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A Preliminary Annual Database 1900/01 to 1973/74

By Matthew Butlin

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Some of the series reported here have been amended in the light of new information and updated to 2010 (with explanation where relevant) in:

Matthew Butlin, Robert Dixon and Peter J. Lloyd, (2014), "Statistical Appendix: Selected Data Series, 1800-2010," in Simon Ville and Glenn Withers (Eds), *The Cambridge Economic History of Australia*, Cambridge University Press, pp. 555-594.

A PRELIMINARY ANNUAL DATABASE 1900/01 TO 1973/74*

M.W. Butlin

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MAY 1977

* This paper owes a great debt to a large number of persons, none of whom are responsible for any remaining errors. I would like to thank Dr D.G. Badger, Professor N.G. Butlin, Professor S.J. Butlin, Professor Colin Clark, Mr A. Cohen, Dr A.R. Hall, Dr P.D. Jonson and Mr R.C. White for useful comments on and criticism of earlier drafts. Belinda Blaxland, Annette Cunningham, Denise Peters and Andrew Weiss provided invaluable help in the preparation of this paper. The Reserve Bank of Australia is not responsible for any errors or for the judgments made at several points in constructing the estimates; the data are not official.

CONTENTS

Preface

This paper presents preliminary annual estimates of a considerable number of economic variables from 1900/01 to 1973/74. As far as possible the estimates are on a consistent basis, usually employing the same definitions as official data for recent years. Consistency of definition is important, since a major use of the database presented in this paper is in the estimation of the parameters of macroeconomic models similar in spirit to that described in Research Discussion Paper 7601.

A great amount of work has gone into preparing the estimates in this paper, and, as noted above, the author has received comment and assistance from many economists and economic historians. Considerable effort has gone into checking the work, but it is inevitable that errors persist from the computations made, or the data used to construct the estimates presented. Indeed, the author points out that not all the series are equally reliable, and it is intended to revise and update the database as new information becomes available. Any further suggestions for ways to improve the data will be most welcome.

The paper attempts to provide fairly complete information about the assumptions used in calculating each series, including the reasons for choosing among alternatives where choice is necessary. It should be noted that for some purposes it may be desirable to alter the definitions underlying various series; thus, for example, somewhat different pictures concerning the growth of gross domestic product at constant prices, especially in the inter-war years, are given depending on whether livestock accretion is included in the estimates (as in N.G. Butlin's unadjusted estimates) or excluded (as in the present estimates and official estimates). This is one important example of how it may be necessary to manipulate the basic data for different uses.

Peter Jonson
May 1977

INTRODUCTION

Australian economic experience during the past seventy-five years has been extremely varied. Thanks to the efforts of the various official State and Commonwealth statisticians, and to the impressive work of many economic historians, it is possible to bring together a reasonably consistent and reliable database covering the twentieth century.

This paper reports the results of a data collection project conducted as part of the Reserve Bank of Australia's econometric model building. The database will be revised as new data are generated, or old series are rediscovered, and any suggestions for improvements in the series are welcomed.

The present report is broken up into four sections. Section I provides a brief discussion of the reliability of the data, while section II contains graphs and a commentary on some features of some of the series in the database. Section III describes in some detail the methods and sources used to derive the various series. Finally, the data themselves are presented in the tables of section IV.

I RELATIVE ACCURACY OF THE DATA

One must be careful about the meaning of "reliability". For present purposes the meaning intended is the accuracy with which particular series measure concepts based on given definitions. In most cases the definitions used are those presently used by the Australian Bureau of Statistics. It is acknowledged that the definitions themselves may not necessarily be the most appropriate for the measurement of long term trends, nor, in some cases, may they be "best practice". An example of this is the official estimates of gross domestic product, which omit livestock accretion[1] and which adopts the nominal

1. This omission is more important for the early years of the century when the farm sector provided some 30% of total product, compared with about 10% now. As a result livestock fluctuations had a much greater significance then than now.

financial enterprise treatment of financial enterprises.

Assessments of the reliability of the data presented in this paper are given in Table I.1. Ratings of 1, 2 or 3 are given, and most recent data, particularly data compiled by the Australian Bureau of Statistics (ABS) are given a rating of 1. Ratings 2 and 3 denote decreasing degrees of unreliability, with 3 being reserved for data from the world war years, some very early data, and for some interpolated series.

Attention has been paid wherever possible to comparing alternative candidates for any particular series. Emphasis has been on obtaining long runs of consistently derived data, subject to the constraint that the series ultimately chosen does not diverge too greatly from the reasonable alternatives. The reason for emphasising consistency is to minimise the number of breaks in any series in order to maximise its value for econometric purposes.

Such considerations determined, for example, the choice of GDP, average earnings, changes in non-farm stocks and private and public final consumption expenditure. The other series are presented where each of the above is described, in order to give some indication of the differences between the series. In some cases the differences are non-trivial, although the possible error introduced in contingent series is probably small. Occasionally the errors are small as, for example, between the alternative national income estimates for 1938/39, and compare favourably with differences in alternative estimates for 1973/74.

It should be clearly understood, however, that no claims are made for great accuracy in many "secondary" statistics[1] such as GDP, various expenditure aggregates, capital inflow and so on. But on the other hand, it is believed that the statistics are sufficiently reliable to be used for meaningful econometric work.

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1. That is, series derived from manipulating directly observed data. Examples are private consumption expenditure, Lon[illegible] funds of the banking system and gross domestic p[illegible]

Table I.1

Data Reliability 1900/01 to 1973/74[1]

Series	1900/01 - 1919/20[2]	1920/21 - 1938/39	1939/40 - 1947/48[2]	1948/49 - 1973/74
Main Expenditure Aggregates				
GDP	2 and 3	2	2 and 3	1
exports	2 and 3	2	2 and 3	1
imports	2 and 3	2	2 and 3	1
private investment	2 and 3	2	2 and 3	1
public investment	2 and 3	2	2 and 3	1
private consumption	3	2 and 3	2 and 3	1
public consumption	2 and 3	2	2 and 3	1
stock changes	3	2 and 3	2 and 3	1
Prices and Wages				
GDP	3	2	3	1
exports	2	2	2	1
imports	2	2	2	1
private investment	3	2	3	1
public investment	3	2	3	1
private consumption	3	3	2	1
public consumption	3	3	3	1
average earnings	2	1	1	1
award wages	1 and 3	1	1	1
yield on long term govt securities	2	1 and 2	1	1
Workforce and Hours				
Workforce	2 and 3	2	2	1
civilian employment	2 and 3	2	2	1
defence forces	2 and 3	2	2	1
civilian government administration	2 and 3	2	2	1
unemployment rate	2 and 3	2	2	1
standard hours worked	1 and 3	1	1	1
Financial Data				
money (M1, M3)	1 and 2	1	1	1
bank advances	1	1	1	1
international reserves	3	2 and 3	1 and 2	1
government securities				
(a) on issue in Australia[3]	2 and 3	1 and 3	1	1
(b) on issue overseas	2	2	1	1
(c) held by public sector	2 and 3	2 and 3	1 and 2	1
(d) held by banks	1	1	1	1
(e) interest paid	1	1	1	1
cumulated capital inflow				
(a) public	2	2	1	1
(b) private	3	2 and 3	2	2
exchange rate				
(a) UK/Australian	1	1	1	1
(b) US/Australian	2	1 and 2	1	1
tax collections				
(a) income	1	1	1	1
(b) indirect	2	2	1	1

Table I.1 (cont.)

Series	1900/01 - 1919/20[2]	1920/21 - 1938/39	1939/40 - 1947/48[2]	1948/49 - 1973/74
Financial Data (cont.)				
Cash benefits	2	2	1	1
Subsidies	1	1	1	1

These assessments of reliability are largely subjective and are not based on a fully articulated set of criteria. Nevertheless, it is believed that the reliability assessments are conservative.

The 3 rating generally applies to data for the two world wars, and for the period 1900/01 to 1910/11.

The 3 rating applies to the series for local and semi-government authority debt held in Australia before 1928/29.

II. FACTS AND FIGURES

A remarkable feature of many of the series presented in this paper is the quite different growth behaviour before and after World War II. Tables II.1 and II.2 present average annual growth rates for four periods for a selected number of variables.

Constant price product growth, for example, is in the period since 1948/49 more than double its value for the period 1900/01 to 1938/39. This phenomenon, which largely concerns growth of labor productivity is observed in most parts of the world, and the reasons for it are not fully understood. Explanations put forward in the economic history literature in the Australian case include structural change and technical progress in production,[1] sustained growth in the world economy, the achievement of higher rates of capacity utilisation, greater flows of productive factors, and large scale foreign capital inflow associated with the import of technology.

Growth in Australian real product has been uneven, and on occasion significantly affected by world events such as the two world wars, the recession of the early twenties, and the depression of the thirties. An interesting point from figure II.1, which compares Australian, U.S. and U.K. GDP, is that the effect on Australian constant price product of the depression was less marked than in the U.S., but larger than in the U.K. In Australia, the main effect of the depression was on employment, wages and prices (see figures II.13 and II.14).

An interesting point underlying table II.1 and figure II.1 that the experience of Australia in respect of differential pre- and post-war real growth is not shared by the U.S. or the U.K. In the U.S.A. productivity growth continued at the pre-war pace, while in the U.K. the rate accelerated post-war, but much less than in Australia and in the rest of Europe.

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1. This is associated with a rapid expansion in the industrial sector until the mid-sixties, coupled with a substantially expanding primary sector throughout the fifties as a result in part of improved pastures, the application of fertilisers, and the success of myxomatosis in reducing rabbit populations. From the mid-sixties these factors are succeeded by the mining boom.

Figure I.1

Real Gross Domestic Product: Australia, U.K. and U.S.

($A'000m, constant 1966/67 prices)

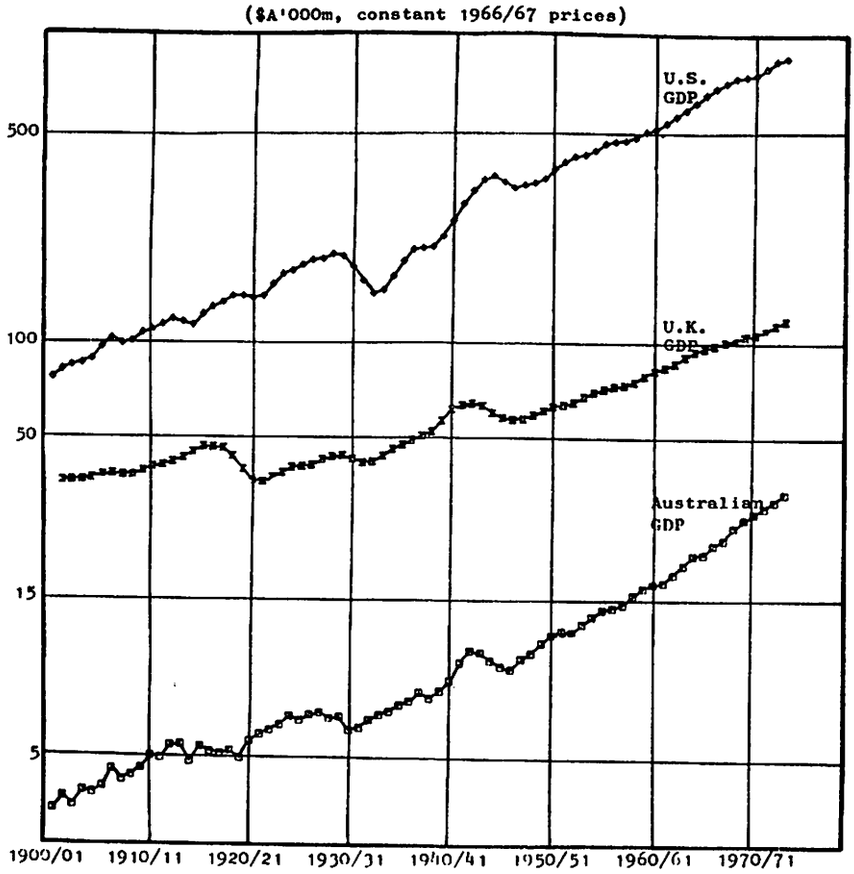


Figure II.2

GDP Deflators: Australia, U.K. and U.S.

(1966/67 = 1.00)

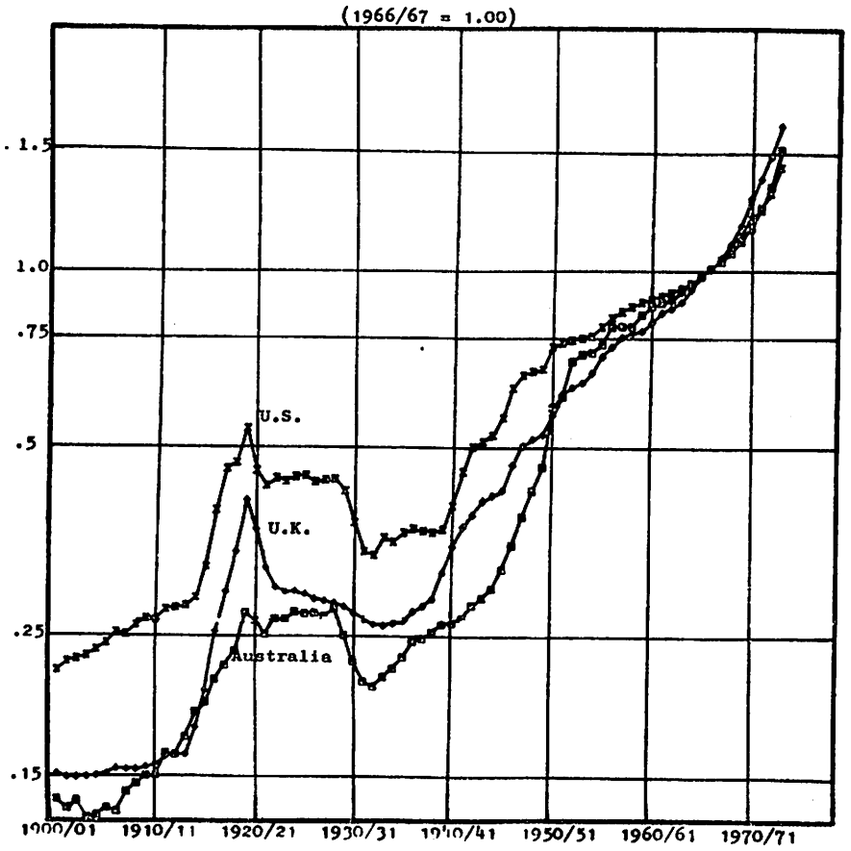


Table II.1 Real Growth Rates[1] and Monetary Growth
%

	1900/01 - 1938/39	1938/39 - 1948/49	1948/49 - 1973/74	1900/01 - 1973/74
Constant price U.K. GDP[2]	1.3	1.2	2.8	1.6
Constant price U.S. GDP[2]	2.2	4.9	3.7	3.2
Constant price Australian GDP	2.2	2.1	4.7	3.2
Constant price Exports	2.1	-1.0	4.8	2.8
Constant price Public Consumption	3.0	4.2	4.7	3.7
Constant price Public Investment	2.3	2.1	5.0	3.1
Constant price Private Consumption	1.9	3.7	4.3	3.0
Constant price Private Investment	3.0	5.0	6.2	4.3
Monetary Growth	4.2	10.5	7.8	6.2
Bonds held by Private Sector	8.1	9.1	5.5	7.3
Civilian Employment	1.7	2.0	2.2	1.9
Private Capital Stock	1.8	1.9	6.0	3.2
Public Capital Stock	2.3	0.0	5.0	2.9

. Compound growth rates calculated from end points.

. From P.D. Jonson, An Investigation of the U.K. Balance of Payments with Particular Emphasis on the Role of Monetary Factors and Disequilibrium Dynamics, 1881-1970, unpublished Ph.D. thesis, London University, 1975.

Deflators for Australian, U.K. and U.S. product are shown in figure II.2. The U.S. has experienced the lowest average rate of inflation over the seventy-four years of the twentieth century, while the average U.K. and U.S. rates are similar as may be verified in table II.2. All three countries were subject to periods of substantial inflation during and immediately after World War I, in the late forties and early fifties and again in the seventies. The price level fell in all three countries in the early twenties and during the depression. Experiences differed somewhat, however, in that Australian prices reached a lower peak during, and fell much less than the others subsequent to, the World War I inflation, while the U.K. price fall during the depression was much less than in Australia and the U.S.

Figure II.3

Public and Private Final Consumption as a Proportion of GDP
(current prices, %)

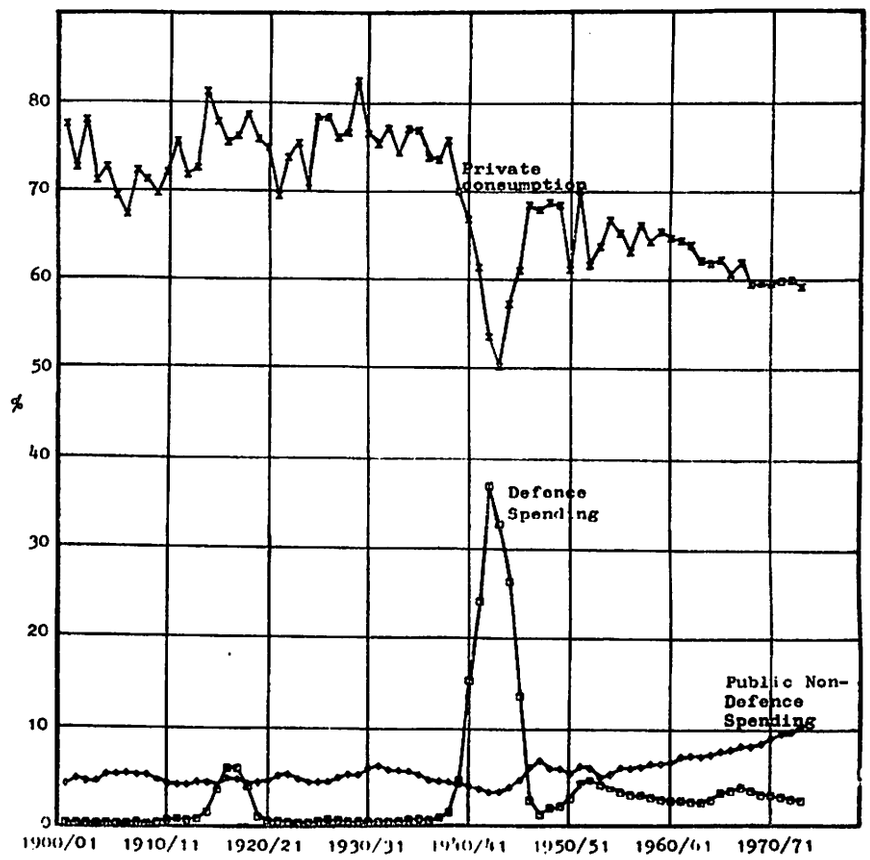


Figure II.4

Real Public and Private Consumption as a Proportion of Real GDP
(constant 1966/67 prices, %)

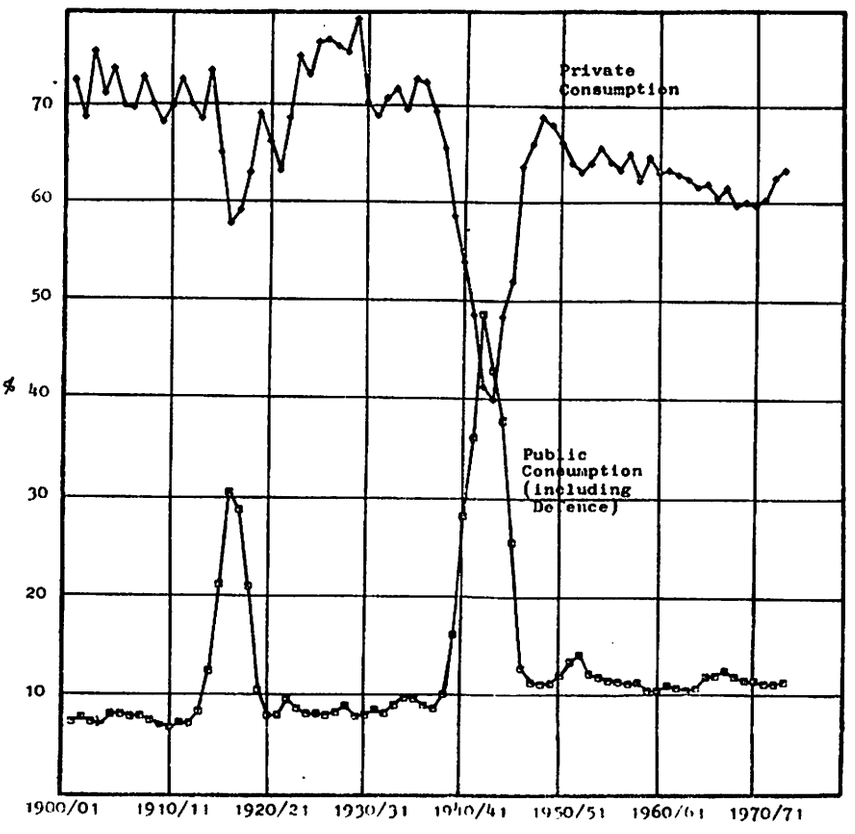


Table II.2 Growth Rates[1] of Prices and Wages

	1900/01 - 1938/39	1938/39 - 1948/49	1948/49 - 1973/74	1900/01 - 1973/74
U.K. GDP Deflator[2]	1.4	5.9	2.9	2.6
U.S. GDP Deflator[2]	1.7	4.1	2.7	2.4
Australian GDP Deflator	1.7	5.4	5.2	3.4
Australian Export Deflator	0.9	13.9	2.0	3.1
Australian Import Deflator	1.2	10.4	2.2	2.8
Average Earnings	4.6	7.1	7.6	5.0
Award Wages	3.4	5.1	6.4	3.9

1. Compound growth rates calculated from end points.

2. From P.D. Jonson, op.cit.

During World War II Australian prices grew at a much slower rate than U.S. or U.K. prices. After the war, however, Australian prices rose rapidly, and at a faster rate than elsewhere, for several years.

Ratios of public and private final consumption to GDP in current prices, are presented in figure II.3. Private consumption before World War II averaged about 75% of GDP, but fell to some 50% of GDP during World War II. After the war the ratio rose again, but to a lower average of about 65% of GDP. In recent years this ratio has fallen further to about 60%. Fluctuations in this ratio are partly mirrored by the behaviour of non-defence spending during the two World Wars, when public consumption was a relatively constant 6-7% of GDP from 1900/01 to 1938/39. From then on, at first as a result of World War II (which rapidly boosted defence spending to some 33% of GDP in 1943/44), but later as a result of steady increase in public non-defence consumption, public sector total final consumption rose as a proportion of GDP to some 13% by 1973/74.

Real public and private final consumption as a proportion of real GDP are given in figure II.4. While much the same general picture is conveyed as in figure II.3, a number of interesting additional points arise. First, real private consumption as a proportion of GDP fell further during the two world wars than

Figure II.5

Tax Collections: Income and Indirect

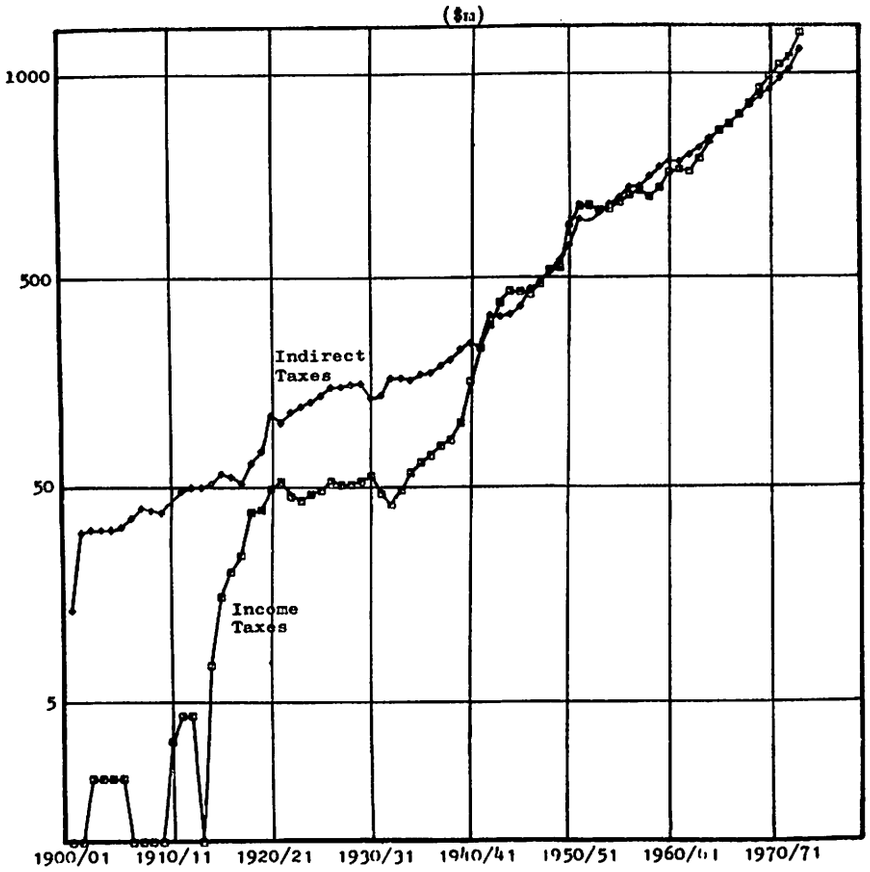
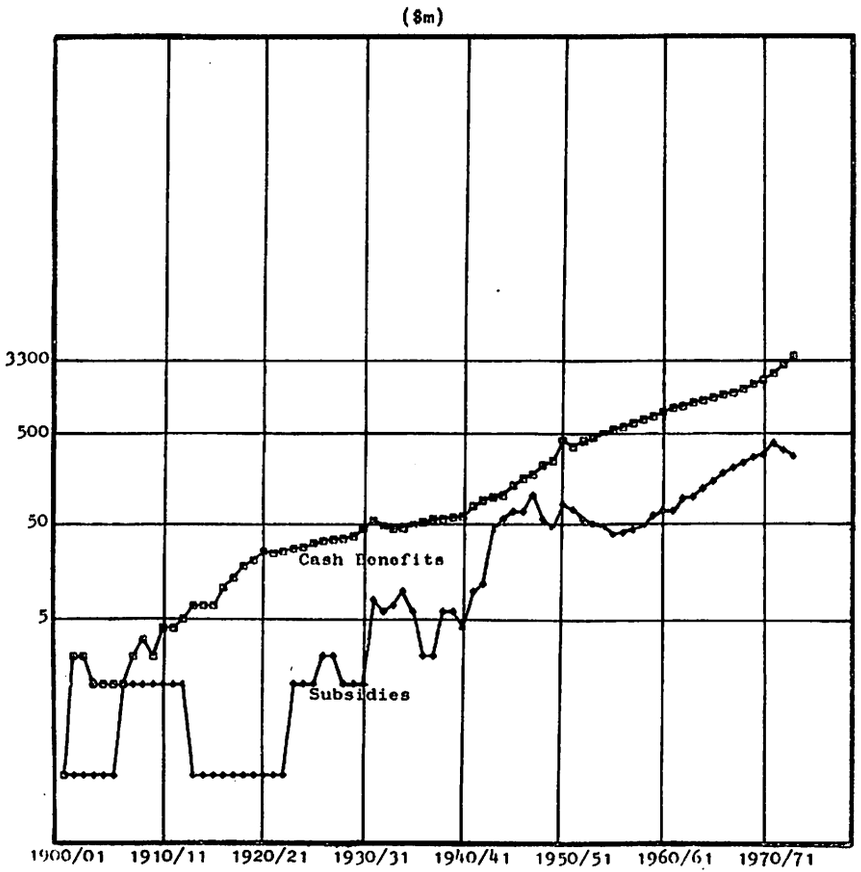


Figure II.6

Cash Benefits to Persons, and Other Direct Subsidies



during the depression, as a result of redistribution of resources away from civilian needs. Of the two wars, World War II had by far the greater effect; the ratio of private final consumption to GDP fell below that of real public final consumption (including defence) for two years, and the level of public final consumption expenditure exceeded 50% of GDP. Second, converted to real terms, government final consumption (including defence) is a remarkably stable proportion of GDP once the two world wars and the Korean war are omitted. After World War II there was a slight upward shift in real public consumption compared with the norm before 1938/39.

Other aspects of public sector involvement in the economy are brought out in figures II.5 and II.6, which, respectively, depict collections of income and indirect taxes, and direct transfers by the public sector to the private sector by all levels of government.

Income taxes have increased in two major jumps during the world wars. In each case company tax rates were increased, and surcharges added, while personal income taxation became more comprehensive and rates raised. From the end of World War II, both income and indirect tax collections have grown at much the same rates, although the progressivity in the personal income tax scales, coupled with accelerating inflation from 1969/70, resulted in faster growth in income tax collections from that time. Indirect tax collections were initially larger than income tax collections, and with the exception of World War II and the Korean War period remained so until 1969/70. Thereafter income tax collections exceed indirect tax collections.

