Research Working Paper Series

Competition in Australian Retail Banking: how much is enough and options to facilitate more

Associate Professor Deborah Healey
Law School
UNSW Australia

Dr Rob Nicholls
Research Fellow
Centre for International Finance and Regulations

Ms Charlotte Penel
Law School
UNSW Australia

NOVEMBER 2015
WORKING PAPER NO. 077/2015 / PROJECT NO. T020

This research was supported by the Centre for International Finance and Regulation, which is a Centre of Excellence for research and education in the financial sector, funded by the Commonwealth and NSW Governments www.cifr.edu.au.
Competition in Australian Retail Banking: how much is enough and options to facilitate more

Deborah Healey¹, Rob Nicholls² and Charlotte Penel³

Abstract
In a retail banking sector characterised by both high concentration and low consumer switching, questions arise for Australian policy makers and regulators as to the effectiveness of competition as one important means by which economic outcomes are engendered, including innovation beneficial to consumers and consumer welfare generally. Such questions include the appropriate response to ‘digital disruptions’ such as peer-to-peer lending, and the role for assessing competition proactively as part of ongoing policy formulation.

To contribute to debate on these issues, this working paper looks firstly at the role of competition generally, and then at the evidence for levels of competition in retail banking specifically, before highlighting some options for facilitating more competition and concluding that a policy response to these questions is well worthy of specific further study.

Acknowledgements
The authors acknowledge the support provided for this research by the Centre for International Finance and Regulation under Grant T020: Competition in Financial Services, and UNSW Australia.

This working paper is published to promote comments and feedback.
Please do not quote without contacting the corresponding author.

¹ Associate Professor Law School, UNSW Australia
² Lecturer, UNSW Business School; Visiting Research Fellow, Centre for Law, Markets and Regulation; Corresponding author. Rob can be contacted at r.nicholls@unsw.edu.au
³ Research Assistant, UNSW Australia
1 Introduction

Consumers are key to vibrant competition in a market. However, in order to exercise the power of consumer choice, they need to be able to use the latent threat of switching to another provider of goods or services. Ideally, they should have a low-cost switching option. Consumers ‘not only benefit from competition, they activate it, and one of the purposes of consumer protection law is to ensure they are in a position to do so’ (Ron Bannerman quoted in Sylvan 2006: 3). But while consumer protection in Australia is highly evolved and highly effective, switching remains low in retail banking. This is of particular concern since the supply side of the market is concentrated and likely to remain so as a result of prevailing policy from the Australian Government. Accordingly, this working paper is concerned to assess the level of competition in retail banking in Australia and what options there may be for facilitating greater competition in the interests of consumer welfare.

In 2010, the Australian Government announced banking reforms (Australian Government 2010). The purpose, among other things, was to facilitate consumers switching between banks and to better inform that possibility of switching through greater financial literacy across the Australian community. These reforms are now administered by the Australian Securities and Investments Commission (ASIC).

The initiative to facilitate switching was to reduce the switching costs inherent in changing banking accounts. The main changes in 2010 related to switching within the residential mortgage sector. However, there is general support for reducing consumer switching costs. For example, Bell and Eisingerich tested a range of relevant hypotheses, including propositions that (Bell and Eisingerich 2007: 470-472):

(a) technical service quality will be positively related to customer loyalty (H1);
(b) functional service quality will be positively related to customer loyalty (H2);
(c) customer education will be positively related to customer loyalty (H3); and
(d) customer expertise will be negatively related to customer loyalty (H5).

Of these, as might have been anticipated, data supported hypotheses 1, 2 and 3. Customer loyalty was found to be positively and significantly related to technical service quality, functional service quality and customer education. As well, but contrary to expectations, customer expertise was not negatively related to customer loyalty, meaning that hypothesis 5 was not supported. This suggests that banking reforms that facilitate customer switching do not necessarily reduce loyalty, unless there is a significant benefit in switching. Put simply, facilitating switching does not adversely affect strong providers of services. Importantly, and counter-intuitively in some views, increased financial literacy is generally a good thing and does not adversely affect customer loyalty.

However, the momentum to switch must be sufficient to overcome the inertia in bank customers that has been identified in empirical research (Colgate and Lang 2001). Mere financial literacy and unpublicised system changes are unlikely to provide the momentum required to overcome the level of inertia created by low levels of rivalry between competing suppliers.
2 The contribution of competition to financial services

For two decades, the ‘pillars’ policy of the Australian Government has prevailed through bipartisan support. Originally intended to promote competition by preserving separation of the six largest players (four banks and two insurance companies) (Keating 1997), in a post-GFC environment what is now the ‘four pillars’ policy creates significant incumbency value for the four major Australian-owned banks, that between them make up the lion’s share of both retail banking and lending to nonfinancial corporations. In effect, the policy is seen to provide an implicit government guarantee for these banks, and may run counter to promoting competition in the interests of consumers. Additionally, the policy implicitly relies on the assumption that competition is now sufficient to deliver required economic outcomes, including innovation and consumer welfare. As a first step to understanding the issues involved, this working paper looks at the role of competition in financial services.

2.1 The importance of a competitive retail banking sector

The issue of competition in the banking sector is critical to consumer welfare. Each of the Financial Conduct Authority (FCA) and the Competition and Markets Authority (CMA) has considered competition in the UK financial services sector. The CMA started its investigation of the financial services sector in June 2013 and expects to have completed the review in 2016. In doing so, the CMA has also expressed a number of concerns (CMA 2014) that appear to apply in Australia. The evidence presented to the retail banking market investigation suggests that the level of competition in the sector in the UK is higher than it is in Australia. Despite this, the CMA has decided that a market investigation is required and that the relevant financial services regulators should not have complete carriage of that investigation.

Concurrently, a Bank of England (2014) discussion document examines fair and effective markets in one of the critical wholesale sectors of the financial services sector. It illustrates the importance of competition law and policy as the driver of intervention in all types of markets without excluding markets for financial services.

