

2013 Convention

new solutions for a new world

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Sandton, Johannesburg

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OF SOUTH AFRICA



Case Study: Sensitivity of social security costs to proportions employed and the distribution of income across the population in a small African country

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Agenda

1. Circumstances
2. Funded portion: “cash balance plan with guaranteed conversion option”
3. Basic pension (PAYG) and its costs (together with the old age grant)
4. The practicality of using an automated balancing mechanism

Current situation

- Old age grant payable to all residents from age 60
- Occupational retirement funds cover some 150 000 people, half of whom are in public sector
- Between one third and half of the people are unemployed or work in the informal sector

Income and population distribution

Distribution (as adjusted by the author)		
Households grouped by the earnings level in the household	Percentage of the population that falls into this household group	Average earnings in group gross of tax
0 to 25%	33,5%	\$7 583
25% to 50%	27,4%	\$15 217
50% to 75%	21,7%	\$31 203
75% to 90%	11,1%	\$105 084
90% to 95%	3,2%	\$227 583
95% to 99%	2,2%	\$387 060
99% to 100%	0,9%	\$799 103

Reform

- Objective: 45% replacement ratio on retirement at age 60
- Old age grant (\$550 per month) meets this objective for members earning less than \$1222 per month
- Social solidarity required:
 - “Social protection element” financed by a contribution paid by all – largely redistributive – to replace the old age grant
 - Funded element from which occupational funds could be allowed to opt out subject to criteria (contribution rate, governance, costs)

Funded element

- Members unable to bear investment / annuitisation risks
- Movement in and out of formal sector = a “contribution driven” approach
- Recommended plan: “cash balance plan with guaranteed conversion terms”
- Risks similar to DB plan (from Government perspective) but to DC plan from member perspective

Old age grant → Basic pension

- Exclude people with incomes below \$1222 per month from contributing to social security
- How to prevent inequity around the \$1222 per month earnings level?
 - Someone earning slightly more must benefit from his social security contributions
- Solution:
 - Basic pension = old age grant and
 - No contribution on earnings below \$1222 per month

What would the basic pension cost?

- Simple model
 - Population grouped into 5 year age groups, all taken at midpoint of range, assuming the population income distribution
 - Projected 5 years at a time (with option to adjust the income distribution)
 - Ratio of children born to women between the ages of 15 and 45 deemed applies in future, multiplied by an adjustment to cater for changes in fertility
 - Projection from 2013 to 2093
- Evaluated cost of basic pension and old age grant

Base result

Cost expressed as a percentage of earnings in the formal sector:

	2018	2043	2068	2093
Cost of the old age grant	1,85%	1,27%	2,11%	2,67%
Cost of the basic pension	0,48%	2,42%	4,19%	5,31%
Total cost	2,33%	3,69%	6,30%	7,98%

