13 March 2012 | 48 pages

Australian Banks

Myth Busting – A Few Home Truths on Mortgage Profitability

- **Myth 1: "Mortgages have become unprofitable"** — **BUSTED.** Contrary to suggestions by many industry commentators, even contemporary mortgages are profitable. Major bank mortgages currently deliver ROEs of ~40%, despite overall bank profitability being lower than 2007. Out-of-cycle re-pricing (implemented to offset declining deposit spreads – refer Figure 20) has increased ROAs to ~0.70%. But equally as important, lower mortgage risk weighting under Basel II has meant that, despite having lifted CET1 to meet the January 2013 Basel III requirements, banks have achieved higher gearing. This results in mortgage ROEs being substantially higher than pre-GFC levels.

- **Myth 2: "Banks primarily fund mortgages with term wholesale funding" — BUSTED.** Major bank variable rate mortgage portfolios totaled ~$900bn at FY11 but their outstanding term wholesale funding (> 12 months to maturity) a little over one-third of that level. While convenient for some to imply, it is neither practical nor correct to suggest that banks are essentially funding their books with their most expensive funding sources.

- **Myth 3: "Funding pressures are as bad if not worse than during the GFC"** — **BUSTED.** Short rates out to 12 months are little changed. Longer-term spreads have backed up by ~50 bps, but are still well short of GFC levels. And importantly, as these are spreads over sovereign and Australian Government bond yields which have fallen almost 300 bps since the GFC, the absolute level of term funding costs at Australian banks is still falling.

- **A mortgage primer —** Aside from dispelling myths, this report will serve as a reference point on mortgage market dynamics, including mortgage credit volume drivers, the strategies of the major players and prospects for the mortgage securitisers as covered bonds are introduced.

- **CBA best placed —** With lower mortgage processing costs as well as scale benefits and stakes in the largest third party mortgage distribution groups.

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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Myth 1: "Mortgages have become unprofitable"

Figure 1. Mortgage profitability using CBA as a proxy for the industry (bps)

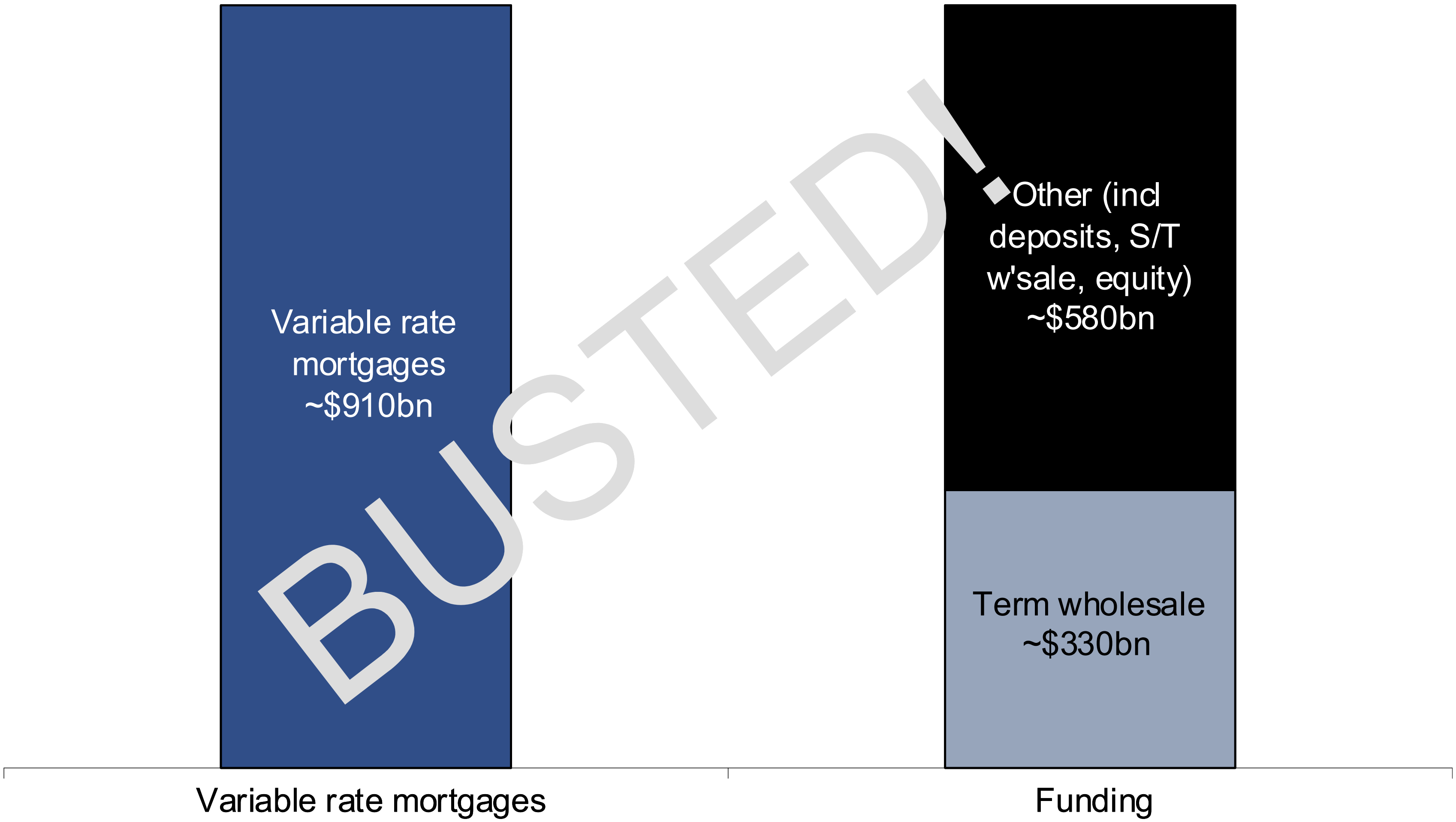
	FY06	1H12
Net interest yield	**676**	**678**
Interest cost	506	468
Add: liquidity cost allocation	(11)	9
Add: deposit spread	106	26
Net interest cost	**601**	**503**
Net mortgage spread	**75**	**175**
Non interest income	11	7
Retail cost-to-income ratio	43.6%	38.3%
Provision allowance	5	5
Tax rate	30%	30%
Return on assets	0.31%	0.75%
Mortgage risk weight (weighted average)	50.0%	20.3%
Core Equity Tier 1 ratio	4.0%	8.5%
Mortgage return on equity	**15.3%**	**43.4%**
Avg BBSW	568	475

BUSTED!

Source: Citi Investment Research and Analysis

Myth 2: “Banks primarily fund mortgages with term wholesale funding”

Figure 2. Variable rate mortgage book funding – major banks, FY11

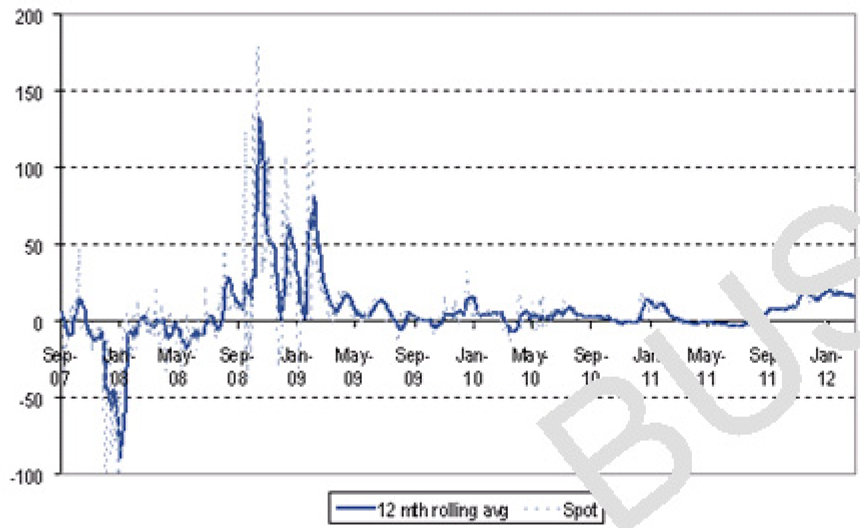


Note: Other funding includes customer, short-term wholesale, term wholesale < 12 mths maturity, equity, hybrids and other liabilities. Term wholesale is the > 12 mths maturity total.

Source: Company Reports, Citi Investment Research and Analysis

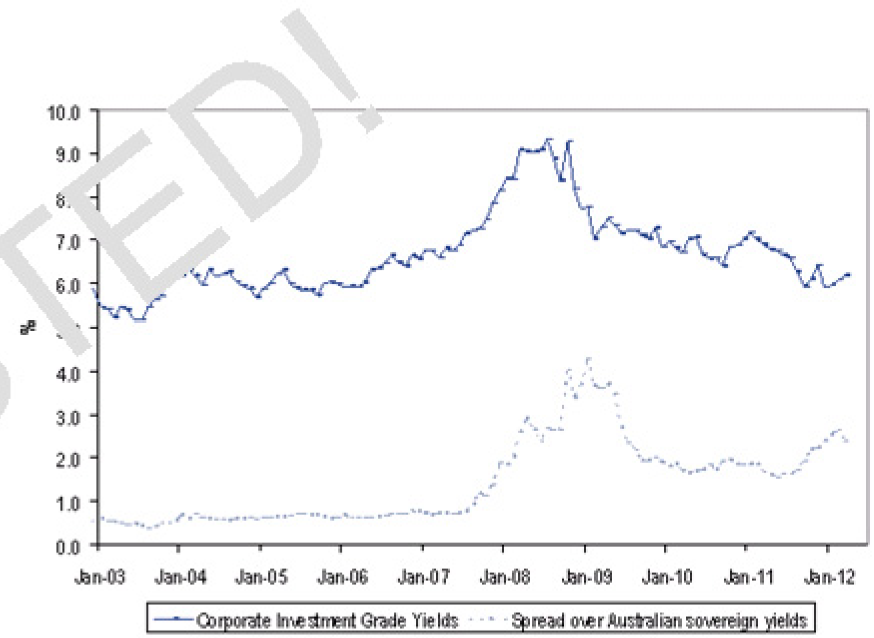
Myth 3: "Funding pressures are as bad if not worse than during the GFC"

Figure 3. AUD LIBOR overnight – spread over RBA cash rate



Source: Bloomberg, Citi Investment Research and Analysis

Australian corporate investment grade term yields and spreads



Source: Yield Book (market cap weighted, average term ~ 3.5 years)

Profitability

Mortgage profitability has risen strongly since the introduction of Basel II capital requirements in 2006

- We estimate that mortgage profitability at CBA has risen from 15% in FY06 to >40% in 1H12 (Figure 4) (Appendix 1 a, b).
- Given CBA's scale and higher Group ROE , mortgage ROEs at the other major banks would be a little lower than this level, and significantly lower at the regional banks, primarily because of their higher funding costs, higher mortgage risk weights under Basel II Standardized, and higher retail banking cost to income ratios.
- We do not expect that either this assessed mortgage ROE or CBA's group ROE will shift much in 2H12, as the higher term funding costs seen in late 2011 and the earlier part of this year are likely to be well covered by the 10bps out of cycle mortgage re-pricing announced by CBA in February.

Figure 4. Mortgage profitability using CBA as a proxy for the industry (bps)

	FY06	1H12
Net interest yield	**676**	**678**
Interest cost	506	468
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Avg BBSW	568	475

Source: Citi Investment Research and Analysis, Company Reports

Figure 5. Key drivers of increased mortgage profitability

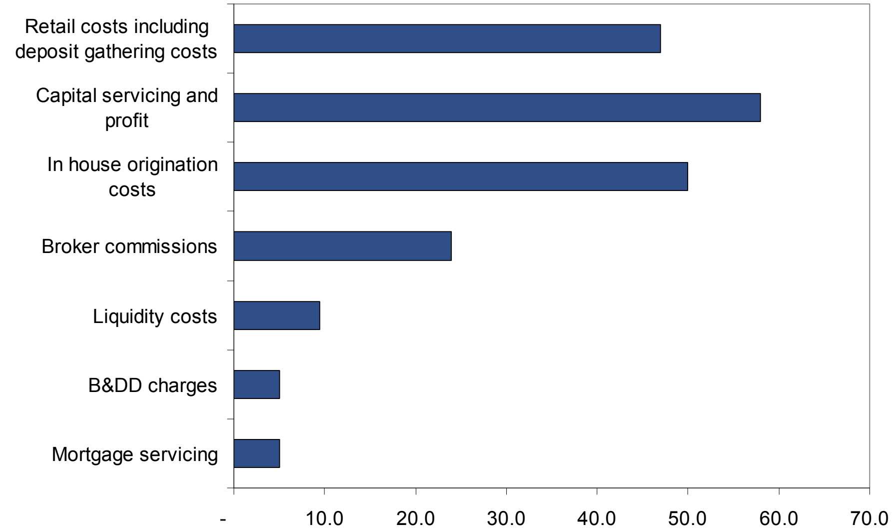
- An expansion in asset spreads via successive mortgage re-pricing (see page 15) which have offset both lower deposit spreads (page 14) and higher wholesale funding spreads (page 12 and 13).
- Increased leverage as a result of a 60%-70% reduction in risk weights following the introduction of Basel II in 2006, despite a more than doubling of equity capital ratio requirements.
- Improving cost efficiency in both mortgage servicing and origination via the continued expansion of lower cost third party origination channels (page 34).

Refer to Appendix 1-c for further detail on our methodology.

Source: Citi Investment Research and Analysis

Origination, deposit gathering and capital servicing are the major components of banks controllable mortgage provisioning costs

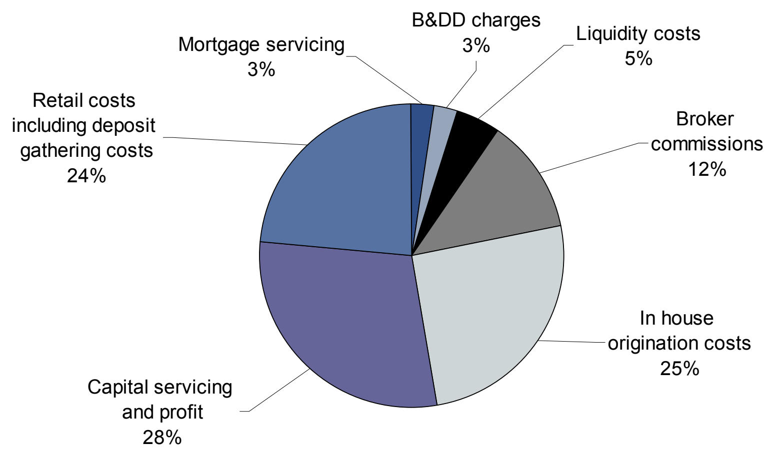
Figure 6. Dissection of ~200bps gross spread by component, bps*



* Note: 200bps is our estimated CBA spread of 175bps on page 7 excluding broker commissions.

