



Depositor protection, bank liquidity regulation, and taxation: Distortions affecting superannuation.

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EXECUTIVE SUMMARY

A number of prudential and other regulations and specific taxes affecting banks reduce the interest rates paid by banks on the short term deposits of institutional superannuation funds relative to those paid to other retail investors. The differential is in the order of 40-60 basis points per annum.

This effect stems primarily from liquidity regulation (designed to influence how banks fund themselves, and how they match assets to liabilities) and its interaction with several other policies. There is no deliberate intention in the policy to discriminate against people who save through superannuation. Nevertheless, the effect is to reduce the returns paid to the vast bulk of members of institutional superannuation funds. The discrimination is compounded by members' funds invested in bank deposits not being eligible for protection under the Financial Claims Scheme.

There is a range of methods superannuation funds and banks can use to mitigate some of the impacts of these various rules but they all come at a cost – administrative inconvenience, lower returns or additional risk.

The central problem arises from the regulatory preference to favour deposits which are stable. The Liquidity Coverage Ratio rule effectively requires short term deposits by institutional funds on behalf of individuals to be treated as unstable. This means they must be used to fund holdings of low-earning liquid assets rather than higher-earning assets such as mortgages. By contrast, other retail deposits, particularly those covered by the Financial Claims Scheme (up to \$250,000 per depositor) and including those made by Self-Managed Superannuation Funds, are treated as stable and can be used to fund higher earning assets. As a result they command a premium over deposits made by institutional superannuation funds.

Regulations around the Net Stable Funding Ratio and the Large Bank Levy further compound the picture without changing the underlying issues.

In practice, institutional superannuation funds can structure arrangements for their 'cash option' funds, and use novel bank deposit products for their 'balanced' (or other) funds to offset some of the interest rate differential effect. However, these can create other complexities and do not resolve the anomaly that member balances held as bank deposits are not protected by the Financial Claims Scheme.

The obvious solution is to remove the anomalies at the source. One possibility would be to accord institutional superannuation fund deposits the same stability treatment as retail deposits. This would, however, conflict with prudential regulation rules, and some of the distortions involved here are being overcome by market innovations discussed in this report. Nevertheless, there is merit in reviewing whether there are simple changes which could be made to regulatory requirements which would make such treatment feasible. APRA already provides scope for this to occur for pure 'cash' portfolios of funds, but not for deposits held as part of 'balanced' (or other) portfolios.

But the exclusion of all institutional superfund deposits from coverage by the Financial Claims Scheme is an anomaly which cannot be overcome by market innovations. This could be easily resolved by including institutional superannuation fund deposits on behalf of retail clients within the Financial Claims Scheme. Administratively this could be done simply by applying the Scheme's protection on a look-through basis to the underlying individual member accounts.

Applying scheme coverage to institutional fund deposits held on behalf of members would increase the total deposit liabilities covered by the Scheme by somewhere in the order of \$100-250 billion, relative to the \$850 billion currently covered. While this would be recorded as an increase in government contingent liabilities under current budget accounting methods, those methods are incorrect. Because APRA has first claim on amounts paid out to insured depositors of a failed bank, the risk to the budget or taxpayer of there being inadequate remaining assets for APRA to recoup the amounts paid is miniscule or zero. The apparent method of calculating such contingent liabilities used in the Budget Papers (simply as the sum of all eligible deposits) is badly flawed and warrants review.

There is far more risk arising from the possibility of a government feeling the need to bail-out uninsured creditors (that is, most superannuants) of a failing bank. This likelihood is increased by the policy of excluding the deposits representing largely compulsory retirement savings from Financial Claims Scheme coverage.

Ultimately, the effect on members of institutional superannuation funds receiving lower returns on deposits held on their behalf, impacts adversely upon their retirement savings. The effect is not as large as might be expected, because the lower return only applies to a portion of their total superannuation balance. Nevertheless, ensuring that individual deposits through superannuation are not subject to relatively lower returns would raise the weekly payout to people in retirement phase by about \$11 per week for the rest of their lives.

1. Introduction

Even though each of the bank liquidity requirements (the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR)), as well as the Financial Claims Scheme (FCS) and the Large Bank Levy (LBL), may make good economic policy sense, the details of their application individually and jointly create significant financial sector distortions with potentially important economic consequences.

These are most pronounced in the implications for banks whose ability to manage on both the asset and liability side will be impacted. This is of course the intention of regulators in making the underlying policy changes.

There are also important consequences for superannuation fund member returns and behaviour, with potentially significant implications for the flows of funds, asset allocation and ultimately the cost of capital and real investment.

It is not clear that the various impacts on superannuation fund returns were intended by the policy makers, and some may need to be offset. This paper is mainly concerned with this effect and with these impacts.

The objective of this report is to attempt to identify actual distortions from these various policy settings and quantify their extent and economic significance, and suggest appropriate modifications to policy to offset any undesired effects.

2. Background and overview

Basel 3 changes to bank regulation standards led to the development of two new liquidity requirements, one of which, the LCR, was adopted by the Australian Prudential Regulation Authority (APRA) for application to larger Australian banks from the beginning of 2015.¹

The **LCR** weights deposits by 'stickiness' (stability), based on likelihood of outflows within 30 days in a 'stress' scenario, and requires banks to hold more high-quality liquid assets (HQLA) against less sticky deposit liabilities. Since HQLA (limited to Australian government securities

¹ Basel Committee on Banking Supervision (2013) 'Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools' January 2013, www.bis.org/publ/bcbs238. APRA's implementation of the LCR is outlined in APRA Prudential Standard APS 210 Liquidity <https://www.legislation.gov.au/Details/F2017L00047>

by APRA) have a lower expected rate of return than other assets such as loans, naturally banks offer a lower interest rate on less sticky deposits.²

Importantly:

- At call (cash) deposits held by retail investors, including self-managed super funds (SMSFs), are regarded by the regulator as sticky (as are those deposits that are not withdrawable within 30 days).
- But similar deposits held by institutional superannuation funds on behalf of members are not regarded as sticky (unless these reflect, inter alia, an explicit decision by the member to be in a 'cash only' portfolio option offered by the fund).

The **NSFR** (to commence on 1 January 2018) assesses different types of bank funding according to Available Stable Funding (ASF) criteria. In essence, this reflects the likelihood of that funding remaining in place over a one-year horizon. Holding more ASF permits the bank to engage in longer term, illiquid, lending and investments.³

Funding with a lower ASF classification thus has a 'shadow cost' for the bank if the lower income available on shorter (rather than longer) term lending is not reflected equivalently in the bank's perceptions of lower risk associated with that funding.⁴ If so, interest offered on such funding will be lower. Again, we see an important difference:

- Retail deposits of less than one-year maturity are given a high ASF (95 or 90 per cent) in APRA's recent determination of NSFR conditions.⁵
- Institutional superannuation fund deposits will generally not get similar high ASF ratings, except in the case of 'cash-only' funds if a number of strict conditions are met – including agreement that the fund cannot 'replace the ADI [Authorised Deposit-taking Institution] unless it provides at least 12-months' notice' (APRA, APS 210, Attachment C, paras 12-13).

² Due to a shortage of available HQLA, the Reserve Bank introduced a Committed Liquidity Facility (CLF) enabling banks to meet part of the LCR requirement via having access to this facility for liquidity needs for a fee of 15 bp p.a. of the amount which could be drawn upon. Because banks must hold acceptable high-quality securities to use as collateral for accessing the CLF, this way of partially meeting LCR requirements also involves holding assets with lower expected returns than loans.

³ The NSFR essentially operates by classifying bank assets by time to receipt of cash flows (maturity in the case of 'bullet' type investments) and derives a 'required stable funding' (RSF) amount based on the amount which needs to be financed for at least one year. The NSFR requires the bank to have ASF in excess of RSF.

⁴ The risk referred to here is the liquidity risk associated with mismatches between tenors of liabilities and assets, rather than differences in credit risk associated with longer versus shorter term lending.

⁵ APRA, Prudential Standard 210, Attachment C.

The **FCS** similarly discriminates:

- It protects individual depositors against loss from the failure of a bank up to a limit of \$250,000 per customer, and provides such depositors ready access to those funds in event of the bank failing.
- It does not apply pro rata to deposits held by an institutional superannuation fund indirectly on behalf of members. There would be coverage of only \$250,000 in total out of a total deposit of many millions.
- By contrast, it does provide protection for SMSFs of all cash (and term) deposits in cases where they are allocated such that the deposit in any single bank is below the \$250,000 cap.

