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Nature and purpose of national accounts

1.1 National accounts provide a systematic statistical framework for summarising and analysing economic events, and wealth of an economy and its components. Historically, the principal economic events recorded in national accounts have been production, consumption, and accumulation of wealth. National accounts have also recorded the income generated by production, the distribution of income among the factors of production and the use of the income, either by consumption or acquisition of assets. The modern accounts additionally record the value of the economy's stock of assets and liabilities, and record the events, unrelated to production and consumption, that bring about changes in the value of the wealth stock. Such events can include revaluations, write-offs, growth and depletion of natural assets, catastrophes, and transfers of natural assets to economic activity.

1.2 The national accounting framework has always consisted of a set of accounts that are balanced using the principles of double entry accounting. However, the accounts are now fully integrated in that there is a balance between the value of assets and liabilities at the beginning of an accounting period, the transactions and other economic events that occur during the accounting period, and the closing values of assets and liabilities. Accounts for the economy as a whole are supported by accounts for the various sectors of the economy, such as those relating to the government, households and corporate entities. The framework also embraces other, more detailed, accounts such as financial accounts and input-output tables, and provides for additional analyses through social accounting matrices and satellite accounts designed to reflect specific aspects of economic activity such as tourism, health and the environment. By applying suitable price and volume measures, the national accounts can be presented in real as well as current values, and time series of national accounts information can be adjusted to remove seasonal distortions and to disclose trends.

1.3 National accounting information can serve many different purposes. In general terms, the main purpose of national accounts is to provide information that is useful in economic analysis and formulation of macroeconomic policy. The economic performance and behaviour of an economy as a whole can be monitored using information recorded in the national accounts. National accounts data can be used to identify causal relationships between macroeconomic variables and can be incorporated in economic models that are used to test hypotheses and make forecasts about future economic conditions. Using national accounts data, analysts can gauge the impact of government policies on sectors of the economy, and the impact of external factors such as changes in the international economy. Economic targets can be formulated in terms of major national accounting variables, which can also be used as benchmarks for other economic performance measures, such as tax revenue as a proportion of gross domestic product or the contribution of government to national saving. Provided that the national accounts are compiled according to international standards, they can be used to compare the performance of the economies of different nations.

1.4 However, the full range of information available from a comprehensive national accounting system can serve purposes well beyond immediate concerns of macroeconomic analysts. For example, national accounts information can be used to analyse income and wealth distribution, financial and other markets, resource allocation, the incidence of taxes and welfare payments, environmental issues, productivity, industry performance, and so on. In fact, the range of analytical purposes that can be served by a complete system of national accounts has no well-defined limits, and the body of national accounts data can be seen as a multi-purpose data base that can be used with a high degree of flexibility.

1.5 The system of national accounts also provides a conceptual framework for other statistical systems. Surveys and other statistical systems that employ the concepts in the national accounting framework will produce information that is consistent with the national accounts and with other statistics that are based on the national accounts framework.

Brief history of national accounts

1.6 The idea of estimating national income can be traced back to the seventeenth century. Interest in raising revenue and in assessing England's war potential led to attempts by Sir William Petty in 1665 and Gregory King in 1688 to estimate the national income as either the sum of factor incomes or the sum of expenditures. A little later, Boisguillebert and Vauban used a similar approach in estimating France's national income.

1.7 The eighteenth century French economists called the Physiocrats took a step backwards when they restricted the concept of national income by arguing that only agriculture and the extractive industries were productive. But Quesnay, one of the Physiocrats, set out the interrelationships between the various activities in the economy in his *tableau economique*, published in 1758, which was the forerunner of the twentieth century work on input-output statistics.

1.8 Adam Smith, in his *Wealth of Nations*, rejected the Physiocrats' view of the pre-eminent position of agriculture, by recognising manufacturing as another productive activity. However, Smith and the early classical school of economists that he founded did not recognise the rendering of services as productive activity. Karl Marx was also of this view and the notion persisted in the material product system of national accounts that was used, until recently, by the centrally planned economies **(1)**.

(1) There is an international standard for material product balances: United Nations Statistical Office, *Basic Principles of the System of Balances of the National Economy*, Studies in Methods, Series F, No. 17, UN, New York, 1971.

1.9 Some English economists, in particular Ricardo and Marshall, further refined the concept of production; and in the 1920s the welfare economists led by Pigou undertook the first effective measurement of national income.

1.10 The Great Depression of the 1930s, and the attempts by Keynes and others to explain what was happening to the world economy, led economists away from their preoccupation with national income as a single measure of economic welfare. Instead, they attempted to use the new Keynesian General Theory to develop a statistical model of the workings of the economy that could be used by government to develop prescriptions for a high and stable level of economic activity. By the end of the 1930s, the elements of a national accounting system were in place in several countries. The models of Ragnar

Frisch and Jan Tinbergen stand out in this period as path-breaking achievements.

1.11 The economic modelling task was given further impetus in the 1940s; first, by the need to efficiently run war-time economies; second, by the publication in 1941 of Wassily Leontief's classic input-output study *The Structure of the American Economy*; third, by the post-war acceptance by governments of full responsibility for national and international economic management; and last, by the League of Nations publication of an important report about social accounting. By the end of the decade, integrated statistical reporting systems and formal national accounting structures were in place in Australia, the United States, the United Kingdom, Canada, the Scandinavian countries, the Netherlands and France.

1.12 The need of international organisations for comparable data about the economies of member countries was one important factor that prompted development of international standards for national accounting in the late 1940s and early 1950s. The Organisation for European Economic Co-operation sponsored the work of Richard Stone's National Accounts Research Unit at Cambridge University, from which emerged the now-familiar summary accounts of the nation **(2)**. Then the United Nations Statistical Office convened its first expert group on the subject. It was also headed by Stone and, in 1953, produced the publication *A System of National Accounts* (SNA) **(3)**, which described the first version of the system that has become the accepted world-wide standard for producing national accounts.

(2) Office of European Economic Co-operation, *National Accounts Studies*, Paris, 1951-53; and Office of European Economic Co-operation, A Standardised System of National Accounts, Paris, 1952.

(3) United Nations, *A System of National Accounts and Supporting Tables*, Studies in Methods, Series F, No. 2, UN, New York, 1953.

1.13 There were several other important developments in national accounting in the 1950s. M.A. Copeland and his colleagues in the United States Federal Reserve System prepared the first flow-of-funds tables, which analysed transactions in financial markets. A few countries increased the frequency of national accounts information by producing quarterly estimates of national income and expenditure (so that their governments could better monitor the business cycle) and also produced information classified by industry and institutional sector (to identify growth industries, poorly performing institutional sectors etc.).

1.14 National accounting's modern era could be said to have started in 1968. In that year, the United Nations Statistical Office published a fully revised version of the SNA, which drew together all the various threads of economic accounting: estimates of national income and expenditure (including estimates at constant prices); input-output production analysis; flow-of-funds financial analysis; and balance sheets of national wealth **(4)**. In 1977 the United Nations Statistical Office published detailed international guidelines on the compilation of balance sheet and reconciliation accounts within an SNA framework **(5)**.

(4) Statistical Office of the United Nations, *A System of National Accounts*, Studies in Methods, Series F, No. 2 Rev. 3, UN, New York, 1968.

(5) United Nations Statistical Office, *Provisional International Guidelines on the National and Sectoral Balance-sheet and Reconciliation Accounts of the System of National Accounts*, Statistical Papers, Series M, No. 60, UN, New York, 1977.

1.15 Since 1968, changes in the structure and nature of economies, the increasing sophistication and growth of financial markets and instruments, emphasis on the interaction of the economy with the environment and other considerations pointed to a need to update the SNA. The task of updating and revising the SNA was coordinated from the mid 1980s by the Inter-secretariat Working Group on National Accounts, working with

the assistance of international organisations and experts from national statistical offices around the world. The Working Group consisted of the Commission of the European Communities (Eurostat), the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), the United Nations and the World Bank. The resulting *System of National Accounts 1993* (referred to as SNA93) was released under the auspices of those five organisations **(6)**.

(6) Commission for the European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank, *System of National Accounts 1993*, Brussels/Luxembourg, New York, Paris, Washington D.C., 1993.

1.16 SNA93 aims to clarify and simplify the 1968 System, while updating the System to reflect new circumstances. SNA93 fully integrates national income, expenditure and product accounts, input-output tables, financial flow accounts and national balance sheets to enable the examination of production relationships and their interaction with countries' net worth and financial positions. SNA93 also introduces the concept of satellite accounts to extend the analytical capacity of national accounts in areas such as tourism, health and the environment.

1.17 SNA93 is one of a planned quartet of 'harmonised' international statistical standards that also include the standards set out in the IMF publications *Balance of Payments Manual 1993 (fifth edition)* (BPM5), *Manual of Monetary and Financial Statistics* (MMFS) (soon to be released), and *A Manual of Government Finance Statistics (second edition)* (GFS) (still under development). In this context, 'harmonisation' means that the standards employ common concepts and definitions so that valid comparisons can be made of statistics produced from each of the four systems. However, because each system serves different purposes, complete alignment of the standards is neither feasible nor necessary. Each system therefore has a proportion of unique concepts and definitions. Because Australia's policy is to apply each of the standards to the highest feasible degree, a high level of harmonisation will be found between the ASNA and Australia's balance of payments, government finance, and monetary and finance statistics. The relationships between the ASNA and the other statistics are discussed in Chapter 2.

National accounts in Australia

1.18 Australia pioneered work on national wealth in 1890 when Coghlan (the New South Wales Government Statistician) prepared rudimentary balance sheets for New South Wales. However, it was not until almost sixty years later, at the Conference on Research in Income and Wealth in 1948, that national balance sheets again received serious international attention.

1.19 The first official estimates of national income for Australia (based on estimates prepared by Clark and Crawford) were published in 1938 in *The Australian Balance of Payments, 1928-29 to 1937-38*, although unofficial estimates by several economists had been published in the 1920s and 1930s **(7)**. In 1945, the first official set of national accounts was prepared by the then Commonwealth Bureau of Census and Statistics (CBCS) and published in the Commonwealth Budget Paper *Estimates of National Income and Public Authority Income and Expenditure*.

(7) Clark, Colin & Crawford J.G., *The National Income of Australia*, Angus and Robertson, Sydney, 1938; Commonwealth Bureau of Census and Statistics, *The Australian Balance of Payments*, 1928-29 to 1937-38, AGPS, Canberra, 1938; the earlier unofficial estimates are discussed in N.G. Butlin, *Australian Domestic Product, Investment and Foreign Borrowing*, 1861 to 1938-39, Cambridge, 1962, Ch. 2.

1.20 The 1960s and early 1970s were times of significant development for Australian

national accounting. The first official quarterly estimates of national income and expenditure were published in December 1960 **(8)**. In 1963 the CBCS published the first *Australian National Accounts: National Income and Expenditure* (ANA) bulletin, which included the first annual constant price estimates for Australia **(9)**. Experimental input-output estimates were published in 1964 **(10)**. The CBCS began to seasonally adjust its quarterly estimates of national income and expenditure in 1967. Estimates of gross product by industry at constant prices were published for the first time in 1969 **(11)**. In 1971, the CBCS first published seasonally adjusted, constant price quarterly estimates of national income and expenditure, which later proved to be among the most used of all national accounting estimates. The CBCS published estimates of national income and expenditure based on the revised SNA (1968 version) in 1973, and also published the first official input-output statistics **(12)** in the same year.

(8) Commonwealth Bureau of Census and Statistics, *Quarterly Estimates of National Income and Expenditure*, CBCS, Canberra, 1960.
(9) Commonwealth Bureau of Census and Statistics, *Australian National Accounts: National Income and Expenditure, 1948-49 to 1961-62*, CBCS, Canberra, 1963.
(10) Commonwealth Bureau of Census and Statistics, *Australian Input-Output Tables, 1958-59*, CBCS, Canberra, 1964.
(11) Commonwealth Bureau of Census and Statistics, *Estimates of Gross Product by Industry at Current and Constant Prices, 1959-60 to 1965-6*6, CBCS, Canberra, 1969.
(12) Commonwealth Bureau of Census and Statistics, *Australian National Accounts: Input-Output Tables, 1962-63*, CBCS, Canberra, 1973.

1.21 In the 1980s, the former CBCS, now called the Australian Bureau of Statistics (ABS), again made significant progress in national accounting. The first full edition of *Australian National Accounts: Concepts, Sources and Methods* was published in 1981 at about the same time as the first experimental estimates of capital stock **(13)**. The ABS conducted a study into the accuracy and reliability of the quarterly estimates of national income and expenditure and published the results in 1982 **(14)**. Experimental State accounts **(15)** were published in 1984, followed by the first official estimates in 1987 **(16)**. They are now published annually in *Australian National Accounts: State Accounts (Cat. no. 5220.0)*. A subset of major State statistics is published in *Australian National Accounts: Quartery State Details (Cat. no. 5206.0.40.001)*. In 1985, the ABS published an assessment of the effects of rebasing constant price estimates from a 1979-80 base to a 1984-85 base **(17)**. In 1986, the second set of experimental estimates of capital stock was published **(18)** followed in 1987 by the first official estimates of capital stock **(19)**. The first quarterly estimates of constant price gross product by industry were released in 1988 **(20)**. These estimates have now been incorporated into the quarterly *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0).

(13) Bailey, Cherylee, *Studies in National Accounting: Current-cost and Constant-cost Depreciation and Net Capital Stock*, ABS, Canberra 1981.
(14) Johnson A.G. , *The Accuracy and Reliability of the Quarterly Australian National Accounts*, ABS, Canberra, 1982.
(15) Burrell S. , Daniel J. , Johnson A. and Walters R. , *State Accounts, Australia: Issues and Experimental Estimates*, ABS, Canberra, 1984.
(16) Australian Bureau of Statistics, *Australian National Accounts: State Accounts, 1985-86*, ABS, Canberra, 1987.
(17) Dippelsman R.J. , *The Effects of Rebasing the Constant Price Estimates of the Australian National Accounts*, ABS, Canberra, 1985.
(18) Walters R. and Dippelsman R. , *Estimates of Depreciation and Capital Stock, Australia*, ABS, Canberra 1986.
(19) Australian Bureau of Statistics, *Australian National Accounts: Estimates of Capital Stock, 1985-86*, ABS, Canberra, 1987.
(20) Australian Bureau of Statistics, *Australian National Accounts: Gross Product, Employment and Hours Worked*, June Quarter 1988, ABS, Canberra, 1988.

1.22 Further significant developments in national accounting and associated statistics

occurred during the 1990s. An updated edition of *Australian National Accounts: Concepts, Sources and Methods* was published in 1990 (subsequently available on CD-ROM), the same year as the first estimates of multifactor productivity were published **(21)**. In 1990, the ABS also published developmental flow of funds accounts, showing the changes in financial assets and liabilities arising from the financing of productive activity in the economy **(22)**. Flow of funds estimates are now published on a quarterly basis, along with estimates of stocks of financial assets and liabilities at the end of each quarter. An Information Paper describing the impact of rebasing constant price estimates from a 1984-85 base to a 1989-90 base was published in 1993 **(23)**. Experimental estimates of national balance sheets for Australia were first released in 1995 **(24)**, followed by the publication of regular annual national and sector balance sheet estimates in 1997.

(21) Australian Bureau of Statistics, *Occasional Paper: Estimates of Multifactor Productivity, Australia*, ABS, Canberra, 1990.

(22) Australian Bureau of Statistics, *Information Paper: Australian National Accounts: Flow of Funds Developmental Estimates*, ABS, Canberra, 1990.

(23) Australian Bureau of Statistics, *Information Paper: Australian National Accounts: Introduction of Constant Price Estimates at Average 1989-90 Prices*, ABS, Canberra, 1993.

(24) Australian Bureau of Statistics, *Occasional Paper: National Balance Sheets for Australia: Issues and Experimental Estimates, 1989 to 1992*, ABS, Canberra, 1995.

1.23 SNA93 was formally introduced into the national accounts in the September quarter 1998 issue of *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0), which was released in December 1998. Prior information on the nature and impact of implementation of the revised standards and methods was provided in a series of discussion and information papers as follows:

- *Discussion Paper: Introduction of Revised International Statistical Standards in ABS Macro-economic statistics* (Cat. no. 5245.0), December, 1994.
- *Information Paper: Implementation of Revised International Standards in the Australian National Accounts* (Cat. no. 5251.0), September, 1997.
- *Information Paper: Introduction of Chain Volume Measures in the Australian National Accounts* (Cat. no. 5248.0), March, 1998.

Preliminary data on an SNA93 basis were made available in re-releases of the following publications:

- *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0), June quarter, 1998 re-released in November 1998 in *Information Paper: Upgraded Australian National Accounts* (Cat. no. 5253.0).
- *Australian National Accounts: Financial Accounts* (Cat. no. 5232.0), June quarter, 1998 re-released in December 1998 in *Information Paper: Upgraded Australian National Accounts: Financial Accounts* (Cat. no. 5254.0).

The first annual national accounts publication on an SNA93 basis was *Australian System of National Accounts, 1997-98* (Cat. no. 5204.0), which was released in April 1999. This publication provided comprehensive national and sectoral accounts, including balance sheets, as well as estimates of capital stock and multifactor productivity.

1.24 The standards set out in SNA93 are designed to be applied with a degree of flexibility,

and Australia's implementation of the standards reflects local conditions and requirements. Furthermore, decisions have been made in isolated instances to depart from the standards because of strong user preference for an alternative view. Such departures are noted at appropriate points in this manual. The departures are relatively minor and, consequently, they do not affect the comparability of national accounts information reported by the ABS to international organisations such as the UN and the OECD to a significant extent.

Purpose of this manual

1.25 The main purpose of this manual is provide users of the ASNA with an in-depth understanding of the national accounts statistics as an aid to more effective use and interpretation of the statistics. A detailed understanding of the underlying statistical standards and concepts, and of the methods used to compile the statistics, should enable users to make better judgements about the economic significance, quality and accuracy of the statistics. To achieve this aim, the manual provides an updated account of the concepts, sources and methods used to compile the Australian national accounts statistics. The concepts underlying the ASNA, based on SNA93, are discussed in Chapters 3 to 10 of the manual. These chapters provide an overview of the conceptual framework, and a detailed discussion concerning each of the main elements of the framework, including institutional units and sectors, statistical units and industries, accounting rules, the accounting framework, supply and use tables, and price and volume measures. Chapters 11 to 28 outline the sources of information from which the national accounts statistics are compiled and the methods employed to derive the final statistics from the source data. A discussion of issues relating to the quality of Australia's national accounts is provided in Chapter 29. A number of Appendices are also included to provide additional information on particular aspects of the national accounting, such as the classifications underlying the accounts, differences between the ASNA and SNA93, seasonally adjusted and trend estimates, and the introduction of the goods and services tax.

1.26 A wide spectrum of audiences requires information about national accounts concepts, sources and methods. These range from users with broad, general needs for information about the main aggregates to those with highly specialised needs relating to particular data items. The main categories of users, and their likely needs, are set out below:

- ☐ students at upper high school level or undergraduate level at university - the need is for a broad understanding of the conceptual framework, how the numbers are put together, and the main outputs (publication tables, written and graphic analysis, and explanatory notes) to gain an appreciation of the current performance of the Australian economy;
- ☐ financial journalists - the need is for a broad understanding of the conceptual framework, how the numbers are put together, and the main outputs, to support media comment on the current performance of the Australian economy. These users may need to delve deeper on particular aspects;
- ☐ teachers/teaching academics - a broad understanding of the conceptual framework, how the numbers are put together, and the main outputs, to support teaching about Australia’s economy. These users may also need to delve deeper on particular aspects;
- ☐ financial sector economists, economists working for interest groups, national and international investors, public sector economists in other countries, and international credit rating agencies - a reasonably

detailed understanding of the conceptual framework, the sources and how the numbers are put together, to support their interpretation of the statistics and advice to their organisations and clients;

- ☐ international agencies such as the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), the World Bank and the United Nations Statistics Division - generally these agencies require a reasonably detailed understanding of all aspects of the statistics, and their uses encompass monitoring the extent of country adherence to international standards and practices, the compilation of country groupings and world economic statistics, and modelling work to support the preparation of country reports;
- ☐ academic researchers - a reasonably detailed understanding of the conceptual framework, the sources, and how the numbers are put together, with more detail on particular accounts/items to support research and modelling;
- ☐ national accounts compilers in other countries - a reasonably detailed understanding of Australian sources and methods, with more detail on particular accounts/items, to compare with their own practices; and
- ☐ the Commonwealth Treasury, the Reserve Bank of Australia, the Productivity Commission and other public sector economists - a reasonably detailed understanding of Australian sources and methods to support their interpretation of the numbers and forecasting of national accounting aggregates.

1.27 For students and others who need only a broad understanding of the national accounts statistics, the ABS publication *Measuring Australia's Economy* (Cat. no. 1360.0) provides a brief overview of the concepts, structure and classifications of these and the other major economic statistics published by the ABS. The present concepts, sources and methods document should prove a useful extension, but for the most part it may be too detailed for this audience. These users should read Chapters 3 to 10, but may avoid the more detailed material. Some years ago the ABS published *A Guide to Australian National Accounts* (Cat. no. 5235.0), aimed at the more general user. That document is still relevant and helpful, but needs to be updated because there have been changes to some of the key concepts, classifications and presentations of the statistics. The ABS plans to update that publication at a later date.

1.28 The present document is aimed mainly at the user of national accounts statistics who is interested in the more detailed aspects. However, it is not a complete description of the ABS national accounts methodology. That task would require a much larger publication. Also, given the constantly changing economic environment and the need for frequent evaluation of and changes at the margin to data sources and methods, this publication would quickly become out of date. Rather, this publication aims to provide a substantial guide to what the ABS does to compile national accounts statistics. Even so, the publication will become out of date over time, and users should keep abreast of changes to data sources and methods which are announced from time to time in the quarterly and annual national accounts publications (Cat. nos 5206.0 and 5204.0). It is intended to update the present publication periodically.

Scope of the Australian system of national accounts

2.1 The ASNA forms a body of statistics that incorporates a wide range of information about the Australian economy and its components. In addition to the long-standing statistics of national income, expenditure and product, the accounts include the financial accounts, input-output tables, balance sheet statistics (including capital stock statistics), multifactor productivity statistics, and State accounts. The ultimate scope of the ASNA encompasses the full range of statistics that SNA93 recommends for a complete national accounting system. However, like most other countries, Australia does not yet compile the full range of information recommended in SNA93. The areas where the ABS is yet to implement the SNA93 recommendations are identified at relevant points throughout this manual and are summarised in Appendix 2, Differences between ASNA and SNA93.

2.2 The current scope of the ASNA is best described by the list of statistical bulletins that comprise the ASNA data. These are as follows:

- ☐ *Australian System of National Accounts* (Cat. no. 5204.0) - annual;
- ☐ *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0) - quarterly;
- ☐ *Australian National Accounts: Input-Output Tables* (Cat. no. 5209.0) - irregular;
- ☐ *Australian National Accounts: State Accounts* (Cat. no. 5220.0) - annual; and
- ☐ *Australian National Accounts: Financial Accounts* (Cat. no. 5232.0) - quarterly.

The data on capital stock, productivity and net worth that were formerly the subjects of three separate annual publications, namely *Australian National Accounts: Capital Stock* (Cat. no. 5221.0), *Australian National Accounts: Multifactor Productivity* (Cat. no. 5234.0) and *Australian National Accounts: National Balance Sheet* (Cat. no. 5241.0) are now included in Cat. no. 5204.0.

2.3 In general terms, the information published in Cat. nos 5204.0 and 5206.0 covers the economic transactions related to the economic functions of production, consumption and accumulation of wealth. The functions are recorded in a central set of accounts comprising a gross domestic product account, a national income account, a national capital account, and a financial account. Important economic variables such as gross domestic product, disposable income, final consumption expenditure, gross saving and net lending or borrowing are recorded in these accounts (the accounts and variables are explained in Chapters 3 to 10). Supporting accounts in these publications provide further breakdowns (for example, by institutional sector and industry) of the variables recorded in the central accounts.

2.4 The information published in Cat. nos 5209.0 (Input-Output Tables) and 5220.0 (State Accounts) can be described as further disaggregations of information included in Cat. no. 5204.0. For example, in the central supply and use table in Cat. no. 5209.0, the economy's total supply of products is shown according to the industries that produced the products, and the use of products by each industry is recorded, as are the factor incomes generated by each industry. The information published in Cat. no. 5220.0 provides a summary record for each Australian State and Territory of the type of information published in Cat. no. 5204.0. Similarly, the information published in *Australian National Accounts: Quarterly*

State Details (5206.0.40.001) provides a subset of the quarterly national accounts published in Cat. no. 5206.0.

2.5 Cat. no. 5232.0 (Financial Accounts) includes disaggregations of information published in Cat. nos 5204.0 and 5206.0, but also includes disaggregations of balance sheet information. The financial accounts include flow of funds statistics, which provide a breakdown (financial instrument cross-classified by counterparty sector) of transactions recorded in the financial account (counterparty sectors are the sectors with which the subject sector has undertaken the subject transactions). The financial accounts also record the value of financial assets and liabilities at the end of each quarter, broken down by instruments cross-classified by counterparty sector. Changes to the balance sheet values of financial assets and liabilities arising from events other than transactions (for example, write-offs and revaluations) are also recorded in the financial accounts.

2.6 In summary, the ASNA provides a record of Australia's economic wealth and the changes to that wealth brought about by economic activity. The Australian national accounts statistics are also disaggregated to provide information about economic assets and activities for sectors, industries, and commodities, and about different types of assets, liabilities, transactions and other economic events. In terms of economic information, the scope of the statistics is therefore very wide and the only economic activities omitted from that scope are those, identified in Chapters 3 and 4, that fall outside the defined boundaries of production, consumption, accumulation and economic assets. Nevertheless, as explained in Chapter 4, the ASNA does not necessarily provide all of the macroeconomic measures that analysts require, and statistical offices, including the ABS, are working to improve and extend the body of macroeconomic statistics.

General nature of ASNA methodology

2.7 The sources and methods used to compile national accounts are typically many and varied, and the Australian situation is no exception. From the perspective of users of the ASNA, an understanding of the sources of information used and the methods applied to compile the national accounts is useful because such matters can influence the quality, accuracy and reliability of the statistics. Chapters 11 to 28 provide a detailed account of the sources and methods underlying the data compiled for key variables in the central transaction accounts and for specific sets of data, such as appear in the financial accounts and the balance sheets. The next few paragraphs provide a broad description of the processes and infrastructure that underlie compilation of the Australian national accounts.

2.8 Because of the wide range of information included in the ASNA, capture of the data by means of a single survey, or even a few surveys, would not be feasible. Since many parts of the accounts record transactions in which two parties are involved, there are at least two possible sources of information about such transactions, and compilers can economise by targeting the least costly sources of information. Furthermore, surveys are not the only sources of information, and advantage must be taken of administrative and other records that contain relevant information obtainable at less cost than surveys.

2.9 However, before using information from surveys or administrative records, national accounts compilers must be sure that the information is consistent with national accounting standards, and that there are no gaps or overlaps between the various sources. A high proportion of information used in compiling the Australian national accounts comes from surveys that use the ABS register of businesses and other organisations (referred to as the 'business register') to provide the target population. The

business register is a list of economic units that are defined according to the national accounting standards described in Chapters 5 and 6. The units are also defined so as not to overlap, and every effort is made to include all economically significant units so that there are no gaps in the coverage of the relevant fields of economic activity. Although most of the ABS surveys that provide data for the ASNA are used primarily to compile other economic statistics, the survey questions are generally designed to comply with national accounting concepts so that the survey results are consistent with national accounts statistics. Where administrative data are used, the national accounts compiler has less control over the application of standards and the possible existence of gaps and overlaps. Some potential sources of this type may be rejected because they cannot be reconciled with survey results or deviate too much from national accounts standards.

2.10 Once reliable and consistent sources of data have been established, the major task of the national accounts compilers is to bring together the data in the national accounting framework. In some cases, there may be two sets of data relating to the same variables, in which case discrepancies must be investigated and a choice made as to which data are more reliable. Furthermore, the ASNA includes balances that are equal in concept but are derived from different data items. For example, net lending or borrowing in the capital account is equal in concept to net change in financial position in the financial account but is derived entirely from non-financial transactions, whereas net change in financial position is derived entirely from financial transactions. Such balances provide a measure of the consistency of the two sets of data and can be used to monitor the accuracy and quality of the statistics. When differences are unavoidable or unresolved, rather than force a balance, compilers may record the differences in the accounts as 'statistical discrepancies' or 'net errors and omissions'.