Source: Citi Investment Research and Analysis

Figure 7. Dissection of gross mortgage spread components by %



Source: Citi Investment Research and Analysis

- We estimate in-house origination costs to be ~40% higher on a per unit basis than broker origination costs, mainly due to differences in the volumes of mortgages written per originator.
- Compared to other countries, impairment charges and mortgage servicing costs are extremely low in Australia as a consequence of the very low levels of mortgage payment arrears.

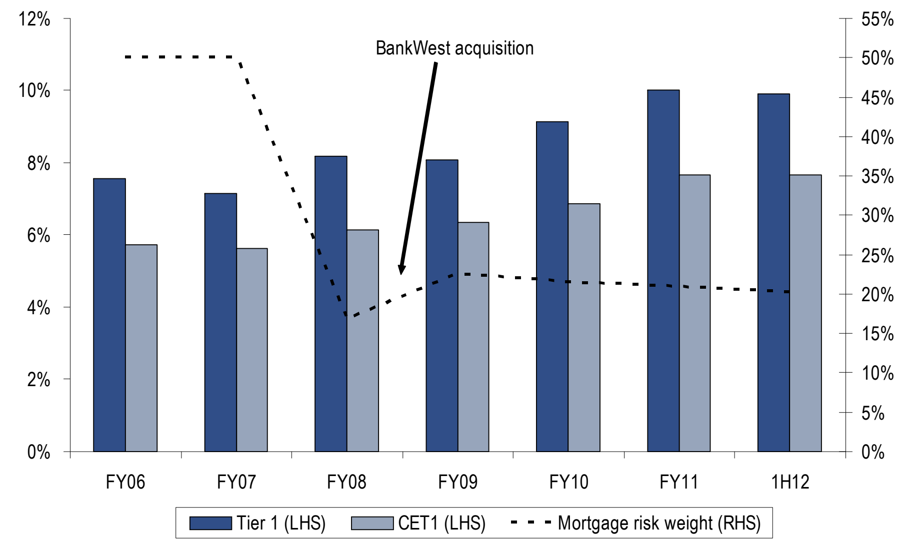
Under both Basel II and Basel III, the capital efficiency and ROE advantages flowing from Advanced IRB status are immense

Figure 8. Mortgage risk weights (weighted average)

	FY06	FY09	Dec-11	Mortgages % EAD	Mortgages % credit RWA
ANZ	50.0%	18.3%	18.0%	38%	17%
CBA	50.0%	22.6%	20.3%	56%	32%
BWA	50.0%	48.6%	48.6%	66%	55%
NAB	50.0%	28.4%	24.3%	41%	24%
WBC	50.0%	21.7%	15.1%	57%	25%
BEN	50.0%	39.7%	39.9%	64%	46%
BOQ	50.0%	44.6%	44.8%	34%	59%
SUN	50.0%	40.0%	39.9%	54%	41%

Source: Citi Investment Research and Analysis, Company Reports

Figure 9. CBA weighted average mortgage risk weight vs regulatory capital ratios



Source: Company Reports, Citi Investment Research and Analysis

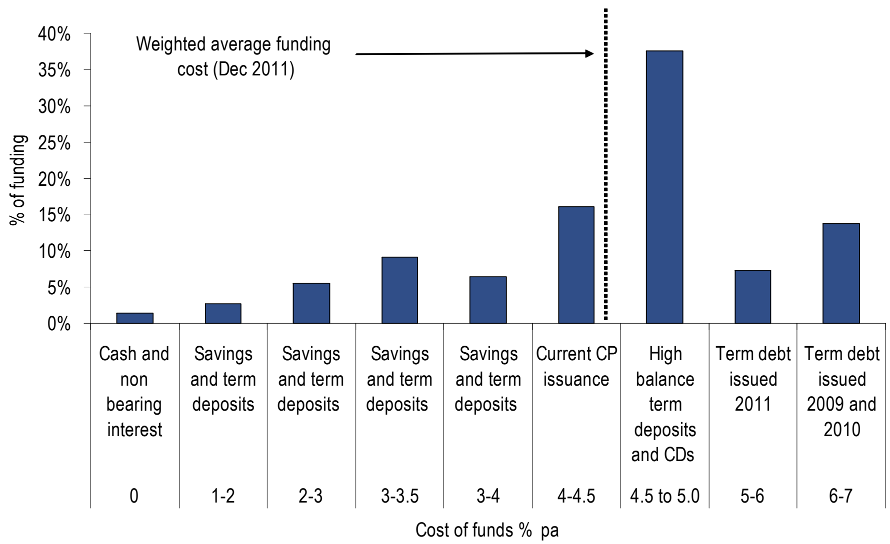
- Figure 8 highlights the large fall in mortgage risk weightings achieved at the major banks when they received Advanced status under Basel II.
- BEN has a project underway to move to Advanced status. If it were successful, we would expect that APRA would allow it to progressively lower its risk weightings. We estimate this would add ~1% to ROE initially.

Funding

Commercial banks are funded out of a 'pool', not a 'bucket'

- Bank product profitability, both front and back book, should be assessed against the weighted average cost of funds (the 'pool') and not against the marginal cost of funding (a 'bucket').
- The marginal cost of funding is obviously important as it determines of the average cost of the 'pool' over time, but even with the marginal cost currently being above the weighted average cost, this does not render front-book mortgage business unprofitable as has been suggested. The mortgage re-pricing which banks have undertaken has therefore been done to address the gradual change occurring in the average cost of funds rather than to make front book business 'profitable again'.

Figure 10. Hypothetical Australian "Megabank" funding pool components



Source: Citi Investment Research and Analysis

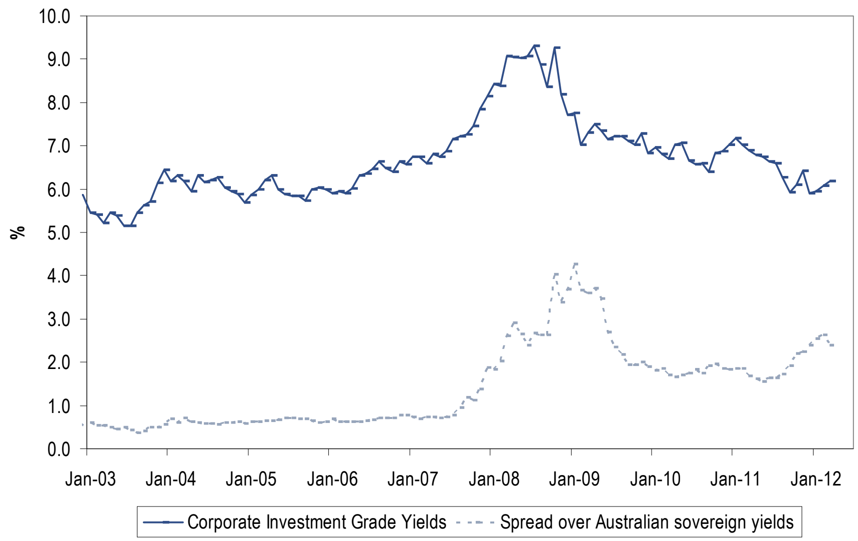
Figure 11. Hypothetical Australian "Megabank" funding pool attributes

- Sole funder to on-balance sheet loans with only very small volumes securitized.
- Loan and deposit interest rate characteristics are managed within overall interest rate risk controls.
- Maturity of deposits is managed to provide an "extended crisis" liquidity capacity.
- Deposit maturities managed to provide adequate stable funding ratios and spread refinancing risk on wholesale borrowings.
- Short- and long-term maturity gaps set on the basis of "worse case prepayment risks" on mortgage book and undrawn limit drawdown scenarios in business bank.
- Substantial portion (~70%) of long-term housing loans are funded out of shorter maturity deposits because of:
  - reasonably predictable prepayment practices
  - the likelihood that prepayments would be delayed in an extended crisis situation, and
  - the inherent "stickiness" of retail deposits, for as long as the institution retains public confidence.

Source: Citi Investment Research and Analysis

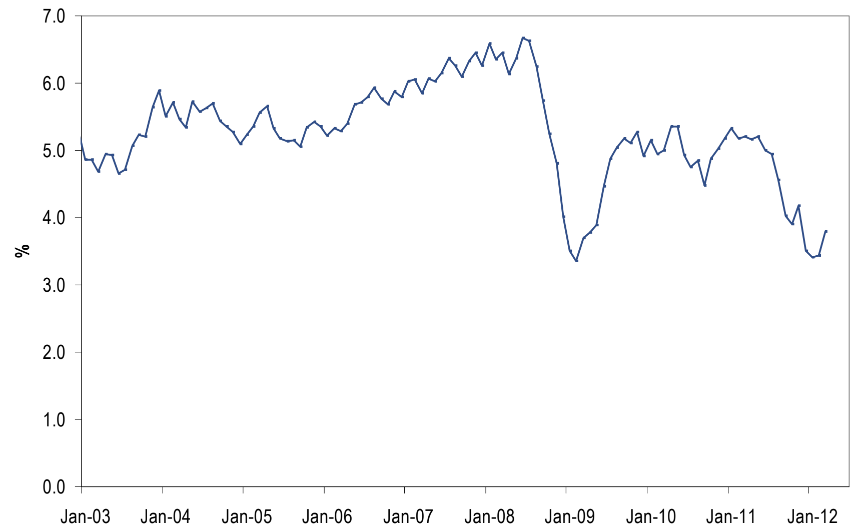
The GFC fundamentally changed credit spreads and funding parameters

Figure 12. Australian corporate investment grade term yields and spreads



Source: Yield Book (market cap weighted, average term ~ 3.5 years)

Figure 13. Australian government five year government bond yields

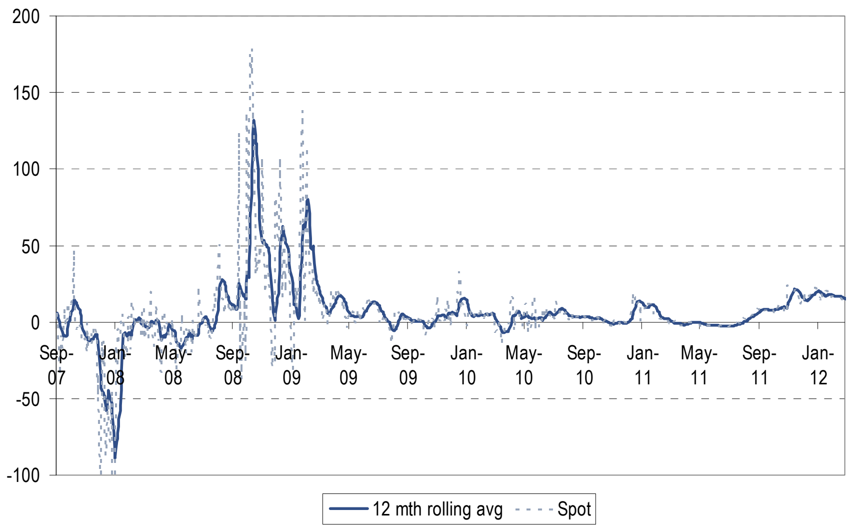


Source: RBA

- Approximately 40-50% of wholesale funding at most of the major banks comes from short-term funding, with the balance in terms usually ranging from 3 to 5 years.
- Australian corporate investment grade spreads over sovereign yields rose dramatically in 2008 (Figure 12), with banks less impacted vs like-rated corporates in 2008/9 and more impacted vs like-rated corporates in late 2011/12.
- Despite these rising spreads, all up absolute term funding costs are back to the levels of 2004/5, because Australian government bond yields have fallen by about as much as the widening corporate borrowing spreads, which has broadly enabled banks to offer fixed loans at prices not greatly impacted by widening credit spreads (Figure 13).

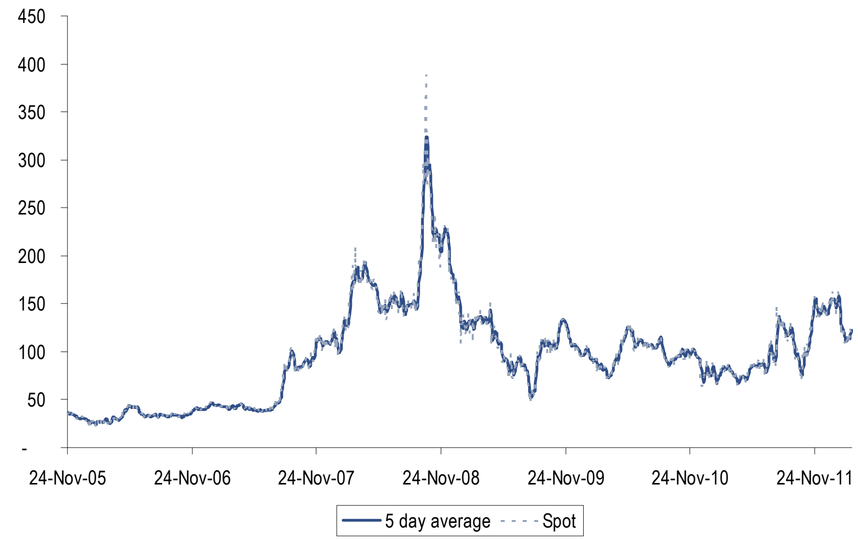
Shorter-term credit spreads also rose, though they are now much below GFC levels

Figure 14. AUD LIBOR overnight – spread over RBA overnight cash rate (OCR)



Source: BBA, RBA, Citi Investment Research and Analysis

Figure 15. AUD LIBOR 12 months: spread over Australian domestic sovereign 12 mth yields

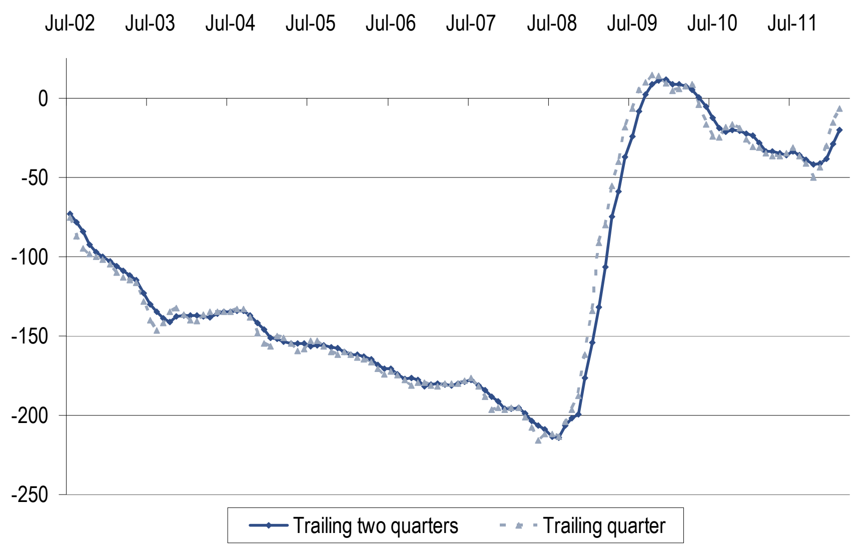


Source: BBA, Bloomberg, Citi Investment Research and Analysis

- Overnight wholesale borrowing spreads (Figure 14) and 12 month wholesale borrowing costs (Figure 15) rose dramatically in the GFC, but the Euro debt crisis in late 2011 and early 2012 has, thus far, had much less impact.
- We expect the recent actions by the European Central Bank to effectively take over lender of last resort functions from Euro area country central banks will mean that offshore wholesale borrowing spreads for the Australian banks will remain benign throughout 2012.

