Background paper

for the

Commission for Financial Literacy and Retirement Income

The financial system post the GFC:

roles, regulation and responsibilities

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Skepticism has grown about the role of finance in the economic system, and especially its apparent separation from, if not conflict with, the real economy. We should take stock of what has gone wrong, and in so doing reflect on the way forward, as it is already taking shape, as well as, perhaps, on how to better link our theories to real world developments.

Ignazio Visco, Governor of the Bank of Italy, 5 March 2013.

The financial system post the Global Financial Crisis: roles, regulation and responsibilities

Summary of key points

- The core role of the financial system is to mobilise savings and to allocate those to investment. How well it does this has a significant bearing on a country's economic performance. That, in turn, is an important element of the context within which issues relating to the financing of retirement incomes have to be addressed, not least the share of national income that is transferred to cohorts in retirement through the tax and welfare system.

- Nested within the financial system's overall role in intermediating saving to investment is an important role in enabling exchanges of capital between cohorts at different stages of their life cycles. This enables people to smooth their standard of living over their lifetimes: to borrow when younger, accumulate capital during their years of paid employment, and to draw on the income from that capital, and the capital itself, in retirement.

- Financial contracts, more than most, are subject to an information asymmetry problem, arising from lenders/investors being at an information disadvantage relative to borrowers. Overcoming this problem, which is necessary for the system to work, calls for a well-crafted combination of disclosure requirements and professional standards for financial service providers; financially literate and effective due diligence by users of financial services; and regulatory standards that back-stop the system.

- The global financial crisis exposed major weaknesses in all of the above - weaknesses that developed during the previous two to three decades of benign economic and financial conditions. The era running up to the GFC was one in which perceptions of risk faded, innovation was rapid, professional standards fell away, and financial regulation was 'light-handed'. To a significant extent, the resulting rapid, and what proved to be excessive, financial expansion showed up as a bubble in asset markets, and in particular in housing markets.

- That was less the case in New Zealand (and Australia) than in the major developed economies (in Europe and the US), with less market innovation and, on the whole, arguably less erosion of professional and regulatory standards. The relative recency of the post-1987 episode of serious financial stress in New Zealand and Australia may help to explain why the Australasian financial system performed comparatively well.

- New Zealand nonetheless still experienced a major bout of house price inflation, financed by rapid expansion in home lending. Also, there was systemic failure in the finance company sector. The latter has many parallels with what occurred in other countries' banking systems (laxities in market due diligence, in professional standards, and in regulation).

- But unlike in other countries, the housing market has not collapsed. Most of the lending was to established homeowners, with established sources of income, who traded- and leveraged-up; there was very little 'sub-prime' lending (except by finance companies for property development).

- Which raises questions about the implications of inflated house prices for future retirement incomes. If the recent bout of house price inflation results in the cohort of existing home-owners taking more debt than usual into retirement; and if successor cohorts face higher housing costs over their working lives, or are unable to achieve home ownership, it may result in a crimping rather than a boost to retirement incomes.

- Policy responses to the GFC have been rapid and wide-ranging, with an emphasis on shoring-up the foundations of the financial system. This has included raising minimum prudential standards (for capital and liquidity) to backstop the system, and raising standards of professionalism (e.g., in New Zealand, for financial advisors). A basic level of public financial literacy needs to go hand in hand with these.

- There has been a broadening of approach to financial sector policy, to include broader perspectives on borrowing, investing and saving behaviors. A macro-prudential policy framework has been proposed that would seek better to contain pro-cyclical shifts in financial sector risk-taking, to within bounds consistent with maintenance of financial stability. The KiwiSaver scheme, similarly, has (micro-) behavioural foundations, based on understandings of the psychology of human behaviour as it relates to how people make spending and saving decisions.

- Improved arrangements for managing financial sector failures, including to address the 'too big to fail' problem, that are clear, consistent and credible, are needed. Ad hoc and inconsistent responses to failures are not conducive to maintaining public confidence in the system.

Introduction

For the financial system, the Global Financial Crisis of 2008/9 has been the largest seismic event for at least 70 years. While the crisis is not entirely over, it has now shifted mostly to fiscal problems, concentrated mainly in Europe and the United States. That clears the way for some re-evaluation, in the light of the crisis, of the role of and underpinnings required for an effective system of finance. This paper seeks to do that in a New Zealand context, as background to the review by the Commission for Financial Literacy and Retirement Income of New Zealand's retirement income policies and arrangements.

The paper is in four parts. The first provides a general discussion of the roles of the financial system in the economy: what it does and why they matter, along with discussion of some of the foundations required for it to perform those roles effectively.

Part two briefly reviews aspects of the role played by the New Zealand financial system more specifically as it relates to retirement incomes. There are two main aspects to that: enabling accumulation of financial capital that people can take into retirement, and the financing of housing, a home being the other main asset that they take into retirement.

The third part addresses how and why in the GFC financial systems failed, and how the authorities have responded.

Part four draws out some of the learnings and lessons for the future.

Part 1: The financial system - its role and underpinnings

Role within the economic system

The financial system is at the centre of the process of economic exchange - exchanges of goods and services contemporaneously for money, and of money now for a promise of money, plus an expected return, in the future. Whilst money, at its essence, comprises that issued by the central bank, nowadays the money actually used in these exchanges, overwhelmingly, is deposits held with commercial banks. This system works on the basis of public confidence in commercial bank deposits at all times being convertible into central bank money. In other words, for the system to work, there needs to be a high degree of public confidence in the solvency of the commercial banks. At the height of the GFC, in the latter part of 2008, that evaporated. The system was saved only by central banks and governments stepping in to shore it up with massive amounts of central bank liquidity and comprehensive government guarantees.

The monetary and financial mechanisms that enable exchange - of goods, services and capital - are at the heart of the processes that enable economic resources to be put to best use. Money enables exchange to occur without there having to be a coincidence of wants, that is, without, for example, someone with labour to sell having to want to buy their employer's product. Correspondingly, financial contracts open up the choice people have between spending and saving and, if the latter, a whole spectrum of choices concerning where to allocate, or in other words invest, their savings. Those possibilities include to hold money as a store of value, either central bank money, or a commercial bank deposit, or to invest via other institutions, for example, in KiwiSaver or other investment funds. In each of these cases, an institution acts as an intermediary between the saver and borrower.[1]

This opening-up of a range of avenues by which resources can be channeled from savers to borrowers also expands the scope to tailor terms to suit the counterparties. That includes with respect to liquidity (the ability to convert savings into money) and risk (the possibility that, on conversion, the sum realised will be different from, including less than, the sum invested). The degree of liquidity and risk embedded in financial contracts reflects both the terms of the contract, e.g., whether it is short-term or long-term, or a debt or equity contract, and, importantly, the attributes of the underlying investments that lie behind, or back, them.