2.2 Consumer protection

The consumer protection regime and legal structures around lending are significant, if invisible, contributors to the effectiveness of competition by improving the quality of loans made and diluting the potential for unresolved impairment. To illustrate, non-performing housing loans saw a peak in 2010, post the financial crisis, which was a 20-year high. However, the quantum was still less than 1%, and low by international standards (Reserve Bank of Australia 2009: 21). Lending practices of banks certainly play a part in this picture, but should be understood in context of the distinguishing features of Australia’s legal framework. In particular, the legal environment creates ‘a stronger obligation on lenders to make responsible lending decisions than is the case in the United States’, but equally, all mortgages are ‘full recourse’ following a court repossessions action, and households generally understand that they cannot just hand in the key to the lender extinguishing the debt’ (Reserve Bank of Australia 2009: 21). Arguably, then, the strong social norm of paying the mortgage even when distressed financially has been created by a long history of full recourse mortgages as the legal norm, which is balanced by a supportive net of effective consumer protection law. The prevalence of Lenders’ Mortgage Insurance, taken for the lender’s benefit at the borrower’s expense
(usual in Australia for loans where the loan to valuation ratio exceeds 80%) is also an important factor.

Beck and Demirgüç-Kunt (2006) highlight the importance of consumer protection and other legal structures in their review of the evidence from across country studies of the impact on SMEs of access to finance. They also point to the importance of innovative financing instruments and processes, as well as the importance of the interdependence of financial and legal institutions in an overall environment conducive to business growth, including the presence of well-defined property rights and effective contract enforcement.

### 2.3 The position of SMEs

The provision of financial services is an essential input for businesses. For example, Cetorelli 2004b: 544):

> The theoretical conjecture that financial markets should matter for economic growth is hardly recent, tracing back at least to Schumpeter [in 1912]

One of the post-financial-crisis issues in some countries, particularly the US, is whether the retail banking system lends at the levels that are required to stimulate the SME sector, taking into account the risks of that sector. Some empirical work suggests that it does, even though the theoretical perspective is less clear. For example, (Cetorelli 2004: 546), states that the:

> effect of bank concentration on industry market structure [is] theoretically ambiguous. Empirical evidence [indicates] that in fact higher bank concentration and more banking market power are associated with higher industry concentration [including] that bank concentration leads to larger average firm size in non financial sectors [and] higher bank concentration and market power have an impact on the entire distribution of firm size

Later work goes further (Cetorelli and Strahan 2006: 459):

> While theory does not paint a clear picture about how competition in banking ought to affect the firm-size distribution, the empirical work does. Our empirical evidence is consistent with the idea that banks with market power erect an important financial barrier to entry, to the detriment of the entrepreneurial sector of the economy [and] that bank competition has a significant impact on important structural characteristics of sectors of production. Moreover, it indicates that such impact is not uniform across firms, but rather that, depending on the degree of bank competition, some firms may benefit while others may lose [contrary to] the conventional wisdom that bank competition is either good or bad overall.

Work done by the World Bank before the global financial crisis came to a similar view. However, this analysis did have a developing country focus (Beck, Demirgüç-Kunt and Maksimovic 2006: 2935):

> Both in the developing and developed world small firms have been found to have less access to external finance and to be more constrained in their operation and growth.

### 2.4 Innovation

Schumpeter proposed that an inverted U-shaped function could be used to describe the relationship between the number of competitors in a sector and the level of innovation (Bos, Kolri and Lamoen
The principle is that a monopoly has little incentive to innovate and the sector is likely to have commodity characteristics if there are many participants. In this model, the pivotal question is: how many participants are required to hit the turning point on the curve? If the size and concentration of the industry puts it past the apex, then more competitors lead to less innovation, whereas on the upward part of the inverted U, more competitors lead to more innovation. Policy decisions, such as the four pillars policy, make significant assumptions as to whether consumers will reap the maximum benefits from innovation associated with vibrant competition. Aghion et al. (2005) confirm the presence of an inverted U across a range of industries, although not specifically finance or banking.

In a speech in 2001, then-Commissioner of the Australian Competition and Consumer Commission (ACCC), Ross Jones, observed that regional banks ‘have been an important source of competition to the big four major banks. They have also been important drivers of innovation in the Australian financial sector.’ He noted that the Wallis Report similarly pointed out that these banks had led the way in service and innovation (Jones 2001: 4):

*Small businesses are an important source of innovation in the economy. While ABS data indicate that small businesses are less likely to engage in innovative activity than larger businesses and account for a relatively small share of research and development expenditure, almost 90 per cent of the businesses engaging in innovative activity are small businesses.*

While that naturally incorporates the reality that small businesses in Australia are much more numerous than large ones, it provides reason to pause for sober reflection on what impact a SME credit crunch would do to Australia’s prosperity (Connolly, Norman and West 2012: 3).

In a study of the productivity and performance of the ‘four pillars’ between deregulation in 1983 and the financial crisis 2008, Abbott, Wu and Wang (2013: 122) found that ‘the productivity performance of the Australian banks tended to improve considerably in those periods of strongest economic growth’. Perhaps more importantly, their results showed that it ‘is apparent that the main driver of the productivity change is the improvement in technological change rather than improvements in pure technical efficiency or scale efficiency’ (Abbott, Wu and Wang 2013: 132).

In line with many other industries, benefits to banking from innovation need not be limited to those conceived by and for the supply side, such as technical improvement to behind-the-scenes systems, designed for and/or by banks for their purposes. In fact, there is empirical evidence to show that innovation comes largely from consumers, not sellers, and that this holds true in banking as much as in other industries (Baldwin, Hienerth and von Hippel 2006; Consoli 2005, 2008; Oliveira and von Hippel 2011). Moreover, Roberts and Amit (2003: 107) showed, in their study of retail banking over 1981 to 1995, that ‘the vast majority of observed innovative activity was based on ideas sourced from outside the focal firm, and that innovations diffused very quickly across competing banks.’ For policy makers, this is a crucial consideration in evaluating policy options.

### 3 Indicators of Competition

A definitive measure of competition in any industry is a challenging project, leading to the use of proxies as well as a variety of parametric and nonparametric measures. To establish some sense of the level of competition in retail banking in Australia, a range of such measures are described and
than applied to the extent of available data, leading to a summary view on the supply side as it stands today.

