



## **Information Paper**

# **Issues to be considered during the 16th Series Australian Consumer Price Index Review**

**Australia**

**December 2009**



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**Brian Pink  
Australian Statistician**

AUSTRALIAN BUREAU OF STATISTICS

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**PREFACE** .....

The Australian Bureau of Statistics (ABS) has prepared this information paper (hereafter referred to as the issues paper) as a basis for user consultation regarding the 16th series Consumer Price Index (CPI) review.

Since 1960, when the CPI was first compiled, the ABS has maintained a program of periodic reviews of the CPI to ensure that it continues to meet community needs. While an important objective of these formal reviews is to update item weights, they also provide an opportunity to reassess the scope and coverage of the index and other methodological issues. As the Australian CPI is now relatively mature in terms of commodity coverage, the latter more complex issues are now the focus of CPI reviews. This paper contains information on each of the key issues the ABS is considering during the course of this review.

The ABS welcomes written submissions from users on the issues covered in this paper. For details on how to lodge submissions, see Consultation Process on page x.

Brian Pink  
Australian Statistician

## ABBREVIATIONS .....

<b>ABS</b>	Australian Bureau of Statistics
<b>ALCI</b>	Analytical Living Cost Indexes
<b>BLS</b>	US Bureau of Labor Statistics
<b>COICOP</b>	Classification of Individual Consumption by Purpose
<b>CPI</b>	consumer price index
<b>CPICC</b>	consumer price index commodity classification
<b>FISIM</b>	financial intermediation services indirectly measured
<b>GDP</b>	gross domestic product
<b>HEC</b>	Household Expenditure Classification
<b>HES</b>	Household Expenditure Survey
<b>HFCE</b>	household final consumption expenditure
<b>ILO</b>	International Labour Organization
<b>IMF</b>	International Monetary Fund
<b>IOPC</b>	Input-Output Product Classification
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>ONS</b>	Office of National Statistics
<b>PBLCI</b>	Pensioner and Beneficiary Living Cost Index
<b>RBA</b>	Reserve Bank of Australia
<b>SNA</b>	System of National Accounts
<b>SPI</b>	spatial price index
<b>UN</b>	United Nations

## INTRODUCTION .....

### INTRODUCTION

This paper contains information and Australian Bureau of Statistics (ABS) views on each of the key issues to be considered during the course of this review.

The Consumer Price Index (CPI) is an important economic indicator. It provides a general measure of changes in prices of consumer goods and services acquired by Australian households. The CPI is used for a variety of purposes, such as in the development and analysis of economic policy, the adjustment of wages and pensions, and in individual contracts. Because of this, the CPI directly or indirectly affects all Australians.

Since 1960, when the CPI was first compiled, the ABS has maintained a program of periodic reviews of the CPI to ensure that it continues to meet community needs. The present 15th series CPI, which uses a 2003–04 weighting base, was first published in the September quarter 2005 CPI release. The results of the 15th series review were summarised in *Information Paper: Introduction of the 15th Series Australian Consumer Price Index 2005* (cat. no. 6462.0).

The ABS has commenced work on the latest review of the CPI. The resulting 16th series CPI will have a 2009–10 weighting base, will be linked to the 15th series CPI in the June quarter 2011, and will first be published from September quarter 2011.

### BACKGROUND

Prior to the CPI, a series of retail price indexes were compiled from 1901 until 1960. The CPI was introduced in the June quarter 1960 and at the time of its introduction, index numbers were compiled to the September quarter 1948.

With the introduction of the CPI, the ABS adopted a new approach. Instead of the former emphasis on long-term fixed-weight indexes, the aim was to compile a series of shorter-term indexes which would be chain linked together to form a single long-term series. This strategy was aimed at ensuring that the items included in the index continued to be representative of the expenditure patterns of households in aggregate.

When the next series CPI is published, the CPI will consist of 16 short-term price indexes. The previous indexes were linked in the following periods:

- June quarter 1952;
- June quarter 1956;
- March quarter 1960;
- December quarter 1963;
- December quarter 1968;
- December quarter 1973;
- September quarter 1974;
- September quarter 1976;
- March quarter 1982;
- December quarter 1986;
- June quarter 1992;

BACKGROUND *continued*

- June quarter 1998;
- June quarter 2000; and
- June quarter 2005.

SCOPE OF REVIEW

The last comprehensive review of the CPI was undertaken in 1997 (the 13th series). The 14th series (2000) and 15th series (2005) CPI were minor reviews which were limited to updating item weights.

The timing of this 16th series review is consistent with past practices and is dependent on the availability of data from the ABS conducted Household Expenditure Survey (HES) which is run on a six yearly cycle.

While an important objective of these reviews is to update item weights, these formal reviews also provide an opportunity to reassess the scope and coverage of the index and other methodological issues. As the Australian CPI is now relatively mature in terms of commodity coverage, the latter more complex issues are now the focus of the CPI reviews.

The major issues the ABS has identified in the 16th series review are:

- i. Principal purpose of the CPI;
- ii. Compilation frequency of the CPI;
- iii. Evaluation of the deposit and loan facilities index;
- iv. Maintaining the relevance of the CPI;
- v. Commodity classification;
- vi. Analytical series; and
- vii. Other issues.

CONSULTATION PROCESS

The CPI review process includes formal consultative mechanisms involving key users of the CPI and the general public. The ABS will be seeking the views of interested parties in both written submissions and through public hearings during the course of the review. Further detail on making a written submission and attending public hearings is provided below.

To complement the public submissions, an Advisory Group (AG) comprising representatives of major users has been formed to assist the ABS in its deliberations (see Appendix 1 for the composition of the group). The AG has a strong working knowledge of prices statistics and an understanding of the practical considerations and limitations when compiling national statistics. In addition to the technical issues raised in this issues paper, relevant issues arising from the public submissions will be discussed with the AG.

*Written submissions*

Interested parties are invited to make submissions to the ABS in relation to the issues raised in this paper, or any other issues that they consider relevant to the CPI review.

*Submissions should be made to the ABS by no later than 5:00pm, 12 March 2010.*

*Written submissions  
continued*

The ABS intends to make all written submissions available to foster an informed, robust and consultative process. Please advise if you prefer your submission not to be made publicly available.

Email provision of submissions is preferred. The ABS encourages organisations and individuals to make submissions in either PDF or Microsoft Word format. Submissions should be sent by email to: *cpi.review@abs.gov.au* (submissions should use the words "CPI submission" in the title of the email).

If required, submissions can also be sent by post addressed to:

The Director  
Prices Development, Economic Analysis and Reporting Branch  
Australian Bureau of Statistics  
PO Box 10  
BELCONNEN ACT 2616

General inquiries may be directed to:

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*Public hearings*

The ABS intends to hold public hearings in capital cities which will enable the ABS to hear directly from the community on the usefulness of the Australian CPI.

The timing and location of these hearings will be made available on the ABS website <www.abs.gov.au> and via advertisements placed in national and (where appropriate) capital city newspapers in early 2010.



# CHAPTER 1

## SUMMARY: ISSUES ON WHICH THE ABS SEEKS USER VIEWS .....

### BACKGROUND

1.1 The *Consumer Price Index* (CPI) provides a general measure of changes in prices of consumer goods and services acquired by Australian households.

1.2 Since 1960, when the CPI was first compiled, the *Australian Bureau of Statistics* (ABS) has maintained a program of periodic reviews of the CPI to ensure that it continues to meet community needs. The ABS has commenced work on the latest review of the CPI. The resulting 16th series CPI will have a 2009–10 weighting base, will be linked to the 15th series CPI in the June quarter 2011, and will first be published from September quarter 2011.

1.3 As part of the review process, the ABS will consult widely, providing an opportunity for user involvement in the evolution of the CPI. Organisations or individuals are invited to make written submissions on any aspect of the review. For details, see Consultation Process on page x.

### ISSUES TO BE CONSIDERED

1.4 In addition to updating expenditure weights and linking the 16th series to the current 15th series, the review will examine the issues listed below.

*Principal purpose of the CPI (see Chapter 2)*

1.5 Since the 13th series, the CPI has been designed specifically to provide a general measure of price inflation of goods and services faced by households. It is conceptually based on the *acquisitions* approach for compiling a CPI, measuring changes in the prices of goods and services acquired by households. While a major role of the CPI is to provide a broad measure of inflation to inform macro-economic policy considerations, there is a demand for an increased number of ABS and external consumer price measures to cater for emerging community needs.

- 1.6 Users are invited to comment on:
- whether measuring inflation faced by households (and the *acquisitions* conceptual basis) should remain the principal purpose of the CPI in Australia, and the role of the CPI in the face of emerging community needs; and
  - the usefulness of supplementary indexes such as population subgroup measures.

*Compilation frequency of the CPI (see Chapter 3)*

1.7 Australia and New Zealand are currently the only two Organisation for Economic Co-operation and Development (OECD) countries that do not publish monthly CPI statistics. There are arguments for increasing the frequency of the CPI to a monthly compilation. These need to be balanced against the complexity, quality and cost.

- 1.8 Users are invited to comment on:
- whether quarterly release of the CPI still meets user requirements or whether user needs would be better served by a monthly CPI; and
  - whether user needs justify the additional costs involved in a monthly CPI.

*Evaluation of the deposit and loan facilities index (see Chapter 4)*

**1.9** During the global financial crisis, the deposit and loan facilities index has exhibited significant volatility that has impacted on the headline CPI figure. Movements in the index have been affected by recent volatility in interest rate margins. The recent behaviour of the index has given rise to further consideration regarding its conceptual and methodological underpinnings.

**1.10** Users are invited to comment on:

- whether financial services paid for indirectly via interest margins are appropriate services for inclusion in the CPI; and
- whether the ABS methodology correctly measures the price change for this service.

*Maintaining the relevance of the CPI (see Chapter 5)*

**FREQUENCY OF CPI WEIGHT UPDATES**

**1.11** The frequency at which the Australian CPI is reweighted is constrained by the main source of expenditure weighting information, the Household Expenditure Survey (HES), which is conducted every six years. The HES captures the detailed spending patterns on the full range of goods and services that households purchase. Quantities underlying the base period expenditures (the CPI weights) remain fixed over the life of the basket.

**SAMPLE REVIEW PROGRAM**

**1.12** While the HES is conducted every six years, the ABS employs an ongoing, dedicated sample review program. Sample reviews consider the representativeness of the sample which may lead to changes being made to the items priced, the outlets they are sourced from, and the weights to be applied to the commodities within that expenditure class.<sup>1</sup>

**QUALITY ADJUSTMENT IN THE CPI**

**1.13** The ABS approach to quality adjustment is based on international best practice and the purpose of measurement of general price inflation facing households. As the objective of the CPI is to measure price changes for a comparable basket of goods and services over time, some allowance must be made for changes in the quality of a product (e.g. computers) when calculating price movements. This notion of pricing to constant quality is achieved by estimating and then removing the contribution of the quality change to price movements. An argument against the use of quality adjustment to pricing is that it does not represent the shelf price of goods and services.

**NEW GOODS AND SERVICES**

**1.14** When a new commodity has become widely available to households, it is considered for sampling in the CPI.

**1.15** Users are invited to comment on:

- the current frequency of CPI expenditure class weight updates (six yearly);
- whether the ABS should consider the use of alternative expenditure weight sources between HES cycles;
- ABS strategies to keep the CPI contemporary;
- should improving the measurement of services in the CPI remain a high priority for the ABS; and

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<sup>1</sup> A grouping of like items in the CPI at which CPI weights remain fixed during the life of each CPI series.

*Maintaining the relevance of the CPI (see Chapter 5) continued*

#### NEW GOODS AND SERVICES *continued*

- the quality adjustment methodology.

*Commodity classification (see Chapter 6)*

**1.16** The CPI Commodity Classification (CPICC) is used to group consumption goods and services, providing a comprehensive structure in measuring household inflation on an *acquisitions* basis by the use of that good or service. Whilst it resembles the internationally endorsed Classification of Individual Consumption by Purpose (COICOP), the CPICC relates to Australia's specific requirements. The CPICC readily concords to the Household Expenditure Classification (HEC) used in the ABS HES. The CPICC differs from the national accounts' Input–Output Product Classification (IOPC), an industry based classification.

**1.17** Users are invited to comment on:

- commodity classifications used to construct the CPI; and
- whether there are any purposes for which the industry based IOPC and the purpose based CPICC should concord (indirectly via the more detailed HEC).