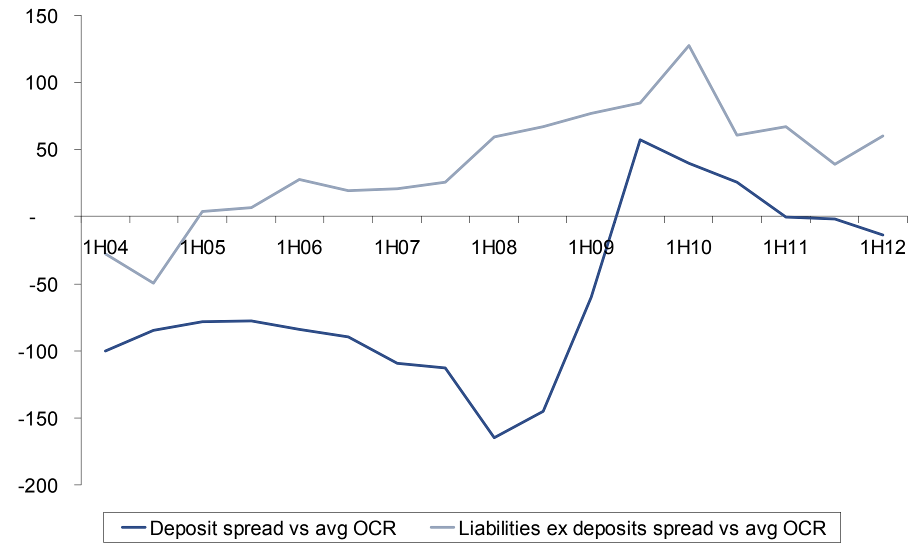
Deposit costs then rose in line with wholesale funding costs, thereby destroying the traditional deposit side spread…

Figure 16. Average deposit spread vs overnight cash rates: all Australian banks (bps)



Source: RBA

Figure 17. Deposit and liability spreads at CBA (bps)



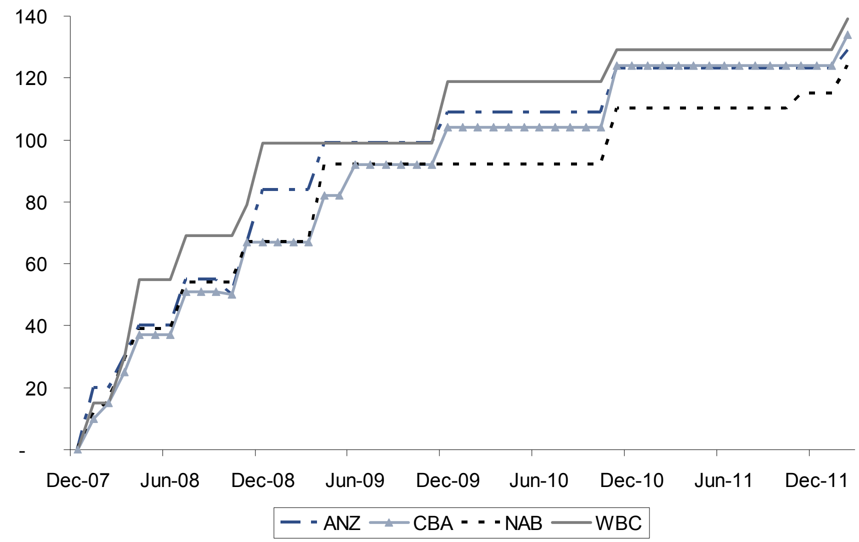
Note: Liabilities ex deposit spread is a close proxy for wholesale borrowing spreads

Source: Company Reports and Citi Investment Research and Analysis

- In response to the widening of wholesale funding spreads, bank deposit rates rose relative to overnight cash rates, The average deposit spread therefore contracted quite markedly (Figure 16) in 2009 and early 2010. Deposit spreads started to widen modestly in 2011, only to be checked towards the end of 2011 as European debt woes lead to a widening of credit spreads.
- Deposit spreads at CBA followed a similar pattern (Figure 17) to the system wide trajectories shown in Figure 16.
- Our recent note (February 10 National Australia Bank Ltd - A POoR Situation in the UK) showed that this narrowing of deposit spread also occurred in the UK after the GFC, recognizing that the widening of wholesale borrowing spreads for banks was a global phenomena.

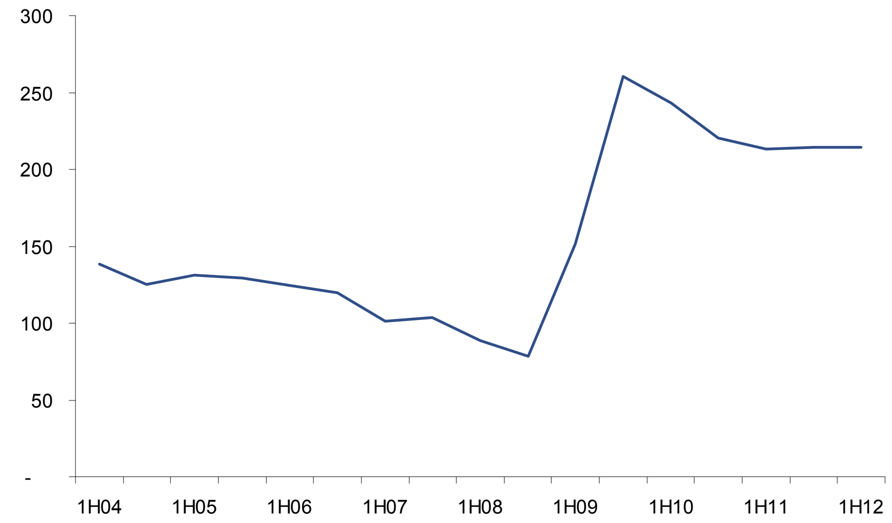
…so banks responded with a succession of 'out of cycle' mortgage price rises, thereby building asset side spreads

Figure 18. Out of cycle mortgage re-pricing initiatives at the major banks (bps)



Source: Company Reports, Citi Investment Research and Analysis

Figure 19. CBA mortgage spread vs overnight cash rate (bps)

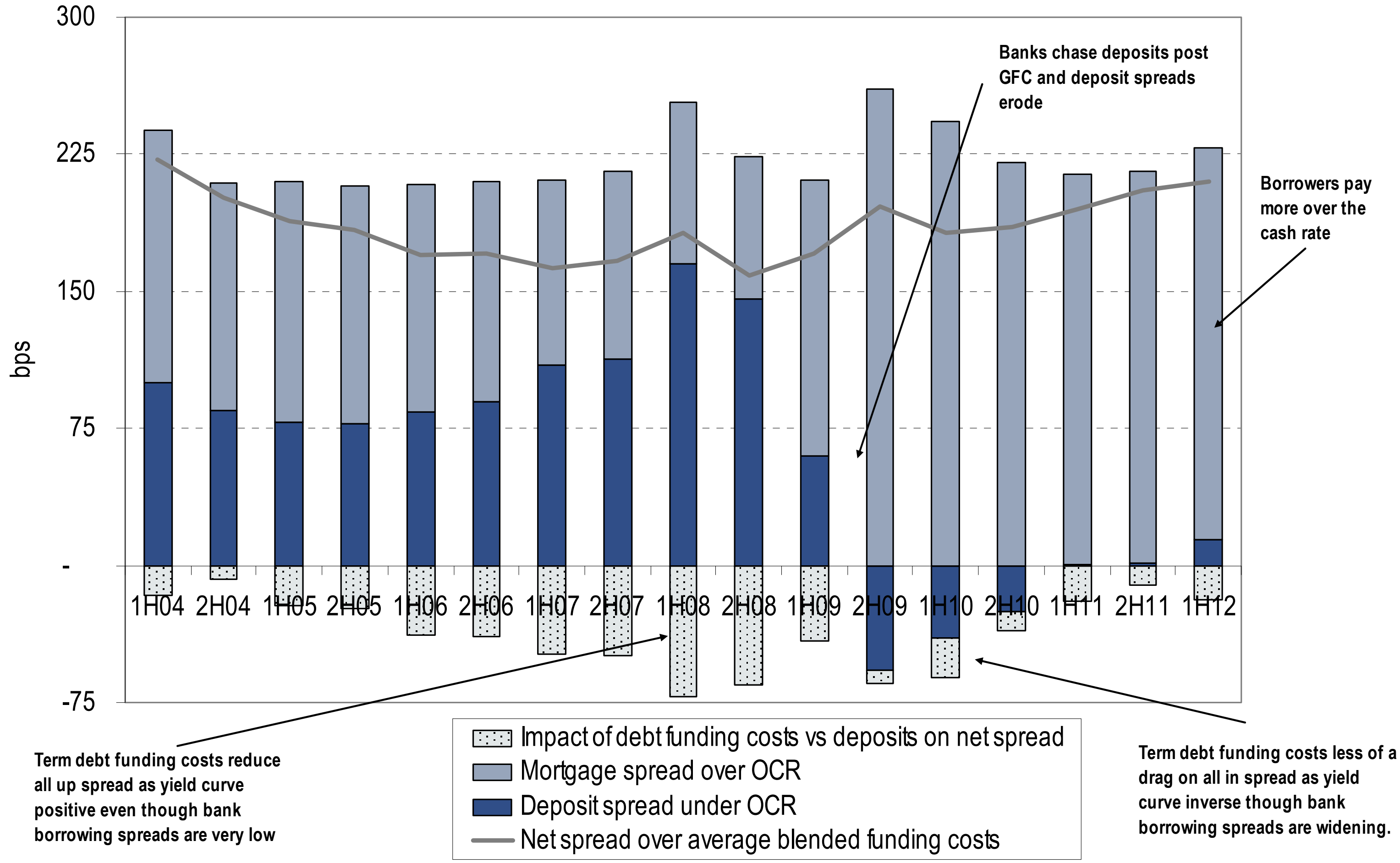


Source: Company Reports, Citi Investment Research and Analysis

- Out-of-cycle mortgage increases now range from 124bps at NAB up to 139bps at WBC (Figure 18), with the range between the highest and lowest priced major bank mortgage narrowing substantially over the last six months.
- At CBA this has lifted asset side spreads well above historical norms (Figure 19) offsetting most or all of the contraction in deposit spreads.

…meaning little of the mortgage spread is derived from the low average cost of funding these days

Figure 20. Movements in Australian home mortgage aggregate spread and asset and liability contributions using CBA as best proxy (bps)



Source: Company Reports, RBA, Citi Investment Research and Analysis

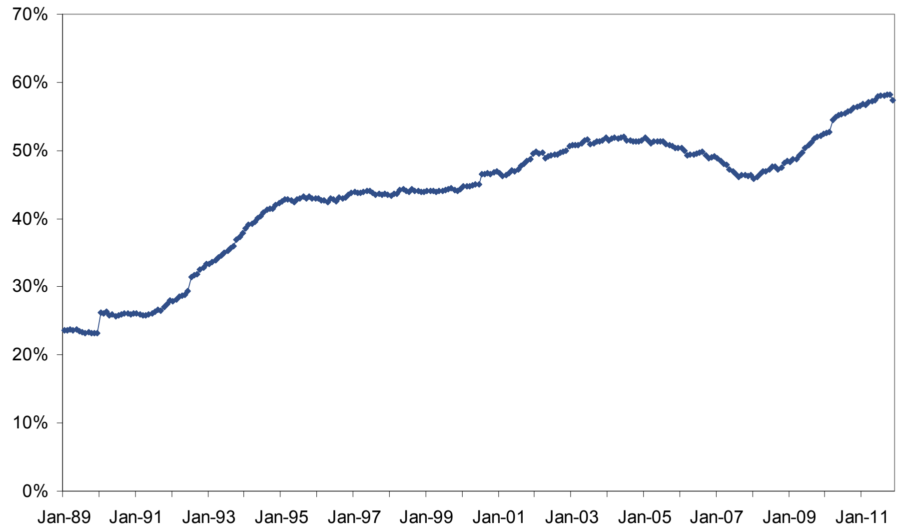
- Figure 20 shows our estimate of the movements in home mortgage spreads over the period 1H04 to 1H12 using CBA's as a proxy for the sector. The key assumptions underlying our analysis are outlined in Appendix 1 c.

- Our key conclusions from this analysis for the major banks are:
  - Mortgage spread was eroded in the mortgage lending boom, between 2005 and 2007.
  - Further spread erosion through the early stages of the GFC as the deposit spread contracted without offsetting asset side re-pricing.
  - Slowly restored their mortgage spreads between 2H09 and 1H12 through a combination of asset re-pricing, slow recovery of some small amount of deposit spread, and a lessened impact from wholesale borrowing costs as interest rates fell at the long end of the yield curve, and as the very high cost term funds taken on in 2008 and 2009 were slowly unwound.

Credit volume drivers

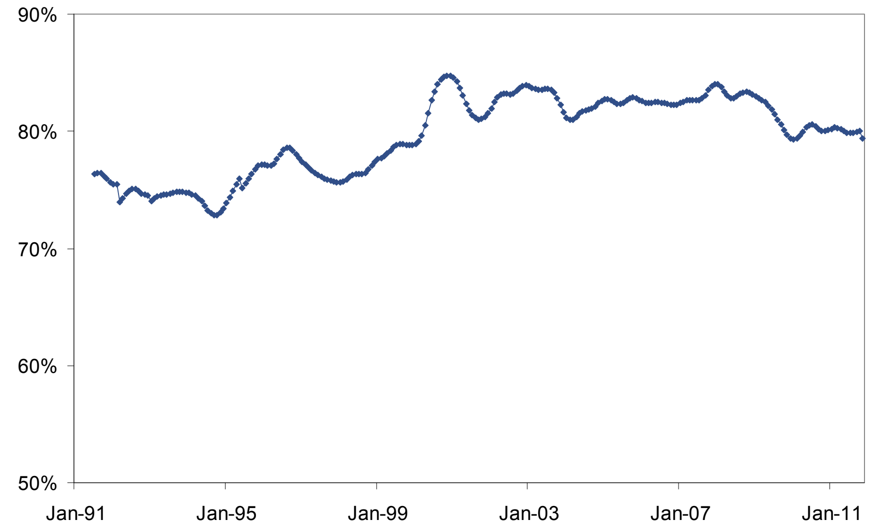
Mortgages on established homes have been the key driver of aggregate credit growth for decades

Figure 21. Mortgages as share of bank loan books



Source: RBA

Figure 22. New mortgage lending commitments – share coming from established homes



Source: ABS

- Mortgages have been an ever increasing share of bank loan books for decades (Figure 21) so the direction of mortgage credit has the largest bearing on bank balance sheet growth.
- Lending on established homes has been around 80% of total new mortgage lending throughout most of the last decade with the small decline in the last few years a result of lesser investor activity.