It is anomalous that deposit funds managed for unsophisticated investors by institutional superannuation funds, and who are compelled by law to hold retirement savings in superannuation funds, should have less protection against a bank failure than if those funds were held directly.⁶

The recent introduction in the 2017 Federal Budget of the **LBL** (and a similar proposal by the South Australian government) creates a further potential distortion. The levy, at the rate of six basis points, is to be applied to liabilities of the five largest banks, but excluding deposits covered by the FCS and Additional Tier 1 (AT1) regulatory capital instruments. This will thus apply to large deposits, commercial paper, bonds, and (non-AT1) hybrids that are issued by those banks. These financial instruments (including non-insured deposits) are among those in which superannuation funds invest as part of cash or fixed-interest portfolios. Again, we get a wedge between different sorts of deposits. How much of the levy will be reflected in reduced returns to investors in such instruments will be considered in a subsequent section.

To facilitate an understanding of how these various regulatory arrangements impact upon pricing of bank products, the next section provides a brief overview of the mechanism of bank product pricing.

⁶ As discussed later, the practical significance of this in terms of possible losses is muted by the preference structure of bank liabilities, whereby deposits rank ahead of other bank debt liabilities. However, if the cash holdings of an institutional fund are on behalf of members in retirement mode, lack of quick access to those funds may involve significant disruption.

3. Bank product pricing

The cause of differences between interest rates paid by banks for similar types of deposits received from different types of customers lies in the *funds transfer pricing (FTP) systems* used by banks. The FTP system enables banks to link the interest rates received on different types of assets with those paid on similar types of funds raised, to centralise interest rate and liquidity risk management, and to provide appropriate incentives to business unit managers.

In its simplest formulation, business unit managers making loans or investing in assets are charged a cost of funds by the central FTP unit that reflects the cost to the bank of raising funds with similar interest rate risk features.⁷ Deposits or funds raised by business units are placed with the central FTP unit at a rate that reflects the opportunity cost of not using the best alternative source of funds with similar interest rate risk features (for example similar duration and other risk-related characteristics). Those wholesale market rates available to the bank provide the opportunity-cost alternatives.

In this way, business units are 'match-funded' giving them a net interest margin (NIM) which does not involve interest rate or liquidity risk (which are managed centrally). The performance of the business unit depends upon the gap between the NIM and the unit's operating expenses including credit losses and the cost of the bank's capital allocated to that unit. Funds raised by business units can, in aggregate, have quite different interest rate and liquidity characteristics, and differ in volume, from the use of funds (through lending and investments) by business units. The central FTP unit (Treasury) which determines the preferred position of the bank manages any mismatches in net interest rate or liquidity positions and funding needs.

Regulations such as the LCR and NSFR affect this system by effectively restricting the uses of specific types of funds. Similar consequences flow from imposition of government levies on specific types of funding. These rules impede the ability of the bank to de-link sources and uses of funds, and to manage interest and liquidity risk independently at a central level.

A simple example (which ignores operating expenses), summarised in Table 1, can help illustrate. Consider a bank which raises \$95 of at-call deposits at 5 per cent per annum and invests those funds in \$95 of two-year variable rate loans paying an expected return (after possible credit losses) of 7 per cent per annum. Assume it manages the associated liquidity risk by using its \$5 of equity capital to invest in \$2 of HQLA (paying 2 per cent per annum),

⁷ Alternatively and near equivalently, this rate reflects the opportunity cost to the bank of otherwise using such funds to make risk free investments with similar duration.

and has \$3 invested in premises. Its expected surplus before operating expenses would be \$1.94 [equal to $\$95 \times (0.07 - 0.05) + \2×0.02]. Suppose that the regulator imposes a rule that an amount equal to 3 per cent of at-call deposits (that is, \$2.85, an increase of \$0.85) must be held in HQLA. The bank would then need to reduce its lending by \$0.85 (to \$94.15 and earning 7 per cent) and divert those extra funds instead in HQLA (earning 2 per cent).

The bank's surplus before operating expenses would then be \$1.9005 [equal to $\$94.15 \times 0.07 - \$95 \times 0.05 + \$3 \times 0.02$], down by \$0.0395. To maintain the expected surplus, the bank would need to reduce the rate paid on at-call deposits to around 4.96 per cent.⁸

Table 1: Illustration of impact of regulation

PRE REGULATION		POST REGULATION	
Income	Expense	Income	Expense
Loans	Deposits	Loans	Deposits
\$95 @ 7% = \$6.65	\$95 @ 5% = \$4.75	\$94.15 @ 7% = \$6.5905	\$95 @ 5% = \$4.75
HQLA		HQLA	
\$2 @ 2% = \$0.04		\$3 @ 2% = \$0.06	
Total	Total	Total	Total
\$6.69	\$4.75	\$6.6505	\$4.75
Surplus		Surplus	
$\$(6.69 - 4.75) = \1.94		$\$(6.6505 - 4.75) = \1.9005	

Source: ACFS example.

Suppose the bank had access to two types of at-call deposits, one type from retail and the other from institutional investors, and the regulation only applied to the latter. It is apparent that the bank would offer a lower interest rate to institutional deposits. If retail deposits were in perfectly elastic supply, the bank would pass on the full cost of the regulation to institutional

⁸ A deposit rate of 4.9584 per cent would be required to reduce interest expense by the same amount as interest revenue. (An alternative response, dependent on competitive forces, could be to increase loan interest rates).

depositors. Whether they would continue to make deposits at the lower interest rate would depend upon the alternative substitute investment opportunities available to them.⁹

4. Consequences of the liquidity coverage ratio requirement for institutional deposit pricing

To identify the consequences of the LCR requirement, it is first necessary to outline its relevant features:¹⁰

- The bank is required to hold HQLA at least equal to expected net fund outflows over a 30-day 'stress period':
- HQLA can only be government or semi-government debt, or amounts available from facilities established for repos at the Reserve Bank of Australia (RBA) under the Committed Liquidity Facility (CLF). The latter facility incurs a fee of 15 basis points per annum and requires banks to hold eligible securities such as self-securitisations or residential mortgage-backed securities.
- At-call and term deposits of less than one month are allocated to specified 'run-off rate' buckets. Retail deposits (from individuals, including SMSFs) are either classified as 'stable' (run off rate of 5 per cent) if covered by the FCS, or allocated to buckets with 10 or 25 per cent run-off rates assumed.
- For wholesale deposits from financial institutions, a run-off rate of 100 per cent for at-call and term deposits of less than one month would normally be applied – although some 'operational' deposits would receive a lower run-off rate.

There is one significant exception to the treatment of financial institution deposits in banks that reduces markedly the run-off rate applied to such deposits. Paragraph 34 of *Prudential Standard 210*¹¹ states:

Where a person places funds with an intermediary, which then places those funds with an ADI, the deposit with the ADI is considered to be a deposit from a financial institution unless, during the next 30 days:

⁹ Some smaller banks and ADIs are not subject to the LCR requirement, but operate under a Minimum Liquidity Holdings (MLH) regime that does not link required liquid asset holdings to types of deposits. However, the scale of these institutions is relatively small compared to institutional superannuation funds, limiting their ability to offer alternative deposit outlets for institutional funds.

¹⁰ Details are found in *APRA Prudential Standard APS 210 Liquidity* <https://www.legislation.gov.au/Details/F2017L00047>

¹¹ The paragraph number refers to the version of the standard applying from January 2018 <http://www.apra.gov.au/adi/PrudentialFramework/Documents/APS%20210%20FINAL.pdf>

- (a) the person retains all legal rights regarding the withdrawal or other movement of the funds;
- (b) the person exercises these rights in practice and cannot transfer these rights to the intermediary;
- (c) there is clear and prominent disclosure to the person that the funds will be placed with the ADI; and
- (d) the intermediary or an associated entity can neither make investment decisions on behalf of the person regarding the deposit, nor withdraw funds from the ADI in the absence of specific directions to do so from the person (other than miscellaneous items such as fees, expense reimbursements, taxes).

If all of these conditions are satisfied, an ADI may treat the funds as if they are from the person. An ADI must be able to demonstrate how this treatment satisfies the conditions outlined in this paragraph.