Figure II.6 depicts cash benefits to persons and other subsidies to the private sector. Transfers by governments have grown from virtually nothing in 1900/01 to about one quarter of the total outlays by the public sector in 1973/4. The first main expansion was associated with the introduction of invalid and old age pensions, maternity allowances and war pensions early in this century. A second expansion occurred during and after World War II following

Figure II.7

Public and Private Fixed Investment as a Proportion of GDP

(current prices, %)

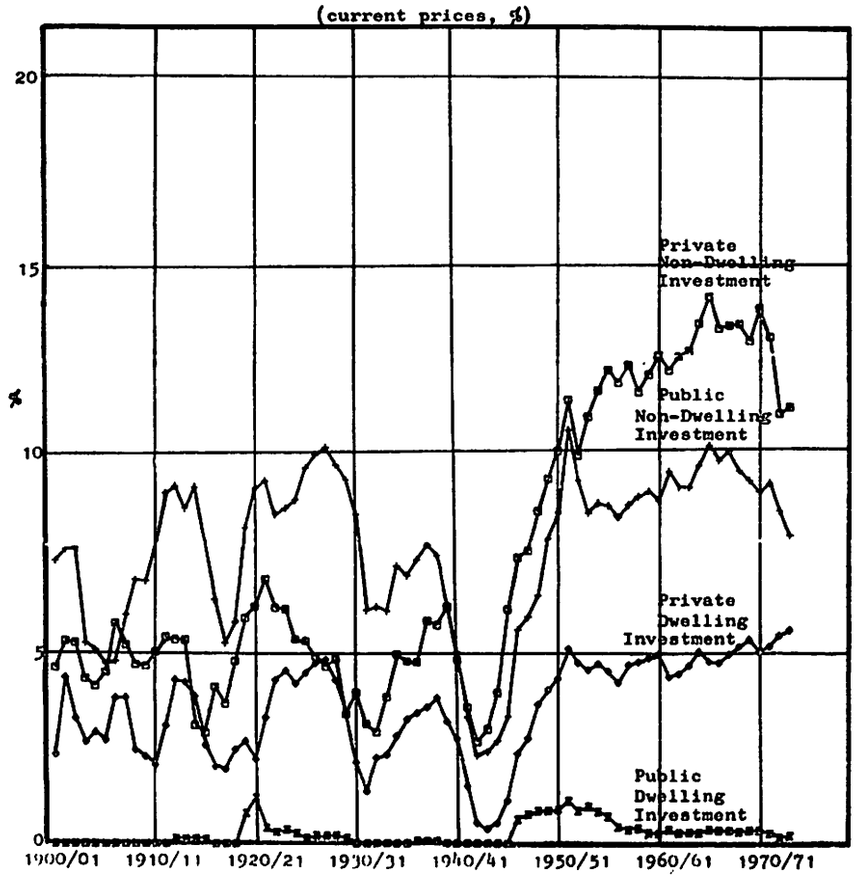
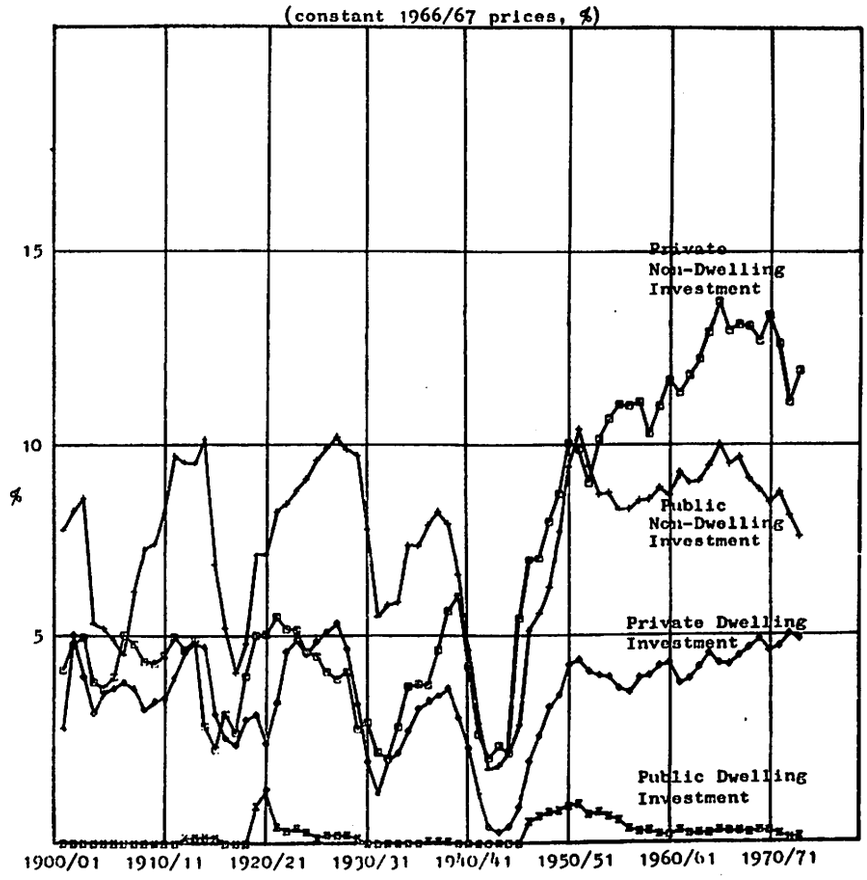


Figure II.8

Real Public and Private Fixed Investment as a Proportion of Real GDP

(constant 1966/67 prices, %)



the referendum in 1946 granting to the Commonwealth government the power to undertake social welfare legislation. By far the larger component of direct transfers by the public sector to the private sector are cash benefits to persons, which in recent years represent approximately 90% of all subsidies to the private sector.

Prior to World War II private fixed non-dwelling investment varied from 2.7% of GDP in the depression to 6.5% of GDP in 1921/22; but with the rise in the saving ratio after World War II, coupled with accelerated private capital inflows (see figure II.19) the ratio or private fixed non-dwelling investment has not changed much as a proportion of GDP before and after World War II once exceptional events like the World Wars and the depression are taken into account. As a result, the pre-war dominance of public over private fixed non-dwelling investment has been reversed post-war.

Public sector involvement in dwelling construction began only during the second decade of the century, and at all times has been only a very minor proportion of GDP. Private investment in dwellings, once cyclical effects and major events like the World Wars are taken into account, has slightly increased its share of GDP from the end of the last world war.

All components of investment exhibit great sensitivity to cyclical events, such as the depression, to the drought in the first decade, and also to the two World Wars. In the case of private investment this is not surprising; in the case of the public sector this probably reflects the point that public sector capital formation was largely dependent on funds borrowed overseas.

Figure II.9

Exports and Imports as a Proportion of GDP
(current prices, %)

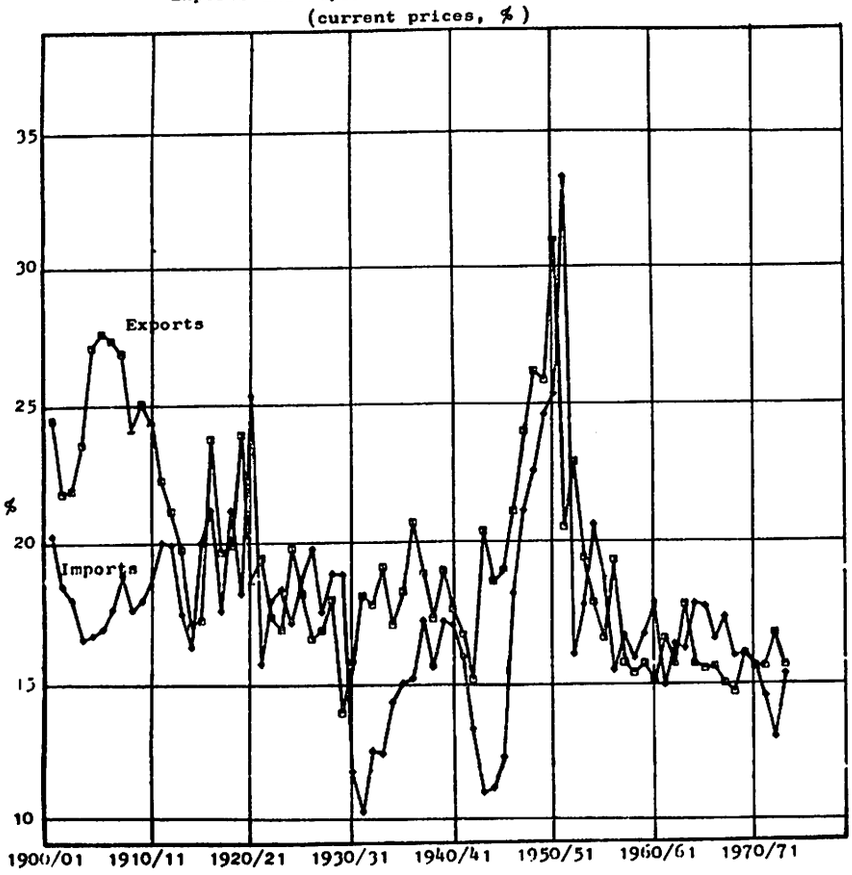


Figure II.10

Real Exports and Imports as a Proportion of Real GDP
(constant 1966/67 prices, %)

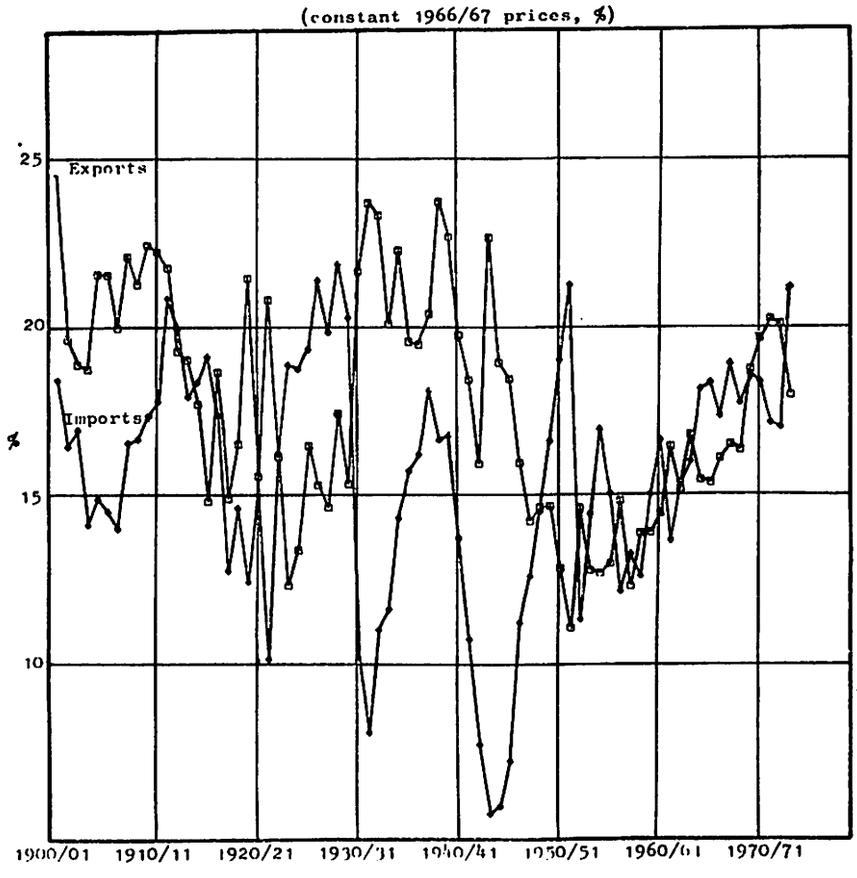


Figure II.8 presents real public and private fixed non-dwelling investment, and real public and private dwelling investment as ratios of real GDP. The main effect of the deflation is to emphasise the increase in investment, by the private sector, in non-dwelling fixed assets in the post-war period, and to emphasise the stability (after cyclical adjustment) of real public sector fixed investment and real private sector dwelling formation over the twentieth century. All investment series appear to be strongly affected by cyclical disturbances, and major wars.

Figure II.9 graphs the nominal rate of exports and imports as a proportion of nominal GDP. Both exports and imports have fluctuated greatly in comparison with GDP, from about 10% in 1931/32 in the case of imports to some 33% in 1951/52, again in the case of imports. Generally the balance of trade has been in surplus throughout the century, the most notable exceptions being the twenties, especially in the years prior to the depression, 1951/52, and the late sixties.

The effect of the wool boom, and of the following collapse of wool prices is apparent from figure II.9; in 1950/51 exports were at a level equal to about 30% of GDP, but ten years later the level was only some 15% of GDP. One can also see the effects of controls on imports in the depression (see also figure II.10) and during World War II, when the proportion almost fell as far as during the depression.

Figure II.10 depicts real imports and exports as a proportion of real GDP. Examination of figures II.9, II.10 and particularly II.15 indicates how Australia's terms of trade have moved. Adverse movements occurred during the end of the first decade, after World War I, during and just prior to the depression, and during World War II. Figure II.10 clearly illustrates the effects of the depression and World War II on the physical volume of imports, and the effect of increased real incomes as a result of the post-war wool boom on the volume of imported goods and services.

Figure II.11

Real GDP, Public Capital Stock (excluding Dwellings), Private Capital Stock (excluding Dwellings) and Total Employment (including Defence)

$m at constant 1966/67 prices and '000 persons

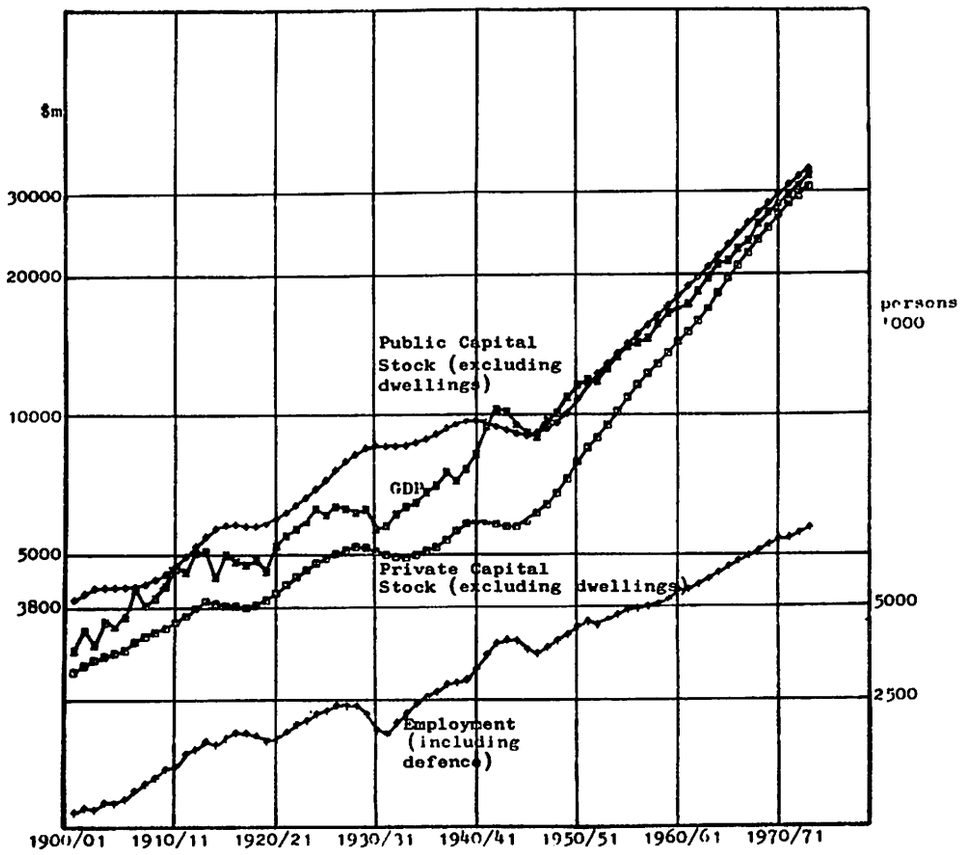
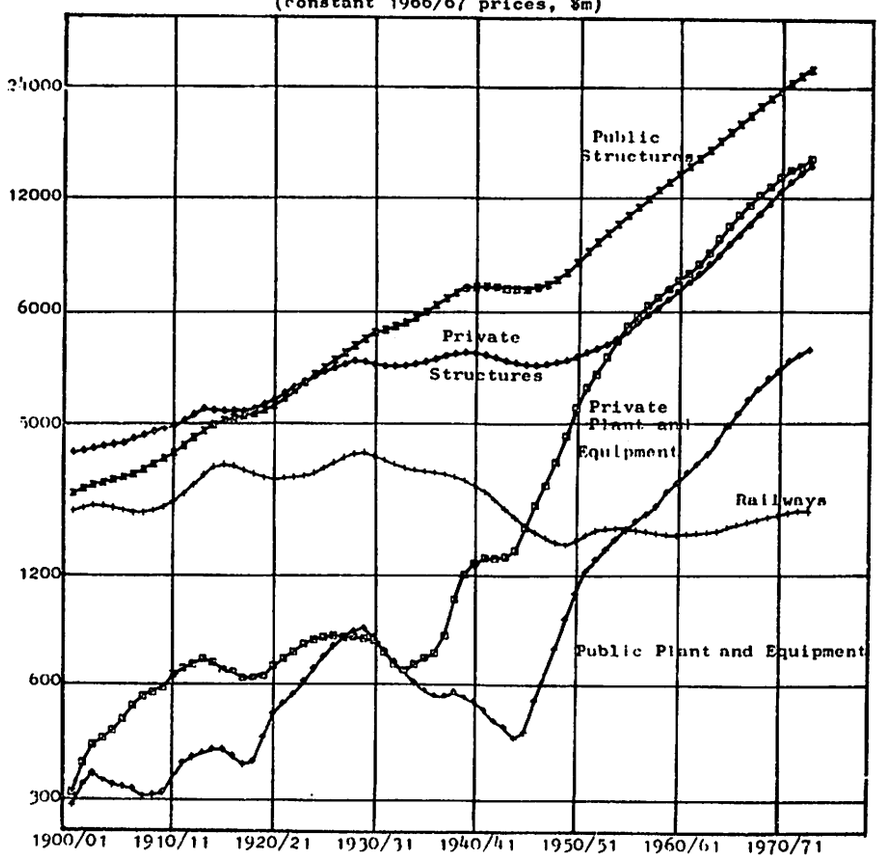


Figure II.12

Capital Stock: Public and Private by Type of Asset (constant 1966/67 prices, $m)



Real GDP, total public capital stock, total private capital stock and employment (including defence) are presented in figure II.11. Prior to World War II, employment grew at an average annual rate (using compound growth rates based on period end points) of 1.6% p.a., while output per head grew at about 0.6% p.a. After World War II the growth rate of employment rose to 2.1%, while product per head grew at 2.4% p.a. Part of the explanation is the application of more capital (particularly private capital) to the growing workforce, as may be seen in figure II.11; other possible explanations have already been mentioned.

The public non-dwelling fixed capital stock has exceeded the corresponding private sector stock throughout the period. The difference between the two accelerated during the twenties, when the public sector was engaged in the large scale creation of social overhead capital, reached a peak during the thirties, after which time the gap narrowed. By 1973/74, after intensive non-dwelling fixed capital formation by the private sector in the post-war period, the two capital stocks moved much closer together. It is worth noting that the private capital stock grew at a faster rate than both GDP and the public capital stock (which grew at similar rates) in the post-war period.

Various components of the capital stock estimates shown in figure II.11 are presented in figure II.12. These series suggest that the main component of private fixed investment (excluding dwellings) in the post-war period has been plant and equipment, and that it is the rapid accumulation of equipment that is responsible for the rapid rise of the private capital stock. The estimates also suggest that plant and equipment was a relatively small component of both public and private total fixed capital in the early part of this century, compared with the end of the period. By the end of the period, plant and equipment stocks held by the private sector exceeded the stocks of private non-residential structures.[1] In the public sector the change in relativities

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1. As a result of rapid post-war accumulation by the private sector of plant and equipment.

Figure II.13

Unemployment Rate

(% of Total Workforce)

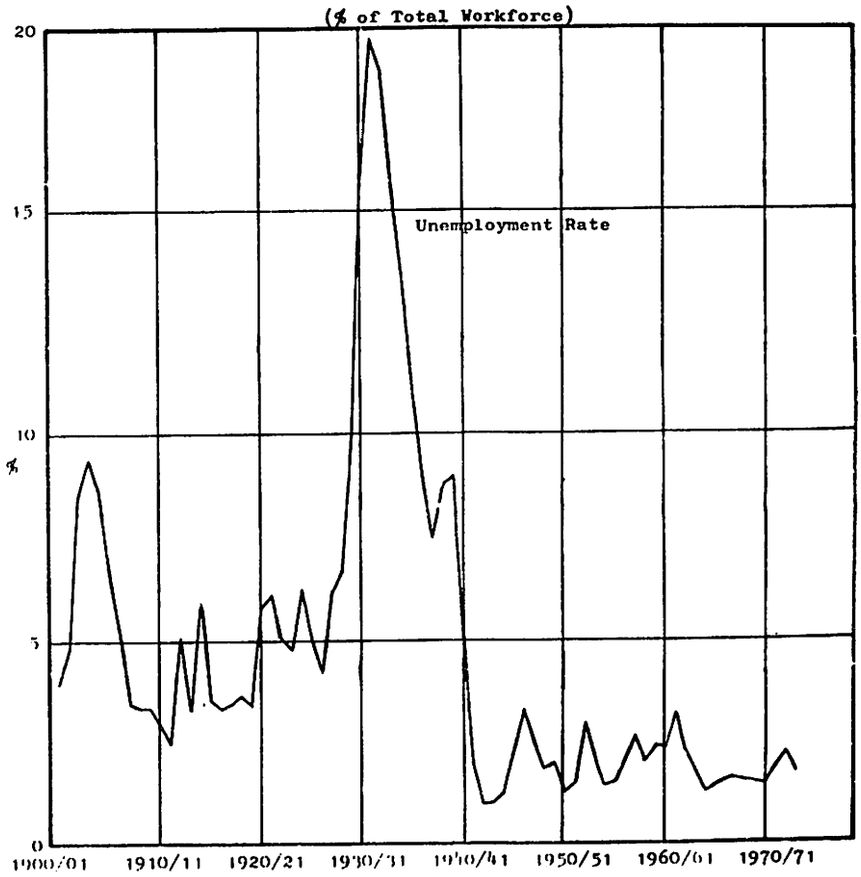
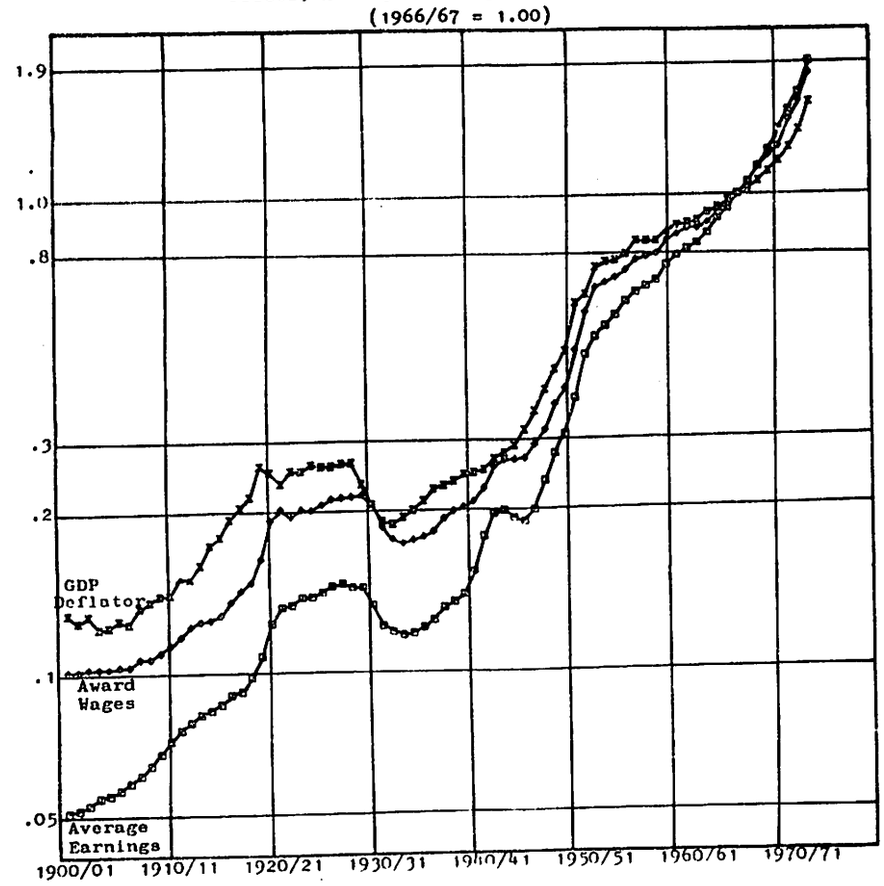


Figure II.14

Prices, Average Earnings and Award Wages

(1966/67 = 1.00)



is much less marked, despite rapid post-World War II accumulation of plant and equipment. The main effect of this rapid accumulation appears to have been replacement of stock run down during the war, thereafter the growth slowed down.

The railway capital stock showed little change between 1900/01 and 1973/74. After growing in cycles up to the depression, it declined to the late forties after which time it remained or less constant.

Figure II.13 graphs the unemployment rate, measured as the number of unemployed divided by the number of persons in the workforce (including defence employment). Self-employed persons are included in the workforce, and as a result the unemployment percentages given here for the period 1900/01 to 1946/47 are lower than the corresponding trade union unemployment figures. The most significant impact on unemployment was the depression, when at the trough some 20% of the Australian workforce was unemployed. As may be seen in figures II.1, II.11 and II.14, the main effect of the depression in Australia was felt in prices, wages and unemployment rather than in real GDP, in contrast to experience in the U.S. Other times of unusually low employment occurred in the first decade of the century, just prior to and just after World War I, just after World War II, in 1952/53, 1961/62 and in 1971/72. A further point is that there has been a marked change in average unemployment rates recorded; before 1938/39 3% unemployment was unusually low while after 1948/49 3% was unusually high.

Figure II.14 illustrates movements in the implicit deflator of gross domestic product, and in an index of average weekly earnings. It is clear that the long period of relatively stable and low inflation rates such as experienced from 1953/54 to 1969/70, was the exception, not the rule. On three occasions, from 1914/15 to 1919/20, from 1945/46 to 1952/53, and from 1970/71 to the time of writing, there was a long period of price inflation at times in excess of 10% p.a. During two periods, from 1920/21 to 1921/22 and from 1929/30 to 1932/33, prices have fallen. Earnings have moved in the same direction as prices, but at a somewhat faster average rate with

Figure II.15

Prices: GDP, Exports and Imports

(1966/67 = 1.00)

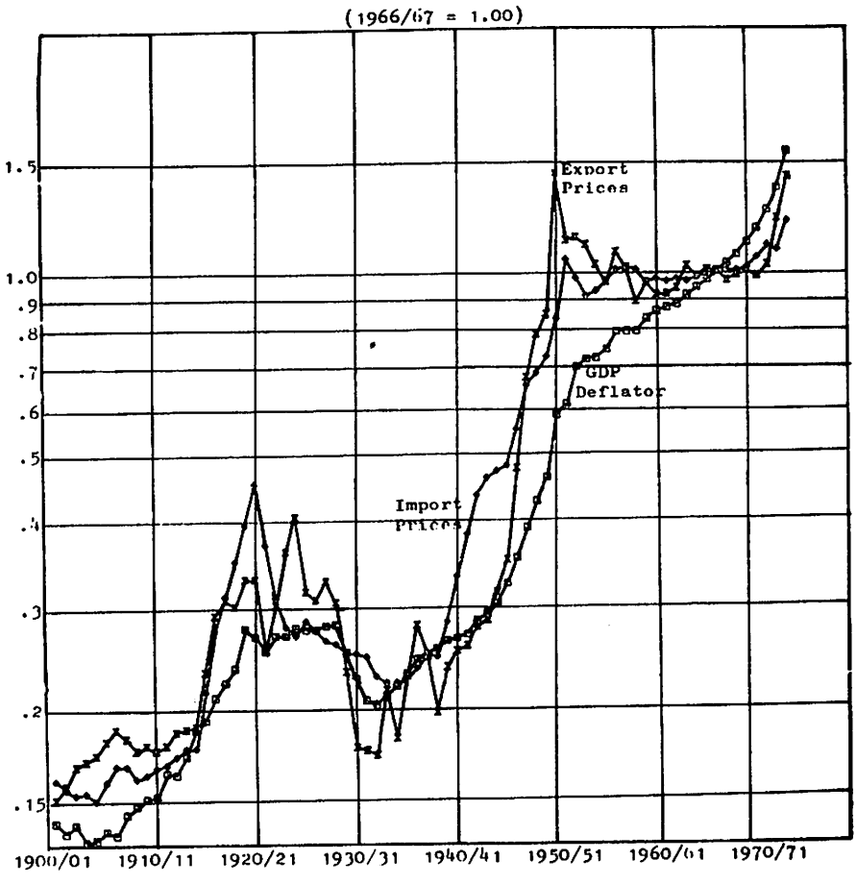
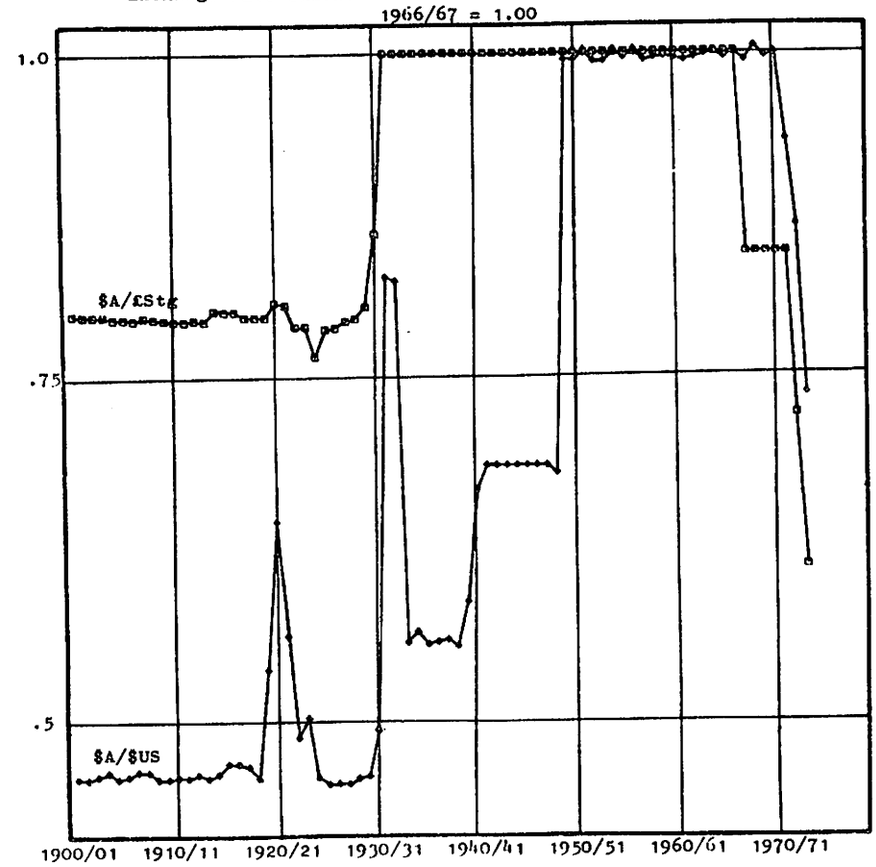


Figure II.16

Exchange Rate Indexes: U.K./Australian and U.S./Australian

1966/67 = 1.00



the result that real earnings have trebled since 1900/01. As may be verified from table II.2 most of the rapid growth in real wages has occurred since World War II and is consistent with the faster growth of labour productivity during this period.

