

## Box D: The Introduction of the 15<sup>th</sup> Series Consumer Price Index

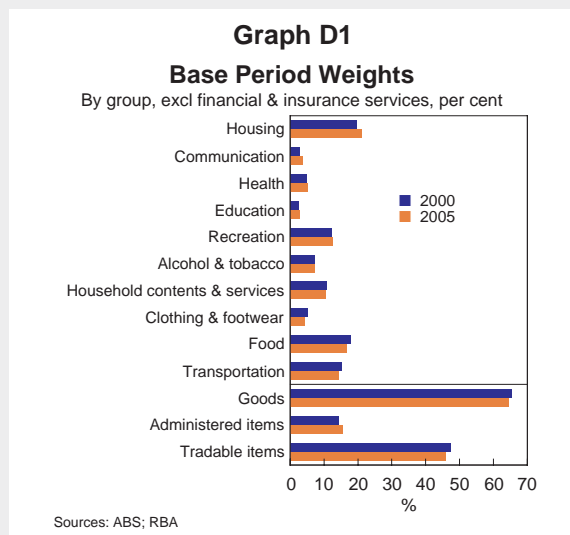
The Australian Bureau of Statistics (ABS) regularly reviews the content of the CPI so that it accurately reflects the prices of goods and services acquired by households. In the September quarter 2005, it introduced the 15<sup>th</sup> series of the CPI. This series contains several significant changes. In particular, the weights on all the expenditure components of the CPI have been updated in line with the 2003/04 Household Expenditure Survey, financial services prices have been included for the first time, and prices for personal computers are now directly estimated.<sup>1</sup>

### Changes to the weighting scheme

The update to the CPI weighting scheme is standard practice for the ABS every five years or so. The weights are updated with a view to accounting for such things as the introduction of new goods and services and minimising the substitution bias inherent in a price index like the CPI. This bias arises because the CPI is constructed for a fixed basket of goods and services and does

not allow for the fact that consumers are likely to change the bundle of products they purchase between weighting periods, increasing their purchases of products for which relative prices have fallen, and reducing their purchases of products for which relative prices have risen. Graph D1 compares the base-period weights for the 10 expenditure groups (excluding the new Financial & Insurance Services group) with those in the previous series of the CPI, which were based on household expenditure in 1998/99. There has been an increase in the expenditure shares for housing, communication,

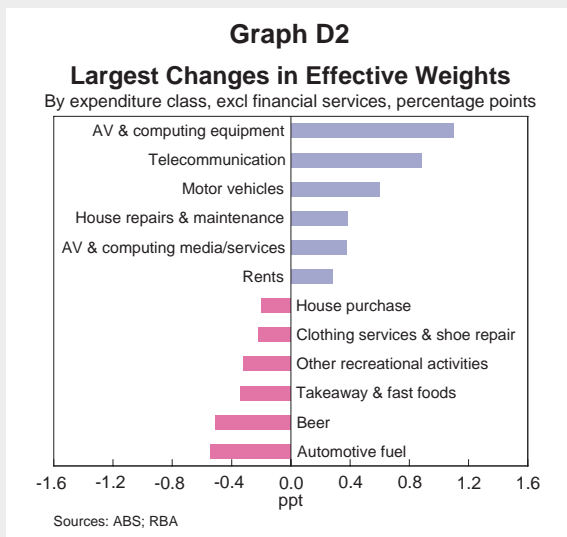
health, education and recreation since the introduction of the 14<sup>th</sup> series CPI in 2000. In contrast, there has been a fall in the expenditure shares for transportation, food, clothing & footwear, household contents & services, and alcohol & tobacco.



<sup>1</sup> There have been a few other changes, generally involving the renaming and reclassification of expenditure class items within the CPI. Overall, the new classification results in the number of expenditure classes increasing from 89 to 90 while the number of expenditure groups will remain the same at 11. See the ABS Information Paper, 'Introduction of the 15<sup>th</sup> Series Australian Consumer Price Index 2005: Reissue' (Cat No 6462.0) for further details.

While the quantity of each product within the CPI basket remains constant until the next re-weighting of the CPI, relative price movements can cause changes in the *effective* weights of goods and services in the calculation of the CPI. For example, petrol prices rose more quickly than the overall CPI between the June quarter 2000 and the June quarter 2005. The increase in the relative price of petrol implies that the effective weight on automotive fuel increased over the period of the 14<sup>th</sup> series CPI. Therefore, the change in effective weights between the June quarter and the September quarter 2005 were in some cases quite different to the change in the base-period weights. The most significant increases in effective weights have been for audio visual & computing

equipment, telecommunication, and motor vehicles (Graph D2). In contrast, the most significant decreases have been for automotive fuel, beer, and takeaway meals & fast foods. The effective weight of automotive fuel has fallen from 4.6 per cent in the June quarter to 4.1 per cent in the September quarter (abstracting from the effect on weights of introducing financial services in the 15<sup>th</sup> series); including financial services, it has fallen from 4.6 per cent to 3.8 per cent. According to the ABS, the fall in this weight partly reflects reduced usage of petrol due to improvements in the fuel efficiency of passenger vehicles.