The effect of this provision is that a superannuation fund can structure arrangements for members invested solely in a 'cash' portfolio such that their funds meet this condition. To do so, the product disclosure statement (PDS) for the cash portfolio option must specify the specific bank into which the deposit funds are to be placed, and that the superannuation fund is not able to switch bank without approval from the fund members. This implies that the investors in the cash portfolio may be able to obtain returns equal to those of other retail investors, although unless APRA determines that the deposit involves an established customer relationship, the assumed run-off rate applied will be 10 per cent rather than the lower 5 per cent rate. Where individual member balances exceed the FCS cap of \$250,000, a similar effect arises.

Importantly, this provision is not, however, applicable to the cash component of other portfolio offerings of superannuation funds, such as a 'balanced' option. In those cases, the discretion available to the fund manager means that the deposits will be treated as wholesale and attract a run-off rate assumption of 100 per cent.

The consequences of the LCR for relative pricing of institutional and retail deposits depends upon the extent to which it imposes HQLA holdings on a bank different to what it would have held in the absence of the requirement. This follows along the lines of the numerical example provide above.

To assess the importance of this, note that household deposits with banks at December 2016 were \$832 billion and those of community service and not-for profit organisations were \$27 billion.¹² Some of these were held in branches of foreign banks operating in Australia and thus not covered by the FCS. Also covered by the FCS are deposits in credit unions and building societies that amounted to \$36.5 billion at December 2016.¹³ Deposits covered by the FCS are estimated in the 2017 Budget Papers to be \$850 billion at December 2016 (which includes term deposits).

It is thus reasonable to assume that almost all household deposits of less than one month's maturity are covered by the FCS and thus have a low assumed run-off rate of say 5-10 per cent. (Larger deposits which are either primarily rate-driven, on-line, or where there is no established customer relationship have an assumed run-off rate of 25 per cent). The figures in Table 2 are generally consistent with these numbers, suggesting that an assumption of 5-10 per cent run-off rate for regular retail customers is appropriate.

Table 2: Major bank liquidity coverage ratio calculations (%)

ESTIMATED RUN-OFF RATE	ANZ	WBC	CBA	NAB
Retail and small business	10.1	9.1	8.2	12.1
Wholesale (non-operational)	68.7	57.4	59.5	62.3
LCR	122	122	134	122

Note: March 2017 (December 2016 for CBA).

Source: Banks' Basel 3 disclosures.

Those figures also suggest a run-off rate for short term wholesale deposits in the order of 60 per cent. However, this is an average across a number of categories of customers (including non-financial corporations where the run-off rate of large, non-operational, deposits is 40 per cent). Within those customers, the deposits of financial institutions (which include institutional superannuation funds) would have a run-off rate of 100 per cent.

Consider the (hypothetical) situation where, absent the LCR, banks would have treated superannuation fund deposits as equivalent to household deposits in terms of liquidity management. For both, there would have been minimal holdings of HQLA, assume 10 per cent in HQLA, and assume that the remaining funds were instead invested in mortgage loans.

¹² APRA Monthly Banking Statistics.

¹³ RBA Statistical Tables D3 Monetary Aggregates.

With the introduction of the LCR, superannuation short-term deposits would instead be treated as unstable and require complete investment in HQLA. The opportunity cost of the regulation, per dollar of superannuation fund deposits, is thus equal to the difference between the yield on a portfolio of 90 per cent mortgages and 10 per cent HQLA, and of one comprising 100 per cent of HQLA.

At mid-2017, the owner-occupier discounted variable loan rate was 4.50 per cent,¹⁴ while three-year bond rates (a HQLA asset) were around 2.00 per cent.¹⁵ Allowing a 150 basis point difference in operational costs of mortgage lending relative to investment in HQLA, leaves a difference in net rates of return on retail versus superannuation fund deposits of around 90 basis points. This is because the retail deposits are invested at a net return of 2.90 per cent [that is, $(0.9 \times 3.00) + (0.1 \times 2.00) = 2.90\%$], while the institutional deposits are transfer priced at 2.00 per cent.¹⁶

In practice, banks are able to substitute access to the CLF for approximately half of their LCR requirements. Taking internal securitisations of residential mortgages as the most cost-effective form of collateral provision for such facilities, the cost of this part of the LCR is then the 15 basis point CLF fee plus the operational costs associated with self-securitisations. Assuming 10 basis points for such operational costs, the overall cost of the half of the LCR requirement associated with the CLF is then 25 basis points. Taking the average of the estimated HQLA cost of 90 basis points and the CLF cost of 25 basis points gives a figure of 57.5 basis points which would be the break-even gap between the rates banks would pay on retail versus institutional superannuation fund deposits. Information from major banks and superannuation funds indicates that this is not inconsistent with rates seen in the market, with estimates of between 30- 60 basis points suggested as typical.

5. Identifying and assessing potential consequences

The most obvious effect of the LCR is that institutional funds, and thus their members, will receive lower rates of return than SMSFs on funds held in bank deposits since they are not treated as stable deposits under APRA Prudential Standard 210.

As explained earlier, that standard does, however, allow (Attachment A, paragraph 35) for institutional superannuation fund deposits to be treated as stable under very specific

¹⁴ RBA Statistical Tables F5 Indicator Lending Rates

¹⁵ RBA Statistical Tables F16 indicative Mid rates of Selected Australian Government Securities

¹⁶ An alternative comparison could use 5 year non-financial corporate, A-minus rated, bonds rather than mortgages. At June 2017, the yield on such bonds was 3.33 per cent p.a. giving similar results (particularly once a higher credit risk premium for corporate bonds than for mortgages is allowed for).

conditions. These conditions effectively mean that member balances in a 100 per cent cash option can be treated as equivalent to retail deposits, and thus could potentially qualify as stable deposits. However, other deposits of the superannuation fund held as part of member investments in other investment options do not receive such treatment.¹⁷

The FCS creates one complication in this regard for the returns for deposits from the 100 per cent cash option of a fund (there are other complications considered later) in that the 'stability' accorded to a retail deposit differs according to whether it is covered by the FCS or not. Because the institutional fund deposit is not covered by the FCS (other than possibly up to \$250,000 out of many millions), it is a 'less stable' deposit and would have at best a 10 per cent run-off rate. Depending on the interpretation of other required conditions (Attachment A, para 40), the deposits, particularly member balances in excess of \$250,000, may not meet the criteria for an assumed run-off rate of 10 per cent rather than 25 per cent.¹⁸

6. The liquidity coverage ratio and alternative superfund investment strategies

Institutional superannuation funds would be able to overcome the adverse interest rate consequences of the LCR by sacrificing some degree of liquidity of their deposit investments. For example, an investment in a 31-day notice of withdrawal (NOW) deposit, if available, would be treated as a stable deposit under the LCR.¹⁹ That does, however, create a potential liquidity risk mismatch for the superannuation fund which is generally required to allow members to transfer their account elsewhere within the superannuation system within 3 days, and must provide members in retirement with access to their funds virtually on demand.

To the extent that the three-day requirement creates complications for superannuation funds using this investment strategy to offset the distorting effect of the LCR requirement on returns to members, one option would be for the government to consider increasing the time allowed to comply with a transfer request to 31 days.

The premium banks pay for large stable deposits (31 days' notice period) compared to less stable at call deposits appears to be at least 40 basis points. This is consistent with the

¹⁷ The conditions necessary for ensuring that a fund's 'cash' option bank deposits are treated as retail deposits could potentially weaken the bargaining power over interest rates of the fund relative to the bank, although the ability of the fund to shift other deposits between banks could provide some offsetting power.

¹⁸ Those conditions relate to whether there is an established relationship, whether the account is on-line, or whether the deposits are heavily 'rate-driven'.

¹⁹ Investing in term deposits with differing maturity dates does not provide a feasible alternative, because it is the remaining term to maturity (rather than the original term) which is relevant for the LCR requirement.

estimates derived earlier regarding the differential returns between stable, at call, retail and unstable, at call, institutional deposits.

It is to be expected that market participants will innovate in response to regulation. In response to the NSFR, banks have begun to offer another investment vehicle, which we term a 'convertible notice period deposit'. This achieves similar effects as a NOW deposit structure in altering the regulatory classification of the deposit – in this case for both LCR and NSFR calculations. The structure involves the investor placing funds on deposit with the bank, with the deposit being convertible, upon giving notice, into a Negotiable Certificate of Deposit of at least 185-day maturity. This structure means that the bank is not obliged to pay out cash for at least 185 days, and hence the deposit meets the rules for classification as stable funding under the NSFR and hence can attract a higher return as discussed above. If a depositor wants to withdraw funds, the bank issues the depositor with a negotiable certificate of deposit (NCDs) which is then sold in the market for cash.