*Analytical series (see Chapter 7)*

#### EXCLUSION–BASED MEASURES

**1.18** The ABS produces a number of exclusion–based measures, which exclude certain items from the CPI basket. Typically, the excluded items are those whose price change are volatile and/or display pronounced seasonal patterns, and those that are subject to administrative price setting.

#### ABS CONSUMER PRICE MEASURES AND SEASONAL ADJUSTMENT

**1.19** In order to determine the underlying trend in consumer prices, users require measures which abstract from short–term volatility. To meet these needs the ABS produces two statistical measures of underlying inflation – the trimmed mean and the weighted median, as developed by the *Reserve Bank of Australia* (RBA). These measures may be useful in identifying the more persistent component of general price–level changes.

**1.20** The ABS does not seasonally adjust the CPI. The CPI measures actual contemporary movements in prices and as such reflects any real world volatility that may occur. This can make it difficult for economic analysts to distinguish the noise of short–term fluctuations from the underlying inflationary trend. Seasonally adjusted data are sometimes preferred in the formulation of economic policy and for economic research because they eliminate the effects of changes that normally occur at the same time and of about the same magnitude every year. Such effects may be large enough to mask the short–term, underlying movements of the series.

#### TRADABLE, NON–TRADABLE COMPONENTS

**1.21** The tradable and non–tradable component series show how international and domestic price movements are impacting on movements in consumer prices. The tradable component of the CPI comprises all items whose prices are largely determined on the world market. The non–tradable component consists of those goods and services whose prices are largely determined on the domestic market.

Analytical series (see Chapter 7) continued

#### LIVING COST INDEXES

**1.22** In recognition of the widespread interest in the extent to which the impact of price change varies across different groups in the community, the ABS compiles and publishes a number of living cost indexes for selected types of Australian households. These indexes are produced as a by-product of the CPI, and are published separately to the CPI. As these measures are based on the *outlays* approach they are the conceptually preferred measures for assessing the effect of changes in prices on the out-of-pocket living expenses of subgroups of the Australian population.

#### AVERAGE RETAIL PRICES

**1.23** Average prices for selected CPI items are presented for the purposes of making price comparisons between the capital cities for individual items. Due to the confusion which arises from the inappropriate use of the data, the ABS is reviewing the costs and benefits of publishing these series.

**1.24** Users are invited to comment on:

- the usefulness of the current suite of ABS analytical series;
- the usefulness of the Average Retail Prices data; and
- any need for a seasonally adjusted CPI in addition to an unadjusted headline CPI.

Other issues (see Chapter 8)

#### SPATIAL MEASURES

**1.25** Spatial Price Indexes (SPIs) are a snapshot of differences in price levels across regions. In 2001–02 and 2003–04 the ABS compiled experimental SPIs which revealed numerous conceptual, practical and resource based issues in developing such measures.

#### GEOGRAPHICAL COVERAGE

**1.26** For the CPI to be representative of all Australian households, extending coverage beyond the capital cities would be required. The 2009–10 HES will be collecting and compiling point of purchase information for the first time. This will provide the ABS with an opportunity to assess whether the purchase behaviour for non-metropolitan areas is different to price index behaviour for capital cities.

**1.27** Users are invited to comment on:

- the importance of spatial measures and their potential use; and
- the need for regional indexes – expanding the geographical coverage of the CPI beyond capital cities, and their potential use.

MAIN USES

**2.1** The CPI is an important economic indicator and affects almost all Australians because of its many uses. The principal purpose of the CPI is a general measure of price inflation faced by households, noting consumer price inflation is the target of the Reserve Bank of Australia's monetary policy.<sup>2</sup> The CPI is also used for the indexation of public and private sector contracts and deflation of household final consumption expenditure components in the national accounts.

**2.2** ABS CPI reviews examine alternative concepts for CPI measurement. This often includes considering the effect of price change on out-of-pocket living expenses faced by Australian households. As this aspect of the review is a fundamental question of the CPI's principal purpose and conceptual approach, the ABS is opening this debate to the wider community.

CONCEPTUAL APPROACHES

**2.3** There are three alternative approaches for the construction of a CPI:

- the *acquisitions* approach;
- the *outlays* approach; and
- the *cost-of-use* approach.

**2.4** Each concept is based on a different view of the basket of goods and services (items to be included and their relative importance). Concept selection depends on the principal purpose the index is intended to serve. The three principal purposes and their respective concepts are listed below.

- When measuring *household inflation* (from the CPI perspective) the *acquisitions* approach is considered the most appropriate. A measure of household inflation should relate to the contemporary rate of change in prices of goods and services acquired by households; and only include actual, or market determined prices. The *acquisitions* approach captures this, by measuring changes in the prices of goods and services acquired, or representative of those acquired, in the base period.
- In order to determine changes in the *purchasing power of money*, an *outlays* approach would be most appropriate. The *outlays* approach defines the basket in terms of the amounts paid by households during the base period to gain access to consumer goods and services.
- The *cost-of-use* approach provides the best indication of *changes in living standards* as it relates to goods and services consumed in the base period, irrespective of when they were acquired or paid for.

**2.5** Countries have adopted different approaches to the construction of their CPI based on the approach which best suits their principal uses (see Appendix 2). From 1960 until 1997 the Australian CPI used the *outlays* approach. A key purpose during this period was to provide input into centralised wage and salary determination processes. Following the 1997 review, the Australian CPI was re-designed to provide a general

<sup>2</sup> <[http://www.rba.gov.au/MonetaryPolicy/about\\_monetary\\_policy.html](http://www.rba.gov.au/MonetaryPolicy/about_monetary_policy.html)>

CONCEPTUAL  
APPROACHES *continued*

measure of price inflation for the household sector, moving the CPI compilation approach from *outlays* to *acquisitions*.

**2.6** A key objective of this review is to determine the principal purpose that will provide the greatest overall benefit to the Australian community.

**2.7** If it is determined that the principal purpose of the CPI should still be to provide a general measure of price inflation for households, the *acquisitions* approach should be retained. On the other hand, if it is determined that the principal purpose should be to provide a measure suitable for assessing changes in the purchasing power of household incomes, then an *outlays* approach should be adopted. The option of adopting a *cost-of-use* approach in an attempt to reconcile both requirements in a single index is the least preferred option for the ABS.<sup>3</sup>

**2.8** As the *cost-of-use* approach does not satisfy the basic needs of a CPI under Australian conditions, from this point, only the *acquisitions* and *outlays* approaches will be further discussed.

*Main differences between  
conceptual approaches*

**2.9** In practice, the conceptual distinctions are unimportant for most areas of household consumption. For most goods and services purchased by households, *outlays* and *acquisitions* occur within a relatively short space of time and the price paid by households represents an identical value, making the distinction unimportant.

**2.10** There are two areas where *acquisitions* and *outlays* approaches provide significantly different results:

- i) the treatment of owner-occupied housing costs; and
- ii) financial services and the use of credit.

**2.11** Although these alternative approaches to the construction of a CPI are characterised by conceptual differences, they are more likely to result in short-term rather than long-term differences in outcomes.

**2.12** To illustrate the differences, the treatment of these areas under each approach is outlined below.

*Owner-occupied housing costs*

**2.13** The treatment of expenditure on owner-occupied housing costs has fuelled much of the debate on the relative merits of the *outlays* and *acquisitions* approaches for the CPI (see Appendix 3, Graph 1).

- Under the *acquisitions* approach, an appropriate measure is the change in prices for the new stock of owner-occupied housing, new renovations and extensions, and other costs incurred (e.g. maintenance costs and council rates). This excludes mortgage interest payments.

<sup>3</sup> The cost-of-use approach results in a basket which differs from those delivered by the alternative approaches in several important areas, specifically, goods and services provided to households at subsidised prices, and housing and other consumer durables which are consumed over a long period of time. For these items, consumption does not equal acquisition. A cost-of-use index requires the estimation of the value of that proportion of the stock of these items 'used up' in the base period (the stream of services consumed). In the case of owner-occupied housing, for example, the cost-of-use approach would adopt the rental equivalence method and impute rents based on market rents for similar dwellings (ABS 1997a).

*Main differences between conceptual approaches continued*

- Under the *outlays* approach, the required measure includes changes in the rate of interest paid on mortgages and other costs incurred.

**2.14** In the context of the 13th series review (1997), the most problematic area was the treatment of owner-occupied housing. Those favouring a CPI for price inflation measurement were unanimous regarding the exclusion of interest charges. There was less certainty regarding the approach to measuring the price of the housing services consumed by owner-occupiers. The ABS decided that a CPI constructed using the *acquisitions* approach best met the requirement for a measure of price inflation as it was agreed that interest rates were not market prices for goods and services.

*Financial services and the use of credit*

**2.15** In the case of financial services and the use of credit, the two approaches result in the following treatments (see Appendix 3, Graph 2):

- under the *acquisitions* approach, interest paid is not a charge that is within scope of the CPI basket of goods and services. Only the service provided by the financial institution (including the provision of loans) is in-scope.
- under the *outlays* approach, the products being priced are all loans taken out to purchase products that are part of the CPI basket. Thus the change in the level of interest paid on a real level of debt is the required price measure.

**2.16** On the inclusion of interest rates within a CPI, the international prices manual states that

"...there seems to be little justification for including payments of nominal interest in a CPI, especially in inflationary conditions."<sup>4</sup>

**2.17** The ABS' current approach is that a measure of household inflation should relate to the contemporary rate of change in prices of goods and services. Therefore, such a measure – under an *acquisitions* approach – would exclude interest rates, as interest rates are not prices in the same sense as are prices of particular goods. Rather, interest rates represent the price of money, or more correctly, the relative price of consuming goods and services today rather than in the future.

RELATIONSHIP OF THE CPI TO OTHER INDEXES

**2.18** The *acquisitions* based CPI is not suitable for all uses. For example, the exclusion of mortgage interest is desirable if the CPI is to be used for monetary policy purposes, however this practice lessens the usefulness of the CPI as a measure of purchasing power of money over time.

**2.19** The 13th series CPI review revealed widespread interest in the extent to which the impact of price change varies across different subgroups in the community. As a result the ABS saw merit in compiling, for analytical purposes, indexes specifically designed to measure changes in living costs of different groups in the community. These subgroups are: Employee households; Other government transfer recipient households; Age pensioner households; and Self-funded retiree households. Each is constructed using subpopulation specific weighting for basket items. These analytical living cost indexes (ALCIs) are constructed using the *outlays* approach which is the conceptually preferred measure for assessing the effect of changes in prices on the out-of-pocket living expenses of subgroups of the Australian population. They are now published

4 International Labor Office, *Consumer price index manual: Theory and practice*, ILO, Geneva, 2004, p. 46

RELATIONSHIP OF THE  
CPI TO OTHER INDEXES  
*continued*

quarterly (from June quarter 2009) as a by-product of the CPI in the publication *Analytical Living Cost Indexes for Selected Australian Household Types* (cat. no. 6463.0).

**2.20** In measuring living cost changes for population subgroups, these analytical indexes address some of the concerns outlined in the recent Stiglitz Report<sup>5</sup> which reflects on the issue of popular disconnect from aggregate economic measures, such as the CPI, evident in some countries.

**2.21** In addition to the four ALCIs, the Australian Government has funded the ABS to produce a new index, the Pensioner and Beneficiary Living Cost Index (PBLCI), that reflects changes in the living costs of pensioners and other households receiving income support from the government. The *Pensioner and Beneficiary Living Cost Index* (cat. no. 6467.0) is based on the age pensioner household and other government recipient household ALCIs. An improved set of weights will be obtained from the 2009–10 HES and further work is planned to capture detailed information to determine whether any additional price collections are needed to make the PBLCI more robust.

**2.22** In Australia the All groups CPI is the official headline CPI, with consumer price inflation the target of the RBA's monetary policy. The ABS recognises that a single measure of consumer prices does not meet all user requirements. However, the ABS would be concerned about publishing measures that could be viewed as competing with the headline CPI measure. The ABS has a responsibility to ensure that the broad user community is not confused by the presence of alternative CPI measures. The increased demand on the ABS to develop complementary indexes raises questions around the relevance of the headline CPI. The challenge for the ABS is to strike a balance between maintaining the integrity and independence of the CPI, and providing robust analytical price measures to meet community needs.

USER COMMENTS

**2.23** Users are invited to comment on:

- whether measuring inflation faced by households (and the *acquisitions* conceptual basis) should remain the principal purpose of the CPI in Australia, and the role of the CPI in the face of emerging community needs; and
- the usefulness of supplementary indexes such as population subgroup measures.