3.1 Concentration as an indicator of competition: HHI

The Herfindahl–Hirschman Index or HHI (Hirschman 1964) is an internationally recognised indicator of market concentration, typically used as a proxy for estimating the extent of competition. Calculated as the sum of the squares of the market shares of the 50 largest participating firms, or of all firms if there are less than 50, this approach effectively ‘upweights’ the impact of the largest competitors. Using whole number market shares (for example, 17%), the HHI will produce a result in the range up to 10,000 (that is, 100 x 100 if a single firm has 100% share).

Calculated in this way, HHI of up to 1,500 is commonly viewed as indicative of an acceptably concentrated market (that is, unlikely to impede competition), while HHI around 2,000 or more is generally viewed as problematic. For example, if five firms have equal market shares, the HHI will be 2000: each firm has 20%, single firm contribution to HHI calculation is 20 x 20 = 400, this is summed over five firms: 400 + 400 + 400 + 400 + 400 = 2000. A practice example from the UK Competition and Markets Authority is that (CMA and FCA 2014: 44):

*any market with a post-merger HHI exceeding 1,000 may be regarded as concentrated and any market with a post-merger HHI exceeding 2,000 may be regarded as highly concentrated*

There are slightly different thresholds used by each of the ACCC in its ‘Merger Guidelines’ (2008) and the United States Department of Justice (DOJ and FTC 2010).

3.2 Measures other than HHI

The literature on banking competition suggests that concentration alone does not provide a good indicator of rivalry in the banking sector. Indeed, there can be vibrant competition in highly concentrated sectors based on innovative products and pricing.

This becomes critical in the Australian context, in applying the unitary ‘substantial lessening of competition’ test under the *Competition and Consumer Act 2010* (Cth). The blunt tools offered by either the HHI or simple margin analysis cannot provide the level of information required to determine the degree and intensity of rivalry that is occurring in the financial services sector.

On the other hand, if market concentration is high, there is a risk of oligopoly behaviour. In the banking sector, this would be expressed as a Cournot model. One issue with reliance on margins as an indicator of competition in banking is that the same outcome would flow from a Cournot model. There is a strong linkage between the use of both HHI and the Lerner index in the presence of a Cournot equilibrium (for example, Campos and Vega 2003).

Historical competitive analysis in the financial services sector has used market concentration or margin levels as an indication of competitive intensity. However, there are a number of alternative indicators of rivalry among banking competitors.

The Panzar-Rosse H-statistic captures the elasticity of bank interest revenues to input prices. It is calculated in two steps:
(a) running a regression of the log of gross total revenues (or the log of interest revenues) on log measures of banks’ input prices; and

(b) adding the estimated coefficients for each input price, including deposits, staff, equipment and fixed capital (for example, Bikker and Haaf 2002).

Higher values of the H-statistic are associated with more competitive banking systems. In a monopoly, the demand curve is downward sloping and an increase in input prices results in a rise in marginal costs, a fall in output, and a decline in revenues. This leads to an H-statistic less than or equal to 0. Under perfect competition, an increase in input prices raises both marginal costs and total revenues by the same amount and the H-statistic will equal 1.

The Lerner Index is defined as the difference between output prices and marginal costs (relative to prices). Prices are calculated as total bank revenue over assets, and marginal costs are obtained from an estimated translog cost function with respect to output. Higher values of the Lerner index signal less bank competition. After describing and using this method, Maudos and Fernández de Guevara (2004) concluded that the European reduction in interest margins was driven by cost reduction in the sector.

A third and more recent approach is the Boone Indicator (Boone 2008b, 2008a). It measures the effect of efficiency on performance in terms of profits on the basis that more efficient banks achieve higher profits. It is calculated as the elasticity of profits to marginal costs. This elasticity is calculated by regressing the log of a measure of profits (such as return on assets) against a log measure of marginal costs. The elasticity is captured by the coefficient on log marginal costs. The more negative the Boone indicator, the higher the level of competition is in the market.

The advantage of using indicators of competitiveness such as the Lerner Index and the Boone Indicator is that they can be applied in a concentrated sector in order to determine the level of rivalry.

3.3 Data envelopment analysis
Another method that can be applied to the analysis of the retail banking sector is Data Envelopment Analysis (DEA). This is a non-parametric method, in which the efficiency of dissimilar enterprises can be estimated using a common set of inputs and outputs (Barros, Barroso and Borges 2005) (Wei 2001) (Cooper, Seiford and Zhu 2004). Over time, the DEA for each period will have one or more banks on the edge of the envelope (expressed as a relative efficiency of 1) and the other banks at a lower efficiency, which is expressed as a fraction.

3.4 Malmquist Index
The Malmquist Index measures how much a firm has improved from one period to the next. The change can be decomposed into the general technological progress that affects all players, and the specific approach of a firm that changes its performance relative to that of the other firms (Bogetoft and Otto 2011). Expressed as the technical change (TC) and the efficiency change (EC), the latter is a ‘catch up’ measure. While there is no general benchmark, performance over time indicates the extent to which competitors seek to keep pace with their rivals.
3.5 Return on assets
From standard business performance reporting, the return on assets is a measure of performance that also reflects on which competitors are improving or declining over time. This is relevant to consideration of banking competition in Australia in the light of the observation from the International Monetary Fund that (International Monetary Fund 2012):

*Dominated by four major banks, the Australian banking system is one of the most concentrated in the world. The four banks have similar business models, and such similarities may be a source of contagion risk.*

4 State of competition in Australian banking

4.1 Relevant market
The ACCC considers substitution as its primary consideration of markets. It then determines markets by considering the product, geographic and temporal dimensions. More recently, the ACCC has determined markets on the basis that national markets in retail banking are the norm. In 2010, the ACCC used Table 1.