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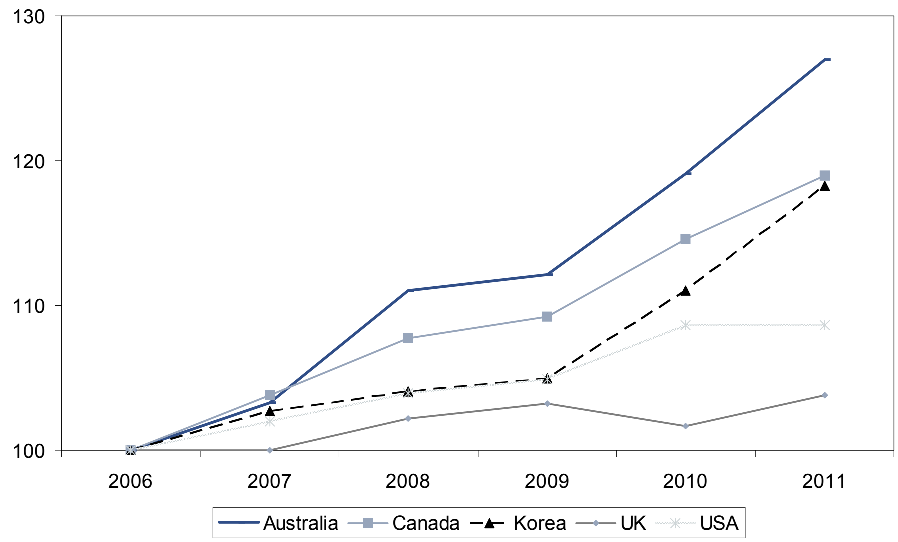
Australian household incomes are growing strongly and home purchase affordability is slowly improving

Figure 23. Nominal household disposable incomes in selected developed countries



Note: Base 2006 = 100

Source: OECD and National statistical and economic agencies

Figure 24. Australian home affordability index

Note: Index of affordability for new borrower acquiring median prices home at average household income

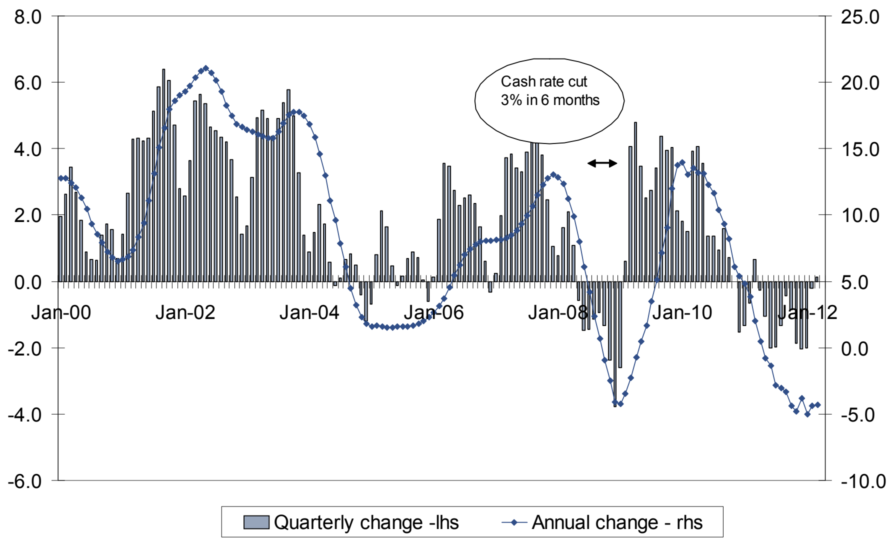
Source: HIA and Commonwealth Bank and CIRA Estimates

- Household deleveraging has been ongoing since mid 2010 with household deposits growing at around 2x household credit growth. Strongly rising incomes (Figure 23), modest falls in house prices, and two cuts in the overnight cash rates in late 2011 are combining to drive a sustained rise in housing affordability however, albeit from the severely unaffordable levels seen in late 2008 and again in mid 2010. (The HIA Commonwealth Bank index was originally structured around an Index Value of 100 representing reasonable affordability in that it equated to a household on average family income paying no more than 30% of their income on mortgage payments on a new loan representing 90% of the Australia wide median home price).

- Even without further cuts in the overnight cash rate in 2012 – and opinions are evenly divided as to whether these will eventuate – we expect home affordability will edge higher through 2012 (Figure 24) with the impact of the November and December rate cuts still to feed into quarterly averages.

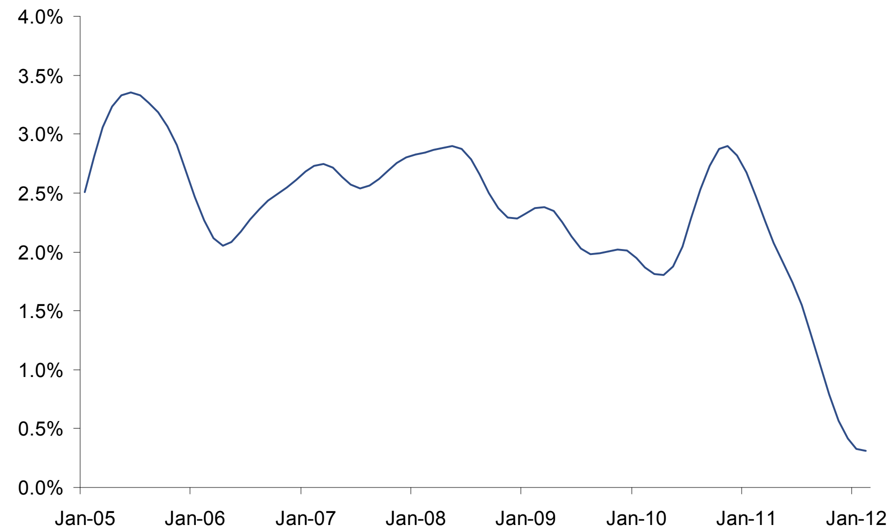
While home prices might be stabilizing with the latest OCR cuts, weakening employment growth is a new negative

Figure 25. Capital cities house price – movement in hedonic index



Source: RP Data Rismark

Figure 26. Annualized growth in employment

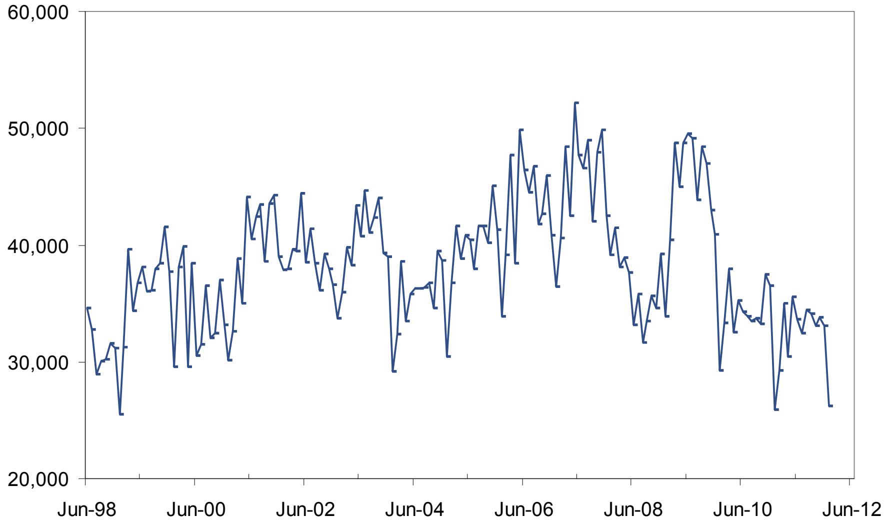


Source: ABS (Trend series covering full time and part time employment)

- Going into 1Q2012, house prices appear to be stabilizing (Figure 25), following the 0.5% fall in the overnight cash rate late in 2011.
- However, the ongoing pressure flowing from the two speed economy is if anything accelerating, with mining capex providing an ever increasing share of aggregate GDP growth and, consequentially, employment growth is now slowing considerably (Figure 26).
- While it is employment growth two years prior which is usually a stronger driver of housing credit demand, the very steep fall now being seen means that some immediate flow into reduced housing credit demand could occur via the continuing negative impact of the two-speed economy, job losses in AUD exposed industries, and the consequential impact on consumer sentiment and consumer confidence.

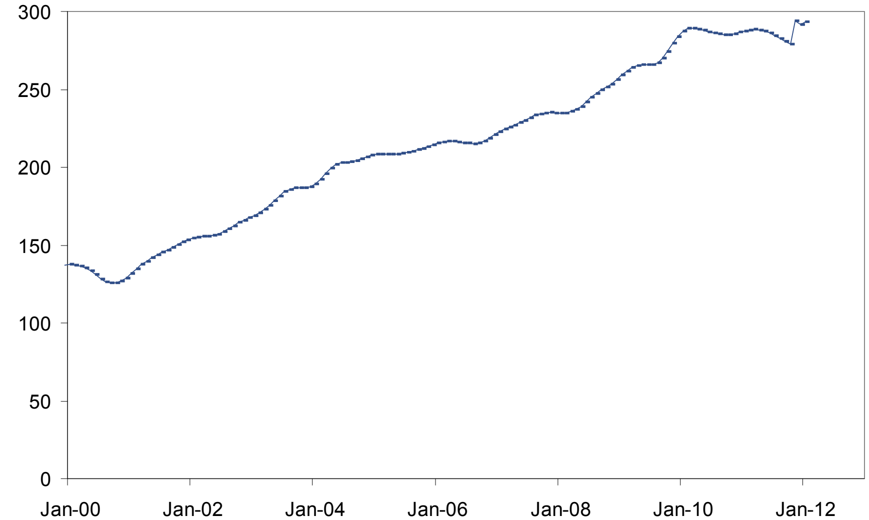
New mortgage lending commitments are bottoming out and loan values have stopped declining

Figure 27. Monthly number of mortgage commitments on dwellings (net of re-financings)



Source: ABS (original data without trend or seasonal adjustment)

Figure 28. Average value of new loans on established dwellings $,000

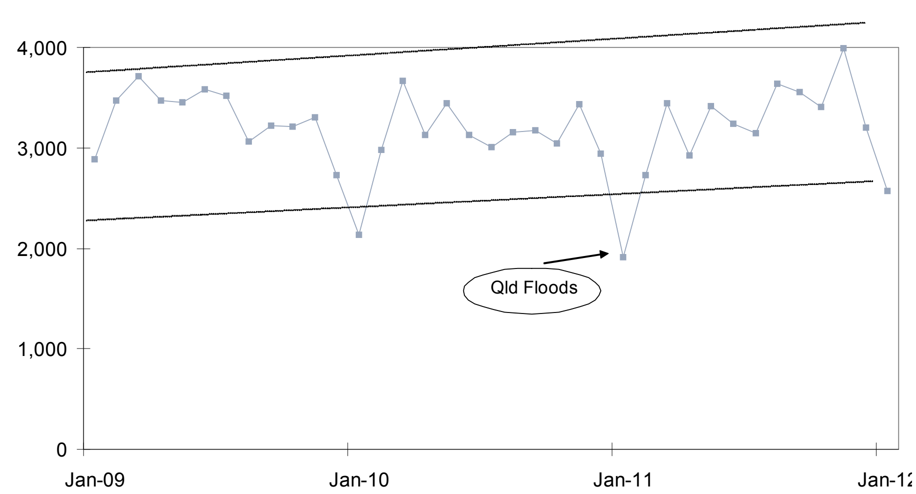


Source: ABS

- The number of mortgage loans on established dwellings (Figure 27) is presently down to levels seen in the late 1990s, with demand from all three segments – investor, new home buyer, and established home upgrader – at very low levels.
- That said, loan volumes have been in some small uptrend since May 2011 (Figure 27), albeit from levels which would otherwise have dragged housing credit growth down below 3% pa.
- Average loan values are stabilizing, or even exhibiting some slight positive uptrend (Figure 28). Given rising incomes (Figure 23) we think the worst is over in terms of falling loan values.
- The late 2011 OCR cuts will not start to show up in credit aggregates until February/March data releases in late March and late April.
- We expect rising affordability should prevent any further falls in mortgage credit growth throughout early 2012 and could lead to some upturn later in the year.