In contrast to earnings, award wages have grown at a rate only slightly faster than the average inflation rate, while, nevertheless, exhibiting the same general cyclical behaviour as earnings. For example, both awards and earnings fell in the depression, with the reduction in awards preceding the fall in earnings.

An interesting point is that, at the outset of the depression, real earnings and real award wages rose in part as a result of the rapid decline in the GDP deflator; this effect, coupled with an adverse movement in the terms of trade (see figure II.15) may have been a major proximate cause of the sharp rise in unemployment in the late twenties and thirties (see figure II.13).

Figure II.15 contains graphs of product, import and export prices. Product prices (measured by the GDP deflator) have similar average growth rates as import and export prices over the full period although growth of the GDP deflator was much smoother. The major inflations of product prices and wages were all associated with rapid increases in Australian import and export prices, although there were other periods during which marked fluctuations in external prices had little apparent relation to movements in domestic prices. Major jumps in export prices occurred during World War II, the early twenties, the late forties and early fifties and the seventies. Major falls in export prices occurred in 1921/22, the great depression, the late thirties and after the Korean war boom of the early fifties. Import prices were somewhat less variable than export prices, and were more closely correlated with domestic price movements. Output prices generally accelerated and decelerated with import prices, the major exception being the second world war when domestic prices were controlled, and import prices were not. Marked changes in Australia's terms of trade can be observed in figure II.15, with improvements in the first 15 years of this

century,[1] in the early twenties, in the late thirties and in the late forties and early fifties. On the other hand the terms of trade moved against Australia during World War I, the late twenties and early thirties and during World War II. Figure II.15 also suggests that the prices of non-traded goods have behaved significantly differently from the price of traded goods as reflected by export and import prices. In the early fifties to the present product prices rose faster than the prices of traded goods, suggesting that non-traded goods prices increased more quickly than traded goods prices.

Figure II.16 gives the movements in the Australian/U.K. and Australian/U.S. exchange rates, the rates in each case being expressed as the number of $A required per unit of foreign currency, and being converted to an index with base 1966/67. For much of the period, given the pattern of Australian trade, and the structure of Australian financial institutions, the Australian/U.K. rate is the more relevant. Prior to 1966/67, there were only two periods when the Australian/U.K. rate changed, the first being in the first half of the twenties, and the second being in the depression when Australia devalued by a net 25% against sterling.[2] After 1966/67 sterling and the Australian dollar moved separately.

The effect of remaining linked to sterling for most of the period can be seen in the movements in the Australian/U.S. rate. Australia effectively devalued against the U.S. dollar at the beginning of World War II, during the early years of the depression (later largely offset by devaluation of the U.S. dollar) and in 1948/49. The 1949 devaluation augmented improvement in the terms of trade already occurring

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1. There is a caveat concerning terms of trade movements before 1948/49. In particular, prior to 1936/37 the series for import prices and export prices do not use the same base years weights. There may be some loss of comparability as a result.

2. There were periods, in the early 1920's and again in the 1930's (not merely in 1931) when the reported rate set by the banks (and used here) did not match market conditions, and an "outside" exchange market developed. Data on these "outside" markets have not been used in assembling the exchange rate series.

and added to the inflation experienced during the wool boom by directly boosting traded goods prices, and through the effects of rapid additions to international reserves. On the other hand, the devaluation during the depression offset, partially and with lags, falling export prices.

Australia's balance of payments is shown in figure II.17. Parts (a), (b) and (c) respectively depict the balance of trade, change in international reserves, and the implied total capital inflow. A fourth series, net property income paid abroad, is not depicted, but has been used to calculate (c).

The variability of all three series is greatest in the post-war period. Major shocks in the post-war period include the wool boom (with a surplus on the trade balance, plus significant capital inflows) and its aftermath, as well as the 1961/62 recession and the period since 1969/70.[1] Surprisingly, the present estimates suggest that the pre-war behaviour of the balance of payments was much less volatile, despite major events such as the depression (when a small capital outflow was recorded; this being composed of a private capital inflow partly offset by public borrowing), and World War I. Further material is being investigated to determine whether the balance of payments as presented in figure II.17 and table IV.17 gives a reasonable picture of the late twenties and thirties.

Yields on long term government securities in Australia, the U.K. and the U.S. are given in figure II.18.[2] From 1900/01 to 1920/21, Australian government security yields generally follow yields on U.K. government securities, but during the twenties these are substantial divergences. Australian security yields fall only after 1931/32, considerably after the fall in U.S. and U.K. security

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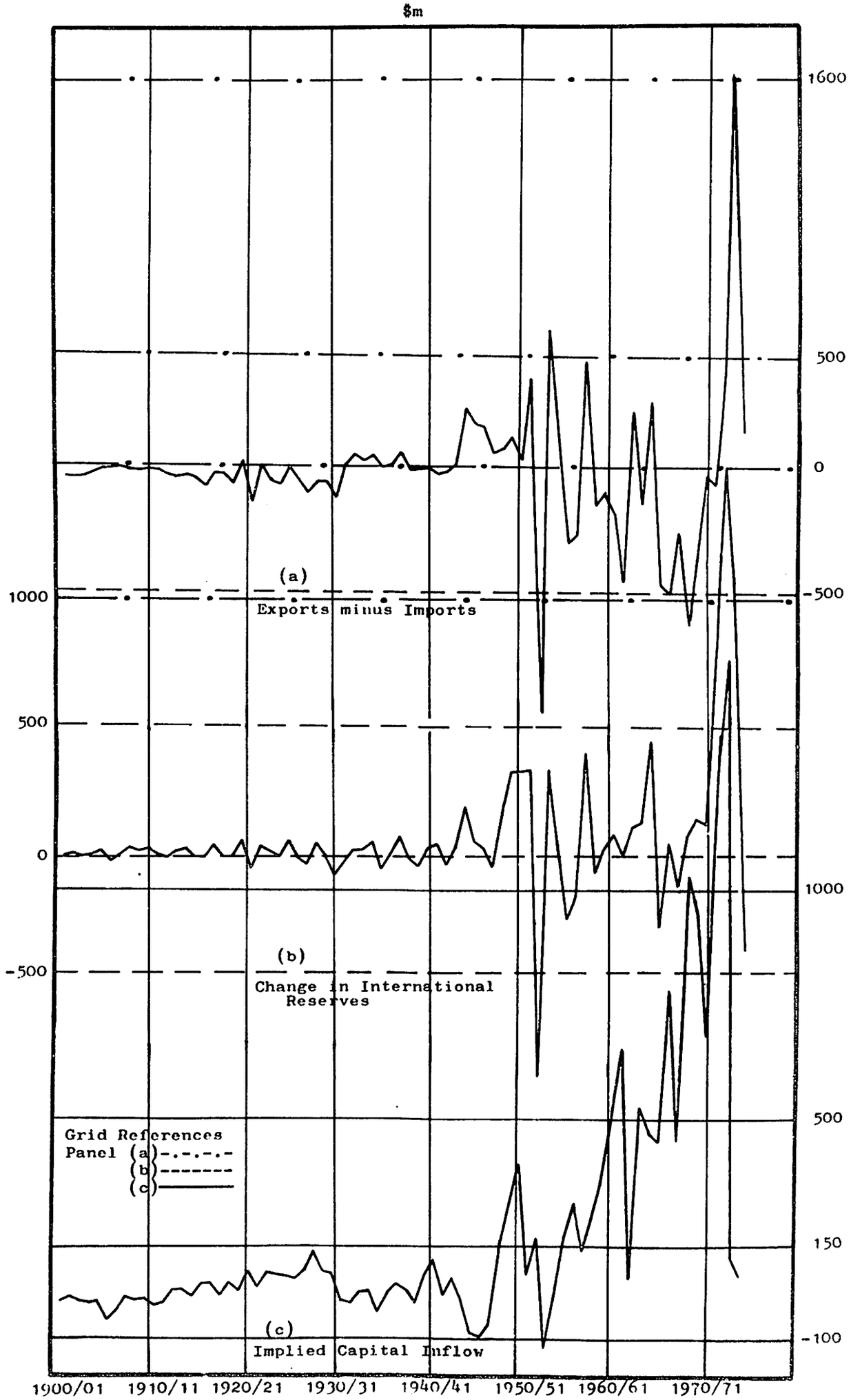
1. This period was marked initially by a large surplus on the trade account, plus a substantial capital inflow; all this followed from 1972/73 by a reduced capital inflow and from 1973/74 a reduced trade surplus.
2. U.S. and U.K. data are from Jonson op.cit.

Figure II.17

Balance of Payments



yields (which occurred in 1929/30).[1] After the depression and World War II (during which time Australian bond yields were significantly higher than the corresponding rates for the U.K. and U.S.) Australian rates again generally followed the same pattern as British rates.

However, the Australian yield post-war[2] was substantially higher than the U.S. yield; given that much of the post-war capital flowing into Australia came from the U.S., and that the growth rate of real GDP[3] was greater than the U.S. and the U.K., these factors may together explain part of the very rapid growth of cumulated private capital net inflow in figure II.19. More recent movements were also affected by exchange rate expectations.

Figure II.19 shows the estimates of private and public cumulated capital inflow. The picture in respect of cumulated private capital inflow should be treated with caution, since all measurement errors in the balance of payments are included in the private inflow series, as this is treated as the residual in the balance of payments, and these errors are probably particularly significant in the period before 1928/29 when no official statistics exist on a basis comparable to post-war ABS concepts. Bearing in mind these qualifications, figure II.19 suggests the following picture. From 1900/01 to 1917/18 cumulated private inflow was constant, then declined, and then grew consistently, with only five brief interruptions. These were during the depression, World War II, after the 1950/51 wool boom, the 1961/62 recession, and from 1972/73 to the end of the period covered. The period of positive private capital inflow from 1917/18 thus falls neatly into three periods; from 1917/18 to 1929/30 and from 1946/47 to 1971/72 when the average growth rates were similar, and

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1. Professor Colin Clark in private correspondence has suggested that, in part, this was due to a considerable expectation of an Australian default in view of what J.T. Lang (then premier of New South Wales) was saying.

2. Using this series as some indication of yields on other assets in the economy.

3. Arguably a proxy for the yield on direct equity capital.

Figure II.18

Long Term Bond Yields; Australian, U.K. and U.S.

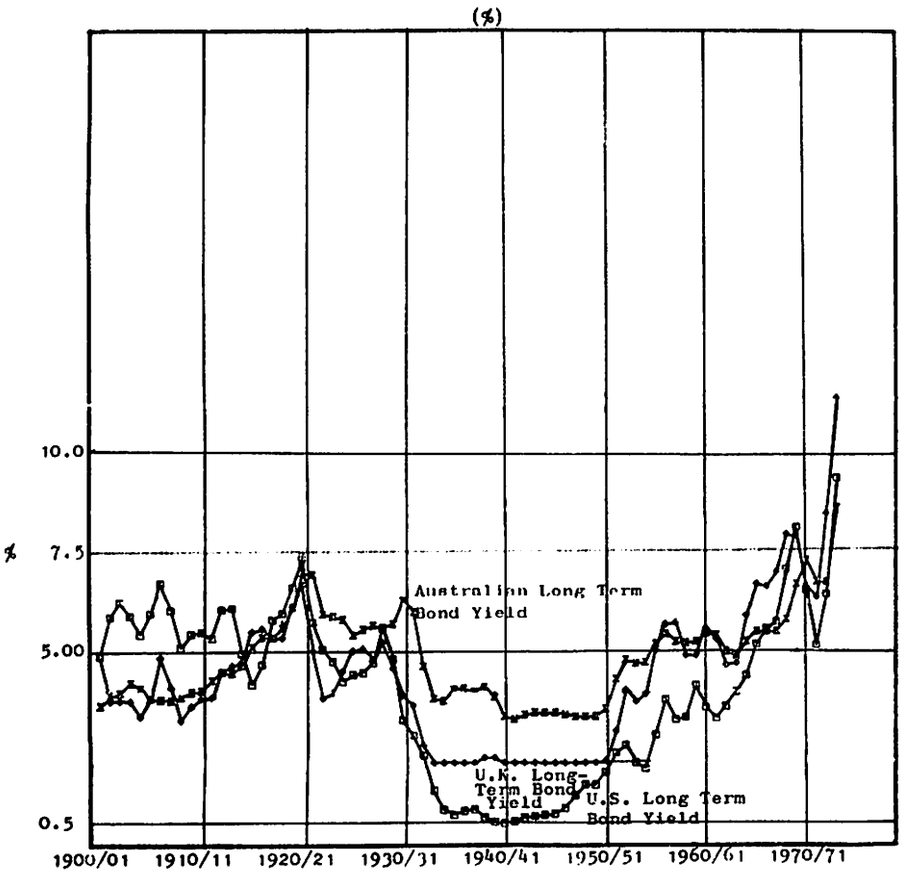
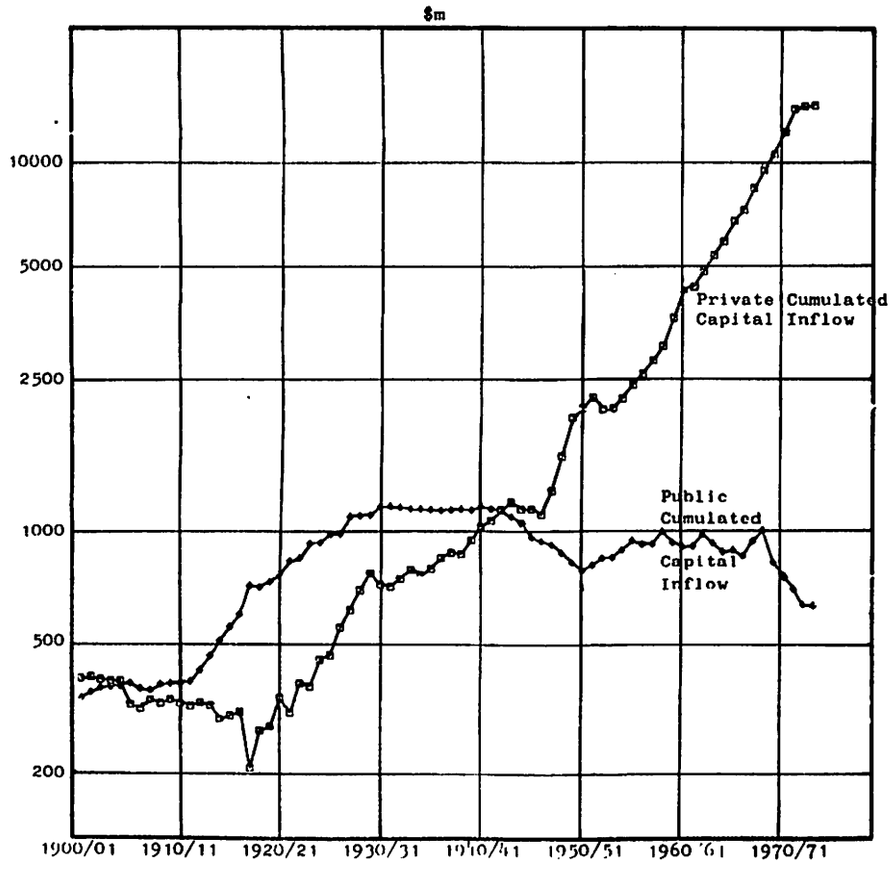


Figure II.19

Cumulated Capital Flows; Public and Private



from 1931/32 to 1943/44 when the average growth rate was somewhat lower. By contrast, public cumulated capital inflow grew rapidly from 1911/12 to 1927/28, initially in response to the financing demands for World War I, and later to finance the expansion of the public capital stock during the twenties. From the late twenties to 1942/43 the level of public cumulated capital inflow remained more or less constant, then declined to 1950/51. From 1955/56 to 1968/69 the level remained constant, then fell to 1973/74. In part the reason for the slowdown, and decline, in public overseas debt was due to the domestic market for government securities supplanting the overseas market from the thirties onwards (see figure II.20).

The money supply (M1 and M3), government securities held by the Australian public, and the market value of international reserves are presented in figure II.20. M1 and M3 grew at broadly the same rates over the period 1900/01 to 1973/74, and show much the same behaviour. The main differences occur from 1919/20 to the end of World War II. During the twenties M1 remained approximately constant in contrast to M3, and M1 fell further than M3 during the depression.

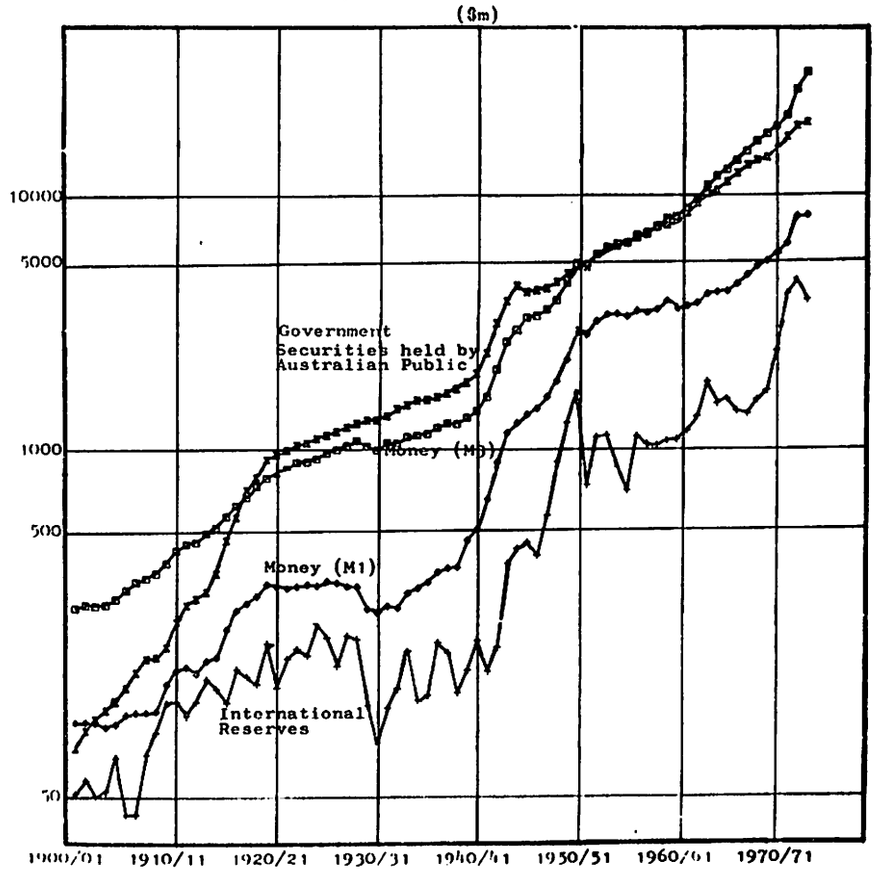
Substantial caveats apply to the early period covered by the remaining series. There are several breaks in the series for government securities, as a result of discontinuities in the data for public authority and central bank holdings of government securities. Furthermore, the series for local government securities held in Australia is unreliable before 1928/29. International reserves data are particularly deficient before 1927/28, being based on balance sheet data for the trading banks.[1]

Despite these problems, figure II.20 indicates a rapid increase in private sector holdings of government securities from 1900/01 to 1919/20, a process given extra impetus by World War I. From 1919/20 to end of World War II, growth in securities matches the growth in M3; thereafter the growth rate falls below M3.

1. The main problem is the varying balance sheet dates for different banks, and the inability precisely to identify all London funds of the trading banks.

Figure II.20

Money, International Reserves and Government Securities Held by the Australian Public



Since 1961, insurance companies have been required to divert a specified proportion of their portfolio into bond purchases as have savings banks for a much longer period; to some extent therefore, the post-war market is distorted by this requirement. It should be noted that this requirement would also have the effect of holding down the yields on government securities. This has implications for the interpretation of figure II.20.

International reserves fluctuate substantially prior to World War II, but are somewhat more stable thereafter. Rapid growth in international reserves occurred from 1941/42 to 1950/51, and in the late sixties and early seventies. Marked falls in international reserves occurred from 1904/05 to 1906/07, during the depression, and after the fifties wool boom.

The picture given by figures II.1 to II.20 should be treated with caution, given the problems with some of the early data. Nevertheless, these graphs illustrate that the Australian economy has undergone substantial and far-reaching change. For example, the private sector now invests both much more (as a proportion of GDP) than it did before 1938/39, and than the public sector. Structurally, the private sector itself has changed substantially, moving away from farm production to non-farm production (particularly manufacturing). During this period the Australian capital market came into being, while simultaneously there was an increased dependence on private foreign capital. All these features suggest the presence of structural change, and it will be interesting to see how the projected models, for which the database is intended, cope with this problem.

III. METHODS AND SOURCES

This section discusses the construction and sources of the various series presented in Section IV. The series themselves have been divided into the following groups: the main expenditure aggregates at current market prices; the price and wage series; employment and labour force; estimates of the public and private capital stock; and financial statistics. Each series described below includes a reference (such as T.IV.1) in the title to the table number in Section IV in which the estimates are given.

As noted above, these series differ markedly in their reliability from period to period, the least reliable data being for the first decade of the twentieth century and data for both world wars. In particular, the treatment of the second world war period for both current and constant prices is open to serious doubt because of the effects of rationing and price control. Unfortunately, any treatment of this period must of necessity be more or less arbitrary.

III.1 MAIN EXPENDITURE AGGREGATES (CURRENT PRICES)

Gross Domestic Product at Market Prices (GDP)

The concept of GDP used for present purposes is GDP at market prices, after stock valuation adjustment. Thus a strict flow-of-goods concept is used. It is acknowledged that the SVA is a contentious issue for current price GDP; accordingly a separate series for SVA is given with the estimates of GDP. For some years no SVA is given, owing to the fact that the GDP estimates, and stock change estimates, are based on strict flow-of-goods concepts.

Sources for GDP are as follows. N.G. Butlin, Australian Domestic Product, Investment and Foreign Borrowing 1861-1938/39 (hereafter referred to as ADP) provides data for

the period 1900/01 to 1938/39. ADP also gives estimates by the Commonwealth Statistician, and Commonwealth of Australia, National Income and Expenditure (henceforth NIE) for the period 1939/40 to 1947/48. Data for 1948/49 to 1973/74 come from Australian Bureau of Statistics (ABS), Australian National Accounts 1973/74 (henceforth ANA 1973/74). The first of these three sources requires no SVA, being based on strict flow concepts but the latter two do require an SVA. ANA 1973/74 provides an estimate of the SVA, while the NIE does not.

The ANA definition of GDP is used as the basis for the present estimates. As noted earlier, this does not imply that this definition is "best practice"; in fact reasons were given earlier for why this definition is deficient. It is, nevertheless, used as a convenient referent point. A major task is to ensure that the estimates from the various sources are as consistent as possible with that definition.

Only minor adjustments were required for the ADP estimates, since these were based on ANA definitions as they stood at 1961/62. The major changes included the deduction of livestock accretion, and an adjustment to war expenditure during World War I. More important changes were required for the NIE estimates, and it should be noted that despite these adjustments, the resultant estimates are still not fully consistent with ANA definitions.[1]

There are several competing estimates for pre-1938/39 GDP, the most notable being those of Clark[2] and Clark and Crawford.[3] The choice in favour of the ADP series is based on two factors.

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1. Major differences between the NIE and ANA 1961/62 concepts (neglecting SVA's) were specifically concerned with the treatment of the Australian Broadcasting Commission, navigation and air route charges, certain air freight concessions, hire purchase companies and non-mutual profits of life insurance companies. Precise details are given in ANA 1961/62. Further changes in definition occur in 1971/72, and relate to the treatment of financial enterprises. Details are given in ANA 1971/72.
2. Clark, C., The Conditions of Economic Progress, 3rd Ed., MacMillan 1951.
3. Clark, C. and Crawford, J., The National Income of Australia, Angus and Robertson, 1938.

First, the ADP estimates are based on concepts very close to the ANA definitions, and so the data from 1900/01 to 1973/74 are more consistent. Secondly, the ADP estimates are an unbroken series consistently derived from essentially the same source material. To obtain an alternative series for the period before 1938/39 one must combine several estimates - those of Clark, Sutcliffe[1] and others - and thereby introduce a number of inconsistencies and breaks in continuity in the series.

As noted above, some minor changes are required for the unadjusted ADP estimates given in ADP Table 1. The first is to subtract estimated livestock accretion.[2] Secondly, the estimates for 1914/15 to 1919/20 have to be adjusted to allow for expenditures on Australian armed forces overseas which have been excluded from the estimates in ADP. The appropriate additions are taken from McLean's[3] figures of imports of government services. This treatment reflects the financial arrangements of the time; in the first instance the U.K. government paid Australian soldiers, and was then reimbursed by the Australian government. McLean's figures appear to be somewhat understated in that they include only pay and allowances, but have been accepted as they stand at this stage.

The adjustments to the NIE estimates to approximate ANA definitions are much more significant than the changes made to the ADP estimates. Before outlining the adjustments to NIE, it is worth mentioning an alternative estimate by R.V. Kennedy in Consumption and Trade Cycles (hereafter CTC) which attempts to bring the NIE estimates of GDP from 1938/39 to accord with ANA 1961/62 definitions.

The CTC estimates have not been used for two reasons. First, the estimate for 1938/39 (after SVA) differs significantly

1. Sutcliffe, J.T., The National Dividend, Melbourne University Press, 1926.
2. ADP Table 7, p.22.
3. I.W. McLean, "The Australian Balance of Payments on Current Account, 1901 to 1964/65", Australian Economic Papers, June 1967. McLean presents updated estimates of the current account which build on previous work, including the estimates in ADP of the current account.

from the ADP estimate, and other reasonable estimates of GDP for 1938/39.[1] Secondly, the CTC constant price estimates suggest an unreasonably high rate of growth of real product from 1938/39 to 1948/49 (averaging about 8% p.a. for eleven years). This conflicts with evidence for 1938/39 and 1948/49 provided by Haig,[2] which suggests a far slower (2.9% p.a.) rate of growth of real product for this period. Although there are two largely separable issues in this second point, namely the validity of Kennedy's current price aggregate, and the validity of his implicit deflator, it is, nevertheless, clear that an initial current price estimate which is too low would contribute to the observance of this high growth rate. For these reasons, therefore, the CTC estimates of GDP are not used.

Unfortunately, apart from the CTC and NIE estimates, there are no estimates of GDP for the period 1938/39 to 1948/49. Haig's estimates are useful, but only give values for the endpoints in current and constant prices, and not for the whole period.

The series chosen is drawn from the NIE 1955/56 estimates. Certain adjustments are made to allow for minor changes to exports and imports, as recorded in NIE and elsewhere,[3] the exclusion of final consumption expenditure by financial enterprises,[4] and a stock valuation adjustment. The last is by far the most significant change, and results in the NIE estimate being reduced by some $226m in 1947/48. Other alterations include some minor adjustments to private investment in 1939/40 and 1940/41 along lines privately suggested by Professor N.G. Butlin, and noted below.

It should be noted, however, that despite the adjustments these estimates are not fully consistent with ANA definitions. The remaining differences are minor, and as a result no further adjustments to the 1938/39 to 1947/48 estimates have been made.

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1. For example, that provided by B.D. Haig, "1938/39 National Income Estimates", Australian Economic History Review, September 1967.
2. B.D. Haig, op.cit.
3. Notably McLean op.cit.
4. Following changes in the definition of gross domestic product recorded in ANA 1971/72.

Some doubt exists about the stock valuation adjustment for 1938/39 to 1947/48. Despite this, the resultant estimates provide a plausible picture of events during this period. Estimates in current and constant prices for the major expenditure aggregates are given in detail in Table III.1, which also gives the SVA made.

Briefly, these estimates suggest a rapid rise in real product from 1938/39 to 1942/43 at a rate of approximately 9.5% p.a. This is associated with the re-employment of a large pool of unemployed, the entry of females to the workforce, the changing distribution of the workforce between industries and the rising war effort. GDP declines from 1942/43 until 1947/48 in the course of re-direction of the war effort, and the costs of conversion to a peace-time economy. From 1947/48 real product begins to rise again, giving an overall growth rate of 3.3% p.a. for the years 1938/39 to 1948/49. This figure is significantly lower than that implied by CTC, but higher than that suggested by Haig's estimate. The general picture is similar to U.S. and U.K. experience, which record average growth rates of 4.3% p.a. and 1.2% p.a. respectively for 1939 to 1949 and 10.7% p.a.[1] and 4.0% p.a. for 1939 to 1943. In both countries real output bottoms in 1947, and rise again thereafter.

Exports of Goods and Services T.IV.1

Figures for 1900/01 to 1947/8 come from McLean and are defined as the sum of exports f.o.b., gold production, transportation, travel, government and miscellaneous items, in accordance with present ANA definitions. Other documents consulted for this period are Australian Bureau of Statistics, The Australian Balance of Payments, 1928/9 to 1948/9 and Swan.[2]

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1. The U.S. wartime peak output actually occurred in 1944, with an implied growth of real product from 1939 to 1944 of 10.1% p.a.

2. P.L. Swan, "The Australian Balance of Payments and Capital Imports, 1914/15 to 1923/4", Australian Economic Papers, June 1967.

TABLE III.1

Main Expenditure Aggregates at Current and Constant 1966/67 Prices 1938/39 - 1948/49 ($m)

Current Price Estimates

	Consumption		Defence Spending	Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product[1]	Stock Valuation Adjustment
				Private		Public						
	Private	Public Non-Defence		Dwelling	Non-Dwelling	Dwelling	Non-Dwelling					
1938/39	1378	86	26	64	97	1	128	6	314	281	1819	-6
40	1388	92	98	58	114	0	116	78	376	340	1980	24
1940/41	1436	92	340	54	96	0	100	14	378	365	2145	-6
42	1538	100	614	34	82	0	76	32	416	395	2497	20
43	1540	104	1072	14	70	0	60	-53	428	377	2858	64
44	1470	108	964	10	80	0	64	-69	593	315	2905	51
45	1636	120	760	14	104	0	70	-77	528	313	2842	31
46	1798	146	414	30	168	0	90	89	557	357	2935	49
47	2158	202	86	68	220	18	164	139	666	572	3149	95
48	2580	270	46	96	272	26	210	182	914	803	3793	222
49	2975	271	82	145	352	33	262	45	1138	979	4324	115[2]

Constant Price Estimates

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1938/39	4793	737	277	414	4	572	24	1578	1152	7247
40	4515	1246	236	464	0	506	301	1600	1223	7645
1940/41	4476	2337	193	358	0	392	54	1518	1109	8218
42	4612	3438	117	252	0	279	121	1638	1034	9423
43	4261	5018	41	215	0	188	-190	1568	857	10244
44	4077	4375	28	242	0	194	-240	2178	672	10122
45	4645	3638	39	212	0	214	-258	1698	651	9537
46	4791	2358	81	506	0	266	277	1591	727	9143
47	5735	1144	180	625	48	468	395	1370	1020	8946
48	6453	1105	255	681	65	549	465	1348	1220	9701
49	6968	1127	337	798	77	634	105	1431	1421	10056

1. After stock valuation adjustment. 2. Based on NIE 1955/56 and ANA 1973/74.

Data for the period 1948/9 to 1973/4 come from ANA 1973/74.

