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AUSTRALIAN NATIONAL ACCOUNTS 1788-1983

N.G. BUTLIN

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The various measures of national income, product and expenditure are designed to present broad outlines and characteristics of the economy as a whole. Many different measures and components might be presented but space limits the array in this section to a small number. In using the measures given, readers should be aware, even if only in a general way, of the relations between them, the conventions underlying them and the more obvious weaknesses.

The product of an economy is not the sum of the activity in each year. Measures of product net out all the intermediate or duplicated goods and services in each transaction. What is left is to be treated, broadly, as the value added in each productive process by all factors involved. In principle, there is a necessary relationship between product, income and expenditure. The former describes the value added by factors of production, the second defines the rewards to or sharing between factors and the third describes the capital and current consumption of the product. Each measure gives, then, a different picture, with different detail, of the production, distribution and consumption in the economy. Not all product is retained domestically. Some goods are exported. At the same time, consumption is affected by the purchase of imports. The ability of a nation to consume is therefore an important measure different from domestic product. Gross national expenditure is taken basically as gross product plus imports minus exports. This is a prominent concept in the following Tables.

The central measures of gross domestic and national product, income and expenditure may be made in terms of the prices current in each year (current price estimates) or by reference to the prices in one or more years (constant price estimates). Each procedure is useful for different purposes. Current price series are commonly preferred in relation to studies of financial activity and often to analyse the changing structure of the economy. Constant price series are typically used in examining changes in productivity or "real" income. To convert from current price estimates, one needs price indexes of product and expenditure components so that different parts of the economy are adjusted for price changes relevant to those parts. The sum of the so-deflated sectors yield aggregate real or constant price product or expenditure. The ratio of the aggregate current and constant price series is the so-called implicit deflators of product and expenditure.

Provided consistent accounting conventions are adopted, these basic measures provide powerful delineations of structure and change. Nevertheless, there are weaknesses in them and a few of the more

important should be noted. In the last resort, much of the interpretation of national accounting measures depends on the elementary assumption of perfect competition. Predominantly, though not entirely, the measures define market activity, tending to eliminate or severely limit the incorporation of non-market activity. This criticism needs to be qualified, at least in relation to the present series, in that a great deal of non-market activity has been built into the earlier Australian estimates. In essence, attempts have been made to include in the estimates those activities that progressively became largely or entirely market activities (for example, owner-building of housing; farm formation by farmers themselves). This is important to avoid serious distortion in change over time. Nevertheless, many valuable activities are excluded throughout. From a modern perspective, an obvious omission is the valuable (net) household contribution of females to total production. Similarly, " real income " as measured by national accounts fails to capture many changes in the quality of life, environmental damage, improved health or increased longevity. Even within the limits of market activity, real measures fail to cope with improvements in the quality of goods and services.

These are all serious limitations and there is a clear need to amplify or amend these national accounting estimates or provide supplements or alternatives to them. Nevertheless, despite their weaknesses, the Accounts do offer powerful analytical measures provided they are used with some consciousness of their limitations.

The available estimates for Australia do not encompass all even of these limited possibilities over the whole period of white Australian history and from time to time it is possible to display only some of them. Even so, Australia is the only country in the world for which annual national accounts in one form or another exist for substantially 200 years, beginning with the first white settlement. Within this period, spanned here from 1788 to 1983, there are three major breaks, at 1860 and 1938/39 and in 1949/50. These breaks compel a particular arrangement of the Tables below.

In the long historical perspective of this volume, the basic objective has been to preserve as far as possible the integrity of the original estimates while attempting to achieve for some of the measures the longest possible series during which reasonably consistent concepts and methods of measurement have been adopted. Fundamentally, the same concepts and methods have been adopted for the long period 1788 to 1938/39. Using one

particular series of expenditure aggregates, it is possible to present aggregate product series with a fairly high consistency for as long a period as 1788 to 1974. Presentation of different Tables with substantial temporal overlaps indicates the magnitude of major differences of approach.

