Commission for Financial Literacy and Retirement Income

Lifetime consumption smoothing

Introduction

This position paper discusses the lifetime consumption smoothing model which comes from the original work of the economist Franco Modigliani and proposes that at different stages of their lives, people tend to either save out of their earnings or run down those savings ("dis-save") in order to achieve a standard of living in retirement similar to the one they had while working. Simply put, the theory is that younger people incur debt and spend to build up their human capital and other assets. In middle age as incomes rise and debt is paid off, some consumption is sacrificed as surpluses are saved. In retirement, accumulated assets generate income or are used up ("decumulated") on top of New Zealand Superannuation (NZS) to enable the desired level of consumption of goods and services.

This view of consumption smoothing emphasises an individual perspective, but in some cultures a more collective approach is taken (Mayor, 2012) and there may be motives to bequeath wealth to the following generation (Modigliani, 1988)[1] or to "self-insure" against the costs of ill health (Coleman, 2012). There are also impacts for the national economy:

> *… the wealth level (and the average saving rate) of a society will depend not only on the saving rates of people in different stages of their lives, but the fraction of the society in each of these stages and the growth rate of the economy (Savings Working Group, 2011)*

In most developed countries, consumption accounts for over two-thirds of GDP. In these countries a rising fraction of the population is approaching or past retirement age. The way consumers respond to retirement and the way they spend in their old age is thus a topic of great interest in the analysis of aggregate economic fluctuations and in the economic policy debate (Battistin, Brugiavini et al., 2009).

Most countries have adopted pension policies that are explicitly designed to help people smooth lifetime consumption, i.e. tier two policies that require savings contributions from people while they are of working age and provide retirement benefits linked to contributions. New Zealand is very unusual with its reliance on tier one only – albeit now with KiwiSaver in the mix[2].

History

The short-lived 1975 New Zealand Superannuation Scheme (NZSS) was a compulsory contributory saving scheme intended as a top-up arrangement on the universal superannuation benefit which had been funded from taxes since 1938. This 1975 combination

[1] See position paper on "Intergenerational equity (cohort self-funding)".
[2] See position paper on "Income support".

of "Save as you go" (SAYGO) and "Pay as you go" (PAYGO)[3] was replaced by a purely PAYGO system which paid retired couples an income equivalent to 80% of the average wage. This scheme quickly became unaffordable and one response was to reduce the couple's rate to 65% of the average wage (the actual rate of New Zealand Superannuation is currently at 66% for a married couple, with a single person living alone getting 65% of the married rate)[4] .

New Zealand Superannuation has thus provided a high degree of consumption smoothing for those on low incomes, without a requirement for earlier personal saving. However, the main focus of Government pensions' policy has historically been on income support or poverty alleviation rather than individual earnings replacement, which is essentially what consumption smoothing is about (Hurnard, 2012).

New Zealanders have also always been free to top-up their retirement income from their own savings and many have availed themselves of private superannuation schemes as would be expected within the consumption smoothing model. For a long time, superannuation savings were tax advantaged but these special arrangements were removed in the late 1980s[5]. There is now tax neutrality between different forms of saving although one commentator argues that New Zealand has "one of the most aggressive tax regimes on retirement savings in the OECD" (Coleman, 2012). The favoured treatment of home ownership, together with tax free capital gains, could be seen as another way in which people have been encouraged to accumulate assets which confer great benefits in retirement – such as those that arise from the rental value of owner occupied housing (Hurnard, 2012).

Mandatory tier two schemes have not fared well in New Zealand. In 1997, two decades after the demise of NZSS, a referendum on the introduction of a compulsory retirement savings scheme saw the proposal soundly defeated.

A voluntary approach has fared better, with the establishment of KiwiSaver in 2007 along with the return of Government incentives for private retirement saving. As KiwiSaver exceeds a membership rate of 50% of the eligible population[6], it may have a role in "locking in" consumption smoothing by encouraging widespread and systematic saving for retirement[7]. There is a question as to whether "encouragement" should be strengthened to "compulsion" but on balance, a system of voluntary savings is favoured (see position paper number one).

[3] See position paper on "Income support".
[4] A single person sharing accommodation receives 60% of the married rate.
[5] In Australia, contributions to the Superannuation Guarantee scheme are taxed at the preferential rate of 15%.
[6] See http://www.ird.govt.nz/aboutir/reports/research/report-ks/
[7] It is a moot point the extent to which these are additional to amounts that would have been saved anyway. Law, Meehan and Scobie (2011) found that only about one third of the contributions that members make to their KiwiSaver account represent additional savings.

How sound is the model?

On the surface, the income smoothing model seems logical, but it has its challengers (Wisman, 2009). The kinds of attitudes and behaviours required for it to work may be strongly influenced by personal, cultural and economic factors. For example, innate personality traits may affect the "deferred gratification" required to forgo consumption today in favour of consumption sometime in the future[8]. People's preferences for the present over the future[9] may also be affected by their individual needs, personality, cohort or cultural beliefs such as the need to demonstrate status or an expectation of upward social mobility leading to greater future income. In short, the theory of how rational individuals would behave is not often borne out by actual consumption smoothing behaviour. Hence the public policy interest in financial education, compulsion or incentives, annuitisation etc.