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<sup>5</sup> See Stiglitz (2009)

INTRODUCTION

*Background*

**3.1** The CPI is produced quarterly. The issue of whether the CPI should be produced monthly has been raised from time to time. The frequency of compilation and publication of the CPI was canvassed during the 13th series CPI review in 1997, and was examined in terms of benefits and costs. The ABS is reviewing the frequency of CPI compilation to ensure the quarterly release of the CPI still meets user requirements or whether user needs would be better served by a monthly CPI.

**3.2** Of the OECD countries, only Australia and New Zealand compile and publish their CPIs on a quarterly basis; all other OECD (and some non-OECD) countries produce monthly CPIs.<sup>6</sup>

**3.3** The *International Monetary Fund (IMF) Special Data Dissemination Standard (SDDS)* specifies that the IMF member countries should produce monthly CPIs, however the SDDS also provides some flexibility to ensure that it is appropriate to the circumstances of individual countries. In Australia's case, the ABS has used this flexibility to publish the CPI quarterly and still meet SDDS requirements. The IMF requested monthly CPI statistics after "the financial crises of the mid 1990s in which information deficiencies were seen to play a role."<sup>7</sup> It was felt at this time that there was inadequate information available to assess economic situations and that by moving to more timely statistics it would help the IMF's work on surveillance and crisis prevention.<sup>8</sup>

**3.4** TD Securities and the Melbourne Institute have developed a monthly inflation indicator to estimate month-to-month price movements for a range of goods and services across the major Australian capital cities. Its continued existence suggests a demand for monthly CPI data.<sup>9</sup>

**3.5** Some key features of current CPI processes are relevant to the frequency of release. First, in concept the CPI measures the change between average price levels during one quarter and average price levels during the next quarter. Although it is clearly not practicable to measure all prices on this basis, the ABS adopts a number of strategies to approximate this concept across the index. Key to these strategies is the ABS practice of undertaking price collection continually through the quarter. Second, a quarterly compilation and publication program provides sufficient lead time to resolve most of the quality change issues during the period in which they occur.

6 The ABS compiled a CPI Monthly Food Group Index from 1973 to 1982 and New Zealand publishes a monthly Food Price Index.

7 International Monetary Fund, *The Special Data Dissemination Standard: Guide for Subscribers and Users*, IMF, Washington, 2007, p. ix.

8 *ibid.*, p. ix.

9 TD Securities – Melbourne Institute Monthly Inflation Gauge  
<<http://www.melbourneinstitute.com/research/macro/tdsec.html>>

<i>Background continued</i>	<p><b>3.6</b> In order to approximate the quarterly average prices for the more volatile items, the ABS obtains sufficient prices to construct monthly indexes for a subset of items included in the CPI. In aggregate, these monthly priced items account for approximately 50% of the CPI (by expenditure weights).</p>
OPTIONS FOR A MONTHLY CPI	<p><b>3.7</b> There are a number of strategies which could be adopted in order to compile a monthly CPI. These range from the full replication of the existing quarterly index on a monthly basis, to publishing a 'flash estimate' which would make use of the existing price data to estimate a monthly index. There are options which lie between these two.</p> <p><b>3.8</b> The use of existing price data would take the form of a lower quality approximation of the monthly movement in addition to the current quarterly CPI publication. However this type of index may not be a credible alternative for the production of an economic indicator such as the CPI.</p>
BENEFITS AND COSTS OF A MONTHLY CPI	<p><b>3.9</b> One benefit generally cited in favour of a monthly CPI is early detection of turning points in the economy. Critics of quarterly compilation in Australia have called for more timely and contemporary data citing it a benefit as input into decision making processes.</p> <p><b>3.10</b> The benefit of more timely economic feedback is offset by the cost of a more frequent compilation. To produce a monthly CPI of the same quality as the existing measure, prices collected on a quarterly cycle would be collected on a monthly cycle. Collecting prices more frequently than monthly may be required depending on the product and volatility of price. The ABS must also consider the implications of a reduction in time for quality assurance procedures and an increase in provider burden.</p> <p><b>3.11</b> Additional staff resources would be required to maintain the current quality assurance levels and to handle the increased price collections. An upgrade to infrastructure such as the computer systems to handle monthly compilations would also be necessary. The costs of converting to a monthly cycle are likely to be considerable.</p>
<i>Other considerations</i>	<p><b>3.12</b> Production of a monthly CPI may result in seasonal factors becoming more relevant in interpreting price change, whereas in a quarterly series, the seasonality may be somewhat 'smoothed'. The production of a seasonally adjusted CPI is discussed further in Chapter 7.</p>
USER COMMENTS	<p><b>3.13</b> Users are invited to comment on:</p> <ul style="list-style-type: none"> <li>■ whether quarterly release of the CPI still meets user requirements or whether user needs would be better served by a monthly CPI; and</li> <li>■ whether user needs justify the additional costs involved in compiling a monthly CPI.</li> </ul>

## CHAPTER 4

# EVALUATION OF THE DEPOSIT AND LOAN FACILITIES INDEX .....

### INTRODUCTION

**4.1** In recent times, the deposit and loan facilities expenditure class within the Financial and insurance services group has shown significant volatility. The repercussions of the global financial crisis (GFC) have given rise to further consideration of the deposit and loan concept and methodology, and the impact of this index on the headline CPI. It is timely to review this measure within the scope of the 16th series CPI review.

#### *Background*

**4.2** A recommendation of the 13th series CPI review was to include financial service charges incurred by households in the CPI to make it a more comprehensive measure of price inflation for the household sector.

**4.3** Due to the conceptual and methodological complexities, it was not possible to introduce these measures immediately. An experimental series was constructed for analytical purposes, the results of which were published in *Information Paper: Experimental Price Indexes for Financial Services, 1998 to 2003* (cat. no. 6413.0). Following the release of this information paper in July 2004, these experimental series were published quarterly in *Experimental Price Indexes for Financial Services* (cat. no. 6413.0.55.001). The final issue of this publication was June quarter 2005.

**4.4** The Financial and insurance services group was introduced into the CPI after the 15th series review, in the September quarter 2005 publication. The new group included the new Financial services subgroup and the existing Insurance services subgroup, which was previously classified in the discontinued Miscellaneous group.

**4.5** The Financial services subgroup measures price change experienced by households on the acquisition of:

- Services of deposit and loan facilities provided by financial intermediaries (deposit and loan facilities); and
- Services provided by stockbrokers and real estate agents in respect of the acquisition and disposal of shares and real estate (other financial services).

**4.6** The deposit and loan facilities expenditure class includes *indirect charges* charged through interest rate margins and *direct fees and charges* on deposit and loan facilities provided to households by deposit-taking institutions. Australia is the only country to implement a deposit and loan facilities index which includes indirect charges.

*Background continued*

**4.7** The fundamental calculation techniques and assumptions for the valuation of deposit and loan facilities are described in Appendix 4. Below is an outline of the calculation for deposit and loan indirect charges.

**4.7.1** A key feature of the calculation of indirect service charges is the use of a reference rate (or service free rate). The ABS has adopted the practical approach of setting the reference rate at the mid–point of the borrowing and lending rates. A reference rate determined in this way could be interpreted as a proxy for the rate that could be struck in the absence of financial intermediaries by depositors dealing directly with borrowers.

**4.7.2** For a borrower, the indirectly charged deposit and loan service is given by the spread (difference) between the interest rate paid by the borrower and the reference rate, multiplied by balances on loan accounts. For a depositor, it is the spread between the reference rate and the interest rate received by the depositor, multiplied by deposit account balances. This is the implicit price the financial institution receives for providing financial services to borrowers and lenders.

**4.8** An equivalent approach for the measurement of financial sector services is adopted in the National Accounts where the term Financial Intermediation Services Indirectly Measured (FISIM) is used. From this point on, FISIM will be used to refer to such measurement.

## VOLATILITY

**4.9** During the GFC the deposit and loan facilities index has exhibited significant volatility that has impacted on the headline CPI figure. Movements in the index have been affected by recent volatility in interest rate margins.

**4.10** An increase (decrease) in the margin between average interest rates on deposits and average interest rates on loans results in an increase (decrease) in the deposit and loan facilities index. If changes in loan interest rates are matched by changes in deposit interest rates the index will show no change.<sup>10</sup> The recent volatility in the index can partly be attributed to overall changes in *loan* interest rates not being matched by interest rates changes on some *deposit* products such as every day transaction accounts that can yield close to 0% interest (i.e. deposit interest rates which are relatively insensitive to interest rate changes).

**4.11** The ABS is investigating whether the current methodology adequately captures a measure of price inflation for key financial services purchased by households. As part of this work, the ABS is examining international research to investigate the FISIM concept and its treatment within the National/International Accounts and the CPI.

A REPRESENTATIVE  
PRODUCT SAMPLE

**4.12** For each sampled institution (service provider) a sample of products is selected to represent each of the major product categories such as current accounts, savings and investment accounts, retirement accounts, housing and home–equity loans, personal loans, and credit cards. The product selected from each group (e.g. the sampled home loan product) is assigned a weight to represent all fees plus margins paid in respect of the product group (e.g. housing loans). Product representativeness is assessed and adjusted as part of the on–going sample review program.

<sup>10</sup> Notwithstanding changes due to indexation of underlying account balances (see Appendix 4).

## INDEX WEIGHT

**4.13** The contribution of this index to the overall CPI represents fee and interest rate margin (spreads multiplied by account balances) receipts (see Paragraph 4.7 and Appendix 4) by all financial institutions from households, across eight capital cities. The ABS will review the index weight for the 16th series CPI.

## USER COMMENTS

**4.14** Users are invited to comment on:

- whether financial services paid for indirectly via interest margins are appropriate services for inclusion in the CPI; and
- whether the ABS methodology correctly measures the price change for this service.

INTRODUCTION

**5.1** The ABS has strategies in place to keep the CPI contemporary in a dynamic economy. The main strategies include the six-yearly weighting update of the fixed components of the CPI basket, a continuous program of sample reviews, and the adoption of a symmetric approach to quality adjustment.

FREQUENCY OF CPI WEIGHT UPDATES

**5.2** The CPI measures the change over time in the price of a fixed basket of goods and services acquired by household consumers. The quantities underlying the base period expenditures remain fixed over the life of the basket, with the expenditures being updated by the observed price changes in each period. It is important to update the basket and item weights (at the expenditure class level) periodically to reflect changes in the range of goods and services available and changes in household spending patterns (see Appendix 5 for the current CPI weighting pattern).

**5.3** The main data source for the weight updates is the Household Expenditure Survey (HES). The frequency at which the Australian CPI is reweighted is therefore constrained by the HES, which is conducted every six years. In between HES updates, the ABS conducts a sample review program, as discussed below. The *International Labour Office* (ILO) recommends updates at least every five years.

**5.4** Other countries, such as New Zealand, update their weights on a three yearly basis and are able to do this by running more frequent household expenditure surveys. Few if any other countries collect more nationally representative and fit-for-purpose household expenditure survey data for CPI weighting than does Australia.

**5.5** The ABS will examine the impact of more frequent weight updates based on other countries' experiences.

SAMPLE REVIEW PROGRAM

**5.6** The ABS maintains a sample review program. To ensure the CPI is representative of contemporary household consumption behaviour, the weights and structure of the index below the level of expenditure class are continually reviewed to reflect changes such as product availability. This review program is able to implement alterations to the items priced, the outlets they are priced from, and the weights to be applied to the commodities within expenditure classes. This means that while the quantity weights are held constant at the expenditure class level, the weights of items within an expenditure class (e.g. different grades of bread) can be varied between periodic reviews to reflect changed purchasing patterns. Weight changes are introduced into the CPI in a way which does not affect the level of the index.

**5.7** The ABS undertakes a continuous sample maintenance program which is focussed on ensuring the detailed specifications priced and the outlets from which they are priced remain representative. The collection of prices in each capital city is carried out by trained field staff. Prices are collected where metropolitan households purchase

SAMPLE REVIEW  
PROGRAM *continued*

goods and services. The regular personal visits by field officers to the retail outlets enable the field officers to monitor market developments such as market shares or quality changes. This information is used in maintaining the representativeness of the samples and making quality change assessments. The market intelligence obtained by field staff can often be the trigger for commencing sample reviews.

*Continuous improvement*

**5.8** As part of the sample review program the ABS explores innovative approaches to measuring price change. For instance, to overcome the difficulties associated with the measurement of a fixed CPI basket in a dynamic market, the ABS is exploring the availability and use of transactional data (scanner data) for index construction, sample selection and quality adjustment.