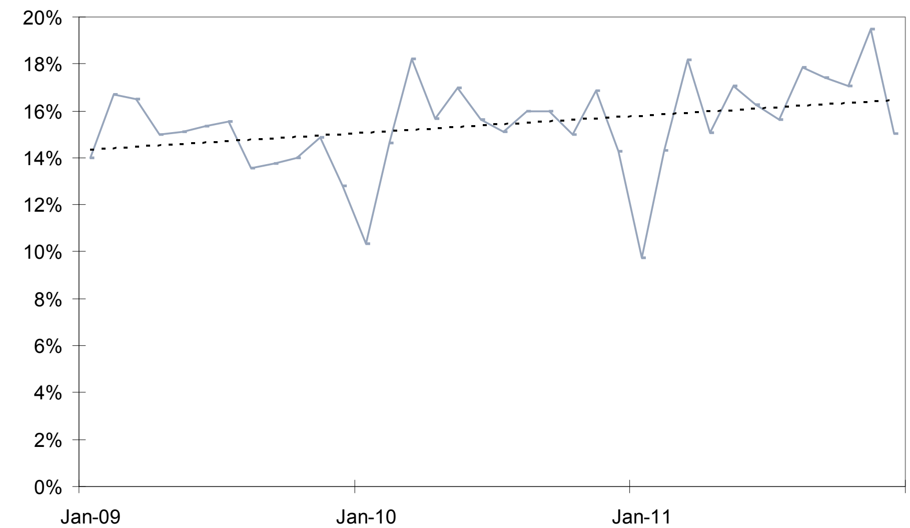
Major broker chain volumes are rising, but market share gains are mainly at work

Figure 29. Combined monthly originations by AFG and Mortgage Choice $m



Source: Company Reports

Figure 30. Combined monthly market share of mortgage originations for AFG and Mortgage Choice

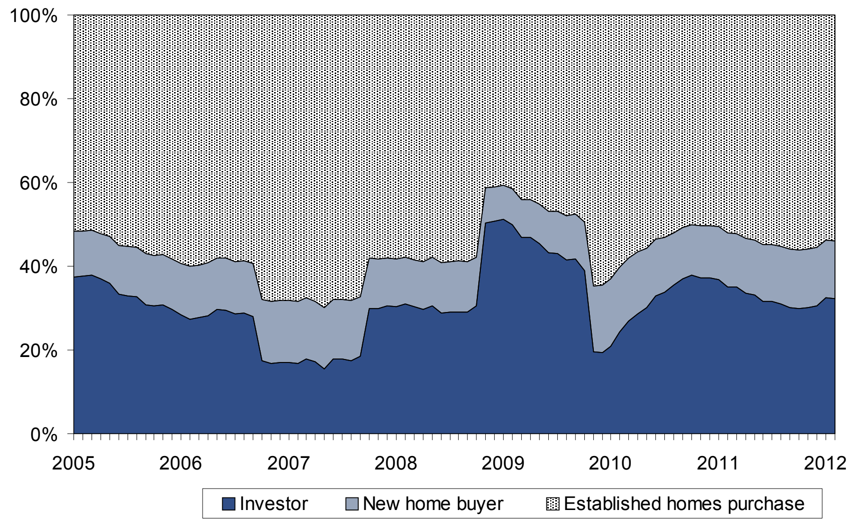


Source: ABS, Company Reports and CIRA

- Since broker origination statistics are available some six weeks before ABS releases we track these as possible early indications of any turnaround in mortgage lending approvals (Figure 29).
- However, much of the apparent uptrend in activity at the two big broker groups we monitor (AFG and Mortgage Choice who make up about 40% of broker originations) is due to these brokers expanding their market share (Figure 30) as a consequence of the consolidation in that industry now underway because of both the very low level of loans being written at the moment (Figure 27) and the increased compliance and fiduciary regulations on brokers.

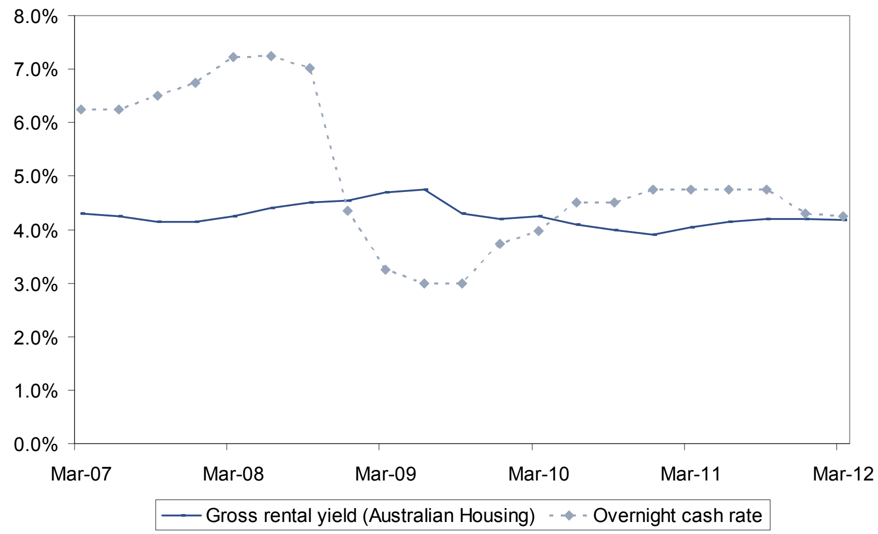
Three distinct customer segments drive mortgage demand

Figure 31. Sources of credit growth by segment



Source: RBA, ABS and Citi Investment Research and Analysis

Figure 32. Gross rental yield on capital city homes vs overnight cash rate

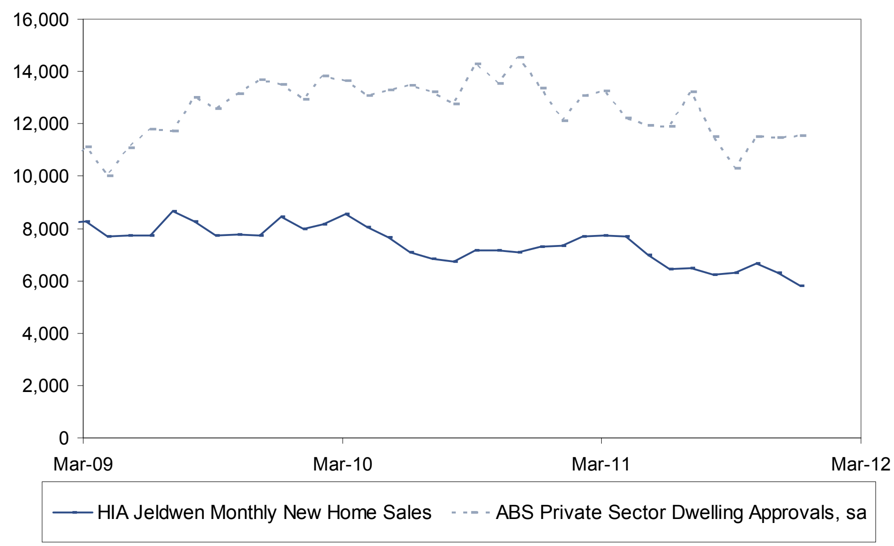


Source: RP Data/Rismark

- Demand from residential property investors for mortgages is highest when cash rates are lower than rental yields (Figure 32). Lower cash rates relative to housing rental yields make bank interest rates less attractive to home investors.
- The big steps down in investor activity in 2007 and 2010, and the big step up in investor activity in late 2008 were all driven by the big movements in the overnight cash rates at those times (Figure 31).
- With the overnight cash rate now down to 4.25%, we believe it may take at least two further moves downwards to have a significant stimulatory effect on investor lead mortgage demand. Given the high proportion of investor housing held by a bulge of near to retirement baby boomers, many still with significant levels of negative gearing, it is more likely that sales by this demographic will be a negative impact on investor demand from the “buy to let” segment.

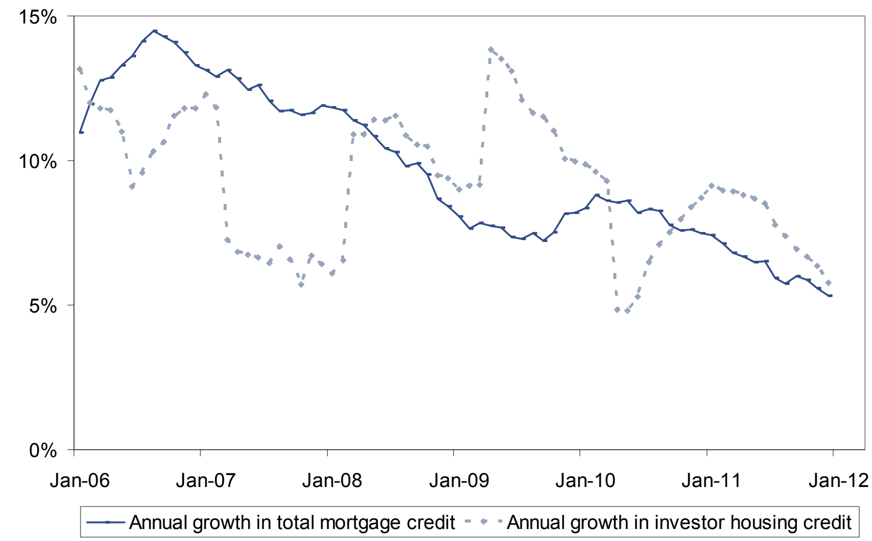
New housing sales and investor activity is still waning

Figure 33. Monthly new home sales and dwelling approvals



Source: Housing Industry Association

Figure 34. Annual growth in mortgage credit: total and investor only

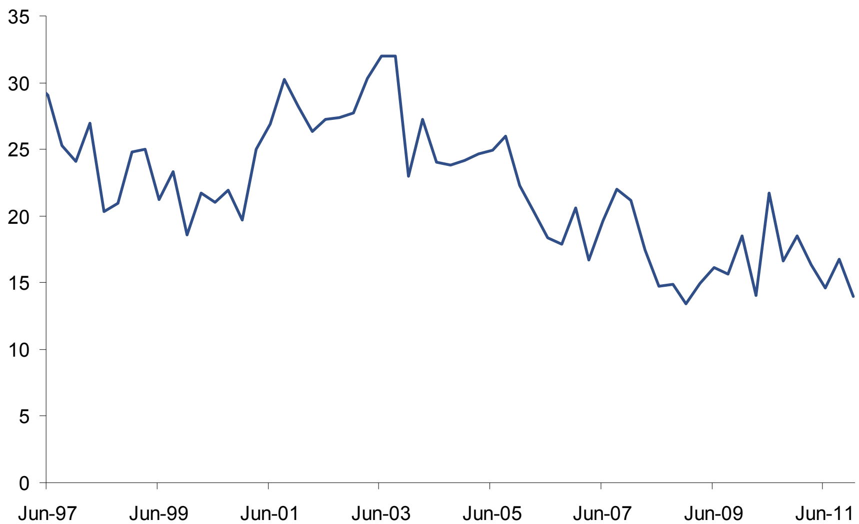


Source: RBA

- Both monthly new home sales (particularly the recent January data to hand) and private sector dwelling approvals are still trending downwards (Figure 33).
- Annual growth in mortgage credit is likewise still trending downwards (Figure 34).
- Growth in investor loans outstanding is falling even faster, particular over the last three months to January 2012, but as investor demand is quite sensitive to changes in the overnight cash rate we expect some modest pick-up in investor interest during 2012, but not of the kind seen in 2009 when rates fell by 3% over six months.

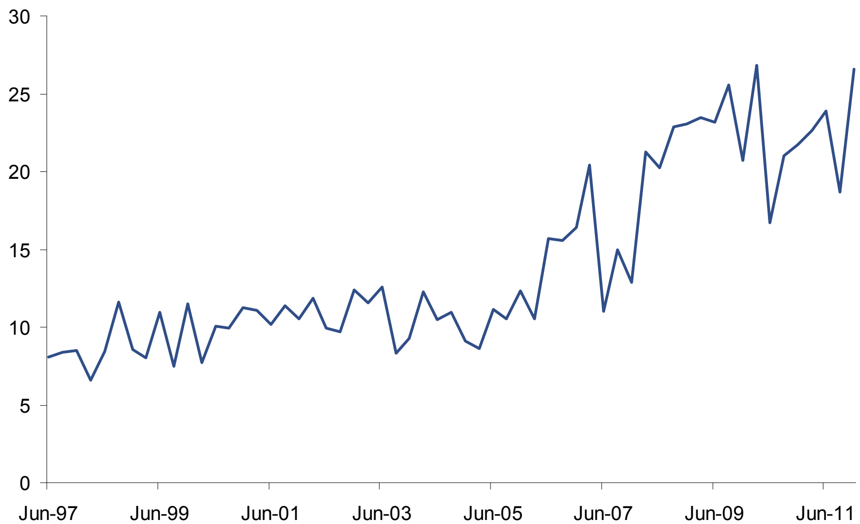
Consumer preference is still to pay down debt

Figure 35. Invest in real estate (% respondents)



Source: Westpac

Figure 36. Pay off debt (% respondents)



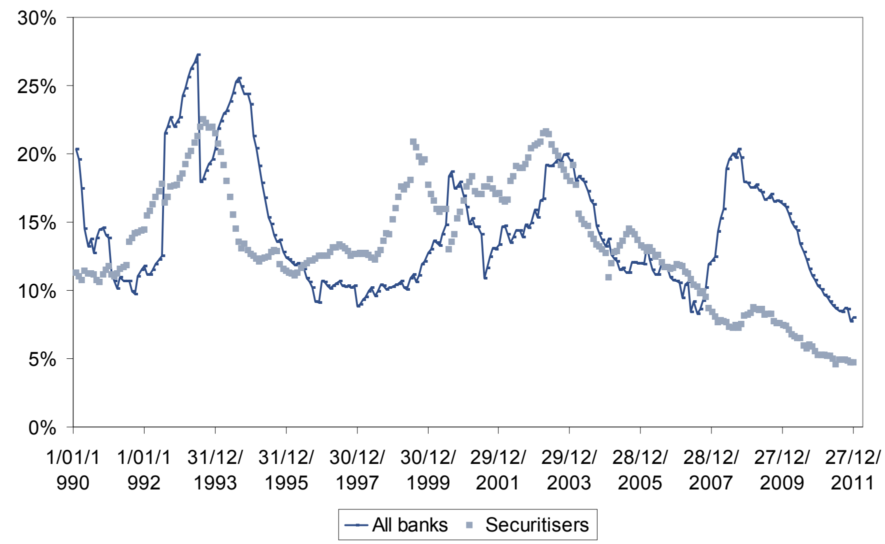
Source: Westpac

Competition – whither the new "fifth force"?

The Federal Government is committed to "build a new fifth pillar in the banking system"

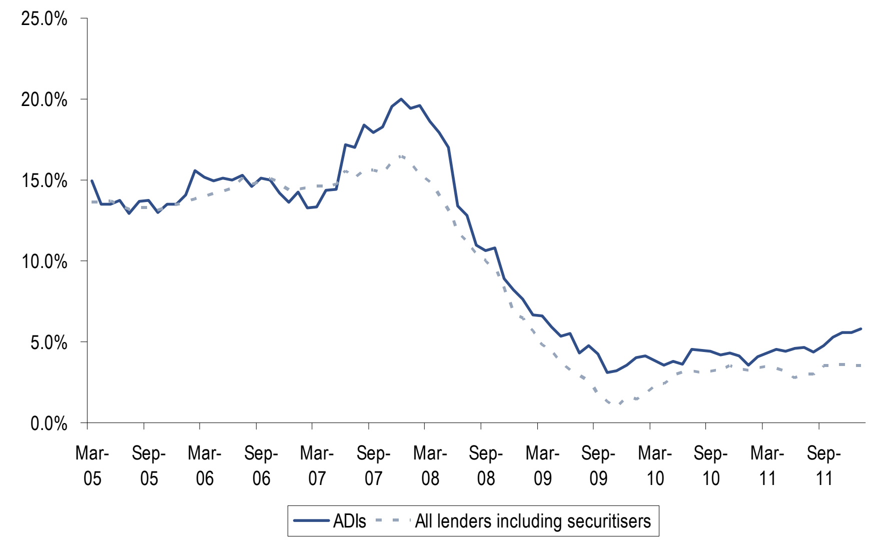
....but banks continue to grow mortgages and all loans at well ahead of system as non bank securitization programs run off.