<table>
<thead>
<tr>
<th>Product dimension</th>
<th>Geographic dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal banking markets</strong></td>
<td></td>
</tr>
<tr>
<td>Transaction accounts</td>
<td>Local but price competition is national</td>
</tr>
<tr>
<td>Deposit/term products</td>
<td>National</td>
</tr>
<tr>
<td>Credit cards</td>
<td>National</td>
</tr>
<tr>
<td>Home loans</td>
<td>National</td>
</tr>
<tr>
<td>Personal loans</td>
<td>National</td>
</tr>
<tr>
<td>Hybrid personal loans (margin loans)</td>
<td>National</td>
</tr>
<tr>
<td><strong>Business banking markets</strong></td>
<td></td>
</tr>
<tr>
<td>Small to medium enterprise banking</td>
<td>Local but price competition is national</td>
</tr>
<tr>
<td>Equipment finance</td>
<td>National</td>
</tr>
<tr>
<td>Agribusiness banking</td>
<td>Local but price competition is national</td>
</tr>
</tbody>
</table>

Extracted from ACCC public competition assessment (ACCC 2010: 16).

For the analysis of completion in this section, the working paper adopts the approach taken by the ACCC.

4.2 HHI in retail banking
Valid calculation of the HHI relies on an appropriate market definition including consideration of substitutes. Bank concentration in Australia could be assessed based on assets, deposits or loans, as distinct market aspects of bank operations. From a policy perspective concerned with end results for
consumers, there is clear merit in considering deposits or loans. If pricing is impacted by monopoly
behaviour, or prejudicial pricing is otherwise the result of undue market power though, it is more
likely to be in evidence in loan markets where banks are the sellers of loans. Therefore, loan markets
are the basis for analysis here.

For the present purpose, it could also be relevant to consider how households substitute products
within a market in some fashion (for example, credit card and mortgage debt where both are
provided by banks). Alternatively, how one set of suppliers (for example, banks providing home
loans) may compete for business with another set in a substitute product market (for example, non-
bank financial institutions such as credit unions/ cooperatives that are providing home loans).
Similarly, it may be relevant to consider the extent to which SME operators may substitute their own
household debt for SME debt in the current environment where banks seek security over property,
rather than a fixed and floating charge over the business. That said, unless the significant majority
SMEs have household accounts at different banks to their relevant business accounts, such factors
would not change the markets’ concentrations. Similarly, the outcome in household banking may be
impacted in the unlikely event that significant numbers of households over time substitute one type
of debt held at one institution for a different type held at another.

Thus, market definition, for the purposes of calculating an HHI, is in two elements, the national
market in Australia for all forms of bank loans to households, and the national market for bank loans
to non-financial corporations (which includes SMEs). This is based on five important considerations:

(a) The ACCC view of the market for home loans over two decades is that it is a national market.
(b) The vast majority of household debt is in the form of home loans from banks, whether for
owner-occupied or investment properties.
(c) There is an unknown relationship between the forms of credit used by households, noting that
the credit card and ‘other’ segments are a small minority in terms of dollar value. However,
the proposition that such accounts are distributed among banks to an extent that is
sufficiently different to the distribution of home loans, so as to reverse the indications from an
overall measure, is not plausible. This is so even if the aggregate for credit cards comprise a
very large number of accounts each having modest balances due and distributed among
suppliers in some way fundamentally different to mortgages.
(d) Non-bank providers of loans, especially credit cards, are present in Australia, and are fairly
seen as a growing consideration in market dynamics. However, even in a highly disaggregated
data set (for example, a very specific geographical market for one loan product) they would
not provide a plausible proposition for fundamentally changing the HHI outcome.
(e) The permeability of the boundary between household loans and SME business loans is quite
probably an issue, but one which ebbs and flows in the face of a very large number of
unknowable variables. Noting that any influence will be mitigated by the extent to which both
sets of accounts are with the same bank, a co-incidence of provider of 60% was found in the
UK (see CMA and FCA 2014: 9). Although no specific data is available for Australia, that
permeability is highly unlikely to materially impact the HHI outcome.

For retail banking in Australia since 2002 (the period over which consistent data is available) in any
given year less than 50 banks were providing loans to households (whether housing for owner-
occupied houses, housing for investment properties, credit cards or other loans). Similarly, although a growing number of banks provide loans to non-financial corporations including SMEs, the high water mark so far is around 60 in recent years. Accordingly, for both parts of the retail market, calculations have been based on all participating banks.

Figure 1: Industry concentration

Derived from APRA banking statistics (APRA 2014).

Figure 1 above shows the HHIs calculated for the years 2002 to 2014 for the two elements taken as indicating the retail banking market. In 2014, the HHI for loans to households was 1,893, which indicates a moderately to highly concentrated market by international standards. Although below the peak of 2,013 in 2009, this is a material increase over the earlier prevailing level [around 1,500] this sentence is not quite clear to me- of 1,500?. The peak came in the wake of the 2008 acquisition of St George by Westpac and was reinforced by some financial crisis-related exits that have not been (and may never be) directly offset by new entrants gaining market comparable share.

In comparison, the HHI for loans to non-financial corporations is only now reaching the pre-financial crisis level of concentration in the household market. Just prior to the effects of the financial crisis, that measure reached a low of 1,089 before the ‘pillars’ began expanding to create a more concentrated business market, including through mergers as noted earlier.

Whether and to what extent the HHI indicates competition is only one issue of concern; another is the structural soundness of the industry as a whole. In the UK and even more so in the US, any industry may involve multiple sub-national markets that are comparable to the entire market in Australia, giving proposed mergers/acquisitions a different complexion when considered by the ACCC. In particular, the lack of adjacent sub-national or national markets, from which new competitors may be sourced, taken with extant barriers to entry, is an idiosyncrasy that gives pause in terms policy that is concerned with resolving possible bank difficulties in the future. That is, if the
industry as it stands lacks the structural capacity to resolve a banking crisis in the future, then
greater damage to the economy as a whole may result, for which the market for domestic air travel
provides a useful point of reference.