While any exchange of money now for money plus an expected return at a later date entails risk, a well-performing financial system, besides facilitating the exchange of capital, also enables those risks to be managed. It does that by enabling diversification of risk and, importantly, through scrutinising and managing the risk embedded in investment/lending opportunities. It is mainly by doing these things that financial institutions add economic value, as reflected in the margin between the rates at which they borrow and lend. (In the case of insurance, the business is almost entirely about evaluating, diversifying, and pricing of risk).

Of course, people can accumulate capital, and manage risk, directly themselves, without the involvement of financial institutions. Building a business, for example, is a form of investment that provides an economic return. Similarly, people can 'self-insure', that is, accumulate and put aside sufficient assets to be available to cover otherwise costly losses. But the pooling of risks made possible by insurance enables risks to be covered more efficiently.

[1] In the case of central banks, as an intermediary between the holders of notes and coin and the governments in whose securities they (mostly) invest; in the case of commercial banks, between depositors and the firms and households to whom they (mostly) lend; and in the case of an investment fund, between investors and the issuers of the investment securities that (mostly) comprise the fund's investment portfolio.

A well-functioning economy needs all these key markets and institutional arrangements to be working effectively. Without a financial system, and the wide array of financial contracts it makes available for allocating capital and managing risk, modern economies could be only a shadow of what they are. That became only too starkly evident in late 2008 when financial systems, globally, were on the verge of collapse.

... and the foundations

While New Zealand has avoided the worst of the GFC - both of the excesses that preceded it and the fall-out that has followed - it is an episode that has shaken finance everywhere, to its foundations. That in turn is prompting quite fundamental re-examination of those foundations - with a strong element emerging of a need for reforms that will achieve something of a 'return to basics'. This section goes back to examine some of those.[2]

As discussed earlier, a financial contract is one that involves an exchange of money for a promise of money (and an expected return) at a future date - subject to a level of risk commensurate with that represented. At the broadest of levels, this is little different from any other kind of contract, e.g., the purchase of a good or service, an employment contract, etc., since there is an element of 'promise' in all contracts. For example, implicit in an exchange of money for a car is an implied promise by the vendor that the car is mechanically reliable and road-worthy (unless sold 'as is, where is'). But there are ways in which a buyer of a car can check on that promise. For instance, they can check under the bonnet, take the car for a road test, and obtain an AA test. Moreover, the buyer usually has some recourse if the car turns out not to be what was represented. Remedies, including the right to a refund, may be available under the law on the sale of goods, and on fair trading.

By contrast, the avenues available to the buyer of a financial contract, to check out what is being represented, and to obtain recourse, are more limited. There is little if any counterpart to a 'road test', or the ability to 'look under the bonnet'. And generally there is less recourse if the terms of the promise turn out not to have been met, By the time that becomes evident, the borrower usually already is bankrupt, and therefore no longer in a position to put things right, even if they wanted to.

These considerations underscore how information asymmetry, that is, imbalance in the information held as between a seller and a buyer, or in the context of financial contracts, between a borrower and a lender, is more acute in financial

[2] The Governor of the Bank of Canada (and Governor designate of the Bank of England), who currently chairs the G10's Financial Stability Board, has provided a pointed exposition of how banking needs to return to basics. See Carney (2013).

transactions than in most others.[3] As identified by Akerlof (1970), the problem is that if buyers cannot differentiate between higher and lower quality product, sellers of better than average product cannot obtain a fair price, and will tend to withdraw from the market. And as they withdraw, the average quality of remaining product offered for sale is pulled down, ultimately to the point where the market fails.[4] Akerlof derived this conclusion in the context of the market for second hand cars, on the basis that it is difficult for buyers to distinguish 'lemons' from better quality cars. But the same analysis applies in financial transactions: if lenders/investors know less than the borrower about the risks that could result in a default, they too will have a tendency to hold back from participating in the (capital) market.

To some extent, of course, markets find their own solutions to this problem. In financial markets, high quality issuers have an incentive, for example, to obtain a credit rating, so as to obtain a better price than skeptical buyers would otherwise be willing to offer. And to obtain a rating they need to provide the rating agency with information sufficient to overcome the information asymmetry. Similarly, firms seeking to raise equity capital agree to stock exchange listing rules that include requirements for continuous disclosure of price-sensitive information. To varying degrees, these kinds of mechanism also have legal force, for example, registered banks are required under the Reserve Bank Act to publish a credit rating.[5]

Prudential standards applied and enforced by public regulators/supervisors are another mechanism that addresses the information asymmetry problem. In this case, the prudential supervisor acts more directly on behalf of, and for, those who deal with financial institutions, by setting and enforcing standards that the public would set if they were in a position to do so. Generally, however, prudential standards are applied only where there is a need to underpin public confidence in 'safety and soundness,' e.g., as in the case of 'money' in the bank, as distinct from 'investments' at risk. That need is reinforced where the government stands behind financial institutions' obligations, such as where there

[3] Raising funds by selling an asset, or by raising a liability (borrowing), are equivalent in their economic substance. Both involve a transfer of funds by the buyer/lender, and expose the latter to the risk that the asset they acquire will turn out to be different from what was represented to them.

[4] An exception to the information asymmetry being in favour of the seller is with insurance. Here it is the insurance company that sells the policy that faces the information asymmetry problem, and it is the buyer of policy who is required to make full disclosure.

[5] Although the use of ratings has proved a far from a foolproof solution. One of the problems to come to light from the GFC was over-, and mechanistic, reliance on credit ratings. In a sense, too much came to hinge on the credit judgments of too few (the three main rating agencies). Also, there were conflicts of interest between the rating agencies and those whose securities they rated. Accordingly, the use of ratings in regulatory regimes, internationally, is being scaled back.

are deposit insurance or government guarantee arrangements. Where that is the case, the government itself has a financial exposure to manage.[6]

Another distinction in financial markets is between public and private markets. In private markets the presumption is that each side has the capacity to obtain the information necessary in order to make an informed decision. There is no regulatory intervention in the process by which a willing buyer and a willing seller arrive at and execute their deal (other than the law governing fraud).