Higher unemployment

If birth rates are higher, but the income distribution remains

the same, costs drop 2% in total in the long term

If birth rates remain high, and the proportion earning the

highest incomes remains the same, costs increase by

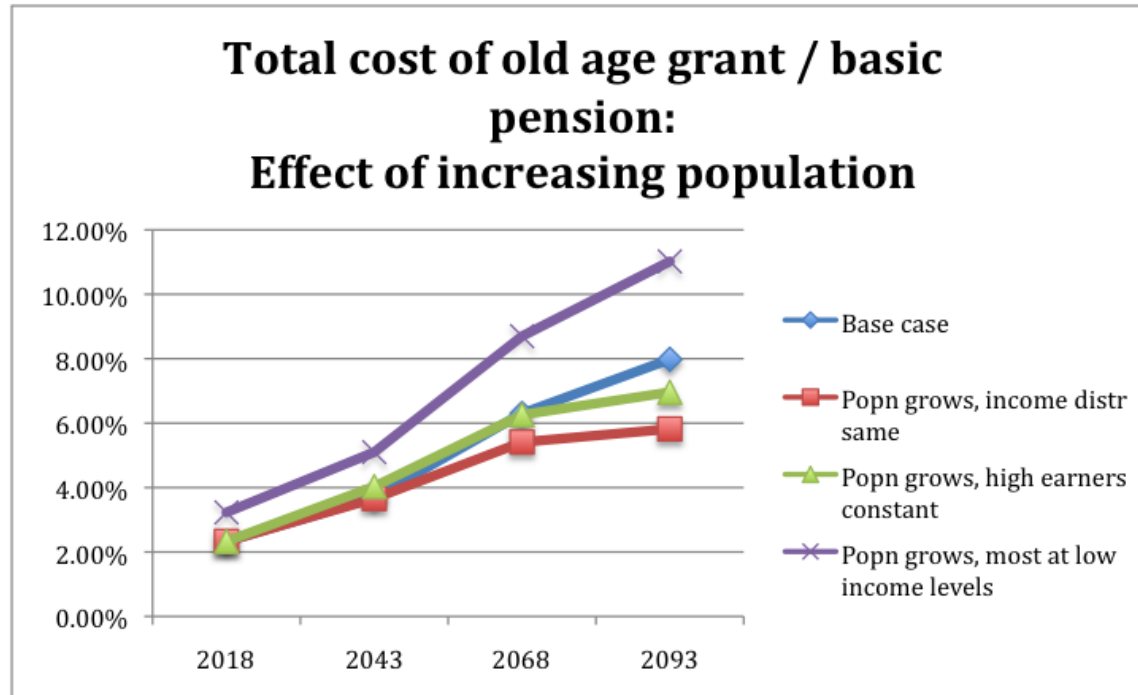
about 1% in total in the long term

Higher unemployment contd.

Earnings level by proportion of the population	Proportion in group in 2013	Proportion in group in 2093
Up to 25%	33,5%	46,9%
25% to 50%	27,4%	21,9%
50% to 75%	21,7%	17,3%
75% to 90%	11,1%	8,9%
90% to 95%	3,2%	2,5%
95% to 99%	2,2%	1,8%
99% to 100%	0,9%	0,7%