2.11 Business and administrative records do not always provide information that reflects economic reality. For example, interest charges generally include a service charge as well as a return on capital invested. In such cases, SNA93 prescribes imputation of the required information. In other cases, transaction flows have to be rerouted, as with employers' contributions to superannuation funds on behalf of their employees, which are paid to superannuation funds but are recorded in the ASNA as payable directly to employees as a component of employee remuneration. National accounts compilers therefore must put in place systems to derive such imputed information. Thus, data obtained from surveys or administrative records may be adjusted or rearranged to meet SNA93 requirements.

2.12 Two significant processes are applied by compilers to derive additional data of considerable interest: time series analysis and production of chain volume measures. Time series analysis includes seasonal adjustment and estimation of trend values. Seasonal adjustment involves estimation of seasonal factors in the data and adjustment of the data to remove the seasonal effect. Trend values are estimated by removing irregular movements from seasonally adjusted data. Time series analysis is described in more detail in Appendix 3. Chain volume estimation involves removing the effects of price changes from source data, which are recorded at current prices. Price and volume estimation is discussed in more detail in Chapter 10.

2.13 Once all adjustments and derivations have been made, compilers should have a complete data set that can be checked for consistency with data for previous periods and data from other systems. Known as output editing, this form of checking aims to detect errors that may have slipped through at earlier stages of compilation, and which may require inquiry back to the supplier of the source data. Data may be queried because the

resulting movement from the previous period (or the same period in the previous year) appears implausible or is inconsistent with the movement in other related variables. After all checks have been completed and errors or inconsistencies explained or removed, the statistics are cleared by a senior statistician for publication.

2.14 Australian national accounts statistics include major economic indicators that are in strong demand and can influence financial markets. Therefore, care is taken to ensure that no user receives the statistics before the designated release time, with a small number of exceptions. These exceptions relate to designated officers in certain government departments who are required to prepare briefing material on the statistics for their Ministers; they are subject to a strict embargo until the official release of the national accounts.

2.15 Because Australian national accounts statistics are often compiled from source data that are preliminary or incomplete, the statistics are often revised when final or more complete information comes to hand. Such revisions to the data are therefore relatively common. Furthermore, seasonally adjusted and trend data are subject to revision because the adjustment factors for seasonal and irregular influences change over time as more data are added to the time series. Similarly, chain volume measures are subject to revision whenever the reference period is changed and when a new base year is introduced.

Uses of Australian national accounts statistics

2.16 The uses of the statistics included in the ASNA mainly arise from the role of the national accounts as a framework for evaluating economic performance. However, given the wide range of information included in the ASNA, economic performance can be evaluated at a number of different levels, including the economy as a whole, the various sectors and subsectors of the economy, individual States and Territories, individual industries and individual commodities. Furthermore, information is available for different time frames, including quarterly data for measuring short term changes in economic conditions and more detailed annual information for measuring longer term changes. Seasonally adjusted and trend series facilitate analysis of short term movements in quarterly data, and chain volume measures help to isolate real movements in the economic indicators.

2.17 The estimates of national income, expenditure and product are well established as a framework for monitoring the current performance of the Australian economy, and are closely followed and analysed by government and private sector economists, the media, financial markets, credit rating agencies and others with an interest in current economic trends. General interest centres on trend and seasonally adjusted chain volume measures of key variables such as gross domestic product as an indicator of growth, measures of income such as compensation of employees and gross operating surplus of corporations, the expenditure items of final consumption expenditure (government and households) and gross fixed capital formation, the ratio of net household saving to net household disposable income, and production classified by industry groupings. Such information is used in short-term economic forecasting, in analyses underlying forecasts and economic policy settings in Commonwealth and State/Territory government budgets, in models of economic activity that simulate the effects of economic policy and behaviour, and in international comparisons of Australia's economic performance with the performance of other countries.

2.18 As well as Australia's national accounts, the ABS produces annual accounts for each

of Australia's States and Territories each year (in Cat. no. 5220.0). These provide estimates of gross State product (GSP) and state final demand. A subset of these annual statistics is published quarterly in Cat. no. 5206.0.40.001. An important use of State accounts is to compare each State and Territory in terms of levels of economic activity and rates of economic growth.

2.19 The financial accounts data (published in Cat. no. 5232.0) have more specialised uses, relating to financial markets and the financial sector. They are used by government and private sector economists as short term indicators of the demand for credit, which reflects overall economic conditions and expectations. The sectoral and instrument breakdowns in the financial accounts enable detailed analysis of stocks and flows related to borrowing and lending. Depending on economic conditions, user interest may focus, for example, on the borrowing and debt of governments, or on the ratio of debt to equity financing of private corporations. The financial accounts provide an alternative view (to that shown in the real accounts) of national and sectoral saving, and indicate the composition of saving in terms of financial instruments. For example, these accounts can show trends in household saving toward superannuation and the extent to which accumulation of household debt counteracts potential increases in household saving. Financial market analysts and participants use the financial accounts to assess growth in the markets for various forms of finance (e.g. deposits, loans, shares, debt securities) and sources of finance (e.g. banks, non-bank depository institutions, life offices and superannuation funds, non-residents) used by borrowers.

2.20 The national balance sheet data on the level and composition of Australia's assets and liabilities indicate the economic resources of, and claims on, the nation and each sector, and support assessments of the external debtor or creditor position of a country. The monetary estimates of natural resources contained in the balance sheet are underpinned by a data set of physical estimates detailing levels of particular natural resources. Due to the experimental nature of the monetary estimates, it is considered that monetary estimates on natural resources should be considered in conjunction with the physical estimates, especially for subsoil assets. The estimates provide information for monitoring the availability and exploitation of these resources and for assisting in the formulation of environmental policies and resource pricing. Sectoral balance sheets provide information necessary for analysing a number of topics. Examples include: determining household spending behaviour and liquidity; and the computation of widely used ratios, such as debt to equity, non-financial to financial assets, and debt to income. National and sector balance sheets provide additional information on the relationship between consumption and saving behaviour which can be used in analysing movements in the level of saving in Australia. Individuals can use the balance sheets to guide investment decisions. For example, the balance sheets show the value (and changes in the value) of land and houses, shares, cash and deposits, and livestock. This information can be used to analyse the return on assets over the last decade or so. Companies can compare the return on their own assets with returns achieved nationwide. Prospective investors may examine the unit values and returns on, for example, the various subsoil assets to guide investments in particular industries.

2.21 The ASNA's input-output tables (published in Cat. no. 5209.0) provide a much more detailed disaggregation of the gross domestic product account than is available in the national income, expenditure and product accounts. Input-output tables are used to facilitate economic analysis in a number of ways, for example:

- ☐ they provide a means of undertaking comparative analysis of industries within an economy as well as across economies;

- they provide the basis for a detailed understanding of the linkages and dependencies that exist within an economy;
- given the set of assumptions implicit in the input-output framework, they provide a means of forecasting the economic effects of a change in demand on economic variables such as value added, prices and employment;
- they constitute a core component of many modern general equilibrium models which may be used for a number of purposes including forecasting; and
- they provide a framework whereby the confrontation of data from various sources can be undertaken, thereby providing a means of improving the accuracy of the national accounts and economic statistics in general.

2.22 The national accounts are used as a framework for other economic statistics. Given the comprehensive nature of the national accounts' coverage of economic activity, most economic statistics relate in some way to elements of the national accounts. Conversely, national accounts compilers draw upon a wide range of economic statistics to provide information for inclusion in the national accounts. For these reasons, national statistical offices usually design economic statistics systems that are based on the concepts employed in the national accounts. Such a strategy ensures that users of economic statistics can relate the statistics to the national accounts, and that national accounts compilers have sources of information that are conceptually compatible with the national accounts. As noted previously, such an integrated approach to the production of economic statistics is followed in the ABS, and is administered through use of a single business register as the source of survey populations for most ABS economic statistics, and the strict application of national accounting concepts in the design of the register and the surveys.

Introduction

3.1 The conceptual framework of the ASNA is based on the standards set out in SNA93. At this stage of its development, the ASNA does not include all of the elements of the SNA93 framework, although Australia's implementation of SNA93 is extensive relative to the implementation of most other countries. Also, although the concepts and definitions used in the ASNA generally conform with the standards set out in SNA93, some minor variations have been adopted to allow for particular Australian data supply conditions or user requirements. Such variations are noted at appropriate points in this publication.

3.2 The ASNA records the essential elements of the Australian economy: production, income, consumption (intermediate and final), accumulation of assets and liabilities, and wealth. These elements comprise economic flows and stocks that are grouped and recorded, according to specified accounting rules, in a set of accounts for the economy as a whole and for various sectors and subsectors. The sectors and subsectors comprise groups of institutional units with the same economic role. Statistics are also produced for industries, which comprise groups of producing units with common outputs. At a more detailed level, input-output statistics are produced that record the supply and use of different types of goods and services, or commodities, by the various industries. Many of the statistics in the ASNA are compiled in volume (real) as well as current price (nominal) terms by application of SNA93 recommendations for price and volume measures. Each of the foregoing major elements of the ASNA is described in the following broad overview of the ASNA conceptual framework.

Economic concepts and the national accounts

3.3 **Production** is the process whereby inputs of labour, materials, accumulated capital assets and knowledge are applied to provide outputs of goods and services. As recommended in the SNA93, the ASNA measure of production does not include the value of unpaid domestic services produced and consumed within households (sometimes called 'unpaid household work'), although the ABS has published separate estimates of unpaid work (which comprises unpaid household work and volunteer and community work) in information and occasional papers relating to the periods 1986-87, 1992 and 1997 (Cat. nos. 5236.0 and 5240.0). The ABS is also exploring the possibility of developing household satellite accounts to provide more information about productive activity within the household. Although the SNA93 recommends coverage of all forms of illegal production, for practical reasons such production is generally not covered in the ASNA. Production includes provision of goods and services free of charge or at nominal prices by governments and non-profit institutions. Production in the ASNA also includes imputed values for services provided by owner-occupied dwellings, backyard production of food and other goods by households for their own consumption, services provided by financial institutions for which no explicit charges are made, and services provided by owner-builders in the construction and alteration of dwellings.

3.4 The measure of production for the economy as a whole is **gross domestic product (GDP)**. GDP is the sum, for a particular period, of the *gross value added* of all resident producers, where gross value added is equal to output less intermediate consumption (both of which are defined below). GDP less consumption of fixed capital (depreciation) is called *net domestic product*. GDP can also be derived as the sum of factor incomes (i.e. compensation of employees, gross operating surplus and gross mixed income) and net taxes on production and imports; and as the sum of all final expenditures by residents (final consumption expenditure and gross fixed capital formation), changes in inventories and exports less imports of goods and services.

3.5 *Output* consists of the value of goods and services produced within a producing unit and available for use outside the unit. Output includes work-in-progress and finished goods produced during the accounting period that have not been sold and are therefore held in inventories. *Market output* is output that is intended for disposal at economically significant prices. These are prices which have a significant influence on the amounts producers are willing to supply and purchasers wish to buy. Accordingly, market output is valued using market prices, which are generally transaction prices. *Non-market output* includes output produced for the producer's own final consumption, own-account capital formation and output that is intended for disposal at prices that are not economically significant, such as the output of government units and most non-profit institutions. Non-market output is valued according to costs incurred or by reference to market prices for analogous goods or services.

3.6 *Intermediate consumption* consists of the value of goods and services consumed in the production process, other than depreciation of fixed assets. (*Depreciation is recorded separately as consumption of fixed capital*.) Intermediate consumption includes the value of goods transformed in the production process, goods and services consumed entirely in the process, and consumption of ancillary services (e.g. accounting, marketing, transportation, storage) within the institutional unit undertaking the production.

3.7 There are several measures of **income** in the ASNA. *Primary income* consists of factor

incomes, such as compensation of employees, gross operating surplus and gross mixed income, taxes less subsidies on production and imports, and property incomes, such as interest, dividends, rent on land and subsoil assets, and reinvested earnings of direct investors. *Gross national income* equals total factor incomes, plus taxes less subsidies on production and imports, plus net primary income receivable from non-residents. Gross national income less consumption of fixed capital is called net national income. *Secondary income* consists of current transfers. *Transfers* are resources provided from one institutional unit to another for which nothing of economic value is provided in return. *Current transfers* include taxes on income and wealth, social contributions (e.g. for workers compensation) and benefits (e.g. unemployment benefits), current grants between governments, and donations to non-profit institutions. *Gross disposable income* is equal to the balance on the sums of primary and secondary incomes payable and receivable.

3.8 *Compensation of employees* includes wages and salaries (paid in cash and in kind) and employer social contributions, on behalf of employees, to 'social insurance schemes' to provide benefits, such as retirement benefits, to the employees. Wages and salaries in kind can include meals, housing, uniforms, vehicles available for personal use, transportation, child care, etc.

3.9 The primary income of corporations is *gross operating surplus*, which is the excess of gross output over the sum of intermediate consumption, compensation of employees, and taxes less subsidies on production and imports. Gross operating surplus is also calculated for general government, where it equals consumption of fixed capital, and for dwellings owned by persons. Gross mixed income is the surplus on production of unincorporated enterprises. It includes a return to the owners' labour and capital inputs - hence the term 'mixed income'.

3.10 **Final consumption expenditure** is expenditure on goods and services that are used for direct satisfaction of individual or collective needs and wants. It excludes expenditure on valuables and non-produced non-financial assets and is recorded only for the households sector (which, in the ASNA, includes non-profit institutions serving households) and the general government sector. *Household final consumption expenditure* includes goods and services purchased by households (including non-profit institutions serving households) as well as the value of goods produced by households for their own consumption and the imputed value of the services of owner-occupied dwellings (but not expenditures on the purchase of dwellings). Household final consumption expenditure also includes the acquisition by households of consumer durables (e.g. motor vehicles, televisions, washing machines) even though such goods provide a stream of services to their owners over their lifetimes. *Government final consumption expenditure* covers all government expenditure on goods and services provided to individuals and the community. It is equal to the value of government non-market output less the value of any sales of that output.

3.11 **Saving** represents that part of disposable income that is not spent on consumption. It can be measured, for the economy as a whole or for individual sectors and subsectors, on a 'gross' basis (gross disposable income less final consumption expenditure) or on a 'net' basis (gross saving less consumption of fixed capital).

3.12 **Accumulation** represents net additions to net worth that occur in the accounting period. It comprises the acquisition and disposal of assets and liabilities and changes in the value of assets and liabilities arising from *revaluations* and *other changes in the volume of assets* such as write-offs, catastrophic losses, mineral discoveries and growth of

natural resources. In the ASNA, acquisitions and disposals of non-financial assets are recorded in the *capital account*. Acquisitions and disposals of financial assets and liabilities are recorded in the *financial account*. Revaluations and other changes in the volume of assets are recorded in an account that reconciles the values of assets and liabilities recorded in the opening and closing balance sheets.

3.13 The acquisitions and disposals of non-financial assets shown in the capital account are broken down into gross fixed capital formation, net acquisitions of non-produced non-financial assets and changes in inventories. *Gross fixed capital formation* is the net result of the acquisition and disposal of fixed assets. (The 'gross' in gross fixed capital formation reflects the fact that the estimates are not adjusted for consumption of fixed capital.) *Non-produced non-financial assets* include land, subsoil assets and other natural assets. Conceptually, net acquisitions of valuables should also be recorded in the capital account, but as there is no reliable data source in Australia for such transactions this item is not included in the ASNA.

3.14 The net acquisition of non-financial assets is financed by gross saving (or net saving plus consumption of fixed capital) and capital transfers. The balance of the capital account is known as **net lending/borrowing**. If gross saving plus capital transfers exceeds the net acquisition of non-financial assets then there is a surplus that results in the accumulation of financial assets or a reduction in liabilities. On the other hand, a deficit on the capital account has to be financed by increased liabilities or by a reduction in financial assets.

3.15 The *balance sheets* record the economic concept of **wealth**. Balance sheets record the accumulated values of assets and liabilities at a particular point in time, valued using the prices as at that point in time. **Net worth** is equal to the value of assets less the value of liabilities.

3.16 The economic concepts underlying the national accounts are described in more detail in Chapter 4.

Institutional units and sectors

3.17 In SNA93, the basic unit for which economic activity is recorded is the *institutional unit*. An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and transactions with other entities. In the Australian system, the legal entity unit is closest to the SNA93 concept of the institutional unit. However, in the ASNA, the unit used is the *enterprise*, which can be a single legal entity or a group of related legal entities that belong to the same institutional subsector. Four main types of institutional units are recognised in SNA93 and the ASNA: households, non-profit institutions, government units and corporations (including quasi corporations).

3.18 Institutional units are grouped into institutional sectors according to their characteristics and institutional role. All households are allocated to the *households sector*. Corporations and quasi corporations are allocated to the *non-financial corporations sector* or the *financial corporations sector* according to whether their predominant function is production of goods and non-financial services or production of financial services, respectively. Government units are all allocated to the *general government sector*. The allocation of non-profit institutions depends on the nature of their operations. Those mainly engaged in market production are allocated to the relevant corporate sector. Those mainly engaged in non-market production are allocated to the general government sector if they

are controlled and mainly financed by government, otherwise they are allocated to the *non-profit institutions serving households sector.* In the ASNA the non-profit institutions serving households sector is included in the households sector.

3.19 The various domestic sectors and subsectors include only *resident* institutional units. The concept of residency used is the same as used in balance of payments statistics, and is based on the requirement that, to be an Australian resident unit, an institutional unit must have a centre of economic interest in Australia's economic territory.

3.20 The concepts of institutional units and sectors are explained in more detail in Chapter 5.

Producing units and industries

3.21 For the purpose of providing statistics about production classified by industry, SNA93 specifies the use of narrower units than the institutional units described above, which are often too heterogeneous in terms of their productive activity to provide useful information about industries. The producing unit recommended in SNA93 is the kind-of-activity unit, which is a part of an institutional unit that engages in one productive activity. However, SNA93 also suggests that an alternative unit can be used, namely the establishment, which covers all productive activity at a single location.

3.22 In the ASNA, the most commonly used producing unit is the *management unit*, which is the largest unit within a business for which relevant accounts are kept, having regard for industry homogeneity. However, some statistics are compiled using the *establishment* unit. This unit differs from the SNA93 establishment unit as it consists of one or more of an enterprise's locations that engage in the same predominant production activity within an Australian State or Territory. There is a hierarchical relationship between establishments and management units: a management unit consists of one or more establishments within the parent enterprise.

3.23 In the ASNA, each establishment and management unit is classified to an industry that is defined in the *Australian and New Zealand Standard Industrial Classification 1993* (ANZSIC), which is based on the principles and classification structure set out in the United Nations' *International Standard Industrial Classification of All Economic Activities* (ISIC). ISIC is the industry classification that the SNA93 recommends for use in national accounts.

3.24 Producing units and industries are discussed in more detail in Chapter 6.

Flows, stocks and accounting rules

3.25 The national accounts record economic flows and stocks. Economic stocks are assets (both financial and non-financial) and liabilities. Economic flows reflect the creation, exchange, transfer or extinction of economic value and involve changes in the volume, composition or value of assets and liabilities. In the national accounts, economic flows are divided between transactions and other flows. Transactions generally involve interactions by mutual agreement between institutional units, but include certain events that occur within institutional units, such as consumption of fixed capital and some types of production for the unit's own use. Other economic flows are changes in the value or volume of assets and liabilities that arise from events other than transactions. They include

revaluations of assets and liabilities, and changes in the volume of assets arising from events such as mineral discoveries, catastrophic losses, depletion, write-offs, and growth of natural assets.

3.26 All entries in the national accounts should be recorded at the market price current at the time of recording. For exchanges of goods and services for cash, the transaction price is generally the appropriate value. Where no transaction price is available, reference is made to the market value of similar goods and services. When no market prices of equivalent goods and services are available, the goods and services are valued at cost. By convention, all non-market goods and services produced by government units and non-profit institutions are valued at cost. Some goods are valued by writing down (depreciating) the initial acquisition costs. Where none of the foregoing methods is feasible, use can be made of the present value of expected future returns. However, the method is not generally recommended, except where returns are delayed (e.g. as for some timber plantation assets and artistic originals).

3.27 SNA93 recommends that all economic flows be recorded in the national accounts on an accrual basis (i.e. when economic value is created, transformed, exchanged, transferred or extinguished). Accrual recording ensures that economic events are recorded consistently and without distortion arising from leads and lags in accompanying cash flows. In general, use of accrual recording means that (i) flows involving change of ownership are recorded when ownership changes; (ii) services are recorded when provided; (iii) distributive transactions, which are those associated with the distribution of income to owners of the factors of production, are recorded as amounts payable accumulate; (iv) interest is recorded as it accumulates rather than when it falls due for payment; (v) output is recorded as production takes place; and (vi) intermediate consumption is recorded when goods and services are used. For the most part a strict accrual basis of recording is applied in the ASNA, although special procedures, which are described in the relevant chapters, are sometimes required to estimate certain flows on an accrual basis. One exception relates to certain types of leave payments (e.g. payments for annual leave), which are recorded as compensation of employees when paid rather than when accrued.

3.28 In the national accounts, data are recorded in *aggregates* (which are the sums of the values of stocks and flows of a given type - e.g. total output) and *balancing items* (which are the differences between aggregates on each side of an account or between other balancing items - e.g. saving). A degree of netting is employed in the national accounts in as much as transactions with opposite sign are often combined (e.g. acquisitions and disposals of financial assets are recorded as 'net acquisitions'. *Consolidation* refers to the elimination from aggregates of transactions between units in the same sector or subsector. In the ASNA, for the most part, consolidation is generally confined to transactions within establishments, to transfers between institutional units within the general government and households sectors, and to transactions in used fixed assets within sectors. Transactions between establishments of the same enterprise are generally not consolidated. However, transactions in financial instruments and related income flows are fully consolidated.

3.29 Chapter 7 has more information on flows, stocks and accounting rules.

System of accounts

3.30 The main accounts in the ASNA are as follows:

- gross domestic product (GDP) account, which records the value of production (GDP), the income from production and the final expenditures on goods and services produced;
- income accounts, which show primary and secondary income transactions, final consumption expenditures and consumption of fixed capital. Net saving is the balancing item for these accounts;
- capital accounts, which record the net accumulation, as the result of transactions, of non-financial assets; and the financing, by way of saving and capital transfers, of the accumulation. Net lending/borrowing is the balancing item for these accounts;
- financial accounts, which show the net acquisition of financial assets and the net incurrence of liabilities. The balance on these accounts is the net change in financial position, which is conceptually equivalent to the net lending/borrowing balance in the capital account; and
- balance sheets, which record the stock of assets, both financial and non-financial, and liabilities at a particular point in time. Net worth is the balance from the balance sheets.

The ASNA's accounts are based on the system of accounts outlined in SNA93. However, the ASNA's GDP and income accounts reflect the combination of the SNA93's production account and various income accounts. More details on the system of accounts are provided in Chapter 8.

Input-output framework

3.31 Input-output tables are essentially a disaggregation of the gross domestic product account. In the gross domestic product account only transactions representing final production are shown and intermediate production is netted out. Input-output tables on the other hand bring back into focus inter-industry flows of goods and services, thereby providing a more complete description of the process of economic production. They provide detailed information about the supply and disposition of commodities in the economy and the structure and interrelationships of industries. The conceptual basis for input-output tables is described in Chapter 9.

Volume and price measures

3.32 As well as being presented in current price terms - where current prices are those that are actually associated with particular transactions - expenditure and production aggregates are also presented in *chain volume* terms. The reason for this is to provide time series of estimates which are free of the direct effects of price change. Chain volume measures show how the quantities underlying the current price estimates change from one period to another.

3.33 The basic principle behind volume estimates is that unit prices are held constant from one period to the next. If, however, unit prices are held constant for too long then the quality of volume estimates deteriorates to the extent that relative prices change. To overcome this problem, the ABS compiles its volume measures using the 'chain' approach. Under this approach, the prices used to derive the volume estimates are updated frequently (i.e. annually). Longer term movement estimates are derived by linking together

the annual movement estimates. In order to provide estimates with dollar values, the derived volume movement estimates are referenced to a particular year's current price estimates. More details on how the ABS compiles its chain volume measures can be found in Chapter 10.

3.34 Two types of price indexes are published for the expenditure aggregates in the national accounts. The first type - which is called an *implicit price deflator* (IPD) - is derived simply by dividing a chain volume estimate into the corresponding current price estimate. However, due to the nature of their construction, short-term (i.e. quarterly) movements in the IPDs are affected by compositional changes as well as price changes.

3.35 The other type of price index published in the national accounts is a *chain price index*. These indexes are analogous to the chain volume estimates, except that in their derivation it is the volumes that are held constant and not the prices.

3.36 Chapter 10 provides more information on IPDs and chain price indexes.

3.33

Introduction

4.1 The national accounts record the essential elements of a market economy: production, income, consumption (intermediate and final), accumulation of assets and liabilities, and wealth. Under headings for each of these basic elements, this chapter explains how the elements are embodied in the national accounts and describes the more important national accounting concepts, aggregates and balancing items that reflect the economic elements.

Production

4.2 As explained in Chapter 3, the central concept in a national accounting system is economic production. Production is the process whereby inputs of labour, materials (produced or natural), accumulated capital assets and knowledge are combined to provide outputs of goods and services. Such a definition of production includes:

- production of goods that are supplied to units other than their producers, including goods used as inputs to the production of other goods;
- production of goods that are retained for the producer's own use;
- provision of services of all kinds which add to the value of goods (such as transport and merchandising services);
- provision of services directly bought and sold in the market in their own right (such as the services of doctors, teachers and entertainers); and
- illegal production, comprising production of illegal goods and services (i.e. for which distribution or possession is forbidden by law) or production of legal goods and services by unauthorised producers (e.g. unlicensed medical practitioners).

4.3 Production is not confined to goods and services that are clearly of monetary value because they are bought and sold. Some produced goods and services do not enter the market, but are made available free of charge by the producer (for example, many goods and services produced by governments and non-profit organisations) or are for the direct use of the producer, either as final consumption or as inputs to the producer's own

production or capital formation. Such non-market production can be regarded as including, in addition to the goods and services produced as the result of current work, the services which durable assets (such as houses, cars, television sets and public parks) yield to their owners/users, and domestic services produced by households for use within the producing household. Such services are outside the market since they flow to their owners/users without any current exchange of money equivalent to the value of the services.

The production boundary

4.4 In the central accounts of the national accounts system, a more restricted view of production is taken. The national accounts are primarily constructed to assist governments and others to make market-based macroeconomic policy decisions, including analysis of markets and factors affecting market performance, such as inflation and unemployment. In SNA93 (and the ASNA), the value of domestic services produced and consumed within households, such as cleaning, washing, preparing meals, and child and aged care, is excluded from production because such services are relatively isolated and independent from markets, and are difficult to value in an economically meaningful way. Although the production of such services is not part of the central framework of the national accounting system, the value of the services can be shown in satellite accounts to the main accounts.

4.5 With the exception of own-account household services, SNA93 recommends coverage of the production of all goods and services that legally enter the market, and also that part of production which does not enter the market, but for which a realistic value can be imputed using closely related or analogous market transactions. Because illegal goods and services, such as illicit drugs and illegal gambling, are purchased in the market, their production is included in the SNA93 production boundary. However, because of data limitations, illegal production is not covered in the ASNA, although the effects of some of these activities may be included by default; for example, if money obtained from such activities is laundered through legitimate institutions that are covered by the national accounts.

4.6 Paragraph 6.15 of SNA93 states that, to satisfy the definition of production in an economic sense:

"There must be an institutional unit that assumes responsibility for the (production) process and owns any goods produced as outputs or is entitled to be paid, or otherwise compensated for, the services provided."

Institutional units, which are explained fully in Chapter 5, are the basic units for which flows and stocks are recorded in the national accounts. The SNA93 description excludes from economic production natural processes without human involvement or direction, such as the unmanaged growth of fish stocks in international waters (but economic production includes the activity of fish farming and fishing for profit). Activities which cannot be purchased from producers are also outside the production boundary, regardless of whether the service may be beneficial to overall economic production. Included in this category are basic human activities such as eating and sleeping.

4.7 Although consumer durable assets such as cars, washing machines, microwave ovens and dishwashers provide a stream of services to their users over many years, in SNA93 (and the ASNA) such services are conventionally treated as consumed as soon as the assets are bought by a household. Paragraph 6.28 of SNA93 states:

"The use of a durable good, such as a vehicle, by persons or households for their own personal benefit or satisfaction is intrinsically a consumption activity and should not be treated as if it were an extension, or continuation, of production."

