NATIONAL HEALTH INSURANCE FUNDING HOW MUCH DO WE KNOW? II - PROJECTIONS

This brief is the second of two. The first brief assesses the extent to which government thinking has progressed on the funding of the health system. This brief will consider the extent to which quantitative modelling can help us think about the system's future.

Introduction

It was pointed out that the policy on National Health Insurance contained no definitive statement on the NHI package of services, much less their cost. That would seem to rule out modelling. Nonetheless, some useful insights may be gained by looking ten years into the future, which takes us to the end of Phase 3 of the introduction of NHI. What follows is based in an annotated spreadsheet released simultaneously with this brief [1].

Analysis

Demography and economic growth

The United Nations population prospects (2017 version) estimates the South African population at 56 015 000 in 2016 and projects it to be 62 354 000 in 2026, an average annual growth rate of 1.08% per annum [2]. To this claim on South African health expenditure must be added the effect of aging: an older population needs more health care than a younger one. To assess the effect of aging, one needs an estimate of the relative claims of each age group on health care resources. The 2015/16 Council for Medical Schemes Annual Report for 2015/16 provides an age profile of average benefits paid out by the scheme. Combined with the United Nations estimates and projection of the age structure of the population, the age profile of benefits indicates that aging will impose an additional average cost of 0.74% per annum between 2015 and 2025, with little difference between the two sub-periods of five years each [3]. The consequence is that a real increase in health expenditure of 1.82% per annum is required just to keep the average standard of health case at the same level as it is at present.

Estimates and projections of the size and growth of gross domestic product are taken from the International Monetary Fund's April 2017 data base. The growth rate projections are lower than the Treasury projections over the next three years. The IMF's projections extend to 2022. After that it is assumed that the growth rate recovers to 3% by 2025 and remains at that level in 2026 [4]. On that basis the average annual growth rate between 2016 and 2026 is 2.16%. Assuming a constant share of GDP is spent on health, this means that the average standard of health care across all age groups would rise by no more than 3.4% over the ten year period.

The fiscal environment

The Budget Review for 2017 contains projections of government tax revenue (and its components: personal income tax, corporate tax, VAT and other taxes) and non-interest government expenditure. From 2020/21, the relationship between non-interest government expenditure and GDP is assumed constant. Personal income tax and other taxes are projected by Treasury to rise as a percentage of tax revenue, as they must, given that the corporate tax rate has to be set in relation to the international economic environment and that it is assumed to be politically impossible to raise the VAT rate. The ratio of tax revenue to GDP (IMF projection) rises over the next three years, while the ratio of government expenditure to GDP is projected flat for the next three years, and is assumed to be flat in the following years [5].

One can then focus on the public financing of the NHI. Table 7.1 [6] of the policy indicates the cost of NHI in 2025/26 at R 255.8 billion in 2010 prices, which translates into R 594.1 billion in current prices, or 6.9% of GDP. This projection looks decidedly odd in the context of the economy as a whole, given the comprehensive aims of the NHI. Moreover, Table 7.1 indicates a R71.9 billion funding shortfall if a 3.5% growth rate is assumed [7] and Table 7.3 indicates that this could be funded by a 2% payroll tax and a 2% personal income tax surcharge on taxable income, the route preferred by the policy. Along with the proposed withdrawal of the tax relief on medical aid contributions, these two taxes could

indeed raise R72 billion in 2010 prices. The only thing taken into the spreadsheet from the policy is the three sources of public financing of the NHI.

The Treasury projection coupled with the IMF GDP projection has personal income tax rising from 9.8% to 10.8% of GDP between 2016/17 and 2019/20. It is projected to rise more slowly thereafter. The implication is that the average personal income tax rate will rise from 21.7% in 2016/17 to 25.4% ten years later, without any additional revenue raised by the NHI. If one phases in a surcharge of 1% of taxable income and the removal of the medical aid scheme tax break, the average tax rate rises to 27.3% in 2026/27 [8].

Health expenditure

The Treasury has provided a business as usual projection of the components of public and private health care expenditure to 2019/20 [9] and it is presented in Table 7.2 of the policy. This (counterfactual) business as usual projection is extended out to 2026/27 [10].

The scene is now set for an analysis of medical aid members and non-insured populations on a business as usual basis [11] and one can also trace out the implications of maintaining the 2016/17 average level of service across the whole population [12]. As the earlier analysis indicated, this involves relatively little change in total health expenditure over the ten years. Note, however, that the implication of the Treasury's projection is that real expenditure per capita on health will drop between 2016/17 and 2019/20.

And finally …

Given that the scope and cost of NHI are indefinitely deferred signifiers, it is not possible to make a projection of it. We can, however, model an alternative, which we prefer, of leaving medical aid schemes alone and devoting new revenue streams (a 1.5% payroll tax, a 1% surcharge of taxable personal income and the removal of tax breaks for medical aid) entirely to the public health sector. This would permit an increase in the level of service in this sector by just over 30% over ten years, a not insignificant improvement during a period of slow growth [13]. It would permit improvements in the quality of existing services as well as permitting new services discussed in the policy. It would obviate major reorganization of the health system, the prospect of which fills us with dread. And it probably represents the outer limit of the attainable.

Charles Simkins
Head of Research
charles@hsf.org.za

Annexure - Tables from the NHI policy

Table 1: Projection of NHI costs adapted from Green Paper

		Average annual per cent real increase	Cost Projection R m (2010 prices)
Baseline public health budget: Projected NHI expenditure:	2010/11		109 769
	2015/16	4.1%	134 324
	2020/21	6.7%	185 370
	2025/26	6.7%	255 815
Funding shortfall in 2025/26 if baseline increases by:	2.0%		108 080
	3.5%		71 914
	5.0%		27 613

Source: National Treasury projection (2012)

Table 3: Alternative Tax scenarios in 2025/26 to fund a R71.9 billion (2010 prices) NHI funding shortfall

	Payroll tax	Surcharge on taxable income	Increase in value-added tax
Scenario A: Surcharge on taxable income, VAT increase and payroll tax	1.0%	1.0%	1.0%
Scenario B: Payroll tax and surcharge on taxable income	2.0%	2.0%	
Scenario C: Surcharge on taxable income and VAT increase		2.0%	1.5%
Scenario D: Payroll tax and VAT increase	2.0%		1.5%
Scenario E: Surcharge on taxable income		4.0%	

Note: Scenario B is the preferred option in the policy

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Notes:

[1] The spreadsheet is accessible here: https://drive.google.com/open?id=0BwhS90BjQV8DeDFFY2E3cGRoLWM

[2] Panel F of the spreadsheet

[3] Panel H of the spreadsheet

[4] Panel A of the spreadsheet

[5] Panel B of the spreadsheet

[6] Tables 7.1 and 7.3 are attached as an annexure to this brief. The information from Table 2 is incorporated into the accompanying spreadsheet

[7] R108.1 billion if the growth rate is 2%

[8] Panel C of the spreadsheet

[9] The assumption is fair enough given that Phase 2 of the NHI will not be completed by the end date

[10] Panel D of the spreadsheet

[11] Panel E of the spreadsheet

[12] Panel F of the spreadsheet

[13] Panel G of the spreadsheet