Either because of methods of presentation in the original estimates or because of conceptual changes, the Tables in this section are presented in five clusters. The first group spans 1788-1860. Here the estimates are derived from N.G. Butlin and W.A. Sinclair "Australian Domestic Product, 1788 to 1860" (article forthcoming in *A.E.H.R.*). Conceptually and methodologically, these are consistent with the series during 1861 to 1938/39. But the earlier series are given in the original source for separate colonies and it is advantageous to preserve these divisions. The Australian aggregate during 1788 to 1860 is, with one qualification, consistent with the series after 1860. Comments on this are made below.

After 1860 and until 1938/39, the estimates are nation-wide. There are some old contemporary estimates for different colonies and States but these are not included (for comment, see N.G. Butlin, *Australian Domestic Product, Investment and Foreign Borrowing, 1861 - 1938/39* Chapter 2) These estimates have been amended in relation to the original in two respects. The present series incorporate the amendments in N.G. Butlin, *Investment in Australian Economic Development 1861 to 1900* (Appendix). They also adjust the original product and capital formation series to take into account the revision in A. Barnard and N.G. Butlin "New Estimates of Public Investment 1901-1975" (*Economic Record* Dec., 1981). The constant price series shown here are the responsibility of the present author and developed for the purposes of bi-centennial publication.

This second group diverges conceptually from the first by the inclusion of livestock accumulation. In the former period, the inadequacy of relevant data for N.S.W. prevents the inclusion of this component that is manifestly important to a growing pastoral economy. However, the particular measure of livestock accumulation is given in a separate Table so that at least for purposes of consistency, this component may be readily removed after 1860.

The third group of Tables covers the period 1901 to 1974 and is based on M.W. Butlin, *A Preliminary Annual Database, 1900/01 to 1973/74* (Reserve Bank of Australia, Research Discussion Paper 7706, 1977). The

expenditure aggregates have been varied from the original source to conform to the amendments proposed by Barnard and Butlin (*loc. cit.*) so that the maximum consistency is attained. This consistency is qualified by the conceptual changes introduced by official estimates of national accounts particularly from 1949/50 insofar as M.W. Butlin's estimates depend on these official sources (see below).

Expenditure components and aggregate gross domestic product may be presented from 1901 to 1974 in this manner. This does not include gross product by industry, components of income or of private capital formation. There is a gap in the record so far the first is concerned until 1949/50. For the two latter, the fourth group of Tables is presented, covering the years 1938/39 to 1959/60. These are estimates based on official sources of the Australian Bureau of Statistics and reflect the concepts and methods adopted in the early 1960s. The annual figures have been adjusted in consultation with A.B.S. and published originally in N.G. Butlin, *Australian Domestic Product* (Appendix). The current price series are drawn from the two official series *Estimates of National Expenditure, Public Authority Income and Expenditure* and *Australian National Accounts*. The constant price measures in this group have been made by the present author for bi-centennial purposes.

There is a substantial overlap in time between the third and fourth group of Tables and the fifth so that any contrasts may be observed. From 1949/50, the *Australian National Accounts* series provide continuous official estimates. Because the A.B.S. has varied its concepts and methods over time, the present set of Tables for this period has been drawn from the Reserve Bank publication by W.E. Norton and P.M. Garmston, *Australian Economic Statistics 1949-50 to 1982-83: 1 Tables* (Reserve Bank of Australia Occasional Paper No 8A). In this publication, the development of continuous series has been made by the Bank in consultation with A.B.S. It should be stressed that these are official estimates drawn from the Australian Bureau of Statistics and the adoption of this source is a matter of convenience.

To this delineation of lay-out, one qualification might be observed. The re-estimation of public capital formation by Barnard and Butlin (*loc.cit*) runs to 1975. For convenience, their series of public capital formation has been broken at 1938/39 and the second section included with the 1938/39 to 1959/60 group. There is, however, no break in concepts and methods at this date.

Except for the item by Butlin and Sinclair, the sources cited are readily available. Hence notes to Tables are minimal and readers are referred to these sources. Since the Butlin and Sinclair article is as yet not published somewhat more detailed but nevertheless very limited notes are given for the Tables before 1861.

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