

# Households' Appetite for Financial Risk

Susan Black, Lamorna Rogers and Albina Soultanaeva\*

Australian households' appetite for risk appears to have declined in recent years with households having actively shifted their portfolios away from riskier financial assets. The change in the composition of financial assets has been seen across most age and income groups. The shift in households' actual risk exposures also accords with changes in self-reported preferences for risk.

## Introduction

Australian households' appetite for risk has declined following the global financial crisis and economic slowdown in 2008–2009. Households have shifted their portfolios away from riskier financial assets, such as equities, and towards less risky assets, such as deposits. This change in investment preferences has been associated with declines in equity prices and increased volatility in equity returns; at the same time, rates of return on deposits have become more attractive. To the extent that the portfolio reallocation reflects a change in investors' perception of risks – due to a better understanding of the trade-off between risk and returns for different asset classes – it is consistent with households more closely aligning their preferences for risk with their asset exposures.

While investing in a less risky asset such as deposits is expected to yield less volatile returns, over the long run it is also likely to result in lower average returns (reflecting the lower risk). Previous studies suggest that equity holdings receive a significant return premium. Thus, for a given level of savings, investing in equities typically allows households to accumulate more wealth (reflecting the higher risk).<sup>1</sup> The investment horizon is an important

consideration, however; while equity returns are expected to be higher than returns on deposits over the long run, this may not be the case over the short run, as demonstrated in recent years. A low risk/low return strategy may be more appropriate for households such as retirees who are planning on consuming some of their wealth in the near term. The academic literature has also consistently shown that, for a given level of risk, portfolio diversification maximises expected returns.<sup>2</sup> By investing in a range of assets that are not perfectly correlated – that is, the returns do not move together exactly – a diversified portfolio will be less risky than the weighted average risk of the assets in the portfolio.

This article discusses the change in the composition of households' financial assets in recent years, both at an aggregate level and across age and income groups. In addition, it examines changes in households' self-reported preferences for risk and how these accord with households' actual exposures to risk.

## The Changing Composition of Household Financial Assets

In the lead-up to the global financial crisis, Australian households became more exposed to riskier financial assets. Aggregate data from the ABS Financial Accounts show that the share of household

\* Susan Black and Lamorna Rogers are from Financial Stability Department. Albina Soultanaeva was in Financial Stability Department during her secondment from Riksbank.

1 See, for example, Mehra and Prescott (1985), Dynan and Maki (2001) and Damodaran (2012).

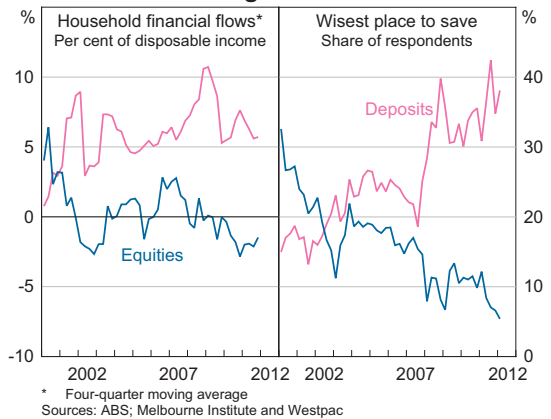
2 See, for example, Markowitz (1952), Alexander and Baptista (2010) and Mohamed (2010).

financial assets held in equities (both held directly and through superannuation) increased from around 35 per cent in 2003 to around 45 per cent in 2007. The increase followed largely from the fact that equities were providing higher returns than other classes of financial assets, and households had chosen not to rebalance their portfolios as equity prices rose.<sup>3</sup> Australian equity market returns averaged around 20 per cent per annum over this period, compared with average deposit rates of around 5 per cent. Likely reflecting the attractive equity returns, flows into equities (mainly through superannuation funds) were also stronger than flows into other financial assets over this period. This also contributed to the increased exposure to equities.

