

# **Actuarial Valuation Methods and Assumptions: Experience from Developing Countries**

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# The historical development of social security in developing countries (DC)

- A Century ago: The first public pension schemes in Latin America
  - Fully funded (collective funding)
  - General Average Premium (GAP) financed
  - Non indexed benefits
  - No periodical actuarial valuations (even if provisions were indicated in the law)

# The historical development of social security in DC

- After the Second World War: Social security pension schemes as an instrument of social policy, but for the salaried workers and civil service only (Latin America)
  - Fully funded schemes, but in practice PAYG schemes with significant accumulation of reserves (used for other purposes)
  - The fiction of the Scaled Premium financial system

# The historical development of social security in DC

- The social security reform in the 90 's: The Latin American experience
  - Private pension schemes as the main pillar for old-age income security: Another fiction?
  - The good experiences: Costa Rica and Uruguay
  - How about the other countries?

## Actuarial valuations in DC

- Social security in other developing regions: Africa, Asia and the Pacific, the Caribbean
  - Provident Funds (PF), a good income replacement provider?
  - From PF to pension schemes: Modern approach with not so good practical experience
  - Pension reform: from PF to GAP, from partially funded to fully funded (individual accounts). What next? NDC seems to be a good way ahead.

## Actuarial valuations in DC

- First experiences in Latin America (1940 's, 1950 's and 1960 's): fully funded, GAP pension schemes
  - National economies in strong and continued development
  - Demographic growth, in particular fertility
  - Inflation under control

Therefore, « no need » for actuarial valuations (?)  
since there were no financial problems in view ...

## Actuarial valuations in DC

- First experiences in Latin America; Technical bases:
  - Mortality: Hunter Tropicalized mortality table
  - Invalidity: Italian 1937 table
  - Interest: 3% - 3.5% (inflation was not a problem)

## Actuarial valuations in DC

- But in the 1970 's and even more in the 1980 's, when pension systems started becoming mature and reserve funds were needed to pay benefits, but no funds were available, pension schemes switched to a sort of scaled premium system. And the same type of problems came back again ...
- Same old story ... (evasion, corruption, etc.)
- But how about actuarial valuations?

## Actuarial valuations in DC

- Actuarial valuations were conducted more or less periodically, to comply with the law.
- But measures to restore financial equilibrium were seldom adopted (also because current income > benefit expenditure)
- Technical bases, both demographic and financial, were and are sound and available, since statistics are permanently produced and optional financial systems (scaled premium, PAYG, fully funded options) are considered by actuaries when carrying out valuations

## Actuarial valuations in DC

- In other words, there were no major technical problems.
- Problems were of a different, political nature
- All Latin-American countries produce sound and reliable statistical data: demographic, financial and economic
- Not all pension schemes produce own ' experience data, but actuaries can rely on good estimates out of past or similar experiences from other countries

## Actuarial valuations in DC

- In Asian countries the situation is a sort of a mix between sound technically supported actuarial work and a somewhat improvised actuarial work or rely from external aid
- Some DC countries, like India or the Philippines, have a formal, sound actuarial tradition, based on a strong actuarial training and institutional professional work
- Other countries, like some Pacific islands, rely on technical advice from international organisations, like the ILO or the WB

## Actuarial valuations in DC

- In Africa the situation is different, depending upon the former colonial administrations
- In French-speaking Africa the actuarial work is not really relevant, pension schemes been a sort of a second priority for governments: family allowances and the « action sanitaire et sociale » being the focus of public authorities
- Pensions follow the French approach of « Répartition par points » schemes, a sort of NDC schemes

## Actuarial valuations in DC

- In English-speaking Africa the trend is to a formal actuarial work. Former PF have converted into pension schemes (as in the English-speaking Caribbean)
- Statistical data are neither good nor reliable; the ILO is quite active in this field and they use their demographic and social budget models to perform their actuarial valuations
- There is room for improvement and the trend is good

## Actuarial valuations in DC

- In the English-speaking Caribbean the situation is quite different and good
- Young small countries with young defined-benefit pension schemes
- Almost all countries produce reliable statistics and actuarial valuations are carried out regularly
- Like Latin-American, Asian and African countries, they will face an ageing population soon
- But their economies are more vulnerable

## Actuarial valuations in DC

- In sum, DC have a range of different situations according to their social security development
- The actuarial function is also different among countries: Most Latin-American countries, like some Asian countries, have a formal actuarial tradition
- Other DC have still to develop actuarial skills and a professional tradition to establish
- All this is for the benefit of their pension schemes

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