The disadvantage of this treatment is that, in time of hardship, households may temporarily reduce their purchases of these goods to a low level without significantly reducing their consumption of the services these goods provide. At such times, the national accounts figure for consumption, being restricted to purchases, may give a misleading impression of the community's ongoing level of consumption. However, to account for the services of consumer durables would require treatment of the durables as capital goods providing a stream of services over a number of years. As with own-account household domestic services, such a concept would not be appropriate for most market-based analyses.

4.8 Units of the general government sector (as defined in Chapter 5) provide goods and services free of charge or at nominal prices. Such activity nevertheless meets the definition of production. Because such government-provided goods and services are not purchased by the users, the general government sector is regarded as consuming its own output. The non-market output is valued at its cost of production. Similar considerations apply to many non-profit institutions (also defined in Chapter 5), which meet their production costs from donations provided by members and benefactors and are able to provide goods and services free or at prices that are not commercially determined. As with general government bodies, the non-market production of non-profit institutions is valued at cost.

4.9 In the ASNA, values are also imputed for production of some other goods and services that are not sold in the market place. Imputations are confined to a small number of cases where a reasonably satisfactory basis for the valuation of the implied transaction is available, and where their exclusion could result in significant distortions in the accounts. Imputations are made for the following:

- ☐ services provided by owner-occupied dwellings;
- ☐ food and other goods produced by households for their own final consumption ('backyard production');
- ☐ services provided by financial institutions over and above explicit charges made; and
- ☐ services provided by owner-builders in the construction of dwellings and major alterations and additions to dwellings.

Details of the above imputations are provided later in this chapter and in Chapters 14 and 15.

Gross domestic product (GDP)

4.10 GDP is the national accounting measure of production occurring in a whole economy during an accounting period (for example, a quarter or a year). GDP is based on the concept of *value added*, which is the unduplicated value of goods and services produced in any given period. *Gross value added* is equal to a producer's value of outputs from the production process less the value of commodity inputs (intermediate consumption) plus taxes on products payable less subsidies receivable. GDP is equal to the sum of the gross value added of all resident producers. GDP less consumption of fixed capital is called *net domestic product*.

4.11 GDP can be derived from income and expenditure flows as well as from direct measures of production. GDP is the source of income for the factors of production (labour and capital). Total factor income can therefore be derived by summing factor incomes (i.e. compensation of employees, gross operating surplus, gross mixed income). Adding taxes

less subsidies on production to total factor income gives GDP at purchasers' (or market) prices. GDP can also be derived as the sum of all final expenditures on goods and services (that is, final consumption expenditures and gross fixed capital formation), changes in inventories of finished goods, work-in-progress and raw materials, and the value of exports of goods and services less the value of imports of goods and services. Imports are deducted because, although included in final expenditures, they are not part of domestic production. The various income and expenditure flows that can be used to derive GDP are discussed later in the relevant sections of this chapter.

4.12 GDP is a measure of production and not a measure of economic welfare. The level of production is important because it largely determines how much a country can afford to consume, and it also affects the level of employment. The consumption of goods and services, both individually and collectively, is one of the most important factors influencing the welfare of a community, but it is only one of several factors. Moreover, aggregate measures such as consumption expenditure and income do not show which sectors of the population are increasing (or decreasing) expenditure, nor the distribution of income within the economy, nor whether the income generated is the result of more or fewer hours worked. Total welfare also depends on non-economic events, such as epidemics, droughts, floods, the state of the environment, individual and community stress levels, levels of crime, and political factors such as freedom and security. As a measure of production, GDP is not intended to embrace non-economic events. The national accounts are primarily intended to provide data at different levels of aggregation to meet the needs of analysts and others interested in the behaviour of the economy and the factors responsible for major market occurrences such as inflation, employment and unemployment. While certain aggregates may indicate changes in some aspects of welfare, changes in GDP do not necessarily correspond to changes in the overall welfare of the community.

Output

4.13 Output consists of the value of goods and services produced within an establishment. (Establishments, which are producing units belonging to institutional units, are discussed in Chapter 6). Output includes production that is completed in the accounting period and production in the accounting period that remains incomplete at the end of the accounting period. Goods and services produced as outputs may be:

- ☐ sold at 'economically significant' prices (i.e. prices which have a significant influence on both the amounts producers are willing to supply and the amounts purchasers wish to buy);
- ☐ bartered in exchange for other goods, services or assets that are provided to employees as compensation in kind, or used for other payments in kind;
- ☐ held as unsold 'finished' goods in the producers' inventories for subsequent sale, or held as work-in-progress in producers' inventories;
- ☐ supplied to another establishment belonging to the same enterprise as intermediate inputs into the latter's production (enterprises, which are institutional units, are discussed in Chapter 5);
- ☐ retained by the producers for own final consumption or gross fixed capital formation;
- ☐ supplied free, or sold at prices that are not economically significant, to other institutional units (including households), as often occurs in the

case of output of general government units and non-profit institutions.

4.14 The output of an establishment is defined as the value of total sales or other uses of goods (including capital work done on own account) and services produced as outputs plus the value of changes in the inventories of goods produced as outputs. Two categories of output are recognised for national accounting purposes: market output and non-market output, which includes output produced for own final use and other non-market output.

Market output

4.15 Market output is output that is sold at economically significant prices or otherwise disposed of on the market, or output that is intended for sale or disposal on the market. Market output includes the value of goods or services bartered, supplied by one establishment to another in the same institutional unit for use in intermediate consumption, or used for payments in kind. Market output also includes the value of changes in inventories of finished goods and work-in-progress intended for disposal on the market.

4.16 The valuation of changes in inventories poses special problems in a national accounting context. Changes in the valuation of inventories held at particular points in time can include the effects of price changes, as well as additions to and subtractions from inventories. As such holding gains or losses are not the result of production, and are excluded from the value of output in the national accounts, values of inventories used in measuring changes in inventories need to be adjusted to exclude them. In the ASNA, this adjustment is known as the inventory valuation adjustment (IVA), details of which are explained in Chapter 17.

Non-market output

Output for own final use

4.17 Output for own final use includes output for own final consumption and output for own gross fixed capital formation. The former consists of goods and services that are produced for final use by the owners of the enterprises in which they are produced. As discussed later, corporations have no final consumption (only intermediate consumption used in producing their outputs), and output for own final consumption is produced only by unincorporated enterprises (including those operated by households). Two examples of such output are agricultural goods produced and consumed by members of the same household, and rent of owner-occupied dwellings (see paragraph 4.76 for further discussion of these items).

Output used for own gross fixed capital formation

4.18 Goods or services used for own gross fixed capital formation can be produced by any kind of unit, whether corporate or unincorporated. Examples are machinery or equipment produced by an establishment for use in the same establishment; and construction, extension or alteration of an establishment's building by the enterprise owning the establishment. As discussed, in the ASNA, imputations are made of the value added by owner-builders in the construction, alteration or extension of their dwellings and for significant own-account construction carried out by private and public enterprises.

Other non-market output

4.19 Other non-market output consists of goods and services produced by non-profit organisations or general government units and supplied free, or at prices that are not economically significant, to other institutional units or to the community as a whole. For general government output, economically significant prices may not be charged to users

either because the consumption of the goods or services cannot be monitored or controlled, as is the case with public administration and defence, or because governments make policy decisions not to charge the full cost, as with education and health services. Likewise, non-profit institutions often do not fully charge for their services because such institutions are formed to provide services to members or the needy. As noted in paragraph 4.8, the non-market output of general government units and non-profit institutions is valued at the costs of producing the outputs, comprising compensation of employees, the cost of purchased goods and services used in production (intermediate consumption) and consumption of fixed capital. These units therefore do not generate a net operating surplus (defined in paragraphs 4.53 and 4.54) from their non-market production.

Output of particular industries

4.20 The general rules governing the recording and valuation of output require elaboration in application to the output of certain industries, mostly service industries such as transport and storage, wholesale trade and retail trade. The methods used to estimate the output of such industries are described in Chapter 24. However, measurement of the output of the finance and insurance industries is a special case and is discussed below.

Financial intermediaries (except insurance and pension funds)

4.21 Banks and other financial intermediaries incur liabilities on financial markets by borrowing funds (for example, in the form of deposits) which they lend, on different terms and conditions, to other institutional units, such as households, governments and corporations. Such institutions intermediate between lenders and borrowers by channelling funds from one to the other, incurring risk in the process.

4.22 Although financial intermediaries make explicit charges for a number of financial services, the charges do not cover the cost of all services provided. If receipts from the charges were the only measure of output, financial intermediaries would invariably appear to be running at a loss. However, financial intermediaries are able to provide services for which they do not charge explicitly, through charging higher rates of interest to borrowers than they pay to lenders. The resulting 'interest margin' is used to defray expenses. The interest-rate differential therefore includes an implicit charge to customers for services provided and plays a part in determining the level of interest rates observed in practice. In the system, interest is treated as property income and is not recorded as either output or intermediate input. However, in effect, interest receivable by financial intermediaries excludes payments by borrowers for the services provided by the financial institutions, and interest payable by financial intermediaries is lower than it would otherwise be to cover the costs of financial services provided to depositors. Accordingly, in the national accounts, interest flows are adjusted to take account of the service charges that form part of the output of financial intermediaries. As these charges cannot be measured directly, they must be estimated indirectly. The imputed charges are accordingly referred to as financial intermediation services indirectly measured (FISIM).

4.23 In the ASNA, FISIM is estimated as the difference between the interest rates on loans and deposits and a 'pure', or reference rate, of interest. As FISIM forms part of the output of financial intermediaries, it must also be recorded as part of consumption by the intermediaries' customers. FISIM is therefore shown as consumption by individual industries, government units and households, for both depositors and borrowers. Exports and imports of FISIM are also estimated. For a detailed explanation of the estimation of FISIM see Chapters 14 and 20.

Insurance and pension funds

4.24 Insurance is a form of financial intermediation in which funds are paid by policyholders and invested in financial or other assets, which represent technical reserves to meet future claims arising from the events specified in insurance policies. Typically, insurance enterprises do not make a separate charge for the service of arranging the financial protection or security which insurance is intended to provide. The value of such services, which form part of the output of insurance and pension funds, has to be estimated indirectly from the total receivables and payables of insurance enterprises, including the income accruing from the investment of technical reserves.

4.25 The value of output of the services produced by insurance enterprises is estimated as the difference between (i) revenue from premiums and interest on investments and (ii) expenses in the form of expected claims and changes in allocations to technical reserves required to build up the capital sums guaranteed under policies. The methods for estimating output of insurance enterprises are explained fully in Chapters 14 and 20.

Intermediate consumption

4.26 Intermediate consumption (or intermediate input) consists of the value of the goods and services consumed as inputs to the production process. The goods and services may be either transformed (e.g. flour may be transformed into bread), or completely consumed or used up (e.g. electricity and most services) in the process of producing outputs.

4.27 In addition to goods and services used directly in the production process, intermediate consumption includes the value of all goods and services used as inputs into ancillary activities. Ancillary activities are undertaken within an enterprise for the sole purpose of supporting the production process. Ancillary activities include purchasing, sales, marketing, accounting, data processing, transportation, storage, and security. The output of an ancillary activity is not intended for use outside the enterprise. (Ancillary services are explained more fully in Chapter 6).

4.28 Intermediate consumption does not include valuables consisting of works of art, precious metals and stones and articles made out of them, that are acquired as stores of value and are not used up in the process of production. However, intermediate consumption does include precious stones and metals used in the production of jewellery and similar items. Intermediate consumption excludes the costs incurred by the gradual using up of fixed assets; which is recorded as consumption of fixed capital in the income and capital accounts (see Chapter 16). However, rentals paid on fixed assets that are leased from other institutional units under operating leases (see next paragraph) are included as part of intermediate consumption, along with fees, commissions, royalties, etc., payable under licensing arrangements.

Distinction between operating leases and financial leases

4.29 *Operating leases* are leases that provide for the renting of machinery or equipment for specified periods of time that are substantially shorter than the total expected service lives of the machinery or equipment. Operating leasing is a form of production in which the owner of the machinery or equipment (the lessor) provides a service to the user (or lessee). The lessor is usually responsible for the maintenance and repair of the equipment as part of the service provided to the lessee. Rentals are treated as payment for the total service provided, and are included in the intermediate consumption of producers. For operating leases, consumption of fixed capital is charged to the lessor. Under a *financial lease*, a change of ownership from the lessor to the lessee is deemed to have taken place, even though the leased goods legally remain the property of the lessor, at least until the lease expires. Financial leasing is an alternative to lending as a method of financing the acquisition of machinery and equipment, in which the lessor effectively makes a loan to the

lessee to enable the latter to finance the acquisition of the equipment. Rentals under financial leases are therefore treated as a combination of loan repayments and interest payments and not as part of intermediate consumption. Under a financial lease, consumption of fixed capital is charged to the lessee.

Boundary between intermediate consumption and compensation of employees

4.30 Certain goods and services used up by producers do not enter directly into the production process but are consumed by employees working on that process. Where goods and services are provided to employees and are used by the employees in their own time and at their own discretion, the goods and services constitute remuneration in kind rather than intermediate consumption. Fringe benefits, such as the private use of company cars, airline lounge memberships, telephones and rent subsidies, fall into this category. This distinction is important, because the inclusion of remuneration in kind in compensation of employees, rather than in intermediate consumption, increases labour income and GDP.

Boundary between intermediate consumption and gross fixed capital formation

4.31 This boundary is not always clear cut. For example, expenditure on large items of machinery and equipment is recorded as gross fixed capital formation while regular expenditure on small durables, such as hand tools, is normally regarded as intermediate consumption.

4.32 There are also difficult choices to be made in relation to repairs and maintenance. SNA93 recommends that ordinary maintenance and repairs of fixed assets used in production constitute intermediate consumption and that major renovations, reconstructions or enlargements of fixed assets are to be treated as gross fixed capital formation. Ordinary maintenance and repairs are necessary to ensure effective utilisation of assets over their expected service lives. Such maintenance and repairs do not change the asset or its usual level of performance. Major renovations, reconstructions or enlargements increase the performance capacity of existing assets or significantly extend their previously expected service lives. Examples are extending or enlarging existing buildings or structures and refitting or restructuring the interior of a building or ship. These and other issues relating to the boundary between intermediate consumption and gross fixed capital formation are discussed in Chapter 15.

Research and development

4.33 SNA93 recognises that, because the purpose of research and development is to improve efficiency or productivity or to produce other future benefits, it is inherently more of an investment than a consumption activity. However, because of the difficulty of identifying and valuing the assets produced by research and development activities, such activities, along with staff training, market research and similar activities, are to be treated as intermediate consumption.

Defence equipment

4.34 SNA93 distinguishes between expenditure on defence equipment that is used in the same way in both military and civil applications, and on equipment that is never used or does not have, and cannot have, civilian applications. The former class of defence equipment includes buildings, roads, bridges, airfields and docks; vehicles, ships or aircraft used for the transport of people; and computers and office machinery. Acquisition of all such goods is classified as gross fixed capital formation.

4.35 On the other hand, weapons or their delivery systems are not and cannot be used for civilian purposes. SNA93 recommends that acquisition of such goods should be classified

as intermediate consumption and therefore also as government final consumption expenditure. Thus, acquisitions of rockets, and of missiles and their warheads, is treated as consumption, rather than as capital formation. Furthermore, goods that are designed to deliver weapons, such as warships, submarines, fighter aircraft, bombers and tanks, are also classified as consumption expenditure.

Consumption of fixed capital

4.36 Consumption of fixed capital is a cost of production, which is recorded in the income and capital accounts. It may be defined in general terms as the cost, in the accounting period, of the decline in the current value of the producer's stock of fixed assets as a result of physical deterioration, foreseen obsolescence or normal accidental damage. It excludes losses associated with damage caused by war or natural disasters. Such losses are classified as capital losses and are recorded under 'Other changes in volume of assets' as part of accumulation, which is discussed in paragraphs 4.82, 4.98 and 4.115.

4.37 To be consistent with other entries in the accounts, consumption of fixed capital must be valued at the prices prevailing during the current accounting period. Although the consumption of fixed capital is analogous to the measure of depreciation used by businesses, business depreciation measures are generally not suitable for national accounting purposes. This is because businesses generally account for depreciation according to the standards of historical cost accounting in which the original purchase cost of an asset is allocated over the estimated life span of the asset. In periods of rising prices, historical cost accounting will understate the real (current) cost of replacing the asset and will therefore result in an overstatement of business income and saving. Therefore, in the ASNA, the book value of depreciation is not used and estimates are substituted that reflect changes in the market value of assets. Estimates of the consumption of fixed capital are derived in conjunction with estimates of capital services and net capital stock. The concepts and methods are discussed in detail in Chapter 16.

Valuation of industry output and value added

4.38 SNA93 recommends use of basic prices for the valuation of industry outputs, and purchasers' prices for valuation of intermediate inputs and of final demand (discussed in paragraph 4.73).

Basic prices

4.39 The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service, minus any tax payable (including deductible value added taxes), and plus any subsidy receivable, as a consequence of production or sale of the unit. Subsidies artificially reduce the sale price, so they are included in the basic price to obtain a measure of the true value of the goods or services produced. Taxes on products, if included, would artificially increase the price, and so are excluded. The basic price also excludes any transport charges invoiced separately by the producer. The basic price therefore measures the amount retained by the producer in respect of the good or service that is produced as output.

4.40 The major output of the wholesale and retail trade industries is the value of the service provided in selling goods (i.e. goods purchased and resold are not treated as part of intermediate consumption). The value of the service is equal to the trade margins realised on the goods sold. The measurement of this service at basic prices is analogous to that for goods producing industries: output at basic prices is the value of the trade margins, including the value of any subsidies received by the wholesaler or retailer, and excluding taxes on production of the service.

Purchasers' prices

4.41 The purchaser's price is the amount paid by the purchaser in order to take delivery of good or services. Purchasers' prices include any taxes payable (less any subsidies receivable) on production and imports, and any transport charges paid separately by the purchaser to take delivery of goods. Value added taxes such as the Goods and Services Tax (GST) are included in purchasers' prices unless they are allowable as deductions from the purchaser's value-added tax liability. Purchasers' prices are also referred to as market prices.

4.42 In the derivation of industry value added, outputs are valued at basic prices and intermediate consumption is valued at purchasers' prices. By convention, the resulting estimates of industry value added are described as being 'at basic prices'.

4.42

Income

4.43 The economic concept of income is generally understood as the maximum amount a household or other unit can consume without reducing its wealth. However, wealth can be changed by events (such as holding gains and losses, natural catastrophes, etc.) that do not constitute income as measured in the national accounts. In the national accounts, income is broken down into several components. These include primary incomes such as factor incomes, property income and taxes on production and imports, and secondary incomes such as social benefits, social contributions, taxes on income and wealth, and other current transfers. The composition of incomes varies considerably between sectors, because the income receivable by one sector is payable by other sectors (e.g. taxes are income receivable by the general government sector and are payable by the other sectors).

4.44 In SNA93, for individual units and sectors, the net primary income receivable (i.e. primary income receivable less primary income payable) is called the balance of primary incomes. The total of the balance of primary incomes of all domestic sectors is called gross national income. Net national income is equal to gross national income less consumption of fixed capital. Some primary incomes, such as property income and compensation of employees, can be received from and paid to non-residents. Gross national income can therefore be derived as the total balance of all (resident and non-resident) primary incomes less the balance of primary incomes receivable from non-residents.

4.45 For individual units and sectors, disposable income is the net result of all primary and secondary incomes. The total of disposable income for all domestic sectors is called gross disposable income. Some components of secondary incomes, such as taxes on income and wealth and other current transfers, can be received from, or paid to, non-residents. Gross disposable income can therefore be derived as the total balance of all (resident and non-resident) income flows less the net result of flows to non-residents. Disposable income less social transfers in kind gives adjusted disposable income. Social transfers in kind are explained in the discussion of the major elements of income in paragraph 4.71.

Factor incomes

4.46 Gross value added at purchasers' prices, less taxes on production and imports plus subsidies on production and imports (conventionally combined as taxes less subsidies on production and imports) represents the amount available as factor incomes. Factor incomes consist of compensation of employees (the income of the labour factor of production), operating surplus (the income of the entrepreneurship factor of production), or

mixed income (a combination of compensation of employees and operating surplus - see paragraph 4.53 for an explanation of operating surplus and mixed income).

4.47 The sum of factor incomes plus taxes less subsidies on production and imports gives GDP at market prices.

Compensation of employees

4.48 SNA93 (paragraph 7.21) defines compensation of employees as follows:

"The total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period."

Compensation of employees comprises wages and salaries (in cash and in kind) and employers' social contributions.

4.49 *Wages and salaries paid in cash* include the values of any social contributions (e.g. to superannuation funds), income taxes, etc., payable by the employee even if withheld by the employer for administrative convenience, such as direct payment to a superannuation fund or the taxation department. Also included are penalty payments (e.g. overtime, hazardous work allowances), supplementary allowances such as housing and meal allowances (unless paid as social benefits - see discussion in paragraphs 4.51 and 4.52), holiday pay, payment while on sick leave, bonuses, and commissions, tips and gratuities paid directly to the employee by a third party. Excluded from wages and salaries are reimbursements for expenses incurred (e.g. transportation and accommodation expenses incurred on business travel, and removal expenses) and for equipment or clothing purchased (the reimbursements are treated as intermediate consumption of the employer).

4.50 *Wages and salaries paid in kind* can include meals, housing, uniforms that can be worn away from work, vehicles available for personal use, goods and services produced by the employer enterprise, recreational facilities, transportation, car parking, child care and low interest loans. Some of these benefits may appear more like intermediate consumption, but are included in compensation of employees because they are benefits that employees often have to provide themselves and are designed to attract employees.

4.51 *Employer social contributions* are amounts paid by employers (or imputed as payments by employers) to provide social benefits for employees. The social benefits can include retirement benefits (e.g. superannuation), sickness benefits, dependants' benefits in the event of the employee's death, and severance benefits. Employer social contributions are usually paid directly by the employer into investment funds (called 'social insurance schemes' in SNA93) operated by a separate financial institution, but can be paid into a fund set up within the employer enterprise. However, in some cases, employers pay the benefits directly from general revenue - where this occurs the employers are said to operate an unfunded social insurance scheme. In such cases, the system calls for employer social contributions to be imputed as the amount that would have had to be invested to pay for future benefit payments (the methods used to impute contributions to unfunded schemes are described in Chapter 22).

4.52 Although employer contributions to funded social insurance schemes are usually paid by employers to the scheme operators, in the national accounts all employer social contributions (including imputed contributions) are treated as having been paid to employees, who are then treated as having made the payments to the schemes. This treatment is considered more realistic from an economic viewpoint in that the contributions are seen as part of the compensation and income of the employees, who are then seen as

using the contributions to acquire access to social insurance schemes (to which they may also contribute directly). The treatment also means that social contributions add to GDP.

Operating surplus and mixed income

4.53 Operating surplus is the income from production of corporate enterprises, while mixed income is the term used to denote the income from production of unincorporated enterprises. The term 'mixed income' is used because the surplus arising from the productive activities of unincorporated enterprises can comprise returns to the capital of the proprietors (representing operating surplus), and an element akin to wages and salaries accruing to the proprietors or other members of the household as payment for their labour input to the enterprise (even though they may not receive explicit payment for their work). Descriptions of the methods used to estimate operating surplus and mixed income in the ASNA are contained in Chapter 20.

4.54 Operating surplus and mixed income can be measured on a gross or net basis. Gross operating surplus and gross mixed income are equal to gross value added at basic prices less compensation of employees and taxes less subsidies on production and imports other than net taxes on products (or gross value added at factor cost less compensation of employees). Net operating surplus is equal to gross operating surplus less consumption of fixed capital, and net mixed income is equal to gross mixed income less consumption of fixed capital.

Taxes less subsidies payable on production and imports

4.55 Taxes payable on production and imports are part of primary income receivable by the general government sector (and, where applicable, non-resident governments) and are payable by other sectors and non-residents. All other current taxes are included in secondary income. Taxes on production and imports include: (i) taxes that are payable on goods and services when they are produced, delivered, sold, transferred or otherwise disposed of by their producers; (ii) taxes and duties on imports payable when goods enter the economic territory or when services are delivered to residents by non-residents; and (iii) other taxes on production such as taxes on ownership or use of land, buildings, or other assets used in production, or on the labour employed, or on labour costs. For individual units and sectors, taxes in category (i) are not recorded with income when output is valued at basic prices. However, the taxes are recorded with income for the economy as a whole to derive GDP at purchasers' prices.

4.56 Subsidies are unrequited payments that government units (including, if applicable, non-resident government units) make to resident producers or importers on the basis of the levels of their production activities or the quantities or values of the goods or services which they produce, sell or import. Subsidies are paid to influence producers' level of output, the prices at which outputs are sold or the remuneration of the producers. Subsidies can be thought of as negative taxes because their impact on producers' incomes is the opposite of taxes on production. Subsidies are not payable to households; current government transfers to households are treated as social benefits and as part of secondary income.

Property incomes

4.57 Property incomes are received by the owners of financial assets and tangible non-produced assets such as land and subsoil assets (the various types of assets are discussed in paragraphs 4.84 to 4.97). Property income accrues when an assets' owner puts the asset at the disposal of other institutional units. Units with surplus funds lend or provide equity finance to other units and derive property income in the form of interest, dividends, etc. Owners of land and subsoil assets arrange leases or other contracts with

other units who pay rent to the owners. Regular payments made by lessees of subsoil assets are sometimes known as royalties but are treated as rents in the system. A distinction is made between rent, which is a form of property income derived from non-produced assets, and rentals payable under operating leases relating to produced assets, including dwellings and other buildings. As discussed in paragraph 4.29, under operating leases rentals are treated as output of the lessor and purchase of a service by the lessee. The various items of property income are discussed in the following paragraphs.

Interest

4.58 Interest is receivable by the owners of financial assets such as deposits, loans and accounts receivable, and securities other than shares. Interest is defined in paragraph 7.93 of SNA93 as:

"Under the terms agreed between them, interest is the amount that the debtor becomes liable to pay the creditor over a given period of time without reducing the amount of the principal outstanding."

However, interest that accrues and is not paid may be added to the principal amount. In the system, the addition of outstanding interest to the principal constitutes a separate financing transaction.

4.59 Under the accrual basis of recording used in the system, interest which, under the terms of the contract, does not have to be paid until the asset matures, nevertheless must be attributed to the accounting periods over which it accrues. Methods used to attribute interest to accounting periods are discussed in Chapter 22.

4.60 As discussed in paragraph 4.29, under a financial lease the lessor is treated as making a loan to the lessee. Interest on such loans is a component of the lease payments, which have to be broken down between interest and repayment of principal.

4.61 Interest is recorded after allowing for FISIM, the interest component that represents charges for financial intermediation services rendered, as discussed in paragraphs 4.22 and 4.23. As customers of financial intermediaries, institutional units may deposit money with the intermediaries, in which case FISIM is added to the actual interest receivable by the customer and interest payable by the financial intermediary. FISIM is also shown as intermediate or final consumption of the customer and as output of the intermediary. Institutional units also borrow from intermediaries, in which case FISIM is deducted from interest payable by the customer and from interest receivable by the financial intermediary, and also shown as intermediate or final consumption of the customer and output of the intermediary.

Dividends

4.62 Corporations raise equity capital through the issue of shares, and shareholders become entitled to dividends as a form of property income for having placed funds at the disposal of the corporations. Dividends include all distributions of profits by corporations, whether or not the distributions are called dividends. Issues of bonus shares in lieu of dividends are not included.

Withdrawals from income of quasi corporations

4.63 Quasi corporations are unincorporated enterprises that behave as if they were corporations. They are discussed in detail in Chapter 5. Because they are not corporations, quasi corporations cannot distribute profits by way of dividends. Nevertheless, the owner of a quasi corporation may choose to withdraw some or all of the entrepreneurial income of the quasi corporation. Such withdrawals are the conceptual

equivalent of dividends and are distinguished in order to separate the income of the quasi corporation from the income of the owner.

4.64 Because quasi corporations must, by definition, keep a full set of accounts, withdrawals of income should be explicitly identified in the accounts. Such withdrawals must be distinguished from withdrawals of funds realised as a result of the disposal of assets, which constitute capital disposal by the quasi corporation and withdrawal of equity (a financing transaction) by the owner. Withdrawals financed by liquidating large amounts of accumulated retained earnings are treated in the same manner. Conversely, funds provided by the owner so that the quasi corporation can acquire assets or reduce liabilities are treated as equity injections - there is no concept of negative withdrawals of income.