Swan's article is particularly helpful in resolving problems posed by the first world war. During this period Australian exports were paid for, but not all were shipped. However, exports are recorded as such only on shipment, which in some cases was several years after payment had been made. McLean's figures are therefore adjusted during the war years along the lines suggested by Swan, which involves correcting exports and adjusting stock changes. The implications of the changes are given in Table III.2.

Table III.2 Adjustments to Exports: 1914/15 to 1922/23

	McLean's exports ($m) (1)	Swan's Adjustment ($m) (2)	Resultant series ($m) (3)
1914/15	142.0	0	142.0
16	154.4	+11.58	166.0
17	195.8	47.26	243.1
18	171.6	+37.12	208.7
19	237.6	-10.7	226.9
20	311.8	-11.8	300.0
1920/21	319.2	-51.5	267.7
22	285.4	-17.0	268.4
23	266.8	-5.0	261.8

Since the adjustment in column (2) represents essentially a relabelling of stocks, the appropriate adjustment (namely to subtract column (2)) is also made to the raw stock figure.

Data for 1901 to 1913 are available in calendar years only, and are converted to financial year data by a simple two year moving average.

Imports of Goods and Services T.IV.1

Figures for 1900/01 to 1947/48 come from McLean, and are defined as the sum of imports f.o.b., transportation, travel, government and miscellaneous items, in accordance with present ANA definitions. The remaining sources and methods are the same as those used to derive exports.

Adjustments to allow for Commonwealth government war expenditure payments to Britain as suggested by Swan have already been incorporated by McLean.

Private Fixed Capital Formation T.IV.1

This item is disaggregated into private dwelling investment and private non-dwelling fixed investment. The sources are the same in each case.

Data for 1900/01 to 1938/9 come from ADP,[1] as do the figures for 1939/40 to 1947/8,[2] while the period 1948/9 to 1973/4 is covered by ANA 1973/74.[3] A supplementary source consulted, but not used, is CTC.

For the period 1939/49 to 1947/8 there is a slight inconsistency between the NIE figures reported in ADP[4] and the ANA data in relation to the treatment of Motor Cars and Motor Cycles. From 1939/49 to 1947/8 this component is treated as private investment, whereas the ANA distinguishes between business and personal purchases of motor cars, the business purchases being allocated to private investment and personal purchases to private final consumption. In the series constructed here, a different treatment is adopted for 1939/40 to 1947/8 with all purchases of motor cars being treated as private consumption (trucks and utilities remain with private investment). The error introduced by this new treatment involves recording some business vehicles as private consumption, but the error is small since the business purchases are small relative to personal purchases, and the motor cars component itself is small relative to private investment. It may be noted that before 1939/40, the ADP estimates of private investment incorporate strictly business expenditures on motor vehicles.

Further minor adjustments were made to the NIE estimates along the lines suggested in ADP.[5]

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1. Table 5, pp.18-19.
2. ADP, Table 27, page 468. This provides the most recent dissection of the NIE figures for this period.
3. Australian Bureau of Statistics, ANA 1973/74. Table A, p.108.
4. ADP, Table 27, page 468.
5. ADP, pp.42-43. Butlin also suggested deducting £5m and £3m in 1939/40 and 1940/41 respectively, to take proper account of conceptual differences between the ADP and NIE in 1938/39.

Government Final Consumption Expenditure, Excluding Defence T.IV.1

From 1904/05 to 1937/8 this was calculated directly from various issues of the Australian Bureau of Statistics, Finance Bulletin (hereafter referred to as FB). Figures for the period 1900/01 to 1903/04 were calculated from ADP using an indirect method. The data for 1938/39 to 1947/8 come from NIE 1955/56, and the data for 1948/9 to 1973/4 come from ANA 1973/74, and various budget estimates of defence spending.

It is not clear how reliable the figures from 1900/01 to 1937/8 are. Direct calculation from FBs for 1904/05 to 1937/8 involved counting up the current costs of administrative services of government (excluding defence administration). Deductions were made in respect of replacement, transfers, interest payments, payments to sinking funds etc. The expenditure on goods and services was approximated from ADP from 1900/01-1938/39 by adding the gross products of government business undertakings and government services less construction materials used by the public sector, and the results compared with the direct calculation. As is clear from the table below, the series are very close in most years, the main differences occurring in the Depression years. A second check for at least part of the period is provided by Commonwealth Bureau of Census and Statistics (CBCS), Revenue and Expenditure of Public Authorities, Australia 1928/29-1944/45. The series provided in Table III.3 is the sum of expenditure on goods and services, excluding Civil Works and Defence. It is reassuring to note that changes in the CBCS series are similar to those in the directly calculated series, even though the absolute differences are relatively large. In any event, the errors in this term are absorbed in private final consumption expenditure, which is relatively very large. For example, in 1933/34, where the difference between the directly calculated and the CBCS estimates is greatest, this difference is only 2% of private final consumption expenditure. Thus, at least over the period 1928/9 to 1938/9 the error associated with the direct

Table III.3 Various Estimates of Public Final Consumption (excluding defence) 1900/01 - 1938/39 $m current prices

	Direct calculation	ADP calculation	CBCS mimeo		Direct calculation	ADP calculation	CBCS mimeo
1900/01		19		1920/21	68	64	
2		23		22	76	77	
3		21		23	85	84	
4		22		24	80	81	
5	25	26		25	83	84	
6	27	30		26	80	77	
7	31	33		27	83	83	
8	30	32		28	92	89	
9	32	31		29	97	92	76
10	31	31		30	88	84	74
1910/11	32	30		1930/31	82	104	68
12	33	31		32	79	107	62
13	36	35		33	77	99	58
14	42	44		34	82	96	60
15	40	42		35	85	97	66
16	42	44		36	87	91	70
17	53	55		37	85	88	76
18	54	58		38	90	90	80
19	53	57		39	94	98	84
20	60	63					

estimates of government final consumption expenditure is unlikely to cause major errors in the consumption series, which, as noted below, is calculated residually. Errors of even 50% of the value of public consumption estimates, (although the error is likely to be significantly less than this) would amount to less than 5% of private final consumption for the period 1920/21 to 1938/9.

Government Defence Expenditure T.IV.1

For 1900/01 to 1937/8 the series is the sum of defence forces salaries and defence capital formation from ADP. It should be noted that this series is adjusted to include the salaries of the AIF overseas during the first world war, following the adjustment to imports. The adjustment to Butlin's series for this period is made by using McLean's figures for import debits by the government from 1914/15 to 1919/20. These figures are mainly defence forces salaries, and do not include equipment purchases.

From 1938/39 to 1947/48 the data come from NIE 1955/56, and from 1948/49 the series is drawn from various issues of ANA.

Public Fixed Capital Formation T.IV.1

The figures for 1900/01 to 1938/9 come from ADP,[1] adjusted to exclude expenditure on defence capital. From 1939/40 to 1947/8 the data are from NIE,[2] adjusted where suggested in ADP.[3] The remaining data come from ANA 1973/74.[4] No adjustment is necessary for the post 1948/9 data to remove defence expenditures, since these are excluded from the ANA definition of government capital formation.

Public capital formation is further dissected into public investment in housing, and public fixed non-dwelling investment. The sources are the same as above.

Stock Changes after Stock Valuation Adjustment T.IV.1

The series for stock changes is the least reliable of all the current price expenditure aggregates. Figures for 1900/01 to 1937/38 are variously drawn from Swan op.cit., Commonwealth of Australia, Year Book (various issues), E. Dunsdorfs,[5] Bureau of Agricultural Economics (BAE), Statistical Handbook of the Sheep and Wool Industry, computations based on data from ADP and Wilson.[6]

From 1938/39 to 1947/48 the figures are adjusted estimates from NIE 1955/56 after stock valuation adjustment, and from 1948/49 to 1973/74 the figures come from ANA 1973/74.

To facilitate the exposition, the following discussion is divided into four sections, covering farm stocks from 1900/01

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1. ADP tables 8 and 10, pp.24-5 and pp.28-9.
2. ADP table 273. Figures are from NIE, supplemented by further information from the Australian Bureau of Statistics.
3. ADP table 27, p.468.
4. ANA 1973/74, table A, p.108.
5. E. Dunsdorfs, The Australian Wheatgrowing Industry 1788-1948, Melbourne, Melbourne University Press, 1956.
6. R.C. Wilson, Public and Private Investment in Australia, Canberra 1939.

to 1937/38, non farm stocks from 1900/01 to 1927/28, and also from 1928/29 to 1937/38, and stock movements from 1938/39 to 1947/48.

Farm Stocks 1900/01 to 1937/38

Movements in farm stocks for this period cover only movements in wool and wheat stocks, which are the two largest components of movements in farm stocks.

A preliminary figure for wheat stock movements from 1900/01 to 1926/7 is derived from various Year Books by taking the estimated production of wheat less exports and domestic consumption (including the wheat equivalent of flour), and valuing the result at the average export price.[1] This figure is then modified by subtracting the quantity of exports paid for, but not shipped during the years 1914/15 to 1923/4.[2] From 1926/7 to 1938/9, figures recorded in Dunsdorf op.cit. (p.479 and p.471) are used to obtain figures for stock movements.

The value of changes in wool stocks is obtained for the years 1900/01 to 1920/1 from Year Books in much the same way as wheat stocks, and similar adjustments to those for wheat are made for the years 1914/15 to 1923/4. From 1921/2 to 1937/8 wool stock movements are obtained from BAE Statistical Handbook of the Sheep and Wool Industry[3] based on stocks of unsold wool held in brokers' store. This figure is then valued using the price for greasy wool (BAE, op.cit. Table 79) which would understate the value of stock movements since prices of scoured wool (the only other statistical class of wool apart from greasy wool held in storage) are greater than greasy wool prices for all years after 1921/2.

The series for wool and wheat stock movements are then summed to give a proxy for movements in farm stocks.

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1. No allowance was made for wheat used by farmers, or for imports. In most years these are believed to be negligible.
2. Source was P.L. Swan, op.cit., table V. page 100. Note also the description of exports from 1914/15 to 1922/23 above.
3. BAE, Statistical Handbook of the Sheep and Wool Industry, 4th Ed., Commonwealth Government Printer, 1973.

Non-Farm Stocks 1900/01 to 1927/28

No direct information about movements in non-farm stocks is available before 1928/29. Consequently non-farm stock movements are calculated from sectoral information in ADP, under the assumption that stock levels stood at 50% of real non-farm product at factor costs.[1] This proportion is based on the ratio of the book value of non-farm stocks to non-farm product in 1948 and is similar to the value for the same ratio in post-war Britain.[2]

Changes in non-farm stocks are then determined, converted to current prices using the appropriate price index in ADP, and added to farm stocks to give a total stocks series, which is presented in Table III.4. No SVA is presented, since both the farm and non-farm stock movements were estimated on a flow of goods basis.

Table III.4 Stock Changes: 1900/01 - 1927/28
$m current prices

	Non-farm	Farm	Total		Non-farm	Farm	Total
1900/01	-1.0	.2	-.8	1915/16	-14.5	52.7	38.2
1901/02	11.2	-2.5	8.7	1916/17	5.7	-20.4	-14.7
1902/03	-4.9	-5.9	-10.8	1917/18	-9.1	10.5	1.4
1903/04	6.0	16.2	22.2	1918/19	21.6	-4.9	16.7
1904/05	-.9	-2.1	-3.0	1919/20	0	-50.0	-50.0
1905/06	7.3	4.5	11.8	1920/21	45.1	75.7	120.8
1906/07	15.0	1.6	16.6	1921/22	27.7	-3.6	24.1
1907/08	2.7	-6.7	-4.0	1922/23	25.1	14.0	39.1
1908/09	5.8	10.7	16.5	1923/24	24.5	7.6	32.1
1909/10	13.7	15.6	29.3	1924/25	33.5	38.6	72.1
1910/11	16.6	2.7	19.3	1925/26	-10.1	-18.2	-28.3
1911/12	9.3	-7.5	1.8	1926/27	10.0	2.4	12.4
1912/13	20.8	9.0	29.8	1927/28	1.5	-1.3	0.2
1913/14	6.2	11.7	17.9				
1914/15	-31.2	0.7	-30.5				

Non-Farm Stocks 1928/29 - 1937/38

From 1928/29 to 1937/38 there is some choice of source material. Wilson op.cit. has calculated a series for stock changes for both farm and non-farm sectors. His estimates require a stock

1. I am grateful to Professor Colin Clark and Dr A.R. Hall for this suggestion.

2. Professor Colin Clark in private correspondence.

valuation adjustment to convert them to a flow-of-goods basis. Then there is the procedure described above used prior to 1927/28, which may be carried forward to 1937/38. H.P. Brown, in an unpublished manuscript provides some changes to Wilson, to allow in a rough fashion for stock valuation changes and to adjust changes in stocks of imports.[1] The preferred series combines the pre 1928/9 method for measuring farm stocks with Wilson's estimates of non-farm stock movements adjusted for stock valuation changes. The several estimates are presented in Table III.5.

Table III.5 Various Estimates of Stock Movements: 1928/29 - 1937/38
$m current prices

	Wilson (unadjusted)			Pre 1928/29 Method			Brown	Preferred Series		
	Non-farm (1)	Farm (2)	Total (3)	Non-farm (4)	Farm (5)	Total (6)	Total (7)	Non-farm (8)	Farm (9)	Total (10)
1928/29	.5	-3.2	-2.7	21.7	3.7	25.4	0	-1.9	3.7	1.8
1929/30	-.7	3.0	2.3	11.0	0.9	11.9	48	16.6	0.9	17.5
1930/31	-21.4	-9.1	-30.5	-84.2	-.5	-84.7	8	-12.9	-.5	-13.4
1931/32	-2.6	4.4	1.8	-21.1	0	-21.1	-4	-2.2	0	-2.2
1932/33	3.7	2.0	5.7	35.1	-1.5	33.6	6	6.6	-1.5	5.1
1933/34	-1.9	11.1	9.2	17.7	11.9	29.6	10	-.3	11.9	11.6
1934/35	7.4	-9.9	-2.5	28.1	-11.9	16.2	-2	5.2	-11.9	-6.7
1935/36	-2.6	-.9	-3.5	32.6	-3.8	28.8	-4	-4.0	-3.8	-7.8
1936/37	11.2	10.5	21.7	16.3	-.9	15.4	12	6.3	-.9	5.4
1937/38	n.a.	1.8	n.a.	44.8	7.9	52.7	n.a.	44.8[a]	7.9	52.7

a using pre 1928/29 method; Wilson's figures incomplete for 1937/38

n.a. = not available

Major differences between the Brown and preferred estimates (columns (7) and (10) respectively in Table III.5) occur in 1929/30 and 1930/31, these being two of the years in which Brown adjusts stocks of imported goods. For the remaining years the two series are reasonably close, and tell the same basic story.

A somewhat disturbing feature in Table III.5 is the dissimilarity between the estimates for non-farm stock movements.

1. Manuscripts dated 20 and 29 February 1946. I am grateful to Dr D.G. Badger for making these available.

Movements in series (4) are generally much bigger than movements in series (8) in Table III.5, and in some years give a distinctly contradictory impression of stock changes. As will be seen later, the two series imply somewhat different patterns of private final consumption expenditure from 1928/29 to 1930/31.

The differences between the two series (4) and (8) do not mean that one is necessarily better than the other, although one would prefer a priori the preferred estimate which is based on Wilson's figures of actual stock changes recorded by companies and other institutions. But Wilson's data almost certainly underestimate stock movements since they are based on a limited sample.

Some doubt is cast on the validity of calculating non-farm stocks using the pre 1928/29 method, however, particularly when there are large disturbances in the economy. Unfortunately, as there are no directly computed alternatives in existence, there is no alternative but to use this method. An important area of further research will be to extend direct estimates of non-farm stock changes back in time as far as possible.

Stock Movements 1938/39 to 1947/48

The major problem with the NIE stock data is that they are not based on a flow definition, and quantify the change in the book value of inventories of farm and non-farm goods.

Consequently, consistency requires some stock valuation adjustment (SVA) to NIE estimates of income and stock change. A number of attempts were made to estimate the stock valuation adjustment, or the value of change in physical inventories (as distinct from book values). Most were judged unsatisfactory. In the case of direct estimates of the value of change in inventories, the criterion is the implied SVA when compared with the NIE estimates, since a negative SVA is incompatible with the general upward trend in prices from 1938/39 to 1948/49. Some doubt is cast on this criterion, however, in the case of farm stocks when the calculations from 1926/27 to 1937/38 were carried through to 1948/49.

Movements in the stocks of wool and wheat constitute the most important element of farm stock change, nevertheless a negative SVA was implied for two years when the results of the extended calculations were compared with the NIE data.

Non-farm stock movements are calculated using a base year figure for the book value of non-farm stocks at June 30 1948 supplied by the Australian Bureau of Statistics. An iterative procedure, using NIE data and the implicit deflator of gross domestic product is used.[1] The results of this calculation, and of the direct calculation of farm stock movements are summed, and the result used to adjust the NIE estimate of national income. Table III.6 presents the farm and non-farm stock estimates for 1938/39 to 1948/49, and the implied stock value adjustments.

Table III.6 Stock Movements 1938/39 - 1947/48
$m current prices

	Non-farm stock changes	Non-farm SVA	Farm stock changes	Farm SVA	Total Stock Changes $v\Delta p$	Total SVA $p\Delta v$	Book Value of Stock Changes (Δpv)
1938/39	8	12	-2	-18	6	-6	0
1939/40	60	0	18	24	78	24	102
1940/41	29	11	-15	-17	14	-6	8
1941/42	5	15	27	5	32	20	52
1942/43	-74	34	2	30	-72	64	-8
1943/44	-32	12	-37	39	-69	51	-18
1944/45	-32	52	-45	-21	-67	31	-36
1945/46	84	16	5	33	89	49	138
1946/47	142	88	-3	7	139	95	234
1947/48	169	131	13	91	182	222	404

1. Changes in the book value of stocks is given by

$$\frac{d}{dt}(pv) = p\frac{dv}{dt} + v\frac{dp}{dt} \qquad (1)$$

where p is the price of stocks, and v is the quantity of stocks. Approximating (1) by

$$\Delta(pv) = p\Delta v + v\Delta p \qquad (1')$$

then for a given base stock, providing p and Δp are known, then it is possible to iterate back in time for $p\Delta v$, which is the appropriate flow-of-goods concept for stock movements.

The resulting estimates of stock change for the period 1938/39 to 1948/49 are unreliable at best. However, it is believed that the adjustments presented above are the best attempt on current knowledge to deal with the problem. The problem is non-trivial, since the SVA after World War II are large as a result of the post-war inflation, and represent for the year 1948/49 the largest single adjustment required to reconcile NIE and ANA estimates.

Private Consumption Expenditure T.IV.1

No direct estimates of consumption exist for the period 1900/01 - 1937/38. From 1900/01 to 1938/9 the estimate of private consumption is calculated as the residual from gross domestic product after capital formation expenditure, government expenditure, stock changes and exports less imports are subtracted. By definition, therefore, the statistical discrepancy is included with private consumption.

From 1939/40 to 1947/8 private consumption comes from NIE 1955/56, and includes the statistical discrepancy, which is not separately estimated in NIE. It should be noted that the NIE includes non-business motor vehicle purchases as investment, whereas the ANA treats them as private final consumption. Accordingly, purchases of non-business vehicles are added to the NIE consumption estimates, and subtracted from private investment as previously described.

From 1948/9 to 1973/4 the consumption data come from ANA 1973/74 and, for consistency with the pre-1948/9 data, are defined as the sum of private final consumption expenditure and the statistical discrepancy.

While there are no published direct estimates of consumption for the pre-war period, there are a number of unpublished estimates by H.P. Brown for the period 1928/29 to 1938/39.[1] Brown's method is essentially the same as the one used above, and is the same as the one used in the NIE. That is, various aggregates

1. Manuscript dated 20 February 1946.

are deducted from income to give a residual which is conceptually equivalent to private final consumption. Brown's original figures[1] exclude property income paid abroad, and non-business purchases of motor cars, both of which must be added back to be on a bssis equivalent to the figures calculated for this paper. Table III.7 contains Brown's original estimates, the appropriate adjustments and a comparison with the present estimates. Brown's figures for private income paid abroad and Wilson's[2] estimates of non-business motor vehicle purchases are used to adjust Brown's original estimates.

Table III.7

Alternative Private Consumption Estimates: 1928/29 - 1938/39
$m current prices

	Brown Unadjusted (1)	Brown Property Income (2)	Wilson Motor-cars (3)	Brown Adjusted (4) = (1)+(2)+(3)	Preferred Series (5)	$\frac{(5)-(4)}{(4)} \times 100$
1928/29	1292	18	53	1363	1314	-3.7
1929/30	1246	21	35	1302	1293	-0.7
1930/31	978	15	12	1005	986	-1.9
1931/32	944	6	8	958	913	-4.7
1932/33	984	9	10	1003	976	-2.7
1933/34	1048	8	17	1073	1010	-5.9
1934/35	1070	14	27	1111	1104	-0.6
1935/36	1160	16	44	1220	1211	-0.7
1936/37	1222	19	42	1283	1269	-1.1
1937/38	1316	21[a]	47	1384	1368	-1.2
1938/39	1318	34	40[b]	1392	1378[c]	-1.0

a Estimated, b NIE 1955/6, c NIE 1955/56 adjusted as explained in text

The series derived from Brown's estimates (series (4) in Table III.7) is consistently above the preferred series (series (5)) throughout the period; this is because the GDP series from ADP is lower than the corresponding series used by Brown.[3] Despite this obvious difference, the consumption series are broadly in agreement, with the proportionate difference being less than 5% for all years except 1933/34.

1. A somewhat different set of consumption figures by H.P. Brown appears in Arndt, H.W., and B.D. Cameron, "An Australian Consumption Function" Economic Record 1957. Similar adjustments must be made to this series for comparability.
2. Wilson op.cit. p.22.
3. It is unclear from Brown's manuscript which GDP series he uses.

An interesting exercise, in view of the discussion of the various possible stock series for 1928/29 to 1937/38 above, is to compare the estimates of consumption for 1928/29 to 1937/38 implied by the various stock assumptions, i.e.

(i) the method of calculating non-farm stock movements from 1900/01 - 1927/28 (column (6) of Table III.5);

(ii) the Brown stock movements series, which as noted above is a revised version of Wilson's stock movement series (column (7) of Table III.5);

(iii) the preferred revised version of the Wilson non-farm data (column (10) of Table III.5).

The three different consumption estimates are presented in Table III.8 below.

Table III.8 Comparison of Alternative Consumption Estimates
$m current prices

	Brown (Adjusted)	Using Stock Assumption		
		(i)	(ii)	(iii)
1928/29	1363	1291	1316	1314
1929/30	1302	1299	1251	1293
1930/31	1005	1058	965	986
1931/32	958	932	915	913
1932/33	1003	947	975	976
1933/34	1073	992	1012	1010
1934/35	1111	1081	1099	1104
1935/36	1220	1174	1207	1211
1936/37	1283	1259	1272	1269
1937/38	1384	1368	n.a.	1368
1938/39	1392	1378	1378	1378

Apart from 1928/29 and 1930/31, consumption estimates based on stock assumptions (i), (ii) and (iii) show much the same picture; a decline in consumption with the trough occurring in 1931/32, followed by a steady rise for the remainder of the period. As expected all three estimates are consistently below the Brown estimates, the sole exception being with stock assumption (i) for 1930/31. It should be noted that for the first two years stock assumption (i) suggests a picture of marginally rising consumption, in contrast to the other three estimates.

The observed difference between the result of stock assumption (i) and the other options is somewhat disturbing in that all pre-1928/29 estimates are based on this method. These early consumption estimates would benefit greatly, particularly given the post World War I upheavals, from direct estimates of non-farm stock movements. This is an area in which future work is intended.

III.2 PRICES, WAGES AND YIELDS ON LONG TERM GOVERNMENT SECURITIES

Prior to 1948/49, there are significant problems in deflating the macroeconomic aggregates discussed in the previous section. This section reports the results of an attempt to derive a consistent series of deflators over the period 1900/01 to 1973/74. It should be noted that the levels of all the resulting series for the period prior to 1948/49 are fairly arbitrary, mainly as a result of the treatment of the World War II period. Unfortunately, any treatment of World War II must necessarily be more or less arbitrary because of data deficiencies.

Gross Domestic Product Deflator T.IV.2

This series comprises three linked series. The first covers the period 1900/01 to 1938/39 and comes from ADP. The second covers the period 1939/40 to 1947/48 and is determined residually, while the last series is derived from ANA 1973/4, and covers the period 1948/9 to 1973/74. This series is also used to deflate stock movements.

No official series exists to deflate the 1939/49 to 1947/8 GDP estimates. Various alternatives were tested. CTC contains an estimate of real and current price gross domestic product over this period, and Haig's constant price estimates of gross domestic product in 1938/39 and 1948/49 provide a further shred of evidence.[1]

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1. B.D. Haig, op.cit.

Since the CTC estimates are judged unsatisfactory,[1] other possibilities are tested.

If the C series retail price index is used, the implied growth rate of real product over the period 1938/9 to 1948/9 is intermediate between the high figure given by Kennedy's data, and the low figure suggested by Haig. However, this implies what is thought to be an unrealistically low estimate of real consumption during the war years, which apparently falls to 1900/01 levels. The alternative procedure is to deflate current price private consumption expenditure by the C series retail price index, as adjusted by Bambrick to include significant omissions,[2] and to sum the other deflated expenditure aggregates to give a real gross domestic product figure. This procedure results in a pattern of real output growth which seems reasonable: from 1938/9 to 1943/4 Australian real output measured in this way grows at an annual rate of about 9% per annum and thereafter stagnates until 1947/8.

The ABS figures from 1948/49 have been accepted without change, and consist of a linked series using 1953/54, 1959/60 and 1966/67 base year weights.

Alternative data for the GDP deflators prior to 1938/39 were examined following the criticisms of the deflation procedures used in ADP made by Clark.[3] The criticisms specifically concern

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1. The main objection to the above Kennedy series has already been mentioned, namely that the rate of growth of real product over the eleven years 1938/9 to 1948/9 was unrealistically high at about 8% per annum. This growth was accentuated from 1938/9 to 1943/4, running at about 15% per annum. While the general picture of rapid growth until the late part of World War II, followed by a period of stagnation and then further growth, is accepted, the figures themselves are too high, given Australia's historical growth rates (see for example, E.A. Boehm, 20th Century Economic Development in Australia, Longman, 1971, pp.3-5).

2. S. Bambrick, Australian Price Indexes, Unpublished Ph.D. thesis, Australian National University, 1970 pp.66-80.

3. Professor Colin Clark, review of ADP in Economic History Review, 1964. Clark's other criticisms, concerning the estimation procedures used to derive some components of gross domestic product have been disregarded since it is believed that they misrepresent the procedures used in ADP.

the deflation of manufacturing gross product by a group of four wholesale price indexes and an index of industrial wages, and the deflation of the gross product of distribution by a retail price index.

Estimates are presented in Table III.9 of constant price GDP at factor cost, the first of which comes directly, and unadjusted, from ADP, and the second of which is the ADP series adjusted for 1910/11 to 1938/39 to allow for Clark's criticisms. This second series is derived as follows. First, an alternative deflator for manufacturing gross output to that used in ADP is obtained from Haig,[1] after first adjusting Haig's data for inclusion of workers in factories not covered by the industrial census to make those data conceptually equivalent to the ADP data. A second deflator for distribution is obtained by double deflation, using the retail price index given in ADP to deflate gross sales by retailing, from which the deflated value[2] of all prime costs (other than labout inputs) is then deducted.

A further comparison of the deflation procedure is made by comparing the current price estimates of GDP, described in Section III.1 above and deflated by the ADP GDP deflator, with the sum of the constant price estimates of the components of GDP. All components are deflated using the deflators described below, with the exception of private consumption which is deflated with a linked C series.

Finally, average five year annual growth rates for the four GDP estimates are presented in Table III.11, to give an indication of the implications for growth of the various deflators. Owing to various adjustments made to the ADP estimates of GDP described above, estimates (1) and (2) in Table III.11 are not comparable with estimates (3) and (4).

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1. B.D. Haig, "Manufacturing Output and Productivity, 1910/11 to 1948/49", Australian Economic History Review, September 1975.
2. Using the wholesale price indices in ADP.

Table III.9 Alternative Estimate of Gross Domestic Product at Factor Cost at Constant 1910/11 Prices, and Alternative Implicit Deflators of Gross Domestic Product at Factor Cost 1910/11 to 1938/9

	Gross Domestic Product Estimate (1910/11 Prices)		Implicit Deflator of Gross Domestic Product (1910/11 = 100.0)	
	ADP	Alternative	ADP	Alternative
1910/11	329.3	329.3	100.0	100.0
12	318.2	318.3	108.9	108.9
13	347.6	347.3	108.3	108.4
14	355.8	355.5	115.9	115.9
15	291.9	293.4	127.6	126.9
16	313.1	317.0	132.3	130.6
17	328.6	336.7	144.5	141.1
18	322.6	331.4	152.4	148.4
19	328.9	340.1	160.8	155.4
20	310.4	325.3	185.9	177.3
1920/21	379.1	391.0	180.5	175.1
22	385.0	395.5	171.2	166.6
23	385.9	396.5	181.5	176.5
24	400.2	411.8	181.5	176.4
25	440.4	457.9	186.6	179.6
26	421.1	440.7	185.2	177.1
27	428.5	446.9	185.5	178.0
28	423.7	438.2	188.3	182.2
29	421.4	433.0	188.7	183.6
30	422.6	429.8	170.4	167.6
1930/31	388.1	391.4	154.6	153.0
32	386.9	392.2	143.0	141.1
33	410.4	420.6	140.6	137.2
34	424.8	439.1	145.8	141.0
35	434.2	453.3	150.4	143.9
36	454.4	475.5	157.0	149.9
37	474.3	498.0	166.4	158.4
38	503.8	530.8	168.6	160.2
39	485.9	505.9	172.4	166.1

These various comparisons give somewhat conflicting results. In respect of Table III.9, the conclusion appears to be that the Clark criticisms are relatively unimportant in practice, especially given the general degree of error associated with social accounting during the period. In most years the difference between the levels of the deflators is of the order of 3% or less, and as may be seen in Table III.11, the deflators suggest the same growth rates of real product for 1920/21 to 1938/39, and virtually the same rate for 1910/11 to 1938/39. It should be noted, however, that the two series suggest different years as the trough of the depression, and that the five year growth rates differ somewhat over the period 1910/11 to 1938/39.