However, where funds are sought by way of a 'public' offering, greater onus is placed on the party seeking funds to make full disclosure of all material information. There is a parallel here with how those applying for insurance are required to provide full disclosure to the insurer, in the context of an obligation of 'utmost good faith' (Insurance and Savings Ombudsman, 2006). Hence the expectation that the information provided should be capable of being taken at 'face value', rather than as 'marketing' material that could encourage investment in products and services that clients may not adequately understand, or may not be in their interests. These things are important because public markets have value in their own right. They provide an efficient means of pooling investment resources, with lower search and transactions costs than if each investor individually had to negotiate all the information required to make an informed assessment.

Correspondingly, information 'failures' in public markets affect more than just the contracting parties directly involved; they also damage public confidence in the market, or in the system. An example of this is a reasonably widely held perception that weak standards of disclosure, and insider trading, in the New Zealand share market in the 1980s damaged public confidence in the market, with a resulting loss of depth of participation that some consider lingers to this day (Gaynor, 2012).

At the same time, the investing public needs to be sufficiently financially literate to make informed assessments based on the information provided. For the non-expert investor, beyond have a base level of financial understanding (about how returns compound, diversification, the value of financial buffers, etc), that may be as much about knowing about how to seek advice as trying to be an 'investment analyst' (taking account of reputation, track record, professional affiliations, seeking second opinions etc).

[6] As do central banks in performing their role as 'lender of last resort' for the banking system - a role in which the central bank has to be able to determine whether banks approaching it for support are merely illiquid or whether they face a solvency problem, necessitating recapitalisation (or closure). Indeed, modern day banking supervision has its origins in central banks performing this role, a role which itself goes back to the very origins of central banking itself (Humphrey 1989).

All that said, achieving an architecture that combines the three essential elements needed to hold the system together - market disciplines, official standards, and the safety net - in a way that they mutually reinforce more than they undercut - is far from straightforward. There is a lot more to it than a simple a binary tradeoff between more and less regulation. The GFC clearly exposed serious weaknesses in the architecture in place at the commencement of the 21st century (discussed further in part three below).

Part 2: The financial system and retirement income arrangements in particular

There are connections between the financial system and retirement income arrangements at at least two levels.

First, at the broadest of levels, the effectiveness of the financial system in mobilising saving and allocating investment has a bearing on the overall level of, and rate of growth in, national income. That matters for the level of income of cohorts in retirements, along with for everyone else. A higher level of national income affords greater opportunity for people to accumulate capital that can be taken into retirement, since there is more scope to provide for the future when the immediate needs of today are less pressing. Also, the *social contract* that determines the share of national income communities channel to the retired through the tax and welfare system, undoubtedly, is shaped in part by 'capacity to pay', i.e., the level of national income at the time.

Secondly, the financial system plays a direct and more specific role in relation the financing of incomes in retirement. It does that by enabling exchange between *individuals* at different stages in their economic life cycle. Borrowing and lending makes it possible for an individual to achieve an inter-temporal transfer of resources, and a higher level of welfare over their lifetime, than if that was not possible.[7]

Enabling borrowing to buy a house is an obvious example of this smoothing of consumption.[8] Borrowing enables greater consumption of housing services when young than would otherwise be possible, and the subsequent paying down of a mortgage, traditionally, has been one of the avenues by which people have accumulated capital to provide an income in retirement. (The return on equity invested in a house - the amount of interest, or rent, that otherwise would need to

[7] This is on the basis of diminishing marginal utility; the utility from a marginal dollar of consumption when consumption is low is greater than that from a marginal dollar when consumption already is high; hence lifetime utility can be increased by smoothing consumption.

[8] Student loans to fund tertiary education are another example. However, these are provided by the government acting more as the provider of a subsidy funded by (individually targeted) taxes, than as financial intermediary managing a credit allocation process.

be paid - for many, is a sizeable component of their retirement income.) Also, the equity itself, potentially, can be realised, say, by 'trading down', to fund living costs in retirement.[9]

The other means by which individuals' lifetime income can be smoothed is by accumulating financial assets, that is, claims on underlying real resources without having directly to own those resources. That can be take a range of forms, including some tailored to accumulating capital specifically to fund living expenses in retirement (e.g., participation in a pension scheme).

In both these respects - the financing of housing, and accumulation by individuals of financial capital - the financial system has evolved significantly over the past decade or two.

Accumulating financial capital for retirement

Up until the 1980s, long-term contractual saving arrangements, such as superannuation schemes linked to employment, and whole-of-life/endowment life insurance policies, played a significant role as retirement savings schemes. At that time, many career and professional employees (at least in large firms, and in the public, including health, education, and law enforcement, sectors) were members of contributory superannuation schemes that paid a pension on retirement. Moreover, contributions to those schemes also enjoyed income tax exemptions.[10] These tax exemptions, however, were removed in the latter part of the 1980s. Also, around the same time, a shift to more flexible labour market arrangements (the demise of the 'life-time' career with a single employer), saw most employers close entry to those schemes for new members.

In the place of pension-based superannuation schemes, alternative 'defined-contribution' saving products emerged. These generally were more liquid investment products, more akin to bank deposits. Their administration also typically shifted from sponsoring employers to financial service providers, that is, away from the work-place and to more within the financial system. Participation

[9] Note that some of this also applies with the renting of a house. Paying rent for a house is conceptually equivalent to paying interest - it enables a level of accommodation to be accessed that would not be possible if outright purchase of a home was the only possibility. In that sense, both renting and borrowing enable lifetime welfare to be raised, by smoothing consumption. (Few consider it sensible to live in a tent when you are young so that you can live in a mansion when you are old!) The main difference between renting and borrowing to buy a house (apart from the difference in security of tenure), therefore, is that the latter entails entering into a long-term saving commitment, i.e., paying down the mortgage principal, in addition to the interest charge.

[10] The tax exemptions available in respect of savings by way of superannuation and life insurance pre-dated the New Zealand Superannuation Scheme, which commenced in 1975. Prior to that there were two tiers of government-provided retirement income support. There was an old age pension (eligibility at age 60, but with means testing) and universal superannuation (eligibility at age 65, but with tax exemptions for qualifying saving and no means testing).

in long-term contractual/work-place-based saving arrangements (superannuation and life insurance savings) fell away, with the share of these in aggregate household financial assets declining from 32 per cent in 1987 to 19 per cent in 2003. Over the same period, short-term managed fund investments increased from less than 5 per cent of household financial assets to over 17 per cent (resulting in an essentially unchanged share in the aggregate).