For a decade, Qantas and Ansett effectively shared the market in a now defunct ‘cosy duopoly’,
before Ansett was placed under administration in 2001 and subsequently wound up. For much of
that decade, the HHI for the domestic air travel market was in the range 5,000 to 5,500, peaking at
over 7,000 immediately after the demise of Ansett. Had no other trunk airline been in operation to
absorb the traffic dropped by Ansett’s demise, it is highly doubtful Qantas could have taken up the
slack sufficient (in speed and/or quantum) to avoid serious ramifications for the economy. More
than a decade and a half on, what is worth recalling is that fundamental disaster for the economy
was averted not because of any specific policy or government action, but because Virgin Blue (now
Virgin Australia) commenced operations as a challenger in late 2000. As such, they then took the
commercial opportunity to ramp up their activities apace to become the second major airline
domestically, very much ahead of their schedule. In effect, this allowed the economy to recover by
avoiding the backwash from firm failure in a highly concentrated market. These ramifications are
well worth noting from an industry that, like banking, is an enabler of productive economic activity,
and where banking is concentrated in the hands of a few players with similar business models that
may be susceptible to rapid transmission of risks that arise.

4.3 H-Statistic for banking
The H-Statistic for the banking sector for a number of countries, and globally, is available in the
World Bank Global Financial Development (2015). The data subset, known as GFDD.OI.03, contains
the H-Statistic. The data on Australia is limited, but there are results for 2010. These are set out in
Table 2.

<table>
<thead>
<tr>
<th>Region</th>
<th>H-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.651</td>
</tr>
<tr>
<td>Euro Area</td>
<td>0.651</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.642</td>
</tr>
<tr>
<td>United States</td>
<td>0.689</td>
</tr>
<tr>
<td>World</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Based on the H-Statistic for 2010, it could reasonably be concluded that the US has a more
competitive banking sector than the UK and that Australia lies between the UK and the US is at a
level that is comparable with the Euro Area and the world as a whole.

4.4 Lerner Index for banking
The Lerner Index for the banking sector for a number of countries and globally, is available in the
World Bank Global Financial Development (2015) Database. The data subset, known as GFDD.OI.04,
contains the Lerner Index. Australian data is available from 1999 to 2010. This is set out in Figure 2.
Figure 2 indicates that Australia’s banking sector is more competitive than the other geographic areas, that the UK reached its highest level in 2001, and that competition in Australian banking peaked in 2004.

4.5 Boone Indicator for the banking sector

The Boone Indicator for the banking sector for a number of countries, and globally, is available in the World Bank Global Financial Development (2015) Database. The data subset, known as GFDD.OI.05, contains the Boone Indicator. Australian data is available from 1999 to 2011. This is set out in Figure 3.
Figure 16 indicates that Australia’s banking sector is less competitive than the other geographic areas. The volatility and extreme nature of the Australian results makes the World Bank data questionable [for this jurisdiction?]. The data indicates such a lack of competition, compared to the other measures set out above, that it may be unreliable. However, correspondence with the World Bank has not led to a revision in its published data.

4.6 DEA of ‘four pillars’

For each of the four pillar banks, the half-year reports between 2005 and the first half of 2014 were reviewed, and a value obtained for two outputs and three inputs. The outputs were the loan book and non-loan outputs, and the inputs were shareholders’ funds, deposits plus other borrowings and operating expenses. For this case, computations were performed in the program R (R Core Team 2015) using functionalities included in package called ‘nonparaeff’ (Oh and Suh 2013).

The results of the DEA are set out in Figure 4. They include a shift in the efficiency of NAB over the period, the lead in efficiency held by Westpac, and the striking effect of the financial crisis in the first half of 2008.

Figure 4 shows that Westpac is consistently at the efficiency frontier with CBA at the same level since 2010. The other two banks are sometimes at the frontier, but not on a consistent basis.

4.7 Malmquist Index: performance improvement of ‘four pillars’

Assessed on the basis of data from the ‘four pillars’ the Malmquist Index is set out in Figure 5 and Figure 6.
The notable issue in the technical change is the high level of change before the financial crisis, the focus on other things during that crisis, and the relatively poor recovery in technical change since then.

In Figure 6, a feature which is consistent with Figure 4 is that there is no catch up from Westpac as it leads in efficiency.
4.8 Return on assets: performance over time of ‘four pillars’

One approach that demonstrates the extent to which the four pillar banks have similar business models is the way that the return on assets has changed over time. A time series analysis of the return on assets for the four pillar banks was calculated using Net Assets and Net Profit After Tax, as reported by the profit and loss and balance sheet statements provided by each bank’s Interim Financial Report.

Comparison of Financial Statements did not yield a noticeable difference in methodology for reporting net assets across the firms, although:

- CBA provided a more comprehensive breakdown of asset/liability components.
- NAB Net Assets in 2004 excluded the net assets of an affiliated bank, Northern Bank Ltd and National Irish Bank Limited, because these were disposed of.

To maintain consistency with other firms, the Net Profit After Tax (cash basis) was used for CBA.

In the absence of quarterly financial statements, the figures for CBA were adjusted by taking an average of the reported figures for each half-yearly reporting period. That is, a March figure was derived by taking an average of the December and June month ends. It may be that an average ‘midpoint’ between consecutive periods is not the best approximation. For example, there may be cyclical tendencies for performance to be greater in the September period than in the March period. Although recognised, no trend analysis was done to further investigate.

Where there were two or more reported figures for Net Assets, the latest financial release was used. This best reflects management’s compliance with the most recent accounting standards. It appears the most common cause of variation is a conversion of liquid assets to cash, increased issuance of net loans and advances, and increases in deposits and other borrowings.

The result is shown in Figure 7.
4.9 Summary for banking in Australia

All of the indicators presented suggest that there has been a drop in competitiveness since the GFC and consequent to the heightened vertical integration in Australian retail banking after the GFC. This is set out in Table 3 below.