While a strategy of investing in 31-day NOW deposits would remove much of the interest rate penalty arising from the LCR, the impending introduction of the NSFR in 2018 may somewhat counteracts this. The introduction of convertible notice period deposits more or less reinstates the pre-NSFR situation, the difference being that funds will need to allow for the possible discounting of the NCDs when they sell them (possibly in a stressed situation).

7. The net stable funding ratio effect

The NSFR essentially requires banks to ensure that the amount of their funding which will remain available over an horizon of one year, is sufficient to support their longer term loans and illiquid investments not due for repayment for one year or more. In practice, the calculation involves determining an ASF amount, by weighting liabilities by reference to maturity and other characteristics, and comparing this with a Required Stable Funding (RSF) amount, that is based on the maturity and other characteristics of assets and off balance sheet positions.

Although the NSFR requirement is not due to commence until January 2018, most of the larger banks have already adapted their funding mixes to conform to that requirement.²⁰

The weights assigned by APRA to determine ASF impose minimal constraints on banks from using stable or less stable deposits from retail and SME customers. Those deposits are weighted at 95 or 90 per cent in calculating ASF, and thus imply little impact on the nature of

²⁰ For example, Westpac estimated its NSFR at March 2017 as being 108 per cent.

https://www.westpac.com.au/content/dam/public/wbc/documents/pdf/aw/ic/WBC_1H17_Presentation_and_IDP.pdf

the asset portfolio which can be financed with such deposits. APS 210 also accords similar weights to member directed ('cash option') superannuation deposits, where the superannuation fund cannot replace the bank without at least 12-months' notice²¹ (and the other conditions in determining LCR treatment apply).

It is thus apparent that the introduction of the NSFR is unlikely to have an adverse effect on deposit returns provided to institutional superannuation fund members who are in a 'cash' option and where the fund has structured its arrangements to meet the APS 210 requirements.

That, however, is not the case for returns on deposits held as part of the cash component of other fund offerings such as a 'balanced option'. In those cases, the ASF factor will be zero per cent. The consequences for interest rates offered on such deposits, including 31-day notice of withdrawal accounts and convertible notice period deposits, relative to those on retail depositor accounts are of a similar qualitative nature to the case of the LCR. In this case, however, they relate primarily to the effect on the ability of the bank to make longer rather than shorter term loans.

It is quite complex to determine the precise effect on interest rates that will be offered to different types of customers – in part because of the complexity of the structure of ASF and RSF weights, and also because of uncertainties over how banks' funds-transfer pricing systems will implement these effects. However, a simple example can illustrate the general issue.

Assume that short-term retail deposits had a 90 per cent ASF weight (reflecting the longer term stickiness observed in actual behaviour) and wholesale deposits had a 0 per cent weight. Assume also that loans of over one-year maturity had an RSF weight of 100 per cent while those of maturity less than 1 year had an RSF weight of zero. Ignoring equity capital requirements (for simplicity), a \$100 short-term retail deposit could be used to fund \$90 of long term lending (paying r_L) and \$10 of short term lending (paying r_S) while meeting, at the margin, the requirement that $ASF / RSF \geq 100\%$. In the case of a \$100 short-term wholesale deposit, the constraint that $ASF / RSF \geq 100\%$ means that only a \$100 short term loan (paying r_S) can be made without adversely affecting the NSFR. Ignoring any differential operating costs, the difference in returns is thus $(90r_L + 10r_S)$ and $100r_S$. The difference in interest rate which can be earned by the bank is thus $(0.9r_L + 0.1r_S) - r_S = 0.9(r_L - r_S)$.

²¹ If only a 6 month notice is required the ASF factor falls to 50 per cent.

The implications of this for the interest rates paid on short-term retail versus institutional deposits are difficult to assess for several reasons. One is that because longer term lending can be on a variable rate basis, there need not be any term premium involved in this calculation. If that were the case the relevant difference on the loan interest rates is primarily the difference in credit spreads on short versus longer term loans. It would not be expected that the FTP system transmit such credit spread differences through to deposit rates.

However, the effect of the NSFR is to limit the ability of the bank to make longer term fixed rate loans from institutional (but not from retail) short term deposits. Consequently, the term premium on long term versus short term loans, net of credit spread effects, (that is, a risk free term premium) is relevant as an upper bound. Hence we have calculated an estimate of such a term spread by taking the difference between the average of two-, three- and five-year government bond rates and the three month Overnight Interest Swap (OIS) rate.²² Over the 48 months to July 2013 this difference averaged 26 basis points. While some part of that difference could be attributable to expectations about the future level of interest rates, in the environment of the last four years it would not be inappropriate to interpret most of the differential as a liquidity premium. Over the same 48 month period, the difference between the three month OIS rate and the cash rate averaged only 4 basis points (with the latter above the former, suggestive of expectations of future very marginal falls in interest rates).

Given the very simplistic nature of this example relative to the actual NSFR parameters, there is little value in attempting to derive a precise estimate of the likely effect on relative deposit rates for retail versus wholesale deposit rates. And the current period of low and stable interest rates may give limited information about the likely term structure of liquidity premia in future years. Moreover, the introduction of the NSFR could be expected to affect the maturity structure of desired asset holdings of major banks and impact upon the structure of market rates available.²³ Overall, based on our estimate of a current liquidity premium of around 25 basis points for long term fixed rate versus short term loans, a ball-park 'guesstimate' of the effect on short term institutional deposit rates relative to short term retail deposit rates is somewhere in the order of 20-30 basis points per annum.

Thus, while use of 31-day at call deposits by institutional superannuation funds could overcome much of the effect of the LCR on relative deposit interest rates, the NSFR may

²² The OIS rate is used given the absence of short term Treasury Notes in the Australian market.

²³ For example, banks would appear to be able to partly arbitrage the effect of the NSFR requirement by self-securitisation of long term mortgages. These would otherwise be allocated a required stable funding (RSF) factor of 65 per cent or higher. Self-securitisations of the same assets, which qualify for use in the CLF, may be allocated a RSF factor of 10 per cent.

negate some part of that offset. Again the potential use of convertible notice period deposits would further complicate the calculation.

Table 3 provides some illustrative simplified calculations. For simplicity, it is assumed that retail cash deposits are unaffected by either the LCR or NSFR, and can be allocated 100 per cent to long term loans earning a return, net of credit spread of r_A . Institutional cash deposits are assumed to be 100 per cent invested in HQLA under the LCR, earning $r_L = r_A - 60$ and this is not affected by the NSFR. Institutional 31-day notice of withdrawal deposits are assumed to be largely invested in long term loans under the LCR, but earn $r_N = r_A - 20$. However, the NSFR requires these deposits to be invested in short term loans, rather than long term loans, where the short term loan rate is $r_s = r_A - x$, where x is 25 basis points (the midpoint of the liquidity spread estimated above). Consequently, the earning rate on those NOW deposits would then be $r_A - 25$, which is marginally lower than the rate prior to the introduction of the NSFR. If the liquidity spread is higher, the effect would be greater. The potential to use convertible notice period deposits as part of the bank funding mix produce a result in between the two used in the example.

Table 3: The effect of the NSFR on Institutional Deposit Rates

TRANSFER PRICING RATE (NET OF CREDIT SPREAD ON ASSETS FINANCED)		
Deposit Type	With LCR	With LCR and NSFR
Retail Cash	Long term loans @ r_A	Long term loans @ r_A
Institutional Cash	Liquid assets @ r_L = $r_A - 60$	Liquid assets @ r_L = $r_A - 60$
Institutional 30-day NOW	LT loans and liquids @ r_N = $r_A - 20$	Short term loans @ r_s = $r_A - 25$

The overlay of the NSFR will thus reduce the attractiveness for superannuation funds of placing their cash on deposit for between 30 and 365 days.

8. The Financial Claims Scheme effect

The FCS means that the safety and ready access to deposits of up to \$250,000 per customer in a failed bank, are guaranteed. One clear anomaly in the structure of the scheme is that deposits made by an institutional superannuation fund on behalf of one of its members do not qualify for this protection, since those funds are aggregated into one account of many millions of dollars.