Figure 37. YoY growth in mortgage loans: all banks vs securitisers



Source: RBA

Figure 38. ADIs vs all system all loans and bills YoY credit growth (adjusted for new entrants)

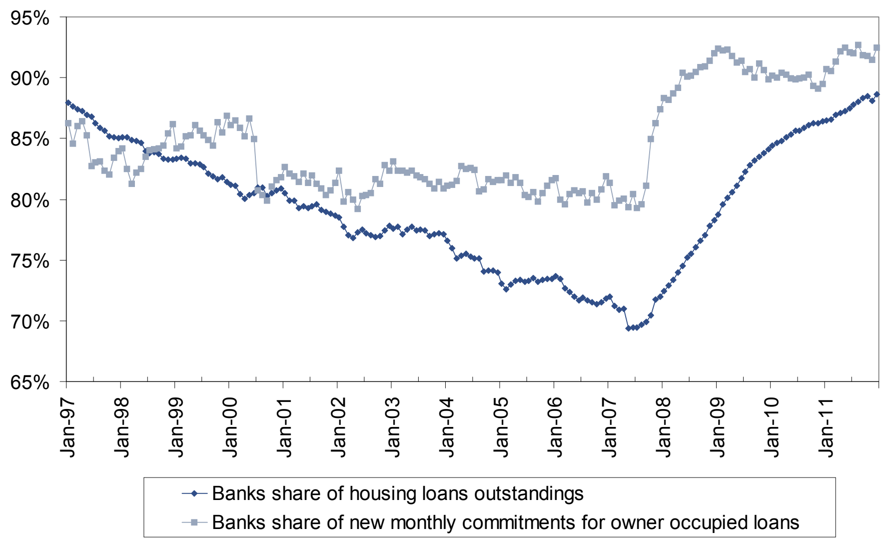


Source: APRA, RBA, Citi Investment Research and Analysis

- Since the onset of the GFC growth in mortgage loans outstanding at banks has way outstripped that at securitisers (Figure 37). Given the importance of mortgages to total system credit, total credit growth at ADIs (which are principally banks) has been running modestly (~2%) ahead of aggregate credit growth at all lenders (Figure 38).

We expect banks to continue to build market share

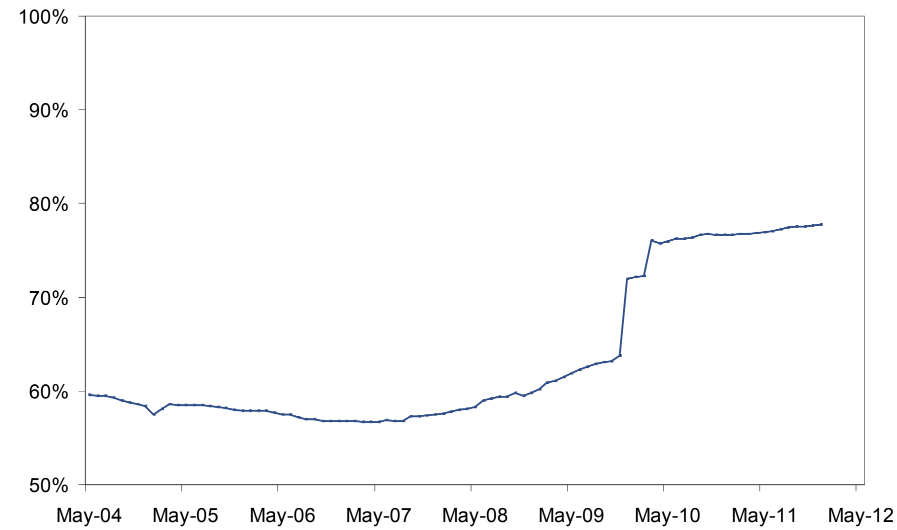
Figure 39. Banks share of housing loans outstanding and new monthly lending



Note: ABS data does not provide lenders share of new monthly commitments for all lending, so we have provided share of new lending for owner occupied loans as the best proxy,

Source: RBA and ABS

Figure 40. Four major banks share of housing loans outstanding

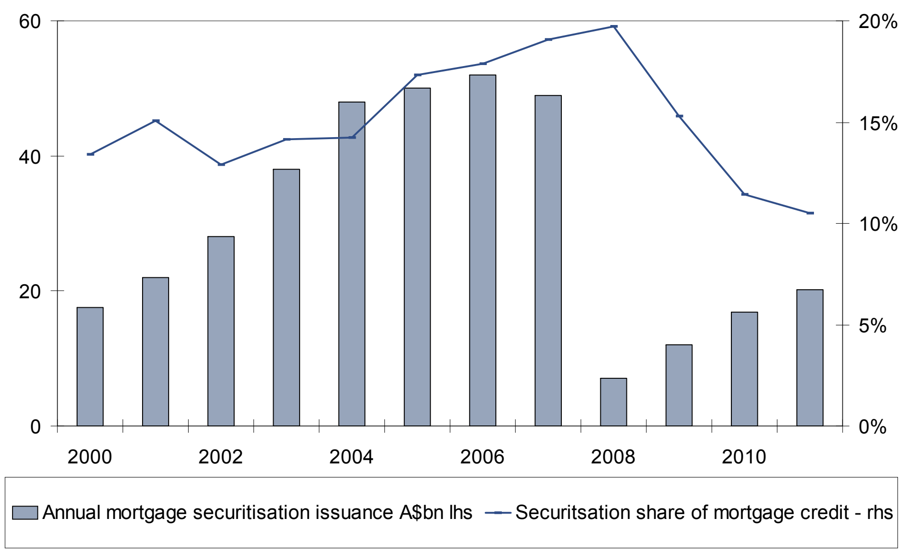


Source: Citi Investment Research and Analysis

- Banks have built their share of housing loan outstandings from 73% just before the GFC up to almost 90% today. With banks continuing to write 90-95% of the new mortgage commitments (Figure 39), we expect, absent government intervention, their share of outstandings will continue to track upwards and is likely to reach around 95% by the end of 2013.
- The four majors have lifted their share of housing loan outstandings (total system including securitisations by all issuers) in three stages
  - Between 2005 and early 2008, as a result of their greater competitiveness following the lower mortgage risk weightings under Basel II
  - During the GFC because of their better access to funding, and the effective cessation of RMBS issuance, and then the acquisitions of BankWest and St George Bank
  - Since early 2010 because of their better access to funding and to their renewed use of broker channels.

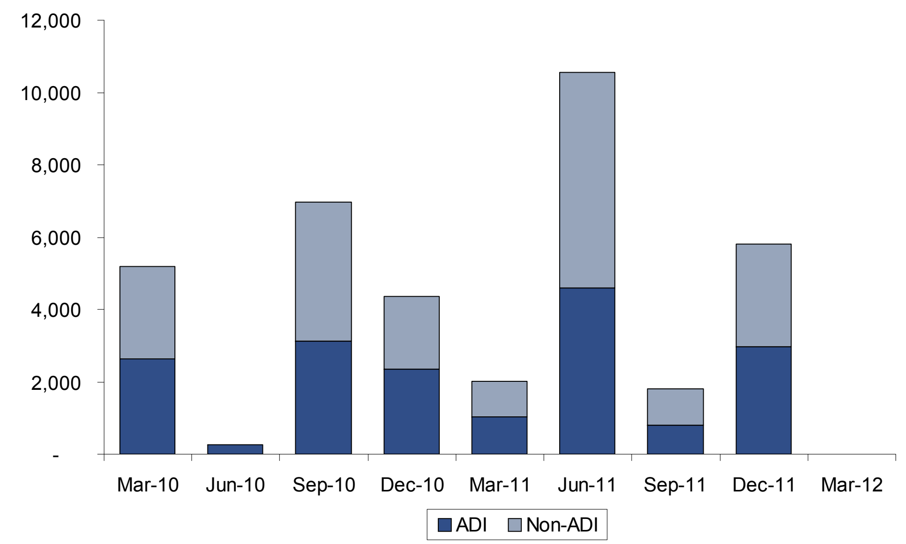
With widening credit spreads, RMBS share of issuance fell, and is expected to fall further in 2011 and 2012

Figure 41. Annual RMBS issuance, $bn and RMBS share of mortgage credit



Source: RBA, Austrade, Bloomberg

Figure 42. Quarterly RMBS issuance, ADI and non ADI $m



Source: Bloomberg and Citi Investment Research and Analysis

- With the massive widening of corporate spreads in 2008 (Figure 12) RMBS issuance by mortgage securitisers fell dramatically (Figure 41). Issuance rose modestly in 2010 and 2011, as corporate spreads came back from their GFC peak.
- However, we expect that issuance will slow again to minimal levels throughout 2012 and 2013, being crowded out by bank covered bond issuance.
- Banks are expect to favour covered bond issuance – because, once they demonstrate high liquidity (as clearly the jumbo Jan 2012 CBA $3.5bn issue is already doing), we expect they will be granted HQLA2 status by APRA (i.e. become part of eligible bank liquidity) and will therefore be cheaper to repo and will receive more liquidity credits.
- We expect fixed interest investors will greatly prefer these HQLA2 status covered bonds to second tier lender RMBS, or second tier non HQLAs qualifying covered bond issuance, were such issues possible (second tier issues would have trouble attaining a Triple A rating given their lower ratings – and would also obtain worse pricing given lower liquidity). Covered bond issues are bullet maturity and carry no prepayment risk, whereas Australian RMBS is an amortising pass-through structure with full prepayment risk. Second tier lender covered bonds would still have underlying mortgage pools with lower arrears characteristics.

With the Federal Government having committed to “build a new fifth pillar in the banking system”…

- As part of its banking system “reforms” the Federal Government is committed to support smaller lenders to enable them to better compete with the big banks
  - In December 2010 the government committed to a further $4 bn in high-quality, AAA-rated RMBS to continue to support this vital funding market to hopefully “put competitive pressure on the big banks”.
  - The government was aiming to support the issuance by smaller lenders of bullet RMBS, though this initiative has been overtaken by the recent APRA approval to covered bond issuance.
- We discuss in more detail on page 29 how the four majors are continuing to build their market share of mortgage loans outstandings, and that the Government’s introduction of covered bonds is likely to further constrain the issue of non bank RMBS.

…we see the following threats, all though in aggregate we think they are small risks

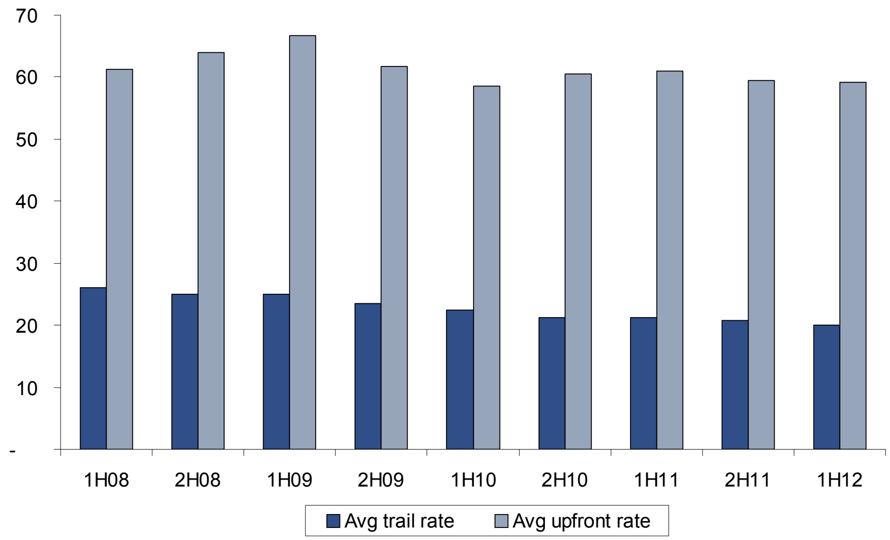
- If the government moves to “build a new fifth pillar in the banking system” only result in further growth by the major banks at the expense of all other lenders, then there is a risk of the Federal Government taking a more interventionist step, and supporting the mortgage market in the manner of the Canadian Mortgage and Housing Association (CHMA) or the US Federal National Mortgage Association (FNMA)
- However given:
  - the moral hazard in such programs (i.e. Government’s underwriting housing finance),
  - the inflation of housing prices which would inevitably come from supposedly making housing finance more “affordable” and more “accessible”, and
  - the demise of the US government sponsored housing finance bodies, and the large run up of mortgage insurance liabilities in CHMA in recent years

  we think the risk of such more interventionist policies is small.

Costs and quality

Origination costs via the broker channel are broadly stable, though banks and brokers now have a symbiotic relationship

Figure 43. Origination costs at Mortgage Choice (bps)



Source: Mortgage Choice

Figure 44. Typical origination payments by major lenders at Mortgage Choice (bps)

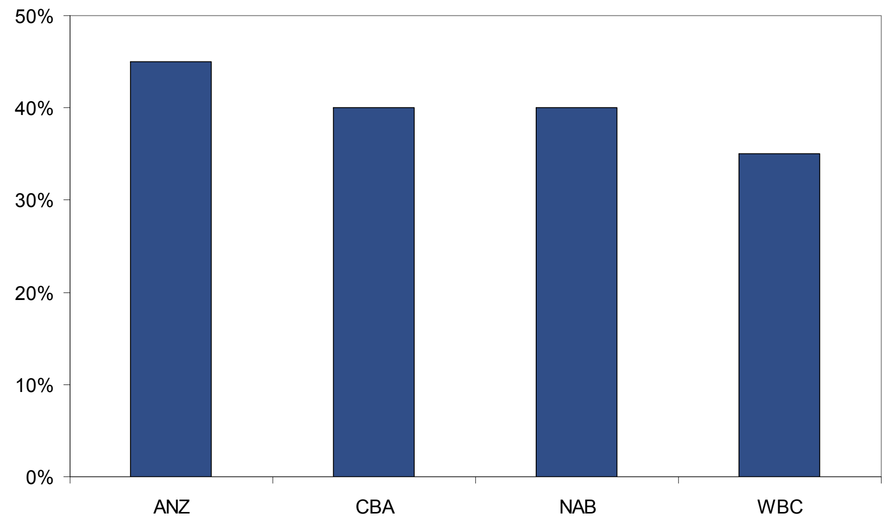
	Upfront		Trail Rate				
	Basic	Max	Year 1	Year 2	Year 3	Year 4	Year 5
ANZ	50	68	15	15	15	20	20
BankWest	50	50	15	15	20	23	25
CBA	50	65	-	20	20	20	20
NAB	50	65	-	15	20	25	30
SGB	50	65	15	15	15	15	15
SUN	50	65	15	15	15	20	20
WBC	50	50	15	15	15	15	15
Avg	50	61	11	16	17	20	21

Source: Mortgage Choice

- Over the last year broker up front origination costs have been flat, though trailing commissions have been trending gently downwards since 2009 as some banks have moved to push down the first year trail rate. Hurdles to achieve maximum commission levels have been raised.
- Banks are presently aggressively competing for broker business in what is, apart from refinancing, a generally quiet time for new mortgage origination. This takes the form of competition on turnaround times, with particularly CBA aiming to turn around vanilla loan applications within 24 hours, and rely on automated desk top valuation aids for lower LTV loans.
- Westpac (via the St George brand) have pushed the maximum commission payable back up, having cut this level to be in line with Westpac in 2009/10, at which time their broker originations fell significantly. We suspect earlier cutback was in line with the funding challenges Westpac faced immediately after the acquisition of St George..
- On our estimates of originator productivity, (expressed as settlements per broker) broker productivity has fallen by around 10% since the GFC. While the numbers of full time brokers has fallen, origination volumes have fallen by a greater amount. Brokers are generally optimistic that volumes will improve this year, though those conducting such surveys regard brokers as perennially optimistic by nature. Notwithstanding this fall in broker productivity we estimate that it is still about 40% higher than the productivity of designated mortgage lenders within the major banks.