<table>
<thead>
<tr>
<th>Measure/indicator</th>
<th>Pre-GFC</th>
<th>Post-GFC</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHI – concentration as an indicator of rivalry</td>
<td>Somewhat concentrated</td>
<td>More concentrated</td>
<td>Level would concern competition authorities elsewhere</td>
</tr>
<tr>
<td>H-statistic</td>
<td></td>
<td>0.651</td>
<td>On par with the world overall and Euro area, higher than the UK but lower than the USA</td>
</tr>
<tr>
<td>Lerner Index – competition</td>
<td>Rising competitive intensity until 2004</td>
<td>Significantly lower competition</td>
<td>Decline in competition consistent with the rest of the world</td>
</tr>
<tr>
<td>Boone Indicator - competition</td>
<td>(Data questionable)</td>
<td>(Data questionable)</td>
<td>No clear indications</td>
</tr>
<tr>
<td>DEA – efficiency, benchmark being top performer out of ‘four pillars’</td>
<td>Variation in efficiencies of three of the banks</td>
<td>Marked reduction in the relative efficiencies of the banks</td>
<td>Decline in competitive vigour of as all banks tend to a common level of efficiency</td>
</tr>
<tr>
<td>Malmquist Index – performance improvement</td>
<td>Large changes in indicator of innovation</td>
<td>Marked drop in the indicator of innovation</td>
<td>Decline in innovation indicating drop in competitive vigour</td>
</tr>
</tbody>
</table>
5 Applying competition law in the banking sector

A decline in competitive vigour in the retail banking sector was shown in the last section. Since this is unlikely to best support economic outcomes (such as innovation and optimal consumer welfare), this section of the working paper provides some examples of the issues facing the competition regulator in increasing competitiveness in the retail banking sector using existing competition law.

5.1 Coordinated conduct – difficulties in cartel action

It may be difficult for the ACCC to take an action against a financial institution that has engaged in cartel conduct in relation to manipulation of financial benchmarks such as:

(a) inter-bank offered rate;
(b) foreign exchange rates; or
(c) bid/ask spreads.

The issue is that the manipulation is likely to have occurred in a different jurisdiction. This problem is magnified by the Federal Court decision in *Australian Competition and Consumer Commission v Air New Zealand Limited* [2014] FCA 1157 on the international airfreight cartel (LeClair 2012). Although the *Competition and Consumer Act 2010* (Cth) has been amended to clarify jurisdictional issues since the airfreight cartel conduct and the case is likely to be appealed, it is difficult to demonstrate the nexus between the manipulation and the jurisdiction (Niels 2013). In any case, whereas there is some indication that the locally set benchmarks (such as the bank bill swap rate – BBSW), have been manipulated, there has been no public ACCC cartel conduct action. This is in contrast to the New Zealand Commerce Commission’s announcement that it had provided an immunity marker to at least one financial institution (ComCom 2014).

The European Union has followed the path of using cartel conduct to deal with financial benchmark manipulation (Nicholls and O'Brien 2014). The twin announcements of further cartel settlements in October 2014 and the retiring Commissioner Almunia’s speech on the passing of the antitrust litigation directive suggest that there is scope for competition law to provide consumers of financial services with courses of action in the EU and such courses are already available in Australia (Nicholls 2014).

5.2 Mergers and acquisitions

One of the fundamental approaches in the Competition Policy Review (Harper et al. 2015) is the need for Governments at all levels in Australia to avoid unnecessary intervention that impacts competition either directly or indirectly. There is good reason to consider that the ‘four pillars’ policy, described in 3.2 above, is a policy that should be removed.

The Financial System Inquiry (Murray et al. 2014a) recommended that the ‘four pillars’ policy should be retained. It did so on the basis that it was required to prevent mergers between the four major Australian retail banks. However, the removal of the four pillars policy is not likely to result in mergers between the ‘four pillars’. It is not unreasonable to assume that the operation of section 50 of the *Competition and Consumer Act 2010* means that the analysis of any such potential merger would lead to the ACCC finding that the merger would lead to a substantial lessening of competition in a market.
Competition and contestability arise when there are reasonably low barriers to entry and exit from the sector. It is not clear that low barriers to entry exist in Australia and evidence to support this view comes from the failure of international banks to gain a significant toehold in the retail banking sector in Australia.

The four pillars policy creates a barrier to exit for each of ANZ, CBA, NAB and Westpac, except by way of a trade sale to an international bank and subject to approval by APRA and the Foreign Investment Review Board. Low interest margins in banking, used as evidence of competition in the Interim Report of the Financial System Inquiry (Murray et al. 2014b), are potentially a barrier to entry. The final report of the Financial System Inquiry did not repeat this analysis (Murray et al. 2014a). The effect may be that competitive entry is only by industry disruptors (for example, Adner 2002).

The four pillars policy has led to a degree of vertical integration in the sector, particularly in the sale of mortgage products. There was a contraction in the proportion of loans provided by banks other than the ‘four pillars’, and by the non-bank mortgage sector, associated with the global financial crisis (Australian Bureau of Statistics 2015). Since then, there has been a contraction in the diversity of mortgage intermediaries, with CBA acquiring 80% of Aussie Home Loans and Westpac acquiring RAMS’ brand and distribution business.

Within the constraints of the pillars policy, there have been post-GFC acquisitions by the ‘four pillars’ banks, with Westpac acquiring St George and CBA acquiring BankWest. There has also been a significant amount of horizontal integration in the sector, particularly within the areas of wealth management, insurance and specialised finance.

There are major issues that flow from horizontal and vertical integration in the banking sector. The primary one is that systemic risk becomes more domesticated and in so doing crosses multiple elements of the Australian financial system. For example, NAB provides banking, wealth management, insurance (through MLC) and a range of wholesale superannuation products and services. The bank has the potential to be ‘too big to fail’ not from its banking operations, but due to its impact in the superannuation sector (for example, Donald and Nicholls 2015).

A particular problem with the four pillars policy arises from the regulatory culture that it creates. APRA’s finding (APRA 2013) that only the ‘four pillars’ are Domestically-Systemically Important Banks (D-SIB or local ‘too big to fail’ banks) compounds the issue.

The institutionalisation of these banks has the potential for both a lessening of intensity of competition and the creation of a regulatory blind spot in respect of digital disruption.

The lessening of intensity of competition effect comes from the barriers to entry raised around these banks. Although the regulatory regime might permit new entry, the regulatory focus is on the ‘four pillars’, on the basis that they are critical to stability and this trumps other considerations. The entry or exit of a potential competitor is not the highest regulatory priority.

