social security pension schemes

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The framework

- **“Benefit Design drives costs”**
 - Optimal financing starts with design that is financeable
 - it is the subject of the next session
- **The current context**
 - Increasing longevity, decreasing fertility impact dependency ratios and sustainability
 - Burden of providing retirement income need to be shared by private and public programs
 - New or reformed public programs target basic coverage: low replacement ratio based on average income
 - Complementary private programs look after preserving individual standards of living
- **For retirees peace of mind is part of security**
 - Use of state power of coercion is justified by wide redistribution and social objectives as opposed to individual equity and wealth generation
 - National scheme can mobilize Law of Large Numbers to mitigate risks and reduce uncertainty by pooling
 - DB formula offer longevity protection on guaranteed and stable income that mitigate risks in more volatile private DCs programs

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The message

- **Neither Funding or Paygo are perfect solutions in all cases and neither makes costs disappear: both are methods for allocating claims on future outputs between workers and retirees**
- **The Law of Composition applies to economic functions of a retirement scheme**
 - **For individuals: transfer consumption over time**
 - **In aggregate: divide total production between workers and retirees**
 - **Pensions are claims on future output: money is irrelevant unless the production is there for retirees to buy**
 - **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:**
 - **Retirement ages are key drivers of dependency ratios**
- **Fuller funding of social security**
 - **Does not solve the problem of providing retirement income security to an aging population; not the best way to increase savings and future output**
 - **Does not result in more stable contributions but increases exposure to market risks**
 - **May result in procrastination delaying essential reforms**
- **Funding requirements for private programs need not govern financing strategy of sovereign governments**

Optimal financing

- **Many criteria for the path and level of funding**
 - **Fairness? To whom?**
 - **Maximize pension/costs ratios**
 - **Minimize risks**
 - **Amount**
 - **Timing**
 - **Social impact**
 - **Well-being of society as a whole**
- **“Optimal” is subjective: what do you choose?**
- **Paygo can be an optimal financing method to ensure long term sustainability of the delivery of benefit promises**
 - **No inflation, markets or mismatch risks; lower expenses**
 - **Can reduce mismanagement risks, increase equity, facilitate indexation and annuitization, accelerate the coverage**
 - **Need proper reporting to enhance discipline and transparency; other conditions to be appropriate to the circumstances**

Actuarial perspective

- **To serve the public interest by adding to the well being of society as a whole by**
 - Reducing adverse financial impact of natural events or man-made disasters
 - Mobilizing actuarial tools to mitigate risks
 - Increasing fairness and security
- ***“Retirees ownership of income generating assets”* is positive for both actuaries and economists but emphasis on different words**
 - For actuaries: “income” for the pay-out phase
 - For economists: “assets” in the accumulation phase

Delivering on the promises

- **Financing methods are ways to ensure delivery but each presents different challenges**
- **Social Security cash flows have fiscal, monetary, budgetary, economic and labour market impacts; distortions need be minimized**
- **Ratios of assets to liabilities more important for private programs**
- **For social security, actuaries watch critical ratios like trends in longevity, participation, dependency, % of GDP, benefits/contributions, evasion and other advance warning signals**

To Fund or not to Fund?

- For some people funded programs are a *“safe haven after escape from the trap of paygo systems”* both for public and private schemes
- Others question the *“curative powers of funding”* rather than revising the parameters towards sustainability
- No victor yet in the debate of *“virtues and vices”* but recent difficulties in financial market *“clipped the wings of most ardent advocates of funding”* (this quote is from 2006!)
 - Many of the intrinsic virtues of paygo appear to have been underestimated
- The funding versus paygo debate no longer limited to DB schemes since the *“genetic innovation”* that put forward the concept of Non-financial Defined Contributions (NDC)
 - Many actuaries consider these schemes as DB wearing DC clothing since they are equivalent to career averaging or unit repartition formula

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Financial debt vs. IPD

- **IPD – Implicit Pension Debt/liabilities seen as weakening a country balance sheet**
- **However August 2008 IMF Working Paper indicates that rating agencies do not take IPD into account when assessing sovereign risks, contrary to private sector practice**
- **Thus converting IPD into Financial Debt (FD) could hurt rather than improve country's credit rating**
- **The different rating practices are based on real and perceived differences**

Differences between IPD and Financial Debt

- **IPD deemed a contingent liability, not a firm commitment**
- **Long dated, own currency, positively correlated with tax base; FD often not**
- **FD voluntarily held by creditors, high roll-over risks while mandatory contributions convey stability**
- **IPD can be unilaterally modified; FD not**
- **Bondholders and creditors hold senior claims; participants hold junior claims, equity like, subject to residual risks**
- **Reforms that keep total obligations unchanged but transform IPD into FD increase the riskiness of government balance sheet and dilute other financial claims value**

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Broader Long-term Sustainability