Reinvested earnings on foreign direct investment

4.65 A foreign direct investment enterprise is either a branch (including unincorporated joint ventures) of a non-resident enterprise or an enterprise, either corporate or unincorporated, in which at least one foreign investor owns sufficient shares to have an effective voice in the decision making processes of the enterprise. In these cases, an amount of the enterprise's retained earnings, proportional to the ownership of the foreign direct investor, is imputed as a remittance of property income to the foreign direct investor, even though the remittance does not take place in practice. An equal amount (with opposite sign) is shown as *reinvestment of retained earnings*, a financing transaction. The rationale underlying the SNA93 treatment is that the direct investment enterprise is, by definition, subject to control or influence by the foreign investor(s), and the decision to retain earnings is a conscious investment decision by the foreign investor.

Secondary income

4.66 Secondary income consists entirely of current transfers. Transfers are transactions in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return. A capital transfer is one in which the ownership of an asset (other than cash) is transferred or which obliges one or both parties to acquire or dispose of an asset. All transfers not meeting these criteria are current transfers. The main types of secondary income are discussed in the following paragraphs.

Current taxes on income and wealth

4.67 These taxes are part of the gross secondary income of the general government sector and are deducted in the derivation of the net secondary income of other sectors. Most of the taxes consist of taxes on income of households or profits of corporations and taxes on wealth that are payable regularly (wealth taxes paid irregularly are capital taxes).

Social contributions and benefits

4.68 Social benefits are current transfers received by households to provide for needs that arise from certain events or circumstances such as sickness, unemployment, retirement, housing, education or family circumstances. There are two kinds of social benefits: social insurance benefits and social assistance benefits. The former are provided by social insurance schemes operated by financial institutions or by employers on behalf of their employees. Social insurance schemes pay benefits from accumulated social contributions, which are paid into the schemes by employers on behalf of employees, or directly by the employees. Social assistance benefits are paid by governments from general revenue and are not paid from social contributions. Social insurance benefits and social assistance benefits are part of the gross secondary income of households.

4.69 As discussed in relation to employer social contributions (see paragraphs 4.51 and

4.52), social contributions paid by employers on behalf of employees, including imputed contributions to unfunded schemes, are treated as part of the employees' primary income and as being paid to social insurance funds by the employees. Employer social contributions, along with social contributions paid directly by employees, are therefore deducted from gross secondary income of households to arrive at net secondary income of households.

Other current transfers

4.70 Other current transfers include non-life insurance premiums (after deduction of the service charge) and claims, current transfers within general government (e.g. grants from one level of government to another), current transfers between the government and governments of other countries or international organisations (e.g. UN, OECD), transfers (e.g. membership fees, subscriptions, donations) to non-profit institutions, current transfers between households, fines and penalties, and compensation paid (other than as an insurance claim) for injury, property damage or death.

4.71

Social transfers in kind

4.71 Social transfers in kind are individual goods and services provided to individual households by general government units and non-profit institutions. The goods and services may be produced by the government units and non-profit institutions or purchased by them. Also included are reimbursements made to individual households by general government units or non-profit institutions for purchases by the households under a scheme that authorises purchase of approved goods and services (e.g. reimbursement of the costs of pharmaceuticals purchased under a pharmaceutical benefits scheme). Social transfers in kind are not regarded as part of the disposable income of households, but are included in *adjusted disposable income* and *actual consumption* (see next section).

4.72

Final consumption and saving

4.72 Consumption can involve either the use of goods and services in the process of production (intermediate consumption), as discussed in the section on production, or final consumption. Final consumption can be measured as expenditure on final consumption or as actual final consumption (explained below). Disposable income (see previous section) is either expended on final consumption or saved. Saving is available, along with net capital transfers, to finance elements of capital accumulation, which is discussed in the next section.

4.73 As noted in paragraph 4.11, GDP can be derived as the sum of all final expenditures, changes in inventories of finished goods, work-in-progress and raw materials, and the value of exports of goods and services less the value of imports of goods and services. In this context, final expenditures comprise final consumption expenditure and gross fixed capital formation. These expenditures are equivalent to final demand. Gross fixed capital formation is discussed in the next section, relating to accumulation and wealth.

Final consumption expenditure

4.74 Final consumption expenditure is expenditure on goods and services that are used for the direct satisfaction of individual or collective needs or wants. It excludes expenditure on fixed assets (including dwellings), valuables and other non-financial assets. Final consumption expenditure is undertaken only by the households sector, the non-profit institutions serving households sector (NPISH) (which, in the ASNA, is combined with the households sector - see Chapter 5) and the general government sector. However, any

expenditure undertaken for business purposes by unincorporated enterprises (which are part of the households sector) is treated as intermediate consumption expenditure of the unincorporated enterprise, and not part of household final consumption expenditure.

Household final consumption expenditure

4.75 In the ASNA, household final consumption expenditure includes expenditure by resident households on goods and services, whether the expenditure is made within the domestic territory or by Australian residents abroad (see Chapter 5 for the definition of residents), and expenditure by non-profit institutions serving households. Specific transactions in household final consumption expenditure include:

- the value of income received in kind by employees (as discussed in paragraph 4.50) which is treated as simultaneously spent by the employees on final consumption expenditure;
- the value of goods produced by households for their own consumption, such as agricultural goods produced and consumed on the same farm, and 'backyard' production;
- FISIM, the service charge component of households' interest payments and receipts - see paragraphs 4.22 and 4.23 (however, FISIM attributed to unincorporated enterprises owned by households is classified as intermediate consumption of the unincorporated business);
- the service charge component of premiums paid for insurance and pension fund services - see paragraphs 4.24 and 4.25; and
- the imputed value of the services of owner-occupied dwellings. The imputation of rent to owner-occupied dwellings enables the services provided by dwellings to their owner-occupiers to be treated consistently with the marketed services provided by rented dwellings to their tenants. This treatment is considered necessary because, if a large number of rented houses were sold to their occupiers and if estimates of imputed rent were not calculated for owner-occupied dwellings, there would be an apparent decrease in gross domestic product without any decrease in the provision of housing services. In effect, owner-occupiers (like other owners of dwellings) are regarded as operating businesses; they receive rents (from themselves as consumers), pay expenses, and make a net contribution to the value of production which accrues to them as owners.

4.76 Expenditures on the purchase of dwellings are explicitly excluded from household final consumption expenditure because dwellings are goods used by owners to produce housing services. Purchases of dwellings therefore constitute gross fixed capital formation. Expenditures on licences to use or own vehicles, boats and aircraft, and fees for shooting, fishing and hunting permits are also excluded. These are treated as taxes rather than as payments for services. All other kinds of licences, permits, certificates, passports etc., are treated as purchases of services and included in household final consumption expenditure.

Government final consumption expenditure

4.77 Most government final consumption expenditure is current expenditure on goods and services provided to the community. Such goods and services are either provided free or at prices that cover only a small proportion of the costs of producing the goods and services. As discussed in paragraphs 4.8 and 4.19, because most of the goods and

services provided have no directly observable value, a direct measure of government non-market output is not available. The value of government non-market output is therefore considered to be identical to the cost of producing the output, which is equivalent to measuring government non-market output as the cost of all current expenditures made by government in the course of providing non-market goods and services to the community. The relevant expenditures are compensation of employees, the cost of other goods and services used (intermediate consumption), and the consumption of fixed capital. Government final consumption expenditure is then valued as the value of non-market output less the value of any sales of non-market goods and services.

Actual final consumption

4.78 The concept of actual final consumption is aimed at recording consumption in the sector where it actually occurs rather than in the sector where consumption expenditure is made. Therefore, government final consumption expenditure on services that benefit individual households (called individual services) is included with household actual final consumption, leaving government actual final consumption equal to government final consumption expenditure on services that benefit the community as a whole (called collective services).

4.79 Household actual consumption therefore includes government final consumption expenditures on education, health, social security and welfare, sport and recreation and culture, which are considered to be individual services. Excluded are expenditures on the provision of security and defence, the maintenance of law and order, the maintenance of public health and protection of the environment, which are considered to be collective services. Government actual final consumption is therefore equal to government final consumption expenditures on collective services. In SNA93, all services provided by non-profit institutions serving households are treated as individual services and are included in household actual final consumption. Because such non-profit institutions are included in the households sector in the ASNA, their final consumption expenditures are automatically included in household actual final consumption.

Saving

4.80 Saving represents that part of disposable income that is not spent on final consumption of goods and services. For individual units and sectors, and for the economy as a whole, gross saving is equal to gross disposable income less final consumption expenditure. Saving can also be derived as adjusted disposable income less actual final consumption. Net saving is equal to gross saving less consumption of fixed capital.

4.81 Saving can be either positive or negative. If it is negative, the excess of outlays over income must be financed either by disposing of existing assets or by incurring liabilities. When saving is positive it must be used to acquire financial or non-financial assets of one kind or another. Such transactions are part of accumulation and are discussed in the next section.

Accumulation and wealth

4.82 The value of assets less the value of liabilities is known in the system as net worth and is the system's measure of wealth. Accumulation represents the net additions to net worth that occur in the accounting period and includes acquisition and disposal of assets and liabilities by institutional units, and changes to the values of assets and liabilities arising from other events which, in the system, are known as *revaluations* and *other changes in the volume of assets*. Because the system's categories of stocks (i.e. assets and liabilities) are also used to categorise accumulation flows, wealth (assets and liabilities) is discussed before accumulation.

Wealth (assets and liabilities)

4.83 Assets are defined generally in SNA93 (paragraph 13.12) as entities

"(a) over which ownership rights are enforced by institutional units, individually or collectively; and
(b) from which economic benefits may be derived by their owners by holding them, or using them, over a period of time."

4.84 The economic benefits that can be derived from the use of an asset consist of primary incomes (for example operating surplus generated by the use of the asset in production, or property income in the form of interest, dividends, rent etc., received by owners of financial assets and land), and the value, including possible holding gains or losses, that could be realised by disposing of assets.

4.85 Assets consist of non-financial and financial assets. Liabilities are the counterparts of financial claims represented by financial assets (i.e. liabilities are the financial assets of the institutional units or non-residents holding a financial claim against the subject unit). The categories of assets that are covered by the balance sheets in the system are discussed in the following paragraphs. Liabilities are categorised in the same way as financial assets.

Non-financial assets

4.86 Non-financial assets consist of fixed assets, which are produced as outputs of the production process, and non-produced assets, which come into existence through processes other than production.

Produced assets

4.87 *Tangible produced fixed assets* are non-financial assets that are used repeatedly and continuously in production processes for more than one year. They include:

- dwellings, including dwellings under construction and the value of alterations and additions to dwellings made by owner-builders;
- other buildings, including non-residential buildings and the fixtures, fittings and equipment that are integral parts of the buildings. Uncompleted buildings and structures are included. Buildings acquired for military purposes are included if they could be used for civilian purposes;
- other structures, such as highways, railways, bridges, harbours, dams, pipelines, communication and power lines, constructions (other than buildings) for sport or recreation purposes. Structures acquired for military purposes are included if they could be used for civilian purposes;
- transport equipment, including motor vehicles, semi-trailers, ships, locomotives and aircraft. Items of transport equipment acquired by households for final consumption are not treated as fixed assets;
- other machinery and equipment, including electrical apparatus, office accounting and computer equipment, furniture, fixtures and fittings not forming an integral part of buildings, durable containers, special tooling etc.;
- cultivated assets, consisting of :
    - livestock for breeding, dairy, draught etc. Livestock includes breeding stocks, dairy cattle, sheep or other animals used for

wool production and animals used for transportation, racing or entertainment. In the ASNA, the range of assets of this type recorded is restricted to sheep raised for wool, dairy cattle and sheep and cattle kept as breeding stock - see Chapters 16 and 26; and

- vineyards, orchards, and other plantations of trees yielding repeat products such as sap, resin, bark and leaf products. As explained in Chapters 16 and 26, the treatment of these assets in the ASNA does not comply fully with the SNA93 recommendations.

4.88 Transport machinery and equipment acquired by defence forces are included as assets if they could be used in a fashion similar to civilian assets and could conceivably be switched from military to civilian use. Weapons and weapon delivery systems, including warships, submarines, tanks and fighter aircraft, are not treated as assets, and purchases of such items are treated as part of government intermediate and final consumption expenditure rather than as capital formation.

4.89 *Intangible produced fixed assets* include the following:

- mineral exploration, comprising the capitalised value of expenditures on exploration for petroleum, natural gas and mineral deposits;
- computer software, including the purchase of software, and software developed in-house if the expenditure is large. Large expenditures on the purchase, development or extension of databases are also included; and
- entertainment, literary or artistic originals, comprising the originals of films, sound recordings, manuscripts, tapes etc on which drama performances, radio and television programming, musical performances, sporting events, literary and artistic output etc., are embodied.

4.90 *Inventories* include materials and supplies intended to be used as inputs to production, work-in-progress, finished goods and goods purchased for resale without further processing. Work-in-progress includes the value of livestock raised for the purpose of slaughtering or eventual sale, and trees or other vegetation yielding once-only products (such as timber plantations).

4.91 *Valuables* are held as a store of value and include precious metals and stones not held for use as inputs to production, antiques, works of art and other valuables such as collections of jewellery of significant value. Due to data limitations, valuables are not currently included within the boundary of fixed assets in the ASNA.

Non-produced assets

4.92 *Tangible non-produced assets* are non-financial assets that occur in nature and over which ownership may be enforced or transferred. Environmental assets over which ownership cannot be attributed, such as international waters or air, are excluded. Tangible non-produced assets include the following:

- land, including the value of land underlying dwellings, non-residential buildings and structures, land under cultivation, recreational land and

associated surface water and private gardens and plots not cultivated for commercial purposes;

- subsoil assets, such as proven and exploitable reserves of coal, oil, natural gas, metallic and non-metallic mineral reserves; and
- other natural assets such as native forests available for commercial exploitation and water resources which are subject to some form of ownership or use rights, market valuation or some measure of economic control. As discussed in Chapters 16 and 26, due to data limitations, water resources are not included in the ASNA.

4.93 *Intangible non-produced assets* entitle their owners to engage in certain specific activities or to produce certain specific goods or services and to exclude other institutional units from doing so except with the permission of the owner. Included are patents, broadcasting licences, other transferable contracts and purchased goodwill. As discussed in Chapters 16 and 26, not all of these assets are covered in the ASNA, because of data deficiencies.

Financial assets and liabilities

4.94 Financial assets, for the most part, represent a contractual claim on another institutional unit (resident or non-resident) and entitle the holder to receive an agreed sum at an agreed date (but see shares and other equity below). Liabilities are the counterparts of financial assets. With the exception of monetary gold and Special Drawing Rights (SDRs), the acquisition of a financial asset by an institutional unit involves a counterpart liability on the part of another institutional unit. Financial assets and liabilities are classified according to financial instruments as follows :

- monetary gold and SDRs. Monetary gold is gold owned by the monetary authorities (in Australia's case, the Reserve Bank of Australia) that is held as a financial asset and as a component of a country's foreign reserves. All other gold held is treated as a physical commodity and classified as either inventories or valuables. Special drawing rights (SDRs) are international reserve assets created by the International Monetary Fund (IMF) and allocated to the IMF's member countries to supplement existing foreign reserves. SDRs are held exclusively by the central bank;
- currency, transferable deposits and other deposits;
- short-term securities - securities other than shares with an original maturity normally of one year or less;
- long-term securities - securities other than shares with an original maturity normally of more than one year;
- short-term loans - loans that have an original maturity normally of one year or less;
- long-term loans - loans that have an original maturity normally of more than one year (no distinction between long and short-term loans is made in the ASNA);
- derivatives, which are secondary securities linked to specific financial instruments, indicators or commodities;
- shares and other equity. Unlike other financial instruments, shares and other equity do not provide the right to a predetermined income. They

are instruments or records acknowledging claims to the residual value of incorporated enterprises after the claims of all creditors have been met;

- ☐ insurance technical reserves, consisting of net equity of households on life insurance reserves and pension funds, and prepayment of premiums and reserves against outstanding claims. Insurance technical reserves are the assets of policyholders, and liabilities of insurance enterprises and pension funds;
    - ☐ net equity of households on life insurance reserves and on pension funds: these are reserves held by insurance enterprises and pension funds against outstanding risks, and reserves that add value on maturity to life insurance policies; and
    - ☐ prepayment of premiums and reserves against outstanding claims (for both life and non-life insurance): prepayment of premium reserves arises from the fact that, in general, insurance premiums are paid in advance. Reserves against outstanding claims are reserves of insurance enterprises and pension funds held to cover amounts expected to be paid out in respect of claims that are not yet settled or that may be disputed; and
- ☐ trade credits and advances and other accounts receivable and payable

4.95 The system also includes a sector and subsector classification of financial assets and liabilities, which categorises financial claims according to the sectors and subsectors of counterparties. Counterparties are the institutional units on which claims are held by creditors, and the institutional units holding claims against debtors. Data are also presented for financial assets and liabilities cross-classified by financial instrument and sector.

4.96 The system also includes memorandum items to show assets that are not separately identified in the central national accounting framework, but are of more specialised analytical interest. These are:

- ☐ consumer durables, which are not defined as assets in the system, but are of special interest. These cover private motor vehicles and other household durables; and
- ☐ direct investment, which comprises financial assets and liabilities attributable to foreign direct investment, which are not recorded separately within financial instrument categories.

Net worth

4.97 As indicated in paragraph 4.82, net worth is equal to total assets less total liabilities and is the balancing item in the system's balance sheets. Whereas, in principle, the net worth of a corporation is equal to the difference in the value of the total assets owned by the company and its debt, in practice this value may not equal the value placed on the company by the market. Accordingly, in the system, the net worth of a corporation exists separately from the market value of shareholders' equity in the corporation, which is counted as a liability in the calculation of net worth. Net worth can be positive or negative and should reflect the market value of the wealth of the units, sector or economy being

measured.

Accumulation

4.98 As mentioned in paragraph 4.82, accumulation represents net additions to net worth arising from acquisition and disposal of assets and liabilities by institutional units and changes to the values of assets and liabilities arising from revaluations and other changes in the volume of assets. The following discussion of accumulation is segmented according to the accounts in which the various types of accumulation are recorded. A complete discussion of the accounts appears in Chapter 8. In SNA93 (and the ASNA), the *capital account* records accumulation of non-financial assets and liabilities as well as sources of funds, such as capital transfers and saving, to finance that accumulation. The *financial account* records acquisition and disposal of financial assets and liabilities. In the ASNA, revaluations and other changes in the volume of assets are recorded in an account that reconciles the opening balance sheet, changes to assets and liabilities arising from transactions, revaluations and other changes in the volume of assets, and the closing balance sheet. The main entries in each of these accounts are discussed in the following paragraphs.

Capital account entries

4.99 In the capital account, net saving appears as a source of funds along with net capital transfers and consumption of fixed capital. The inclusion of consumption of fixed capital effectively means that the sources of finance are gross saving and capital transfers. These sources are offset by accumulation entries for gross fixed capital formation, changes in inventories, and acquisitions less disposals of non-produced non-financial assets. The balancing item in the account is *net lending or borrowing*. Each of these entries not discussed previously is discussed in the following paragraphs.

Capital transfers

4.100 As noted in the discussion of current transfers, transfers are transactions in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return. A capital transfer is one in which:

- ownership of an asset (other than cash or inventories) is transferred from one institutional unit to another (i.e. a capital transfer in kind); or
- cash is transferred to enable the recipient to acquire another asset; or
- the funds realised by the disposal of an asset are transferred.

The first category of capital transfers includes cancellation of liabilities by mutual agreement between creditor and debtor, sometimes known as 'debt forgiveness'. Unilateral cancellation of debt by a creditor does not constitute a transaction between institutional units; accordingly it is treated as writing off of the debt and is recorded with other changes in the volume of assets. The second category of capital transfers includes grants made by governments or international organisations to other governments, including grants by one level of government to another. Such grants are recognised as capital grants because the recipients, under the terms of the grants, are required to spend the money on capital projects (i.e. acquisition of non-financial assets). The second category of capital transfers also includes taxes that are deemed to be capital taxes. These are taxes, such as inheritance and gift taxes, that are non-recurrent and required to be paid only when a specific event (such as death of the taxpayer) occurs.

4.101 Gross saving plus capital transfers receivable less capital transfers payable (or net

saving plus capital transfers receivable less capital transfers payable plus consumption of fixed capital) is called *gross saving and capital transfers* and is the amount of resources available to fund non-financial capital accumulation, which consists of gross fixed capital formation, acquisitions less disposals of valuables, changes in inventories, and acquisitions less disposals of non-produced non-financial assets.

Gross fixed capital formation

4.102 Gross fixed capital formation is equal to the total value of a producer's acquisitions, less disposals, of fixed assets (as defined in paragraphs 4.87 to 4.89) plus capital work done on own account during the accounting period plus certain additions to the value of non-produced assets realised by the productive activity of institutional units. The latter include reclamation of land from the sea, clearance of forests to bring land into use for the first time, draining of marshes or irrigation of deserts, and prevention of flooding by erection of breakwaters, sea walls or flood barriers. These activities may result in the creation of new structures such as seawalls, flood barriers, dams, etc., that are not used directly in production but are constructed to make additional land available.

4.103 Acquisitions of new and existing assets are valued at purchasers' prices plus ownership transfer costs associated with the acquisition of fixed assets. Ownership transfer costs include professional charges or commissions incurred by the asset acquiring unit, including fees paid to lawyers, architects, surveyors, engineers and valuers, and commissions paid to estate agents, auctioneers, etc., and all ownership transfer taxes payable by the acquiring unit. Consistent with this valuation method, disposals of fixed assets are valued at the prices payable by the units acquiring the assets, less any ownership transfers costs incurred by the units disposing of the assets.

4.104 Cases at the boundary between gross fixed capital formation and intermediate consumption are discussed in the earlier section of this chapter dealing with intermediate consumption.

Acquisitions less disposals of valuables

4.105 As discussed in paragraph 4.91, valuables are a separate category of non-financial assets that are not held for use as inputs to production. Acquisitions and disposals of valuables are also accounted for separately in the capital account. However, in the ASNA, a separate category has not been created because of lack of information about acquisitions and disposals of valuables.

Changes in inventories

4.106 Changes in inventories has already been discussed in the section dealing with production. However, the acquisition and disposal of inventories constitutes capital formation (or reduction) and changes in inventories is accordingly recorded in the capital account as well as part of production.

Acquisitions less disposals of non-produced non-financial assets

4.107 As discussed in paragraphs 4.92 and 4.93, non-produced non-financial assets include land, subsoil assets, other natural assets available for commercial exploitation, and intangible assets such as patents, broadcasting licences, other transferable contracts and purchased goodwill. All acquisitions and disposals of such assets are part of accumulation but, as discussed in Chapters 16 and 26, coverage of such transactions in the ASNA is limited because of data deficiencies.

Net lending or borrowing

4.108 Net lending/borrowing is the balancing item in the capital account. As stated in paragraph 4.101, the value of *gross saving and capital transfers* is the amount available for the acquisition of financial and non-financial assets. Gross saving and capital transfers, less the sum of gross fixed capital formation, changes in inventories and net acquisitions of non-produced non-financial assets, is defined in the capital account as *net lending* if positive, or *net borrowing*, if negative.

4.109 A net lending result implies an excess of capital finance over requirements for gross capital formation and net purchases of non-produced non-financial assets. A net borrowing result implies the existence of a borrowing requirement to finance capital acquisitions. Net lending/borrowing will therefore be reflected in changes in financial assets and liabilities in the financial account and is technically equal to the balancing item in that account. At the national level, the net lending/borrowing outcome in the national capital account indicates whether surplus funds are lent to the rest of the world or whether there is a borrowing requirement from the rest of the world to finance national capital formation. Net lending/borrowing in the national capital account is equivalent to the balance on current and capital transactions in the balance of payments.

Financial account entries

4.110 The financial account in the ASNA records changes in financial assets and liabilities arising from financial transactions. Changes in financial assets are recorded under the heading *net acquisition of financial assets*, which refers to acquisitions less disposal of financial assets. Changes to liabilities are recorded under the heading *net incurrence of liabilities*, which refers to incurrence of liabilities less repayments. Each of these major categories can be broken down according to the financial instruments used and the institutional sector or subsectors of counterparties, as discussed in the previous section on financial assets and liabilities (see paragraphs 4.94 and 4.95).

4.111 As discussed in relation to capital account entries, the balance of the capital account (net lending/borrowing) is technically equal to the balancing item in the financial account, which is equal to net acquisition of financial assets less net incurrence of liabilities. However, in the ASNA, the use of differing data sources for the two accounts can give rise to significant differences between the two balancing items. As discussed in Chapter 25, these differences are usually recorded in an item for net errors and omissions.

Entries in the reconciling account

4.112 As discussed in paragraph 4.99, in the ASNA, accumulation entries for revaluations and other changes in the volume of assets are recorded in an account that reconciles these entries with the opening balance sheet, transactions during the accounting period and the closing balance sheet. The account shows such information for each of the types of assets and liabilities discussed in paragraphs 4.87 to 4.96.

Revaluations

4.113 Revaluations are holding gains or losses arising from changes in the market prices of assets and liabilities during the accounting period. Holding gains and losses can be decomposed into neutral holding gains and losses, which are in line with the change in the general level of prices, and real holding gains and losses, which are changes that are above or below the change in the general level of prices. Such decomposition has not yet been introduced to the ASNA, which records only nominal holding gains and losses.

4.114 Holding gains and losses refer to assets and liabilities that remain qualitatively and

quantitatively unchanged during the accounting period. Thus, changes in the value of physical assets that are attributable to some physical or economic transformation, whether improvement or deterioration, are not recorded as holding gains or losses. In particular, the decline in the value of fixed assets arising from physical deterioration, obsolescence or accidental damage is not a holding loss but is recorded in consumption of fixed capital or other changes in the volume of assets. Increases in value from growth of natural assets are also recorded with other changes in the volume of assets.

Other changes in the volume of assets

4.115 Other changes in the volume of assets are changes in the value of assets and liabilities over the accounting period arising from events other than transactions and revaluations. Other changes in the volume of assets are categorised in SNA93 as follows:

- *Economic appearance of non-produced assets* - includes discovery of subsoil assets, transfers of other natural assets to economic activity, quality changes to non-produced assets arising from changes in economic use, and appearance of intangible non-produced assets such as patents and goodwill.
- *Economic appearance of produced assets* - includes valuables and historic monuments which, for various reasons (e.g. not thought previously to be of value), have hitherto been excluded from the balance sheets.
- *Natural growth of non-cultivated biological resources* - includes natural growth of virgin forests, fishstocks, etc.
- *Economic disappearance of non-produced assets* - includes depletion of natural economic assets such as forests and subsoil assets as a result of physical removal and use, reassessment of subsoil assets as no longer exploitable, negative quality changes arising from changes in use, degradation due to use in economic activity, and write-offs or write-downs of patents and goodwill.
- *Catastrophic losses* - losses of produced and non-produced assets from (i) earthquakes, volcanic eruptions, tidal waves, hurricanes, drought and other natural disasters; (ii) acts of war, riots, other political events; and (iii) technological accidents such as toxic spills and inadvertent release of radioactive materials.
- *Uncompensated seizures* - includes seizures of assets by governments or other institutional units; such seizures may be in contravention of national or international law (excludes foreclosures and repossessions by creditors, which are recorded as financial transactions).
- *Other volume changes in non-financial assets n.e.c.* - includes unforeseen obsolescence, degradation and damage not allowed for in consumption of fixed capital, abandonment of production facilities before they are brought into use, and exceptional losses in inventories (e.g. from fire, robbery or infestation).
- *Other volume changes in financial assets and liabilities n.e.c.* - includes allocation and cancellation of SDRs, write-offs or write-downs of bad debts by creditors, and changes in the actuarially-determined value of defined-benefit superannuation schemes.

- *Changes in classification and structure* - includes changes in the sector classification of units, monetisation and demonetisation of gold and other changes in the classification of assets and liabilities.

In the ASNA it has not been possible to cover all of the types of other volume changes described above and the value of other changes in the volume of assets sometimes is estimated as a residual. These matters are discussed in detail in Chapter 25.