COSTS RISE BY APPROXIMATELY 3% IN THE LONG TERM

Effect of increasing population



Shift up the income distribution

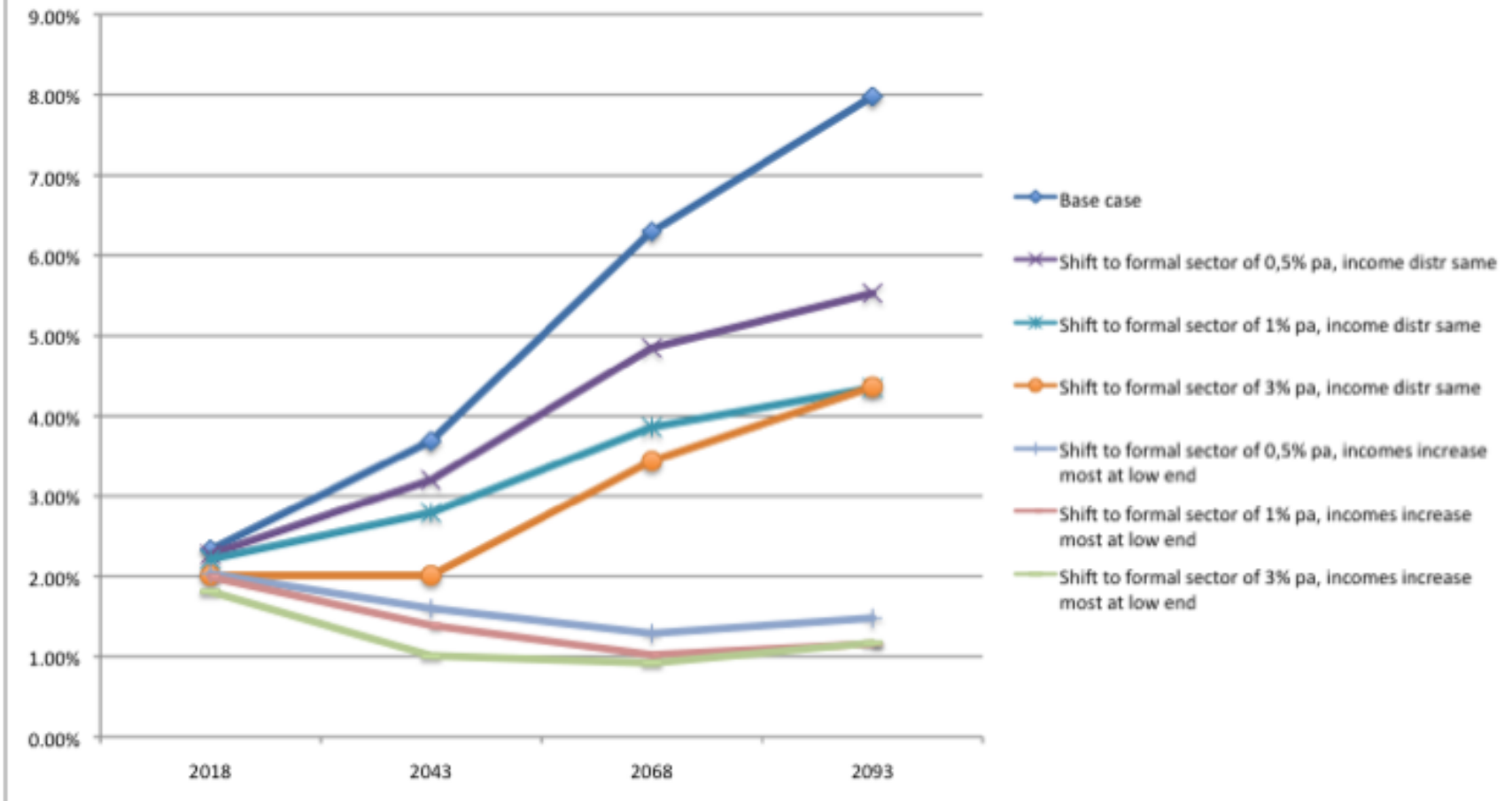
Earnings level by proportion of population	Proportion in the earnings group in 2013	Ultimate proportion of the population in earnings group
Up to 25%	33,5%	10,00%
25% to 50%	27,4%	37,00%
50% to 75%	21,7%	29,00%
75% to 90%	11,1%	15,00%
90% to 95%	3,2%	4,25%
95% to 99%	2,2%	3,00%
99% to 100%	0,9%	1,25%

Adjust the income distribution

Arbitrary adjustment to the income distribution			
Earnings level by proportion of population	Average earnings in 2013	Increase p.a. in real terms until 2068	Average earnings of group in 2068 in 2013 \$
Up to 25%	7 583	0,0%	7 583
25% to 50%	15 217	3,5%	100 936
50% to 75%	31 203	3,5%	206 974
75% to 90%	105 084	2,5%	408 648
90% to 95%	227 583	2,0%	676 315
95% to 99%	387 060	1,5%	877 830
99% to 100%	799 103	1,0%	1 381 269

Changing income distribution

Total cost of old age grant / basic pension:
Changing income distribution



Automated balancing mechanism

- Used in increasing range of countries to take the “politics” out of decisions on social security pensions
- Adjust benefit level (primarily increase) and / or contribution rate
- Recent paper shows range of adjustments up to 20%

Will such a mechanism suit this country?

- Changes are huge depending upon future economic progress of the country and changes in the income distribution
- Too wide a range to avoid the politics
- Rather set the level conservatively, and adjust as the economic progress develops

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Thank you

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