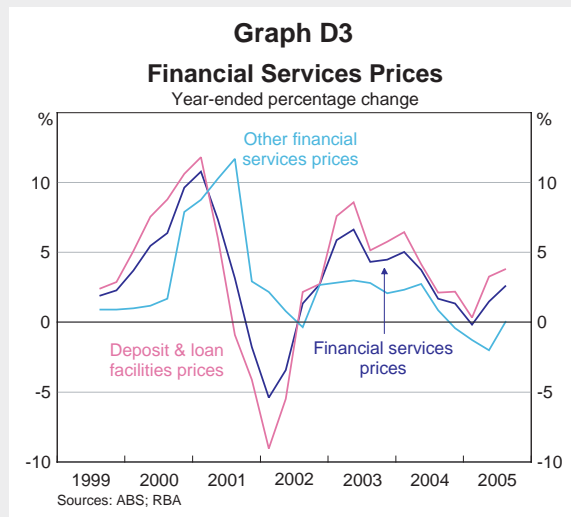
### Introduction of financial services prices

The other significant development in moving to the 15<sup>th</sup> series of the CPI is the inclusion of the new *financial services price index* (FSPI), which measures the cost of services consumed by households due to the acquisition, holding and disposal of financial and real assets. The FSPI comprises two component indices. The *deposit & loan facilities price index*, which has been given a base-period weight of 4.5 per cent in the CPI, covers facilities provided to households by deposit-taking institutions. It is designed to measure both the direct fees and indirect costs for households engaged in borrowing and lending transactions. The *other financial services price index*, which has a base-period weight of 3.3 per cent in the CPI, aims to measure the price of services provided by stockbrokers and real-estate agencies when households transact in shares and property, plus any government charges on property transfers such as stamp duties.

The indirect cost component of the deposit & loan facilities price index is measured by ‘interest rate margins’ – the difference between lending and deposit rates faced by households.

For example, if lending rates were to increase relative to deposit rates, this would increase the implicit ‘price’ of financial services for households.<sup>2</sup> As financial institutions tend to adjust their lending rates more quickly than their deposit rates in response to changes in the cash rate, interest rate margins (and hence the deposit & loan facilities price index) will, to some extent, be correlated with movements in the cash rate.<sup>3</sup>

While financial services prices have not previously appeared in the CPI, the ABS has recently made available experimental data for the FSPI and its two component price indices dating back to 1998. These data suggest that the FSPI rose by 2.6 per cent over the year to the September quarter, slightly slower than the headline inflation rate (Graph D3). These data also indicate that movements in the FSPI have been significantly less volatile than price changes for items, such as fruit & vegetables and automotive fuel, that are frequently excluded from measures of underlying inflation.



The price series for deposit & loan facilities differs in important ways from the mortgage interest charges component that formed part of the CPI between 1987 and 1998. That item was generally thought to distort the signal about inflationary pressure provided by the CPI. The mortgage interest charges component of the CPI included a gross interest rate, rather than an interest rate margin, which is the case for the new deposit & loan facilities series. Consequently, when interest rates were raised to combat inflationary pressures, the mortgage interest component of the CPI would rise correspondingly, adding to inflation as measured by the total CPI. Given the larger movements in interest rates in that period, that component was one of the most volatile CPI components, with the volatility of quarterly price changes around three times the median volatility of other CPI components. Furthermore, mortgage interest charges accounted for a larger share of the CPI than does the new deposit & loan facilities component.

<sup>2</sup> While in principle the interest rate margin is the difference between lending and deposit rates, in practice this margin is measured as the difference between the interest rate on a given deposit or loan facility and a ‘reference rate’ at which the financial institution incurs no risk. For operational simplicity, this reference rate has been chosen as the midpoint between interest rates on deposits and loans.

<sup>3</sup> The deposit & loan facilities price index has, however, been introduced to the CPI well after increased competition in the financial sector had induced a process of margin compression. For a discussion of this period of adjustment, see ‘Banking Fees in Australia’, Reserve Bank of Australia Bulletin, April 2003, pp 1–6.

## Prices for personal computers

The other important change introduced in the 15<sup>th</sup> series CPI is the pricing methodology for personal computers. In general, price indices, such as the CPI, should measure ‘pure’ price changes – that is, changes that adjust for the characteristics or quality of individual goods. However, quality adjustments for goods which experience rapid changes in quality, such as computers, are difficult. The international ‘best practice’ has been to develop hedonic price indices that relate changes in a product’s price to changes in its underlying characteristics; for example, a computer’s processing speed, memory and hard drive space. Until now, the ABS’ approach to pricing computers has been to adopt the hedonic price index calculated by the Bureau of Labor Statistics in the US as a proxy price measure for computers in Australia (after adjusting for factors such as exchange rate movements). From the 15<sup>th</sup> series onwards, the ABS will instead adopt its own hedonic pricing model. ❧