Change in net worth

4.116 Change in net worth can be derived as the value of net worth in the closing balance sheet less the value of net worth in the opening balance sheet. Change in net worth reflects the results of transactions, revaluations and other changes in the volume of assets. Change in net worth can be decomposed into change in net worth due to saving and net capital transfers, change in net worth due to other changes in the volume of assets, and change in net worth due to revaluations.

Chapter 5: Institutional units and sectors

Introduction

5.1 The analytical power of the national accounts depends not only on the recording of economic activity and wealth for the economy as a whole, but also requires segmentation of the economy into analytically useful categories. At an elemental level, economic activity and wealth can be attributed to institutional units, which are the basic transactor units in the system. To enhance the analytical usefulness of the accounts, SNA93 groups institutional units with similar functions in the economy into institutional sectors (and associated subsectors). The total economy consists of the entire set of institutional units that are resident in it. This chapter defines the concepts of residence, institutional units and institutional sectors, and describes the implementation of the concepts of units and sectors in the ASNA (the SNA93 concept of residence is adopted without modification in the ASNA). For the purpose of compiling production statistics classified by industry, the focus is on what SNA93 refers to as *producing units*. These are units, owned by institutional units, which are engaged in the production of goods and services. These units are discussed in Chapter 6.

Residence

5.2 The ASNA records the economic activity and wealth of resident institutional units. Resident institutional units are those institutional units that maintain a centre of economic interest in the domestic economic territory. The domestic economic territory of a country is defined, in paragraph 14.9 of SNA93, to comprise:

- the geographic territory administered by a government within which persons, goods, and capital circulate freely;
- any islands belonging to that country which are subject to the same fiscal and monetary authorities as the mainland;
- the airspace, territorial waters, and continental shelf lying in international waters over which the country enjoys exclusive rights or over which it has, or claims to have, jurisdiction in respect of the right to fish or to exploit fuels or minerals below the sea bed; and
- territorial enclaves in the rest of the world (that is, geographic territories situated in the rest of the world and used, under international treaties or agreements, by general government agencies of the

country). Territorial enclaves include embassies or consulates, military bases, scientific stations, etc. It follows that the economic territory of a country does not include the territorial enclaves used by foreign governments which are physically located within the geographical boundaries of that country.

5.3 An institutional unit is said to have a centre of economic interest in a country when there exists some location within the country's economic territory on, or from which, the unit engages on a continuing basis in economic activities on a significant scale, either indefinitely or for a finite but long period of time (generally defined as one year or more - but see paragraph 5.4). From this definition it follows that short term production of goods or services undertaken by an Australian enterprise abroad, for example installation of equipment, can be treated as part of the GDP of Australia (and classified as exports of goods or services from Australia). In addition, ownership of land or buildings within the economic territory of a country is deemed to give the owner a centre of economic interest there **(1)**.

(1) If the centre of economic interest of the non-resident owner of land or buildings remains outside the country where the property is located, the land or buildings are considered to be foreign direct investment enterprises owned and controlled by the non-residents. Any rents paid by the tenants of such land or buildings are deemed to be paid to the foreign direct investment enterprise, which in turn makes a transfer of property income to the actual non-resident owner. (See Chapter 4 for an explanation of a foreign direct investment enterprise.)

5.4 Individual members of households who leave the economic territory of a country and return after a limited period (less than one year) continue to be regarded as residents of that country. For example, a member of a resident Australian household who travels abroad for recreation, business, health or other purposes and returns within one year is treated while abroad as a resident of the Australian economy for national accounts (and balance of payments) purposes. Therefore, in the ASNA, any consumption expenditure undertaken abroad is considered to constitute an import of goods or services. An exception to the one year rule is made in the case of students and medical patients. Students are treated as residents of their country of origin, however long they study abroad. Medical patients abroad are also treated as residents of their country of origin, even if their stay is one year or more.

5.5 Individuals travelling to other countries for seasonal work, and those who cross country borders frequently for work purposes only, also remain residents of their original economic territory, as do locally recruited staff of foreign embassies, consulates, military bases etc., and the crews of ships, aircraft or other mobile equipment (such as drilling rigs) operating wholly or partly outside the economic territory. The staff of international organisations who work within the enclaves of those organisations are treated as residents of their country of origin if they work for less than one year. If they work with the international organisation for more than one year they are treated as residents of the host country of the international organisation's enclave.

5.6 International organisations established by international agreement (such as the United Nations) are accorded sovereign status, with their own economic territory consisting of the land or structures used by the organisation in the countries where they are physically located. International organisations are therefore not resident units of any country and all transactions with them are treated as transactions with non-residents.

The SNA93 concept of institutional units

5.7 In any economy, economic activity is undertaken by a variety of transactors. For example, corporations (both financial and non-financial), government units, households and non-profit institutions all engage in economic activity, but their economic objectives, functions and behaviour differ. Corporations are created for the purpose of producing goods or services for the market, usually as a source of profits for the units that own them. Non-profit institutions (NPIs) are created for the purpose of producing or distributing goods or services but not for the purpose of generating income or profits for the units that control or finance them. Government units organise and finance the provision of non-market goods and services to individual households and the community at large, mainly out of taxation. They are also concerned with the distribution and redistribution of income and wealth in accordance with government policies. Households are primarily consumer units, although they may also engage in any kind of economic activity, including the operation of unincorporated enterprises.

5.8 Grouping transactors with similar objectives and types of behaviour into sectors enhances the usefulness of national accounts for purposes of economic analysis. For such purposes, SNA93 defines transactor units, called institutional units, and groups them into institutional sectors and subsectors.

Institutional units

5.9 An institutional unit is defined in paragraph 4.2 of SNA93 as:

"An economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities."

5.10 One major defining characteristic of an institutional unit is that either a complete set of accounts, including a balance sheet of assets and liabilities, exists for the unit, or it would be possible and meaningful, from both an economic and legal viewpoint, to compile a complete set of accounts if they were required.

5.11 SNA93 identifies two main types of units that may qualify as institutional units: (i) households and (ii) legal or social entities whose existence is recognised by law or society, independently of the persons or other entities that may own or control them.

Households

5.12 Households consist of persons or groups of persons. Many assets are owned, or liabilities incurred, jointly by members of the same household, and income received by individual members may be pooled for the benefit of all members. In addition, many expenditure decisions may be made collectively for the household as a whole. As a result of these circumstances, it is not usually possible to draw up meaningful accounts for individual household members. The individual members of multi-person households are therefore not treated as separate institutional units; rather, the household is treated as the institutional unit.

5.13 An unincorporated enterprise that is entirely owned by one or more members of the same household is treated as a part of that household and not as a separate institutional unit, except when the enterprise is treated as a 'quasi corporation' (see next paragraph).

Legal or social entities

5.14 The second type of institutional unit is a legal or social entity that engages in economic activities and transactions in its own right. SNA93 identifies three main types of legal and social entities: corporations, non-profit institutions and government units. In addition, some unincorporated enterprises belonging to households or government units

behave in much the same way as corporations and are treated as quasi corporations when they have complete sets of accounts. In the system, quasi corporations are treated in the same way as corporations.

5.15 Corporations are defined in SNA93 as legal entities, created for the purpose of producing goods or services for the market, that may be a source of profit or other financial gain to their owners and are collectively owned by shareholders who have the authority to appoint directors responsible for general management. Corporations include incorporated enterprises, public limited liability companies, public corporations, private companies, joint stock companies, limited liability companies and so on. In the system, corporations cannot incur final expenditures for the benefit of households and, unlike NPIs, all of the profit of corporations ultimately benefits other institutional units (i.e. shareholders).

5.16 Government units are defined in SNA93 as unique types of legal entities established by political processes and having legislative, judicial or executive authority over other institutional units within a defined area. The principal functions of government units are to (i) assume responsibility for provision of goods and services to the community or individual households and to finance the provision out of taxation and other income; (ii) redistribute income and wealth by means of transfers; and (iii) engage in non-market production.

5.17 Non-profit institutions are defined in paragraph 4.54 of SNA93 as:

"...legal or social entities created for the purpose of producing goods or services whose status does not permit them to be a source of income, profit or other financial gain for the units that establish, control or finance them."

5.18 SNA93 distinguishes two broad types of NPIs: market producers and non-market producers. NPIs are defined to be market producers if they charge prices or fees which have a significant influence on both the amounts producers are willing to supply and the amounts purchasers are willing to buy (i.e. the prices are 'economically significant'). Market NPIs are also defined to include all NPIs serving businesses, except where the NPIs are controlled and mainly financed by government units, in which case they are defined as non-market NPIs. Non-market NPIs provide goods or services either free or at prices or fees that are not economically significant.

The ASNA equivalent of institutional units

5.19 The units concepts used in the ASNA are based on the units model used in the ABS business register. These units concepts are based on SNA93 concepts, but are a little more complex in order to better reflect business and organisational structures in Australia. The units model underlying the ASNA comprises the following units:

- ☐ legal entity;
- ☐ enterprise group;
- ☐ enterprise;
- ☐ management unit;
- ☐ establishment; and
- ☐ location.

5.20 A *legal entity* is an entity which possesses some or all of the rights and obligations of

individual persons or corporations. Examples of legal entities for statistical purposes include companies, partnerships, trusts, sole proprietorships, government departments and statutory authorities. The legal entity unit closely approximates the SNA93 concept of legal and social entities described above, but includes unincorporated enterprises operated by households. In SNA93, such unincorporated enterprises are included with households.

5.21 The *enterprise group* consists of a unit covering all operations in Australia of one or more legal entities under common ownership and/or control. It covers all operations in Australia of legal entities that are related in terms of the current Corporations Law (as amended by the *Corporations Legislation Amendment Act 1991*). Therefore, an enterprise group may contain a mixture of enterprises (see below) classified to the non-financial corporations sector and the financial corporations sector depending on the functions performed by individual legal entities within the group.

5.22 The *enterprise* is a unit comprising all legal entities within an enterprise group that are classified to the same institutional subsector (for example, the life insurance corporations subsector within the financial corporations sector). Thus an enterprise group which contains legal entities that belong to more than one institutional subsector is split up into two or more mutually exclusive enterprises.

5.23 The remaining units in the model (management units, establishments, and locations) refer to producing units and are discussed in Chapter 6.

5.24 Most surveys providing information for the ASNA, other than detailed production information, use the ABS enterprise unit. However, most enterprises comprise only one legal entity and, as described in paragraph 5.22, those that comprise more than one legal entity are circumscribed by an institutional subsector boundary. For that reason, use of the enterprise unit for compiling statistics classified by institutional sector or subsector (as in the ASNA) is effectively the same as using a legal entity unit. As noted, the ABS legal entity unit is the same as the SNA93 institutional unit, with the exception that it includes household unincorporated enterprises. In the compilation of the Australian national accounts, household unincorporated enterprises are identified separately and included with households. Each of the different types of institutional units identified in SNA93 (i.e. corporations and quasi corporations, government units, NPIs and households) can be identified in the ASNA.

The SNA93 concept of institutional sectors

5.25 SNA93 groups institutional units with similar functions into the following institutional sectors:

- ☐ the non-financial corporations sector;
- ☐ the financial corporations sector;
- ☐ the general government sector;
- ☐ the households sector; and
- ☐ the non-profit institutions serving households sector (NPISH).

Table 5.1 shows the SNA93 allocation of types of institutional units to institutional sectors. The same allocation rules are followed in the ASNA. However, as explained in paragraph 5.45 below, in the ASNA the NPISH sector is combined with the households sector.

5.1 ALLOCATION OF TYPES OF INSTITUTIONAL UNITS TO INSTITUTIONAL SECTORS

	Non-financial corporations sector	Financial corporations sector	General government sector	Households sector	Non-profit institutions serving households sector
Institutional Units					
Corporations (including quasi corporations)	Non-financial corporations (including quasi corporations)	Financial corporations (including quasi corporations)			
Government units			Government units		
Households				Households	
Non-profit institutions (NPIs)	Market NPIs serving non-financial corporations	Market NPIs serving financial corporations	Non-market NPIs controlled and financed by government units		Non-market NPIs serving households

Non-financial corporations sector

5.26 The non-financial corporations sector consists of corporations and quasi corporations that are principally engaged in the production of market goods and non-financial services. It includes resident non-financial corporations irrespective of the residence of their shareholders, and quasi corporations (including branches of foreign owned non-financial enterprises that are engaged in significant production in the economic territory on a long-term basis), and non-profit institutions that are market producers of goods or non-financial services.

5.27 SNA93 identifies three subsectors within the non-financial corporations subsector:

- *Public non-financial corporations* are resident non-financial corporations or quasi corporations that are government owned or controlled.
- *National private non-financial corporations* are resident non-financial corporations or quasi corporations that are not controlled by government or non-resident institutional units. Market NPIs are included in this subsector.
- *Foreign controlled non-financial corporations* are resident non-financial corporations or quasi corporations that are controlled by non-resident institutional units.

Financial corporations sector

5.28 The financial corporations sector consists of resident corporations, quasi corporations and market NPIs that are principally engaged in financial intermediation or in auxiliary financial activities. Financial corporations are distinguished from non-financial corporations because of their different roles in the economy, and the inherent differences in their respective functions and activity. Financial corporations are mainly engaged in financial

market transactions, which involve incurring liabilities and acquiring financial assets, i.e. borrowing and lending money, providing superannuation, life, health or other insurance, financial leasing or investing in financial assets. In this process, the corporations are not acting as agents, but rather place themselves at risk by trading in financial markets on their own account. Financial auxiliaries are also classified to the financial corporations sector. They include stockbrokers, insurance brokers, investment advisers, trustees, custodians and nominees, mortgage originators and other entities that are engaged in providing services closely related to financial intermediation even though they do not intermediate themselves.

5.29 To the extent that they qualify as quasi corporations, unincorporated financial enterprises are also classified to the financial corporations sector. As discussed previously, they must have a complete set of accounts that are separable from the accounts of their owners in their personal capacities.

5.30 Subsectors of the financial corporations sector identified in SNA93 are:

- *Central bank* - the monetary authority (in Australia's case this is the Reserve Bank of Australia).
- *Other depository corporations* - all resident financial corporations and quasi corporations, except the central bank, that are principally engaged in financial intermediation and have liabilities in the form of deposits or financial instruments. Banks are included in this subsector.
- *Other financial intermediaries except insurance corporations and pension funds* - all resident corporations and quasi corporations primarily engaged in financial intermediation except depository corporations, insurance corporations and pension funds. The types of corporations included under this heading are investment corporations, hire purchase corporations and those engaged in the provision of personal finance or consumer credit.
- *Financial auxiliaries* - all resident corporations and quasi corporations primarily engaged in activities closely related to financial intermediation but which do not themselves perform an intermediation role (for examples see paragraph 5.28).
- *Insurance corporations and pension funds* - all resident insurance corporations and quasi corporations, and autonomous pension funds.

General government sector

5.31 The general government sector consists of government units and non-market NPIs that are mainly financed and controlled by government. The general government sector includes all government departments, offices and other bodies mainly engaged in the production of goods and services outside the normal market mechanism for consumption by government itself and the general public. The units' costs of production are mainly financed from public revenues and they provide goods and services to the general public, or sections of the general public, free of charge or at nominal charges well below costs of production. The sector includes government enterprises mainly engaged in the production of goods and services for other general government units. Also included are NPIs that are serving businesses or households, and are composed largely of private sector members but are mainly financed and controlled by governments.

5.32 Subsectors within the general government sector are:

- ☐ central government;
- ☐ state government;
- ☐ local government; and
- ☐ social security funds (i.e. social insurance schemes covering the community that are imposed or controlled by government units - there are no such social security funds in Australia).

Households sector

5.33 The households sector consists of all resident households, defined as small groups of persons who share accommodation, pool some or all of their income and wealth and collectively consume goods and services, principally housing and food. Although households are primarily consumers of goods and services, they also engage in other forms of economic activity through their operation of unincorporated enterprises. Such unincorporated enterprises are included in the households sector because the owners of ordinary partnerships and sole proprietorships will frequently combine their business and personal transactions, and complete sets of accounts in respect of the business activity will often not be available.

5.34 The SNA suggests that the households sector may be divided into subsectors on the basis of the type of income that is the largest source of income for each household or, alternatively, on the basis of other criteria of an economic, socioeconomic or geographical nature. However, in view of differing needs across countries in relation to the analysis of the households sector, SNA93 advises that statistical agencies determine the number and nature of subsectors to suit their own purposes.

Non-profit institutions serving households sector (NPISH)

5.35 Table 5.1 shows that, with the exception of NPIs, all institutional units of a particular type are grouped together within the same sector. Market NPIs are allocated to either the non-financial corporations sector or the financial corporations sector, depending on which sector they serve. In the case of non-market NPIs, those that are controlled and mainly financed by government units are allocated to the general government sector. Other non-market NPIs (i.e. non-market NPIs not controlled or mainly financed by government), are allocated to the *Non-profit institutions serving households sector* (NPISH). (As already noted, the NPISH sector has not been implemented in the ASNA.)

5.36 The NPISH sector includes the following two main kinds of NPISHs that provide goods or services to their members or to other households without charge or at prices that are not economically significant:

- ☐ organisations whose primary role is to serve their members, such as trade unions, professional or learned societies, consumers' associations, political parties, churches or religious societies, and social, cultural, recreational and sports clubs; and
- ☐ philanthropic organisations, such as charities, relief and aid organisations financed by voluntary transfers in cash, or in kind, from other institutional units.

Rest of the world

5.37 In addition to accounts for the resident sectors, SNA93 includes external (rest of the

world) accounts, which provide a summary of all transactions of residents with non-residents (e.g. overseas governments, persons and businesses). The rest of the world consists of all non-resident institutional units that enter into transactions with resident units, or have other economic links with resident units. It is not a sector for which complete sets of accounts have to be compiled, although it is often convenient to describe the rest of the world as though it were a separate sector.

5.38 As discussed in relation to residence, the rest of the world includes institutional units that may be physically located within the geographical boundary of a country, for example, foreign enclaves such as embassies, consulates or military bases, and also international organisations that are not treated as resident institutional units.

Institutional sectors and subsectors in the ASNA

5.39 Institutional sector and associated classifications used in ABS statistics are described in *Standard Economic Sector Classifications of Australia* (SESCA) (Cat. no. 1218.0). The classifications included in SESCA are based on international standards, adapted to suit Australian situations where appropriate. The institutional sector classification, the *Standard Institutional Sector Classification of Australia* (SISCA), is the main classification used for sectoring in the ASNA. For simplicity of presentation, the SISCA excludes the private/public, level of government and foreign controlled distinctions that are part of the SNA93 classification of institutional sectors. These distinctions are contained in other classifications within SESCA. Table 5.2 shows the domestic institutional sectors and subsectors included in the ASNA. In the ASNA, accounts for the rest of the world are grouped as 'external accounts'. These accounts conform with the SNA93 definition of the rest of the world sector.

5.2 DOMESTIC SECTORS AND SUBSECTORS IN THE ASNA

SECTORS	SUBSECTORS
Non-financial corporations	Private
	Public
	Commonwealth
	State and local
Financial corporations	Reserve Bank of Australia
	Depository corporations
	Banks
	Other depository corporations
	Insurance corporations and pension funds
	Life insurance corporations
	Pension funds
	Other insurance corporations
	Other financial institutions
	Central Borrowing Authorities
	Financial intermediaries n.e.c.
	Financial auxiliaries
General government	National
	State and local
Households **(a)**	

(a) Including unincorporated businesses n.e.c., and non-profit institutions serving households.

5.40 With the exception of the combination of the NPISH and households sectors, the ASNA sectors correspond with those in SNA93. The subsectors are a combination of SNA93 subsectors (adapted to Australian conditions) and other SNA93-compliant classifications from the SESCA, as follows:

- the distinction between the Private and Public subsectors within the Non-financial corporations sector is based on the ABS Private/public classification;
- the Commonwealth, State and local, and National subsectors are based on the ABS Level of government classification; and
- unlike SNA93, SISCA and the ASNA distinguish Banks from other depository corporations, and Central Borrowing Authorities from other financial institutions.

5.41 The SNA93 institutional sector classification does not explicitly include a public sector/private sector dichotomy; however the ASNA provides such a dissection of the income and capital accounts for the non-financial corporations sector. Public non-financial corporations are government owned or controlled corporations and quasi corporations that are mainly engaged in production of goods and services for sale in the market with the intention of substantially covering their costs.

5.42 Central Borrowing Authorities (CBAs) are public sector financial corporations that are established in all the States and Territories except the Australian Capital Territory, primarily to provide finance for government authorities and to arrange investment of their surplus funds. Their main activities comprise the creation of financial assets and liabilities by issuing securities, and on-lending funds to public authorities in the same jurisdiction. However, they also engage in other financial intermediation activity (for investment purposes), and may participate in the financial management activities of governments.

5.43 The National subsector is so named because it includes units that are subject to a degree of control from both Commonwealth and State governments and that cannot be allocated to either a State or Commonwealth subsector. The National subsector therefore includes multi-jurisdictional units in addition to units that are solely under the jurisdiction of the Commonwealth. At present, public universities are the only multi-jurisdictional institutions that are included in the National subsector.

Concordance between ASNA and SNA93 sector and subsector definitions

5.44 The composition of the ASNA institutional sectors and subsectors accords with SNA93 definitions in most cases. Instances where the ASNA's sectoral composition differs from the SNA93 guidelines are described in the following paragraphs.

Quasi corporations in the non-financial and financial corporations sectors

5.45 One feature of both the non-financial corporations sector and the financial corporations sector is that they are designed to cover businesses which are legally, or clearly act as, entities independent of their owners with regard to their income, consumption and capital financing transactions, and accordingly are required to maintain separate profit and loss and balance sheet accounts. Private enterprises classified to these sectors are mainly companies registered under the Companies Act or other Acts of Parliament but, as noted in paragraph 5.14 above, SNA93 also recommends that all quasi corporations (that is, unincorporated enterprises which function like a corporation by maintaining a complete set of accounts, including balance sheets) be treated as corporations and allocated either to the non-financial corporations or the financial

corporations sector. However, SNA93 also acknowledges that it is often difficult to distinguish quasi corporations owned by households. Such is the case in Australia, where the bulk of quasi corporations are not presently identifiable from ABS data sources. In the ASNA, unincorporated enterprises identified as quasi corporations are currently limited to large and easily identified enterprises such as partnerships of companies, unit trusts of companies, credit unions, building societies, branches of overseas corporations, and mutual societies. All other quasi corporations are included, by default, in the households sector in the ASNA.

Non-profit institutions serving households (NPISH)

5.46 In the ASNA, the recommendations of SNA93 are followed with regard to the sector allocation of NPIs that are market producers and those that are controlled and mainly financed by government units. However, it will be some time before sufficient data relating to the transactions of NPISHs are available to enable the construction of a full range of sector accounts for NPISHs.

Chapter 6: Producing units and industries

Introduction

6.1 The previous chapter describes the *institutional units* operating in the economy, and the way in which institutional units with similar functions are grouped into institutional sectors. However, the production activities of institutional units can be diverse and heterogeneous with respect to the types of production processes and goods and services produced by the *producing units* belonging to institutional units. For analyses of production, analysts prefer to work with groups of producing units that are engaged in essentially the same kind of production. Such groups are called 'industries'. Therefore, although institutional units can be allocated to industries, for the compilation of statistics classified by industry the units of interest are the producing units owned by institutional units. Producing units are sufficiently homogeneous, in terms of their range of activities, to enable them to be classified to industry at the required level of industry detail, based on their predominant activity. This chapter describes the SNA93 guidelines for the delineation of producing units and the ABS application of the guidelines.

The SNA93 concept of producing units and industries

6.2 In SNA93, institutional units in their capacity as producers are described as enterprises (however the SNA93 enterprise unit should not be confused with the ASNA's enterprise unit described in Chapter 5). SNA93 notes that enterprises can be allocated to industries in accordance with the types of productive activities in which they engage. However, as explained below, an enterprise may engage in both principal and secondary types of productive activity, and large corporations may be involved in many different kinds of productive activity simultaneously, encompassing a wide range of goods and services. Therefore, for the analysis of production classified by industry, SNA93 recommends partitioning of enterprises into units that are more homogeneous in terms of the range of productive activities in which they engage.

6.3 The *principal activity* of a producing unit is the activity with value added that exceeds the value added of any other activity carried out by the same unit. In this context, activities are the kinds of production (based on outputs, inputs, production techniques or output uses) that are defined as the principal activities of each industry in the *International Standard Industrial Classification of All Economic Activities, Revision 3* (ISIC Rev. 3), published by the United Nations. A *secondary activity* is an activity with value added less than that of the principal activity. To be considered as either principal or secondary

activities, the outputs from the activities must be goods or services that are capable of being delivered to other units even though they may be used for own consumption or for own capital formation.

6.4 The output of *ancillary activity* is not intended for use outside the enterprise. Ancillary activity is undertaken within an enterprise to support the principal or secondary activities. Activities which may be classified as ancillary include record keeping; electronic or other forms of communication; purchasing of materials and equipment; personnel management; warehousing; transportation; sales promotion; cleaning, repairs and maintenance; security and surveillance.

6.5 For national accounting purposes, the output of an ancillary activity is not explicitly recognised or recorded, and all inputs to ancillary activities are treated as inputs to the principal or secondary activities that they support. If an ancillary activity grows to the point that it has the capacity to provide services outside an enterprise, it is treated as a secondary activity.

Producing units

6.6 SNA93 discusses three types of units into which enterprises can be partitioned for the purpose of industry statistics. The kind-of-activity unit is defined as an enterprise, or part of an enterprise, which engages in only one kind of (non-ancillary) productive activity, or in which the principal productive activity accounts for most of the value added. The local unit is an enterprise or part of an enterprise that engages in productive activity at, or from, one location. The establishment is a combination of the kind-of-activity and local units and is defined as a unit engaging significantly in one principal kind of activity at, or from, a single location (however, the SNA93 establishment unit should not be confused with the ASNA's establishment unit described below and in Chapter 5). Although establishments can engage in secondary activities, SNA93 recommends that if the secondary activity is significant it should be treated as part of another establishment. Examples of establishments are individual farms, mines, quarries, factories, shops, construction sites and airports.

6.7 If an enterprise comprises only a single establishment, the two units coincide and the production account for the establishment is the same as for the enterprise. However, establishments are conceptually distinct from enterprises, in that an establishment does not engage in transactions on its own account, or incur liabilities, enter contracts and so on. The enterprise which owns the establishment is the unit which engages in these types of activities, and makes the decisions concerning the productive activities of the establishment.

6.8 The establishment is designed to facilitate industry analysis, which is concerned with the outputs and inputs to the production processes of enterprises. Information about establishments is used (i) to value commodities produced and goods and services used in production; (ii) to measure industry employment, compensation of employees, operating surplus, changes in inventories and gross fixed capital formation; and (iii) to derive estimates of productivity. The enterprise provides information on the broader functions of an institutional unit engaged in production, enabling production to be classified to institutional sectors.

6.9 In SNA93, ancillary activities related to an individual establishment are treated as an integral part of the costs of the establishment's principal or secondary activities. An enterprise may include central ancillary units that carry out ancillary activities for all

establishments of the same enterprise. SNA93 recommends that the costs of such ancillary activities be distributed across the establishments served by the ancillary unit.

Industries

6.10 An industry is defined in paragraph 5.40 of SNA93 as:

"a group of establishments engaged in the same, or similar, kinds of activity".

As noted in paragraph 6.3 above, the international standard for the classification of industries is the ISIC, a four-level hierarchical classification, which includes in the same industry grouping all establishments with the same principal activity.

The ASNA equivalent of producing units

6.11 The units model underlying the ASNA was partly described in Chapter 5, where the units in the model corresponding to SNA93 institutional unit were described. The producing units in the ASNA's units model are the management unit and the establishment. Locations from which producing units operate are also identified in the model.

6.12 The *management unit* is the highest-level accounting unit within a business, having regard for industry homogeneity, for which accounts are maintained; in nearly all cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'division' or 'line of business'. A division or line of business is recognised where separate and comprehensive accounts are compiled for it. Management units consist, in turn, of one or more establishments. The management unit is the statistical unit that is used in most ABS economic surveys that provide industry or production data.

6.13 The *establishment* is the smallest accounting unit of a business, within a State or Territory, controlling its productive activities and maintaining a specified range of detailed data including data enabling value added to be calculated. In general an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same State or Territory. The majority of establishments operate at one location only. Establishments may coincide with individual management units, although in many businesses more than one establishment may be present within a management unit. Ancillary units are not specifically recognised in the ABS statistical units model. Units which engage in ancillary activities, and for which accounting data are available, are treated as establishments in their own right; otherwise they are subsumed in the data for the establishments that they serve.