Since 2007, however, the advent of the KiwiSaver scheme has brought long-term, workplace-based, saving back to the fore. A combination of tax benefits and other features have resulted in a long-term savings scheme that is broad-based, and 'quasi-compulsory'.[11] Strong uptake in the scheme has resulted in steady accumulation of savings (to over 6 per cent of total household financial assets by end 2012). However, that has been offset by some curtailment of participation in similar saving vehicles (superannuation and life insurance funds under management over the same period, as a share of household financial assets, fell from about 15 per cent to about 11 per cent).[12]

Overlaying these changes within the retirement savings market segment during the past decade or two has more general structural change that has seen increasing concentration within the financial system centred on the banks, not only as providers of traditional deposit and loan facilities, but across a full spectrum of financial services (including housing finance, funds/investment management services, insurance, etc). For many people, their banks will have become a 'one stop shop' for financial services. At the same time, the banking system has become more concentrated by ownership, i.e., through mergers and acquisitions. The 'big four' banks today account for a significantly greater share of the financial system overall than did the four 'trading' banks in the mid 1980s, before banking was 'opened up' to competition.

That consolidation within the financial sector carries both potential benefits and costs. On the one hand, the public has access to more integrated financial services, including, potentially, advice. On the other hand, a high degree of market concentration can be inimical to competition, particularly if there are other features of the market that lessen competition, e.g., captive sources of business, as with compulsory or quasi compulsory saving requirements, and barriers to bank account number portability.

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[11] Quasi-compulsory in the sense that enrolment for anyone taking a new job is automatic, albeit with opt-out provisions, and withdrawal of funds prior to age 65 is permitted only in limited circumstances (the main one being a part withdrawal option for first home buyers).

[12] Note that these data alone do not reflect changes in the level of household saving overall, a major determinant of which is changes in household *borrowing*, as well changes in households holdings of money (including bank deposits) and of real assets (including houses). The focus here is on only one part of one side of households' balance sheets.

Retirement income, housing and the financing of housing

Another structural evolution within the banking system has been a marked shift in the balance of the role of the banks as between raising savings from, and lending to, the household sector, particularly for housing. Up until the mid-1980s, the relationship of the banks with the household sector was more as deposit-takers than as lenders. In the early 1980s, the ratio of deposits from, to loans to, the household sector was over 2:1, but that ratio reversed during the 1990s and 2000s. By 2007 the ratio had fallen to not much more than 50 cents of deposits per dollar of loans, although it has since risen to a little over 60 cents.

Lying behind this shift in the centre of gravity in banks' lending business - from business to personal lending - mostly, has been growth by banks into the home lending market, from which they largely had been excluded until the financial system was deregulated in the mid-1980s. Counterparts to this expansion of home lending by banks have been:

- a leveraging-up of the household sector (the household debt to disposable income ratio increased from under 50 per cent in the mid 1980s to over 150 per cent by 2007, although it has since having since fallen back a little over 140 percent);

- rapid inflation in house prices (house prices rose by over 150% between 2000 and 2007);

- a fall in the proportion of household income saved (as measured, to minus 8% of household disposable income in 2003)[13]; and

- a corresponding increase in funding by banks from abroad.

Significant in these regards has been the upsurge in house prices, which itself has potential implications for incomes in retirement. On its face, the surge in house prices has resulted in a substantial increase in household wealth. However, less clear is whether that increase in nominal wealth is in any sense a source of additional income in retirement. Homeowners in, or approaching, retirement generally have no more 'house', just a higher priced house, which is of real benefit only if or when they borrow against that higher value, or 'trade down'.

[13] Household saving is measured as the difference between what is recorded as household income and as household consumption expenditure. It is likely that consumption expenditure is measured more comprehensively than income, e.g., income generated in the 'underground economy' is not captured, but spending from it is. Also, income retained in businesses, including small businesses, is recorded as business rather than household saving. Both these factors tend to bias measures of household saving downwards.

It is difficult to gauge to what extent incumbent retired homeowners have been drawing on increased housing values as a source of income in retirement. During the height of the housing boom, in 2005-2007, significant amounts of equity were being withdrawn from the housing market ($2billion - $4billion per annum). But in the years since, there has been a reversion to net payments of equity into the housing market. It seems likely that most of the mortgage equity withdrawal that did occur in the mid-2000s can be attributed households in their middle years withdrawing some equity when *trading up*, rather than those in their later years *trading down.* (That is also consistent with reverse equity mortgages having no more than a very small foothold in the New Zealand mortgage market.) To the extent that has been the case, it also implies that the current cohort of homeowners, on average, may take more debt, and thus debt servicing obligations, into retirement, than have previous cohorts entering retirement.

Higher house prices may also count against the future retirement incomes of current cohorts entering the housing market. The higher price of entry, in effect, locks in a higher lifetime cost of housing (i.e. mortgage servicing costs), thus leaving less income, net of housing costs, from which to accumulate financial capital for retirement.[14] Also, higher house prices, will be resulting in some amongst the younger cohort not being able to qualify for a home mortgage, thus resulting in reduced participation in the long-term contractual saving arrangement inherent in paying down a mortgage (see footnote 4 above).

These considerations, taken together, suggest that the influx of funding for, and associated inflation in, the housing sector, over the past couple of decades, will more likely result in retirement incomes being crimped rather than bolstered.[15]

Part 3: The GFC

As already noted, the GFC has been the most disruptive and damaging economic crisis, globally, for at least seventy years. Even though New Zealand has been less affected than Europe and the US, some of the same features of the crisis in those regions were also evident in New Zealand, albeit to a much lesser extent.

[14] Although if the currently very low level of interest rates prevails for an extended period, that will provide an offset.

[15] This abstracts from any distributional aspects. As most of the borrowing for housing by incumbent homeowners has been by above-average income households, carrying some debt servicing obligations into retirement they may not noticeably crimp their retirement incomes. In which case the effects of the bout of house price inflation during the 1990s/2000s may become apparent only over the longer run, with an increased proportion of households entering retirement without a freehold home.