Consequently, should a bank fail, members, for whom the super fund has invested part or all of their account balance in such a bank, will suffer losses, whereas individuals and SMSFs will be protected (up to the \$250,000 limit).²⁴ In practice, the risk of bank failure is relatively low, and recent increases in bank capital requirements and loss absorbing capacity involving 'bail-in' of certain creditors, further reduce the chance that depositors would suffer loss from a troubled bank.

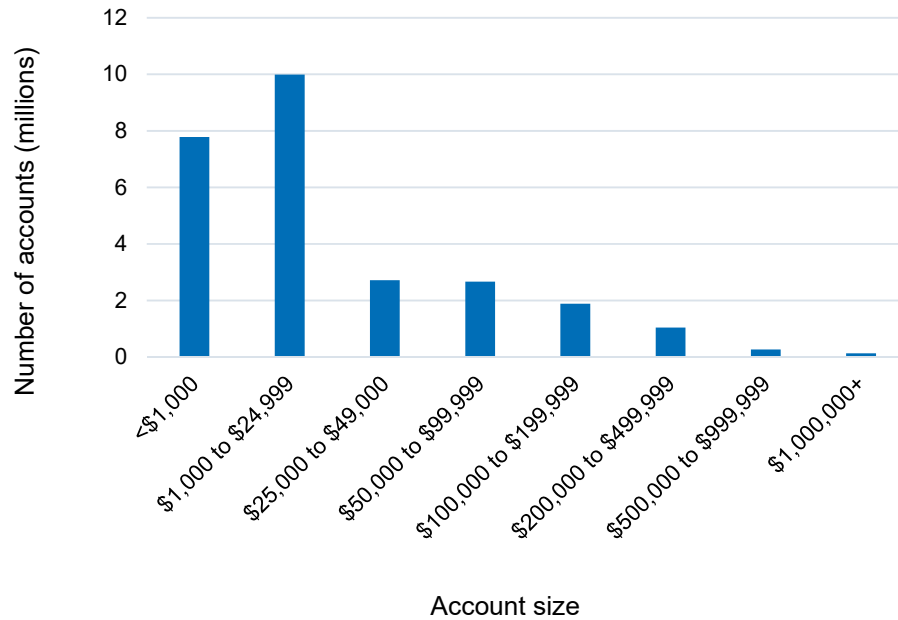
But potentially more important than the *ex post* difference in treatment, is the *ex ante* effect of knowledge that such differential treatment would occur on the decisions made by individuals. In particular, individuals contemplating establishing an SMSF and leaving an institutional fund may take this into consideration when making such a decision. The closure by Macquarie Bank in 2010 of its large Cash Management Trust (CMT) and conversion into a Deposit Account was stated to be in part due to the preference of investors for the safety implied by coverage by the Financial Claims Scheme. That CMT acted as a cash component of many SMSFs.

Even if institutional fund deposits are treated as stable for the LCR, they are not covered by the FCS. Some members may be concerned that their superannuation funds are at risk of loss if a bank fails, and prefer to create a SMSF where deposits are covered and if greater than \$250,000 can be spread across banks to ensure coverage of the total amount. Lack of coverage can also affect institutional fund willingness to place deposit funds in large scale with individual banks due to counterparty risk (including the potentially high correlation of default risk (on deposits) with market risk (on equity investments in a bank)). Since the four major banks are among the largest ASX-listed companies, superannuation funds naturally have an already large equity exposure to those banks.

Figure 1 provides information on the number of member accounts by size for institutional superannuation funds as at June 2016. What is immediately apparent is that the overwhelming majority (over 25 million out of 26.5 million) have total balances which are less than the \$250,000 FCS cap for guarantee of bank deposits.

²⁴ In some ways this would be the opposite of the failure of Trio Capital in which SMSF lost money while members of APRA regulated funds involved were protected by compensation via an industry levy. The failure prompted a Parliamentary Inquiry http://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Corporations_and_Financial_Services/Completed_inquiries/2010-13/trio/report/index

Figure 1: Size distribution of institutional superannuation member accounts: June 2016



Source: APRA, *Annual Superannuation Bulletin*, June 2016, Table 12a

The situation is somewhat different for SMSFs, where average balances are significantly higher. ATO statistics show that median assets per member were \$354,882 in June 2015. While the asset allocations vary significantly across SMSFs, the average allocation to cash and term deposits of funds with assets between \$500,000 and \$1 million was 28.80 per cent and 27.26 per cent for funds in the \$1-2 million asset range. This suggests that generally deposit holdings of SMSFs per member will be less than \$250,000 and so would be covered by the FCS, without any need to split deposits between banks in order to take advantage of the FCS protection. Whereas SMSFs appear generally to obtain the benefits of the FCS protection, this does not apply for members of institutional funds.

To the extent that differential coverage by the FCS is an issue, it could be overcome by the simple expedient of ‘looking through’ institutional fund deposits to provide coverage to the individual member funds involved (up to the \$250,000 cap). Indeed, it would seem feasible that, with ever increasing advances in technology, a superannuation fund and bank could find a way to disaggregate total amounts involved into individual member amounts, recorded as such, and thus enabling FCS coverage to apply. That is not, however, a costless exercise, and it would appear far simpler to provide coverage through the ‘looking through’ approach – although banks may face resulting complications in identifying total deposits of individuals who are separately customers as part of their ‘single customer view’ requirement.

One important issue in this regard is that of how much institutional superannuation funds are constrained by counterparty exposures to banks? A fund manager will take into account both the exposure to loss from a bank failure through the loss of value of equity holdings as well as deposit losses. This may adversely impact effective bank competition for superannuation fund deposits by forcing superannuation fund diversification across banks.

Importantly, in the current context, unless superannuation funds can access FCS coverage for member deposits they would need to diversify across a range of banks for exposure management reasons. This impedes, or makes more costly, their efforts to offset the effects of the LCR requirement, even for their members in the 'cash only' portfolio. The conditions required to achieve treatment of the funds as 'stable' include a requirement not to be able to change bank supplier without twelve months' notice. Thus, to achieve overall diversification and reduce exposure to any bank, the fund would need to offer a range of PDSs for the cash option, each involving a different bank to be chosen by the member.

One concern which is raised regarding the possible extension of the FCS in this way is the implications for government contingent liabilities and exposure of taxpayers to loss. In what follows we argue that this should not be a concern.

9. Government contingent liabilities

What would be the consequences for government contingent liabilities if institutional bank deposits on behalf of superannuation fund members (up to \$250,000) were covered by the FCS?

In the 2017-18 Budget (Statement 9) the contingent liabilities of the Commonwealth Government arising from the Financial Claims Scheme (FCS) are documented. The risk category is given as significant but remote. As at December 2016, deposits eligible for coverage were estimated as \$850 billion. This compares to a total level of deposits on the Australian books of the ADI sector of \$2,678 billion.²⁵

We argue that the risk category should instead be insignificant. Only one-third of the Australian deposits of the banks are covered by the FCS, and it is significantly lower as a proportion of total bank liabilities (including wholesale funding). Should an Australian bank fail and APRA be required to make payment to insured depositors, APRA would then stand ahead of virtually

²⁵ Of this sum, \$1,367 billion were 'at call/on demand' deposits, \$935 billion were term deposits, and the remainder \$271 billion were Certificates of Deposit. (APRA, Quarterly ADI Performance, December 2016).

all other creditors of the bank in its claim on the assets of the bank.²⁶ While the composition of balance sheets varies somewhat between ADIs, the risk of a bank's assets declining by so much, as to mean that APRA would not recoup all of its outlays in a resolution process of a failed ADI, is extremely remote.

The nominal value of deposits insured of \$850 billion does not give any indication of the true size of the contingent liability arising from the FCS. The potential liability is, rather, an extremely small fraction of that amount – and would only be above zero if there were some ADIs with balance sheet structures that meant that APRA could incur losses if the assets in liquidation were insufficient to recoup amounts paid out. Those potential losses would also need to be probability weighted (by likelihood of insolvency) which, if APRA enforces adherence to minimum standards of ADIs, should further ensure that the contingent liability is insignificantly different from zero.²⁷

A more substantial contingent risk would arise if the Government reacted to an impending bank failure by 'bailing out' the bank – injecting funds to make uninsured creditors whole and enabling the bank to continue operations. This would appear more likely to occur if those uninsured creditors included a significant volume of superannuation funds – given the political ramifications of fund members otherwise losing retirement savings, much contributed under government imposed compulsion. In that regard, leaving deposits of institutional superannuation funds made on behalf of members outside of the FCS might increase future government likelihood of 'bail-out' responses to impending bank failure to the cost of the taxpayer.