Table III.10 Alternative Constant Price Estimates of GDP at Market Prices, and Alternative Implicit Deflators
($m 1966/67 prices, 1966/67 = 1.000)

	ADP Constant Price GDP	C Series Implied GDP	ADP Deflator	C Series Implied Deflator
1900/01	3150	2715	.133	.154
2	3469	2821	.128	.157
3	3242	2636	.132	.162
4	3613	2900	.124	.154
5	3552	2729	.125	.163
6	3713	2955	.129	.162
7	4236	3302	.127	.1629
8	3912	3109	.137	.172
9	4064	3368	.141	.170
10	4297	3601	.145	.173
1910/11	4685	3881	.146	.176
12	4616	3788	.159	.194
13	5076	4126	.158	.194
14	5112	4352	.169	.199
15	4505	3863	.186	.217
16	5021	4599	.193	.211
17	4867	4978	.210	.205
18	4784	4923	.222	.216
19	4893	4789	.234	.239
20	4624	4088	.271	.307
1920/21	5255	4820	.263	.287
22	5534	5136	.249	.268
23	5720	5482	.264	.275
24	5943	5416	.264	.290
25	6331	5681	.272	.303
26	6144	5675	.270	.292
27	6404	5895	.270	.293
28	6347	5772	.274	.301
29	6225	5695	.275	.301
30	6315	5442	.248	.288
1930/31	5720	5073	.225	.254
32	5817	5081	.208	.238
33	6166	5442	.205	.232
34	6396	5669	.212	.241
35	6539	6102	.219	.235
36	6873	6344	.229	.248
37	7095	6529	.242	.263
38	7549	7103	.246	.261
39	7247	7247	.251	.251

Further investigation of the issue is required to determine whether the deflation procedure is as unimportant for the first decade of the century as for 1910/11 to 1938/39 for the economy as a whole.[1] It should be noted that the fact that the deflation procedure is of relatively small consequence for the economy as a

1. It is intended that further work on this point will be done, along the lines suggested by A. Maizels, "Trends in Production and Labour Productivity in Australian Manufacturing Industries", Economic Record 1957. I am grateful to Professor Colin Clark for this suggestion.

Table III.11 Average Annual Growth Rates of Various Constant Price Estimates of GDP at Factor Cost and at Market Prices (% p.a.)

	Factor Cost		Market Prices	
	ADP (1)	ADP adjusted (2)	Deflated with ADP data (3)	C-Series (4)
1900/01-1905/06	-	-	3.3	1.7
1905/06-1910/11	-	-	4.7	5.5
1910/11-1915/16	-0.1	0.8	1.4	3.4
1915/16-1920/21	3.8	4.2	0.9	0.9
1920/21-1925/26	2.1	2.4	3.1	3.3
1925/26-1930/31	-1.6	-2.4	-1.4	-2.2
1930/31-1935/36	3.2	3.9	3.7	4.5
1920/21-1938/39	1.4	1.4	1.8	2.3
1910/11-1938/39	1.4	1.5	1.6	2.2
1900/01-1938/39	-	-	2.2	2.6

whole does not mean that the various alternative estimates for real growth of manufacturing gross product are similar, or that these differences are unimportant.

The estimates presented in Table III.10 and Table III.11 suggest a somewhat different result, in that the choice of the deflators is more important. There are significant differences between the implied growth rates for all periods except 1915/16 to 1920/21 and also 1920/21 to 1925/26. Furthermore, the two estimates of real GDP at market prices give different pictures of the severity of the recession. The preferred constant price GDP series (which uses the ADP deflator) suggests that real product at the trough of the recession is some 89.3% of the pre-depression peak, while the series based in part on the C-series indicates that 1930/31 real product is only 86.1% of the pre-depression peak.

The real product series based on the C-series is not preferred, however, on the grounds that the C-series is probably inappropriate as a deflator of aggregate consumption expenditure, and, as a result, copes inadequately with the change in the external terms of trade. This deficiency is believed to account for at least some of the different behaviour in the series in Table III.9.

Export Deflator T.IV.2

The period 1948/49 is covered by a number of linked series of deflators of exports cif from ANA 1973/4. Prior to 1948/49 various linked export price indexes from Bambrick op.cit. are used.

From 1901 to 1929/30, the price index is a base weighted series, using an average of the weights of the years 1897 to 1916 as the base. The years 1929/30 to 1935/6 use 1928 base weights, while an average of exports in the years 1936/7 to 1938/9 is used as the weights for the period 1936/7 to 1948/9.

It should be noted that the series before and after 1948/49 is not conceptually consistent. From 1948/49 the series deflates invisible exports of goods and services, and exports fob, while prior to 1948/49 the series relates only to exports fob. While the bulk of exports as defined in the social accounts (i.e. exports fob plus invisible exports of goods and services) is exports fob, it is not clear to what extent the omission of invisibles prior to 1948/49 produces significant inaccuracy.

Deflators for the years 1900 to 1913 are for calendar years, and a two year moving average is used to convert these calendar year observations to a December centred year.

Import Deflator

Data from 1900/01 to 1947/48 comes from Bambrick,[1] while the period 1948/49 to 1973/74 is covered by the implicit deflator of imports in the ANA 1973/4. From 1928/9 to 1948/49 Bambrick uses the Reserve Bank import price index.

A number of problems in using the Reserve Bank index are pointed out by Bambrick, including the problem of using overseas wholesale prices for imports, and that the series measures fob prices. No allowance for 1900/01 to 1948/9 for deflating invisibles is made, which contrasts with the methods used in the ANA, and is a source of inconsistency in the import price series.

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1. S. Bambrick, op.cit., Tables VI/31 and VI/12.

Private Fixed Capital Formation Deflator T.IV.2

From 1900/01 to 1938/9 deflators reported in ADP are used. In the case of dwellings, this is the implicit deflator for private residential capital formation, while for the non-dwelling series, the implicit deflator of the sum of industrial, commercial, mining, shipping and pastoral and agricultural was taken. The corrected estimates from Butlin[1] are used.

No official constant price estimates of private non-dwelling investment exist for the period 1938/39 to 1947/48. Consequently, synthetic series were constructed for plant and equipment, and non-dwelling structures, using the methods outlined in Helliwell and Boxall[2] to deflate separately components of private investment. Weights are derived from the 1958/59 CBCS Input-Output tables, and are applied to series for industrial wages, prices of imported materials and construction materials. A partial check on these weights was made using a 1946/47 input-output table,[3] and suggested that the weights varied little between 1946/47 and 1958/59. The separate deflators are then combined to give a composite deflator of private non-dwelling investment.

The resulting series does not differ markedly from an alternative series constructed as a simple average of indices of prices of machinery imports, labour and construction materials. It is believed, therefore, that the constant price estimates of private investment are reasonably robust.[4]

The constructed series is spliced to the ADP series at 1938/39, and to the implicit deflator of non-dwelling private investment from ANA at 1948/49. The implicit deflator from ANA is used from 1948/49 to 1974/75.

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1. N.G. Butlin, Investment in Australian Economic Growth 1861-1900, Cambridge University Press, 1964 Appendix 2.
2. J. Helliwell and P.J. Boxall, "Quarterly Estimates of Private Wealth", Economic Record, forthcoming.
3. B.D. Cameron,"The 1946/47 Transactions Table", Economic Record, 1957.
4. It should be noted, however, that no allowance is made for productivity in the construction of the wartime investment deflators, and may cause some degree of overstatement in the constant price estimates.

No official constant price series exists for private investment in dwelling between 1938/39 and 1947/48. A synthetic series is constructed using the methods outlined in Helliwell and Boxall op.cit. This series, based on indices of construction materials, prices and wage rates, is joined to the ADP series at 1938/39, and to the implicit deflator from ANA at 1948/49. The implicit deflator from ANA is used from 1948/49 to 1974/75.

Government Final Consumption Expenditure (Including Defence) Deflator T.IV.2

From 1900/01 to 1937/38 the deflator is a weighted average of wages and stationery prices, with a weight of .8 on wages and .2 on stationery. The wage series comes from ADP (p.190), and estimates of public employment. The stationery data are an index of imported paper and cardboard from Bambrick (Tables VI/13, VI/16 and VI/130).

From 1948/9 to 1973/4, the implicit deflator of government final consumption expenditure is used and is derived from various issues of the ANA. It should be noted that by definition this deflator includes defence forces salaries and expenditure on defence capital equipment.

Public Fixed Capital Formation Deflator T.IV.2

From 1900/01 to 1938/9, the implicit deflator of public fixed capital formation from ADP is used,[1] while from 1938/9 to 1947/8 the components of the synthetic index used to deflate private non-dwelling investment are also employed to deflate public investment. From 1948/9 to 1973/4 the implicit deflator of public investment is derived from various issues of the ANA.

Private Final Consumption Deflator T.IV.2

This series is derived from the foregoing estimates of the main expenditure aggregates and their deflators. First these series are used to residually derive a set of constant price estimates of private final consumption expenditure. These estimates, with the

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1. ADP, Tables 8, 10, 280B.

current price estimates, give the implicit deflator.

It should be noted that, by the way of construction of the other series used to derive this deflator it is identical to the augmented C-series from Bambrick op.cit. for 1938/39 to 1948/49. Furthermore, the deflator from 1948/49 to 1973/74 is, again by construction, virtually identical to the implicit deflator of private final consumption expenditure from ANA 1973/74.

A comparison of the derived deflator with a directly observed retail price index from 1900/01 to 1938/39 is provided in Table III.12. The retail price index is a linked series comprising the A series retail price index from 1900/01 to 1919/20, and an augmented C-series retail price index from 1920/21 to 1938/39. Both components come from Bambrick op.cit., Table III/1 and III/8 respectively.

The two series suggest quite different behaviour of prices. Overall, the average inflation rate suggested by the linked retail price indices is some 0.5% p.a. lower than the rate implied by the preferred series for 1900/01 to 1938/39. Only in 1916/17 and in 1917/18 does the preferred deflator exceed the level of the linked retail price series, at all other times the linked series exceeds the preferred series.

In several respects the linked series is inappropriate as a deflator of aggregate consumption. The use of fixed weights means that the two components are relevant only insofar as the weights are approximately correct for the various components of aggregate final consumption. There is, furthermore, the question about the extent to which the C-series and A-series comprise prices of imported goods, and whether this introduces a further bias through terms of trade effects.

There is no satisfactory choice between the alternatives. Clearly there must be significant doubt about a deflator residually derived as is the preferred series. On the other hand there are the problems indicated above with the linked retail price series.

Table III.12 Alternative Deflators of Private Consumption
1966/67 = 1.000

	Implicit Deflator	Linked C-Series		Implicit Deflator	Linked C-Series
1900/01	.142	.175	1920/21	.295	.337
2	.135	.184	22	.272	.307
3	.136	.181	23	.282	.300
4	.124	.171	24	.265	.300
5	.123	.179	25	.261	.303
6	.128	.179	26	.276	.307
7	.122	.178	27	.275	.307
8	.136	.189	28	.273	.310
9	.143	.189	29	.279	.314
10	.147	.193	30	.259	.314
1910/11	.150	.199	1930/31	.244	.290
12	.165	.219	32	.226	.277
13	.161	.220	33	.222	.266
14	.178	.227	34	.219	.266
15	.205	.254	35	.241	.266
16	.229	.263	36	.241	.270
17	.272	.262	37	.246	.277
18	.284	.271	38	.259	.283
19	.290	.300	39	.288	.288
20	.296	.355			

Average Weekly Earnings T.IV.4

From 1900/01 to 1948/49 the series is proxied by Victorian male factory worker average earnings supplied by Professor N.G. Butlin, with calendar data for 1900 to 1918 converted to fiscal year data by means of a two year moving average. After 1948/49 the series is male unit average weekly earnings reported by the Commonwealth Statistician and recorded in the Reserve Bank Research Department.

The Victorian series is obtained by dividing the total annual wages bill by the average number of male employees.[1]

1. Sources are Commonwealth Production Bulletin, Victorian Statistical Register and Victorian Year Book.

This series covers factory "hands", clerks, overseers and managers, but excludes working proprietors and their "drawings" from their enterprises. Subject to some breaks, the Victorian data continue through until the late sixties, and it is noteworthy that the level of, and movements in, the post-war data are virtually identical to movements in the ABS average weekly earnings series (male units).

However, structural change in the economy during and after World War II, resulting in the expansion of the manufacturing sector, casts some doubt on the relevance of the Victorian series before World War II as an indicator of movements in average wages paid in Australia. Table III.13 presents data on average annual earnings for males in New South Wales, working in rural industries and manufacturing,[1] and compares them with the corresponding Victorian factory data for the period 1925/26 to 1948/49.

Table III.13
Various Annual Average Male Earnings Series 1925/26 - 1949/50

£ p.a.

	Vic. Man.	NSW Man.[a]	NSW Rural[b]		Vic. Man.	NSW Man.	NSW Rural	ABS Average Earnings
1925/26	472	480	368	1940/41	521	530	326	
27	485	502	384	42	618	618	356	
28	493	514	380	43	688	670	n.a.	
29	483	518	378	44	698	704	n.a.	
30	484	520	364	45	672	686	n.a.	
1930/31	443	488	324	1945/46	662	670	n.a.	
32	401	452	308	47	699	710	n.a.	
33	389	428	292	48	803	812	480	
34	383	414	286	49	916	912	530	922
35	387	418	280	50	1022	998	608	1010
36	398	424	282					
37	412	432	294					
38	438	460	310					
39	449	480	310					
40	467	494	316					

a. Total factory wages (excluding drawings by working proprietors) paid to male employees during the year divided by the average number of employees over the whole year (excluding working proprietors, but including juveniles).

b. Total wages (including value of board and lodging) paid to male permanent farm employees (including juveniles) divided by the number of permanent employees.

1. The N.S.W. data come from K.O. Campbell, "Current Agricultural Development and Its Implications as Regards the 'Utilisation of Resources,'" Economic Record, 1956.

Farm earnings are significantly lower than manufacturing earnings, which are similar for both N.S.W. and Victoria. The main divergence between the latter two occurs in the Depression, and may relate to the distribution of unemployment between states.

Some further evidence on differences between rural and manufacturing earnings is provided by Macarthy[1] for 1900 to 1914. While these data are not as reliable as the manufacturing information, they do suggest that average earnings movements in non-manufacturing areas differed largely in degree only from movements in average earnings in manufacturing.

No attempt has been made to combine average earnings information in the non-manufacturing sector with the average earnings in manufacturing data. This is an area in which the average earnings data could possibly be improved.

Another deficiency of the series is that because it covers only manufacturing, it does not capture the effect of the increasing share of professional persons' earnings among total salaries during the course of this century. Unfortunately, very little information is available about the earnings of professional people before World War II.

Award Wages T.IV.4

From 1891 records have been kept of minimum rates of wages, and published since 1907 in the CBCS Labour Report. The index published was initially based on a limited sample of occupations, subsequently expanded in 1913. Weights are based on 1911 initially, but switch to 1954 weights from 1938/39.

Between 1891 and 1906, observations occur only every five years. After 1906 observations are available annually. Four years from 1901 to 1906 remain to be interpolated. This is done using a straight line interpolation on the ground that the levels in

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1. P.G. Macarthy, "Wages in Australia, 1891 to 1914," Australian Economic History Review, March 1970.

1901 and 1906 are very close. The same interpolation difference is applied to give a figure for 1900. From 1900 to 1914 these figures are annual averages; thereafter they are end December observations for average minimum wages of adult males.[1]

This series is defective in many respects, in its differing coverage, very early base weights and differing observation period; however, it does fill a gap for the period 1900/01 to 1912/13 in the two series for male and female wage rates presented below.

Hourly Wage Rates - Adult Males and Adult Females T.IV.4

The data are a weighted average of minimum hourly rates of wage for adult males and for adult females. From 1913/14 to 1969/70 the data come from CBCS Labour Reports, and thereafter from ABS Wage Rates and Earnings.

A break occurs in 1951/52. Prior to this point 1914 weights are used, while 1954 weights are used after this time. No data exist before 1914; all data with one exception are end December observations.[2]

The series for males covers all industrial groups except rural industry and shipping and stevedoring. The series for females excludes rural, mining and quarrying and building and construction wages. Both sets of data are expressed as indexes with the 1966/67 observation equal to unity.

No allowance has been made for changes in public holidays or vacations, nor has any attempt been made to adjust the hourly wage rate to include hourly wage rates for non-manual workers.

Long Run Government Security Yields T.IV.16

This series comes from D.M. Lamberton[3] for the period 1900/01 to 1925/26, and is based on the yield on all N.S.W. and Commonwealth Government issues maturing in more than six months.

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1. Supplementary information for the period 1891 to 1914 is available in P.G. Macarthy, op.cit.
2. The exception is the first observation which covers April 30 1914.
3. D.M. Lamberton, Securities Prices and Yields 1875-1955, Sydney Stock Exchange Research and Statistical Bureau.

From 1926/27 to 1958/59, the data come from the Reserve Bank's Research Department. From 1926/27 the series is the average redemption yield on a fully taxed security maturing in ten or more years, while from 1941/42 to 1947/48 the series is the theoretical redemption yield on a fully taxed security maturing in 12 years.

From 1948/49 to 1958/59 the series is the theoretical yield on government securities maturing in ten or more years subject to current tax. The last break in the series occurs at 1969/70. Between 1959/60 and 1973/74 the series is the theoretical yield on ten year rebatable bonds and is obtained from Reserve Bank Statistical Bulletin.

All observations are end December.

A useful comparison, between the Lamberton series for end June and December observations from 1900-1925, and a series obtained from material from Reserve Bank archives, is presented in Table III.14. The latter series is based on: 1900 to June 1915 - N.S.W. 3% interminable; December 1915 to December 1917 - Commonwealth 4½% maturing in 1925; June 1918 to December 1923 - Commonwealth 4½% maturing in 1927; and June 1924 to December 1925 - Commonwealth 5% maturing in 1948. These rates are calculated free of income taxation, and are based on sales on the Sydney Stock Exchange. One reason for the differences, particularly in the early years, is that the Lamberton series includes all N.S.W. and Commonwealth securities maturing in more than six months, whereas the archival material is based on yields of Commonwealth and State securities maturing in five or more years.

It should be noted that the domestic bond market was very small in the early twentieth century; most loans were raised in London. This casts some doubts on the generality of the bond rate series for a good deal of the early period.

Table III.14 Alternative Long-Term Bond Yield Series

	June		December			June		December	
	Lam.	Arch.	Lam.	Arch.		Lam.	Arch.	Lam.	Arch.
1900	3.15	3.05	3.34	3.05	1913	4.16	4.17	4.25	4.20
1901	3.67	3.09	3.83	3.21	1914	4.26	4.10	4.47	4.29
1902	3.58	3.28	3.51	3.30	1915	4.53	4.23	5.06	4.62
1903	3.86	3.39	3.79	3.66	1916	5.14	4.70	5.33	4.85
1904	4.07	3.68	4.01	3.79	1917	5.04	4.72	4.94	4.73
1905	3.58	3.55	3.45	3.54	1918	5.12	4.90	5.29	5.03
1906	3.60	3.41	3.38	3.33	1919	5.52	5.29	5.87	5.43
1907	3.52	3.39	3.57	3.47	1920	6.17	5.63	7.22	6.72
1908	3.55	3.51	3.66	3.53	1921	7.26	6.95	6.78	5.92
1909	3.68	3.53	3.82	3.57	1922	6.09	5.45	6.29	5.66
1910	3.80	3.57	3.64	3.63	1923	5.27	5.08	6.01	5.94
1911	3.76	3.73	3.83	3.77	1924	5.96	5.37	5.96	5.38
1912	4.30	3.97	4.85	4.05	1925	5.12	5.15	5.20	5.21

a May figure, no figure for June

Lam. = Lamberton

Arch. = Reserve Bank Archives

III.3 LABOUR FORCE, EMPLOYMENT, UNEMPLOYMENT RATE

Three separate work forces series have been assembled; total civilian employment, public administration employment and defence forces employment. No attempt is made to distinguish between sex, and all series are given in numbers of persons. The sources used do permit this distinction to be made with the exception of the years 1901/02-1909/10.

Some periods required extensive interpolation to complete the series. These periods are noted below, and it is recognised that the figures for these periods are less than perfect. Any suggestions as to their improvement will be particularly welcomed

Labour Force T.III.5

The labour force is defined as comprising all persons employed, including defence forces serving overseas, all persons unemployed, absentees, and some part-timers. Wherever possible foreigners resident in Australia and Commonwealth Reconstruction Training Scheme students are excluded from the aggregate.

The main sources are Keating[1] for 1910/11 to 1960/61, and

1. M. Keating, The Australian Workforce 1910/11 to 1960/1. ANU Press 1973. Table 19. pp.390-391. Workforce B is used, after minor adjustments for overseas residents.

the ABS Labour Force Survey (henceforth LFS) from 1964/65. Remaining gaps are filled by interpolation. Annual financial year averages are used in all cases.

The gap of the first decade of this century is a major problem. Estimates for the years 1900/01 to 1909/10 are obtained wherever possible from direct estimates of employment in every industrial group, then scaling these figures up or down depending on their size in 1910/11 compared with the Keating figures, and by using straight line interpolation for the first years for which no direct estimates exist. Approximately 80% of employed workers can be covered in this way.[1]

These figures are then used to interpolate adjusted estimates of Butlin and Dowie,[2] to give a series for total employment for 1900/01-1909/10. To this is added estimates of unemployment based on unemployment rates calculated by P.G. McCarthy for 1891-1910/11.[3] Macarthy took the unemployment rates as recorded in the censuses of 1891, 1901 and 1911 for New South Wales and Victoria, and adjusted these using trade union unemployment percentages and unemployment data in the CBCS Labour Bulletins from 1906 to 1912. Figures for 1892-1900, and 1902-1905 are interpolated using an unemployment index from the Amalgamated Society of Engineers as reported in Butlin.[4]

Figures for 1961/62 to 1963/64 are interpolated from the 1960/61 and 1964/65 figures given by Keating and LFS.

An estimate of the total number of employed persons is obtained from ABS, Wage and Salary Earners in Employment (henceforth WSEE), Keating and LFS. Self-employed persons are estimated by means of a straight line interpolation between the figures for 1960/61

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1. Sources include state statistical registers, CBCS Production Bulletins and ADP.
2. N.G. Butlin and J.A. Dowie, "Estimates of Australian Work Force and Employment, 1861-1961", Australian Economic History Review, September 1969.
3. P.G. Macarthy, Unpublished Seminar paper, Dept of Economic History, Institute of Advanced Studies, ANU, 1965.
4. N.G. Butlin, Unemployment Index in the Engineering Industry 1852-1945", Economic Record, 1946.

and 1964/65 given in Keating and LFS respectively. Employment in the armed forces is obtained from WSEE, leaving only civilian employees to be estimated. The problem is depicted diagrammatically in figure III.1.

Points A and B represent, respectively total civilian employees (persons) in 1960/61 and 1964/65. The lower line depicts total civilian employees (excluding rural employees and persons engaged in personal and domestic service), movements in which are used to interpolate between A and B.

Summing the three estimated components series (self employed, armed forces and civilian employees) gives total employment. Unemployment rates as given by the LFS six state capital series are used to estimate unemployment rates from 1960/61 to 1964/65, as outlined below. These unemployment rates are then used to estimate the total number of persons, part-timers as well as full-timers, who are unemployed. This series, when added to the series for total employment, gives the labour force from 1960/61 to 1964/65.

Civilian Employment T.III.5

This series is obtained directly from direct estimates of employment by Keating and LFS, from which armed forces employment is subtracted. The sources for this series are the same as those for the workforce series, and for the defence force employment described below.

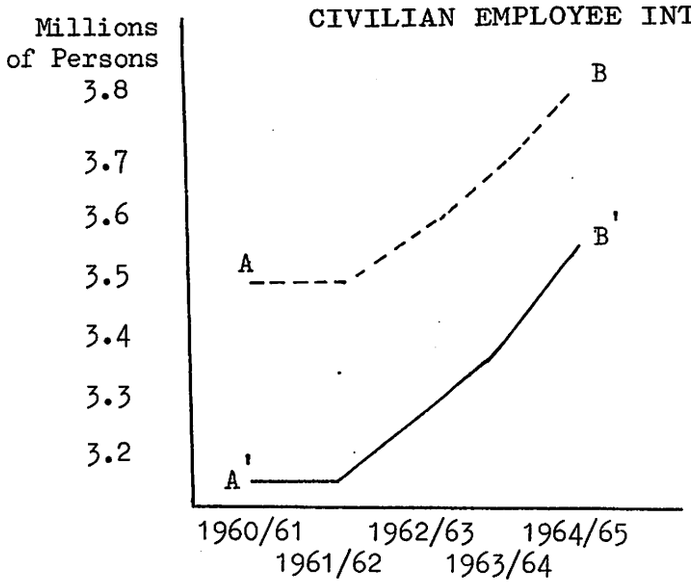
Armed Forces Employment T.III.5

From 1900/01-1909/10 the figures are interpolated using an index of defence forces employment derived from ADP. Keating's estimates, including defence forces personnel serving overseas, are used from 1910/11 to 1960/61, after which the estimates contained in ABS Employment and Unemployment are used.

Public Administration Employment T.III.5

From 1900/01 to 1909/10 this series is interpolated on the basis of an index of public administration employment derived from ADP. Keating again provides the estimates from 1910/11 to 1960/61.

FIGURE III.1
CIVILIAN EMPLOYEE INTERPOLATION



Note: A comes from Keating, adjusted to include an additional 97.7 thousand part-timers. B comes from LFS. A'B' comes from WSEE. The distances AA' and BB' represent persons employed in rural activities and personal domestic service.

Table III.15
Annual Labour Force 1960/61 - 1964/65
(Thousands of Persons)

	Civilian Employees	Armed Forces	Self Employed and Working Proprietors	Unemployed (Interpolation)	Work Force
1960/61	3498.0	46.1	690.7	99.1	4333.9
1961/62	3497.5	47.0	698.6	138.8	4381.9
1962/63	3590.5	48.5	706.5	99.0	4444.5
1963/64	3706.5	50.7	714.4	75.6	4547.2
1964/65	3837.0	53.1	722.2	57.1	4669.4

Note: Civilian employees is the series depicted as the dashed line in Figure III.14 above. Self-employed persons and working proprietors are obtained from LFS, Keating and by straight-line interpolation. Unemployed are derived as described in the text. Armed forces come from WSEE.

The period after 1960/61 poses some problems. Keating's definition of public administration includes police forces and some other persons employed in law, order and public safety. However, the best available series of public administration, published in WSEE, does not include such employment in public administration. An adjustment to this series is made by taking the series Law, Order and Public Safety employment and allocating the proportion as at 1960/61 of this employment which Keating had included in his definition of public administration to the WSEE series from 1960/61 to 1974/75. This proportion is determined as the difference in 1960/61 between the Keating and the official series divided by employment in Law, Order and Public Safety as given in the 1961 Census.

Average Standard Hours Worked Males and Females T.III.4

Both series come from Australian Bureau of Statistics, Labour Reports. The basis of the series are the number of hours to be worked prescribed by industrial tribunals when setting weekly rates.[1] The series for males goes back to 1906/07 and that for females goes back to 1914/15. Both series are backcast by simply taking the earliest figure and assuming no change in hours from 1900/01 to the earliest recorded time. Similarly, the most recent observations are not available and the series was carried forward on the assumption of no change.

The series were compiled to give some indication how the labour input per employed worker has changed over time. Unfortunately, no data are available on the average number of overtime hours worked for the whole period; the longest data series available (a survey of overtime hours worked in manufacturing)

1. The weights used to determine the average number of hours worked are the same as for award wages, being initially 1911 weights and later changing to 1954 weights.

begins in 1960. This problem is particularly important for the Second World War period in which rapid increases in output occurred with little apparent change in the quantity of labour employed, or in the capital stock.

All observations are December month observations.

Unemployment Rate T.III.5

The unemployment rate is defined as the average number of persons unemployed per year as a proportion of the labour force described above. Main sources for this series are Keating, and the LFS, with the Macarthy series mentioned above covering 1900/01 to 1910/11, and an interpolated series covering 1961/62 to 1963/64.

Macarthy's estimates have already been described. Keating's figures are based on Census figures interpolated year to year using movements in trade union unemployment percentages, and movements in CES registered unemployment from 1947. The LFS data are based on survey results.

The interpolation for the years 1961/62 to 1963/64 is based on the Keating rate at 1960/61, adjusted as far as possible for comparability with the LFS definition, and the 1964/65 LFS rate. Initially movements in CES unemployment were used to interpolate the period, but the calculations suggest that during this period the CES figures understate the numbers unemployed, and do so in a way which varies with the trade cycle. Accordingly, movements in the LFS unemployment in the six state capitals are used as the interpolator, since this series understates unemployment on a consistent basis relative to the 1960/61 and 1964/65 benchmarks used.

It should be noted that, as with all labour force data, there is a conceptual break in this series in 1960/61. All data are annual averages.

III.4 ESTIMATES OF PUBLIC AND PRIVATE FIXED CAPITAL STOCKS

Estimates are presented of stocks of private and public dwellings, non-residential structures and equipment from 1900/01 to 1973/74. Where possible for the private sector stocks, assets are distinguished by industry.[1] Sources for the twentieth century investment data are those described above for the fixed capital formation series, and the basic data are these series. A major reason for undertaking these calculations is to check the investment series used, and, in particular the deflators described above, by comparing the capital stock estimates with similar estimates, where these exist. This is by no means a conclusive test; it is, nevertheless, useful.