**5.9** The ABS places a high priority on improving the methodology used to calculate price movements for service components of the CPI. Obtaining reliable measurement of price change for services is a challenge for statistical agencies (e.g. growth in the bundling of services). Service providers tailor products to suit individual consumers and are increasingly bundling together services that would have once been sold independently. Providers of telecommunication services provide particularly good examples of this behaviour – bundling of fixed line, mobile telephony and internet services is now prevalent. Some providers also bundle electricity and home entertainment such as movies on demand.

**5.10** With the amounts payable by individual households determined by complex charging regimes which take into account a customer's overall spend with a provider, traditional index construction techniques based on linear charging schedules for services (such as a local telephone call) are not able to capture overall price development.

QUALITY ADJUSTMENT IN  
THE CPI

**5.11** The objective of the CPI is to measure price change over time, so ideally, identical goods and services should be priced from one period to the next. This is called pricing to constant quality. However, in practice new products appear on the market frequently and replace older products. These new products have different attributes (or quality). For price index purposes it is necessary to measure these changes in quality, and to remove change in price attributable purely to the change in quality from movement in the price.

**5.12** The ABS uses a number of quality adjustment methods including: simple quantity adjustments for volume and weight changes; adjusting for overlapping qualities for replacement items; and hedonic modelling for more complex quality adjustment.<sup>11</sup> Further explanation of the approach to quality change used by the ABS can be found in Chapter 9 of *Australian Consumer Price Index: Concepts, Sources and Methods, 2009* (cat. no. 6461.0).

**5.13** The quality adjustment process is sometimes subject to criticism. The argument against the use of pricing to constant quality is that it reduces some price movements. Hence, the quality treatment of some items in the CPI does not reflect common perceptions of consumer price changes which can be seen in shelf prices.

<sup>11</sup> Hedonic modelling divides a good or service into its component characteristics, and uses these characteristics as explanatory variables for the price. The ABS has developed hedonic price indexes for computers. Details are provided in *Information Paper: The Introduction of Hedonic Price Indexes for Personal Computers* (cat. no. 6458.0).

QUALITY ADJUSTMENT IN  
THE CPI *continued*

**5.14** This criticism was highlighted in the Harmer Pension Review (2009) where it was suggested that there is significant disparity in the costs of renting if the quality of the accommodation is taken into account. The review pointed out that for the period December 1994 to December 2005 the average rent paid by private tenants included in the ABS Survey of Income and Housing increased by 41.1%, while the increase in the CPI rental component was 22.9%.<sup>12</sup>

**5.15** The ABS adopts a symmetrical approach to quality adjustment, adjusting for both improvements *and* degradation in quality. Without quality adjustment, degradation in quality would result in higher movements in those goods and services where size or quality is reduced and the price not adjusted accordingly e.g. a 200g jar of jam becoming 175g.

NEW GOODS AND  
SERVICES

**5.16** From time to time, major changes in existing products and services take place or new products and services become available on the retail market and begin to account for a significant share of household expenditure. One such example in recent years is MP3 players. In general, a conservative approach is applied when dealing with the introduction of new products or services into the CPI. They are introduced into existing expenditure classes only after it is deemed that they have become widely available to the consumer, have become a permanent feature of household expenditure and that the price structures of these items are free from high premiums due to novelty value or scarcity of the item. All introductions of new items are handled by splicing the new item into the index so that its introduction does not affect the level of the index.

**5.17** If a new product or service is deemed to be a completely different category of product (i.e. a new expenditure class) from any of the goods and services already included in the CPI, its inclusion would be considered only during one of the periodic reviews of the index.

USER COMMENTS

**5.18** Users are invited to comment on:

- the current frequency of CPI expenditure class weight updates (six yearly);
- whether the ABS should consider the use of alternative expenditure weight sources between HES cycles;
- ABS strategies to keep the CPI contemporary;
- should improving the measurement of services in the CPI remain a high priority for the ABS; and
- the quality adjustment methodology.

<sup>12</sup> J Harmer, Pension Review Report, Canberra, 2009, p. 62–63

INTRODUCTION

**6.1** The Australian CPI Commodity Classification (CPICC) is a framework for the classification of all goods and services acquired by households as consumers. It has been designed to provide a coherent structure for the CPI to aid in the measurement of household price inflation on an acquisitions basis. The classification groups items together which are close substitutes in terms of purpose. The CPICC consists of eleven broad groups of goods and services. These groups are further broken down into 33 subgroups which are in turn broken down into 90 expenditure classes.

*Background*

**6.2** The 15th series CPI review saw the introduction of financial services into the Australian CPI in a new group, *Financial and insurance services*, and a few minor modifications to the CPI structure. While there are no plans to introduce new commodity groups at this stage, the 16th series review provides an opportunity to review and update the classification.

**6.3** The CPICC serves a number of important purposes such as assisting the understanding of users and facilitating greater consistency. The structure also provides a framework for defining item coverage, identifying whether new items are within scope of the CPI and, if so, where price observations belong. The CPICC was influenced by the IMF endorsed Classification of Individual Consumption According to Purpose (COICOP).

THE ROLE OF COICOP

**6.4** COICOP was primarily developed to fit into the 1993 System of National Accounts (SNA) but was also intended for use in CPIs.<sup>13</sup> COICOP classifies household consumption expenditures by grouping together the various goods and services that are deemed to fulfil particular purposes.<sup>14</sup>

**6.5** Very few, if any, countries base their CPI solely on the COICOP structure as published.<sup>15</sup> Some statistical areas such as the Euro area do have structures based on COICOP, while other countries such as the USA use classifications and structures designed solely to meet their domestic needs. Likewise, Australia's CPICC may resemble COICOP (see Appendix 6), however, Australia has its own classification to allow grouping of items that have similar purposes (i.e., are substitutable) and that generally display similar price behaviour. The grouping of items based on their purpose helps to keep the CPI relevant.

**6.6** While there is a broad correlation between the Australian CPICC and COICOP, there are a number of differences in concept and content, at the group/division and more detailed levels. Conceptually, COICOP is based on an economic *cost-of-use* approach, whereas the Australian CPI uses an *acquisitions* approach. This results in

<sup>13</sup> United Nations, *Classifications of Expenditure According to Purpose*, Statistical papers series M, No. 84, UN, New York, 2000. p. 18.

<sup>14</sup> *ibid.*, p. 20.

<sup>15</sup> <<http://unstats.un.org>>

## THE ROLE OF COICOP

*continued*

quite different treatments – for example with Housing. COICOP uses a rental equivalence approach to housing in the CPI whereas most Australians purchase their own homes.

**6.7** Restaurant and take away meals is an example of where the purpose of a good or service can lead to differences between COICOP and CPICC. The COICOP division 'Restaurants and Hotels' covers several different services – food, alcohol and accommodation. In the CPICC, restaurant and take away meals are recognised as substitutes for eating at home, so both at-home and restaurant meals are included in the CPICC 'Food' group.

CLASSIFICATION  
FRAMEWORKS

**6.8** The ABS generally advocates that classifications across subject matter lines relate to ensure concordance with international and regional frameworks. The CPICC readily concurs to: the Household Expenditure Classification (HEC)<sup>16</sup>; the Central Product Classification (CPC)<sup>17</sup>; and most international commodity classifications.

**6.9** The Australian National Accounts uses the Input–Output Product Classification (IOPC) to structure the input–output tables. Because the input–output system describes the production and subsequent use of all goods and services, the classification is defined in terms of characteristic products of industry sectors. A direct concordance between IOPC and CPICC has not yet been developed due to the different approaches. However, a concordance was developed between the detailed HEC and the IOPC, and an indirect concordance between the CPICC and IOPC could be readily developed if required.

## USER COMMENTS

**6.10** Users are invited to comment on any aspect of:

- commodity classifications used to construct the CPI; and
- whether there are any purposes for which the industry based IOPC and the purpose based CPICC should concord (indirectly via the more detailed HEC).

<sup>16</sup> see Appendix 6, *Household Expenditure Survey and Survey of Income and Housing: User Guide, 2003-04* (cat no. 6503.0)

<sup>17</sup> <<http://unstats.un.org>>

INTRODUCTION

**7.1** The ABS has sought to address some of the requirements for consumer price related information not readily met by the CPI by developing additional indexes which are closely related to the CPI.

**7.2** There is widespread recognition from statistical agencies and data users that a single CPI does not meet all user requirements. Whilst the headline CPI is the inflation target for monetary policy in Australia, there has been a move towards developing complementary measures of consumer price inflation designed to meet the needs of certain interest groups. However, if several measures of consumer price inflation were to exist, there is a risk that this may undermine the credibility of the headline CPI. The challenge for the ABS is to achieve a balance between maintaining the integrity and independence of the CPI, and providing complementary measures to meet users' needs.

**7.3** The international CPI manual suggests that complementary indexes are not replacements for, or superior to, the CPI itself, but are intended to be "interesting and enlightening constructs based on the core index".<sup>18</sup>

**7.4** As part of the 16th series review the ABS will assess the relevance of, and need for, various complementary indexes.

**7.5** Various series that are helpful for analytical purposes are presented in Tables 9 and 10 of *Consumer Price Index, Australia* (cat. no. 6401.0) and in the living cost index publications (cat. no. 6463.0 and cat. no. 6467.0). See Appendix 7 for details of the composition of these series.

EXCLUSION-BASED MEASURES

**7.6** The ABS produces a number of exclusion-based measures (refer to Table 1 below), which exclude nominated items from the CPI basket. Typically, the excluded items are those that are volatile and/or display pronounced seasonal patterns, and those that are subject to administrative price setting. For example, the 'All groups excluding volatile items' measure excludes the prices of items that are particularly volatile, such as fruit, vegetables and fuel, and the 'market goods and services excluding volatile items' measure focuses on prices determined in the market sector of the economy. The exclusion-based measures have been calculated and published as analytical series by the ABS since December quarter 1986.

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<sup>18</sup> International Labour Office, op.cit., p. 229.

EXCLUSION-BASED  
MEASURES *continued*

TABLE 1: EXCLUSION-BASED MEASURES

<i>Quarterly analytical series</i>	<i>Start date of index</i>
All groups excluding Housing and Financial and insurance services	Sep-1989
All groups excluding 'volatile items'	Dec-1986
Market goods and services excluding 'volatile items' - Goods	Dec-1986
Market goods and services excluding 'volatile items' - Services	Dec-1986
Market goods and services excluding 'volatile items' - Total	Dec-1986

ABS CONSUMER PRICE  
MEASURES AND  
SEASONAL ADJUSTMENT

**7.7** The ABS adopted the RBA's methodology to measure underlying trends in inflation. This led to the production and publication of two ABS statistical measures of underlying inflation – the trimmed mean and the weighted median – from June quarter 2007. This review will include an evaluation of these series.

**7.8** The trimmed mean is calculated by ordering the CPI expenditure class components by their price change in the quarter and taking the expenditure weighted average of the middle 70% of these price changes. The weighted median is the price change of the component in the middle of this ordering. For calculating the weighted median and trimmed mean series, where CPI components are identified as having a seasonal pattern, quarterly price changes are estimated on a seasonally adjusted basis. Consequently, there is scope for revision of the series. Despite their use in informing on underlying inflation, these measures are not intended to replace the All groups CPI as the official measure of inflation.

**7.9** The ABS currently publishes trimmed mean and weighted median quarterly and annual movements in Table 10 of *Consumer Price Index, Australia* (cat. no. 6401.0) along with the other CPI analytical series. Movements in the series from one period to another are expressed as percentage changes.

**7.10** The ABS does not seasonally adjust the CPI. The CPI measures contemporary movements in prices and reflects real world volatility that may occur. This can make it difficult for economic analysts to distinguish the noise of short-term fluctuations from the underlying inflationary trend. Seasonally adjusted data are sometimes preferred in the formulation of economic policy and for economic research because they eliminate the effects of changes that normally occur at the same time and of about the same magnitude every year. Such effects may be large enough to mask the short-term, underlying movements of the series.

**7.11** Seasonally adjusting the CPI will result in revision of the index as estimates of seasonal variation are refined over time, as more data becomes available. In the seasonal adjustment process, seasonal adjustment factors are calculated using the history of price changes, and are revised each period. These revisions to the seasonal adjustment factors lead to revisions in the series.

**7.12** Should a seasonally adjusted measure be produced, the unadjusted CPI would continue to be the headline series. As the Australian CPI is not revised it is appropriate for fiscal, legal and regulatory purposes. It has the advantage of being transparent, reflecting the price movements experienced by consumers. A seasonally adjusted index,

ABS CONSUMER PRICE  
MEASURES AND  
SEASONAL ADJUSTMENT  
*continued*

although requiring revision, would be useful for medium to long-term policy analysis and understanding general inflationary pressures in the economy.