6.14 The *location* is a site, occupied by an establishment, at or from which the establishment engages in productive activity on a relatively permanent basis. An establishment may operate from one or more locations.

Industries in the ASNA

6.15 Establishments are classified to industries according to the *Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993* (Cat. no. 1292.0). The ANZSIC has been developed by the ABS and Statistics New Zealand for use in both countries for the compilation and analysis of industry statistics. To ensure international comparability, the ANZSIC is aligned as closely as possible with the ISIC.

6.16 The ANZSIC comprises four levels, namely Divisions (the broadest level), Subdivisions, Groups and Classes (the lowest level). Establishments are defined to be homogeneous at the class level, whereas management units are defined to be homogeneous at the subdivision level.

6.17 Industry statistics in the ASNA are presented on a basis that is consistent with the ANZSIC. Value added is presented on an ANZSIC industry basis at the Division level, and also at the Subdivision level for the Agriculture, forestry and fishing, Mining, Manufacturing, Electricity, gas and water supply and Transport and storage industries. A number of income components of the ASNA are also presented on an ANZSIC industry basis. Industry data in the input-output tables are classified according to the *Input-Output Industry Classification* (IOIC), which is based on the ANZSIC. While some of the input-output industries correspond to a single ANZSIC industry class, most IOIC industries constitute a grouping of similar ANZSIC industries. These groupings are formed to enable the input-output tables to present a balanced picture of the structure of the economy while maintaining comparability between the latest published tables and earlier ones. More information on the ANZSIC and the IOIC is contained in Appendix I.

6.18 In the ASNA, statistics classified by industry are sometimes referred to broadly in terms of 'industry sector'. That term refers to a high level of aggregation of industries, usually at the Division (e.g. Manufacturing) or Subdivision (e.g. Machinery and equipment manufacturing) level of the ANZSIC.

Chapter 7: Flows, stocks and accounting rules

Introduction

7.1 A system of national accounts records two basic kinds of information: flows and stocks. Flows refer to actions and to the effects of events that take place within a given period of time, while stocks refer to positions at a given point in time. This chapter defines the nature of flows and stocks and outlines the rules of accounting that underlie the valuation and recording of flows and stocks. Unless indicated, the definitions and rules described are recommended in SNA93 and are applied without variation in the ASNA.

Flows and stocks

7.2 In the national accounts, flows are recorded in the current accounts, which deal with production, income and the use of income, and in the accumulation accounts, which record capital formation, financial flows, revaluations and other changes in the volume of assets. Stocks, which represent the value of the stock of assets and liabilities at the beginning and end of the accounting period, appear in the balance sheet accounts.

Flows

7.3 Economic flows reflect the creation, transformation, exchange, transfer or extinction of economic value; they involve changes in the volume, composition or value of an institutional unit's assets and liabilities. Economic flows are of two kinds: *transactions*, and *other flows*. Most flows are *transactions* which appear in all accounts where flows appear (the current accounts and accumulation accounts noted in paragraph 7.2), except the revaluation account and the other changes in volume of assets account. *Other flows* appear in the latter two accounts.

Transactions

7.4 A transaction is defined in SNA93 (paragraph 3.12) as:

"an economic flow that is an interaction between institutional units by mutual agreement or an action within an institutional unit that it is analytically useful to treat like a transaction."

The latter types of actions are internal transactions, which are described in paragraphs 7.17 to 7.19 below. Apart from these, transactions are interactions between institutional units. While the definition of a transaction stipulates that an interaction between institutional units must be by mutual agreement, this does not mean that both units necessarily enter a transaction voluntarily: some transactions, such as payments of taxes, fees or fines, are imposed by force of law. In these cases there is collective acceptance by the community of the obligation to make the required payments, which are therefore regarded as transactions for national accounting purposes. The system of national accounts recognises and accounts for numerous types of transactions, both monetary and non-monetary, which are described in the following paragraphs.

Monetary transactions

7.5 Most transactions recorded in the national accounts are monetary transactions, where the institutional units involved make or receive payments, or incur liabilities or receive assets denominated in units of currency. All monetary transactions are two-party transactions between institutional units. Common monetary transactions included in the ASNA are expenditure on consumption of goods and services, expenditure on capital formation, acquisition of a security, wages and salaries, interest, dividends, rent, taxes, and social assistance benefits in cash.

7.6 Expenditures on consumption of goods and services, capital formation, acquisition of a security, payment or receipt of wages and salaries, and payment or receipt of interest, dividends and rent, are two-party transactions involving the provision of a good, service or asset in exchange for a monetary counterpart. These kinds of transactions can be termed 'something for something' transactions, or transactions with a quid pro quo. Two-party transactions where goods, services or assets are supplied without a direct counterpart can be termed 'something for nothing' transactions, or transactions without a quid pro quo. Transactions without a quid pro quo are called *transfers* in the national accounts. Examples of transfers are taxes, social assistance, gifts and international cooperation (foreign aid). Transactions such as the payment of premiums for non-life insurance, where receipt of benefits is contingent upon some future event, are also classified as transfers. (Strictly speaking, insurance premiums are divided into two components in the national accounts: an imputed service charge; and net premiums, which are equal to premiums less the imputed service charge. Net premiums are a transfer payment while the imputed service charge is included in household or intermediate consumption.)

7.7 A distinction is made between capital and current transfers in the national accounts. Capital transfers involve the transfer of ownership of an asset or oblige one or both parties to acquire or dispose of an asset. Investment grants are examples of capital transfers. Capital transfers redistribute saving or wealth. Current transfers, on the other hand, redistribute income in the form of, for example, income taxes or social benefits.

7.8 Most transactions are treated in the national accounts in a straightforward way; that is, the transactions are recorded in the same way as they appear to the institutional units involved. However, some transactions are rearranged in order to bring out the underlying economic relationships more clearly. Transactions can be rearranged in three ways: rerouting, partitioning and recognising the principal party to a transaction.

Rerouted transactions

7.9 A transaction that appears to the units involved as taking place directly between units A and C may be recorded as taking place indirectly through a third unit B. Thus, the single transaction between A and C is recorded as two transactions: one between A and B, and one between B and C. In this case the transaction is rerouted.

7.10 Rerouting of three types of transactions occurs in the national accounts: employers' social contributions, retained earnings of foreign direct investment enterprises and certain property income flows of insurance corporations.

- *Employers' social contributions* - workers' compensation premiums, and contributions made by employers on behalf of their employees to superannuation funds, are recorded as two transactions: employers are deemed to pay the contributions to their employees and the employees are then deemed to pay the same contributions to social insurance funds. Although the contributions are paid directly by employers to the funds, this treatment makes it clear that such contributions are part of the compensation of employees, and are recorded as a part of labour costs.
- *Retained earnings of foreign direct investment enterprises* - the retention of some or all of the earnings of a foreign direct investment enterprise within that enterprise can be regarded as a deliberate investment decision by the foreign owners. Accordingly, the retained earnings are rerouted in the national accounts by showing them as first remitted to the foreign owners as property income and then reinvested in the equity of the direct investment enterprise (see Chapter 4 (the section 'Property incomes') for an explanation of foreign direct investment enterprises).
- *Property income of insurance funds* - in the national accounts, the property income earned on the reserves of certain insurance funds is deemed to be earned on assets owned by policyholders. The property income is therefore recorded as being paid out to policyholders and then paid back again as premium supplements even though the property income is retained by the insurance enterprises.

Partitioned transactions

7.11 When a transaction appearing to the parties involved as a single transaction is recorded as two or more differently classified transactions, the transaction is partitioned. Partitioning does not usually imply the involvement of additional institutional units in the transactions.

7.12 Payments and receipts of interest by financial intermediaries, and non-life insurance premiums, are typical partitioned transactions. In the case of interest, the payments are considered to comprise a pure interest component and a charge for the financial service rendered by the financial institution. Similarly, non-life insurance premiums are considered to constitute a payment to cover the insurance risk and a service charge for arranging the insurance. The individual components are recorded separately in the national accounts. (See Chapter 4 (the section 'Output of particular industries') for a more detailed explanation of these charges.)

7.13 A further example of partitioning is the recording of transactions for wholesalers and retailers. Wholesalers and retailers are viewed in SNA93 as selling the service of storing

and displaying goods rather than the sale of the goods themselves. As a result, the output of wholesalers and retailers is measured by the value of the trade margins on the goods they purchase for resale, not the total value of the sales.

Recognising the principal party to a transaction

7.14 When a unit carries out a transaction on behalf of another unit, the transaction should be recorded exclusively in the accounts of the principal, although some service output by the intermediary may be recognised. For example, if a commercial agent makes purchases under the order and at the expense of another party, the purchases are attributed to the latter. The accounts relevant to the agent should only show the fee charged to the principal for the services rendered by the agent.

Non-monetary transactions

7.15 Transactions that do not involve the exchange of cash, or assets or liabilities denominated in units of currency, are non-monetary transactions. As the national accounts record all transactions in monetary values, the values recorded for non-monetary transactions must be estimated. Non-monetary transactions can be either two-party transactions or actions within an institutional unit (internal transactions).

Two-party non-monetary transactions

7.16 Two-party non-monetary transactions consist of the following:

- *Barter transactions,* which involve one party providing a good, service or asset other than cash to the other party in return for a good, service or financial asset with a clear market value.
- *Remuneration in kind*, which occurs when an employee accepts payment from an employer in the form of goods and services instead of money (or some other financial asset). Some of the most common types of remuneration in kind are meals and drinks; accommodation; vehicles for personal use of employees; and goods and services produced as outputs from the employer's own production processes.
- *Payments in kind other than remuneration in kind*, which occur when payments are made in the form of goods and services, rather than money or some other financial asset (e.g. landlords accepting produce in lieu of land rent).
- *Transfers in kind,* which occur when one party provides a good, service or asset to the other without receiving a counterpart in return. Parallel to the transfers in cash discussed in paragraphs 7.6 and 7.7, these can also be called 'something for nothing' transactions, or transactions without a quid pro quo. The most common types of transfers in kind are international aid in the form of goods or services; gifts and charitable contributions in the form goods or services; and social assistance benefits or social security in forms such as the provision of education, health, housing and other services provided to households by government or non-profit institutions.

Internal transactions

7.17 While most transactions recorded in the national accounts are interactions between institutional units, some actions that occur within institutional units are also recorded as transactions. These are known as internal, or intra-unit transactions, which are recorded to

give a more analytically useful picture of output, final uses and costs.

7.18 Consumption of fixed capital is an important example of an intra-unit transaction which is recorded in the national accounts. The estimation of consumption of fixed capital ensures that the decline in the value of a fixed asset used in production is included as a cost of production.

7.19 Estimates of the value of intra-unit transactions are also made to account for output which is produced and used within the same institutional unit. These transactions include the value of fixed assets produced for own use and the value of goods produced and consumed within households (such as agricultural produce and other 'backyard' production). The supply of output produced within an enterprise for use as intermediate input in the same enterprise is also regarded as an intra-unit transaction, although estimates of the value of such transactions are only recorded in national accounts if the supplying and receiving establishments are geographically separated.

Externalities and illegal actions

7.20 Externalities are unsolicited services, or 'disservices', delivered by one unit to another without mutual agreement. A typical example is a producer's pollution of air or water which is used by other units. Externalities are not market transactions into which institutional units enter of their own accord, and there is no mechanism to ensure that the positive or negative values attached to them by the various parties involved would be mutually consistent. For this reason, SNA93 recommends against recording the values of externalities in the national accounts.

7.21 SNA93 treats illegal actions that fit the characteristics of transactions (notably the characteristic that there is mutual agreement between the parties) in the same way as legal actions. Thus, although the production or consumption of certain goods such as narcotics may be illegal, market transactions in such goods should, in principle, be recorded in the national accounts. Due to the difficulty in identifying and valuing illegal transactions, no explicit estimates for such activities are made in the ASNA. However, some illegal transactions are likely to be included in the national accounts if they are reported as part of legal activities or as income for taxation purposes.

7.22 As illegal actions which constitute crimes against persons or property (for example theft or violence) do not meet the criterion of transactions by mutual agreement they are not recorded as transactions.

Other flows

7.23 Other flows are changes in the value of assets and liabilities that do not take place through transactions. They are either other changes in the volume of assets or liabilities, or holding gains and losses. Entries classified as other flows all appear in the other changes in volume of assets account or the revaluation account. Both of these accounts are components of the balance sheet accounts in the ASNA.

Other changes in the volume of assets

7.24 Other changes in the volume of assets may be divided into three main categories:

- ☐ normal appearance and disappearance of assets other than by transactions, such as discovery and depletion of subsoil assets, and growth and depletion of native forests; or the creation of intangible non-produced assets such as patents, broadcast licences and taxi plates;

- changes in assets and liabilities due to exceptional, unanticipated events, such as changes (normally losses) in assets due to natural disasters (such as bush fires, floods and earthquakes, war or severe acts of crime, and uncompensated seizures of assets; and
- changes in classification and structure: in the event that the activities of an institutional unit change to the extent that the unit is reclassified from one institutional sector to another (for example, from the non-financial corporations sector to the financial corporations sector), the movements of assets and liabilities between the sectors is recorded as part of other flows in this category.

Holding gains and losses

7.25 Holding gains and losses result from changes in the prices of financial and non-financial assets and liabilities. Holding gains and losses accrue to the owners of assets and liabilities purely as a result of holding the assets or liabilities over time, without transforming them in any way. Holding gains and losses include not only gains/losses on 'capital' goods such as fixed assets, land and other natural resources, and financial assets and liabilities, but also inventories, including work-in-progress. Holding gains and losses are recorded in the revaluation account.

7.26 Holding gains and losses measured on the basis of current prices are called nominal holding gains and losses. SNA93 notes that these nominal gains and losses can be further decomposed into neutral holding gains and losses, reflecting changes in the general price level, and real holding gains and losses, reflecting changes in the relative prices of assets. This decomposition is currently not carried out in the compilation of the Australian national accounts.

Stocks

7.27 Stocks are holdings of assets and liabilities at a point in time. Stocks are recorded at the beginning and end of each accounting period. The values of stocks of assets and liabilities are shown in the balance sheets of the system. Stocks are connected with the flows in that changes in their levels result from the accumulation of transactions and other flows over the accounting period in question. In the ASNA, closing balance sheet levels could be viewed as being obtained by the addition to the opening level of net capital formation, financial transactions, other changes in the volume of assets, and revaluations of assets and liabilities. However, in practice the balance sheet values for many components of the financial assets and liabilities are obtained directly from survey data.

7.28 Values are recorded for non-financial assets, both produced and non-produced, and for financial assets and liabilities (see Chapter 4 for descriptions of the various kinds of assets). The coverage of assets is limited to those assets used in economic activity and that are subject to ownership rights. Thus, stocks are not recorded for assets such as human capital and natural resources over which ownership rights cannot be enforced.

Accounting rules

7.29 The system's accounting rules cover the valuation, time of recording and grouping by aggregation, netting and consolidation of individual stocks and flows.

Valuation

General rules

7.30 The underlying principle of valuation in the system of national accounts is that all entries are recorded, in money terms, at the exchange value current during the accounting period, i.e. the value at which flows and stocks are, or could be, exchanged for cash (including transferable deposits). The system does not attempt to determine the utility of the flows and stocks within its scope.

7.31 When goods and services are exchanged for cash or its equivalent, the required values are directly available. In addition, values are directly observable for flows and stocks that concern financial instruments, such as cash holdings or liabilities. The majority of flows and stocks in the national accounts fall into these categories.

7.32 In other cases, where no actual exchange values are available, the preferred method of valuation is by reference to the market value of similar goods, services or assets. This method is used to estimate the value of the services of owner-occupied dwellings, and of 'backyard' production by households for their own use (see Chapter 4).

7.33 When no prices for similar products exist, it may be necessary to value goods or services by the amount that it costs to produce them. This is the case for most non-market goods and services produced by general government units and non-profit institutions serving households.

7.34 For some assets, it is necessary to estimate a value by writing down (depreciating) the initial acquisition costs. The value of such assets at a given point in their life is equal to their acquisition cost less the accumulated value of these write-downs. Typically, the current value of fixed assets is estimated by writing down current market prices for the accumulated consumption of fixed capital.

7.35 Where none of the above valuation methods is feasible, flows and stocks can be recorded at the net present value of expected future returns. This method is not generally recommended, as it involves a number of assumptions and the possibility of substantial future revisions to estimates. However, SNA93 recognises that it is the most appropriate method of valuation in circumstances where returns from assets are either delayed (as is the case with timber plantations) or spread over a lengthy period (as for subsoil assets).

7.36 Flows and stocks concerning foreign currency are converted to their value in national currency at the exchange rate prevailing when the transaction or flow takes place, or in the case of balance sheet items, the date to which the balance sheet applies. The exchange rate used for conversion to national currency is the midpoint between the buying and selling rate, so as to exclude any implicit foreign exchange service charge.

7.37 Valuations contained in business accounts, tax returns and other administrative records, which are widely used sources of data for national accounts purposes, often do not conform to the national accounting valuation standard. This is especially so in the case of depreciation, where rates of depreciation for tax purposes normally deviate from the national accounting concept of the consumption of fixed capital.

7.38 In some cases, invoice values may not accord with prices paid in the market for similar items. Where transactions are between affiliated enterprises under common management, the prices adopted for bookkeeping purposes - referred to as transfer prices - may not correspond to prices that would be charged to independent parties. By using artificially high or low prices, transfer pricing could be used as a device for shifting profits

among enterprises within a group for taxation (or other) purposes. In principle, such transactions should be identified and revalued if they are likely to affect significantly the interpretation of the accounts. Instances of transfer pricing are difficult to identify, and subsequently adjust for. In the ASNA, transactions prices are used for all but large and clearly identified examples of transfer pricing.

7.39 To maximise concordance with SNA93 accounting rules, surveys of businesses conducted by the ABS request data, where possible on a national accounts basis Adjustments are made to source data that are not recorded on the required basis.

Special valuations concerning products

7.40 The producer and the user of a given product usually perceive its value differently, because of intervening transport costs, trade margins, taxes and subsidies on products. In order to keep as close as possible to the views of the transactors, SNA93 recommends that outputs of products be valued at basic prices, while inputs, or final purchases, should be valued at purchasers' prices.

7.41 The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service, minus any tax payable (including deductible value added taxes), and plus any subsidy receivable, as a consequence of production or sale of the unit. Subsidies artificially reduce the sale price, so they are included in the basic price to obtain a measure of the true value of the goods or services produced. Taxes on products, if included, would artificially increase the price, and so are deducted. The basic price also excludes any transport charges invoiced separately by the producer. The basic price therefore measures the amount retained by the producer in respect of the good or service that is produced as output.

7.42 The major output of the wholesale and retail trade industries is the value of the service provided in selling goods (i.e. goods purchased and resold are not treated as part of intermediate consumption). The value of the service is equal to the trade margins realised on the goods sold. The measurement of this service at basic prices is analogous to that for goods producing industries: output at basic prices is the value of the trade margins, including the value of any subsidies received by the wholesaler or retailer, and excluding taxes on production of the service.

7.43 The purchaser's price is the amount paid by the purchaser in order to take delivery of good or services. Purchasers' prices include any taxes payable (less any subsidies receivable) on production and imports, and any transport charges paid separately by the purchaser to take delivery of goods. Value added taxes apply, such as the GST are included in purchasers' prices unless they are allowable as deductions from the purchaser's value-added tax liability. Purchasers' prices are also referred to as market prices.

7.44 Imports and exports of goods are valued free-on-board (f.o.b.), i.e. at the exporter's customs frontier.

7.45 The ASNA follows the SNA93 recommendations with respect to the valuation of products: in the input-output tables and the associated measures of value added by industry, gross output is measured at basic prices and intermediate inputs are measured at purchasers' prices. Expenditure items are recorded at purchasers' prices. Imports and exports of goods are valued f.o.b. Details of other aspects of the valuation of imports and exports are contained in *Balance of Payments and International Investment Position,*

Australia: Concepts, Sources and Methods (Cat. no. 5331.0).

Time of recording

7.46 Flows in the national accounting system are ideally recorded on an *accrual basis*. Accrual accounting records flows at the time economic value is created, transformed, exchanged, transferred or extinguished. Accrual accounting enables the profitability of productive activities to be evaluated without the disturbing influences of leads and lags in cash flows, and net worth to be calculated correctly at any given point. In terms of entries in the national accounts this means that:

- ☐ flows which imply a change of ownership are entered when legal ownership changes (this applies to financial assets as well as goods);
- ☐ services are recorded when provided;
- ☐ distributive transactions, such as compensation of employees, interest, rent on land, and social contributions and benefits are recorded in the period during which the amounts payable are built up. Interest on debt is recorded in the accounting period in which it accrues, regardless of whether or not it is actually paid in that period;
- ☐ output is recorded at the time products are created (not when paid for by a purchaser); and
- ☐ intermediate consumption is recorded in the period when the materials are used.

Change of ownership

7.47 In transactions involving the purchase of goods, accrual accounting usually arises naturally from the nature of the transaction. When goods are exchanged for financial assets (e.g. cash), accounting entries reflecting the change of ownership will be recorded at the same time for both the seller and the purchaser. However, the identification of the time of change of ownership is not always straightforward where exports and imports are concerned, and in the absence of sources specifying the date of change of ownership, the time at which goods cross the frontiers of countries concerned (obtained from customs records) is usually taken as a proxy for this date. However, for certain exports and imports timing adjustments are made where supplementary information is available.

7.48 To accord with accrual accounting principles, transactions in financial assets should also be recorded on a change of ownership basis. Financial transactions are shown in the ASNA in the financial accounts. The methods used to measure transactions in the financial accounts are described in Chapter 25.

Services

7.49 Services are to be recorded when they are provided. While in most cases this is straightforward, there are types of services that require special treatment. The main types falling into this category are insurance, where the payments of premiums are made in advance, and housing, where the services provided by home ownership are continuous. In the ASNA, provisions are made to account for the services of insurance and housing in each accounting period. The methods used to value such services are described in Chapters 14 and 20.

Distributive transactions

7.50 Distributive transactions can be difficult to record on an accrual basis, as the accounting practices of the units involved are not always consistent with national accounting requirements. The most important item (in terms of size) affected in this way in the ASNA is wages and salaries, a component of compensation of employees. In addition,

provisions for employee entitlements which qualify as liabilities should also be included, rather than the cash payments of these entitlements. Such liabilities include provisions for long service leave and annual leave, and contributions by employers to unfunded superannuation schemes. Interest on debt is recorded in the period during which the interest accrues. Dividend levels, however, are not unambiguously attributable to a particular earning period, and are therefore recorded when they are declared payable.

Output, intermediate input, changes in inventories, and consumption of fixed capital

7.51 The principle of recording on an accrual basis implies that output is recorded over the period in which the process of production takes place, and the intermediate consumption of goods or services is recorded at the time when the good or service enters the process of production. Additions to inventories are recorded when products are purchased, produced or otherwise acquired, and deductions from inventories are recorded when products are sold, used up as intermediate consumption or otherwise relinquished. In general, the collection methods used to support the ASNA result in estimates based on the accrual process, although the extent to which this is possible depends upon the information received from the respondents to ABS economic statistics collections. Consumption of fixed capital is a cost which accrues over the whole period the fixed asset is available for productive purposes. The proportioning to accounting periods depends on the rate of depreciation used to estimate the using up of the asset. The methods used to estimate consumption of fixed capital in the ASNA are described in Chapter 16.

Aggregation, netting and consolidation

Aggregation

7.52 The vast number of individual transactions, other flows and assets within scope of the national accounts have to be arranged in a manageable number of analytically useful groups. Such groups are formed by crossing two or more classifications. For example, the classification of institutional sectors or industries is crossed with the classification of transactions, other accumulation entries or assets. In addition, resources need to be distinguished from uses and assets from liabilities.

Netting

7.53 Individual units or sectors may have the same kind of transaction both as a receivable and as a payable (e.g. they both pay and receive interest) and the same kind of financial instrument as both an asset and a liability. Where all the items are shown for their full values, the recording is on a gross basis. Where the values of some items are offset against items on the other side of the account, or against items which have an opposite sign, the recording is on a net basis. Gross recording is applied in most cases, except where a degree of netting is inherent in the classifications themselves. Within the ASNA, an example of net recording is the aggregate for changes in inventories. Rather than record all individual additions to and withdrawals from inventories, the resulting overall changes are recorded in order to show the final effect on gross capital formation. Similarly, the financial accounts record increases in assets and liabilities on a net basis (i.e. acquisitions and disposals are offset), to bring out the final consequences of these types of flows at the end of the accounting period.

Consolidation

7.54 Consolidation refers to the elimination of transactions which occur between two transactors belonging to the same institutional sector or subsector. Consolidation within sectors or subsectors can be useful for the kinds of analysis which focus on the interactions between (sub)sectors of the economy and between resident sectors and the rest of the world, where the overall final position is more significant than the details of

gross transactions within sectors. Consequently, in the sector income, capital and financial accounts, transfer flows are generally consolidated. Likewise, the national income, capital and financial accounts are prepared on a consolidated basis. However, in some parts of the national accounts, such as the input output tables, non-consolidation is the general rule.

Chapter 8: The accounting framework

Introduction

8.1 The system of national accounts is described in SNA93 (paragraph 1.1) as a:

"coherent, consistent, and integrated set of macroeconomic accounts, balance sheets and tables based on internationally agreed concepts, definitions, classifications and accounting rules".

8.2 The accounts are designed to be implemented at different levels of aggregation, from the level of individual institutional units, through groupings of institutional units into institutional sectors and subsectors, to the level of the national economy as a whole. The system is built around a sequence of interconnected flow accounts, each of which records a particular form of economic activity. The flow accounts follow a sequence of economic processes, from production, through generation of income, to the use of income in the form of final consumption or capital accumulation. Economic wealth generated by the processes is recorded in the system's balance sheets.

8.3 An important feature of the flow accounts is that they are a double entry system and, therefore, are fully balanced. Every entry has a counterpart entry i.e. every outgoing reappears elsewhere as an incoming, reflecting the circularity of the economic process. Materials and the services of factors of production flow into productive enterprises, and final goods and services flow into consumption, capital formation and changes in inventories. These flows of goods and services are matched by reverse flows of money. Producers pay for their materials, and also pay out factor income which (after borrowing and lending transactions and transfers such as income taxes, and borrowing and lending transactions) flows back as payments from final purchasers.

8.4 Although SNA93 employs a clearly defined sequence of accounts, the authors point out (SNA93 paragraph 1.4) that the activities recorded in the accounts should not be interpreted as necessarily taking place sequentially. For example, incomes are generated continuously by production processes, while expenditures on the outputs produced may be taking place more or less simultaneously. An economy is a general equilibrium system, with simultaneous occurrences of interdependent economic activities involving countless transactions between different institutional units. Feedbacks are continually taking place from one type of economic activity to another.

8.5 The ASNA is based on similar principles to those described in SNA93. However, the presentation of accounts in the ASNA is modified somewhat to reflect the present state of development of national accounting in Australia and to provide national accounts estimates in a way that is considered most meaningful for Australian users.

8.6 In this chapter, a broad outline of the ASNA accounting framework is given, followed by a description of each of the accounts that make up the ASNA. The definitions of items presented in the accounts in this chapter are provided in Chapter 4 and are not repeated here. Following this is a description of the relationships among key aggregates. The chapter concludes with a short discussion of the differences between the presentations of accounts in the ASNA and SNA93.

The ASNA accounting framework

8.7 The types of accounts in the ASNA reflect the major economic processes occurring in the economy, namely production, the distribution of incomes, consumption, saving and investment, financial flows and asset accumulation. The ASNA is composed of the following types of accounts:

- ☐ production accounts;
- ☐ income accounts;
- ☐ capital accounts;
- ☐ financial accounts; and
- ☐ balance sheets, supported by changes in balance sheet accounts.

8.8 Each of these accounts is produced for the economy as a whole, and the set of accounts together constitutes the consolidated summary accounts. In addition, income accounts, capital accounts, financial accounts and balance sheets are constructed for each of the four domestic institutional sectors i.e. non-financial corporations, financial corporations, households (including non-profit institutions serving households) and general government. The national accounts also include a number of supplementary tables which provide more detailed presentations of the individual sector accounts. Although, in principle, production accounts could be constructed for the four individual institutional sectors, major interest centres instead around production on an industry basis. This cuts across the institutional type of sectoring used in the income and capital accounts since the classification of production units by industry in such a presentation is done without regard to institutional sector.