Straight line depreciation is assumed in all cases. A useful summary of the various estimates of capital stock has been made by Taylor,[2] and the information given there provides the basis of much of the comparisons made below of the present estimates with previous estimates. All comparisons are made for June 30 1958/59.

Stocks of consumer durables other than dwellings have been omitted from the present estimates.

Private Capital Stock

Dwellings T.IV.2

Two estimates of the stock of private dwellings are calculated, but only one is presented in Section IV. In both cases data from ADP are used to provide constant price investment data back to 1861, and an arbitrary base stock of £15m in constant 1910/11 prices is assumed.

The first estimate assumes straight line depreciation at a rate of 1.5% p.a., and results in an estimate for 1958/59 of $9471m in constant 1966/67 prices. This 1958/59 figure is substantially lower than the competing estimates in Taylor op.cit.

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1. I am grateful to A. Weiss of the Reserve Bank of Australia for assistance with the calculations.
2. G. Taylor, Capital Stock Estimates for Australia, ABS, Canberra (mimeo), March 1976.

Apart from the estimates of Garland and Goldsmith,[1] the other estimates in Taylor are much higher varying from $12,300m (Clark[2]) to $16,300m (Helliwell and Boxall op.cit.) in constant 1966/67 prices. These estimates are not used.

The second estimates use Clark's depreciation assumptions,[3] and, after including public sector dwellings to provide a figure comparable to Clark's estimate, suggest a figure of $13,105m in 1966/67 prices for 1958/59. Clark obtains $12,300m,[4] and the difference is due to the different sources used (Clark uses Reserve Bank data for 1939/40 to 1947/48, rather than the NIE estimates), and, more importantly, to the different deflators used. The latter point is to be investigated in the future, particularly in relation to using a series of the price of a standard wooden house published in Queensland Year Books.[5] The second set of estimates is preferred, and is presented in Table IV.

Plant and Equipment T.IV.6, T.IV.8, and T.IV.9

In this case straight line depreciation at 8.0% p.a. is used. Owing to the shortness of the life of plant and equipment, the comparison of the 1958/59 figure with the alternatives is not a check on the validity of the pre-1938/39 investment figures or deflation procedures.

Nevertheless, the competing 1958/59 estimates in Taylor op.cit. range from a low of $4000m[6] in constant 1966/67 prices to a high of $6800m.[7] The present estimates give a figure of

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1. J.M. Garland and R.W. Goldsmith, "The National Wealth of Australia" in R.W. Goldsmith and C. Saunders (eds), The Measurement of National Wealth, Income and Wealth Series VIII, Bowes and Bowes, 1959.
2. C. Clark, "Net Capital Stock," Economic Record 1970. This figure includes public dwelling stocks.
3. C. Clark, op.cit. Clark assumes 20 year, 25 year and 30 year depreciation-free periods for residential investment prior to 1920, for 1921 to 1945 and from 1945 respectively, and straight line depreciation at the end of this period at 2% p.a.
4. G. Taylor, op.cit., p.9.
5. I am grateful to Professor C. Clark for this suggestion.
6. By Helliwell and Boxall op.cit., adjusted in Taylor to include the farm sector capital stock.
7. Base stock estimate used in the Reserve Bank's RBA1 econometric model.

approximately $6600m in constant 1966/67 prices, a figure consistent with the higher estimate. A later estimate by Clark[1] gives $5900m in 1958/59.

Since all these estimates use common source material, the differences are attributable solely to the depreciation assumptions made.

Prior to 1938/39, some detail about investment by industry and by type of asset is available, which allows estimates of plant and equipment in mining, farming, industry, commerce and shipping to be made. In all cases except shipping, 8.0% p.a. straight line depreciation is assumed; in the case of shipping 5.0% is assumed. In all cases ADP investment data from 1887 to 1900 are used to give a 1900/01 base figure.

Non-Residential Structures T.IV.7, T.IV.8 and T.IV.9

Straight line depreciation at 1.5% p.a. is assumed for non-residential structures, and an estimate of some $6200m is obtained for the stock in 1958/59. This is also within the range defined by the estimates given in Taylor, which range from $3200m to $6600m.[3]

In deriving the present estimates for non-residential structures, ADP investment data from 1861 have been used with an arbitrary base stock for 1860 of $9 million in 1911 prices. As with the plant and equipment estimates, estimates by industry have been made prior to 1938/39.[4]

Public Capital Stock

Dwellings T.IV.13

As with the stock of private dwellings, two estimates were calculated. Unfortunately, there are no other estimates of public

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1. Clark, C., "Wages, Profits and the Substitution Function", Economic Papers No. 52, June 1976.
2. Helliwell and Boxall op.cit., adjusted to include farm capital stock.
3. G. Taylor, op.cit., p.9.
4. It is worth noting that R.A. Powell in Land and Improvements in Australian Agriculture, paper presented at 18th Australian Agricultural Economics Society Annual Conference, Perth 1974, provides a series for land and improvements from 1920/21 to 1969/70 based largely on land valuation data. These series take into account work done by farm and station labour in construction and maintenance, as well as that performed by contractors. I would like to thank Professor C. Clark for bringing this work to my attention.

dwelling stock, and it is, therefore, not possible to make any comparison. The second set of estimates is preferred, and is presented in Table IV.13 as part of the all dwellings aggregate.

In both cases no public investment in dwellings is assumed before 1906/07, and hence the assumed base stock in 1861 is zero.

Plant and Equipment T.IV.10 and T.IV.11

Straight line depreciation at 8.0% p.a. is used, as for private investment in plant and equipment. Owing to the fact that estimates of public investment by type of asset are not available until 1959/60 in ANA, a number of more or less arbitrary assumptions need to be made in order to allocate public investment before 1959/60 by type of asset.

Before 1938/39, public investment in plant and equipment is the sum of the ADP series for telegraph, roads, agriculture and miscellaneous public investment.

From 1938/39 to 1947/48, public investment in plant and equipment comes from NIE as dissected in ADP Table 273. A deflator is constructed as outlined above, and applied to the sum of post office, other transport, forestry and land development, and other. This aggregation is carried through to 1959/60, when the first ABS estimates of public investment by type of asset exist. The deflator of private investment in plant and equipment, spliced to the 1959/60 value of the ABS implicit deflator of public equipment investment in 1959/60, and made consistent in 1948/49 with the ABS implicit deflator of total public spending, is used. From 1959/60 ANA estimates of public investment in plant and equipment at constant 1966/67 prices are used.

Non-Dwelling Structures excluding Railway T.IV.10 and T.IV.11

Straight line depreciation at a rate of 1.5% p.a. is assumed, and the series is cumulated using data back to 1861 from ADP, and arbitrary 1860 base stocks.

From 1900/01 to 1958/59 the investment series used was derived from total public investment described above, less railway investment and public investment in dwellings and in plant and equipment (derived as described above). To obtain an estimate of the stock in 1966/67 prices, the ADP deflators were used from 1900/01 to 1938/39, and the synthetic deflator for non-dwelling structures constructed for 1938/39 to 1948/49 as previously described is used from 1938/39 to 1948/49. The implicit deflator for private non-dwelling structures investment is used from 1948/49 to 1959/60, with the 1959/60 end point of this series adjusted to agree with the 1959/60 value of the implicit deflator of public investment in non-dwelling structures. The 1948/49 end point was adjusted to be consistent with the ABS implicit deflator for total public investment.

It is worth noting that the results of the arbitrary aggregation described above, when carried through to 1961/62, compared reasonably with the direct ANA estimates for 1959/60 to 1961/62. The synthetic estimate for structures is consistently some $20m too small, and the synthetic estimate for plant and equipment is also some $50m too small.

Railways T.IV.10 and T.IV.11

Railways are treated separately, and are depreciated at 3.0% p.a. following the discussion in ADP.[1] The deflator for public investment in plant and equipment is used consistently to derive an estimate of the stock in 1966/67 prices.

The estimates for railways, public sector plant and equipment and non-dwelling structures are summed to give a combined figure of $16,162m in constant 1966/67 prices, which compares with Clark's figure of $19,300m, as given in Taylor op.cit.[2] Further comparison is not possible, because of the present separate treatment of railway investment. Clark separately estimates public plant and equipment and structures to be $4292m and $15,022 in 1958/9 at constant 1966/67 prices.

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1. ADP, pp.388-389.
2. G. Taylor, op.cit. p.10.

III.5 FINANCIAL DATA

Much of the data used in constructing these series come from Reserve Bank of Australia Occasional Paper 4A[1] and Reserve Bank of Australia Occasional Paper 4B[2]. Other sources include Australian Bureau of Statistics, Finance Bulletins, Year Books, Government Securities on Issue, and the Reserve Bank Statistical Bulletin.

More detail concerning the components of these series, and some assessment of their reliability can be obtained by consulting these publications, especially the two Reserve Bank Occasional Papers.

Money Stock (M1) T.IV.14

This series is compiled from OP4A and OP4B by M.W. Brodie and R. Robinson of the Reserve Bank's Research Department. Data from the Reserve Bank Statistical Bulletin are used to carry the series forward to 1973/4, and the series presented excludes Papua New Guinea from 1972/73 onwards. Information on the extent of this adjustment is available in the Statistical Bulletin.

M1 is defined as notes and coin in the hands of the public, plus current trading bank deposits held by the public. The data for these components for the years 1900/01 to 1944/45 is obtained from OP4A, defining notes and coin in the hands as the sum of gold, silver and bronze coin held by the public plus notes held by the public.[3] Current trading bank deposits in the hands of the public are defined as deposits not bearing interest at all trading banks less deposits of savings banks with other banks.[4]

Observations are either weekly average for the June quarter or for particular days during the month of June.

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1. S.J. Butlin, A.R. Hall and R.C. White, Australian Banking Statistics 1843-1945, Reserve Bank Occasional Paper 4A. Henceforth OP4A.
2. R.C. White, Australian Banking Statistics 1945-1970, Reserve Bank Occasional Paper 4B. Henceforth OP4B.
3. OP4A, table 42 pp.453-457.
4. OP4A, the item "Deposits: Net Bearing Interest" in table 18 pp.150-159 less "Deposits with Other Banks: Current Account" in table 53 pp.502-504.

Money Stock (M3) T.IV.14

To M1 is added fixed trading bank deposits held by the public and savings bank deposits held by the public. The sources for M3 are the same as for M1. The data for the additional components are obtained from OP4A for the period 1900/01 to 1944/5 and subsequent data from the Reserve Bank Statistical Bulletin.

All observations are as for M1.

International Reserves T.IV.14

This series is compiled from OP4A for the years 1900 to 1944/5, from OP4B for the years 1945/6 to 1969/70 and thereafter from various issues of the Reserve Bank Statistical Bulletin.

The series is of varying reliability over the period 1900/01 to 1973/4. The years until 1927 are the least reliable, when the series is the sum of trading bank London funds plus gold held by the banking system in Australia. The foreign reserves of the Australian banking system are obtained by subtracting from total assets of the banking system all assets held in Australia and New Zealand. The procedure is similar to that used by Wilson,[1] and is discussed at length in OP4A pp.84-86. While there are major problems with this method concerning differing balance sheet days, and concerning the fact that up to 1914 several state governments conducted their London business through the Bank of England or a joint stock bank, and not with Australian banks,[2] it is believed that the annual movements, if not the implied stock, give a reasonably accurate general picture.

This international reserves series is valued at market prices, and after 1945 includes all official international reserves except Australia's IMF position. It is inappropriate to use annual movements in this series to calculate implied capital flows in the balance of payments because of changes in exchange rates.

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1. R. Wilson, Capital Imports and the Terms of Trade, Melbourne University Press, 1931.
2. This information was kindly supplied by Dr A.R. Hall.

All observations are June 30th of the financial year cited (with the caveat above concerning the pre-1927 data).

Changes in International Reserves (excluding valuation adjustment) T.IV.17

This series is drawn from OP4A, from ABS, Balance of Payments 1973/74 and from CBCS, The Australian Balance of Payments 1928/29-1948/49. From 1900/01 to 1926/27, the series is derived from OP4A, table 41 which gives the foreign assets of the Australian banking system at market prices. End of year international reserves are revalued using end of last period Australian - United Kingdom currency exchange rate, to give two stock figures in pounds sterling. The difference between the two stocks is converted back to Australian pounds using the exchange rate ruling at December 31 in the year in which the flow occurred.[1] This treatment approximates the actual foreign currency change in international reserves, which is a continuous process; a more satisfactory treatment would use the same procedure for much shorter time periods. Unfortunately, only annual data are available until 1927.

From March 1928, there are more reliable international reserves figures which come from OP4A table 40,[2] and which are on a quarterly basis. The same procedure is applied as described above except that the exchange rate ruling at the midpoint of the quarter is used for the final valuation. This procedure is continued until 1936/37.[3] The Australian-United Kingdom currency exchange rate is used since the bulk of foreign exchange is sterling in this early period, and because the early estimates of foreign exchange do not distinguish between currencies. When estimates by currency holdings are available (as in OP4B, table 127), the proportion of non-sterling currencies is extremely low, being about half of one per cent of all foreign exchange.

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1. The exchange series is taken from OP4B, table 52 and is consistent with the Australian-United Kingdom exchange rate series described later.
2. These figures are derived from L.F. Giblin, The Growth of a Central Bank, Melbourne University Press 1951 and from Commonwealth Bank Statistical Bulletin, Supplement May 1954.
3. From this time data from CBCS, The Australian Balance of Payments 1928/29-1948/49 are used.

The remaining period, 1945/46 to 1973/74 is covered by the ABS Balance of Payments 1973/74. The series for 1945/46 to 1973/74 is defined as changes in official reserve assets, as published in Table 30 of Balance of Payments 1973/74, and excludes changes in IMF rights, valuation changes due to changes in the exchange rate, and other monetary movements.

All observations are annual flows from July 1 to June 30.

Australian - British Exchange Rate

For the period 1900/01 to 1944/45, this series comes from OP4A, table 52, and is the seller's telegraphic rate. The observation corresponding to the rate ruling at December 31st has been chosen wherever possible. From 1945/46 to 1965/66, the series comes from OP4B, table 122. Although the data are annual averages, the rate did not change, and therefore may be used as December figures.

Data for the remaining period come from various issues of the Reserve Bank Statistical Bulletin and from information from the Reserve Bank's International Department. All figures are end December observations.

The basic data from OP4A are supplemented for the period of the Depression of the 30's by more data from CBCS, Finance Bulletin 27. The latter reveals evidence of rapid fluctuations in the rate which are obscured by the annual series. Unfortunately, because the data in the series described above are all end December observation, all of the considerable movement from January 1931 until December 3 is lost. Table III.16 below indicates the extent of these variations, and a detailed description of the currency movements during this period is provided by Giblin and Schedvin.[1]

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1. L.F. Giblin, The Growth of a Central Bank, Melbourne University Press, 1951, and C.B. Schedvin, Australia in the Great Depression, Sydney University Press, 1970.

Table III.16

Rates of Exchange: Australia on London[1]
Telegraphic Transfer

On and after	Buying		Selling	
	FB27 £ s d	OP4A £ s d	FB27 £ s d	OP4A £ s d
1929 - 22nd Jul	100.15.0		101. 5.0	
3rd Sep	100. 0.0		101.10.0	
10th Oct	101. 5.0		101.15.0	
18th Dec	101.12.6	101.12.6	102. 2.6	102. 2.6
1930 - 28th Jan	102. 0.0		102.12.6	
17th Feb	102.10.0		103. 2.6	
10th Mar	103.10.0		104. 2.6	
24th Mar	106. 2.6		106.10.0	
9th Oct	108.10.0	108.10.0	109. 0.0	109. 0.0
1931 - 6th Jan	115. 2.6		115.10.0	
13th Jan	118. 0.0		118. 7.6	
17th Jan	125. 0.0		125.10.0	
29th Jan	130. 0.0		130.10.0	
3rd Dec	125. 0.0	125. 0.0	125.10.0	125.10.0

Australian - United States Exchange Rate T.IV.19

The data for this series from 1900/01 to 1935/36 come from various issues of the Australian Insurance and Banking Review. Unfortunately, no direct exchange rate series exists. The British - U.S. exchange rate is obtained and converted to a U.S. - Australian rate by using the series derived above. From 1914/15 to 1935/36, the U.S. - British rate is the midpoint of the business values cited, while from 1902/03 to 1913/14 the series is based on the sixty-day U.S. - U.K. rate, since this was the only rate available. Prior to 1901/02 the par rate is used, since no other rates are published. As far as possible, December observations are used; in practice the observations ranged from about 10 December to 20 January.

From 1936/37, the official exchange rate published in International Financial Statistics is used. The series is the official selling rate, and gives end December observations.

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1. These rates are quoted on the basis of £100 stg.

Federal and State Authorities' Securities on Issue (Domiciled in Australia) T.IV.15

This series describes Commonwealth and State public debt domiciled in Australia, but does not net out government debt held by Australian public authorities.

The data for this series from 1900/01 to 1959/60 come from the Finance Bulletin, from the Commonwealth Year Book until 1972, and thereafter from the budget paper Government Securities on Issue. The series is defined to include state and federal government securities on issue. All observations are at June 30.

Federal, State and Local Authority Securities on Issue (Domiciled Overseas) T.IV.15

This series is cumulated on annual flows consistent with the balance of payments data using a base figure of $392m for 1911/12. This base figure covers only State and Commonwealth debt, and does not include a base stock for local and semi-government debt.[1] The method of construction is analogous to that used for international reserves: a flow based on a constant exchange rate is converted into current domestic dollars using the exchange rate appropriate to the midpoint of the flow period. The data cover Commonwealth, State and local and semi-government debt. All observations are June 30. Basic sources are various issues of FB and ABS Balance of Payments, and CBCS The Australian Balance of Payments 1928/29 to 1948/49.

Securities (and long term loans) of Local and Semi-Government Authorities Domiciled in Australia T.IV.15

This series excludes all local and semi-government authority debt held by public authorities and by foreigners. Sources for this series are Finance Bulletins and Commonwealth Year Books until 1948/49 after which ANA and Balance of Payments are used.

From 1900/01 to 1928/29 no figures for semi-government authorities can be found. The series for this period is based on the 1929/30 stock of local and semi-government debt, interpolated by relative changes in the stock of local authority debt. After 1929/30, figures for both local and semi-government debt to the

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1. Flows of local and semi-government securities are included from 1928/29. See notes to Table IV.

private sector (and domiciled in Australia) are available in various issues of the Finance Bulletin. From 1948/49, changes in the debt of local and semi-government authorities (and other general government securities), less the increase in local and semi-government debt domiciled overseas are added to the 1947/48 stock.

World War II poses a problem, since there are no figures published from 1941/42 to 1945/46. However, since the figures for these two years are so similar, it is assumed that there were no new loan raisings between 1941/42 and 1945/46. All observations are at June 30.[1]

Official Holdings of Commonwealth and State Government Securities Domiciled in Australia[2] T.IV.15

From the end of World War II, the largest official holders of public sector securities are the Australian Government trust funds. The most important of these is the Loan Consolidation and Investment Reserve (LCIR). At times the National Debt Sinking Fund has also been important, and minor holders have included the primary industry stabilization funds, such as the Wheat Prices Stabilization Fund. The Reserve Bank Statistical Bulletin Financial Supplement gives comprehensive figures for the total government security holdings by Public Authorities (excluding Finance) since 1946, and these figures are used. Prior to 1946, comprehensive figures are not available, and it is necessary to use the method of Boehm and Wade[3] to estimate the major components of this series. These are the Commonwealth National Debt Sinking Funds from 1917, the State National Debt Sinking Fund from 1919, and the (Commonwealth) Loan Consolidation and Investment Reserve since 1943. The difference between these two series in June 1946 is $138.8, and Reserve Bank archives are currently being investigated to resolve this difference.

All observations are at June 30.

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1. This is not quite correct since many local authorities' fiscal years do not end on June 30, and the stock figure is not consistent with that for state and federal debt. The treatment used here is, however, consistent with ANA which mentions, then ignores, this problem.
2. This series was constructed with the assistance of P.M. Norman.
3. Boehm, E.A. and P.B. Wade, "The Anatomy of Australia's Public Debt," Economic Record, 1971.

Federal, State and Local Authority Securities Held by the Central Bank T.IV.15

There are two breaks in this series. Prior to 1920 there are no statistics relating to central bank holdings by the Commonwealth Bank. From 1921 to 1945 the statistics cover only Note Issue Department of the Commonwealth Bank, since all other securities held by that bank in respect of its central bank activities are included in the series for all trading banks. The data for 1921 to 1945 come from OP4A Table 48.

From June 1946, OP4B lists all central banking business separately, and June figures for this series are taken from OP4B, Table 5.

All observations are for June 30.

Commonwealth, State and Local Authority Securities held by the Banking System T.IV.15

Two series are presented; public sector securities held by all trading banks, and public sector securities held by savings banks. The sources are OP4A, Tables 6, 12 and 53, OP4B Tables 44, 67, 68, 70 and 76 and from 1970/71 various issues of the Reserve Bank Statistical Bulletin.

In the case of trading banks there are two breaks in the series. From 1912 to 1945, the series for All Cheque Paying Banks in OP4A is used, as it most nearly approximates the series for All Trading Banks in OP4B. Before that time the only data available are less comprehensive, although the differences in 1912 are small.

The continuity of trading bank figures was further affected by changes which resulted from the Banking Act of 1945 and the Commonwealth Bank Act of 1945. These changes are partly reflected in the form of statistics submitted by trading banks (including the Commonwealth Bank) but more importantly in the structure of the Commonwealth Bank by the establishment of a General Banking Division to continue its general banking activities

after June 1945. These changes provide additional problems.[1]

Before 1945 trading banks' holdings of government securities are weekly averages for the June quarter, while savings banks' holdings of all public authority securities are predominantly, but not entirely at June 30. After 1945 trading banks' holdings are weekly averages for June, while savings banks' holdings are predominantly at June 30. No adjustment has been made to these figures to bring them to a consistent observation date.

Interest Payable on Government Securities held by the Public (including banks) T.IV.16

Two series are provided, interest payable on public debt domiciled in Australia, and interest payable on public debt domiciled overseas. All public authorities are included.

The first series comes from the CBCS Finance Bulletin from 1900/01 to 1937/38. From 1938/39 to 1947/48 the source is NIE 1950/51, Table III, but from 1948/49 ANA 1973/74 is used. Some adjustments must be made after 1938/39 to these data to remove interest payments on public debt domiciled overseas; this is done with reference to CBCS The Australian Balance of Payments 1928/29 to 1948/49, and ABS Balance of Payments 1973/74.

Interest payable on public debt domiciled overseas comes from CBCS Finance Bulletin from 1900/01 to 1937/38, after an adjustment to convert the data to Australian currency. No information

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1. A comparison of the non-interest bearing deposits figure in Table 29 for June quarter 1945 ($154.8 million - OP4A p.379) with the figure in Table 55 for September quarter 1945 ($63.6 million - OP4B p.420) gives an indication of the magnitude of exclusions from the figures of the General Banking Division of categories of deposits which were formerly included in the Commonwealth Bank returns. One example of these exclusions can be seen by comparing Government non-interest bearing deposits for June quarter 1945 in Table 27(i) ($52.5 million - 4A page 357) with similar deposits for September quarter 1945 in Table 55 ($2.2 million - OP4B p.420). No details are available of categories of deposits which prior to 1 July 1945 would have been related to the central banking activities of the Commonwealth Bank as opposed to its "commercial" banking activities. In addition, in the period to June 1945, the Commonwealth Bank figures also included its Rural Credits Department and Mortgage Bank Department (but excludes its Note Issue Department). Mr R.C. White of the Reserve Bank kindly supplied this information.

on local government interest payments could be found before 1934/35. After 1938/39 the sources are as given above.

There are two major breaks in the series for interest payments on government debt domiciled in Australia. First, no figures for interest paid on semi and local government authority debt to Australian residents could be found before 1934/35. Second, it is unclear whether the figures from the Finance Bulletins net out interest paid to government authorities. After 1938/39, all figures are net of intra public sector payments.

Net Property Income Paid Abroad T.IV.17

This series comes from McLean op.cit., and from ABS Balance of Payments 1973/74. It includes all distributed and undistributed income remitted, less that received from abroad, and includes interest payments on public debt domiciled overseas. A separate series is provided for the latter, and is described above. Subtracting public sector interest payments on public debt domiciled overseas from net property income paid abroad gives an estimate of net property income paid by the private sector.

In the course of extracting these series, an adjustment was made to McLean's figures of transfer credits for remittances of pay by soldiers abroad from 1914/15 to 1919/20. While these figures do not affect McLean's estimates of net property income paid abroad, they do affect the estimates of net apparent private capital inflow described below.

Pay remittances were taken to be two-thirds of soldiers' salaries. While the figure of two-thirds of pay remitted is somewhat arbitrary it is not unrealistic given that married men with a wife and no dependents were required to remit 40% of their pay, while men with a wife and one child were required to remit 60% of their pay, that 6/- a day men had 1/- deferred with or without dependents; and that the saving rates of troops were reported to be high.

A correspondingly higher proportion was required to be remitted by men with more dependents.[1]

Table III.16 Adjustment to McLean's World War I Transfer Credits $m

	Pay adjustment	McLean Transfer Credits	McLean adjusted
1914/15	+1.3	0.9	2.2
16	+10.9	0.9	11.8
17	+19.6	0.9	20.5
18	+19.7	0.8	20.5
19	+13.5	0.7	14.2
20	+1.7	0.9	2.6

Cumulated Currency Inflow T.IV.18

Three series are provided here, and are calculated from the foregoing series. Using the identity, based on annual flows on a balance of payments basis

$$\Delta R = X - I + \Delta F_g + \Delta F_p - rF_g - rF_p$$

where R ≡ $A value of international reserves (excluding valuation effects on the value of international reserves)

X ≡ $A value of exports

I ≡ $A value of imports

F_g ≡ public sector debt domiciled abroad

F_p ≡ cumulated private inflow

rF_g ≡ annual interest payments on public domiciled abroad

rF_p ≡ net property income payments by private sector

The series for rF_p used in this calculation is derived from property income paid abroad, less property income received from abroad and less interest paid on government debt domiciled overseas. ΔF_p is then cumulated from 1900/01, using a base figure of $400 million in 1900. The base figure is derived from Table 252 in ADP using the components of private inflow plus immigrants' funds to give a reasonable base figure.

1. E. Scott, Australia During the War; Official History of Australia in the War 1914-18 Vol. XI, Angus and Robertson, 1936, p.206.

Finally the series for cumulated private capital inflow is added to the series for total public debt domiciled overseas, to give a series for total cumulated capital inflow.

It should be noted that by the nature of the calculation, all other errors are included in the estimates of net apparent private capital inflow. For this reason, the series is probably highly unreliable before 1945 as an indicator of annual changes in net private capital inflow. After 1946, when ABS data are used, the series is much more reliable.

It should further be noted that implicitly all transfer payments which are not property payments are classed as currency inflow, and that strictly speaking, the series is not conceptually equivalent to cumulated capital flow. Despite the stringent caveats applying to the pre-1946 data, it is interesting to see that the figure for the net stock of non-government Australian assets held by foreigners for 1957/58 at $2850m is reasonably close to the $2530m obtained from Helliwell and Boxall op.cit. as the sum of direct and portfolio investment from abroad less Australian investment overseas. Helliwell and Boxall's estimate does include personal transfers, as does the present set of estimates.

Advances by the Banking System T.IV.14

This series is defined as the sum of all advances by the trading banks plus all savings bank mortgages and other loans. The sources are OP4A for the period 1900/01 to 1944/45,[1] and OP4B for the period 1945/46 to 1969/70.[2] Additional data to complete the series to 1973/74 are obtained from the Reserve Bank Statistical Bulletin.

All observations are averages for June quarter (or month) in the case of trading banks and predominantly, but not entirely June 30 in the case of savings banks.

Income Taxes T.IV.20

Income taxes include all company and personal income taxation,[3] but exclude probate duties etc. Income taxation by all

1. OP4A, Tables 6, 12 and 53.
2. OP4B, Tables 44, 67, 68, 70 and 76.
3. Taxes on interest and on dividends are also included.

levels of government is included. In practice this means all income taxes levied by states and by the Commonwealth.

From 1900/01 to 1906/07 State direct tax collections are obtained from CBCS, Official Year Book of the Commonwealth of Australia 1901 to 1907. After 1906/07 State income taxes, and from 1915/16 Commonwealth income tax collections come from various issues of Finance Bulletins. From 1948/49 the data come from various issues of ANA.

A minor problem occurred for 1916/17, 1917/18 and 1919/20 when State tax collections are not recorded in the Finance Bulletin. For those years the data come from various issues of the Commonwealth Year Book.

All observations are for financial years ending June 30.

Indirect Taxes T.IV.20

Indirect taxes include all taxes which are not direct taxes as defined above. In the case of the States, they include motor taxes, probate and succession duties, stamp duties, land and liquor taxes, and local government rates etc.

From 1900/01 to 1947/48 this series comes from various issues of the Finance Bulletin. There are some omissions, however. Between 1900/01 and 1907/08 there is no information on local government rates, and these were interpolated using an average of the revenue for this item for 1908/09 to 1910/11. Other years' figures were partially estimated for this item where the information given was incomplete.

All observations are for financial years to June 30.

Cash Benefits to Persons T.IV.20

Prior to 1928/29 there are no official estimates of cash benefits, and these have been estimated directly from CBCS FB using the NIE 1950/51 definition. The directly calculated series covers the period 1900/01 to 1938/39. From 1938/39 to 1947/48 the data came from NIE 1950/51.[1] Subsequent years are

1. Commonwealth of Australia, National Income and Expenditure 1950/51, Commonwealth Printer. Table IIB.

described by data from various issues of ANA.

From 1928/29 to 1944/45 estimates of cash benefits exist in CBCS, Revenue and Expenditure of Public Authorities 1928/29-1944/45 (henceforth REPA). Corrected figures in this mimeo generally agree with the directly calculated series in terms of the movements year to year, but the levels are somewhat larger than the directly calculated figures. The latter agree closely in 1938/39 with the NIE figures, and are used for that reason. It is likely, however, that the directly calculated series has omitted some cash benefit in early years, and should, therefore, be used with caution. All observations are annual flows to June 30.

Subsidies T.IV.20

Subsidies are calculated directly from FB and the Commonwealth Auditor General's Report for the period 1900/01 - 1938/39 using the NIE 1950/51 definition. The remaining sources are the same as for cash benefits to persons.