Including institutional superannuation fund deposits on behalf of members in the FCS would increase the proportion of deposits covered by the scheme, but not by sufficient to affect the probability of APRA not achieving full compensation for any pay-outs made to insured depositors.

At December 2016, of the total deposits on the Australian books of ADIs of \$2,053 billion, \$372 billion were from financial corporations and \$222 billion were certificates of deposits.²⁸ Data on what proportion of this represents superannuation deposits is not available directly,

²⁶ There are some exceptions including employee entitlements and collateralised claims on assets of counterparties (such as under repurchase agreements).

²⁷ A fundamental reason for the very low risk to the government arises from the existence of preference arrangements giving the deposit insurer (APRA) a superior claim over assets of the failed bank relative to other creditors. This has been less common internationally, giving rise to often significant non-zero contingent liabilities for deposit insurers elsewhere, but is becoming more prevalent.

²⁸ APRA *Monthly Banking Statistics*

but can be indirectly inferred from the *National Financial Accounts (Cat. No 5232.0)* produced by the Australian Bureau of Statistics (ABS). At December 2016, deposits of superannuation funds held with Australian banks and other ADIs were \$291 billion. They also held \$61 billion of one name paper issued by banks and other ADIs. Unfortunately, the ABS figures refer to both institutional and self-managed superannuation funds. Assuming the same asset allocation for both (and given that the SMSF sector accounts for one-third of total sector assets) this suggests that a maximum of \$240 billion of additional deposits, and likely significantly less, would become covered by the FCS if coverage were extended to all institutional superannuation fund deposits. This is consistent with APRA data (*Quarterly Superannuation Performance*) which show that at December 2016, cash holdings of institutional funds was \$177 billion and Australian fixed interest was \$300 billion.

In practice, there are likely to be two partially offsetting adjustments. First, to the extent that such a change made institutional fund accounts more competitive with SMSF's and the latter were more heavily weighted to bank deposits, growth of institutional funds relative to SMSFs would mean that the net increase in covered deposits would be less than the gross increase. Second, and operating in the opposite direction, the potentially higher returns available on bank deposits available to institutional funds (if other changes are made to LCR and NSFR) could increase their willingness to place funds on deposit with banks.

Nevertheless, such a change ('looking through' institutional super fund deposits to provide FCS coverage to individual members) would have minimal effect on government or taxpayer exposure (which is minimal anyway).

10. The bank levies

In the 2017 Budget, the Federal Government introduced a levy of 6 basis points on those liabilities not covered by the FCS of the major banks. Similar legislation has been proposed by the South Australian Government. How this levy will affect deposit interest rates paid to institutional investors such as superannuation funds is a priori unclear since the ultimate incidence of the burden of the levy will depend upon the nature of demand and supply elasticities and competition in loan and deposit markets.

At most, this might reduce the rates paid on large institutional deposits by a couple of basis points. That would marginally affect the estimates of the preceding sections, but not sufficiently to warrant further consideration.

As a digression, it should be noted that if the FCS were applied to institutional superannuation fund deposits on a look through basis, government revenue from the levy would be reduced – since the levy does not apply to insured deposits. For example, using \$100 billion as the amount of deposits which might be affected, the cost to the budget revenue would thus be in the order of \$60 million per annum.

11. Deposit holdings of superannuation funds

To ascertain the likely impact of a policy change to treat institutional superannuation fund deposits as stable, it is first necessary to identify the current size of such deposits. There are a range of official sources, not always reporting according to exactly the same definitions, and no publicly available aggregate data on bank deposit holdings by institutional superannuation funds.

The ABS data²⁹ are that there were a little over \$260 billion in deposits in ADIs that were held by superannuation funds as at the start of 2017. This figure, however, includes deposits of both institutional superannuation funds and SMSF. The latter group comprises approximately one-third of total assets, and is generally believed to hold a larger proportion of assets in bank deposits than do institutional superannuation funds. As at December 2016, of total assets of \$628 billion, SMSFs held \$157 billion (that is, 25 per cent) in cash and term deposits. This suggests that institutional superannuation funds hold somewhere around \$100 billion in bank (ADI) deposits.

APRA provides data on cash and fixed interest holdings of institutional superannuation funds at Table 9 in its *Annual Fund Level Superannuation Statistics*. At June 2016, for the 219 funds covered by the report, holdings of cash were \$163 billion and fixed interest investments were \$264 billion. These were respectively 13 and 21 per cent of total investments, but reflect all cash and fixed interest investments (including international), not just domestic bank deposits. Recognising that these figures include offshore investments and other domestic investments, they are consistent with an estimate of around \$100 billion in bank deposits out of \$1.4 billion of total assets. There thus appears to be a significantly lower proportion (perhaps 7 per cent) of institutional superannuation fund assets in bank deposits.

More recent data for March 2017 is available from APRA's *Quarterly Superannuation Performance Bulletin* providing data for 240 institutional super funds. Cash holdings were

²⁹ ABS *Managed Funds*, Cat. No 5655.0 Table 4
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5655.0Mar%202017?OpenDocument>

reported there as being \$181 billion, while total fixed income investments of \$310 billion comprised \$196 AUD investments and the rest international (of which around 70 per cent were currency hedged).

It seems probable then (recognising the differences between the ABS and APRA) that at least \$150 billion in institutional superannuation funds are invested in deposits. It is unclear how many of these are treated as stable by APRA. Remember that to be treated as stable they have to be in specialised funds (refer to Section 4). AustralianSuper and Vanguard seem to have between 1 per cent and 2 per cent of their funds under management in such funds. If this applies to funds under management across the industry, then between \$14 billion and \$28 billion in deposits of the funds is currently treated as stable.

Assuming no behavioural changes, if APRA adopted a policy of recognising all deposits in superannuation funds as stable, between \$122 billion and \$136 billion of additional deposits would benefit.

11.1. How big are the impacts on individual savers?

If we accept that the change of policy could result in a 40 basis point uplift in the rate on deposits, \$130 billion of extra deposits being rewarded, adds about \$520 million additional income per year for superannuants. To put this in context, the earning of APRA-regulated funds in the year to March 2017, were \$153b (on an asset base of \$1.455 billion). The additional income is thus about 32 basis points of extra return from the different treatment of deposits.

We get a similar outcome when we consider the impact at the individual investor level. With the existing treatment of deposits, the average return across the superannuation funds is 4.6 per cent.³⁰ With the typical balanced portfolio including just 10 per cent cash, even if the regulators were to treat all of it as stable and interest paid rises by 40 basis points, this would result in a lift in the average return to 4.64 per cent.

As an example, we calculated the impact on a 25 year old average wage earner whose savings are invested in a balanced superannuation product. We make standard assumption: take the starting salary as \$1230 per week growing in real terms at 0.5 per cent per year, a 9.5 per cent super contribution rate and contributions tax of 15 per cent, and retirement at age 65. We also assume a standard portfolio allocation (35 per cent Australian equities, 35 per cent

³⁰ <https://www.superratings.com.au/latest-returns/returns>

international equities, 10 percent Australian bonds, 10 per cent international bonds, and 10 per cent cash). Using historical averages for real returns on various asset classes, the real return on the portfolio is an average 4.60 per cent per year.

After 40 years, the person would have \$569,000 in real (constant dollar) terms under the current rules. If the policy were to change and the cash component all treated as stable deposits giving an increase in the annual return of 4 basis points, to a real return of 4.64 per cent per annum, the amount available at 65 would rise to just \$572,000 in real terms. This is an increase of less than 1 per cent. If the person followed a more conservative allocation, with 65 per cent in cash, the real retirement sum would be \$373,000. Under the alternative treatment of deposits, this would rise to \$386,000.

Of course the higher deposit rate would apply in the retirement phase as well which gives the benefits of the policy change another twenty years or so to have its effect. We did two experiments, both assuming that in retirement the individual is single, a homeowner with no other assets and receives a part pension (calculated reflecting remaining superannuation assets).