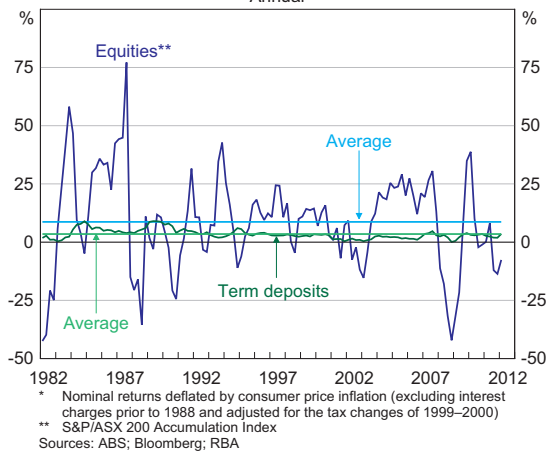
Following the declines in wealth associated with the global financial crisis and the economic slowdown in 2008–2009, households have adopted a more cautious approach to their finances.<sup>4</sup> Households' appetite for risk has declined and, accordingly, households have been actively shifting the composition of their financial asset portfolio away from riskier financial assets. Between 2008 and 2011, there were net outflows from households' direct holdings of equities of around \$67 billion, while holdings of deposits increased by around \$225 billion, \$90 billion more than in the previous three years (Graph 1, left panel).

The outflows from equities were likely to have been largely in reaction to the capital losses experienced in the sharemarket in recent years and the associated high volatility of share prices. Over the past 30 years, the average annual real return on Australian equities (including capital growth and dividends) has exceeded the average annual real return on deposits by around 5½ percentage points, though the reverse has been true since 2008 (–5 per cent on equities versus 2½ per cent on deposits; Graph 2). Sharemarket volatility – measured as the standard deviation of monthly returns – increased

**Graph 1**  
**Saving Measures**



**Graph 2**  
**Real Returns\***  
Annual



from around 2½ percentage points between 2003 and 2007 to around 5 percentage points between 2008 and 2011. While the (unconditional) expected returns on riskier assets such as equities are higher than on less risky assets such as deposits, the greater volatility in equity returns can result in actual returns being lower over certain horizons.

The investment horizon can affect households' asset allocation decision; investors with longer horizons typically invest in higher risk assets.<sup>5</sup> Australian

3 When the investment weights in a portfolio deviate from the original target asset allocations (i.e. the preferred level of risk) an investor may 'rebalance' the portfolio by selling some assets and buying other assets to bring it back in line.

4 For a further discussion, see RBA (2012).

5 See, for example, Cardak and Wilkins (2009). In addition, Veld-Merkoulova (2011) found that after taking investors' attitudes towards risk into account, their age and planning horizon remain important factors in household investment decisions.

households have also benefited from diversification: the returns on aggregate household assets have been less volatile than the weighted average of the individual assets. This is because the returns on the individual assets are not perfectly correlated. For example, the returns on deposits and equities have not moved closely together historically.

As a result of the sharemarket declines and flow of household funds out of equities in recent years, the share of households' financial assets held directly in equities has more than halved, from 18 per cent prior to the global financial crisis to 8 per cent at the end of 2011 (Graph 3, left panel). In contrast, the share of deposits has increased from 18 per cent to 27 per cent. Consistent with this portfolio shift, surveys show a significant increase in the share of people nominating deposits and paying down debt as the 'wisest place' for saving and a decline in the share nominating equities and real estate (Graph 1, right panel).

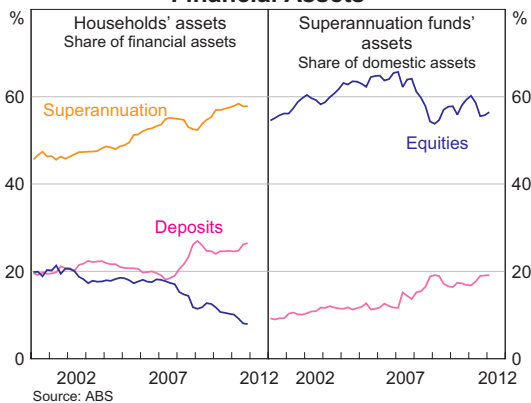
Superannuation continues to account for the bulk of households' financial assets, at just under 60 per cent. Within superannuation, there has also been a shift towards deposits and away from equities (Graph 3, right panel). Although fund managers' decisions may not directly reflect household preferences, the shift has been more pronounced for self-managed superannuation funds, suggesting that households who directly manage their