From 1928/29 to 1944/45 estimates of subsidies by public authorities exist in REPA, and are identical (ignoring rounding error) to the directly estimated series. All observations are annual flows to June 30.

IV. DATA

The following twenty tables list the data described in section III. Each description in that section is accompanied by a reference to the table in section IV in which the series is to be found.

TABLE IV.1 MAIN EXPENDITURE AGGREGATES

$m current prices

	Consumption		Defence Spending	Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
				Private		Public					
	Private	Public Non-Defence		Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1900/01	326	19	1	9	18	0	29	-1	103	85	419
2	324	23	1	18	22	0	32	9	97	82	444
3	335	21	1	13	21	0	31	-11	94	77	428
4	320	22	1	11	18	0	22	22	106	74	448
5	324	25	1	12	17	0	21	-3	121	74	444
6	334	27	1	12	20	0	21	12	133	81	479
7	364	31	1	19	29	0	24	17	148	95	538
8	389	30	2	19	26	0	30	-4	145	101	536
9	410	32	1	13	25	0	37	17	139	101	573
10	436	31	2	13	27	0	40	29	157	112	623
1910/11	495	32	4	13	32	0	50	19	167	128	684
12	556	33	5	21	37	0	63	2	164	147	734
13	578	36	5	32	40	1	70	30	170	160	802
14	629	42	6	34	43	1	71	18	171	151	864
15	682	40	12	30	24	1	73	-31	143	136	838
16	756	42	39	23	26	1	71	38	167	194	969
17	773	53	65	19	39	0	61	-15	244	217	1022
18	811	54	67	19	36	0	52	1	209	187	1062
19	902	53	49	26	51	0	62	17	228	243	1145
20	952	60	12	31	69	9	97	-50	301	228	1253
1920/21	1037	68	7	28	80	15	120	121	258	352	1382
22	960	76	7	42	89	5	122	24	268	215	1378
23	1117	85	5	60	87	4	122	39	262	271	1510
24	1185	80	5	66	90	5	129	32	265	288	1569
25	1214	83	5	67	86	4	145	72	341	295	1722
26	1303	80	8	69	82	2	152	-28	302	311	1659
27	1357	83	11	76	79	3	164	12	286	342	1729
28	1325	92	10	78	75	3	168	0	293	305	1739
29	1314	97	8	68	77	3	158	2	308	323	1712
30	1293	88	7	49	49	2	139	18	216	295	1566

TABLE IV.1 MAIN EXPENDITURE AGGREGATES (cont.)

$m current prices

	Consumption		Defence Spending	Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
				Private		Public					
	Private	Public Non-Defence		Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1930/31	986	82	5	25	47	0	104	-13	201	150	1287
32	913	79	5	15	35	0	69	-2	219	123	1210
33	976	77	5	26	34	0	73	5	225	157	1264
34	1010	82	6	29	48	0	77	12	259	167	1356
35	1104	85	9	37	66	0	97	-7	244	203	1432
36	1211	87	11	47	70	0	103	-8	287	234	1574
37	1269	85	10	54	76	1	119	5	356	258	1717
38	1368	90	16	61	101	1	136	53	350	319	1857
39	1378	86	26	64	97	1	128	6	314	281	1819
40	1388	92	98	58	114	0	116	78	376	340	1980
1940/41	1436	92	340	54	96	0	100	14	378	365	2145
42	1538	100	614	34	82	0	76	32	416	395	2497
43	1540	104	1072	14	70	0	60	-53	428	377	2858
44	1470	108	964	10	80	0	64	-69	593	315	2905
45	1636	120	760	14	104	0	70	-77	528	313	2842
46	1798	146	414	30	168	0	90	89	557	357	2935
47	2158	202	86	68	220	18	164	139	666	572	3149
48	2580	270	46	96	272	26	210	182	914	803	3793
49	2975	271	82	145	352	33	262	45	1138	979	4324
50	3492	316	108	190	454	39	381	54	1325	1260	5099
1950/51	4153	386	200	272	649	54	549	125	2111	1726	6773
52	5093	473	330	345	787	73	733	377	1493	2437	7267
53	5095	519	406	363	780	63	731	-294	1893	1312	8244
54	5753	474	400	381	939	78	730	109	1750	1601	9013
55	6417	536	400	420	1062	71	800	166	1714	1983	9603
56	6800	663	380	436	1204	66	861	229	1719	1953	10405
57	7169	706	380	442	1275	43	907	-45	2191	1736	11332
58	7675	741	380	503	1355	36	962	56	1805	1925	11588
59	8018	843	380	550	1372	43	1057	253	1892	1960	12448
60	8985	926	386	620	1571	32	1182	168	2134	2286	13718

TABLE IV.1 MAIN EXPENDITURE AGGREGATES (cont.)

$m current prices

	Consumption		Defence Spending	Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
				Private		Public					
	Private	Public Non-Defence		Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1960/61	9458	1014	396	673	1742	30	1226	478	2177	2603	14591
62	9629	1123	406	603	1725	47	1355	-219	2464	2205	14928
63	10298	1222	412	663	1917	38	1402	253	2504	2620	16089
64	11106	1342	449	773	2146	44	1552	126	3169	2873	17834
65	12153	1507	543	917	2493	46	1810	572	3049	3485	19605
66	12793	1666	724	911	2745	64	1993	106	3151	3629	20524
67	13702	1865	844	991	2838	65	2107	367	3477	3711	22545
68	14911	2073	983	1112	3044	70	2298	138	3557	4155	24031
69	16133	2322	1017	1299	3434	68	2460	668	3919	4276	27044
70	17870	2655	990	1489	3674	88	2652	485	4755	4764	29894
1970/71	19626	3123	1073	1538	4302	95	2825	342	5071	5118	32877
72	21940	3649	1108	1759	4530	78	3218	-128	5644	5238	36560
73	25049	4236	1169	2119	4376	52	3400	-322	6956	5349	41686
74	29964	5435	1338	2626	5373	76	3809	1638	7806	7632	50433

TABLE IV.2 DEFLATORS OF THE MAIN EXPENDITURE AGGREGATES

1966/67 = 1.0000

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1900/01	.1419	.0862	.1021	.1341	.1034	.1191	.1330	.1450	.1550	.1330
2	.1348	.0886	.1014	.1299	.1026	.1124	.1280	.1520	.1500	.1280
3	.1362	.0918	.0978	.1279	.0989	.1123	.1320	.1630	.1470	.1320
4	.1236	.0903	.0952	.1256	.0963	.1126	.1240	.1660	.1480	.1240
5	.1231	.0894	.0913	.1253	.0923	.1118	.1250	.1700	.1440	.1250
6	.1275	.0922	.0846	.1315	.0857	.1131	.1290	.1790	.1540	.1290
7	.1224	.0949	.1130	.1336	.1144	.1221	.1270	.1870	.1630	.1270
8	.1359	.1020	.1273	.1356	.1288	.1238	.1370	.1810	.1630	.1370
9	.1428	.1076	.0971	.1374	.0983	.1258	.1410	.1730	.1560	.1410
10	.1475	.1104	.0865	.1417	.0875	.1261	.1450	.1760	.1580	.1450
1910/11	.1502	.1138	.0780	.1476	.0789	.1305	.1460	.1730	.1620	.1460
12	.1650	.1129	.1116	.1579	.1129	.1431	.1590	.1760	.1640	.1590
13	.1613	.1116	.1346	.1653	.1362	.1470	.1580	.1850	.1690	.1580
14	.1779	.1116	.1358	.1675	.1375	.1484	.1690	.1870	.1740	.1690
15	.2049	.0918	.1377	.1854	.1394	.1632	.1860	.1890	.1740	.1860
16	.2294	.0750	.1442	.2251	.1460	.2059	.1930	.2310	.2150	.1930
17	.2723	.0782	.1507	.2522	.1526	.2363	.2100	.2850	.2700	.2100
18	.2840	.0868	.1647	.2777	.1667	.2583	.2220	.3020	.3070	.2220
19	.2900	.0977	.1751	.2535	.1772	.2574	.2340	.2950	.3490	.2340
20	.2957	.1465	.2116	.2923	.2141	.2956	.2710	.3270	.3960	.2710
1920/21	.2955	.1781	.2184	.2962	.2211	.3206	.2630	.3270	.4600	.2630
22	.2722	.1865	.2193	.2886	.2220	.2692	.2490	.2500	.3700	.2490
23	.2821	.1634	.2220	.2890	.2247	.2546	.2640	.2960	.3040	.2640
24	.2647	.1641	.2217	.2888	.2244	.2495	.2640	.3610	.2730	.2640
25	.2611	.1704	.2275	.2882	.2303	.2550	.2720	.4070	.2640	.2720
26	.2763	.1753	.2255	.2900	.2282	.2624	.2700	.3120	.2790	.2700
27	.2752	.1831	.2283	.2922	.2311	.2634	.2700	.3020	.2690	.2700
28	.2734	.1936	.2273	.2919	.2300	.2650	.2740	.3240	.2590	.2740
29	.2787	.1883	.2279	.2926	.2306	.2619	.2750	.2990	.2560	.2750
30	.2587	.1909	.2265	.2767	.2292	.2307	.2480	.2310	.2470	.2480

TABLE IV.2 DEFLATORS OF THE MAIN EXPENDITURE AGGREGATES (cont.)

1966/67 = 1.0000

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1930/31	.2436	.1886	.2178	.2769	.2204	.2346	.2250	.1750	.2470	.2250
32	.2261	.1680	.2061	.2699	.2086	.2128	.2080	.1730	.2440	.2080
33	.2225	.1619	.2079	.2641	.2104	.2017	.2050	.1700	.2270	.2050
34	.2191	.1518	.2045	.2625	.2070	.2029	.2120	.2160	.2220	.2120
35	.2410	.1462	.2053	.2613	.2078	.2021	.2190	.1810	.2220	.2190
36	.2413	.1463	.2066	.2598	.2091	.2043	.2290	.2280	.2250	.2290
37	.2461	.1484	.2175	.2750	.2201	.2136	.2420	.2750	.2340	.2420
38	.2593	.1608	.2228	.2813	.2255	.2199	.2460	.2440	.2470	.2460
39	.2875	.1520	.2310	.2343	.2500	.2238	.2510	.1990	.2440	.2510
40	.3074	.1525	.2458	.2457	.2445	.2292	.2590	.2350	.2780	.2590
1940/41	.3208	.1849	.2798	.2682	.2786	.2551	.2610	.2490	.3290	.2610
42	.3335	.2077	.2906	.3254	.2899	.2724	.2650	.2540	.3820	.2650
43	.3614	.2344	.3415	.3256	.3413	.3191	.2790	.2730	.4400	.2790
44	.3605	.2450	.3571	.3306	.3571	.3299	.2870	.2800	.4690	.2870
45	.3522	.2419	.3590	.4906	.3571	.3271	.2980	.3110	.4810	.2980
46	.3753	.2375	.3704	.3320	.3676	.3383	.3210	.3500	.4910	.3210
47	.3763	.2517	.3778	.3520	.3750	.3504	.3520	.4860	.5610	.3520
48	.3998	.2860	.3765	.3994	.4000	.3825	.3910	.6780	.6580	.3910
49	.4270	.3132	.4303	.4411	.4286	.4132	.4300	.7950	.6890	.4300
50	.4690	.3450	.4774	.4850	.4483	.4557	.4690	.8550	.7310	.4690
1950/51	.5416	.4195	.5386	.5738	.5143	.5145	.5890	1.4380	.8400	.5890
52	.6679	.5019	.6449	.6873	.6348	.6088	.6140	1.1210	1.0440	.6140
53	.6831	.5542	.7304	.7486	.7590	.6700	.7020	1.1340	.9740	.7020
54	.7153	.5705	.7384	.7573	.8125	.6791	.7220	1.1030	.9120	.7220
55	.7346	.5943	.7749	.7701	.8256	.6993	.7260	1.0250	.9290	.7260
56	.7585	.6494	.8226	.8048	.8316	.7533	.7490	.9610	.9660	.7490
57	.7944	.6724	.8387	.8377	.8500	.7752	.8000	1.0750	1.0060	.8000
58	.8113	.6882	.8525	.8647	.8723	.7859	.8010	1.0130	1.0150	.8010
59	.8247	.6929	.8554	.8772	.8750	.8008	.8010	.8950	1.0040	.8010
60	.8436	.7606	.8659	.8941	.8810	.8231	.8380	.9570	.9600	.8380

TABLE IV.2 DEFLATORS OF THE MAIN EXPENDITURE AGGREGATES (cont.)

1966/67 = 1.0000

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1960/61	.8821	.7939	.8961	.9063	.8919	.8438	.8630	.9150	.9700	.8630
62	.8850	.8129	.8960	.9122	.8983	.8680	.8740	.9180	.9620	.8740
63	.8944	.8354	.8972	.9159	.9048	.8660	.8830	.9380	.9710	.8830
64	.9097	.8737	.9159	.9270	.9167	.8920	.9160	1.0180	.9620	.9160
65	.9415	.9193	.9424	.9526	.9388	.9330	.9400	.9820	.9750	.9400
66	.9697	.9480	.9702	.9741	.9697	.9582	.9680	1.0030	.9900	.9680
67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
68	1.0318	1.0480	1.0306	1.0228	1.0294	1.0347	1.0280	.9660	1.0010	1.0280
69	1.0557	1.0994	1.0595	1.0622	1.0625	1.0752	1.0620	.9850	1.0010	1.0620
70	1.0994	1.1773	1.1013	1.1063	1.1000	1.1271	1.1100	1.0020	1.0120	1.1100
1970/71	1.1629	1.2995	1.1547	1.1799	1.1585	1.1935	1.1690	.9820	1.0520	1.1690
72	1.2378	1.4530	1.2414	1.2622	1.2381	1.2709	1.2500	1.0240	1.1000	1.2500
73	1.3022	1.5799	1.3454	1.3205	1.3333	1.3732	1.3620	1.2140	1.0810	1.3620
74	1.4539	1.8380	1.6170	1.4320	1.6522	1.5560	1.5590	1.4220	1.2010	1.5590

TABLE IV.3 MAIN EXPENDITURE AGGREGATES AT CONSTANT 1966/67 PRICES $M

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1900/01	2298	232	88	134	0	243	-8	710	548	3150
2	2404	271	178	169	0	285	70	638	547	3469
3	2460	240	133	164	0	276	-83	577	524	3242
4	2588	255	116	143	0	195	177	639	500	3613
5	2632	291	132	136	0	188	-24	712	514	3552
6	2620	304	142	152	0	186	93	743	526	3713
7	2975	337	168	217	0	197	134	791	583	4236
8	2863	314	149	192	0	242	-29	801	620	3912
9	2871	307	134	182	0	294	121	803	647	4064
10	2956	299	150	190	0	317	200	892	709	4297
1910/11	3296	316	167	217	0	383	130	965	790	4685
12	3369	336	188	234	0	440	13	932	896	4616
13	3583	367	238	242	7	476	190	919	947	5076
14	3536	430	250	257	7	479	107	914	868	5112
15	3329	567	218	129	7	447	-167	757	782	4505
16	3296	1080	159	116	7	345	197	723	902	5021
17	2839	1508	126	155	0	258	-71	856	804	4867
18	2856	1394	115	130	0	201	5	692	609	4784
19	3110	1044	148	201	0	241	73	773	696	4893
20	3219	491	147	236	42	328	-185	920	576	4624
1920/21	3510	421	128	270	68	374	460	789	765	5255
22	3526	445	192	308	23	453	96	1072	581	5534
23	3959	551	270	301	18	479	148	885	891	5720
24	4476	518	298	312	22	517	121	734	1055	5943
25	4650	516	294	298	17	569	265	838	1117	6331
26	4716	502	306	283	9	579	-104	968	1115	6144
27	4931	513	333	270	13	623	44	947	1271	6404
28	4846	527	343	257	13	634	0	904	1178	6347
29	4714	558	298	263	13	603	7	1030	1262	6225
30	4999	498	216	177	9	603	73	935	1194	6315

TABLE IV.3 MAIN EXPENDITURE AGGREGATES AT CONSTANT 1966/67 PRICES $M (cont.)

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1930/31	4047	461	115	170	0	443	-58	1149	607	5720
32	4038	500	73	130	0	324	-10	1266	504	5817
33	4387	506	125	129	0	362	24	1324	692	6166
34	4609	580	142	183	0	379	57	1199	752	6396
35	4581	643	180	253	0	480	-32	1348	914	6539
36	5019	670	227	269	0	504	-35	1259	1040	6873
37	5156	640	248	276	5	557	21	1295	1103	7095
38	5276	659	274	359	4	619	215	1434	1291	7549
39	4793	737	277	414	4	572	24	1578	1152	7247
40	4515	1246	236	464	0	506	301	1600	1223	7645
1940/41	4476	2337	193	358	0	392	54	1518	1109	8218
42	4612	3438	117	252	0	279	121	1638	1034	9423
43	4261	5018	41	215	0	188	-190	1568	857	10244
44	4077	4375	28	242	0	194	-240	2118	672	10122
45	4645	3638	39	212	0	214	-258	1698	651	9537
46	4791	2358	81	506	0	266	277	1591	727	9143
47	5735	1144	180	625	48	468	395	1370	1020	8946
48	6453	1105	255	681	65	549	465	1348	1220	9701
49	6968	1127	337	798	77	634	105	1431	1421	10056
50	7445	1229	398	936	87	836	115	1550	1724	10872
1950/51	7669	1397	505	1131	105	1067	212	1468	2055	11499
52	7625	1600	535	1145	115	1204	614	1332	2334	11836
53	7458	1669	497	1042	83	1091	-419	1669	1347	11744
54	8042	1532	516	1240	96	1075	151	1587	1755	12483
55	8735	1575	542	1379	86	1144	229	1672	2135	13227
56	8965	1606	530	1496	79	1143	306	1789	2022	13892
57	9024	1615	527	1522	51	1170	-56	2038	1726	14165
58	9460	1629	590	1567	41	1224	70	1782	1897	14467
59	9722	1765	643	1564	49	1320	316	2114	1952	15541
60	10650	1725	716	1757	36	1436	200	2230	2381	16370

TABLE IV.3 MAIN EXPENDITURE AGGREGATES AT CONSTANT 1966/67 PRICES $M (cont.)

	Consumption		Fixed Capital Formation				Change in Stocks	Exports	Imports	Gross Domestic Product
			Private		Public					
	Private	Public inc. Defence	Dwelling	Non-Dwelling	Dwelling	Non-Dwelling				
1960/61	10722	1776	751	1922	34	1453	554	2379	2684	16907
62	10880	1881	673	1891	52	1561	-251	2684	2292	17080
63	11514	1956	739	2093	42	1619	287	2670	2698	18221
64	12208	2050	844	2315	48	1740	138	3113	2986	19469
65	12908	2230	973	2617	49	1940	609	3105	3574	20856
66	13193	2521	939	2818	66	2080	110	3142	3666	21202
67	13702	2709	991	2838	65	2107	367	3477	3711	22545
68	14451	2916	1079	2976	68	2221	134	3682	4151	23376
69	15281	3037	1226	3233	64	2288	629	3979	4272	25465
70	16255	3096	1352	3321	80	2353	437	4746	4708	26932
1970/71	16877	3229	1332	3646	82	2367	293	5164	4865	28124
72	17725	3274	1417	3589	63	2532	-102	5512	4762	29248
73	19236	3421	1575	3314	39	2476	-236	5730	4948	30606
74	20609	3685	1624	3752	46	2448	1051	5489	6355	32350

TABLE IV.4 MALE AND FEMALE STANDARD HOURS WORKED AND INDEXES OF AVERAGE EARNINGS, AND AVERAGE AWARD WAGE RATES (1966/67 = 1.000)

	Average Earnings	Male Average Award Wage	Male Hourly Wage	Female Hourly Wage	Male Standard Hours (Hrs/week)	Female Standard Hours (Hrs/week)
1900/01	.0507	.1010	0.0000	0.0000	48.93	49.08
2	.0512	.1010	0.0000	0.0000	48.93	49.08
3	.0526	.1020	0.0000	0.0000	48.93	49.08
4	.0544	.1020	0.0000	0.0000	48.93	49.08
5	.0551	.1020	0.0000	0.0000	48.93	49.08
6	.0564	.1030	0.0000	0.0000	48.93	49.08
7	.0582	.1030	0.0000	0.0000	48.93	49.08
8	.0606	.1070	0.0000	0.0000	48.93	49.08
9	.0634	.1070	0.0000	0.0000	48.93	49.08
10	.0672	.1100	0.0000	0.0000	48.93	49.08
1910/11	.0717	.1140	0.0000	0.0000	48.93	49.08
12	.0757	.1190	0.0000	0.0000	48.93	49.08
13	.0785	.1250	0.0000	0.0000	48.93	49.08
14	.0816	.1280	.1092	.0885	48.93	49.08
15	.0832	.1290	.1101	.0893	48.87	49.11
16	.0857	.1320	.1117	.0893	48.77	49.12
17	.0897	.1410	.1201	.0928	48.33	49.02
18	.0912	.1490	.1271	.1000	48.10	48.71
19	.0977	.1550	.1321	.1049	47.88	48.42
20	.1081	.1740	.1505	.1248	47.41	47.54
1920/21	.1266	.2090	.1807	.1531	47.07	46.47
22	.1367	.2200	.1943	.1702	46.22	45.69
23	.1383	.2130	.1885	.1672	46.38	45.82
24	.1438	.2200	.1934	.1720	46.70	45.98
25	.1441	.2190	.1937	.1725	46.66	46.02
26	.1478	.2250	.1997	.1766	46.44	45.78
27	.1518	.2310	.2075	.1839	45.57	44.94
28	.1541	.2330	.2097	.1881	45.46	44.94
29	.1511	.2340	.2105	.1922	45.27	44.79
30	.1513	.2360	.2119	.1931	45.34	44.79

TABLE IV.4 MALE AND FEMALE STANDARD HOURS WORKED AND INDEXES OF AVERAGE EARNINGS, AND AVERAGE AWARD WAGE RATES (1966/67 = 1.000) (cont.)

	Average Earnings	Male Average Award Wage	Male Hourly Wage	Female Hourly Wage	Male Standard Hours (Hrs/week)	Female Standard Hours (Hrs/week)
1930/31	.1387	.2250	.2054	.1883	45.98	45.48
32	.1253	.2020	.1830	.1690	45.51	44.88
33	.1215	.1910	.1730	.1573	45.49	44.88
34	.1198	.1870	.1711	.1551	45.36	44.81
35	.1209	.1900	.1741	.1590	45.36	44.81
36	.1244	.1930	.1772	.1609	45.26	44.81
37	.1288	.1980	.1824	.1665	45.09	44.60
38	.1369	.2100	.1943	.1785	45.03	44.52
39	.1404	.2180	.2009	.1844	44.82	44.44
40	.1460	.2220	.2078	.1898	44.29	44.36
1940/41	.1630	.2280	.2155	.1965	44.04	44.15
42	.1932	.2430	.2291	.2113	43.83	44.03
43	.2152	.2690	.2506	.2338	43.65	44.03
44	.2184	.2780	.2568	.2483	43.62	44.03
45	.2102	.2780	.2572	.2613	43.61	44.03
46	.2070	.2800	.2583	.2666	43.59	44.03
47	.2185	.2990	.2762	.2934	43.57	44.03
48	.2512	.3210	.3054	.3180	42.51	43.08
49	.2864	.3640	.3633	.4014	39.96	40.00
50	.3139	.3920	.3930	.4362	39.96	40.00
1950/51	.3745	.4700	.4697	.5615	39.96	40.00
52	.4601	.5640	.5630	.5551	39.95	40.00
53	.5013	.6350	.6345	.6304	39.95	40.00
54	.5275	.6520	.6509	.6479	39.95	40.00
55	.5546	.6680	.6667	.6498	39.95	40.00
56	.5926	.6910	.6909	.6745	39.95	40.00
57	.6208	.7280	.7270	.7082	39.95	40.00
58	.6378	.7390	.7369	.7211	39.95	40.00
59	.6575	.7510	.7500	.7354	39.95	40.00
60	.7084	.8020	.8005	.7892	39.96	39.67

TABLE IV.4 MALE AND FEMALE STANDARD HOURS WORKED AND INDEXES OF AVERAGE EARNINGS, AND AVERAGE AWARD WAGE RATES (1966/67 = 1.000) (cont.)

	Average Earnings	Male Average Award Wage	Male Hourly Wage	Female Hourly Wage	Male Standard Hours (Hrs/week)	Female Standard Hours (Hrs/week)
1960/61	.7423	.8260	.8248	.8197	39.96	39.67
62	.7690	.8510	.8497	.8508	39.96	39.67
63	.7900	.8530	.8517	.8521	39.96	39.67
64	.8312	.8740	.8721	.8697	39.96	39.67
65	.8934	.9220	.9206	.9235	39.96	39.67
66	.9346	.9480	.9469	.9481	39.96	39.67
67	1.0000	1.0000	1.0000	1.0000	39.96	39.67
68	1.0582	1.0470	1.0381	1.0609	39.96	39.67
69	1.1373	1.1390	1.1299	1.1352	39.96	39.67
70	1.2326	1.2060	1.1963	1.2280	39.95	39.67
1970/71	1.3696	1.2570	1.2503	1.2925	39.91	39.67
72	1.5021	1.4320	1.4201	1.5329	39.87	39.67
73	1.6394	1.5660	1.5619	1.6951	39.87	39.67
74	1.9060	1.7980	1.7919	2.1218	39.86	39.67

TABLE IV.5 WORKFORCE, EMPLOYMENT AND THE UNEMPLOYMENT RATE

	Workforce inc. Armed Forces ('000)	Civilian Employment ('000)	Armed Forces Employment ('000)	Public Administration Employment ('000)	Self Employed ('000)	Unemployment Rate %
1900/01	1489	1426	5	15	0	3.90
2	1537	1458	5	18	0	4.80
3	1585	1445	5	17	0	8.50
4	1659	1499	5	20	0	9.40
5	1637	1492	5	20	0	8.60
6	1635	1523	5	22	0	6.60
7	1680	1588	5	22	0	5.20
8	1703	1641	5	22	0	3.40
9	1752	1690	5	22	0	3.30
10	1829	1763	5	22	0	3.30
1910/11	1839	1782	5	23	441	2.86
12	1950	1898	5	24	462	2.44
13	2046	1937	8	26	487	5.04
14	2095	2017	10	28	499	3.27
15	2114	1956	32	30	487	5.92
16	2128	1929	125	33	483	3.49
17	2183	1896	215	35	480	3.30
18	2183	1893	215	37	482	3.39
19	2155	1924	153	38	490	3.62
20	2098	1999	27	39	506	3.39
1920/21	2170	2037	9	40	514	5.77
22	2249	2104	8	39	530	6.11
23	2310	2187	8	38	552	5.01
24	2348	2230	7	38	562	4.73
25	2462	2302	6	38	570	6.25
26	2466	2338	7	38	572	4.93
27	2513	2402	6	37	574	4.19
28	2562	2398	6	38	575	6.18
29	2568	2389	6	38	575	6.73
30	2557	2300	6	38	569	9.78

TABLE IV.5 WORKFORCE, EMPLOYMENT AND THE UNEMPLOYMENT RATE (cont.)

	Workforce inc. Armed Forces ('000)	Civilian Employment ('000)	Armed Forces Employment ('000)	Public Administration Employment ('000)	Self Employed ('000)	Unemployment Rate %
1930/31	2556	2131	6	37	573	16.41
32	2605	2086	6	36	590	19.74
33	2729	2208	5	36	608	18.93
34	2761	2313	7	39	612	15.99
35	2818	2417	7	42	609	13.97
36	2822	2504	8	44	607	10.98
37	2823	2565	9	46	602	8.83
38	2880	2655	10	48	602	7.46
39	2952	2682	11	52	599	8.76
40	3001	2677	54	56	584	8.99
1940/41	3024	2662	216	63	549	4.85
42	3148	2628	461	79	505	1.88
43	3299	2572	696	103	463	.95
44	3354	2600	721	124	476	.98
45	3346	2637	669	127	508	1.19
46	3247	2775	402	118	566	2.18
47	3210	3034	83	117	622	2.88
48	3277	3167	46	119	635	1.97
49	3368	3282	36	120	642	1.49
50	3473	3379	34	125	648	1.75
1950/51	3591	3512	40	130	661	1.11
52	3686	3579	60	132	667	1.39
53	3681	3511	64	134	662	2.90
54	3723	3584	64	129	672	2.01
55	3799	3685	62	130	685	1.37
56	3896	3777	61	137	691	1.49
57	3942	3806	56	140	690	2.04
58	4001	3848	49	141	689	2.60
59	4027	3898	49	146	686	1.97
60	4143	3997	48	146	689	2.37

TABLE IV.5 WORKFORCE, EMPLOYMENT AND THE UNEMPLOYMENT RATE (cont.)