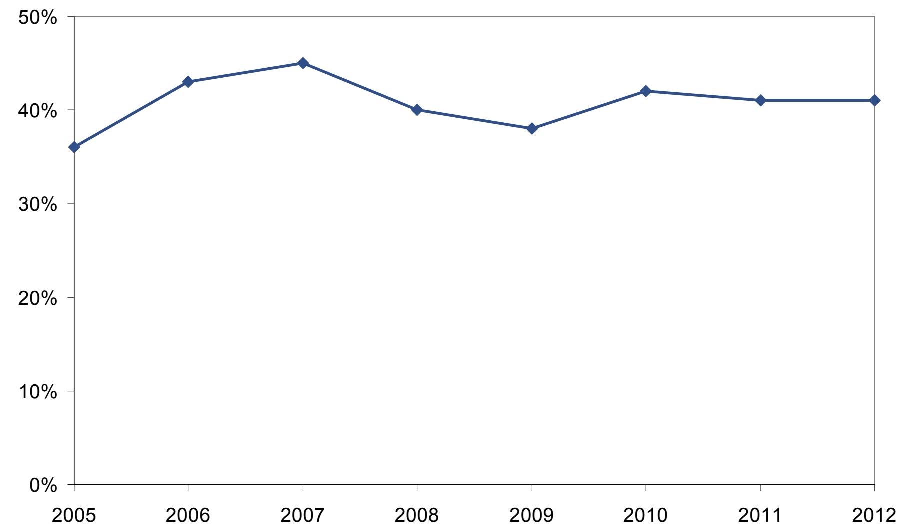
And the broker share of originations is stable due to current market conditions

Figure 45. Major bank use of broker channel- 2012



Source: Citi Investment Research and Analysis

Figure 46. Brokers share of home mortgage originations



Source: Genworth, Fujitsu, CIRA

- Broker share of originations fell in 2008 and 2009 following the demise then of the mortgage manager securitisation pipelines. Brokers have traditionally been strongest in the investor (buy to let) segment, and this segment has seen a declining presence in the last 18 months (Figure 31 on page 24). This, and the regulatory upheaval in the broker channel, with brokers now under a tighter ASIC framework of fiduciary obligations since July 2011, has contributed to a flat lining of broker share in recent times, with many smaller and part time brokers leaving the market.
- Broker use by major banks is now converging with NAB and WBC having stepped up their use of this channel in the last two years.
- Two of the larger broker chains (Mortgage Choice (Mortgage Choice Ltd (MOC.AX; A$1.29; Not Rated) and Aussie) are wary of the rising share of their business that is now going to the four major banks. When these banks had a lower share, they were, with the exception of ANZ, less reliant on broker volumes and the brokers were the major originators for the large non bank RMBS issuance programs. Both Mortgage Choice and Aussie are set to launch wealth management offerings later this year. They are doing in part as a defensive move in case banks were to attempt to drive down commission rates.
- Recent market survey data by Cit-FinQ on attitudes to brokers shows 65% of potential borrowers now saying they would consider using a mortgage broker for their next home loan. We expect Mortgage Choice and Aussie will increase their advertising to support their wealth management launches later this year, and we believe this will increase brand awareness of them and brokers generally, leading to a likely continuing build of origination at the larger broker chain.

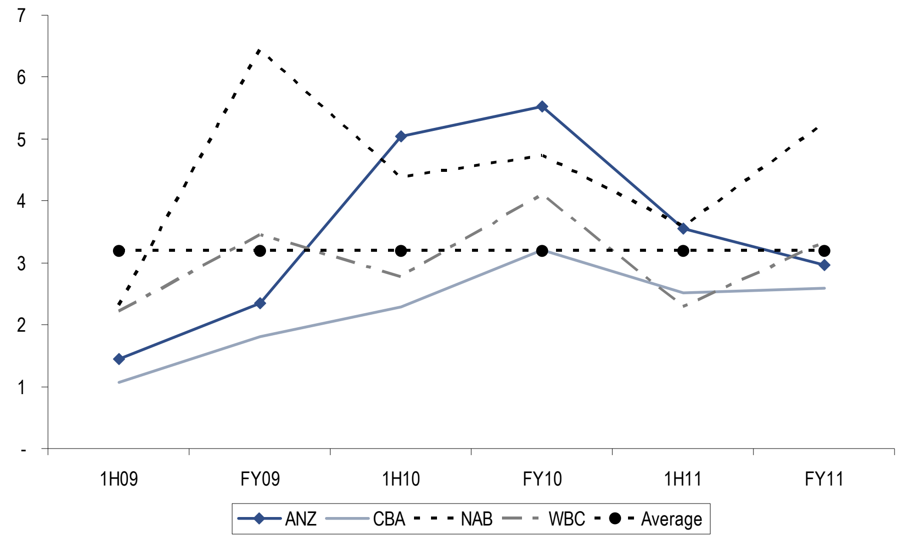
Servicing costs and write-offs are trending downwards

Figure 47. Estimated mortgage servicing costs at CBA

Metric	1H10	1H12
FTEs in mortgage servicing centre	1124	881
Number of home loans serviced per FTE	1100	1500
Average mortgage loans outstanding $bn	$290.3	$328.5
Estimated cost of mortgage servicing centre, mn	$109.5	$88.3
Cost per avg mortgage loan outstanding - bps	3.8	2.7

Source: Citi Investment Research and Analysis, Company Reports

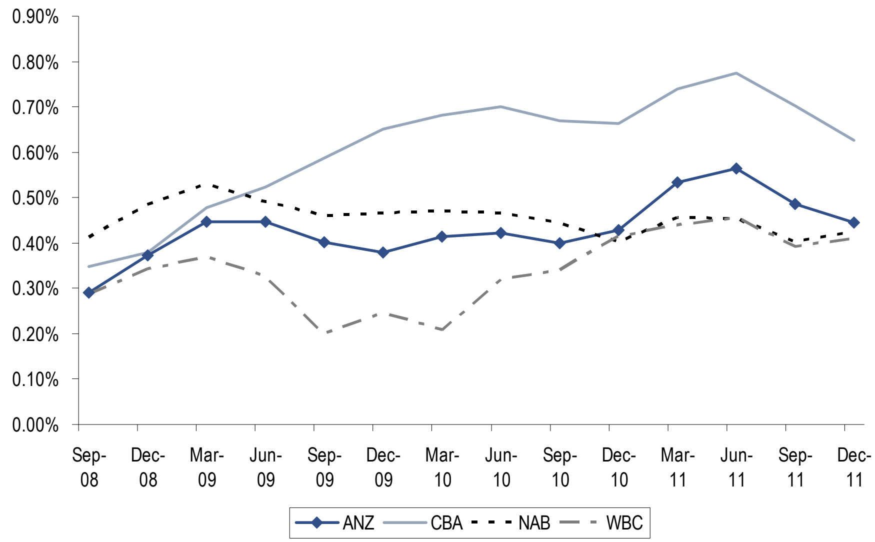
Figure 48. Industry annualized write-offs on mortgages (bps of EAD)



Source: Citi Investment Research and Analysis, Company Reports

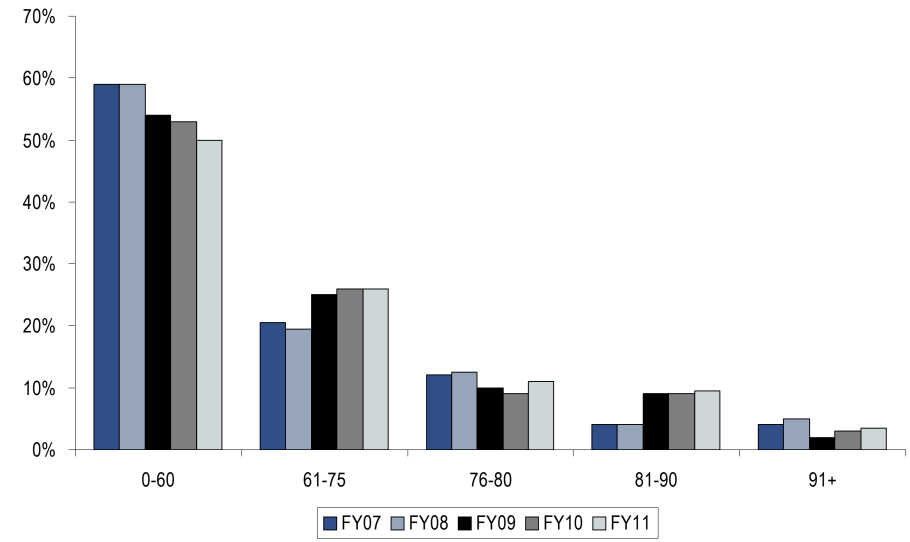
- Servicing and write-offs in Australia are very much smaller than the overseas markets we have investigated
- Our estimate of servicing costs at CBA (Figure 47) based on their recent disclosures of staff numbers in their mortgage servicing centers, is considerably below those in the USA. In the USA standard sub servicing charge for prime loans (where the servicer does not carry any ultimate responsibility for B&DD costs) is in the range of 10 to 20 bps. We expect this reflects the very low delinquency levels in Australia, as well as the large scale of CBA's servicing, which would place it amongst the top three USA servicers.
- While quarterly movements in B&DD charges (as shown in Figure 48 and derived from Pillar 3 reports) are quite volatile, the overall level of such charges is so low that the movements year to year have very little impact on mortgage ROEs.

Figure 49. Mortgages 90 days past due



Source: Company Reports, Citi Investment Research and Analysis

Figure 50. ANZ Bank mortgages dynamic LVR



Note: Longitudinal data for the other major banks is not available, but occasional spot reporting by some banks suggests to us that the trends at ANZ are probably indicative of trends at the other major banks.

Source: Company Reports

- 90 days past due levels, while climbing throughout the OCR tightening of 2010, have recently tracked down, under the influence of household deleveraging in a time of rising income. We expect the OCR cuts of late 2011 and the continued ageing of the strong loan volumes written in 2009 will lead to further falls in past due levels throughout 2012.
- 90 days past due levels at CBA have risen since the acquisition of BankWest, and the sustained market share accretion generated by CBA immediately after the GFC in late 2009 and 2010.
- Despite the lower volume of mortgages being written in 2010 and 2011, average LVRs on mortgage portfolios have been rising in recent years as house prices have fallen and risk has increased.

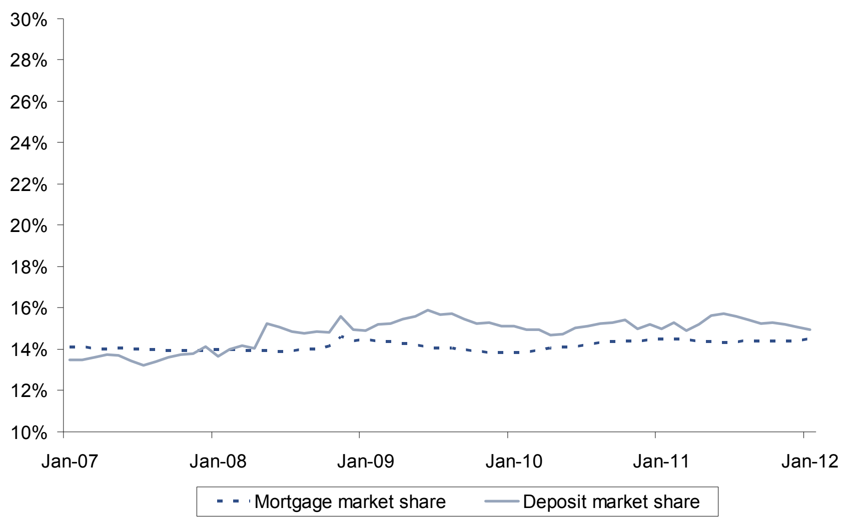
Bank strategies

Figure 51. Bank use of third party origination

Bank	Third party origination as share of total	Strategy/comments
ANZ	~44%	ANZ made a major push into third party origination around 2002 and has held its usage of this channel quite consistently since then.
CBA	~40%	Mainly via independent brokers, though CBA holds a 30% share in Aussie Home Loans and a 17% share in Mortgage Choice, two of the largest broker groups
NAB	~39%	Historically used mortgage introducers more than peers (pay a one-off origination fee). NAB made a significantly greater use of brokers when it did not follow the other major banks as quickly in out of cycle rate increases during 2010 and early 2011.
WBC	~37%	WBC de-emphasized mortgage channels in 2009 in the recently acquired St George and BankSA brands, but most likely due to the funding pressures created by these acquisitions. Since reversed that strategy and now actively courting brokers, though primarily through its second brand offerings, now including Bank of Melbourne. Westpac is using its second brands to make differentiated price and incentive offers to brokers.
BEN	na	BEN utilizes Community Bank branch model (with revenue share for branch originations) and accesses the broker market via its Adelaide Bank brand.
BOQ	100%	BOQ sources all of its mortgages from its owner managed and corporate branches.
SUN	~52%	Only 35% in Queensland comes from brokers, which is currently slightly above the historical average. In other states the % if much higher, and is both to indirectly support branch building activities in some states (notably NSW and WA), and to provide the necessary geographic diversification to the overall mortgage book.