superannuation have indeed changed their investment preferences.<sup>6</sup>

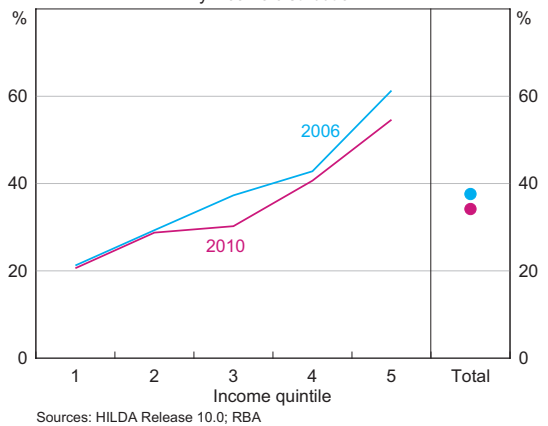
Disaggregated data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey also suggest that there has been a shift away from riskier financial assets.<sup>7</sup> The decline in the share of households' financial assets held directly in equities was driven by both valuation effects and withdrawals; between 2006 and 2010, the proportion of households owning equities directly fell from 38 per cent to 34 per cent (Graph 4). The shift away from equities was broad based, with all age groups and most income groups reducing their exposure over this time.

The HILDA Survey suggests that higher-income and wealthier households are more likely to invest directly in equities; poorer households hold more of their wealth in deposits. This is consistent with the

**Graph 3**  
**Financial Assets**



**Graph 4**  
**Households with Direct Equity Holdings**  
By income distribution



6 In addition to an increase in risk aversion and a rise in the relative returns on deposits of late, the shift towards deposits may also reflect the ageing population, especially given that a higher share of members in self-managed super funds are closer to retirement age. Upon retirement, superannuation assets become a key source of funds to meet daily spending needs, increasing the need for less risky and more liquid assets.

7 Generally, the HILDA Survey interviews the same set of households each year, mainly between August and November, with the latest published results being for 2010. A full breakdown of household wealth is available at four-yearly intervals (2002, 2006 and 2010). For a detailed discussion on the distribution of household wealth from the 2010 HILDA Survey, see Finlay (2012).

literature, which finds that share market participation increases as wealth and income increase.<sup>8</sup> In part, this is because these households are more able to afford the fixed costs of investing in the share market and it is easier to diversify a larger portfolio. Higher-income households are also more likely to be able to save part of their income beyond their compulsory superannuation contributions (Finlay 2012). The appetite for risk has also been found to increase with wealth, which is not surprising because wealthier investors may be better able to weather volatile returns (Cohn *et al* 1975).

### Preferences for Risk

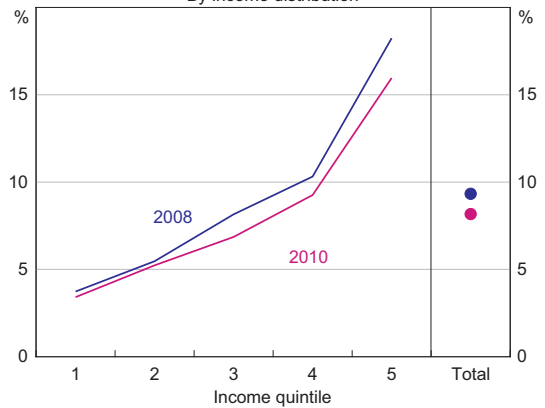
Households' self-reported preferences for risk from the HILDA Survey also indicate that they have become somewhat more risk averse: the share of households reporting a high tolerance for risk declined from 9½ per cent in the 2008 Survey to 8 per cent in the 2010 Survey (Graph 5).<sup>9</sup> Over this period, the share of households who responded that they were risk-averse increased by more than 2 percentage points to 41 per cent. The decline in the appetite for risk has been broad based, with a shift observed across the distribution for most age, wealth and income groups.