- (a) In the first, we asked how long the superannuation would last before exhausting at a normal rate of depletion under the current rules and under the potential change to the treatment of deposits. (For this, we assumed that the retiree would invest in a stable income retirement product involving 65 per cent cash with the remainder in fixed interest). A 'comfortable income' of \$43,000 per annum could now be achieved through to age 92 rather than age 91.
- (b) We also asked, if we forced the exhaustion date to be the same in both cases, how much more could the retiree spend weekly under the proposed changes versus the current situation? In this scenario, the annual income received by the retiree would increase from \$44,550 to \$45,150 which is an increase of \$11.50 per week.

11.2. Would behaviour change?

Any policy changes which altered the treatment of the cash holdings by individuals through their superannuation funds would have two effects. As discussed above it has implications for the funds they have available in retirement. Potentially, the higher return on cash would also induce them to hold more of their investment in cash. This would reduce the volatility of their expected earnings and retirement balance (but at the expense of a lower expected retirement balance because of the shift out of higher earning assets into lower yielding cash).

Would individuals actually make the change? The Australian evidence is that individual superannuants would not. For example, Delpachitra and Rafizadeh (2014) conclude from their research that ‘Consumers’ decisions are not driven by funds’ investment characteristics’ (p.60). This forms part of a broader analysis of the decisions of superannuation investors demonstrating clearly that few people actually switch funds on the basis of performance (Feng and Gerrans 2016). The net effect of any change in the regulatory treatment of deposits is thus likely to be through the impact on passive investors in default allocations rather than through active investors switching to take advantage of the higher return or through decisions made by fund managers.

Ironically, even for people establishing SMSFs, the evidence is that they are not motivated directly by member’s returns. Bird et al (2016) survey current and former SMSF and find that: ‘The majority of funds are started at the instigation of financial planners or accountants, not at the suggestion of friends or family, or even at the member’s own initiative’ (p33). This leads us to ask whether SMSFs have actively chosen to avoid managed funds because of the return characteristics and, hence, whether a change in returns to cash might induce them back into the managed sector. Baiocchi (2014) finds little rationality in the investment behaviour of SMSF trustees: ‘The study’s findings, which have shown that SMSF trustees within the sample did not in general make ideal investment decisions prior to, during and following the global financial crisis’ (p 120).

The implication is that any change to the deposit rules is not likely to lead to a large exodus of SMSFs back into the world of managed funds. There is little evidence that they are splitting deposit savings into parcels below the \$250,000 level to take advantage of the FCS, and nor do they appear to be particularly focussed on returns at all. In fact, there is little evidence of return sensitivity anywhere in the Australian superannuation system. There is some literature suggesting that about twenty percent of superannuants see themselves as investors but switching is still a minority behaviour. The evidence is also that people who switch often do so at the wrong times and finish up worse than if they had stayed in a default option.³¹

Nevertheless, most superannuation funds are managed by professionals. Even if individuals would not make the change to their asset allocations, their managers should. The effects may be small for individual investors but they can still have macroeconomic consequences.

³¹ Delpachitra and Schumann (2014)

12. Macroeconomic issues

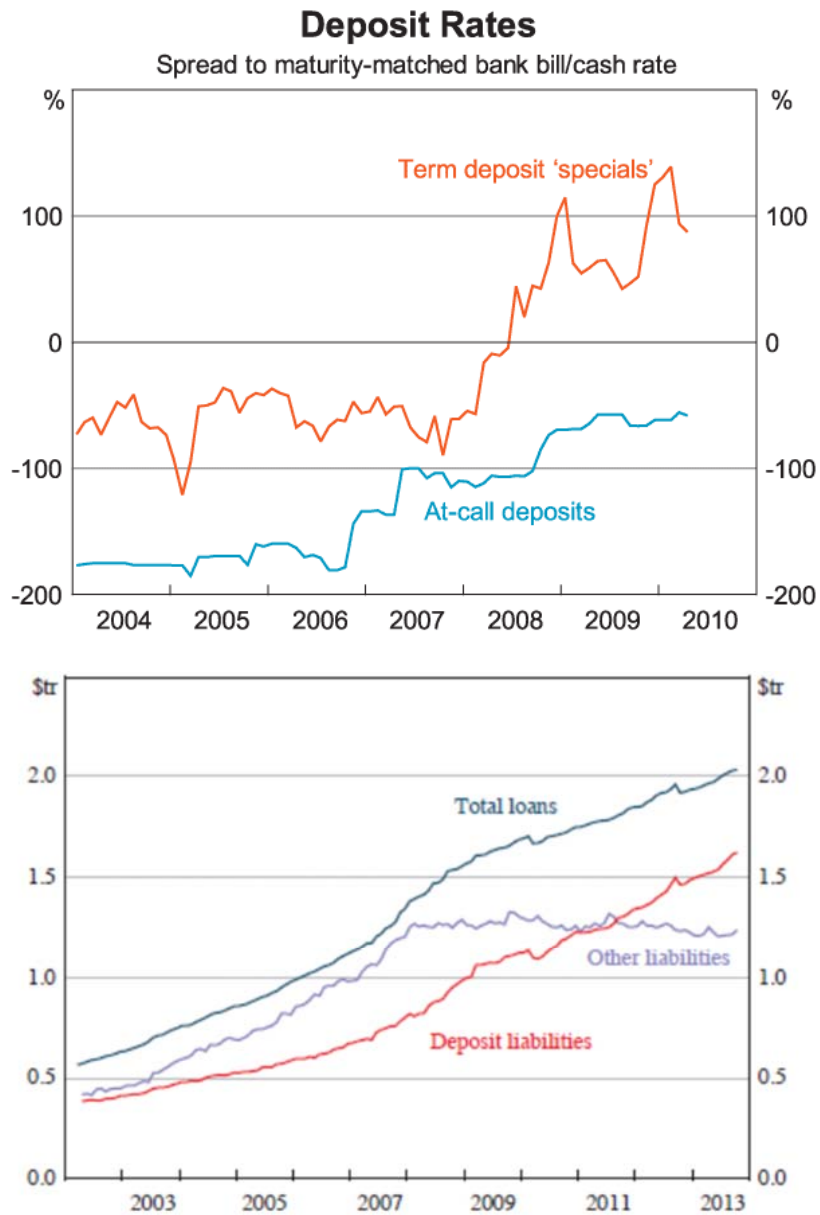
Any decision to increase the return available for savings is likely to have broader consequences. At the first level, the higher return available on deposits should increase the overall supply of deposits. We are also likely to see some substitution between deposits and other similar cash products.

The more important consequence is likely to be on banks because of the very significant role bank deposits play in driving bank behaviour, and the importance of bank offshore borrowings for the current account. The first step then is to try to estimate the quantity of additional deposits likely to be called forward by any change to the returns available on deposits if more are reclassified as stable.

12.1 Are deposits responsive to prices?

In the post 2008 period in Australia when the price paid for deposits increased sharply (Figure 2 – top panel) there was a clear and substantial break in the trend growth of deposits. Figure 2 below actually suggests that a one-year horizon may be too brief and that the impact of a sustained rise in deposit pricing continues to cumulate.

Figure 2: Deposit pricing rise and jump in deposit supply



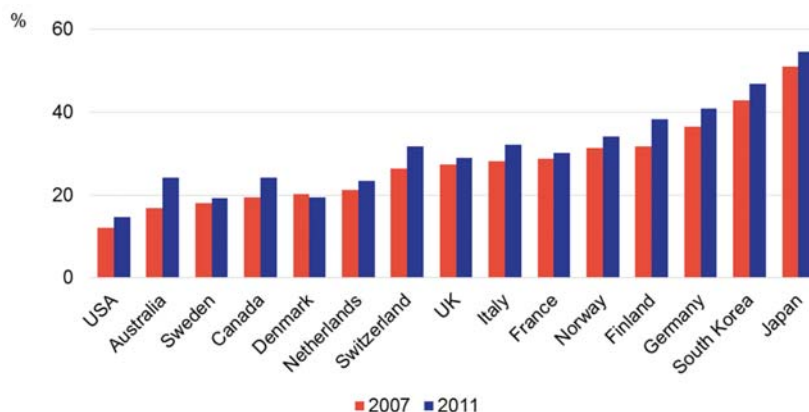
Source: Top panel from 2010 speech, *Competition in the Deposit Market*, by RBA's Edey and bottom panel from RBA Discussion Paper 2013-15.