**7.13** If the CPI were to be produced on a monthly basis, there may be an increased need to deal with seasonality in the index. The issue of the frequency of CPI compilation is discussed in Chapter 3.

**7.14** The ABS will use the 16th series review to assess the demand for a seasonally adjusted CPI. Following the receipt of the 2009–10 HES data, the ABS will investigate whether the revised weighting patterns affect the seasonality of the index.

TRADABLE,  
NON-TRADABLE  
COMPONENTS

**7.15** The tradable component of the CPI comprises all commodities whose prices are largely determined on the world market. A commodity is defined as tradable if a significant proportion (10%) of its domestic output is exported or if a significant proportion (10%) of its supply for domestic consumption is imported. All commodities classified as 'importable and/or exportable' form part of the tradable component. The non-tradable component consists of the remaining commodities – those commodities whose prices are largely determined on the domestic market.

**7.16** Appendix 7 shows which expenditure classes are classified as tradable and which are classified as non-tradable. In aggregate, fifty expenditure classes, accounting for approximately 42% of the CPI by weight, are classified as tradable. The remaining forty expenditure classes, accounting for approximately 58% of the CPI by weight, are classified as non-tradable.

**7.17** As part of the 16th series review, the ABS will re-examine the classification of the tradable and non-tradable items.

LIVING COST INDEXES

**7.18** The CPI is designed to measure price inflation faced by households and is not the conceptually ideal measure of the effect of changes in prices on the out-of-pocket living expenses of a subgroup of the population. In recognition of the widespread interest in the extent to which the impact of price change varies across different groups in the community, the ABS compiles and publishes a number of living cost indexes for selected types of Australian households.

**7.19** The Analytical Living Cost Indexes (ALCIs) and the Pensioner and Beneficiary Living Cost Index (PBLCI) are produced as a by-product of the CPI. They are published separately from the CPI: the ALCIs are published in *Analytical Living Cost Indexes for Selected Australian Household Types* (cat. no. 6463.0); and the PBLCI in *Pensioner and Beneficiary Living Cost Index* (cat. no. 6467.0).

**7.20** As with the CPI, the ALCIs and the PBLCI are based on a fixed basket of goods and services. Therefore, they cannot be classified as cost of living indexes as they do not reflect changing consumer preferences and the substitutions that consumers make in response to changes in relative prices (e.g. buying chicken rather than beef when beef prices are high).

*The Analytical Living Cost  
Indexes*

**7.21** The ALCIs have been compiled and published by the ABS annually since June quarter 2000, and quarterly from September quarter 2009. The ALCIs are prepared for four types of Australian households:

*The Analytical Living Cost Indexes continued*

- employee households;
- age pensioner households;
- other government transfer recipient households; and
- self-funded retiree households.

**7.22** For more information on the ALCIs and their relationship to the CPI, see the Explanatory Notes of *Analytical Living Cost Indexes for Selected Australian Household Types* (cat. no. 6463.0).

*The Pensioner and Beneficiary Living Cost Index*

**7.23** The PBLCI, based on the ALCIs, is a measure of the effect of changes in prices on the out-of-pocket living expenses of a subgroup of the Australian population: age pensioner households and other government transfer recipient households.

**7.24** In response to the Pension Review Report by Dr Jeff Harmer in February 2009<sup>19</sup>, the Australian Government funded the ABS to produce a new index that, more specifically than the CPI, reflects changes in the living costs of pensioners and other households receiving income support from the government. The PBLCI, published on a quarterly basis, was first released in August 2009 (for June quarter 2009).

**7.25** Currently, the PBLCI is being constructed as a by-product of processing the quarterly CPI. Over time, the ABS will progressively improve the index to better reflect the effect of changes in prices on the out-of-pocket living expenses of pensioners and beneficiaries. For more information on the PBLCI, see *Information Paper: Introduction of the Pensioner and Beneficiary Living Cost Index, Australia* (cat. no. 6466.0).

AVERAGE RETAIL PRICES

**7.26** The ABS publishes average retail prices data for selected items which are included in the CPI for the eight capital cities in *Average Retail Prices of Selected Items, Eight Capital Cities* (cat. no. 6403.0.55.001). The average prices published are presented for the purposes of making price comparisons between the capital cities for individual items. Many users of these data compare item prices over time. This is inappropriate as the specifications and quality of items priced vary from period to period. Changes in the price levels of the items in this publication may differ from those in *Consumer Price Index, Australia* (cat. no. 6401.0) because CPI indexes are adjusted to take account of changes in the quality of the items priced; no such adjustment is made to the price levels presented in *Average Retail Prices of Selected Items, Eight Capital Cities* (cat. no. 6403.0.55.001).

**7.27** Due to the confusion which arises from the inappropriate use of the data, the ABS is reviewing the costs and benefits of publishing these series.

USER COMMENTS

**7.28** Users are invited to comment on:

- the usefulness of the current suite of ABS analytical series;
- the usefulness of the Average Retail Prices data; and
- any need for a seasonally adjusted CPI in addition to an unadjusted headline CPI.

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19 J Harmer, *Pension Review Report*, Canberra 2009

INTRODUCTION

**8.1** There are a number of alternative measures of consumer prices which are different in concept and use to the CPI. As part of the 16th series review the ABS will assess the importance of, and need for, spatial measures and regional CPIs.

SPATIAL MEASURES

**8.2** The CPI measures movements in retail prices of goods and services over time. CPI indexes are produced for each of the eight Australian capital cities but these can only be used in the analysis of price movements over time in each city individually; they cannot be used to measure differences in price levels between cities.

**8.3** Spatial price indexes (SPIs) are a snapshot of differences in price levels across regions. In Australia one option would be to price the same basket of commodities in each of the eight capital cities during one year. To then be able to compare these price levels either one city or an average '8 caps' price level would be set as a base and the prices paid in each city quoted relative to this. For example, if the cost to purchase the basket of commodities in Sydney was used as the base, it would be allocated an index number of 100.0 (similar to the base time period in a temporal index). If the price index for Melbourne was 110.0 it would mean that during the set time period, to buy the same basket of goods and services in Melbourne, it cost 10% more than buying it in Sydney. If the same basket of commodities was priced in each capital city, the price indexes could then be used to derive implicit price level differences between any of the cities.

**8.4** Compilation of an Australian SPI was considered in the 13th series CPI review. Due to the practical and conceptual difficulties of such comparisons the CPI Review Advisory Group placed a low priority on the project.<sup>20</sup> To meet user requests the ABS compiled experimental SPIs in 2001–02 and 2003–04 using CPI data, which were published in ABS research papers.<sup>21</sup> These experimental indexes revealed numerous difficulties in regards to item coverage as well as conceptual difficulties in the pricing of items such as; household services, utilities, transport and housing. As the CPI is designed to collect data consistently over time and not to collect data consistently across regions, only 40% of the CPI sample was able to be used in the compilation of the SPI. Due to the large injection of resources required to overcome these issues and the low priority of the project, the indexes were discontinued.<sup>22</sup>

**8.5** The ABS also constructed a set of SPIs for approximately 200 Australian cities and towns over the period 1960 to 1990. These indexes were limited to food prices.

GEOGRAPHICAL  
COVERAGE

**8.6** All price indexes have a geographical dimension such as city, rural area, state, region or country. The Australian CPI is compiled and published separately for each capital city, with the national CPI compiled as the weighted average of eight capital cities.

<sup>20</sup> More information can be found in *Outcome of the 13th series Australian CPI review* (cat. no. 6453.0).

<sup>21</sup> See Waschka et al (2003), Woolford et al (2005).

<sup>22</sup> More information can be found in *Research Paper: Comparing Living Costs in Australian Capital Cities, Sep 2003* (cat. no. 1351.0.55.017).

GEOGRAPHICAL  
COVERAGE *continued*

**8.7** Currently the expenditure aggregates in the CPI cover 64% of Australian households. If the objective of the CPI is to be representative of all Australian households, there may be a case for extending coverage beyond the eight capital cities. However, this would present a number of conceptual and practical difficulties.

**8.8** Up until now, the HES has not collected point of purchase information. In the past it was assumed, for metropolitan areas, that expenditure was incurred in the same region. Away from these areas, however, the same assumptions could not be made – some items may well be purchased on infrequent visits to metropolitan areas. This presented a significant practical problem in establishing reliable price samples in non-metropolitan areas.

**8.9** The 2009–10 HES will be collecting and compiling point of purchase information for the first time. This will provide the ABS with an opportunity to assess whether the purchase behaviour for non-metropolitan areas is different to purchase behaviour for capital cities.

**8.10** The costs associated with a move to broaden the geographical coverage of the CPI beyond the eight capital cities would be substantial. However, such expansion would ensure the CPI is representative of all Australian households.

## USER COMMENTS

**8.11** Users are invited to comment on:

- the importance of spatial measures and their potential use; and
- the need for regional indexes – expanding geographical coverage beyond capital cities, and their potential use.

## CHAPTER 9

## 16TH SERIES CPI REVIEW SCHEDULE .....

INTRODUCTION	<b>9.1</b> The 16th series review of the CPI provides an opportunity for public involvement in the ongoing evolution of the CPI. This chapter presents a detailed timetable for the review.
DECEMBER 2009 <i>Release paper</i>	<b>9.2</b> Release and widely distribute this issues paper to users of the CPI. Invite organisations or individuals to make written submissions, by 12 March 2010, on any aspect of the review.
JANUARY TO AUGUST 2010 <i>Undertake consultation</i>	<b>9.3</b> In addition to releasing this paper, there will be two stages in the formal consultative process: i) inviting public submissions and conducting public seminars; and ii) discussion of issues with the advisory group (AG). Two meetings of the AG will be held over the period March 2010 to August 2010. <b>9.4</b> In addition to the technical issues raised in the issues paper, relevant issues arising from the public submissions will be discussed with the AG.
DECEMBER 2010 <i>Finalise outcomes</i>	<b>9.5</b> Final decisions on the outcome of the review issues must be made by the ABS by 1 December 2010 in order to complete the work required to introduce the new series in the September quarter 2011. <b>9.6</b> An information paper, <i>Outcome of the 16th Series Australian Consumer Price Index Review</i> , will set out the results of the 16th series review.
MARCH 2011 <i>Communicate outcomes</i>	<b>9.7</b> Seminars outlining proposed changes to the CPI may be held in each of the eight capital cities.
MAY 2011 <i>Estimate new weights</i>	<b>9.8</b> Estimate new expenditure patterns and weights.
AUGUST 2011 <i>Link 16th series to 15th series</i>	<b>9.9</b> The process of linking the old and the new series is an important component of the implementation of the 16th series review. This task cannot be completed until the June quarter 2011 CPI is published in late July 2011.
EARLY OCTOBER 2011 <i>Publish paper</i>	<b>9.10</b> An information paper, <i>Introduction of the 16th Series Australian Consumer Price Index</i> , will summarise the major changes that occur in the 16th series CPI and will also contain a table showing the weighting pattern of the 16th series CPI.
OCTOBER 2011 <i>Introduce 16th series</i>	<b>9.11</b> The 16th series CPI will be introduced in respect of September quarter 2011.

LATE OCTOBER 2011  
*Publish updated guide*

**9.12** The ABS will also release an updated *Guide to the Consumer Price Index*. This information paper will take into account changes made with the introduction of the 16th series CPI in the September quarter 2011. The guide is designed to promote understanding of the CPI among general users. An updated *Consumer Price Index Concepts, Sources and Methods* publication will be released in due course

## 16TH SERIES CPI ADVISORY GROUP – LIST OF MEMBERS

## LIST OF MEMBERS

The role of the Advisory Group (AG) is to provide technical advice to the ABS on the issues outlined in this paper. The CPI review AG represents a broad cross-section of CPI users. The 16th series CPI AG members are shown in the following table.

The Chair of the AG is Professor Kevin J. Fox.