The blind spot comes from the same regulatory focus. As well as a general problem of not validating whether the current level of competition is sufficient, the regulatory regime is destined, even designed, to ignore digital disruptions to the industry such as the potentially transformative effects of peer-to-peer lending, and from PayPal providing working capital loans to SMEs. These types of
structural changes that arise from the innovation that is expected from a competitive environment are recognised by the smaller players, but are sometimes regarded as unimportant by the too-big-to-fail entities.

The blind spots present a risk of regulatory capture of financial regulators that would be absent from the relationship with a competition regulator. The level of supervision required for effective prudential regulation means that staff from the prudential regulator have ongoing relationships with people in the banks that they supervise. This creates a regulatory capture risk. However, interaction with a competition regulator only occurs when there is a review or enforcement action on foot. The blind spot here has the potential to be adversely worsened by capture effects.

In order to address these blind spots, we offer two very specific proposals, which have the potential to increase competition in the retail banking sector without significant regulatory intervention. These are set out in the next section.

6 Increasing competition – account number portability

6.1 Introduction

One of the issues which deters consumers from changing suppliers is the associated switching cost (Fuentelsaz, Maicas and Polo 2012; Colgate and Lang 2001). The Financial Conduct Authority (FCA), a UK financial regulatory body that is independent of the UK government, released a report in March 2015 that highlights the benefits of account number portability (bank account number portability) in encouraging consumers to switch. The report predominately concentrates on Current Account Switching Service (CASS), a service provided in the UK to allow for customers to switch more easily by automatically switching all direct debits, standing orders and bill payments within seven working days and providing a redirection service for up to 13 months. The report also provides important insights into the workings of bank account number portability. These can be used to understand how this mechanism can be introduced into Australia as an effective tool to make switching easier and simpler, which is a necessary component in the financial system for vibrant competition.

6.2 Benefits of bank account number portability

The FCA report finds that bank account number portability would encourage more customers to switch. Based on recent quantitative consumer research, the report revealed that 35% of consumers and 40% of businesses ‘would be much more likely or more likely to switch if they had portable account details’ (Financial Conduct Authority 2015: 53). The research signalled that customers view bank account number portability as having ‘less risk and is more seamless as a process than CASS’, as there is no requirement to change details or to notify consumers of any changes (Financial Conduct Authority 2015: 53).

Further quantitative research shows that, for small and medium-sized enterprises and charities, bank account number portability is viewed as a more convenient mechanism. This is because ‘they would not have to notify their customers of changing details, worry about transferring certain payments, make changes to stationery, or be concerned about what the change in account details may signal to their customers’ (Financial Conduct Authority 2015: 53).
Moreover, bank account number portability is seen by customers as reducing the chances of encountering problems such as incoming payments going astray. Thus, the main benefits for incorporating bank account number portability are that switching is made easier and quicker for customers by allowing existing direct debits and credits linked to the account to be automatically transferred to the new institution, meaning that the risk of error for payments going amiss would diminish.

6.3 Possible implementation of bank account number portability

For bank account number portability to be effective, the customer’s details and payments would need to be accessible by the old and new institution, and the FCA report provides technical advice on what measures are required for bank account number portability to be implemented. This includes the following prerequisites: payments, as well as the existing balance, would need to be transferred from the old to the new account, and a record of both the payments to be transferred and the current and any previous account numbers would also be required.

According to the FCA report, these requirements could be dealt with via two different methods. The first potential method is based on the existing market structure, but would incorporate bank account number portability by building additional infrastructure that includes the prerequisites, as previously referred to, such as retaining information on payments and account information, and routing payments and balances. This additional infrastructure would be run centrally, but providers would still work under their own existing systems. The second concept is a ‘central utility model’ based on a ‘central shared banking platform’. The ‘utility’ model could include features such as a ‘Know-Your-Customer’ (KYC) database (which stores the customer’s details for identification) and a ‘payment mandates database’ for all payments to be transferred through a common payment infrastructure that would identify which institution the account is linked to (Financial Conduct Authority 2015: 54). The idea is for providers to retain their different products and services, interest rates, internet banking sites, or mobile banking applications to continue offering competing products to customers, whilst using a common infrastructure system. Unfortunately, the FCA does not delve into the specifics of how bank account number portability would be implemented, but rather provides a framework to be further examined.

6.4 Portability implementation in Australia

Implementing account number portability in Australia would require compliance with the relevant regulatory safeguards, especially in the context of anti-money laundering and counter-terrorism (but also not forgetting privacy legislation), that have been constructed over the years. Consequently, an Australian model would need to include a ‘Know Your Customer’ database and a ‘payment mandates database’. Currently, the Australian payment system is based on the direct entry system, which essentially is a series of bilateral networks between financial institutions to facilitate the transactions of direct credits and debits. In other words, an electronic payment system to transfer money. For this to occur, each customer has a customer account number to identify the specific account, and a bank, state, branch (BSB) number to indicate which financial institution, state and branch the customer’s account number is linked to. To switch in Australia, customers are required to change their BSB, customer account number and redirect incoming or outgoing transactions to the new account details.
The Fraser (2011: 8) report, commissioned by the Australian government, developed a similar idea to the FCA report on bank account number portability. The report conceptualized an alternative numbering system with a central account registry to store the details of the customer’s account, including that of the customer’s institution, which would be updated each time a switch occurs, as well as, a ‘central hub’ or clearing house whereby all direct payments would be transferred. The existing BSB number and account number system would thus be replaced with a unique customer account number with the clearing house and central registry acting as a mechanism for rerouting payments. The report alternatively describes the possibility of a de-centralized approach whereby institutions would be held responsible to reroute payments and retain their own account registry of switched account numbers which would be available to other financial institutions (Fraser 2011: 8). The report however, concludes by arguing that the costs, involved in building the infrastructure necessary for bank account number portability and for it to function, outweigh the benefits.