The global backdrop

Some of the principal features of the run-up to, if not the causes of, the GFC, globally, were:

- Large increases in leverage, both within the financial system, and in the 'real' economy, particularly in the household sector, where borrowing for housing had increased to levels also a long way outside of historical norms.[16]

- An extended period of macroeconomic stability - what came to be known as the 'great moderation'. Since the early-mid 1990s, most economies had enjoyed a prolonged period of sustained growth with low (CPI) inflation. Perceptions of risk faded as, firms and households, and banks, came to expect macroeconomic conditions to remain benign into the indefinite future. Past episodes of job losses and economic downturns became increasingly distant memories. Policymakers, too, became increasingly confident about macroeconomic management having been 'mastered'.

- Asset prices, and in particular house prices, became increasingly inflated. That was a global phenomenon. There is a number of possible reasons for that:

    - mainstream policy thinking had shifted toward a view that, provided (consumer) goods and services price inflation remained anchored, asset price inflation was not a policy concern. More than that, in the US in particular, but also more widely, a policy view emerged that central banks should respond to asset market downturns with easy monetary policy. That is what happened following the 'dot.com' crash in the early 2000s, something that fuelled the next asset bubble, in housing markets.

    - the emergence of securitisation as a means of funding home lending. This resulted in distance between those originating home loans, for a fee, and those to whom they were packaged up and 'distributed', who carried the lending risk but were not in a position to assess or manage it. In the US, where home mortgage securitisation was especially prevalent, aspects of the structure of the financial system were important enablers. These included the roles of: the semi-government agencies (Freddie Mac and Fannie Mae) in 'sponsoring',

[16] Leverage refers to the use of debt to fund assets, investments or firms. Thus, for example, a house is said to be highly leveraged when it is funded mostly by borrowing, with correspondingly little of the owner's equity invested in the house (often referred to as high loan-to-value ratio (LVR) lending). Similarly a corporate takeover is said to be highly leveraged when it is funded by borrowing (say, from banks) rather than from the acquirer's cash reserves, or by raising funds in the share market.

i.e., guaranteeing, home loans; of the investment banks in repackaging home mortgages into a opaque investment products; and of the rating agencies, which provided what turned out often to be ill-judged ratings for those products.[17]

- in Europe, the inception of the euro in 1999, which resulted in some countries with a history of relatively high interest rates e.g., Ireland, Spain, and Greece, moving to a low (German) interest rate environment, in one fell swoop. A surge in demand for borrowing, particularly for housing, was predictable, but not adequately restrained, neither by banks' adherence to normal prudential standards, nor by the authorities responsible for prudentially supervising the banks.

- The prevailing approach to financial regulation was relatively 'light handed'. The policy presumption was that market disciplines - in particular due diligence by buyers of financial products - could be relied on to be sufficiently effective to provide a bulwark against unsustainable financial expansion. That turned out much less to be the case than anticipated (Greenspan 2008, page 524).

...and New Zealand's GFC experience

Some, but not all these factors were also present in New Zealand. There was a prolonged period from the early 1990s of economic growth with low CPI inflation, albeit punctuated by a brief recession in 1997 at the time of the Asian financial crisis. And the housing market was buoyant, both in the mid-1990s and, especially so, in the mid-2000s. However, more than in most countries, the RBNZ tightened monetary policy in an attempt to contain the rate of economic and financial expansion, with the result that by 2007 economic and financial conditions were cooling. That may have helped New Zealand avoid the worst of the financial excesses that have been experienced by other countries.

In other respects too, the financial environment in New Zealand was materially different. First, securitisation was not a significant mechanism for funding home loans. While, as in other countries, home lending expanded strongly, almost all of the resulting loans were retained on the lending banks' balance sheets. That, in turn will have been at least in part due to New Zealand banks having access to comparatively cheap funding in international funding markets.[18] Moreover, unlike

[17] With concerns about how those mis-judgments may have stemmed from the rating agencies being remunerated by those who constructed and issued the securities in question, i.e., as the result of conflicts of interest.

[18] For explanations of the mechanisms by which the New Zealand banks accessed foreign funding on advantageous terms, see Eckhold (1998) and Drage et al (2005).

in the US, there is no generally available government guarantee scheme for home lending. Hence, the New Zealand banks had incentives to maintain prudent home loan underwriting standards.

Financial regulation of banks in New Zealand may also have been more effective than in other countries. Prima facie, avoidance of solvency problems in the New Zealand banking system points to that, although it is difficult to know to what extent those favourable outcomes should be attributed to other factors as well. Those include:

- the major banks in New Zealand having been part of Australian-based banking groups that maintained generally sound credit policies and practices and applied those on a group, including trans-Tasman, basis; and, how much, in turn, that was attributable to

- effective supervision by the, less 'light-handed' (than the RBNZ), Australian Prudential Regulation Authority; and in the case of both countries

- the comparative recency of financial crisis, in the late 1980s/early 1990s following the 1987 share market crash. That experience will have remained embedded within the experiences of most of the senior managers of Australasian financial institutions.[19]

The most notable exception to what otherwise in New Zealand was a record of financial stability in the face of the GFC was the failure of the finance company sector. Now apparent, but less noticed at the time, is that a large disconnect developed between the two sides of finance companies' balance sheets. Their funding, mainly by way of debenture securities, was widely regarded as being (bank) deposit-like, whereas much of the lending by finance companies was of a speculative, or even 'ponzi', character. (Minsky (1992) defines speculative lending as where the borrower's cash flow is assessed as sufficient to cover interest obligations, but not amortisation, i.e., the lender speculates on the borrower being able to refinance the principal. 'Ponzi' lending is where the borrower's cash flow is insufficient to cover neither interest nor amortisation, i.e., interest is added to the principal amount to be refinanced in due course.)[20]

In the mid-2000s, it was common practice for finance companies funding property development to capitalise interest on loans, in anticipation of completed developments being realised (i.e., refinanced) for sufficient an amount to enable repayment of both principal and accumulated interest. This business model was

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[19] Interestingly, other regions that had experienced financial crisis within the preceding 20 or so years (Japan , Scandinavia and East Asia), were relatively less part of the GFC, which has been centred on the US, the UK and Europe.

[20] See also Kindleberger and Aliber (2011), p. 29).

critically reliant on continuing increases in property values, and collapsed when property prices turned down. A compounding factor was that a significant proportion of finance companies' funding came from commission-based sales of their debentures by financial advisors, who too often failed to demonstrate professional standards of competence and relating to conflicts of interest (i.e., the taking, and ineffective disclosure, of commissions).