<i>AG Member</i>	<i>Position</i>
<b><i>Dr. Annette Barbetti</i></b>	<b><i>Federal President</i></b> Superannuated Commonwealth Officers' Association
<b><i>Mr. Grant Belchamber</i></b>	<b><i>Economist</i></b> Australian Council of Trade Unions
<b><i>Mr. Michael Blythe</i></b>	<b><i>Chief Economist</i></b> Commonwealth Bank of Australia
<b><i>Dr. Arthur Camilleri</i></b>	<b><i>Assistant Secretary</i></b> Long-Term Budget Policy Branch Budget Group Department of Finance and Deregulation
<b><i>Ms. Mary Cavar</i></b>	<b><i>Assistant Director</i></b> Macroeconomics, Forecasting and Fiscal Strategy (Vic) Department of Treasury and Finance
<b><i>Dr. Peter Crossman</i></b>	<b><i>Assistant Under Treasurer and Government Statistician</i></b> Queensland Treasury
<b><i>Prof. Ken Clements</i></b>	<b><i>Professor of Economics</i></b> Head, Economics, Business School The University of Western Australia
<b><i>Mr. Ian Ewing</i></b>	<b><i>Deputy Australian Statistician</i></b> Macroeconomics and Integration Group Australian Bureau of Statistics
<b><i>Prof. Kevin J. Fox</i></b>	<b><i>Professor of Economics</i></b> Head, School of Economics Director, Centre for Applied Economic Research The University of New South Wales
<b><i>Mr. Owen Freestone</i></b>	<b><i>Manager</i></b> Prices and Income Domestic Economy Division Department of the Treasury

LIST OF MEMBERS *continued*

<i>AG Member</i>	<i>Position</i>
<b>Mr. Tony Gargan</b>	<b>Acting General Manager</b> Forecasting Information and Performance Centrelink
<b>Ms. Jacqui Phillips</b>	<b>Policy Officer</b> Australian Council of Social Service
<b>Mr. Michael Plumb</b>	<b>Head</b> Prices, Wages and Labour Market Economic Analysis Department Reserve Bank of Australia
<b>Mrs. Dallas Welch</b>	<b>Deputy Government Statistician Macro-Economic and Environment Statistics</b> Macro-Economic and Environment Statistics Statistics New Zealand
<b>Mr. Burchell Wilson</b>	<b>Senior Economist</b> Economics and Industry Policy Australian Chamber of Commerce and Industry

CONSUMER PRICE INDEXES  
IN SELECTED COUNTRIES

This appendix provides summary information on the CPIs in selected regions on a range of matters which are discussed in this issues paper. While the ABS has attempted to ascribe a conceptual basis to each country's CPI, it is not always clear. The conceptual basis has implications for how the costs of home ownership should be treated in the CPI and this is indicated below.

The following information has been sourced from websites of the  
*IMF* <<http://dsbb.imf.org/Applications/web/sddscountrylist/>> and  
*Statistics New Zealand* <<http://www.stats.govt.nz/>>.

*Australia*

*Title:* Consumer Price Index.

*Conceptual basis:* Acquisitions approach.

*Index formula:*

*Computation of lowest level indices:* Geometric mean is the preferred method of aggregation. In cases where this is not appropriate, the ratio of arithmetic mean method is used.

*Aggregation:* Based on Laspeyres.

*Weights:* Updated every six years from the Household Expenditure Survey.

*Population:* Metropolitan private households. 'Metropolitan' is defined as consisting of households in the six Australian State capital cities, Darwin and Canberra.

*Region:* Households in the eight Australian capital cities. Approximately 64% of private households are located in these cities.

*Home Ownership:* Acquisition approach.

*Frequency:* Quarterly.

*Canada*

*Title:* Consumer Price Index.

*Conceptual basis:* Outlays approach.

*Index formula:*

*Computation of lowest level indices:* Micro-indexes are calculated by applying the change in average prices (using an unweighted geometric mean or, in a few cases, the ratio of arithmetic means) to the previous period index.

*Aggregation:* Based on Laspeyres.

*Weights:* Updated every four years from the Survey of Household Spending. Currently investigating the possibility of annual updates.

*Population:* The target population includes all Canadian families and individuals living in urban and rural private households. Persons living in collective households and on Indian reserves, officials representing of foreign countries and their families, and residents of Yukon, Northwest Territories and Nunavut outside Whitehorse, Yellowknife and Iqaluit are excluded.

*Region:* All provinces, Whitehorse, Yellowknife and Iqaluit. Generally prices are collected in 15 to 76 locations based on the price behaviour of the commodity.

*Canada continued**Home Ownership:* User-cost approach.*Frequency:* Monthly.*Euro Area**Title:* Harmonised indices of Consumer Prices (HICP).*Conceptual basis:* Monetary expenditure on household consumption. (Acquisitions)*Index formula:**Computation of lowest level indices:* Either the ratio of arithmetic mean prices or the ratio of geometric mean prices when compiling the elementary aggregates.*Aggregation:* Based on Laspeyres.*Weights:* Individual country dependant; however must be updated every eight years. Annual adjustments made for large changes in expenditure patterns. HICPs are produced and published using a common index reference period (2005 = 100), however national Consumer Price Indices (CPIs) may still be published according to national need and definitions.*Population:* All purchases by households within the territory of a country; those by both resident and non-resident households. Includes individuals living in institutional households.*Region:* The Euro area and the European Union as a whole, for each EU member and for Norway and Iceland.*Home Ownership:* Housing acquisition costs is being piloted for inclusion in future.*Frequency:* Monthly.*New Zealand**Title:* Consumer Price Index.*Conceptual basis:* Acquisitions approach.*Index formula:**Computation of lowest level indices:* Moving from a ratio of arithmetic mean prices to geometric means formulae.*Aggregation:* Based on Laspeyres.*Weights:* Updated every three years from the Household Economic Survey.*Population:* Private, New Zealand-resident households living in permanent dwellings. The reference population covers approximately 98% of the usually-resident population. There are no exclusions based on income source or geographic location.*Region:* Prices are obtained by price collectors from retail outlets in 15 urban areas which account for about 69% of New Zealand's total resident population.*Home Ownership:* Acquisition approach.*Frequency:* Quarterly, Food group is published monthly.*United Kingdom**1. Title:* Consumer Price Index (CPI).

The CPI is the main UK measure of inflation for macro-economic purposes and forms the basis for the Government's inflation target.

*Conceptual basis:* Acquisitions approach.*Index formula:**Computation of lowest level indices:* Geometric mean of price relatives.*Aggregation:* Based on Laspeyres.

*United Kingdom continued*

*Weights:* Updated annually, mostly from the National Accounts.

*Population:* All private UK households, foreign visitors to the UK and residents of institutional households.

*Region:* All of the UK i.e. England, Scotland, Wales and Northern Ireland.

*Home Ownership:* Not included.

*Frequency:* Monthly.

2. *Title:* Retail Price index (RPI).

The RPI is the most familiar domestic measure of inflation in the UK; its uses include indexation of pensions, state benefits and index-linked gilts.

*Conceptual basis:* Acquisitions approach, exceptions include owner-occupied housing costs.

*Index formula:*

*Computation of lowest level indices:* Simple ratio of averages is used for homogeneous items and weighted average of relatives used for items which show a wide distribution of price levels.

*Aggregation:* Based on Laspeyres.

*Weights:* Updated annually, mostly from the UK Expenditure and Food Survey (EFS).

*Population:* All private UK resident households excluding (i) pensioner households in which three quarters or more of income comes from state sources; (ii) high-income households within the top 4%.

*Region:* U.K.

*Home Ownership:* User cost approach.

*Frequency:* Monthly.

*United States of America*

*Title:* Consumer Price Index.

*Conceptual basis:* Economic cost-of-use.

*Index formula:*

*Computation of lowest level indices:* Most basic indexes are compiled using a geometric mean formula. The remaining item categories are computed using a modified Laspeyres formula.

*Aggregation:* Based on Laspeyres

*Weights:* Updated biennially from the Consumer Expenditure Surveys.

*Population:* All urban consumer units, which represent about 87% of the total population.

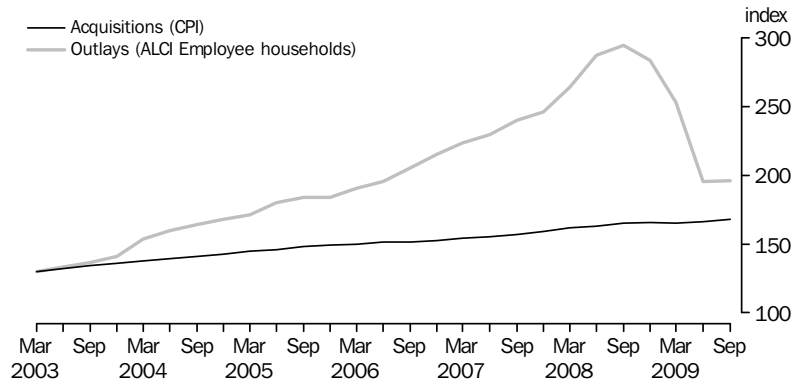
*Region:* All urban areas of 2,500 or more population within the 50 states; excludes U.S. territories.

*Home Ownership:* Rental equivalence.

*Frequency:* Monthly.

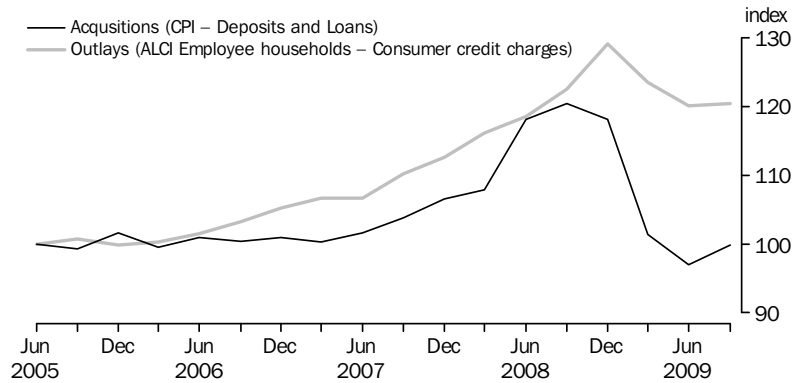
**COMPARISONS OF ACQUISITIONS AND OUTLAYS  
APPROACH** .....

**GRAPH 1 – OWNER-OCCUPIED HOUSING IN CPI (ACQUISITIONS) AND  
ALCI EMPLOYEE HOUSEHOLDS (OUTLAYS)**



Source: ABS cat. no. 6401.0 and cat. no. 6463.0 with CPI re-based for comparison purposes.  
(Base period June quarter 1998 = 100.0)

**GRAPH 2 – DEPOSIT AND LOAN FACILITIES INDEX AND CONSUMER  
CREDIT CHARGES INDEX**



Source: ABS cat. no. 6401.0 and cat. no. 6463.0 with CPI re-based for comparison purposes.  
(Base period June quarter 2005 = 100.0)

## INTRODUCTION

This appendix describes the conceptual and methodological issues relevant to the construction of price indexes for deposit and loan facilities.

In order to construct an overall measure of price change for deposit and loan facilities there are two key factors that need to be addressed concerning the ways in which these services are charged for. Banks and other deposit taking institutions earn income by lending funds at a higher rate of interest than they pay on deposits (the difference being referred to as 'interest rate margins') and by charging explicit fees for account keeping services and/or certain transactions.

To the extent that income from interest margins is obtained from households, it is legitimate to regard that amount as representing a payment by households for the services they obtain. The difficulty is that these interest rate margins are not directly observable. While the explicitly charged fees are observable, the impact of these on individual households can vary significantly depending on factors such as the type of account, the frequency of particular transaction types, the account balance and the total volume of business that the customer conducts with the service provider.

The challenge confronting the ABS was to develop a methodology for measuring changes in the amounts payable as explicit fees and charges, and the amounts payable as interest rate margins. The changes in both these elements then need to be combined to obtain the aggregate or net change in the price of deposit and loan facilities.

## CALCULATION OF DIRECT FEES

The schedules used to determine the amounts payable as explicit fees are generally not linear in nature and tend to incorporate some form of step function. In other words, rather than setting a universally applied price per transaction, it is often the case that fees for certain types of transactions are only incurred after some threshold is breached (e.g. after say four transactions in a month or when account balances fall below some level).

Furthermore, financial institutions often bundle products together, with the price paid for particular products depending on the bundling arrangements. In these circumstances it is not possible to simply calculate an average price from observable schedules. What would be required would be to price different bundles of each service, for example three, four, five and six over the counter withdrawals, and derive an average across the different bundles and construct a measure of price change from the changes in this average over time.

However, there are several problems with this approach. Obtaining enough detailed information to construct sufficiently representative bundles of the individual services attracting fees would be an expensive process and still subject to error. It would also not be able to account for cases where the fees vary with the value of the transaction or individual account balances or cases where rebates are applied against the total of all fees that would have been charged. For these reasons, the ABS believes that the only way to reliably measure changes in fees is to work with a sample of customers' accounts.