8.9 Another group of accounts that is an integral part of the national accounts is the external accounts. These accounts record the transactions and financial positions of the nation with the rest of the world, from the point of view of the rest of the world. In one sense, the external accounts are simply another set of sectoral accounts. However, because of the important role of the external sector, these accounts are a major focus of attention from economic analysts and international organisations in their own right.

Production accounts

8.10 Production accounts record the expenses incurred in production and the receipts from sales of goods and services during a particular period. Sales of goods and services (including goods and services produced for own use) are recorded on the credit side of the account. On the debit side, expenses of production, namely intermediate consumption, compensation of employees, taxes less subsidies on production and imports, gross operating surplus and gross mixed income, are recorded. The gross domestic product account is, in effect, a consolidation of the trading accounts of all producer units.

8.11 As shown in table 8.1, the receipts side of the gross domestic product account in the ASNA shows sales of goods and services to final users (including exports less imports) and changes in inventories. Because only sales to final users are shown, revenue from the sale of intermediate goods and services (i.e. goods and services used up in the production of final output) does not appear. In the process of consolidation of the production accounts of all sectors, intermediate goods and services cancel out, as the revenue of one producer is a cost to another. On the payments side the incomes from production are shown, namely compensation of employees, gross operating surplus, gross mixed income and net

taxes on production and imports.

8.1 GDP ACCOUNT

EXPENDITURES	INCOME
Final consumption expenditure	Compensation of employees
Gross fixed capital formation	Gross operating surplus
Domestic final demand	Gross mixed income
Changes in inventories	*Total factor income*
Gross national expenditure	Taxes less subsidies on production and imports
Exports of goods and services	Statistical discrepancy (I)
less Imports of goods and services	
Statistical discrepancy (E)	
Gross domestic product	**Gross domestic product**

Statistical discrepancies in the production accounts

8.12 There are three approaches which can be used to measure GDP:

- the **income approach (I)**, which involves summing net factor incomes, consumption of fixed capital (depreciation) and taxes less subsidies on production and imports;
- the **expenditure approach (E)**, which involves summing all final expenditures, changes in inventories and exports less imports of goods and services; and
- the **production approach (P)**, which involves taking the value of goods and services produced by an industry (i.e. output) and deducting the cost of goods and services used up by the industry in the production process (i.e. intermediate consumption) and adding the result across all domestic industries. To this is added taxes less subsidies on products if output is valued at basic prices, as recommended in SNA93.

8.13 While each measure should, conceptually, deliver the same estimate of GDP, if the three measures are compiled independently using different data sources then different estimates of GDP result. However, the Australian national accounts estimates have been integrated with annual balanced supply and use tables. These tables have been compiled from 1994-95 up to the year preceding the latest completed financial year. As integration with balanced supply and use tables ensures that the same estimate of GDP is obtained from the three approaches, annual estimates using the I, E and P approaches are identical for the years for which these tables are available.

8.14 Prior to 1994-95, the estimates using each approach are based on independent sources, and there are usually differences between the I, E and P estimates. Nevertheless, for these periods, a single estimate of GDP has been compiled by taking a simple average of the I, E and P estimates. In chain volume terms, GDP is derived using the expenditure and production approaches. See also "The compilation of chain volume estimates of GDP" in Chapter 10.

8.15 As a result of the above methods:

- there are no statistical discrepancies for annual estimates from 1994-95 up to the year prior to the latest year, in either current price or chain volume terms; and
- for years prior to 1994-95, for the latest year, and for all quarters, statistical discrepancies exist between estimates based on the I, E and P approaches and the single estimate of GDP, in both current price and chain volume terms. These discrepancies are shown in the relevant tables.

Income accounts

8.16 The *national income account* (table 8.2) records sources and use of income. On the sources of income side it shows compensation of employees, gross operating surplus, gross mixed income (from unincorporated enterprises) and taxes less subsidies on production and imports. Net secondary income from non-residents is added to derive gross national disposable income. The use of income (or disbursements) side of the account shows how gross disposable income is used for final consumption expenditure and the consumption of fixed capital (depreciation), with the balance being the nation's net saving. Saving is carried forward into the capital account. Saving must be used to acquire financial or non-financial assets of one kind or another, including cash, the most liquid of financial assets, or to reduce liabilities. When saving is negative, the excess of consumption over disposable income must be financed by disposing of assets or incurring liabilities.

8.2 NATIONAL INCOME ACCOUNT

SOURCES OF INCOME	**USE OF INCOME**
Compensation of employees	Final consumption expenditure
Gross operating surplus	Consumption of fixed capital
Gross mixed income	Net saving
Taxes less subsidies on production and imports	
Net primary income from non residents	
Gross national income	
Net secondary income from non-residents	
Gross disposable income	**Gross disposable income**

8.17 The sectoral income accounts are disaggregations of the national income account, and record for each institutional sector its net income arising both from production and from transfers from other sectors, and its uses of income (disbursements). The difference between income and use of income is net saving (the balancing item). Income accounts are also compiled for selected subsectors. As consumption of fixed capital is not calculated for subsectors, the balancing item in the subsector accounts is equal to net saving plus consumption of fixed capital (i.e. gross saving).

8.18 For corporations (both financial and non-financial), the income accounts show income arising from gross operating surplus from the gross domestic product account and property income (such as interest, dividends, reinvested earnings on direct foreign investment and rent on natural assets) from other sectors. Total income is used to make various payments (such as interest, dividends, reinvested earnings on direct foreign investment and rent on

natural assets) to other sectors. The balance is the saving of the respective sectors and is transferred to their capital accounts.

8.19 The income account of the households sector shows compensation of employees, gross mixed income (on account of unincorporated enterprises) and gross operating surplus on dwellings owned by persons, which are all from the gross domestic product account, as well as property income (interest, dividends, property income attributed to insurance policyholders and rent on natural assets) from other sectors, social assistance benefits and various other forms of secondary income. On the use of income side are shown final consumption expenditure, consumer debt interest and other property income payable, income taxes and other current taxes payable, other current transfers to non-residents and other sectors, consumption of fixed capital (on account of unincorporated enterprises and dwellings owned by persons) and net saving (the balancing item).

8.20 The general government income account shows receipts from income taxes, other taxes on income, wealth, etc., taxes on production and imports, property income (interest, dividends and rent on natural assets) and gross operating surplus. On the use of income side are shown final consumption expenditure, property income payable to other sectors, subsidies, social assistance benefits and other current transfers, consumption of fixed capital and net saving (the balancing item).

Adjusted disposable income accounts

8.21 In the core income accounts, social transfers in kind are shown as part of government final consumption expenditure. However, for some analyses it is useful to show the value of these transfers as part of household, rather than government, final consumption expenditure. To support these analyses supplementary accounts - called adjusted disposable income accounts - are provided for the general government and households sectors. In these accounts, social transfers in kind are shown as a secondary income transfer from the general government sector to the households sector - hence the term adjusted disposable income - with corresponding adjustments to the final consumption expenditures of the two sectors.

Capital accounts

8.22 The *national capital account* (table 8.3) shows sources of funds (receipts) for financing gross capital formation and the use of these funds (disbursements). Sources of funds comprise consumption of fixed capital, net saving transferred from the national income account and net capital transfers receivable from non-residents. On the disbursements side are shown gross fixed capital formation, changes in inventories and net acquisitions of non-produced non-financial assets. Conceptually, net lending to non-residents is the balance of the national income account. However, if there are statistical discrepancies in the gross domestic product account, then these discrepancies must also be taken into account before the derivation of the balancing item. If net lending is negative, then the economy is a net borrower from non-residents.

8.3 NATIONAL CAPITAL ACCOUNT

FINANCING OF ACCUMULATION	ACCUMULATION
Net saving	Gross fixed capital formation
Consumption of fixed capital	Changes in inventories
Net capital transfers receivable from non-residents	Acquisitions less disposals of non-produced non-financial assets
	Acquisitions less disposals of valuables
	Statistical discrepancy (E) less statistical

	discrepancy (I) Net lending to non-residents
Gross saving and capital transfers	**Total capital accumulation and net lending**

8.23 Table 8.3 has an entry for acquisitions less disposals of valuables. While conceptually such transactions should be recorded in the capital account, they are currently not recorded in the ASNA due to a lack of a suitable data source.

8.24 Similar information to that provided in the national capital account is provided in the sectoral capital accounts. The balancing item, net lending, reflects the net lending of a particular sector to all other sectors. As sectoral production accounts are not compiled, it is not possible to show any national statistical discrepancies by sector. Accordingly, the sectoral net lending balance includes, implicitly, each sector's share of the national statistical discrepancy. Capital accounts are also compiled for selected subsectors.

Financial accounts

8.25 The financial accounts record the net acquisition of financial assets and the net incurrence of liabilities. The financial account for each sector shows the financial transactions associated with the net lending transactions recorded in the capital account. The balance in each financial account is net change in financial position, which is equal to net acquisition of financial assets less net incurrence of liabilities. Conceptually, this balance is the same as net lending derived from the relevant capital account. However, due to measurement imperfections, this is seldom the case in practice and a net errors and omissions item is included to achieve balance.

8.26 In the *national financial account* (table 8.4), transactions in financial assets and liabilities with non-residents are shown. The national financial account is identical to the financial account in the balance of payments. Financial accounts are also compiled for each sector and for a wide range of subsectors. In these financial accounts, the transactions relate to financial assets and liabilities with other sectors/subsectors.

8.4 NATIONAL FINANCIAL ACCOUNT

FINANCIAL ASSETS	**LIABILITIES AND NET WORTH**
Net acquisition of financial assets with rest of the world	Net incurrence of liabilities with rest of the world
	Net errors and omissions
	Net lending
Changes in financial assets	**Changes in liabilities and net worth**

Balance sheet and related accounts

8.27 The *national balance sheet* (table 8.5) shows, at particular points in time, the aggregate value of Australian residents' non-financial assets, their financial claims on non-residents, and their liabilities to non-residents. The difference is net worth. Similar information is shown for each sector in the sectoral balance sheets. For financial assets and liabilities, the amounts shown are the outstanding claims on and liabilities to other sectors on the balance sheet dates. For non-financial assets, the amounts shown represent each sector's share of the Australian value as at the balance sheet dates.

8.5 NATIONAL BALANCE SHEET ACCOUNT

ASSETS	LIABILITIES AND NET WORTH
Non-financial assets	Liabilities to the rest of the world
Produced assets	Net worth
Fixed assets	
Inventories	
Valuables	
Non-produced assets	
Tangible	
Intangible	
Financial assets with the rest of the world	
Total assets	**Total liabilities and net worth**

8.28 The assets shown in the table above include entries for valuables and intangible non-produced assets. While conceptually these assets should be recorded in the balance sheets, they are currently not recorded in the ASNA balance sheets due to a lack of suitable data sources.

Changes in balance sheets accounts

8.29 Supplementing the balance sheets are accounts that show the changes in balance sheet positions during a particular period. In these accounts, changes in balance sheets are decomposed into transactions (which are equivalent to the relevant transactions recorded in the capital and financial accounts), revaluations due to the effect of price changes, and other changes affecting the volume of assets and liabilities.

External accounts

8.30 The external accounts show the economy's transactions and stock positions with non-residents, from the non-residents' perspective.

8.31 In the ASNA, external income, capital, financial and balance sheet accounts are provided. The external income account is analogous to the balance of payments current account. As such, its balance - balance on external current account - is the same as, but with opposite sign to, the balance on current account recorded in the balance of payments. The balance on the external account - net lending - is the same as, but with opposite sign to, the sum of the current and capital account balances in the balance of payments. The external financial account includes the balance of payments financial account together with net lending of non-residents (the sum of the balance of payments current and capital accounts) and the difference between the two, i.e. the balance of payments net errors and omissions item.

Relationships among key aggregates

8.32 Table 8.6 shows the relationships among the key national accounting aggregates. For the sake of exposition, it is assumed that there are no statistical discrepancies (including net errors and omissions).

8.6 RELATIONSHIPS AMONG KEY AGGREGATES

1 GDP (Gross Domestic Product) = C + G + I + X - M

Explanation

From table 8.1, we know that GDP

- ☐ **equals** final consumption expenditures by households (C) and government (G)
- ☐ **plus** investment in fixed capital and inventories (I)
- ☐ **plus** exports less imports of goods and services (X - M)

2 GDP = CoE + GOS + GMI + NT

Explanation

From table 8.1 we know that GDP

- ☐ **equals** compensation of employees (CoE)
- ☐ **plus** gross operating surplus (GOS) and gross mixed income (GMI)
- ☐ **plus** taxes less subsidies on production and imports (NT)

3 GNDY (Gross National Disposable Income) = CoE + GOS + GMI + NT + NPI + NSI

Explanation

From table 8.2 we know that gross national disposable income (GNDY)

- ☐ **equals** the income components of GDP (i.e. CoE, GOS, GMI, NT)
- ☐ **plus** net primary income receivable from non-residents (NPI)
- ☐ **plus** net secondary income receivable from non-residents (NSI)

4 GNDY = GDP + NPI + NSI

Explanation

For CoE + GOS + GMI + NT in equation 3, we substitute GDP from equation 2

5 GNDY = C + G + I + X - M + NPI + NSI

Explanation

For GDP in equation 4, we substitute C + G + I + X - M from equation 1

6 CAB (Current Account Balance) = X - M + NPI + NSI

Explanation

From the balance of payments we know that the current account balance

- ☐ **equals** exports less imports of goods and services (X - M)
- ☐ **plus** net primary income receivable from non-residents (NPI)
- ☐ **plus** net secondary income (current transfers) receivable from non-residents (NSI)

7 GNDY = C + G + I + CAB

Explanation

Same as equation 5, but with CAB replacing X - M + NPI + NSI (see equation 6)

8 GS (Gross Saving) = NS + CoFC

Explanation

Gross saving (GS) is defined to equal net saving (NS) + consumption of fixed capital (CoFC)

9 GS = GNDY - C - G

Explanation
From table 8.2 we know that gross saving (GS)

- ☐ **equals** GNDY
- ☐ **minus** household and government final consumption expenditure (C + G)

10 **GS** **=** **I + CAB**

Explanation
From equations 7 and 9 we know that GS = C + G + I + CAB - C - G, and C and G cancel out.

11 **CAB** **=** **GS - I**

Explanation
The terms in equation 10 have been rearranged

12 **Net lending (NL)** **=** **GS + NCT - I - NPNFA**

Explanation
From table 8.3 we know that net lending (NL)

- ☐ **equals** gross saving (GS) plus net capital transfers from non-residents (NCT)
- ☐ **minus** investment in fixed assets and inventories (I)
- ☐ **minus** net acquisitions of non-produced non-financial assets (NPNFA)
  Note: Conceptually, net acquisitions of valuables should also be subtracted, but these transactions are currently not recorded in the ASNA

13 **NL** **=** **CAB + NCT - NPNFA**

Explanation
Same as equation 12, but with CAB replacing GS - I (from equation 11)

14 **NL** **=** **NFA - NLN**

Explanation
From table 8.4 we know that net lending (NL) equals the net acquisition of financial assets with non-residents (NFA) less the net incurrence of liabilities to non-residents (NLN)

8.33 In the table above, it should be noted that gross saving (GS) reflects the saving of all the domestic sectors of the economy, and not just the households sector's saving.

Differences between the ASNA and SNA93 presentation of accounts

8.34 There are some differences in the presentation of accounts in the ASNA and SNA93. These are:

- ☐ the ASNA GDP account is a combination of the SNA93 production account and generation of income account; and
- ☐ the ASNA income accounts are a combination of the SNA93 allocation of primary income, secondary distribution of income, and use of income accounts.

8.35 There are also minor differences in the way information is presented within the

accounts and in the level of detail shown.

Introduction

9.1 The ASNA includes symmetric input-output tables (for the definition of 'symmetric' see paragraph 9.2) as well as closely related supply and use (S-U) tables. Both types of tables are known as input-output tables. Input-output tables provide a means of undertaking detailed analysis of the process of production and the use of goods and services (products), and of the income generated in that production. The concepts and definitions used for the S-U tables and the input-output tables of the ASNA are the same as in the rest of the system. For a detailed discussion of the nature of input-output and supply and use tables see Chapter 15 of SNA93.

9.2 The integration of 'input-output' in the overall system of national accounts is an important feature of the ASNA. Its role in the ASNA is primarily related to the goods and services accounts and to the shortened sequence of accounts for industries. Complementing the full sequence of accounts for institutional sectors, which cover all kinds of accounts in the ASNA, the S-U tables, and subsequently the symmetric input-output tables, serve to provide a more detailed basis for analysing industries and products through a breakdown of the production account, and the generation of income account and the goods and services account, leading to the symmetric input-output table. 'Symmetric' means that the same classifications or units (e.g. the same groups of products) are used in both rows and columns. When the number of rows of products and columns of industries in S-U tables happens to be equal, they are referred to as square (not symmetric) S-U tables. However, S-U tables are most often rectangular (having more products than industries).

9.3 The input-output tables, and in particular the S-U tables, serve two purposes: statistical and analytical. They provide a framework for checking the consistency of statistics on flows of goods and services obtained from quite different kinds of statistical sources - industrial surveys, household expenditure inquiries, investment surveys, foreign trade statistics, etc. The ASNA, and the input-output tables in particular, serve as a coordinating framework for economic statistics, both conceptually for ensuring the consistency of the definitions and classifications used and as an accounting framework for ensuring the numerical consistency of data drawn from different sources. The input-output framework is also appropriate for calculating much of the economic data contained in the national accounts and detecting weaknesses. This is particularly important for the decomposition of the values of flows of goods and services into prices and volumes for the calculation of an integrated set of price and volume measures. As an analytical tool, input-output data are conveniently integrated into macroeconomic models in order to analyse the link between final demand and industrial output levels. Input-output analysis also serves a number of other analytical purposes or uses.

9.4 A fundamental role is played in the ASNA by S-U tables. They show, for the economy as a whole and for groups of products, the total resources in terms of domestic output and imports, and the uses of goods and services in terms of intermediate consumption, final consumption, gross capital formation and exports. They also provide information on the generation of income from production.

9.5 The symmetric input-output tables are also an important part of the ASNA, serving as a well-established tool for various analytical purposes related to production.

9.6 The symmetric input-output tables are generally based on S-U tables. However, as the latter are data-orientated in nature, adjustments are required in the compilation in the former, particularly with respect to valuation, the treatment of imports and classifications. Readers interested in a detailed description of constructing symmetric input-output tables should refer to the *Handbook on Input-Output Table Compilation and Analysis* published by the Statistics Division Department of Economic and Social Affairs of the United Nations.

9.2

The input-output context

9.7 In national accounting and economic analysis two kinds of input-output tables (or matrices) are referred to:

- ☐ S-U tables; and
- ☐ symmetric input-output tables.

9.8 The S-U tables are sometimes referred to as rectangular input-output tables, make and use tables, supply and disposition of products, etc. In the ASNA, the term 'S-U tables' is used. The symmetric input-output tables are also often termed 'square' (input-output) tables or matrices, Leontief-type input-output tables (matrices), etc. The square symmetric tables are either product-by-product or industry-by-industry. In this chapter the term 'tables' is used rather than 'matrices', and the terms 'product-by-product' tables and 'industry-by-industry tables' are used to describe tables in which the rows and columns both relate to products, or industries, respectively.

9.9 The concepts and definitions in the S-U tables are the same as elsewhere in the ASNA.

9.10 The S-U and input-output tables also adopt the accounting rules of the ASNA, i.e. the definitions, conventions, etc., which are employed with respect to transactions and transactors apply equally to the input-output framework.

9.11 Issues of particular importance to the input-output tables include:

- ☐ statistical units; and
- ☐ the distinction between principal, secondary and ancillary activities;

both of which are discussed below.

Statistical units for input-output

9.12 Institutional units may engage in several different kinds of productive activities simultaneously. For the detailed analysis of production, the system therefore recommends that they should be partitioned into separate establishments, each of which engages in only a single kind of productive activity at a single location. Industries are then defined as groups of establishments engaged in the same kind of productive activities. Ideally, the industries in the system would be composed of establishments that are homogeneous production units.

9.13 A unit of homogeneous production is defined as a producer unit in which only a single (non-ancillary) productive activity is carried out. However, the unit of homogeneous

production is not normally observable and is more an abstract or conceptual unit underlying the symmetric (product-by-product) input-output tables.

9.14 To be operational for statistical compilation purposes the establishment needs to be sufficiently distinct as a production unit to supply meaningful information. For the S-U tables, the system needs a unit which can be observed and for which data can be collected. Furthermore, the choice of units is often dictated by the units which are being used in source data collections.

Principal, secondary and ancillary activities

9.15 When an establishment engages in more than one kind of activity, by reference to a given classification of activities, it is necessary to observe the fundamental distinction between principal and secondary activities on the one hand and ancillary activities on the other:

- the principal activity of an establishment is the activity for which gross value added exceeds that for any other activity carried out within the same unit;
- a secondary activity is an activity carried out within a single establishment in addition to the principal activity; and
- an ancillary activity is a supporting activity which is undertaken in order to create the conditions within which the primary and secondary activities of an enterprise can be carried out.

9.16 The establishment unit used for the sequence of accounts for industries may include principal as well as secondary productive activities within it, although secondary activities should be separated as far as practically possible. The further treatment of secondary production is one of the central issues met in the construction of symmetric input-output tables.

9.17 Ancillary activities typically produce outputs of services which are used as inputs into almost all kinds of productive activities, and their values are likely to be small compared with those of the principal and secondary activities of the enterprise. Consequently, they are treated as integral parts of the principal or secondary activities with which they are associated. In a production account and input-output context, ancillary activities are treated as follows:

- outputs of ancillary activities are not explicitly recognised and recorded in the system;
- inputs into ancillary activities are treated as inputs into the principal and secondary activities which they support; and
- value added is not identified separately as it is combined with that of the principal and secondary activities. However, satellite analysis might try to identify inside the producing units some ancillary activities and their output.

9.18 In addition, output of an industry may include more than a single product when two or more products are produced simultaneously by a single productive activity as 'joint products' (e.g. molasses linked to the production of sugar; natural gas linked to crude oil). Joint products may be distinguished as the principal product (by largest proportion) and the by-product (or by-products). In practice, by-products are often treated in the same way

as secondary products in the input-output framework.

Basic structure of the input-output and associated tables

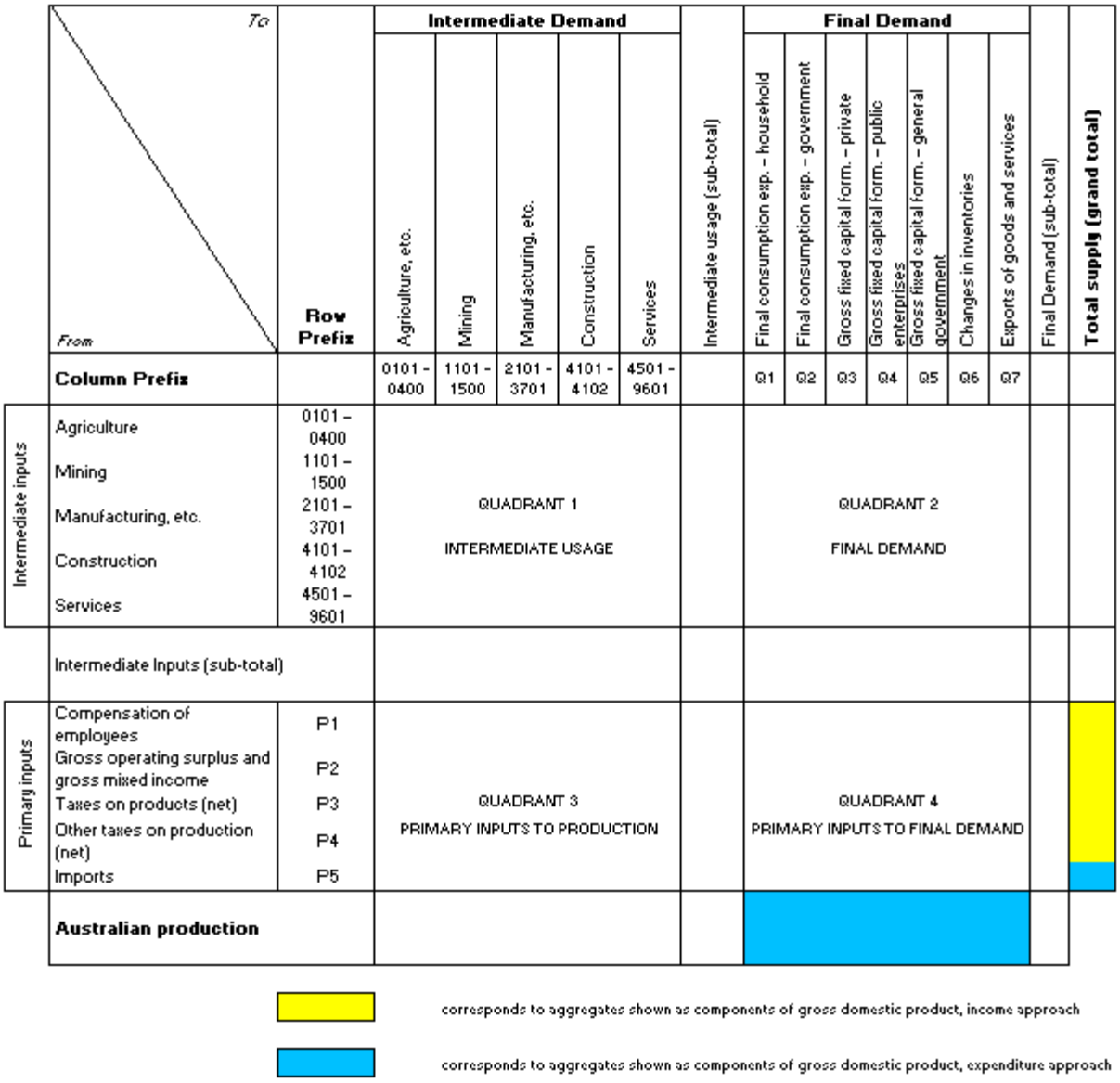
9.19 Preceding sections of this chapter referred to goods and services accounts, S-U tables and input-output tables. Technically these accounts or tables are variants on a theme. They each describe the supply and disposition of the products, or outputs of industries, of an entire economic system for a particular period. The differences between these various types of tables relate to differences in valuation and structure which do not need further elaboration here. Readers interested in more detail regarding these differences should refer to Chapter 15 of SNA93.

9.20 The remainder of this chapter describes aspects of an industry by industry input-output table, which is the most complex of this family of tables and is the main input-output table published by the ABS. Goods and services accounts and S-U tables are essentially simpler constructs of these tables.

9.21 Input-output tables may be compiled for industries or products (or both), but they are similar in essentials. As explained in the introduction to this chapter, the distinguishing characteristics of input-output tables, as contrasted to supply and use tables, is that they are symmetric and, as explained later in this chapter, the preferred valuation of transactions is at basic prices.

9.22 This section describes an industry-by-industry table, which is the type of table published by the ABS. A row in the table shows the disposition of the output of an industry and a column shows the origin of inputs into an industry. Since the output of an industry must be equal to the sum of its inputs (including gross operating surplus), the row total for an industry must be equal to the corresponding column total. They are simply two sides of an accounting identity.

9.1 INDUSTRY-BY-INDUSTRY MATRIX



9.23 The basic structure of an industry-by-industry table with direct allocation of imports is shown in table 9.1. The notation of rows and columns is that used in *Australian National Accounts: Input-Output Tables* (Cat. no. 5209.0). Flows between domestic industries are shown in Quadrant 1 (rows and columns 0101 to 9601). This is usually referred to as the inter-industry quadrant. Each column in this quadrant shows the intermediate inputs into an industry in the form of goods and services produced by other industries, and each row shows those parts of an industry's output which have been absorbed by other industries. For example, the cell at the intersection of row i and column j shows how much output of industry i has been absorbed by industry j for current production. Disposition of output to categories of final demand is shown in Quadrant 2, comprising rows 0101 to 9601 and columns Q1 to Q7. Quadrant 3 (rows P1 to P5 and columns 0101 to 9601) shows entries usually referred to as primary inputs: compensation of employees; gross operating surplus and gross mixed income; imports; and various types of taxes on production. These inputs differ from the intermediate inputs in that they are not part of the output of current domestic production.