The lending practices of the banks stood in contrast to those of finance companies. Although banks' credit standards also eased during the upswing in the early to mid-2000s, subsequent losses were not so large that they could not readily be absorbed by the banks themselves. The easing in credit standards was evident in increased amounts of high loan-to-value ratio, and 'low-doc', home lending. Some corporate lending was said to have become 'covenant light'.[21] But the basic banking principle of lending first and foremost against the borrower's cash flow, with security serving as a *second* line of defense, remained sufficiently in place that banking problems were avoided. Correspondingly, as noted above, much of the increase in home lending by the banks was to 'middle income', financially-established, households. This contrasts sharply with the growth of so-called 'sub-prime' home lending in the US - essentially speculative lending against, and also reliant on, rising home values, rather than on borrowers' debt-servicing capacities.

... and policy response

Globally, the severity of the GFC stemmed not just from its magnitude, but from the fact that it was a 'core' meltdown. That is, it went to the core of the financial system - the banking system.[22] Correspondingly, internationally, the major policy reforms since have focused mainly on banking. And having been a global crisis, much of the policy response is being developed at a global level, by international bodies such as the Financial Stability Board (overseen by the G20), and the Basel Committee on Banking Supervision.

Notable has been the development by the Basel Committee on Banking Supervision of the Basel III regime for banking supervision. This has seen an emphasis on 'back to basics'. Capital requirements have been increased, especially in respect of ordinary owners' equity (in place of subordinated debt), and by way of the introduction of a simple maximum leverage ratio (to back-stop

[21] 'Low doc' home lending refers to where the lender does not obtain the usual verification of the information provided by a loan applicant; 'covenant light' lending refers to (generally corporate) lending that is not made subject to the borrower maintaining standard minimum financial ratios (shareholders' funds/total assets; interest expense/earnings before interest and tax).

[22] In contrast to the 'dot.com' crash at the turn of the century. That resulted in what, by historical standards, was a massive loss of wealth, but not in any material impairment to the actual functioning of the financial system.

risk-weighted and/or statistically-modeled measures of risk exposure).[23] Also, minimum liquidity requirements have been introduced, with these designed so as to encourage banks to shift their business models back toward their traditional deposit-taking role, with correspondingly less reliance on funding from 'wholesale' markets. A common thread has been a shoring up of the role of prudential standards to *back-stop* the system.

For central banks, a broadening of role is also emerging. This includes the (re)emergence of a 'macro-financial' policy role, that is, one that better recognises how the 'credit cycle' can be a significant source of macroeconomic as well as financial instability.[24] What had become something of a trend to shift the bank supervision role *out* of central banks, and into separate regulatory agencies, has lost momentum; and in the UK reversed. There are also some (early) signs of a shift in approach to how bank supervision is conducted, back toward approaches more in keeping with the traditional 'banker to the banks' type of relationship between a country's central bank and its commercial banks, than on detailed regulatory compliance, per se (Bailey, 2012, Haldane, 2012(b)).

Another policy issue to have emerged, internationally, is the 'too big to fail' problem. The inability of authorities to 'fail', rather than 'bail out', large insolvent financial institutions, without that resulting in unacceptably serious damage to the financial system and to the wider economy, has resulted in taxpayers bearing some very large costs. It has also become all too apparent that it is a problem that sows its own seeds of financial instability. With the largest institutions widely regarded as 'too big to fail', scrutiny of them in the market-place had been weak, resulting in their having had access to cheaper funding than their (smaller) competitors - in effect a taxpayer subsidy for risk-taking.

Internationally, the 'too big to fail' problem - both in relation to banks that are large within countries, and also those that span across countries - is being addressed with a level of determination that has not been seen before (Tucker, 2012, Federal Deposit Insurance Corporation/Bank of England, 2012). While evaluation of the effectiveness of new arrangements for managing banking failures will need to await their having been tested, it is equally clear that that without demonstrably improved capacities in this area, financial policy will continue to suffer from a serious 'credibility deficit'.[25]

[23] The leverage ratio is calculated as the ratio of the bank's total exposures, i.e., balance sheet assets plus the credit equivalent amount of off-balance sheet exposures, <u>before</u> counterparty risk weighting , to its tier I capital (i.e., ordinary shareholders' funds). The ratio initially has been set at a maximum of 33 times.

[24] A 're-emergence' rather than something entirely new. A macro-financial approach to policy was prominent in the 1970/80s, when money and credit aggregates were the centre-piece of monetary policy.

[25] Recent developments in Cyprus, where as part of an EU/IMF rescue of the Cypriot economy/banking system is likely to include application of a 'haircut' to bank deposits, are providing perhaps the first major 'test'.

A related policy issue concerns deposit insurance/investor compensation arrangements. Having in place clear rules that govern where the losses in a failure will, and will not, fall is one key to the credibility of a failure management regime. During the GFC, most countries found it necessary to extend protections above and beyond those provided under pre-existing arrangements.[26] And in Europe, serious strains emerged when the Icelandic deposit insurer failed to meet insurance cover obligations in respect of Icelandic banks operating on the continent. The latter exposed wider problems arising from banks operating trans-nationally but with national lender of last resort, deposit insurance, and supervision arrangements. In Europe, these are now being addressed with proposals to establish a single, integrated, European supervision and insurance structure. Other regions have gone in the opposite direction, by segmenting banking systems within national borders; something that has been referred to as the 'balkanisation' of international banking (Carney, 2013).

Turning to New Zealand in particular, the response to the GFC has followed along most, but not all, of the above lines; and with additional measures tailored to what have been New Zealand specific issues.

During the crisis period, New Zealand also put in place comprehensive government guarantees for deposits. These extended to include coverage of finance company debentures, but only after a number of finance companies already had failed (whose 'deposits' were not guaranteed). Subsequently, following the Canterbury earthquake, a large insurer (AMI Insurance) was 'bailed' out by the government, but another, small, insurer was liquidated.

As in other countries, proposals are now in train better to enable failures to be managed without causing undue financial or economic disruption. In particular, registered banks are being required to install the mechanisms that would enable a bank to be 'resolved' without having to cease trading - open bank resolution (OBR). Specifically, OBR would enable a proportion of a failed bank's liabilities to be set aside to absorb losses, whilst enabling the bank to continue operating. It is not intended that deposits should be subject to any preference over a bank's other obligations, or be covered by deposit insurance, but that these should share equally in losses (possibly subject to a de minimus exemption, decided at the time, for 'small' deposits).[27] In these latter respects, the policy approach is distinctively different from that adopted in Australia, where there is both a depositor compensation scheme, for amounts up to $A250,000, and depositors

[26] For example, Australia temporarily increased the compensation amount in its depositor/investor compensation scheme from A$250,000 to A$1 million, and made available comprehensive government guarantee facilities for bank deposits (retail and wholesale). The US similarly increased deposit insurance limits, from US$100,000 to US$250,000 per account, and guaranteed money market mutual funds.