Because the HILDA Survey generally tracks the same set of households each period, it is possible to identify whether households responding in both the 2008 and 2010 Surveys changed their preferences for risk. Around 40 per cent of households that previously reported having a high tolerance for risk changed their preference to risk-neutral. The appetite for risk of households that identified themselves as being risk-neutral in 2008 was also more likely to have declined; around 20 per cent of these households changed their preference to risk-averse.

8 For example, see Wachter and Jogo (2010).

9 Households with a high tolerance for risk include respondents who say they take substantial risks expecting substantial returns and respondents who say they take above-average risks expecting above-average returns. Risk-neutral households cover respondents who say they take average risks expecting average returns; risk-averse households responded as not being willing to take financial risks.

**Graph 5**  
**Households with a High Tolerance for Risk\***  
By income distribution



\* Respondents who take substantial risks expecting substantial returns or take above-average risks expecting above-average returns  
Sources: HILDA Release 10.0; RBA

Consistent with the literature, households reporting high tolerance for risk tend to be wealthier. Around three-quarters of households with a strong appetite for risk were also in the top half of the wealth distribution in 2010. Higher-income households are also more willing to take on risk; 16 per cent of households in the top 20 per cent of the income distribution reported having a high tolerance for risk compared with only 3 per cent of households in the lowest 20 per cent of the income distribution in the 2010 Survey (Table 1).<sup>10</sup> Older households tend to have the lowest appetite for risk; just over half of households with a head over the age of 65 reported being risk averse compared with 41 per cent of all households. Younger households – with a household head aged 25 to 34 years – tend to have a stronger appetite for risk; 13 per cent of these households report having a strong appetite for risk compared with 8 per cent across all households.

Another way of examining households' attitudes to risk is to look at the proportion of riskier assets in household financial asset portfolios – the risky asset ratio – which measures households' revealed

10 In the 2008 Survey, 18 per cent of households in the top 20 per cent of the income distribution self-reported as having a high tolerance for risk compared with 4 per cent in the lowest 20 per cent of the income distribution.

**Table 1: Household Preferences for Risk**

Share of households in each category with particular risk preference; 2010

	High tolerance for risk	Risk averse
<b>Income</b>		
Top 20 per cent	16	28
Bottom 20 per cent	3	49
<b>Age</b>		
25–34 years	13	36
65 years and over	2	53
<b>All households</b>	8	41

Sources: HILDA Release 10.0; RBA

preferences for risk.<sup>11</sup> In the academic literature, riskier financial assets are typically measured as direct equity holdings and sometimes include superannuation. While much of households' exposure to risky assets comes through superannuation, this needs to be excluded from a measure of households' revealed risk preferences such as the risky assets ratio because superannuation contributions are compulsory and the decisions of fund managers may not directly reflect household preferences.

Households' actual risk exposures accord with their reported preferences for risk; the median risky asset ratio increases with households' reported appetite for risk (Graph 6). This is consistent with the academic literature that has found that the degree of risk aversion affects households' willingness to invest in risky assets and explains differences across households in terms of the composition of their portfolios: households that are more risk-averse are prepared to forego relatively higher expected returns for assets with lower volatility, and arrange their portfolios accordingly.<sup>12</sup> Also consistent with the literature, the risky asset

11 Using data from the 2002 HILDA Survey, Cardak and Wilkins (2009) find that a range of variables, including liquidity and credit constraints, are important determinants of the household risky asset ratio.

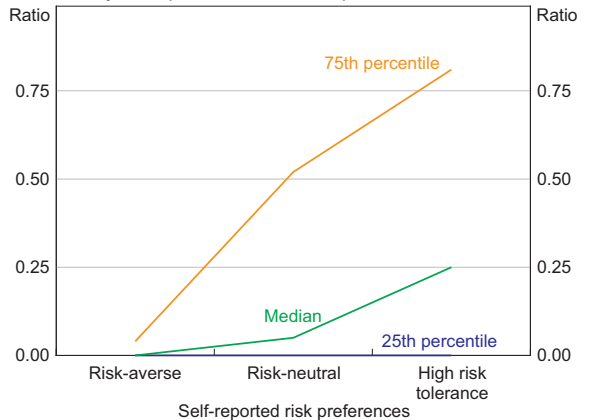
12 See, for example, Gollier (2002).

ratio increases with income and wealth (Graph 7). The decline in households' appetite for risk is also evident; there has been a broad-based decrease in the risky asset ratio across wealth and income groups in recent years.