- **Concept includes fiscal sustainability and real constraints on the availability of goods and services**
- **“*Effective Government*”, also a key variable while Paygo or funding are “*simply different financial mechanisms for organizing claims on future output*”**
- **High dependency ratios cause a shortage of output in good or services that either**
 - **Reduces the purchasing power of pensions**
 - **Reduces the value of capital hence amount of pension payable**
- **Paygo and funded schemes face similar problems in case of shortage but perception is different:**
 - **If Funded seems a market outcome**
 - **If Paygo seems a political decision**
- **In most cases importing a significant proportion of goods and services not a sustainable option**
 - **Recent food shortages and price increases are a warning**
 - **Need to control the dependency ratio through adjusting the retirement age to reflect increasing longevity; more difficult to influence fertility and on a global basis immigration is zero sum.**

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Solvency vs. Sustainability

- **No globally accepted definition of fiscal sustainability or optimal ratio of liabilities to GDP or to country assets**
 - Often linked with intergenerational equity but focusing on pensions while neglecting other assets (infrastructures, equipments, etc..) and other liabilities (health, education, etc..) is a very biased measure of “equity”
- **Annual pensions as % of GDP easier to compare with similar % going to health, defense, education, infrastructure, etc...**
 - 100% is a clear benchmark while liabilities as multiple of GDP are open ended and the need for a discount rate assumption increases margin of error
- **Participants are beneficial owners of rights to an income not to a capital**
 - Replacement ratio of income more transparent than capital accumulation that generally retirees do not “own” nor control
- **Maybe health costs not traditionally capitalized because variations in value of protection is limited and deemed a basic right that is a collective responsibility? A national program offering limited basic protection is of the same nature and can be similarly financed**
 - Distortion linked to preferential tax treatment?
 - Fiscal cost often not properly taken into account

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Unlink Reporting & Financing

- **An actuarial method can be a financing method, a reporting method or both**
 - **The choices are independent and can be different**
 - **Financing paths do not change the costs, only allocate different contributions to different years**
- **For transparency and comparability, reporting and accounting on a fully funded method is a best practice that matches expenses with services rendered**
- **Financing paths are not a binary choice between Full funding and Paygo; there are intermediate methods to fit different circumstances**
 - **Level % financing stabilizes annual costs to be recognized as the minimum ensuring indefinite solvency**
 - **Targets directly intergenerational equity**
 - **Stability can be achieved through dynamic parameters rather than higher assets**

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Financing by sovereign governments

- **Best practice segregates financial cost of servicing prior pension obligations from value of current benefit accruals**
 - Segregating the cost of capital shows clearly that money is not free: no miracles!
 - Financing decisions can then factor in the opportunity cost of capital
- **Operating a basic social security program on a Paygo basis while reporting on a fully funded basis is a best practice that promotes**
 - Good governance,
 - Transparency,
 - Financial discipline,
 - Intergenerational equity
- **Reflects unique characteristics of sovereign governments**
 - Expectation of indefinite duration
 - Power to mandate contributions
 - Full control of fiscal and monetary policy
 - Debt rating that is the country benchmark for lowest financial risk

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Real funding vs. Virtual funding

- **Real funding is marketable securities freely traded in open capital markets and generating returns that will not be financed by future taxes**
- **Virtual funding can be**
 - **An entry in liability side of balance sheet**
 - **IOUs or Government bonds**

All of which can be deemed equivalent to Paygo
- **Public Implicit Pension Liabilities (IPD) are virtual assets that diversify risks of real assets in private programs**
- **Virtual assets can be converted into real assets as circumstances may change**

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Moving to real market assets

- **Managing real assets more expensive and entails more risks:**
 - **Volatility**
 - **Mismatch**
 - **Mismanagement**
 - **Leakage**
 - **Misappropriation**
 - **Political interference**
 - **Moral hazards**
 - **Corruption (Index ranks 132 out of 180 countries below 5.0 thus at serious risk)**
- **Administering the benefit side is already a big challenge; managing assets requires a different set of qualifications, different organizational structure and stronger governance**
 - **Trend is to delegate management of assets to distinct entity by still unpopular**
 - **Survey of average experience shows returns on publicly administered assets to be 1,8% below returns on bank deposits in same country**

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Conclusions

- **Primary objective of a national social security system is providing financial security throughout retirement**
 - **Thus focus should be on sustainability not on increasing savings or stimulating financial markets**
 - **Future retirees should not subsidize development incentives through reduced pensions or exposure to higher risks**
- **Diversification calls for avoiding concentrating assets in public entities and sharing the retirement burden with private sector where funding assets can be competitively managed for economic efficiency**
- **Increasing the retirement age to enhance sustainability is better strategy than throwing more money at the problem**
 - **Retirement can be modulated**
 - **More funding does not resolve shortages and should be a last resort**
- **If there is surplus capacity, think of increasing leisure time of workers to reduce the difference in life styles between retirees and workers**
 - **increasing the quality of life of the workers and their family will enhance support for the program, increase the security of promises to retirees and the well being of the society as a whole**

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