[27] On the contrary, some of a failed bank's obligations could rank ahead of its deposit liabilities, notably funding raised by covered bonds, for which there has recently been enacted statutory recognition of the prior ranking in point of security of these bondholders.

have a preferential claim on banks' assets ahead of other creditors. For the New Zealand arrangements to be effective, it will be important for their credibility to become well established. Consistency of application in accord with a clear ex ante policy on what is and is not protected (compared with the more ad hoc responses during the GFC and in response to the Canterbury earthquakes), may be one key to achieving that.

The Basel III regime has been adopted for bank supervision, except for the prescription of a maximum leverage ratio. The RBNZ is also developing a framework for the use of macro-prudential tools (Bollard, et. al., 2011, RBNZ, 2013). These are currently subject to consultation, so it is unclear at this stage what arrangements actually will be put in place. Candidates include regulating home lending loan-to-value ratios (LVRs), and/or banks' funding structures, and cyclical adjustments to banks' capital requirements. Prominent in public commentary has been the possibility of regulating LVRs. One possibly unattractive feature of this instrument is that its effect would be felt mainly by new entrants to the housing market, i.e., those with comparatively little equity. That could further tilt the housing market in favour of incumbent homeowners, possibly without stabilising house prices much overall.

A specific issue for New Zealand has been the prudential regulation of finance companies. These had been covered by the requirements of the Securities Act, essentially no differently from other issuers of investment (debt) securities to the public. Specifically, finance companies raising funds from the public were subject to prospectus disclosure and trust deed requirements, but with the prudential terms of the trust deed, if any, left for the issuer to determine. The regime placed an onus on directors fully and honestly to disclose risks to the investing public, and on investors to undertake due diligence; it did not seek to constrain risk-taking. Accordingly, it relied heavily on the investing public having an adequate level of financial literacy and on being able to access appropriate financial advice.

That regime clearly failed adequately to 'anchor' the finance company sector, with all but a handful of the finance companies issuing to the public, by 2011, having failed. In response, a new 'hybrid' regulatory regime has been introduced for 'non-bank deposit-takers'. Now finance companies are additionally subject to minimum prudential standards applied by the Reserve Bank, but with these being monitored by trustee corporations appointed pursuant to the Securities Act, under which finance companies continue also to be required to issue a prospectus. In terms of regulatory arrangements, finance company debentures now fall somewhere between an investment security and a bank deposit. Steps have also been taken to lift professional standards required of financial advisers - who now are required to be licensed, to pass competency tests, and to comply with higher standards of disclosure of commissions.

Further notable developments in New Zealand have been the formation of the Financial Markets Authority in 2011, and an updating of securities law by way of a new Financial Markets Conduct Bill (which is scheduled for enactment in 2013 and to take effect in 2014). The Financial Markets Authority brings together a range of regulatory functions that previously were spread across different agencies - mostly its predecessor, the Securities Commission, but also the Ministry of Economic Development and the New Zealand Stock Exchange. The Financial Markets Conduct bill, on enactment, will update and bring together in a more coherent manner the law governing the issuance, trading, and supervision/regulation of investment securities.[28] Neither the new Authority nor the new Act, however, introduces fundamental changes of approach to the regulation and supervision of the securities markets; rather the focus is on achieving improvements in the effectiveness of the existing regime.

Finally, on the lending side, amendments to the Credit Contracts and Consumer Finance Act are also proposed. These are aimed at tightening up on the obligations of personal lenders, mostly in relation to 'loan shark' type lending behaviour, on the fringes of the financial system. While this market generally does not involve large sums, unscrupulous lending practices can impact severely on the individuals affected. Unlike in the US sub-prime market, unethical/fraudulent conduct has not been widespread in the home lending market. That said, issues did arise with the marketing to investors of interests in residential apartments, which included the granting of a security interest over their own home, and consequential loss of those homes where the investments failed. The new financial markets conduct legislation is expected better to regulate those kinds of product.

Part 4: Some lessons and learnings for the future

The two to three decades preceding the GFC was an era of rapid innovation in the financial services sector. That is widely attributed to advances in computing technology over the same period - advances that made possible new forms of financial engineering, as well as new channels of financial product delivery. It was also a period of increased financial complexity. At the time, these advances were viewed by most as positive developments, that raised the efficiency with which the financial system mobilises and allocates resources. They were also seen as enablers of risk-transfer and therefore of diversification that helped to improve the resiliency of the system (The Economist, 2012).

The GFC has resulted in more mixed assessments. For example, a former Federal Reserve chairman has since, famously, quipped:

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[28] The Financial Markets Conduct Act will replace the Securities Act 1978, the Securities Markets Act 1988, the Unit Trusts Act 1960, the Superannuation Schemes Act 1989, and the Securities Transfer Act 1991.

> the most important financial innovation ... seen (in the financial sector) in the past 20 years is the automatic teller machine;

and has wondered:

> is it really a true reflection of the financial sector that it rose from 2½% of value added according to GNP numbers to 6½% in the last decade all of a sudden? Is that a reflection of all (its) financial innovation, or is it just a reflection of how much (it) pay(s)?" (Volker 2009).[29]

More recently, the Governor of the Bank of Canada/ incoming Governor of the Bank of England, and chair of the G20's Financial Stability Board, has observed, inter alia, that:

> Banking is fundamentally about intermediation - connecting borrowers and savers in the real economy. Yet (in the era running up to the GFC) .... clients were replaced by counterparties, and banking was increasingly transactional rather than relational.
>
> Over the past year, ...questions of competence have been supplanted by questions of conduct....(a range of) abuses have raised fundamental doubts about the core values of financial institutions... More than mastering options pricing, company valuation or accounting, living the right values will (now) be the most important challenge ... (Carney, 2013).

Similarly, Gordon Brown, former UK Prime Minister and Chancellor of the Exchequer, has concluded that:

> ...the crisis was provoked by the use of cutting edge technical and financial innovations, that seemed very new, but the lessons from the crisis (are) very, very old... (Brown, 2010, p 241).