The OECD has demonstrated that, at the time, the impact on deposits occurred both in the household sector directly and through the superannuation sector (Figure 3). This is hardly surprising since a significant change in the returns to a particular class of asset should tilt the allocations made by any attentive fund manager within the bounds of any mandate. Even if

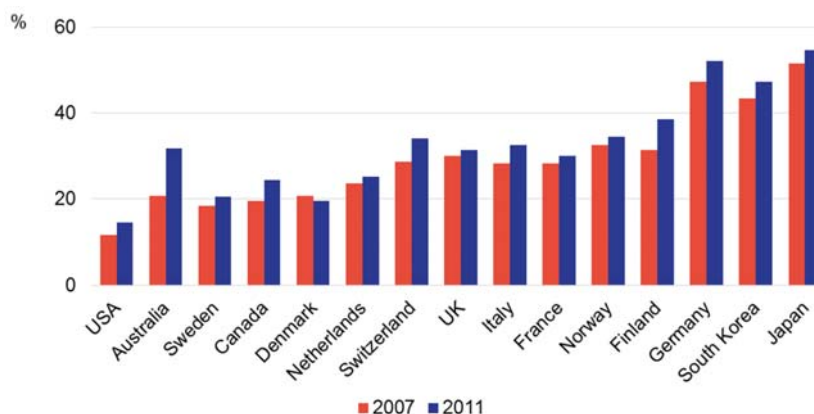
individuals were not very responsive to returns, managers could be expected to be (Sialm et al 2015).

Figure 3: Increased share of deposits in assets of super funds

a) Share of financial assets - households direct balance sheets



b) Share of financial assets - household direct and via superannuation entities



Source: Stewart et al (2013) from OECD

Experience during and in the period immediately after the crisis may not be the best indicator of how people can be expected to respond to changes in rates paid on deposits. Clearly there was an immediate move to boost savings driven by precautionary motives. There is however broader data available to measure the sensitivity of savings to rates.

12.2 Does it matter? How big is the macroeconomic effect?

The best available estimates come from Bank of England researchers who find that the interest rate elasticity of supply of deposits in the UK, gradually building up over 12 months, is 0.3 (Chiu and Hill 2015). That is, a 1 per cent increase in the deposit rate across the system and sustained for 12 months would result in a 0.3 per cent increase in the banking systems'

deposits. (The time profile is steep, with banks having to pay a lot more if they need to cover a deposit shortage more immediately).

From the earlier discussion, we know that superannuation funds held some \$181 billion in deposits (APRA March 2017) and that between \$14 billion and \$28 billion is currently treated as stable. The reclassification of all the deposits held in superannuation funds as stable would mean that the pricing of \$160 billion of deposits would change. The amount of the change in the interest paid on deposits would probably lie between 40 basis points and 60 basis points on a base level of 150 basis points or roughly a 33 per cent increase. If the elasticity of supply of deposits is 0.3 then this would result in a 10 per cent increase in the volume of deposits at a one-year horizon. That is, bank deposits would rise by some \$20 billion:

$$\text{Elasticity} = (\text{change in deposits} / \text{level of deposits}) / (\text{change in price} / \text{level of price})$$

$$0.3 = (\text{change in deposits} / \text{level of deposits}) / 0.33$$

$$0.11 = (\text{change in deposits} / \text{level of deposit})$$

$$0.11 = \text{change in deposits} / \$181 \text{ billion}$$

$$\$19.9 \text{ billion} = \text{change in deposits.}$$

The elasticity estimate from Chiu and Hill is based on deposits made in British banks. The paper suggests a confidence interval of 0.1 to 0.5. This suggests that the range of likely impacts lies between \$5 billion and \$40 billion, with \$20 billion as the central estimate.

A \$20 billion rise in bank deposits is small in the context of total bank deposits \$2,678 billion of deposits on the Australian books of ADIs, and even of the \$850 billion of deposits covered by the government guarantee. Banks also have a large range of settings they might change as a result of the increase. They might increase lending, reduce their reliance on other forms of funding particularly less stable forms, or they could even reduce the return they pay on deposits.

While it is difficult to predict the precise change, we can be fairly confident that its impact would be small. It is likely that most of the funds would flow from the broad 'cash' bucket managed by funds, principally one imagines from term deposits.

Conclusions

This report has examined how various aspects of regulatory policy affect the potential returns on bank deposits for superannuation fund members, implications for retirement income balances, and effects upon the structure of the financial system and financial product design. The key policy issues considered are: the Liquidity Coverage Ratio requirement; the Net Stable Funding ratio requirement; the Financial Claims Scheme; and the levy on non-insured liabilities of large banks announced in the 2017 Federal Budget. The effects arise primarily through liquidity regulation attributing less stability to institutional superannuation fund deposits than to retail deposits.

The main effect of these policy settings is to reduce the interest rate which banks will offer to shorter-term deposits made by institutional super funds relative to those available to individuals and their Self-Managed Super Funds (SMSFs). We estimate the expected differential to be in the order of 30-60 basis points per annum, and this is consistent with actual rate differentials observed.

One important consequence of this is that individuals investing in 'cash' (in the form of bank deposits) through an institutional superannuation fund will accumulate less retirement savings than if the investment was made through a (equivalently taxed) SMSF. We estimate that the differential amounts to around \$11.50 less in expected weekly income in retirement for an 'average' individual in a balanced portfolio in accumulation phase and with a stable income retirement product offered by an institutional superannuation fund.

This is an important distortion in the Australian savings system. The same sorts of deposits made by the same sorts of investors are paid very different prices as a consequence of regulation.

Institutional superannuation funds are able to take actions to mitigate some of this effect for members. For members invested in their 'cash only' option (but not where cash is part of a balanced (or other type of) portfolio option, APRA regulations permit the possibility of institutional fund deposits being accorded sticky or stable funding status for the LCR and NSFR requirements. Those actions impose some restrictions on the flexibility of fund management and some operational costs, but these have relatively minor effects relative to the benefits gained for members.

That treatment is not possible for deposits which are part of a balanced (or other) portfolio option, but other mitigating actions are possible. One is for the superannuation fund to invest

in recently emerged forms of bank deposits which meet APRA requirements for classification as sticky or stable, but which also provide the superannuation fund with access to liquidity at short notice. A 'convertible notice period deposit' (names will vary with bank provider) involves the superannuation fund being able to convert the bank deposit into a negotiable certificate of deposit (NCD) with at least 185 days residual maturity after giving notice to the bank. The bank does not have any cash outflow obligation for at least 185 days (until the NCD matures) which makes this stable funding for NSFR requirements, while the super fund is able to sell the NCD in the capital market for cash.

However, one anomalous consequence remains which is that member balances are not covered by the Financial Claims Scheme (FCS), which only applies to the first \$250,000 of funds in the superannuation fund's account. This leaves individual retirement balances at risk of loss should a bank fail, and political pressures to take ex post actions to offset such losses would be likely to be significant. These would create complications regarding budgetary recoupment of such payments from the residual assets of the failed bank, unlike in the case of APRA where payments to insured depositors are matched by a priority claim on the bank assets.

The distortion could have major consequences in the advent of a bank failure. Under the current rules, people with deposits made through superannuation funds would lose their money, while other depositors would be protected.

We have argued that the FCS does not impose significant contingent liabilities on the government, unlike suggested in the Budget Papers, because APRA's priority position in a bank resolution provides it with the ability to recoup amounts paid out to insured depositors. Moreover, the Budget estimate is the incredulous 'doomsday' scenario when all banks fail simultaneously and APRA recoups none of the amounts paid out.

There is a strong case for provision of more realistic estimates of the contingent liabilities arising from the FCS to better inform policy debate.

However, even if the Budget Paper position is accepted, it should be noted that the likely actions of superannuation funds to create individual member deposit accounts would create the same (or similar) increase in contingent liabilities as applying the 'look through' approach. Using the (limited) data available, we estimate that the increase in FCS-covered deposits would be in the order of \$100-250 billion (relative to the \$850 billion current coverage).

Another consequence of such a change is that these deposits would no longer be classified as uninsured deposits for the purpose of the 6 basis point levy on such bank liabilities. The cost to the federal budget revenues from the levy would thus be in the order of \$60-150 million per annum.

Since it appears unlikely that there would be substantive behavioural effects, because budgetary consequences are small, and because ex ante formalisation of protection is preferable to arbitrary ex post political responses to a bank failure there is a strong case for applying the FCS on a 'look-through' basis to institutional superannuation fund bank deposits. The cost of doing this is small, and the actual and potential benefits are large.

There is a strong case for applying the FCS on a 'look-through' basis to institutional superannuation fund bank deposits.

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