**Graph 6**

**Risky Asset Ratio**

By self-reported household risk preferences\*; 2010

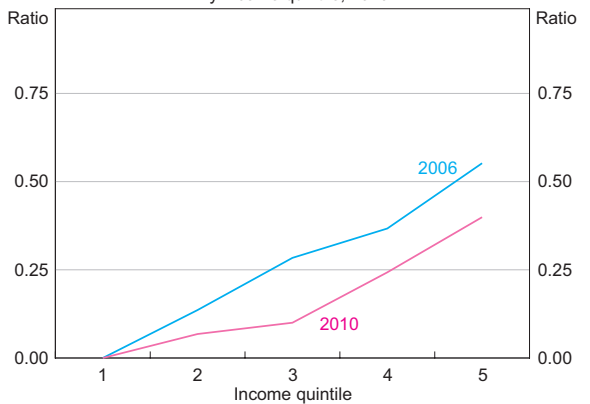


\* Distribution of households' risky asset ratios within each risk category  
Sources: HILDA Release 10.0; RBA

**Graph 7**

**Risky Asset Ratio\***

By income quintile, 2010



\* 75th percentile  
Sources: HILDA Release 10.0; RBA

**Conclusion**

Households have actively lowered their exposure to riskier financial assets in recent years following a period of relatively lower returns on assets such as equities. To some extent this portfolio shift is likely to have reflected households more closely aligning

their investment choices with their preferences for risk. Over the long run, the returns on a less risky portfolio are expected to be lower than on a riskier portfolio, reflecting the trade-off between risk and returns. However, actual returns on riskier assets may not be higher over shorter periods. ✕

## References

- Alexander G and A Baptista (2010)**, 'Active Portfolio Management with Benchmarking: A Frontier Based on Alpha', *Journal of Banking and Finance*, 34(9), pp 2185–2197.
- Cardak BA and R Wilkins (2009)**, 'The Determinants of Household Risky Asset Holdings: Australian Evidence on Background Risk and Other Factors', *Journal of Banking and Finance*, 33(5), pp 850–860.
- Cohn R, W Lewellen, R Lease and G Schlarbaum (1975)**, 'Individual Investor Risk Aversion and Investment Portfolio Composition', *Journal of Finance*, 30(2), pp 605–620.
- Damodaran A (2012)**, 'Equity Risk Premiums (ERP): Determinants, Estimation and Implications – the 2012 Edition', Stern Business School Working Paper. Available at <<http://people.stern.nyu.edu/adamodar/pdfiles/papers/ERP2012.pdf>>.
- Dynan KE and DM Maki (2001)**, 'Does Stock Market Wealth Matter for Consumption?', Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series No 2001-23.
- Finlay R (2012)**, 'The Distribution of Household Wealth in Australia: Evidence from the 2010 HILDA Survey', *RBA Bulletin*, March, pp 19–27.
- Gollier C (2002)**, 'What Does the Classical Theory Have to Say About Portfolio Choice?', in L Guiso, M Haliassos and T Jappelli (eds), *Household Portfolios*, MIT Press, Boston, pp 27–54.
- Markowitz HM (1952)**, 'Portfolio Selection', *Journal of Finance*, 7(1), pp 77–91.
- Mehra R and E Prescott (1985)**, 'The Equity Premium: A Puzzle', *Journal of Monetary Economics*, 15(2), pp 145–161.
- Mohamed I (2010)**, 'Stock Markets Volatility and International Diversification', *Journal of Business Studies*, 1(4), pp 21–34.
- RBA (Reserve Bank of Australia) (2012)**, 'Household and Business Balance Sheets', *Financial Stability Review*, March, pp 41–52.
- Veld-Merkoulova Y (2011)**, 'Investment Horizon and Portfolio Choice of Private Investors', *International Review of Financial Analysis*, 20(2), pp 68–75.
- Wachter JA and M Jogo (2010)**, 'Why do Household Portfolio Shares Rise in Wealth?', *Review of Financial Studies*, 23(11), pp 3929–3965.