9.24 Quadrants 1 and 2 together show the total usage of the goods and services supplied

by each industry. Total usage equals total supply because Quadrant 2 includes changes in inventories (which may be positive or negative). Quadrants 1 and 3 together show the inputs used to produce the total supply (outputs) of each industry. The sum of the inputs equals total supply (outputs) because the primary inputs in Quadrant 3 include gross operating surplus and gross mixed income (which may be positive or negative conceptually).

9.25 In some tables, the figures shown for total supply from each industry include not only Australian output but also similar products which are imported; these tables are said to have an indirect allocation of imports. When the tables are arranged in this way, the amounts of inputs into one industry supplied by each of the other industries reflect technological relationships between all inputs into the industry, whether or not they are domestically produced, and the output of that industry. The assumption of a functional relationship between an industry's inputs and its output is implicit in many uses of input-output tables, and this is an important consideration in the design of the tables.

Sectoring

9.26 In the preceding description of the basic structure of input-output tables, a row or column in Quadrant 1 was said to refer to an industry. However, in some tables a row or column may represent a product or a group of products rather than an industry. For this reason, rows and columns in Quadrant 1 are called sectors. This part of the chapter discusses the possible content and number of sectors, and the problems and analytical implications of the sectoring used.

9.27 Input-output tables are mostly used to investigate the likely effects on the rest of the economy of observed or postulated changes in a part of it, such as may occur because of an increase or decrease in the demand for a product, substitution of imports for local production, increase in wages, etc. It is clearly desirable that the part of the economy being studied is isolated in a sector, and that 'sector' is defined in terms which satisfy the requirements of users of the table. However, it is not always possible to satisfy these criteria because some users wish to study a broad area of the economy, but others are interested only in a narrowly defined industry or product.

9.28 Appropriate sectoring has an important influence on the stability of input-output coefficients (i.e. the inputs to an industry divided by the output of the industry). It ensures that the input structure of a sector changes as slowly as possible, which means that the input-output tables remain useful for longer. Therefore, it is important in planning the tables that the sectors should be defined so as to satisfy as far as possible the homogeneity assumption, which may be described as follows:

- ☐ each sector produces a single output (i.e. all the products of the sector are either perfect substitutes for one another or are produced in fixed proportions);
- ☐ each sector has a single input structure (i.e. one which does not vary in response to changes in product mix); and
- ☐ there is no substitution between the products of different sectors.

9.29 The stability of coefficients is affected by the interaction of two factors: aggregation into a single sector of products with different input structures, and changes in the sector's product mix over time. This is very important when the input-output coefficients are only available from infrequent surveys, and it is therefore necessary, when compiling input-output tables, to assume that the coefficients observed in one year apply in neighbouring

years, at least as a starting point. For example, if the textile industry is defined as a single sector, the coefficients for yarn inputs will be different for textiles produced from different yarns and will change if the proportions of these textiles change. Again, in an industry such as motor vehicles, trucks may contain a significant amount of timber whereas cars do not. If an increase in fixed capital formation leads to a higher demand for trucks than in the survey year, the projected requirements for timber will be understated because the input coefficient in the survey year relates to timber used to produce trucks and cars in the proportions for that year. Such problems will arise in industries producing a range of products, particularly when each product has a different input structure.

9.30 Even in large input-output tables there is substantial aggregation, which leads to a departure from these ideals and affects the homogeneity of sectors. There are two ways in which the aggregation can be made. One is a grouping of industries, leading to an industry-by-industry table. The other is a grouping by products, leading to a product-by-product table. These two approaches have different implications for homogeneity and therefore for the subsequent analytical uses of the tables. No system of sectoring can completely eliminate the aggregation problem, but an appropriate sectoring can keep it within acceptable limits. The choice of sectors depends partly on the practical problems of compilation.

9.31 It would appear, at first sight, that it might be best to define sectors as fairly narrow product groupings. This would go close to satisfying the first two criteria of homogeneity, but there are disadvantages in defining sectors this way. The resulting tables may be too detailed for many uses. They may take too long to compile. Necessary data may not be available in sufficient detail. In particular, when an establishment produces products classified to different sectors, there are difficulties in obtaining separate details of the inputs into the different product sectors. In an economy such as Australia there may be the overriding disadvantage that the resulting estimates could not be published anyway, because they would be confidential. Finally, it is likely that the third homogeneity criterion would not be satisfied. If, for example, electric cables made of aluminium were in a different sector from cables made of copper, there could well be substitution between the products of the two sectors and some conclusions drawn from the tables could be of doubtful validity.

9.32 If industries are chosen as sectors, homogeneity may be impaired by the wide range of products produced by the establishments in some industries. Products are described as primary to an industry when they are produced mainly by that industry. The secondary outputs of an industry are those outputs which are primary to another industry. Where the range of primary products for a given industry is wide, the output of that industry may contain products which may have very different input structures. In addition, they may contain not only products primary to the industry but also secondary products (primary to other industries) and the corresponding inputs. If, for example, the basic iron and steel industry also produces non-ferrous castings, the column for this industry will show inputs of non-ferrous metals and the row will include sales to industries using non-ferrous castings. Such a presentation may be unsatisfactory to users who are interested in the production and disposition of basic iron and steel products only. More importantly, if either of these problems exists, the second criterion of homogeneity will not be satisfied and the input coefficients will vary in response to changes in product mix. Unless the production of secondary products represents a fixed proportion of the industry's output, the requirements calculated from the table may be misleading.

9.33 Often there is no necessary connection between the production of primary and

secondary products, and it cannot be expected that the proportions will remain constant. However, where the secondary products are joint products or by-products (such as production of sulphuric acid in basic metal smelting) the proportions will normally remain constant and there will be no problem on that account. Nevertheless, a problem may arise in this case because a change in demand for these products is more likely to affect the output of specialist producers of those products than that of the industries which produce them as by-products.

9.34 The extent of secondary production (products primary to another industry) depends on the range of products produced by individual establishments and on whether the establishments are grouped into a large number of narrowly defined industries or a smaller number of broadly defined industries. With narrowly defined industries, a large proportion of some products will be produced by industries to which the products are not primary. This tends to conflict with all the homogeneity requirements and, most seriously, it conflicts with the non-substitution requirement. Where significant proportions of a product are produced by a number of industries there can be easy substitution between that product produced by one industry and the same product produced by another industry. There is then a very weak link between the demand for that product and the output of a single industry. Thus, given basic statistics of establishments classified to narrowly defined industries, combining some of these industries will improve homogeneity in one important respect. There is a limit, though, because the improvement may be offset by a more heterogeneous product mix. Also, provision should be made, if possible, for users wishing to undertake detailed product or industrial analyses.

9.35 As well as conceptual considerations, the choice of sectors is influenced by the nature of the statistical data available. Thus, detailed information on sales or output is normally available for products, but information on costs or inputs may not be available. The total value of inputs used by an establishment or enterprise is often the only information available. As it is necessary to relate inputs to outputs, the statistical data normally available have to be arranged to bring out this relationship.

9.36 Product-by-product tables are theoretically more appropriate than industry-by-industry tables for some analytical purposes, but the differences between these types of tables arise only because of secondary production and depend on the extent of this production. If there is a significant amount of secondary production, the use of industry-by-industry tables for product analyses will produce less accurate results. However, if the extent of secondary production is small to start with, or if it has been possible to minimise it by appropriate sectoring and redefinition of industries (i.e. transferring some activity attributed to an industry to another, more appropriate, industry), the results obtained by using an industry-by-industry table may differ only slightly from the results which would have been obtained if a product-by-product table had been used instead.

9.37 The ABS prefers to compile industry-by-industry tables for a number of reasons. First, detailed information on inputs is not normally available for products. Therefore, the estimates of inputs in a product-by-product table must be based on assumptions and approximations with a consequent loss in accuracy. Second, experience in some overseas countries shows that product-by-product tables prepared entirely using the industry technology assumption (i.e. that a product has the same input structure wherever produced) can lead to anomalous or even unacceptable results. These anomalies could be avoided by using mixed assumptions as SNA93 recommends, but this approach is very expensive. Finally, it appears that most of the analytical applications of input-output statistics in Australia can be satisfied using industry-by-industry tables. Thus, analysis of

the effects of changes in factor costs, productivity, incidence of taxes on production and imports, and primary input content of demand can be met by tables of this type.

Basic tables

9.38 Regardless of whether products or industries are used to define the sectors, the initial assembly of data is the same. It is necessary to record the product flows in the economy in a way suitable for input-output analysis. A system of building blocks is used, each of which shows, for a product (or, more commonly, a combination of products):

- its origin, or source of supply, divided into domestic production from various industries and imports;
- its destination, classified into usage by various industries and final demand categories; and
- the difference (or margin) between the basic price and the purchasers' price of each product.

Recording supplies by industry of origin does not present any difficulty apart from the necessity to classify imports in the same way as locally produced products. The destination of products is more difficult to determine. The first requirement is information on the usage by each industry and final demand category, both in total and for the constituent products. Although the using industries can supply information on the nature of their inputs, the descriptions may be broad and may differ from descriptions used by the suppliers of the same products. Where the information is not available in sufficient detail it must be estimated.

9.40 Once these building blocks are ready they are arranged into four basic tables. The first of these is the *supply table*. It shows output of domestic industries and imports in the columns and output of products primary to these industries in the rows. Characteristically, the largest entries are on the main diagonal because an industry mainly produces products primary to it. For a large proportion of the cells in the supply table the estimate of the value of output is nil. In order to save space and assist readability, only cells with non-zero values are presented in the published supply table. This table provides insights into the way the production of products by industries is organised. The columns of the table show, for each industry, the products it produces (or the 'industry product mix', as it is sometimes called) and the extent to which each industry specialises in the production of products primary to it as well as the product composition of imports.

9.41 The *use table* has product groups and primary inputs in its rows, and industries and final demand categories in its columns. The rows of this table record the total supply of products, whether locally produced or imported, and show how these products are used by industries as intermediate inputs to current production and by final demand categories. Further down, the rows designated by prefix 'P' show the primary inputs which have been purchased by industries and by final demand. Reading down the columns one can find the composition of inputs (intermediate and primary) into each industry and the composition of each final demand category. Therefore, all flows of goods and services in the economy are covered.

9.42 The third basic table is the *imports table*. It shows in the columns the industries to which the imported products would have been primary had they been produced in Australia, and in the rows the usage of these products by industries and final demand categories. This dissection is shown only for competing imports, i.e. those products which are both produced domestically and imported, so that substitution between the two sources of supply is possible. It is not shown for complementary imports which, by

definition, are of a kind not produced in Australia; nor for re-exports, which are goods imported into Australia and then exported without having been used or transformed in any way. These are recorded in separate columns rather than in the columns of industries to which they would have been primary if they had been produced in Australia. The imports table has not been included in the I-O publication, but is available on request (see Appendix D of Cat. no. 5209.0).

9.43 The fourth basic table is the *margins table*, which shows the difference between the basic price and purchasers' price of all flows in the use table. The margins table is the sum of separate tables for each type of margin (e.g. taxes on products (net), wholesale, retail). Table 3 in Cat. no. 5209.0 provides a summary margins table. The component margins tables are not included in Cat. no. 5209.0, but are available on request.

9.44 These four basic tables are simply a record of the estimated flows which occur in the process of production. However, the use table is not symmetric, which makes it unsuitable for some analytical purposes. It can be made symmetric by reorganising it so that both rows and columns refer either to industries or to products. In the first case, rows of the use table have to be adjusted to show industries purchasing industry output rather than products. In the second case, columns of the use table have to be adjusted to show inputs relevant to the production of products. These adjustments lead to symmetric flow tables which are either industry-by-industry or product-by-product tables. Only industry-by-industry tables are published by the ABS.

I have skipped multiple sections at this point

Chapter 25: Financial accounts

Introduction

25.1 This chapter describes the sources and methods used in compilation of the financial accounts and the financial asset/liability components of the balance sheets. The financial accounts record information about transactions in financial assets and liabilities, while the balance sheets provide information about the values of stocks of financial assets and liabilities at particular points in time. Information on the structure of the financial accounts and balance sheets is provided in Chapter 8. Financial accounts statistics are sometimes referred to as 'flow-of-funds' statistics.

25.2 On a quarterly basis, information on transactions in and stocks of financial instruments is provided in *Australian National Accounts: Financial Accounts* (Cat. no. 5232.0). These data are classified by institutional sector/subsector and by type of financial instrument. Annual financial data are provided in *Australian System of National Accounts* (Cat. no. 5204.0). In that publication, financial accounts are provided for each sector as well as for the economy as a whole. Information on stocks of financial assets and liabilities is included as part of the national and sectoral balance sheets. Information on the financial transactions and positions of non-residents vis-a-vis residents is also provided in the ABS publications relating to the balance of payments and the international investment position.

In these publications the statistics are presented from the point-of-view of the Australian residents. In the national accounts publications, statistics for the rest of the world sector are presented from the non-residents' perspective.

25.3 In theory, data for compilation of the financial accounts and the financial components of the balance sheets could be obtained from both parties to every financial transaction and position. Under such circumstances, two views would be obtained of each transaction and position (i.e. a creditors' view and a debtors' view). The views should be identical, but may not be in practice. However, costs prevent such an exhaustive approach, and reliance is often placed on reporting by only one of the parties to a financial transaction and/or position. Advantage is taken of the fact that financial transactions of numerous transactors, such as households, are mostly channelled through a much smaller number of other units, such as banks and other financial institutions. Thus, for example, the financial transactions and position of households can be determined by obtaining information from other institutions that engage in financial transactions with households. The information for households so derived is described as 'counterpart' information.

25.4 The compilation of the financial accounts is mainly based on surveys of financial and other institutions which obtain balance sheet information. This information is used to estimate the value of financial assets and liabilities of the institutions concerned and certain counterparts. Some transactions and other flows involving financial assets and liabilities are estimated by 'differencing', which involves subtracting opening balance sheet values from closing balance sheet values, and using other information to distinguish transactions from non-transaction flows, such as write-offs and holding gains and losses. In other cases, information on transactions is available from the data sources used to compile the financial account estimates.

25.5 In some cases, information that cannot be obtained directly is derived residually. This is possible because for each financial instrument, other than monetary gold and SDRs, the sum of the net acquisitions of financial instruments for each sector (including the rest of the world) must equal the sum of the net incurrences of liabilities.

Classifications

25.6 The institutional sector classification used in the financial accounts is the same as that used in the rest of the national accounts. Five broad sectors are identified:

- ☐ general government;
- ☐ financial corporations;
- ☐ non-financial corporations;
- ☐ households (including non-profit institutions serving households); and
- ☐ rest of the world.

25.7 In Cat. no. 5232.0 the general government, financial corporations and non-financial corporations sectors are broken down into subsectors, as shown in the table below:

25.1 SUBSECTORS SHOWN IN AUSTRALIAN NATIONAL ACCOUNTS: FINANCIAL ACCOUNTS (CAT. NO. 5232.0)

NON-FINANCIAL CORPORATIONS SECTOR	FINANCIAL CORPORATIONS SECTOR	GENERAL GOVERNMENT SECTOR
Private non-financial corporations	Central bank	National general government
National public non-financial corporations	Banks	State and local general government
State and local public non-financial corporations	Other depository corporations Life insurance corporations Pension funds Other insurance corporations Central borrowing authorities Financial intermediaries nec.	

25.8 In Cat. no. 5232.0 the institutional sector classification is also used to classify the counterparty transactions and positions shown for each institutional sector/subsector.

25.9 Chapter 5 provides a description of the sectors and subsectors used in the financial accounts.

25.10 Financial instruments are classified in the national accounts as follows:

- ☐ monetary gold and SDRs;
- ☐ currency and deposits;
- ☐ short-term securities other than shares;
- ☐ long-term securities other than shares;
- ☐ derivatives;
- ☐ loans and placements;
- ☐ shares and other equity;
- ☐ insurance technical reserves; and
- ☐ other accounts payable/receivable

25.11 Chapter 6 provides a description of each of these types of financial instruments. In certain financial account and balance sheet tables, securities are further classified by domicile of issuer (i.e. issued in Australia/issued offshore).

Sources of data

25.12 Most of the data used in the compilation of the financial components of the national accounts are derived from statistical surveys conducted by the ABS. Of particular

importance are the Survey of Financial Information (SFI) and the Survey of International Investment (SII), both of which are conducted quarterly. Other data sources are used to supplement the ABS sources, particularly for estimating for certain types of financial corporations and for deriving valuation adjustments. The specific information sources for each of the sectors and subsectors are described below.

Non-financial corporations

Private non-financial corporations

25.13 Balance sheet data for the largest groups, as well as for those property trusts which are open to the general public, are obtained from the SFI. Estimates for the remainder of units that make up this subsector are derived from data coming from several different sources, including counterpart information from banks, market capitalisation information from the Australian Stock Exchange, and data from the SII.

25.14 Estimates of the value of notes and coin held by this subsector are derived by halving the estimate of notes and coin held outside the banking system, which is in turn derived by subtracting the notes and coins held by the banking system from the total notes and coin in circulation.

National public non-financial corporations

25.15 The largest of these units report balance sheet information in the SFI. Estimates for the remainder of units that make up this subsector are derived from several different sources, including counterpart information from banks and data from the ABS's quarterly SII.

State and local public non-financial corporations

25.16 The largest State corporations provide quarterly balance sheet information to the ABS in the SFI. For State and Territory housing commissions, Annual Reports are used as a data source. For the remaining State and local public non-financial corporations, counterpart information from the central borrowing authorities (which report to the ABS) is used, as the financing for most of these units is arranged through the central borrowing authorities.

Financial corporations

Central bank

25.17 The Reserve Bank of Australia (RBA) provides a full balance sheet to the ABS each quarter. However, some items on the RBA’s balance sheet are valued as at the Wednesday closest to the end of the quarter. This is inconsistent with information provided by the Commonwealth Department of Finance and Administration and the commercial banks, both of which close off their accounts on the last working day of the quarter. As the latter timing basis is closer to the conceptual requirements of the financial accounts, counterpart information is substituted for the relevant items. Also, the RBA records entries in the Commonwealth Government's account when cheques are presented for payment, but the Commonwealth Department of Finance and Administration makes these entries in its books when the cheques are drawn, which is likely to be several days earlier. Because of the large amounts involved, this 'float' is a serious problem from time to time, and counterpart information is used to make the necessary adjustments.

Banks

25.18 Each bank provides quarterly, as part of the SFI, a full balance sheet showing the consolidated position of its domestic banking businesses. Data reported by banks in the SII are used to supplement the SFI data.

Other depository corporations

25.19 All cash management trusts report balance sheet data to the ABS monthly. Estimates for building societies and credit unions are derived using data collected by the Australian Prudential and Regulation Authority (APRA). The RBA provides the ABS with information for the remaining depository corporations derived from statutory balance sheet returns. However, these returns do not include information about shareholders' funds. This information is collected quarterly by the ABS from the larger corporations.

Life insurance offices

25.20 The SFI collects balance sheet, transactions and valuation information from the large life insurers. This information is supplemented by data provided by APRA, which requires all privately owned life insurance offices to provide it with assets and liabilities information quarterly. Large friendly societies provide quarterly balance sheet information to the ABS.

Pension funds

25.21 The largest pension funds (both public and private sector) provide quarterly balance sheet, transaction and valuation information in the APRA/ABS Survey of Superannuation Funds. These data are supplemented by an ABS collection from professional fund managers, in which an asset breakdown is reported of the pension funds they manage. This collection is designed to enable the elimination of double counting of pension fund assets. APRA and the ABS jointly estimate the assets of small ('excluded') pension funds.

Other insurance corporations

25.22 All private general insurance companies are required to provide a quarterly statement of assets and liabilities to APRA. The ABS uses this information, which is supplemented by its own quarterly survey of government-owned general insurers. Data for health insurance companies are estimated from annual statistics provided by the Private Health Insurance Administration Council (PHIAC).

Central borrowing authorities

25.23 All central borrowing authorities provide balance sheet data to the ABS on a quarterly basis as part of the SFI.

Financial intermediaries nec.

25.24 Financial Corporations Act Category J financial corporations (credit union leagues and other financial corporations n.e.c.) report quarterly to the RBA, which provides this information in aggregate form to the ABS.

25.25 Balance sheet data for listed and unlisted unit trusts that are open to the general public, and are not cash management, trading or property trusts, are obtained from an ABS quarterly survey of public unit trusts.

25.26 Issuers of asset-backed securities provide quarterly balance sheet data to the ABS as part of the SFI.

25.27 The various government-owned financial institutions included in this sector provide quarterly balance sheet information to the ABS as part of the SFI.

25.28 Security brokers' own-account holdings of financial assets are estimated by investigating residuals in securities statistics.

General government

National general government

25.29 Information on the Commonwealth Government's assets is mostly obtained from counterpart information. Information on the Commonwealth Government's coin liability is provided by the RBA. Information about Treasury notes is provided by the Commonwealth Treasury. Data for Treasury bonds are provided by the Commonwealth Treasury and the RBA. Other liabilities of the Commonwealth Government are estimated using published annual balance sheet data.

25.30 Data for universities are obtained from counterpart information, as most of the funding for these units is provided by government agencies or financial institutions that report to the ABS.

State and local general government

25.31 Quarterly data for the State and Territory Governments are obtained from the relevant Treasuries as part of the SFI. Data for local government is obtained from counterpart information, as most of the funding for these units is provided by government agencies that report to the ABS.

Households (including unincorporated enterprises)

25.32 Estimates of the value of notes and coin held by this sector are derived by halving the estimate of notes and coin held outside the banking system, which is in turn derived by subtracting the notes and coins held by the banking system from the total notes and coin in circulation. Other estimates for this sector are generally obtained from counterpart information. Estimates for transactions and holdings of securities are derived residually.

Rest of the world

25.33 The main source of data on the financial position of non-residents vis-a-vis residents is the SII, which measures the investment position, financial transactions and other changes in position (price changes, exchange rate changes and other adjustments), and investment income associated with claims on and liabilities to non-residents by Australian residents. The publication *Balance of Payments and International Investment Position, Australia, Concepts Sources and Methods* (Cat. no. 5331.0) provides further information on this survey.

Compilation methods

25.34 Estimates of stocks (levels) are prepared by gathering together balance sheet information from various sources and selecting the most reliable estimates. As noted previously, a choice is often possible because different data sources provide alternative or counterpart measures of the same item. For example, most borrowing by State-owned non-financial corporations will be reported by the State central borrowing authorities or Treasuries as assets and by the non-financial corporations themselves as liabilities. The data will generally not agree because the ABS does not survey all State owned non-financial corporations. In this case, the data from the central borrowing authorities and Treasuries are therefore used to estimate both the asset and liability aspects of these borrowings.

25.35 In many cases financial transactions are derived by taking the difference between closing and opening levels of balance sheet items and, where possible, eliminating the component of the change caused by valuation effects such as exchange rate movements and changes in financial instrument prices. For example, the opening stock of securities denominated in foreign currencies (which is reported in Australian dollars) is first revalued

using the exchange rates prevailing at the end of the period. The recalculated opening stock is subtracted from the reported closing stock to obtain an estimate of the value of transactions (in Australian dollars). The estimated value of transactions is then subtracted from the difference between the actually reported opening and closing stocks to obtain an estimate of the valuation effect.

25.36 In other cases, transactions are estimated using directly collected data rather than by differencing levels. Most of the estimates of transactions involving non-residents are based on directly collected data from the SII. Likewise, transactions data are directly collected for life insurance offices and pension funds.

25.37 After the initial estimates of stocks and transactions have been prepared, estimates of valuation changes are calculated as a residual. These estimates are then used to test the plausibility of the initial estimates of stocks and transactions and, if necessary, adjustments may be made to these initial estimates.

Accounting issues

25.38 The national accounts should record transactions on an accrual basis (as opposed to a cash or 'due for payment' basis), to reflect the time when economic value is transferred rather than when cash relating to the transaction is paid or falls due for payment. For practical reasons complete implementation of accrual accounting in the financial accounts is not possible. Two affected areas are:

- *accrual of income tax* - refunds and additional payments as a result of ATO assessments are recorded in the periods in which amounts are due to be paid, and not in the periods in which the income underlying the assessments was actually earned; and
- *accrual of certain employee entitlements, including recreation and long service leave* - these entitlements are recorded when they are actually paid, and not when they are accrued.

25.39 Accordingly, assets and liabilities associated with income tax and employee entitlements are not recorded in the financial accounts.

25.40 Furthermore, non-financial corporations are likely to report balance sheet information on a complete accrual basis for the quarter that coincides with the end of their tax year (usually June), but may be less likely to do so for the other quarters. This may cause some distortion in the data for the two quarters surrounding the end of the tax year.

25.41 Stocks of financial assets and liabilities should be valued using prices that are current on the date to which the balance sheet relates and that refer to specific assets. These prices should be observable prices on markets whenever such prices are available. In practice there are some cases where the prices of analogous assets are used to estimate prices for assets where there are no observable prices.

25.42 Tradable securities, which include shares listed on the Australian Stock Exchange (ASX) and debt securities traded on organised markets, are valued at actual market prices. Other securities are assigned estimated market values. For example, equity not listed on ASX is valued on the basis of the value of total assets of the enterprise in question less the value of any repayable liabilities.

25.43 For derivatives, respondents to ABS surveys are asked to mark each derivative contract to its net market value. This may result in a net asset or liability value being recorded for the contract. It is possible for a derivative contract to change from a net liability position to a net asset position (or vice versa) from one period to the next.

25.44 Deposits, loans and other accounts payable/receivable are recorded at their face value. As these instruments are not traded, this valuation basis is considered to be an acceptable proxy for market valuation.

25.45 Insurance technical reserves funds are valued on the basis of the market value of the total assets (including non-financial assets) of the funds and companies less the sum of any repayable liabilities and (in the case of companies) shareholders' funds.

Quality

25.46 The ABS is aware of the following deficiencies in its financial accounts data:

- ☐ balance sheet information is not collected from small non-financial corporations, solicitors' and similar trust funds, and financial auxiliaries (such as stock brokers), some of which buy securities on their own account. Estimates are made for these unreported assets using the partial information reported by fund managers;
- ☐ there are some classification and timing problems in the data being reported by some large banks;
- ☐ the quality of the data for the other depository corporations subsector is only fair;
- ☐ the quality of data for the rest of the world sector is affected by deficiencies in coverage, classification and valuation;
- ☐ stock lending, repurchase agreements, and short selling in securities markets - and inconsistent treatment of these practices by respondents - are causing some double counting of asset records for some types of securities;
- ☐ derivative and synthetic financial products are generally not reported in non-ABS data sources;
- ☐ the estimates of the stock of issued shares of unlisted private non-financial corporations are very poor; and
- ☐ the estimates of other accounts payable/receivable for small corporations and the households sector are very poor.

25.47 The dissection of changes in balance sheet positions into transaction and non-transaction components is most important for tradable securities, as these instruments are most likely to be affected by valuation changes. The data used to estimate the effect of valuation changes on frequently traded securities, which include listed shares and Commonwealth and State government bonds/bills, are of good quality. The data available for securities that are less frequently traded, such as unlisted shares, are of only fair quality.

25.48 Despite the above-mentioned problems, the ABS considers that the financial

accounts statistics are of an acceptable standard for the purposes they are intended to serve. An indication of the overall quality of the data can be gained by considering the households sector, which is judged to have the poorest quality data in the financial accounts. Most of the liabilities data are based on good quality counterpart data from the asset records of financial institutions. In addition, households' deposit and loan assets are based on good quality counterpart data. Household holdings of tradable securities are derived residually, and so reflect errors and omissions in the estimates for the other sectors. Household positions in other accounts payable/receivable are also derived residually.

Comparison with previous RBA estimates

25.49 The ABS's financial accounts estimates were first compiled in respect of the September quarter 1989. Prior to then, the RBA had produced annual flow-of-funds statistics for the reference years 1953–54 to 1988–89. The two sets of statistics, however, are not directly comparable for the following reasons:

- ☐ the ABS statistics are compiled mainly from specially conducted statistical surveys, whereas the RBA's series were compiled mainly from administrative sources. These administrative by-product data were different in scope, coverage, timing and classification from the survey data used by ABS;
- ☐ the ABS statistics use the same institutional sectors as in other parts of the national accounts, whereas the RBA's sectoring was different. The RBA combined Commonwealth public non-financial corporations with Commonwealth general government, and State and local public non-financial corporations with State and local general government. Also, the RBA's statistics had a more detailed classification of financial corporations than that presented in the ABS's financial accounts; and
- ☐ the ABS statistics use a more extensive classification of financial instruments than that used by the RBA, although the RBA's classification can be constructed from the ABS statistics.