Finally, the Executive Director, Financial Stability at the Bank of England has suggested that:

> "the answer (to what makes for effective financial regulation), as in many other areas of complex decision-making, is simple. Or rather, it is to keep it simple" (Haldane, 2012(a)).

All of which reinforces a current emphasis now on getting 'back to basics'. A key element in that - in the basic role of financial intermediaries - is evaluation of alternative investment and loan opportunities. That, after all, is the essence of how financial intermediaries add value: lessening the information asymmetry between lenders and borrowers in the 'real' economy. If those investment and

[29] See also Dolphin 2012 for a comprehensive critique of the extent to which financial sector expansion in the two decades of so running up to the GFC was value-adding.

credit evaluation processes are not effective, then, arguably, there is little economic value-add; indeed, if weak evaluation processes result in mis-allocation, then possibly even negative value-add. Hence the question above about how much of the increase in the measured output of the financial sector in the years preceding the GFC reflected value-add, and how much was the cost of other things e.g., arguably, herd-like, or high-frequency, trading?

Which, in turn, raises the question above about whether financial services firms also lost some of their customer relationship focus: the 'know your customer' principle that underpins both good credit/investment evaluation, and appropriate provision of investment management services and advice. Arguably finance/risk management became too much 'paint by numbers' (credit scoring, statistical modeling, etc) and insufficiently grounded in an understanding of underlying business/investment propositions, and of the needs and circumstances of savers?

In a similar vein, there is little doubt that financial regulation became increasingly complex. Rule books by the mid 2000s were many times the thickness of what they had been just two decades earlier. Which raises the question whether it was too little regulation that was the problem, or a lack of something else? The role of professional values in finance clearly is something that is much more back in fashion.

If these are some of the issues to have emerged from the GFC, the fact that New Zealand has come through the crisis *relatively* well suggests they are less issues in New Zealand than they have been in the major global financial centres. In that regard, the comparative simplicity of the New Zealand financial system - what some have described as a 'vanilla' system - has turned out to have been a strength more than it signaled a lack of financial development (Bollard and Ng, 2009, Bollard 2010).

But still there are issues and challenges. Building public confidence in the professional standards of those giving financial advice will take time and effort; and is not something likely to be achieved by regulation alone. The failure of the finance company sector has left a gap in the financial system, and a financial system that is as concentrated on a small number of core banks as it has been for a long time.

Looking head, there is the possibility of a reasonably extended period of relatively slow economic growth, and of relatively low interest rates/modest investment returns, at least compared with the preceding decade or two. History indicates that economic recovery from serious financial crises typically is slow (Reinhart and Rogoff, 2009). And that is proving to be the case post the 2008/9 GFC. Four years past the peak of the crisis, most of the world's advanced economies are still in, or close to, recession. For a time at least, modest single digit rates of financial expansion, and rates of return, may be a 'new normal'.

If that turns out to be the case, increased focus may go on to the costs of - and fees charged for - financial services. A 1% p.a. investment management fee that was viewed as 'value for money' in relation to, say, a 10% p.a. return may come to be viewed differently relative more modest rates of return. Yet basic investment and credit analysis, if anything, is more costly to do, and less capable of being 'scaled up', than statistically- and model-based approaches to credit and investment evaluation (computing power is less expensive than skilled people).

Another attribute of the New Zealand financial system - besides being 'vanilla' - is its small size. The capital markets, in particular, are small and shallow, thus providing limited opportunities for investment of savings (Capital Markets Development Taskforce, 2009). That is an issue that already is a focus of policy, with building of New Zealand's capital markets one of the six key areas in the current Government's Business Growth Agenda (Ministry of Business, Innovation and Employment, 2013).

A related question is whether, for a very small economy like New Zealand, there is, also a need for the financial system to be as open and internationally integrated as possible. This question arises from the standpoint of maintaining competitiveness within the local system, including by enabling or savers and investors to be able to access financial services from abroad (in much the same way as openness to trade in goods and services is so essential for small economies). It is a question that also arises against the backdrop of threats that emerged during the GFC that have caused financial policy in many countries to turn inward (Carney, 2013).

In New Zealand, all this is also against a backdrop of strong competition the financial system is widely perceived to face from direct investment by savers in real estate, in particular in housing. Doubtless much of that perception stems from real estate having 'out-performed' most financial investment opportunities, over an extended period.[30] But there appears also to have been fragility in public confidence - in the level of trust - in the financial system, compared with direct investment in 'bricks and mortar'. Survey measures of public confidence in New Zealand's financial institutions, in particular in investment sector intermediaries (fund managers, financial advisers and share brokers) show weaker results than measures of confidence in housing as an investment class (RaboDirect, 2011).

A final possible strand in the lessons and learnings that are emerging post the GFC is a broadening of perspective on underlying saving, investment and

[30] Much of which can be attributed to the financial system having financed the leveraging up of the housing sector which, in the face of constraints on the supply of new housing, has resulted, mostly, in house price inflation, rather than returns reflective of economic value-add (New Zealand Productivity Commission, 2012).

borrowing behaviours - at both the macro and micro levels. In the two to three decades preceding the crisis, the underlying 'model' that shaped most policy design was one based on 'rational agents' responding to economic incentives. While many aspects of the crisis can be explained on that basis - for example, in terms of how 'too big to fail' and government guarantees distorted incentives - there is also an emerging wider recognition of how human behaviours that have their origins in other branches of human psychology may also be relevant.[31] That is reflected in the emerging role for macro-prudential policy, in leaning against developments considered to be driven more by herd behavior than the rational assessments by independently-acting agents. Certainly earlier literature on financial instability, associated with Minsky, Keynes and Kindleberger, has come back into prominence.

These developments have similar foundations to those that underpin, at the micro-economic level, schemes like the KiwiSaver scheme. Aspects of the design of that scheme also draw on the broader aspects of the psychology human behaviour, notably, automatic enrollment to overcome procrastination in decision-making, and lock-in until age 65 to overcome time inconsistent preferences (The Treasury 2003).

These kinds of development suggest that the financial system landscape will likely continue to evolve. Indeed, just as following the "Great Inflation" of the 1970s and 1980s, there was a transformation in policy frameworks to maintain price stability, the next decade or two might be expected to see the emergence of frameworks that will provide a better bulwark against financial instability. If successful, that would be a positive step including from the standpoint of the role of the financial system in contributing to arrangements for financing incomes in retirement.

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[31] For a recent contribution on this aspect, see Visco 2013.

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