Of interesting note however, the Fraser (2011) report does not provide a reason for why the current BSB and account number could not be merged to form a unique customer account number rather than having to develop a completely new one. Furthermore, the report does not examine whether a current banking institution, such as one of the four big banks could manage the centralized payments system, which could be checked by the remaining big banking institutions and would avoid the costs of establishing a new institution. Perhaps a simpler alternative could be to merge the current BSB and account number in order to form a unique customer account number rather than having to develop a completely new one. This parallels the mobile numbering approach where two digits after ‘04’ previously indicated the network operator and now only do so for non-ported numbers.

6.5 Additional detailed option for bank account number portability

There is also a report by Jain and Kudidhi (2010) from the Infosys Institute that envisages a similar but much more detailed idea of how bank account number portability could be implemented, compared to the Fraser (2011) and Financial Conduct Authority (2015) report. The authors propose a method that entails a local database for each institution to initiate switching requests, as well as a central database with all customer account numbers that would be accessible to all banking institutions. A clearing house agency would be given the responsibility to manage this database by updating the requests made by the new serving bank and informing the old serving bank of the customer’s request to switch. The old serving bank would be responsible for undertaking closure procedures including cancellations of ATM/Debit cards and transferring to the new bank the customer’s details whilst informing the clearing agency of this process. Finally, the new bank would perform a KYC process requirement and make switching requests via its local database that is connected to the central database. The report however, does not provide any assessment of the costs involved in this bank account number portability initiative. A centralised database system is also important and is sometimes regarded as a high cost item. However, a process could be established where one of the four big banks manages the database, which is then checked by the remaining big banking institutions. This would avoid the costs of establishing a new institution. In the telecommunications sector, Telstra runs the equivalent data repository known as the Integrated Public Number Database.
6.6 Summary
Introducing bank account number portability is an important step towards implementing a measure that would make switching quicker, easier and less risky, and which would, in turn, increase customer confidence and willingness to switch, a necessary component for vibrant competition.

7 Returning customer data
For large corporations with access to consumer data, the challenge is to ensure that big data is used for helpful purposes, facilitating positive customer outcomes without being overbearing or intrusive. In usual parlance, this means that big data mustn’t be creepy. In banking, it would be feasible for consumers to use their own data to find the best retail products between the banks, rather than within their current bank.

7.1 The data
Consumers create a rich data trail that is used by businesses to improve their product and service offerings. Banks, along with utility providers and telecommunications operators, collect detailed sets of information to tailor their best offerings. Currently, this data belongs to the service provider, rather than the consumer. However, it would be feasible to use that data to find the best offering from a range of providers, not just the one that is currently used. In the UK, there is a service available called ‘midata’ that allows consumers to download the data trail that they have left and which each of the service providers has collected. Applications program developers have been encouraged to start offering software that allows people to use their own data to find the best product offering for them across the sector. This UK service has been deployed on a mainly voluntary basis and is still in its early stages. In combination with consumer-friendly switching regulations, such as bank account number portability, midata offers consumers a way of using their own data to make product and service choices.

7.2 Australian perspective
This approach has been taken up in the Competition Policy Review process (Harper et al. 2015). In their submissions to the Harper review panel, CHOICE argued that such a scheme would support ‘robust demand-side competition by enabling consumers to make better informed decisions’ and would encourage innovation. The ACCC put the case that ‘initiatives to allow consumers to effectively use their information … have the potential to assist consumers to make better choices and drive competition’. Harper et al. (2015) also noted that the UK government believes that ‘being able to base decisions on their previous behaviour will mean individuals can choose products and services which better reflect their needs and offer them the best value’ and that this would also encourage innovation.

The report references the submissions of both CHOICE and the ACCC in coming to the view that markets work best when consumers are engaged, empowering them to make informed decisions and that there is scope for Australian consumers to improve their access to data to better inform their decisions.

This led to a recommendation on informed choice that governments (at all levels) should ‘allow consumers to access information in an efficient format to improve informed consumer choice’. The Competition Policy Review recommended that a working group should be set up to implement the
recommendation. It then went further, recommending ‘governments ... should draw on lessons from behavioural economics to present information and choices in ways that allow consumers to access, assess and act on them’.

The consumer group peak body, the consumer law regulator and the competition policy review all agree that consumers’ access to their own data should proceed. The data formatting needs to be agreed in order to make the system useful. The midata approach and similar systems in the US can provide a model, but this needs to be standardised in Australia. In order for the approach to work, full industry support is important and the Australian Bankers’ Association would likely need to take a lead in standardisation.

8 Conclusions and recommendations for further work
Concentration indicates, and other measures confirm, that the level of competition in Australian retail banking has declined over a decade including the GFC, and may no longer support broader economic outcomes such as ongoing consumer-beneficial innovation and optimal consumer welfare.

The signature ‘four pillars’ policy for the sector, while originally intended to preserve competition may now, in overall effect, be counter-productive, as it creates considerable incumbency value through being read as an implicit government guarantee for these firms. Moreover, while effective consumer choice is essential to effective competition, evidence shows consumer inertia at a level that suggests not enough is being done to facilitate that choice in retail banking, which further entrenches those four incumbents.

Current legislation points regulation to a reactive focus on a case-by-case evaluation of what may substantially lessen competition (for example, a proposed merger), without requiring a proactive examination of whether prevailing competitive conditions appear adequate. Short of policy change to address such issues directly, there are two consequences that call for a response:

(a) un-actioned opportunities, to better enable and inform consumer choice – such as bank account number portability and consumer access to their own banking data; and

(b) risks arising from regulatory blind spots, that leave emerging lending channels unregulated and allow stability to trump competition without formally assessing competition levels to account for the costs of insufficient competition.

Such responses would be well worthwhile the attention of researchers, regulators and policy makers alike.

Acknowledgements
The authors acknowledge the support provided for this research by the Centre for International Finance and Regulation under Grant TO20: Competition in Financial Services, and UNSW Australia.

Bibliography


International Monetary Fund (2012) 'Australia: Financial System Stability Assessment'.


Keating, P. J. (1990) 'Proposal for Merger of ANZ Banking Group (ANZ) and National Mutual Life Association.'