CALCULATION OF DIRECT  
FEES *continued*

The approach adopted is similar in principle to that used for other components of the CPI. For each sampled institution (service provider) a sample of products is selected to represent each of the major product categories such as current accounts, savings and investment accounts, retirement accounts, housing and home-equity loans, personal loans, and credit cards. The specific product selected from each group (e.g. the sampled home loan product) is assigned a weight to represent all fees plus margins paid in respect of the product group (e.g. housing loans).

For each sampled product the institutions provide a sample of accounts for customers living in each of the eight capital cities. Each sampled account contains information that is similar to that included on the monthly statements received by customers with the exception that any identifying information (such as the customer and who a payment was made to or received from) has been removed. However, the value of any transaction, the type of transaction (cheque, automatic teller machine (ATM) withdrawal etc.) and running balances have been retained along with any other information that influences the determination of charges (such as a customer relationship value or a fee-waiving flag). Each sampled account covers a full twelve months of activity. All up, the ABS has sampled approximately seven thousand individual accounts for the purpose of compiling these indexes. In aggregate these sampled accounts contain approximately three million transactions.

The ABS has developed a computer application capable of emulating the charging regimes employed by financial institutions. This enables the ABS to calculate, each month, the total amounts that would be paid in fees over a full year for each sampled account based on the currently prevailing fee schedules. The use of a full year's activity in this way is consistent with the methodology used to measure price change for all items in the CPI, which is based on an annual quantity basket.

Some products, mainly loan products, incur an establishment fee. These are not accounted for by the sample of accounts and therefore require a separate estimation procedure. The price measure for establishment fees is calculated using changes in the average establishment fee charged on new accounts each month (information provided by the sampled institutions). Changes in these average fees reflect any discounting or waiving of fees by institutions.

CALCULATION OF  
MARGINS

The first issue is how to calculate the amount paid as an interest margin on any single product (or account provided by a financial institution). The 1993 System of National Accounts (SNA 93) recommends [paragraph 6.125 and Annex III] that the value of services provided by means of interest-rate margins be valued as the product of the balance on the account multiplied by the difference between the interest rate payable or receivable and a reference rate of interest. This approach has the effect of valuing the service provided to a borrower as the difference between the amount of interest paid by the borrower and the (lesser) amount that would have been paid had the reference rate been used. The converse applies for depositors. Therefore, the price of the service per dollar borrowed is given by the difference between the interest rate paid by the borrower and the reference rate. For a depositor, it is the difference between the reference rate and the interest rate received by the depositor.

CALCULATION OF  
MARGINS *continued*

In practice, statisticians experience great difficulty in identifying an exogenous reference rate that does not also result in volatile and sometimes negative measures of interest margins (as would occur if the reference rate lies above the lending rate or below the deposit rate). When valuing these services in the national accounts the ABS has adopted the practical expediency of setting the reference rate at the mid–point of the borrowing and lending rates. A reference rate determined in this way could be regarded as representing a market–clearing rate (i.e. the rate that would have been struck in the absence of financial intermediaries by depositors dealing directly with borrowers). To minimise problems with potential non–response and changes to the structure of the financial sector, it was decided that a slight variation of the approach used in the national accounts would be adopted in the construction of the price indexes for financial services in the CPI. A separate reference rate is calculated for each sampled service provider for these indexes.

It is important to recognise that this reference rate is not intended to approximate a financial institution's cost of funds. In the simplest case, where an institution's only source of funds is amounts on deposit, its cost of funds would equal the interest rate paid on deposits. Using this as the reference rate would result in the measurement of zero services being provided to depositors.

The sampled institutions provide monthly data on balances and interest flows (yields) by product and in aggregate. These data are used to calculate a current period interest rate margin for each of the sampled products. However, to minimise the effect of any short–term accounting anomalies, such as posting effects and adjustments of various types, the ABS constructs three–month moving averages of the average balances and interest flows and derives the required interest rates, reference rates and margin rates from the smoothed data.

ESTIMATING BASE PERIOD  
EXPENDITURE WEIGHTS

Estimating the base period value of expenditure on deposit and loan facilities, as required for weighting purposes, is a complex exercise. What follows is a simplified description of the general procedure.

The starting point was to select a sample of deposit taking institutions each of which was then approached to obtain information on balances, interest flows and fees by product and in aggregate for a full financial year. Interest flows (payments on deposit products and receivables on loan products) and balances were used to compute interest rates (or yields) at the individual product level and for deposits and loans in total. The reference rate was calculated as the mid–point of the rate paid on deposits and the rate earned on loans. The percentage margin on each product was calculated as described above and the dollar value of the margin computed. For all those products identified as being consumer products (as distinct from those used by businesses), the total receipts from households were computed by summing the margins and fees. The aggregate ratio of these receipts to total balances for the sampled institutions was applied to aggregate balances for all deposit taking institutions to derive a national estimate. The capital city level estimates were imputed by reference to aggregate data from the Household Expenditure Survey.

MEASURING TOTAL PRICE CHANGE

Because percentages (such as margin rates) are not prices, the latest period margin rates have to be applied to some monetary amount in order to compute the current period amounts that would be paid as margins. To preserve the quantities underpinning the values of the individual transactions and account balances in the base period, the values in the sampled accounts are updated each period using a four-quarter moving average of the all-groups CPI.

The process for measuring price change for any individual sampled account from one period to the next can be described in the following way. Each quarter the transaction values and the starting balances in the sampled accounts are updated using a four-quarter moving average of the CPI lagged by one quarter. The fee schedules for each sampled product are updated, where necessary, each month as are the current period margin rates.

The ABS calculates the dollar value of the interest margins by applying the current period margin rate to the updated average balances of the sampled accounts. These amounts are added to the amounts calculated for fees and charges (as described above) giving a total price paid for each sampled account.

The price index is constructed by comparing the change over time in these total amounts. In practice this means that if percentage margins remain unchanged over time, margin prices will move in line with the lagged four-term moving average of the CPI.

The aggregate index for deposit and loan facilities is produced by weighting together the indexes for each of the sampled products using the base period expenditure weights described above.

## WEIGHTING PATTERN FOR THE 15TH SERIES AUSTRALIAN CPI .....

WEIGHTING PATTERN, 15TH SERIES CPI, June Quarter 2005,  
Weighted average of eight capital cities  
.....

<i>Group, subgroup and expenditure class</i>	PERCENTAGE CONTRIBUTION TO THE ALL GROUPS CPI IN JUNE QUARTER 2005 .....		
	<i>Group(a)</i>	<i>Subgroup(a)</i>	<i>Expenditure Class(a)</i>
<b>FOOD</b>	<b>15.44</b>		
<i>Dairy and related products</i>		1.19	
Milk			0.55
Cheese			0.32
Ice cream and other dairy products			0.31
<i>Bread and cereal products</i>		1.72	
Bread			0.63
Cakes and biscuits			0.71
Breakfast cereals			0.20
Other cereal products			0.18
<i>Meat and seafoods</i>		2.42	
Beef and Veal			0.50
Lamb and mutton			0.26
Pork			0.16
Poultry			0.48
Bacon and Ham			0.23
Other fresh and processed meat			0.38
Fish and other seafood			0.41
<i>Fruit and vegetables</i>		2.11	
Fruit			0.95
Vegetables			1.15
<i>Non-alcoholic drinks and snack food</i>		1.96	
Soft drinks waters and juices			0.91
Snacks and confectionery			1.05
<i>Meals out and takeaway foods</i>		4.56	
Restaurant meals			2.00
Takeaway and fast foods			2.56
<i>Other food</i>		1.49	
Eggs			0.10
Jams, honey and sandwich spreads			0.15
Tea, coffee and food drinks			0.24
Food additives & condiments			0.27
Fats and oils			0.19
Food n.e.c.			0.54
<b>ALCOHOL AND TOBACCO</b>	<b>6.79</b>		
<i>Alcoholic drinks</i>		4.38	
Beer			1.93
Wine			1.57
Spirits			0.87
<i>Tobacco</i>		2.41	
Tobacco			2.41
<b>CLOTHING AND FOOTWEAR</b>	<b>3.91</b>		
<i>Men's clothing</i>		0.75	
Men's outerwear			0.64
Men's underwear, nightwear and socks			0.11

(a) Percentages may not add due to rounding.

WEIGHTING PATTERN, 15TH SERIES CPI, June Quarter 2005,  
Weighted average of eight capital cities *continued*

Group, subgroup and expenditure class	PERCENTAGE CONTRIBUTION TO THE ALL GROUPS CPI IN JUNE QUARTER 2005		
	Group(a)	Subgroup(a)	Expenditure Class(a)
<b>CLOTHING AND FOOTWEAR cont.</b>	<b>3.91</b>		
<b>Women's clothing</b>		<b>1.41</b>	
Women's outerwear			1.13
Women's underwear nightwear and hosiery			0.27
<b>Children's and infants' clothing</b>		<b>0.40</b>	
Children's and infants' clothing			0.40
<b>Footwear</b>		<b>0.64</b>	
Men's footwear			0.18
Women's footwear			0.34
Children's footwear			0.12
<b>Accessories and clothing services</b>		<b>0.72</b>	
Accessories			0.56
Clothing services and shoe repair			0.16
<b>HOUSING</b>	<b>19.53</b>		
<b>Rents</b>		<b>5.22</b>	
Rents			5.22
<b>Utilities</b>		<b>3.10</b>	
Electricity			1.63
Gas and other household fuels			0.70
Water and sewerage			0.77
<b>Other housing</b>		<b>11.21</b>	
House purchase			7.87
Property rates and charges			1.16
House repairs and maintenance			2.18
<b>HOUSEHOLD CONTENTS AND SERVICES</b>	<b>9.61</b>		
<b>Furniture and furnishings</b>		<b>3.13</b>	
Furniture			1.96
Floor and window coverings			0.78
Towels and linen			0.39
<b>Household appliances utensils and tools</b>		<b>1.76</b>	
Major household appliances			0.67
Small electric household appliances			0.27
Glassware, tableware and household utensils			0.47
Tools			0.35
<b>Household Supplies</b>		<b>2.91</b>	
Household cleaning agents			0.33
Toiletries and personal care products			1.18
Other Household Supplies			1.40
<b>Household Services</b>		<b>1.81</b>	
Childcare			0.45
Hairdressing and personal care services			0.75
Other household services			0.60
<b>HEALTH</b>	<b>4.70</b>		
<b>Health services</b>		<b>3.56</b>	
Hospital and medical services			2.77
Optical services			0.12
Dental services			0.67
<b>Pharmaceuticals</b>		<b>1.14</b>	
Pharmaceuticals			1.14
<b>TRANSPORTATION</b>	<b>13.11</b>		
<b>Private motoring</b>		<b>12.38</b>	
Motor vehicles			4.90
Automotive fuel			3.78
Motor vehicle repair and servicing			1.99
Motor vehicle parts and accessories			0.68
Other motoring charges			1.02
<b>Urban transport fares</b>		<b>0.73</b>	
Urban transport fares			0.73

(a) Percentages may not add due to rounding.

WEIGHTING PATTERN, 15TH SERIES CPI, June Quarter 2005,  
Weighted average of eight capital cities *continued*

<i>Group, subgroup and expenditure class</i>	PERCENTAGE CONTRIBUTION TO THE ALL GROUPS CPI IN JUNE QUARTER 2005		
	<i>Group(a)</i>	<i>Subgroup(a)</i>	<i>Expenditure Class(a)</i>
<b>COMMUNICATION</b>	<b>3.31</b>		
<i>Communication</i>		<b>3.31</b>	
Postal			0.11
Telecommunication			3.20
<b>RECREATION</b>	<b>11.55</b>		
<i>Audio, visual and computing</i>		<b>2.92</b>	
Audio, visual and computing equipment			1.53
Audio, visual & computing media and services			1.38
<i>Books, newspapers and magazines</i>		<b>0.85</b>	
Books			0.44
Newspapers and magazines			0.41
<i>Sport and other recreation</i>		<b>3.72</b>	
Sport and recreational equipment			0.55
Toys, games and hobbies			0.51
Sports participation			0.73
Pets, pet food and supplies			0.40
Pet Services including veterinary			0.44
Other recreational activities			1.09
<i>Holiday travel and accommodation</i>		<b>4.06</b>	
Domestic holiday travel and accommodation			2.27
Overseas holiday travel and accommodation			1.79
<b>EDUCATION</b>	<b>2.73</b>		
<i>Education</i>		<b>2.73</b>	
Preschool and primary education			0.53
Secondary education			0.94
Tertiary education			1.26
<b>FINANCIAL AND INSURANCE SERVICES</b>	<b>9.31</b>		
<i>Financial services</i>		<b>7.81</b>	
Deposit and Loan Facilities			4.47
Other Financial Services			3.34
<i>Insurance services</i>		<b>1.50</b>	
Insurance services			1.50
<b>ALL GROUPS</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

(a) Percentages may not add due to rounding.