Source: Citi Investment Research and Analysis

Figure 52. ANZ deposit and lending shares



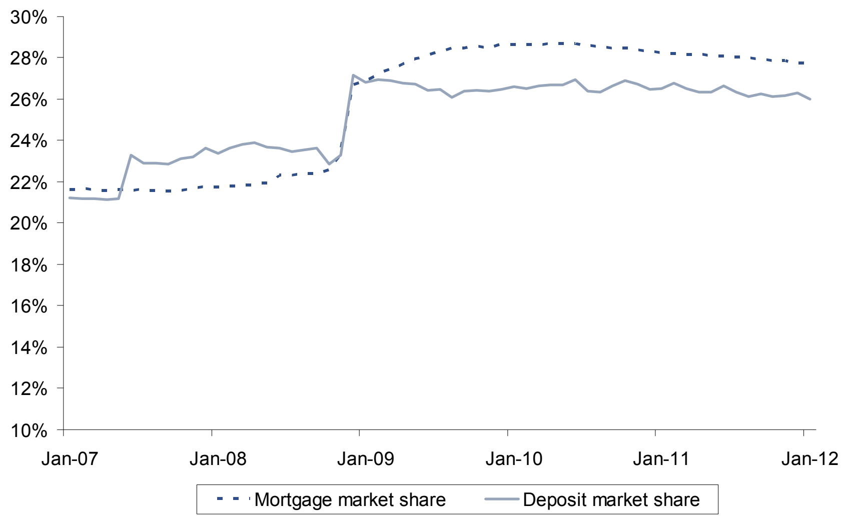
Source: APRA

Figure 53. ANZ mortgage market strategies

- Smallest market share of the major banks in mortgages
- Deposit share climbed above mortgage share since the GFC – perhaps reflecting a greater caution towards lending at the balance sheet level. Traditionally more broker focused than peers, though have made changed to commission structures and seek to maintain current levels (was ~44% in 2H11).
- Introduced monthly pricing reviews from January 2012 separate from RBA OCR decisions.
- Apart from the dip immediately post the onset of the GFC, ANZ has been the most consistent in the mortgage market.

Source: Citi Investment Research and Analysis

Figure 54. CBA deposit and lending shares



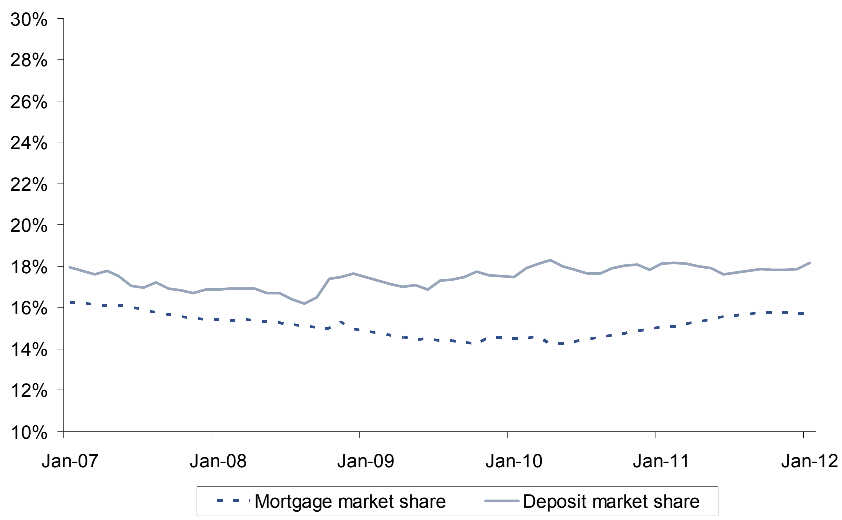
Source: APRA

Figure 55. CBA mortgage market strategies

- Acquired BankWest in December 2008 (~4% market share).
- Being deposit short, BankWest significantly increased CBA's reliance on wholesale funding which is only slowly being unwound.
- Conceded market share over much of 2010-11, but perhaps this reflected wholesale funding dependence which came with BankWest acquisition.
- Introduced a competitor "price match" offer in 3QCY11.
- Considered by brokers as having the most responsive systems for broker loan origination.
- Acquired 30% of major broker and aggregator Aussie Home Loans in 2009
- Acquired 17% of broker chain Mortgage Choice in 2011 via acquisition of Count Financial

Source: Citi Investment Research and Analysis

Figure 56. NAB deposit and lending shares



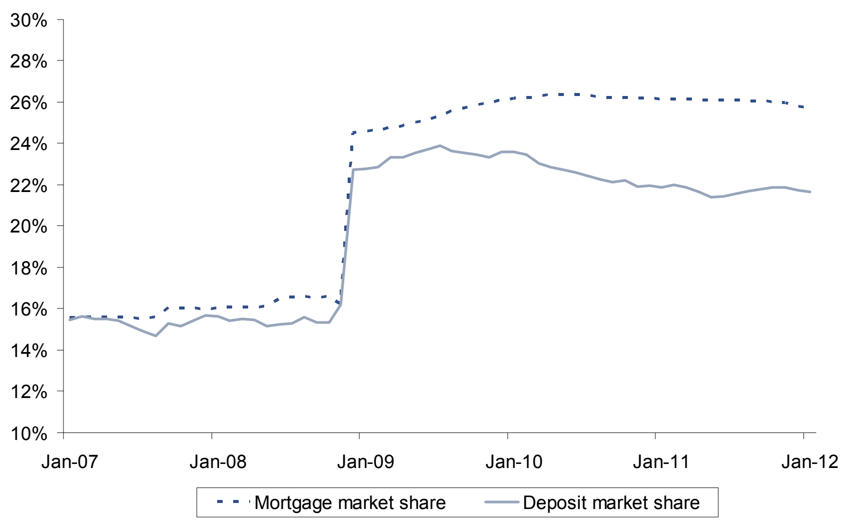
Source: APRA

Figure 57. NAB mortgage market strategies

- Introduced HomeSide broker origination practices in early 2000s.
- Introduced "Fair Value" strategy in late 2009, with a ~10-19bps discount to major bank peer SVRs.
- Gained significant market shares over this period.
- Commitment to have the lowest SVR of the major banks in 2012, though progressively winding back discount gap to major banks.
- Reflecting in part its stronger strength in business customer relationships, it has long maintained a much higher share of deposits than its share of the mortgage market, though the gap between the two has been closing in response to its aggressive pricing approach to mortgages since 2010.

Source: Citi Investment Research and Analysis

Figure 58. WBC deposit and lending shares



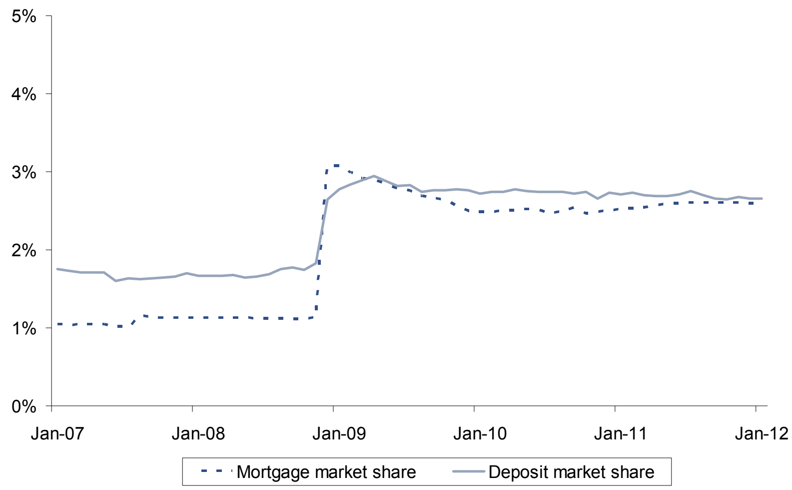
Source: APRA

Figure 59. WBC mortgage market strategies

- Acquired SGB in December 2008 (~9% market share).
- Most aggressive of the majors on mortgage re-pricing of the major banks, raising its SVR by 139bps more than net OCR movements over the period.
- As a consequence it has lost market share over much of the time since the acquisition of St George. There are signs that this is now stabilizing.
- As St George was substantially wholesale funded, and as Westpac itself already had a relatively lower deposit share, Westpac is now the most reliant on wholesale funding for its mortgage business, with a very large gap between its mortgage market share and its deposit market share.
- As a consequence Westpac is a major issuer of Commercial Paper to US Prime Money Market Funds, and this source makes up a significant share of its overall wholesale funding requirements.

Source: Citi Investment Research and Analysis

Figure 60. BEN deposit and lending shares



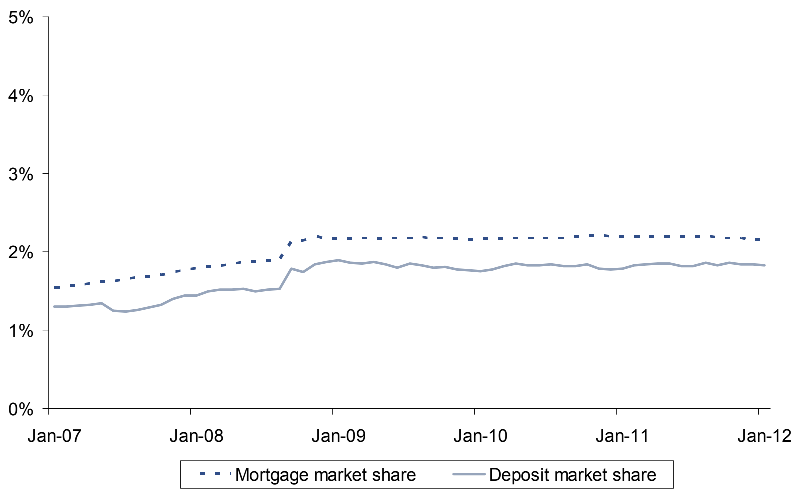
Source: APRA

Figure 61. BEN mortgage market strategies

- Community Banks are focused predominantly on deposit gathering.
- Brand strength: #1 customer advocacy. Service focus, do not compete on price.
- Broker distribution via Adelaide Bank brand.

Source: Citi Investment Research and Analysis

Figure 62. BOQ deposit and lending shares



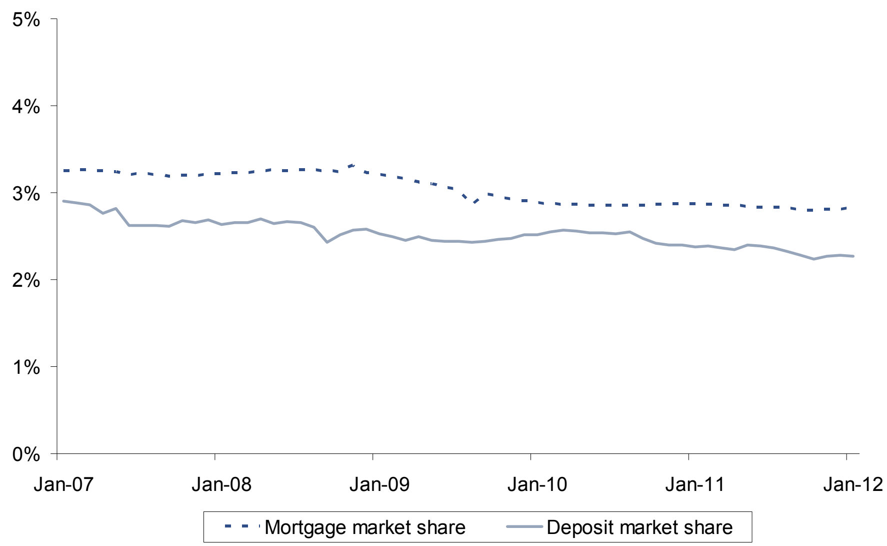
Source: APRA

Figure 63. BOQ mortgage market strategies

- Owner Managed Branch (franchise) model, with some corporate branches.
- No broker distribution.

Source: Citi Investment Research and Analysis

Figure 64. SUN deposit and lending shares



Source: APRA

Figure 65. SUN mortgage market strategies

- A bit over 50% of Suncorp's mortgages come from brokers; although this varies by state. In Queensland 65% come direct via branches and only 35% via brokers. This is currently slightly above the historical average.
- Given the economic climate, Suncorp has slowed its rollout of branches into NSW and WA. It uses brokers actively, but particularly aligned to its branch rollout strategy. The relationships they have with brokers are to fully on-board customers, attempting to get all their business including transaction accounts etc.
- At the moment branches are working to build a well-rounded customer base ("a complete customer set"), including SMEs with transaction banking (i.e. EFTPOS) provision.
- In Victoria and SA, SUN have extensive broker relationships, providing mortgage business, but these relationships are more standalone ones and not part of a branch expansion strategy.

Source: Citi Investment Research and Analysis

Appendix 1

a) With equity against the mortgage book representing < 20% of total shareholders' funds, this ROE implies that all other CBA businesses earn an average ROE of ~15%.

b) We selected CBA for this analysis because it has a low level of overseas operations and a high concentration of mortgages which makes the estimation of mortgage spreads from average balance sheets and other published financial information less subject to estimation error.

c) Key assumptions underlying CBA mortgage spread calculations:

   a. **Duration mismatch profit:** Banks fund long-term mortgage assets with a mix of long and short term wholesale funding and deposits, which are essentially short term. This duration mismatch is possible because i) there is a high probability that customers will not prepay mortgages in significant volumes (and less so in a crisis) and ii) deposits, while short-term in nature, are inherently "sticky" for as long as the institution retains public confidence. In CBA's case, the $314bn Australian mortgage book is funded by ~$130bn of long-term wholesale funding the balance by deposits and other short-term funds. We include the resultant duration mismatch earnings in our mortgage spread as this profit is only possible as a result of the existence of the mortgage book. We believe that this is a key point of differentiation between our spread estimate and CBA's disclosures which imply a 1H12 Australian mortgage net interest margin of ~107bps. We believe that CBA derives this margin by effectively assuming that the mortgage book is entirely term funded, i.e. they 'charge' $180bn of additional term wholesale funding which has never actually been raised against the mortgage book and allocate the mismatch profit outside of the mortgage product.

   b. **Interest yield:** We apply CBA's period average mortgage interest rate. Whilst this includes NZ and other overseas mortgages, Australian mortgages represent ~90% of the total book. We estimate NZ's influence on the yield is <7bps and this is made even less significant given our interest expense also includes corresponding NZ costs.

   c. **Interest expense:** We apply CBA's period average Group cost of funds including swap costs less overseas funding which is used to fund offshore assets. As per the above explanation, given the mortgage book is funded from a mix of short/long term funding including deposits, we believe this is the appropriate cost base. In our mortgage profitability assessment on page 7, we add the deposit profit spread to our interest expense to remove earnings on deposits.

Companies mentioned

Australia and New Zealand Banking Group Ltd (ANZ.AX; A$22.11; 2)

Bendigo and Adelaide Bank Ltd (BEN.AX; A$7.60; 2)

Bank Of Queensland Ltd (BOQ.AX; A$7.15; 2)

Commonwealth Bank of Australia (CBA.AX; A$48.37; 2)

National Australia Bank Ltd (NAB.AX; A$23.68; 2)

Suncorp Group Ltd (SUN.AX; A$8.08; 1)

Westpac Banking Corp (WBC.AX; A$20.74; 2)

Appendix A-1

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