It is also easier to save out of increases in income, whereas if income is insufficient and static (or even declining) saving may not be possible. Increased rates of saving can therefore be correlated with economic growth (Modigliani and Shi Larry, 2004; Coleman, 2006) although even as the U.S. economy has grown, American's savings rates have plummeted. Wisman (2009) argues that increasing inequality has contributed to this outcome:

In a society in which individuals generally feel responsible for their own status and struggle to demonstrate status through consumption, this substantial increase in inequality might be expected to prompt households to potentially respond in three manners: people might consume more, forcing them to save less; they might become more indebted to enable greater consumption; and they might increase the hours they work to enable them to increase their consumption levels. Evidence indicates that U.S. households have done all three.

This is another example of how retirement income policy is inseparable from wider systems. Some of the dynamics described by Wisman may be at work in New Zealand, although the evidence on our savings rates is mixed (Scobie, Gibson et al., 2004; Le, Scobie et al., 2007; Le, Scobie et al., 2007; Scobie and Henderson, 2009; Savings Working Group, 2011). Whatever the base level however, there is evidence that New Zealanders' savings habits have recently been improving rather than worsening[10].

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[8] Of the "big five" personality traits, *conscientiousness* is the best predictor of lifetime earnings, annual earnings, and length of stay in the labour market and how long you stay in the labour market overall (Duckworth and Weir, 2010).

[9] Economists describe this preference in terms of a "discount rate" which indicates how an individual values an amount of money received today compared to the future. For example, when a sample of older Australians were asked the following question: *"if you had a choice between receiving $10,000 now, or a greater amount of money one year from now, what is the minimum amount you would need to receive in one year in order for you to choose this option instead of $10,000 now?"*. The median response was $15,000 – a discount rate of 50 percent – compared to the 5 or 6 percent offered in financial markets. There are a number of possible explanations for this excessively large discount rate, but it suggests an extreme preference for immediate funds over future funds (Higgins and Roberts, 2012).

[10] See http://reservebank.govt.nz/keygraphs/Fig5.html

Consumption smoothing in New Zealand

The Savings Working Group (2011) notes that New Zealand does not have particularly good estimates of saving rates by age but Coleman (2006) showed that New Zealanders' lifetime patterns of saving had been roughly consistent with the consumption smoothing model – i.e. there was a "hump" in savings in middle age. However, Coleman also showed that average incomes for younger cohorts (especially males) have hardly grown over recent decades. Increasing health costs and tax policies also make private saving difficult. Thus classical consumption smoothing may not be an affordable option for those on lower incomes, but New Zealand Superannuation still enables them to maintain their standard of living through into retirement (Scobie, Gibson et al., 2004; Le, Scobie et al., 2007). Indeed, as long as New Zealand Superannuation remains at current rates, it is rational for lower income people to maximise consumption during their working lives[11]. On the other hand, universal entitlement to NZS incentivises top-up saving among those who can do so. Means testing of NZS would provide an opposite incentive; for medium income groups to dis-save prior to retirement.

An approach that could allow individuals to more closely match their retirement incomes to their pre-retirement levels of earnings would be to allow each person to decide when to start receiving NZS, with a larger payment offered to those who choose to delay. Higher income earners might prefer this option – i.e. it is likely to favour those who are financially better off. The impact of this flexible approach on the fiscal cost of NZS is also unclear, and needs further investigation.

As noted above, borrowing to buy a home can be seen as one way of forcing consumption smoothing, because a portion of income is diverted away from current consumption into saving for a deposit and then to repaying the mortgage. The payoff from a mortgage-free home in retirement is the ability to use income for non-housing-related consumption. Unfortunately, this avenue is narrowing, as rates of home ownership have decreased in the last two decades and continue to do so (New Zealand Productivity Commission, 2012: 38).

The idea of consumption smoothing lies behind many superannuation saving schemes where the objective at retirement is to convert an individual's accumulated savings into an annuity that is a fairly high proportion of the original level of income. At present there is a gap in policy and a virtual dearth of product for annuitising retirement balances (St John, 2006) and this is an area that will need to be addressed in the near future[12]:

> *The [consumption smoothing] model assumes that households run down their assets and dis-save in retirement. Nonetheless, the ease with which households can do this depends on the institutional arrangements of the society in which they live. Without proper institutions, it can be very difficult for a person to know how to run down their assets appropriately in retirement in the face of uncertainty about how long they have*

[11] An argument against making membership of KiwiSaver compulsory; see position paper on "Voluntary savings".

[12] See position paper on "Longevity risk pooling".

left to live, their future health status, and the return they will earn on their assets (Coleman, 2006).

Within an appropriate institutional framework, successful consumption smoothing throughout life also requires high levels of financial literacy encompassing attitudes, knowledge and skills. But saving is only half the story. Financial literacy can be seen to also encompass the skills of maximising income through entrepreneurship, business creation and investment. Ultimately, it is economic growth that will ensure the maintenance of individual and collective living standards for New Zealanders at all ages.

Conclusion

New Zealand Superannuation facilitates a degree of consumption smoothing for all older New Zealanders, particularly those on lower incomes. Additional smoothing is still important, but not always feasible due to a range of personal and economic factors – including a lack of surplus income available for saving. A focus on consumption smoothing therefore needs to be complemented by a social safety net for people who have been unable to save enough to support themselves in old age. It is likely there will be a continual debate in New Zealand as to where the balance should lie between public, tier one provision and tier two – and whether or not the second tier should remain voluntary or become compulsory.

The adequacy of retirement income will also be impacted on by the affordability of housing and policies aimed at boosting incomes through development of human capital, social mobility and economic growth. Finally, financial education should encourage consumption smoothing through the life course because of its potential for payoffs to individuals, families and the wider economy.

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