COMPARISON AT TOP LEVEL BETWEEN CPICC AND COICOP

CPICC (group level)	COICOP (Divisions 01–12 refer to Individual consumption expenditure of households)
1. Food	01 - Food and non-alcoholic beverages
2. Alcohol and tobacco	02 - Alcoholic beverages, tobacco and narcotics
3. Clothing and footwear	03 - Clothing and footwear
4. Housing	04 - Housing, water, electricity, gas and other fuels
5. Household contents and services	05 - Furnishings, household equipment and routine household maintenance
6. Health	06 - Health
7. Transportation	07 - Transport
8. Communication	08 - Communication
9. Recreation	09 - Recreation and culture
10. Education	10 - Education
11. Financial and insurance services	11 - Restaurants and hotels
	12 - Miscellaneous goods and services
	13 - Individual consumption expenditure of non-profit institutions serving households (NPISHs)
	14 - Individual consumption expenditure of general government

## INTRODUCTION

Various series are presented in tables 8, 9, and 10 of *Consumer Price Index, Australia* (cat. no. 6401.0) that are helpful for analytical purposes. As a result of the introduction of the 15th Series Australian CPI, there were some changes to the groups, subgroups and expenditure classes contributing to each of the special series. This appendix describes the composition of each of the less straightforward special series.

## GOODS AND SERVICES

The following table shows, for each CPI group, which expenditure classes have been classified as goods and which have been classified as services. In aggregate, 63 expenditure classes, accounting for 58 per cent of the CPI by weight, have been classified as goods. The remaining 27 expenditure classes, accounting for approximately 42 per cent of the CPI by weight, have been classified as services.

## GOODS

**Food**

Milk

Cheese

Ice cream and other dairy products

Bread

Cakes and biscuits

Breakfast cereals

Other cereal products

Beef and veal

Lamb and mutton

Pork

Poultry

Bacon and ham

Other fresh and processed meat

Fish and other seafood

Fruit

Vegetables

Soft drinks, waters and juices

Snacks and confectionery

Take away and fast foods

Eggs

Jams, honey and sandwich spreads

Tea, coffee and food drinks

Food additives and condiments

Fats and oils

Food n.e.c.

**Alcohol and tobacco**

Beer

Wine

Spirits

Tobacco

## SERVICES

**Food**

Restaurant meals

**Alcohol and tobacco**

**GOODS**

***Clothing and footwear***

Men's outerwear  
 Men's underwear, nightwear and socks  
 Women's outerwear  
 Women's underwear, nightwear and hosiery  
 Children's and infants' clothing  
 Men's footwear  
 Women's footwear  
 Children's footwear  
 Accessories

***Housing***

Electricity  
 Gas and other household fuels  
 Water and sewerage  
 House purchase

***Household contents and services***

Furniture  
 Floor and window coverings  
 Towels and linen  
 Major household appliances  
 Small electric household appliances  
 Glassware, tableware and household utensils  
 Tools  
 Household cleaning agents  
 Toiletries and personal care products  
 Other household supplies

***Health***

Pharmaceuticals

***Transportation***

Motor vehicles  
 Automotive fuel  
 Motor vehicle parts and accessories

***Communication***

***Recreation***

Audio, visual and computing equipment  
 Audio, visual and computing media and services  
 Books  
 Newspapers and magazines  
 Sports and recreational equipment  
 Toys, games and hobbies  
 Pets, pet foods and supplies

**SERVICES**

***Clothing and footwear***

Clothing services and shoe repair

***Housing***

Rents  
 Property rates and charges  
 House repairs and maintenance

***Household contents and services***

Child care  
 Hairdressing and personal care services  
 Other household services

***Health***

Hospital and medical services  
 Optical services  
 Dental services

***Transportation***

Motor vehicle repair and servicing  
 Other motoring charges  
 Urban transport fares

***Communication***

Postal  
 Telecommunication

***Recreation***

Sports participation  
 Pet services including veterinary  
 Other recreational activities  
 Domestic holiday travel and accommodation  
 Overseas holiday travel and accommodation

GOODS AND SERVICES

*continued*

GOODS

**Education**

**Financial and insurance services**

SERVICES

**Education**

Preschool and primary education  
Secondary education  
Tertiary education

**Financial and insurance services**

Deposit and loan facilities  
Other financial services  
Insurance services

TRADABLES AND  
NON-TRADABLES

The following table shows, for each CPI group, which expenditure classes have been classified as tradable and which have been classified as non-tradable. In aggregate, 50 expenditure classes, accounting for approximately 42 per cent of the CPI by weight, have been classified as tradable. The remaining 40 expenditure classes, accounting for approximately 58 per cent of the CPI by weight, have been classified as non-tradable.

TRADABLES

**Food**

Cheese  
Ice cream and other dairy products  
Other cereal products  
Beef and veal  
Lamb and mutton  
Pork  
Other fresh and processed meat  
Fish and other seafood  
Fruit  
Vegetables  
Soft drinks, waters and juices  
Snacks and confectionery  
Tea, coffee and food drinks  
Food additives and condiments  
Fats and oils  
Food n.e.c.

**Alcohol and tobacco**

Wine  
Spirits  
Tobacco

**Clothing and footwear**

Men's outerwear  
Men's underwear, nightwear and socks  
Women's outerwear  
Women's underwear, nightwear and hosiery  
Children's and infants' clothing  
Men's footwear  
Women's footwear

NON-TRADABLES

**Food**

Milk  
Bread  
Cakes and biscuits  
Breakfast cereals  
Poultry  
Bacon and ham  
Restaurant meals  
Take away and fast foods  
Eggs  
Jams, honey and sandwich spreads

**Alcohol and tobacco**

Beer

**Clothing and footwear**

Clothing services and shoe repair

**TRADABLES**

Children's footwear  
Accessories

**Housing****Household contents and services**

Furniture  
Floor and window coverings  
Towels and linen  
Major household appliances  
Small electric household appliances  
Glassware, tableware and household utensils  
Tools  
Household cleaning agents  
Toiletries and personal care products  
Other household supplies

**Health**

Pharmaceuticals

**Transportation**

Motor vehicles  
Automotive fuel  
Motor vehicle parts and accessories

**Communication****Recreation**

Audio, visual and computing equipment  
Audio, visual and computing media and services  
Books  
Newspapers and magazines  
Sports and recreational equipment  
Toys, games and hobbies  
Pets, pet foods and supplies  
Overseas holiday travel and accommodation

**Education****NON-TRADABLES****Housing**

Rents  
Electricity  
Gas and other household fuels  
Water and sewerage  
House purchase  
Property rates and charges  
House repairs and maintenance

**Household contents and services**

Child care  
Hairdressing and personal care services  
Other household services

**Health**

Hospital and medical services  
Optical services  
Dental services

**Transportation**

Motor vehicle repair and servicing  
Other motoring charges  
Urban transport fares

**Communication**

Postal  
Telecommunication

**Recreation**

Sports participation  
Pet services including veterinary  
Other recreational activities  
Domestic holiday travel and accommodation

**Education**

Preschool and primary education  
Secondary education  
Tertiary education

TRADABLES AND  
NON-TRADABLES *continued*

TRADABLES

NON-TRADABLES

*Financial and insurance services*

*Financial and insurance services*

Deposit and loan facilities

Other financial services

Insurance services

ALL GROUPS EXCLUDING  
'VOLATILE ITEMS'

The All groups excluding 'volatile items' series comprises the All groups CPI excluding the Fruit, Vegetables and Automotive fuel expenditure classes.

MARKET GOODS AND  
SERVICES EXCLUDING  
'VOLATILE ITEMS'

In addition to the items excluded from the series "All groups excluding 'volatile items'", the Market goods and services excluding 'volatile items' series excludes the following expenditure classes:

Electricity  
Gas and other household fuels  
Water and sewerage  
Property rates and charges  
Child care  
Hospital and medical services  
Optical services  
Dental services  
Pharmaceuticals  
Other motoring charges  
Urban transport fares  
Postal  
Preschool and primary education  
Secondary education  
Tertiary education

## GLOSSARY .....

<b>Acquisitions approach</b>	A conceptual approach to constructing the CPI. It measures changes in the prices of goods and services acquired in the base period.
<b>All groups index</b>	The index series showing price movement for the weighted combination of all goods and services priced for the CPI. The highest level of CPI aggregation.
<b>Analytical living cost indexes</b>	A suite of Indexes specifically designed to measure changes in living costs across different groups in the community. These subgroups are: Employee households; Other government transfer recipient households; Age pensioner households; and Self-funded retiree households.
<b>Basket</b>	Commonly used term for the goods and services priced for the purpose of compiling the CPI.
<b>Compilation</b>	The process of deriving price indexes for elementary aggregates.
<b>Cost of living index</b>	An index that Pollack (1983) defined as measuring the change over time in the minimum cost of purchasing a basket of goods and services capable of providing the same utility (or satisfaction) as that provided by the basket purchased in the reference base period.
<b>Cost-of-use approach</b>	A conceptual approach to constructing the CPI. The cost-of-use approach provides the best indication of changes in living standards as it relates to goods and services actually consumed in the base period, irrespective of when they were acquired or paid for.
<b>CPI population group</b>	That subset of the Australian population to which the CPI specifically relates, currently metropolitan households.
<b>CPI Series review</b>	The Consumer Price Index (CPI) is subject to periodic reviews. While an important objective of the reviews is to update item weights, formal reviews also provide an opportunity to reassess the scope and coverage of the index and other methodological issues.
<b>Deposit and loan facilities</b>	Services of deposit and loan facilities provided by financial intermediaries. These measures are a significant component of the Financial Services Index.
<b>Elementary aggregate</b>	Elementary aggregates represent the lowest level for which indexes are constructed. In concept, they also represent the finest level at which commodity weights can be assigned.
<b>Expenditure class</b>	A grouping of like items in the CPI regimen; this is the level at which CPI weights remain fixed during the life of each CPI series.
<b>Fixed weighted index</b>	An index in which the weighting pattern is fixed for the period for which the index is calculated.
<b>Flash estimate</b>	A means to estimate a monthly CPI using the available price data collected for the quarterly CPI index .
<b>Group</b>	The first level of disaggregation of the CPI; the 15th Series CPI comprises eleven groups.
<b>Household Expenditure Survey (HES)</b>	A sample survey conducted to determine the expenditure patterns of private households. Data from the HES is used as a primary source of information for the estimation of expenditure weights in the CPI.
<b>Indexation</b>	The periodic adjustment of a money value (e.g. pensions, rents) according to changes in a selected index.

<b>Linking</b>	The technique used to join index series which have different weighting patterns to form a continuous series. The technique ensures that the resultant linked index reflects only price variations (i.e. the introduction of new items and weights does not itself affect the level of the index). Also referred to as chaining.
<b>Metropolitan</b>	For purposes of the CPI 'metropolitan' refers to the six State capital cities, Darwin and Canberra.
<b>Outlays approach</b>	A conceptual approach to constructing the CPI. The outlays (or payments) approach defines the basket in terms of the actual amounts paid by households during the base period to gain access to consumer goods and services (without regard to the source of such funds).
<b>Pensioner and Beneficiary Living Cost Index</b>	An index established in August 2009 that specifically reflects changes in the living costs of pensioners and other households receiving income support from the government.
<b>Price Index</b>	A composite measure of the prices of items expressed relative to a defined base period.
<b>Property income</b>	The income receivable by the owner of a financial asset or a tangible non-produced asset in return for providing funds to, or putting the tangible non-produced asset at the disposal of, another institutional unit.
<b>Pure price change</b>	The change in the price of an item after removing any variation in price attributable to a change in quality or quantity.
<b>Quality adjustment</b>	The elimination of the effect that changes in the attributes (quality) of an item have on the price of an item in order to isolate the pure price change.
<b>Weight</b>	The measure of the relative importance of an item in an index regimen. Weights can be expressed in either quantity or value terms. Value weights are used in the CPI.
<b>Weighting base period</b>	The period to which the fixed expenditure weights relate.

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