	Workforce inc. Armed Forces ('000)	Civilian Employment ('000)	Armed Forces Employment ('000)	Public Administration Employment ('000)	Self Employed ('000)	Unemployment Rate %
1960/61	4334	4189	46	150	691	2.29
62	4382	4196	47	153	699	3.17
63	4445	4297	49	158	707	2.23
64	4547	4421	51	164	714	1.66
65	4669	4559	53	172	722	1.22
66	4820	4691	61	182	723	1.41
67	4972	4823	73	188	728	1.53
68	5097	4939	79	197	720	1.56
69	5216	5057	82	206	718	1.47
70	5383	5221	84	217	743	1.44
1970/71	5532	5369	84	230	756	1.43
72	5596	5410	82	239	752	1.87
73	5741	5538	78	250	759	2.18
74	5873	5702	70	264	784	1.71

TABLE IV.6 PRIVATE CAPITAL STOCK BY INDUSTRY
PLANT AND EQUIPMENT AT 1910/11 PRICES (£m)

	Industrial	Rural	Mining	Shipping		Industrial	Rural	Mining	Shipping
1900/01	6.714	7.577	7.714	.788	1920/21	26.509	9.443	6.181	7.865
2	8.215	7.090	10.688	1.320	22	27.136	9.736	5.536	9.816
3	9.568	7.055	12.032	1.930	23	28.684	9.950	5.131	10.737
4	9.405	7.777	12.163	2.497	24	30.468	10.653	5.004	11.092
5	10.518	8.305	11.672	2.892	25	31.395	11.828	4.621	10.793
6	11.123	8.655	12.790	3.140	26	32.097	12.888	4.245	10.327
7	12.002	9.077	14.256	3.595	27	31.997	14.276	3.993	9.881
8	11.991	9.719	15.322	4.200	28	31.031	15.182	3.866	9.508
9	12.724	10.301	14.471	4.824	29	30.083	15.906	4.672	9.234
10	13.739	11.317	13.102	5.395	30	28.054	16.000	6.451	8.623
1910/11	15.210	12.531	13.764	5.758	1930/31	28.118	14.948	7.165	8.092
12	16.617	13.545	12.638	6.292	32	25.249	13.560	8.101	7.323
13	17.771	14.246	11.147	7.172	33	22.875	12.593	8.021	6.862
14	19.179	14.628	10.658	7.581	34	21.479	11.719	8.808	6.482
15	19.485	14.180	9.702	7.472	35	22.265	11.147	10.739	6.319
16	19.008	13.311	8.968	7.247	36	23.098	11.169	12.202	5.994
17	19.592	12.248	8.096	8.075	37	23.021	11.626	13.482	5.992
18	20.559	11.014	7.131	7.572	38	26.155	12.880	15.004	6.269
19	22.130	10.299	6.704	7.439					
20	23.570	9.385	6.464	7.621					

TABLE IV.7 PRIVATE CAPITAL STOCK BY INDUSTRY 1900/01 TO 1937/38
NON-RESIDENTIAL DWELLINGS AT 1910/11 PRICES (£m)

	Commercial	Industrial	Rural		Commercial	Industrial	Rural
1900/01	38.411	10.793	83.443	1920/21	77.165	29.145	76.424
2	40.410	11.182	82.555	22	81.744	32.580	76.317
3	41.817	12.532	81.860	23	86.102	34.810	76.572
4	43.497	13.527	81.108	24	90.454	36.942	76.934
5	44.860	13.608	80.838	25	95.037	39.330	77.069
6	45.866	13.522	80.933	26	99.583	40.826	77.084
7	49.766	14.027	81.032	27	103.129	42.627	76.907
8	51.290	14.768	81.663	28	106.970	44.488	76.413
9	52.732	15.685	82.273	29	111.593	45.393	75.644
10	54.361	16.681	82.857	30	110.845	45.492	75.349
1910/11	54.534	18.476	82.897	1930/31	109.865	43.203	74.283
12	57.787	20.252	82.898	32	112.106	40.678	73.107
13	62.545	21.387	82.850	33	113.080	39.962	72.465
14	67.783	22.292	82.548	34	113.929	40.204	72.146
15	67.092	22.673	81.721	35	115.049	41.156	72.392
16	67.213	22.818	80.527	36	116.411	42.358	73.258
17	68.158	23.438	79.235	37	118.106	43.720	74.146
18	68.411	24.410	77.501	38	120.834	45.316	75.269
19	70.076	25.753	77.068				
20	73.767	27.386	76.690				

TABLE IV.8 PRIVATE CAPITAL STOCK PLANT AND EQUIPMENT AND NON-RESIDENTIAL STRUCTURES AT 1966/67 PRICES ($m)

	Plant and Equipment	Structures		Plant and Equipment	Structures		Plant and Equipment	Structures
1900/01	309	2528	1930/31	790	4333	1960/61	7354	6903
2	370	2557	32	735	4305	62	7676	7254
3	414	2596	33	682	4298	63	8129	7669
4	431	2633	34	657	4312	64	8701	8124
5	452	2655	35	684	4357	65	9483	8598
6	484	2674	36	711	4422	66	10252	9186
7	527	2760	37	733	4497	67	11003	9710
8	559	2815	38	817	4601	68	11680	10346
9	573	2872	39	1027	4654	69	12447	11052
10	590	2933	40	1202	4687	70	13152	11799
1910/11	640	2971	1940/41	1290	4677	1970/71	13915	12700
12	665	3067	42	1332	4624	72	14541	13556
13	682	3179	43	1329	4541	73	14930	14257
14	705	3290	44	1342	4463	74	15651	14966
15	689	3268	45	1396	4405			
16	657	3251	46	1608	4356			
17	650	3256	47	1850	4354			
18	627	3246	48	2099	4376			
19	631	3295	49	2422	4421			
20	637	3389	50	2831	4478			
1920/21	677	3483	1950/51	3351	4569			
22	707	3633	52	3794	4700			
23	738	3764	53	4115	4807			
24	775	3894	54	4570	4925			
25	794	4030	55	5056	5096			
26	807	4145	56	5522	5347			
27	815	4244	57	5907	5643			
28	807	4343	58	6275	5925			
29	811	4433	59	6594	6180			
30	801	4415	60	6956	6520			

TABLE IV.9 PRIVATE CAPITAL STOCK
DEPRECIATION AT CONSTANT 1966/67 PRICES ($m)

	Plant and Equipment	Structures		Plant and Equipment	Structures		Plant and Equipment	Structures
1900/01	44	64	1930/31	111	128	1960/61	928	166
2	46	66	32	112	126	62	994	173
3	48	67	33	109	126	63	1046	180
4	52	69	34	105	127	64	1101	187
5	51	71	35	102	128	65	1166	196
6	54	72	36	104	130	66	1257	204
7	59	74	37	105	130	67	1350	214
8	63	77	38	105	130	68	1439	224
9	69	79	39	111	131	69	1523	236
10	71	81	40	131	131	70	1622	248
1910/11	76	83	1940/41	150	131	1970/71	1722	260
12	83	85	42	162	130	72	1831	276
13	88	88	43	169	129	73	1934	291
14	91	91	44	174	128	74	2018	303
15	92	94	45	184	128			
16	91	95	46	200	127			
17	90	96	47	230	128			
18	91	97	48	254	128			
19	90	98	49	280	129			
20	91	100	50	315	130			
1920/21	91	103	1950/51	359	131			
22	95	106	52	411	133			
23	97	110	53	455	136			
24	98	113	54	495	139			
25	100	117	55	547	141			
26	101	120	56	607	143			
27	102	123	57	668	147			
28	104	124	58	737	151			
29	106	126	59	803	156			
30	109	127	60	862	160			

TABLE IV.10 PUBLIC CAPITAL STOCK
PLANT AND EQUIPMENT, STRUCTURES AND RAILWAYS
AT 1966/67 PRICES ($m)

	Plant and Equipment	Non-Residential Structures	Railways		Plant and Equipment	Non-Residential Structures	Railways		Plant and Equipment	Non-Residential Structures	Railways
1900/01	286	1972	1763	1930/31	807	5274	2497	1960/61	2131	14113	1536
2	325	2029	1797	32	744	5361	2438	62	2277	14848	1545
3	347	2076	1828	33	696	5470	2381	63	2402	15606	1551
4	335	2113	1824	34	645	5599	2331	64	2542	16445	1561
5	325	2148	1804	35	611	5790	2303	65	2756	17389	1573
6	320	2182	1776	36	580	5995	2283	66	3012	18366	1608
7	317	2222	1749	37	561	6251	2260	67	3242	19350	1639
8	302	2288	1751	38	560	6538	2240	68	3531	20338	1670
9	305	2367	1774	39	575	6771	2209	69	3763	21400	1695
10	310	2445	1815	40	555	6966	2162	70	4021	22447	1722
1910/11	340	2530	1881	1940/41	541	7060	2096	1970/71	4222	23511	1744
12	371	2636	1972	42	514	7074	2013	72	4484	24617	1775
13	385	2769	2088	43	480	7028	1911	73	4636	25732	1791
14	395	2887	2222	44	463	6983	1805	74	4788	26785	1790
15	403	2993	2329	45	433	6961	1709				
16	403	3067	2367	46	450	6942	1622				
17	388	3117	2349	47	546	7026	1559				
18	368	3149	2292	48	640	7176	1508				
19	374	3198	2233	49	755	7373	1466				
20	434	3264	2192	50	910	7705	1442				
1920/21	503	3359	2160	1950/51	1068	8189	1479				
22	536	3508	2179	52	1225	8759	1540				
23	566	3688	2188	53	1322	9271	1579				
24	613	3867	2208	54	1404	9777	1598				
25	666	4068	2246	55	1497	10333	1601				
26	715	4242	2320	56	1584	10912	1596				
27	764	4441	2401	57	1677	11489	1585				
28	808	4654	2472	58	1751	12102	1571				
29	837	4854	2522	59	1841	12771	1551				
30	854	5072	2553	60	2013	13424	1543				

TABLE IV.11 PUBLIC CAPITAL STOCK
DEPRECIATION AT 1966/67 PRICES ($m)

	Plant and Equipment	Non-Residential Structures	Railways		Plant and Equipment	Non-Residential Structures	Railways		Plant and Equipment	Non-Residential Structures	Railways
1900/01	40	37	86	1930/31	116	111	135	1960/61	274	288	96
2	41	38	89	32	118	115	135	62	290	302	92
3	44	40	91	33	115	118	135	63	307	316	90
4	46	41	94	34	111	121	135	64	320	331	88
5	45	42	97	35	106	124	134	65	335	347	87
6	45	43	98	36	104	129	134	66	359	365	88
7	46	44	100	37	101	133	134	67	389	384	89
8	47	46	101	38	97	139	134	68	419	403	90
9	46	47	103	39	94	145	135	69	454	422	91
10	47	49	105	40	92	150	136	70	487	443	91
1910/11	48	51	108	1940/41	87	155	136	1970/71	523	464	92
12	50	53	112	42	82	158	136	72	556	486	92
13	52	56	116	43	76	160	134	73	592	509	92
14	54	58	120	44	71	161	130	74	619	532	92
15	54	61	125	45	71	162	126				
16	54	64	129	46	69	164	121				
17	54	66	130	47	71	165	116				
18	54	67	129	48	79	168	110				
19	54	69	127	49	87	172	104				
20	55	71	125	50	97	176	101				
1920/21	62	73	122	1950/51	110	183	99				
22	69	75	121	52	123	192	101				
23	73	79	120	53	138	202	103				
24	76	83	119	54	151	211	105				
25	80	86	119	55	165	221	106				
26	84	91	119	56	182	231	106				
27	90	95	122	57	199	242	105				
28	96	98	126	58	219	252	104				
29	102	102	129	59	237	264	102				
30	109	106	133	60	253	276	99				

TABLE IV.12 PRIVATE DWELLINGS
STOCK AND DEPRECIATION AT 1966/67 PRICES
($M)

	Private Dwelling Stock	Depreciation		Private Dwelling Stock	Depreciation		Private Dwelling Stock	Depreciation
1900/01	3846	36	1930/31	7286	107	1960/61	13152	146
2	3982	40	32	7251	110	62	13676	149
3	4069	44	33	7246	113	63	14263	152
4	4137	47	34	7273	117	64	14951	156
5	4214	50	35	7334	120	65	15766	159
6	4282	54	36	7440	122	66	16544	161
7	4415	58	37	7567	123	67	17373	162
8	4536	62	38	7718	124	68	18290	161
9	4603	65	39	7870	126	69	19358	161
10	4657	67	40	7978	128	70	20550	161
1910/11	4705	70	1940/41	8044	127	1970/71	21723	159
12	4801	72	42	8036	125	72	22985	155
13	4961	74	43	7953	124	73	24407	153
14	5136	76	44	7859	122	74	25881	150
15	5275	78	45	7778	120			
16	5356	79	46	7738	121			
17	5404	81	47	7795	123			
18	5438	82	48	7923	127			
19	5505	83	49	8128	131			
20	5567	84	50	8391	135			
1920/21	5610	85	1950/51	8758	139			
22	5714	89	52	9151	142			
23	5893	91	53	9503	145			
24	6098	94	54	9872	147			
25	6297	96	55	10266	148			
26	6505	99	56	10649	147			
27	6737	103	57	11031	144			
28	6976	106	58	11478	143			
29	7168	106	59	11978	143			
30	7278	106	60	12550	144			

TABLE IV.13 ALL DWELLINGS (INCLUDING PUBLIC)
STOCK AND DEPRECIATION AT 1966/67 PRICES
$M

	All Dwellings Stock	Depreciation		All Dwellings Stock	Depreciation		All Dwellings Stock	Depreciation
1900/01	3846	36	1930/31	7571	107	1960/61	14329	152
2	3982	40	32	7538	110	62	14895	155
3	4069	44	33	7533	113	63	15517	158
4	4137	47	34	7559	117	64	16247	162
5	4214	50	35	7621	120	65	17105	165
6	4282	54	36	7729	123	66	17943	167
7	4416	58	37	7857	124	67	18831	168
8	4537	62	38	8015	125	68	19810	167
9	4604	65	39	8169	127	69	20936	167
10	4657	67	40	8276	129	70	22202	167
1910/11	4707	70	1940/41	8340	128	1970/71	23451	165
12	4807	72	42	8331	127	72	24769	161
13	4972	74	43	8246	125	73	26225	159
14	5154	76	44	8150	124	74	27738	156
15	5300	78	45	8068	122			
16	5384	79	46	8025	124			
17	5434	81	47	8125	126			
18	5469	82	48	8314	131			
19	5536	83	49	8593	135			
20	5642	84	50	8939	139			
1920/21	5755	85	1950/51	9406	143			
22	5881	89	52	9909	147			
23	6080	91	53	10339	150			
24	6309	94	54	10798	153			
25	6518	96	55	11272	154			
26	6737	99	56	11708	153			
27	6982	103	57	12111	150			
28	7235	106	58	12575	149			
29	7443	106	59	13105	149			
30	7562	106	60	13703	150			

TABLE IV.14 MONEY, ADVANCES BY BANKS AND INTERNATIONAL RESERVES

	Money		Bank Advances		International Reserves
	M1	M3	Savings Banks	Trading Banks	
1900/01	93	251	10	173	51
2	94	258	11	172	57
3	93	256	12	173	50
4	90	258	12	170	52
5	92	272	12	166	69
6	100	294	12	170	43
7	102	315	12	183	43
8	102	325	12	195	71
9	103	339	14	190	86
10	130	370	14	194	111
1910/11	147	414	14	218	112
12	151	438	18	239	99
13	143	445	21	226	112
14	159	480	22	231	136
15	164	506	23	234	125
16	208	557	22	267	111
17	245	613	28	248	148
18	261	657	28	281	139
19	278	724	28	355	130
20	307	776	29	322	185
1920/21	301	809	27	386	126
22	297	834	34	364	162
23	302	890	36	403	176
24	307	892	44	418	166
25	304	917	50	415	219
26	316	961	51	449	194
27	311	992	56	499	152
28	301	1027	65	474	197
29	302	1072	72	525	191
30	248	1024	77	555	108

TABLE IV.14 MONEY, ADVANCES BY BANKS AND INTERNATIONAL RESERVES (cont.)

	Money		Bank Advances		International Reserves
	M1	M3	Savings Banks	Trading Banks	
1930/31	241	988	75	509	77
32	255	1053	73	482	106
33	251	1052	70	482	125
34	286	1110	67	488	173
35	297	1124	65	522	113
36	313	1136	64	543	118
37	341	1201	64	546	186
38	353	1245	64	607	170
39	357	1238	67	629	121
40	451	1304	67	651	147
1940/41	500	1378	64	624	190
42	647	1558	61	618	146
43	889	1960	55	547	179
44	1147	2484	50	517	371
45	1253	2756	45	503	423
46	1342	3054	42	519	447
47	1413	3100	41	672	397
48	1558	3276	44	824	563
49	1775	3533	57	924	895
50	2133	4096	68	1062	1256
1950/51	2729	4870	78	1271	1604
52	2639	4820	164	1656	733
53	2963	5257	220	1450	1109
54	3129	5600	271	1690	1125
55	3159	5766	318	1982	847
56	3090	5817	364	1945	699
57	3239	6208	404	1897	1119
58	3179	6353	456	2060	1046
59	3274	6676	522	2007	1036
60	3521	7192	603	2211	1074

TABLE IV.14 MONEY, ADVANCES BY BANKS AND INTERNATIONAL RESERVES (cont.)

	Money		Bank Advances		International Reserves
	M1	M3	Savings Banks	Trading Banks	
1960/61	3293	7301	679	2238	1084
62	3379	7845	750	2287	1170
63	3464	8517	875	2465	1321
64	3732	9556	1094	2610	1771
65	3791	10337	1317	2955	1475
66	3816	10938	1535	3183	1535
67	4074	11824	1771	3548	1385
68	4414	12805	2017	4020	1353
69	4750	13974	2263	4384	1522
70	4985	14837	2340	4903	1646
1970/71	5313	15851	2603	5317	2309
72	5795	17508	2890	5876	3745
73	7317	21856	3351	7755	4256
74	7380	25108	4186	10120	3568

TABLE IV.15 GOVERNMENT SECURITIES ON ISSUE BY DOMICILE AND BY HOLDER $M

	AGS Domiciled Abroad[4]	FSGS Domiciled in Australia	FSGS Held by Public Auth.	AGS Held by Central Bank	AGS on Issue to Public[2]	LSGS on Issue to Public[2]	AGS Held by Trading Banks	AGS Held by Savings Banks	AGS Held by Non-Bank Public[3]
1900/01	354	57	0	0	75	18	4	28	43
2	367	66	0	0	87	21	4	32	52
3	377	73	0	0	96	23	4	37	56
4	380	79	0	0	104	25	4	39	61
5	382	85	0	0	112	27	4	41	67
6	388	95	0	0	126	31	5	46	76
7	375	109	0	0	144	35	6	57	82
8	371	123	0	0	162	39	7	65	90
9	385	127	0	0	164	37	6	69	90
10	387	139	0	0	179	40	7	73	99
1910/11	387	180	0	0	223	43	8	85	130
12	392	201	0	0	257	56	10	93	154
13	419	211	0	0	272	61	11	99	162
14	459	224	0	0	288	64	15	107	167
15	503	266	0	0	338	72	22	118	198
16	547	372	0	0	452	80	31	125	296
17	592	481	2	0	553	74	44	136	373
18	706	627	3	0	699	75	52	151	496
19	700	714	4	0	779	69	54	166	560
20	722	841	4	0	911	74	74	187	650
1920/21	749	917	2	52	950	87	97	214	640
22	821	945	2	51	989	97	100	225	664
23	837	980	4	51	1035	109	106	237	692
24	919	976	4	62	1050	140	102	240	709
25	924	999	8	55	1092	156	105	237	750
26	974	1016	6	44	1125	159	120	249	756
27	977	1055	3	50	1160	158	137	265	757
28	1089	1049	2	44	1204	201	167	271	766
29	1094	1063	3	40	1246	226	76	284	885
30	1097	1054	1	10	1279	236	88	284	908

TABLE IV.15 GOVERNMENT SECURITIES ON ISSUE BY DOMICILE AND BY HOLDER $M (cont.)

	AGS Domiciled Abroad[4]	FSGS Domiciled in Australia	FSGS Held by Public Auth.[1]	AGS Held by Central Bank	AGS on Issue to Public[2]	LSGS on Issue to Public[2]	AGS Held by Trading Banks	AGS Held by Savings Banks	AGS Held by Non-Bank Public[3]
1930/31	1153	1114	2	71	1280	239	132	259	889
32	1160	1172	6	82	1327	242	171	313	842
33	1151	1215	7	48	1409	249	209	317	883
34	1142	1258	4	57	1453	256	201	334	919
35	1140	1320	7	69	1507	263	197	352	958
36	1136	1331	9	78	1517	273	178	357	981
37	1132	1349	10	77	1552	290	185	365	1002
38	1134	1372	7	79	1600	314	174	374	1053
39	1139	1407	6	81	1657	337	188	401	1069
40	1133	1502	7	109	1746	360	238	393	1116
1940/41	1162	1650	19	103	1893	365	286	390	1218
42	1143	2066	13	170	2248	365	397	436	1415
43	1137	2823	48	226	2914	365	705	576	1634
44	1090	3582	138	300	3509	365	798	798	1912
45	1050	4133	205	288	4005	365	887	990	2128
46	959	4532	353	756	3789	365	423	1145	2221
47	937	4647	422	754	3849	378	277	1158	2413
48	916	4704	476	728	3909	409	252	1185	2472
49	869	4798	573	561	4123	459	248	1232	2644
50	817	4999	615	481	4451	548	334	1307	2810
1950/51	777	5329	779	441	4795	686	394	1434	2967
52	805	5717	1030	787	4713	813	317	1457	2939
53	842	6038	987	762	5251	962	566	1496	3189
54	844	6372	1207	703	5550	1088	525	1561	3464
55	887	6628	1388	780	5670	1210	437	1630	3604
56	942	6882	1532	871	5806	1327	418	1705	3683
57	918	7137	1706	807	6099	1475	495	1811	3794
58	920	7108	1657	816	6266	1630	475	1888	3903
59	995	7180	1473	752	6723	1768	631	1978	4114
60	930	7246	1505	876	6785	1920	551	2157	4078

TABLE IV.15 GOVERNMENT SECURITIES ON ISSUE BY DOMICILE AND BY HOLDER $M (cont.)

	AGS Domiciled Abroad[4]	FSGS Domiciled in Australia	FSGS Held by Public Auth.	AGS Held by Central Bank	AGS on Issue to Public[2]	LSGS on Issue to Public[2]	AGS Held by Trading Banks	AGS Held by Savings Banks	AGS Held by Non-Bank Public[3]
1960/61	905	7432	1710	944	6858	2080	573	2201	4083
62	909	7658	1599	824	7512	2277	807	2369	4336
63	978	7912	1589	661	8179	2517	854	2663	4663
64	927	8319	1612	603	8845	2741	1023	2950	4872
65	875	8695	1775	764	9139	2982	986	3158	4995
66	885	9135	1923	633	9816	3237	1172	3325	5320
67	855	9677	1897	740	10566	3526	1231	3513	5822
68	938	10558	2092	941	11370	3845	1237	3758	6376
69	1007	10815	2357	823	11854	4219	1463	3952	6439
70	821	11625	2835	1221	12133	4564	1353	4062	6717
1970/71	757	11946	2891	1028	12955	4928	1476	4314	7165
72	696	12592	2805	733	14517	5463	1849	4556	8112
73	632	13479	2784	753	15903	5961	2438	5246	8219
74	628	14274	2754	1440	16408	6328	2192	5771	8445

AGS = All government authority securities; FSGS = Federal and state government authority securities; LSGS = Local and semi-government authority securities.

1. Cumulated from a base stock in 1911/12 which excludes local and semi-government authority securities. A base figure for these securities at June 30 1927/28 of $A39m is added in 1927/28.

2. Includes the banking system.

3. Obtained from the foregoing series by subtracting the sum of columns 7 and 8 from the sum of columns 5 and 6.

TABLE IV.16 INTEREST ON GOVERNMENT SECURITIES HELD BY PUBLIC (INCLUDING) BANKS AND LONG TERM BOND YIELD

	Interest on Securities Overseas $m	Interest on Securities in Australia $m	Bond Yield %		Interest on Securities Overseas $m	Interest on Securities in Australia $m	Bond Yield %		Interest on Securities Overseas $m	Interest on Securities in Australia $m	Bond Yield %
1900/01	13	1	3.34	1930/31	59	44	6.51	1960/61	59	225	5.34
2	13	1	3.83	32	59	31	4.68	62	64	245	4.88
3	13	2	3.51	33	66	32	3.92	63	66	264	4.72
4	14	2	3.79	34	58	33	3.61	64	70	284	4.29
5	14	2	4.01	35	57	43	3.31	65	70	288	4.76
6	14	2	3.45	36	55	46	3.74	66	73	311	5.15
7	13	3	3.38	37	55	46	4.02	67	72	337	5.02
8	13	3	3.57	38	55	48	3.68	68	76	388	5.10
9	14	3	3.66	39	55	41	3.90	69	83	412	4.91
10	14	3	3.82	40	56	44	3.80	70	90	435	5.64
1910/11	14	4	3.64	1940/41	57	47	3.09	1970/71	88	465	6.41
12	14	5	3.83	42	57	51	3.25	72	88	528	5.71
13	15	5	4.85	43	54	62	3.23	73	82	599	5.30
14	16	5	4.25	44	54	74	3.24	74	76	657	8.05
15	19	7	4.47	45	53	87	3.24				
16	21	11	5.06	46	49	99	3.25				
17	23	14	5.33	47	44	108	3.21				
18	29	20	4.94	48	42	108	3.17				
19	29	24	5.29	49	39	118	3.13				
20	31	31	5.87	50	38	125	3.12				
1920/21	33	34	7.22	1950/51	38	128	3.17				
22	38	35	6.78	52	37	131	3.75				
23	38	35	6.29	53	42	130	4.53				
24	42	35	6.01	54	43	145	4.40				
25	42	35	5.96	55	43	159	4.52				
26	48	34	5.20	56	45	165	4.53				
27	49	35	5.34	57	45	180	5.09				
28	55	35	5.43	58	45	192	5.00				
29	57	30	5.26	59	50	215	4.93				
30	53	39	5.57	60	54	221	4.83				

TABLE IV.17 BALANCE OF PAYMENTS AND IMPLIED PRIVATE CAPITAL INFLOW $M

	Exports	Imports	Change in International Reserves	Net Property Income Paid Abroad	Public Borrowing	Implied Private Capital Inflow
1900/01	103	85	-1	23	3	1
2	97	82	6	25	13	3
3	94	77	-7	28	10	-6
4	106	74	2	30	3	-3
5	121	74	17	31	2	-1
6	133	81	-26	31	6	-53
7	148	95	0	31	-13	-9
8	145	101	28	30	-4	18
9	139	101	15	30	14	-7
10	157	112	25	30	2	8
1910/11	167	128	1	30	0	-8
12	164	147	-13	30	5	-5
13	170	160	13	30	27	6
14	171	151	24	31	40	-5
15	143	136	-11	34	44	-28
16	167	194	-14	38	44	7
17	244	217	37	42	45	7
18	209	187	-10	50	114	-96
19	228	243	-8	47	-6	60
20	301	228	54	49	22	8
1920/21	258	352	-60	51	27	58
22	268	215	35	58	72	-32
23	262	271	14	58	16	65
24	265	288	-10	62	82	-7
25	341	295	55	63	5	67
26	302	311	-15	69	50	13
27	286	342	-42	73	3	84
28	293	305	45	79	73	63
29	308	323	-7	76	5	79
30	216	295	-83	82	3	75

TABLE IV.17 BALANCE OF PAYMENTS AND IMPLIED PRIVATE CAPITAL INFLOW $M (cont.)

	Exports	Imports	Change in International Reserves	Net Property Income Paid Abroad	Public Borrowing	Implied Private Capital Inflow
1930/31	201	150	-34	90	56	-51
32	219	123	18	76	7	-9
33	225	157	20	76	-9	37
34	259	167	48	76	-9	41
35	244	203	-60	74	-2	-25
36	287	234	5	74	-4	30
37	356	258	71	78	-4	55
38	350	319	-15	78	2	30
39	314	281	-49	79	5	-8
40	376	340	26	84	6	80
1940/41	378	365	43	85	29	86
42	416	395	-44	84	-19	38
43	428	377	33	85	-6	73
44	593	315	192	88	-47	49
45	528	313	53	79	-40	-43
46	557	357	25	82	-91	-2
47	666	572	-50	86	-22	-36
48	914	803	167	90	-21	167
49	1138	979	331	81	-47	300
50	1325	1260	335	105	-52	427
1950/51	2111	1726	340	124	-40	119
52	1493	2437	-894	126	28	148
53	1893	1312	339	119	37	-160
54	1750	1601	6	159	2	14
55	1714	1983	-259	164	43	131
56	1719	1953	-163	189	55	205
57	2191	1736	407	189	-24	165
58	1805	1925	-77	187	2	228
59	1892	1960	23	254	75	270
60	2134	2286	81	284	-65	582

TABLE IV.17 BALANCE OF PAYMENTS AND IMPLIED PRIVATE CAPITAL INFLOW $M (cont.)

	Exports	Imports	Change in International Reserves	Net Property Income Paid Abroad	Public Borrowing	Implied Private Capital Inflow
1960/61	2177	2603	-5	264	-25	710
62	2464	2205	110	216	4	63
63	2504	2620	128	284	69	459
64	3169	2873	453	305	-51	513
65	3049	3485	-292	293	-52	489
66	3151	3629	44	319	10	831
67	3477	3711	-132	343	-30	475
68	3557	4155	73	474	83	1062
69	3919	4276	143	542	69	973
70	4755	4764	118	595	-186	908
1970/71	5071	5118	742	623	-64	1476
72	5644	5238	1544	591	-61	1790
73	6956	5349	1079	658	-64	194
74	7806	7632	-384	635	-4	81

TABLE IV.18 CUMULATED CAPITAL INFLOW; PRIVATE, PUBLIC AND TOTAL

	Private	Public	Total		Private	Public	Total		Private	Public	Total
1900/01	400	354	754	1930/31	710	1153	1863	1960/61	4412	905	5317
2	403	367	770	32	701	1160	1861	62	4475	909	5384
3	397	377	774	33	738	1151	1889	63	4934	978	5912
4	394	380	774	34	779	1142	1921	64	5447	927	6374
5	393	382	775	35	754	1140	1894	65	5936	875	6811
6	340	388	728	36	784	1136	1920	66	6767	885	7652
7	331	375	706	37	839	1132	1971	67	7242	855	8097
8	349	371	720	38	869	1134	2003	68	8304	938	9242
9	342	385	727	39	861	1139	2000	69	9277	1007	10284
10	350	387	737	40	941	1133	2074	70	10185	821	11006
1910/11	342	387	729	1940/41	1027	1162	2189	1970/71	11661	757	12418
12	337	392	729	42	1065	1143	2208	72	13451	696	14147
13	343	419	762	43	1138	1137	2275	73	13645	632	14277
14	338	459	797	44	1187	1090	2277	74	13726	628	14354
15	310	503	813	45	1144	1050	2194				
16	317	547	864	46	1142	959	2101				
17	324	592	916	47	1106	937	2043				
18	228	706	934	48	1273	916	2189				
19	288	700	988	49	1573	869	2442				
20	296	722	1018	50	2000	817	2817				
1920/21	354	749	1103	1950/51	2119	777	2896				
22	322	821	1143	52	2267	805	3072				
23	387	837	1224	53	2107	842	2949				
24	380	919	1299	54	2121	844	2965				
25	447	924	1371	55	2252	887	3139				
26	460	974	1434	56	2457	942	3399				
27	544	977	1521	57	2622	918	3540				
28	607	1089	1696	58	2850	920	3770				
29	686	1094	1780	59	3120	995	4115				
30	761	1097	1858	60	3702	930	4632				

TABLE IV.19 AUSTRALIAN/UK AND AUSTRALIAN/US EXCHANGE RATES

	$A/£Stg	$A/$US		$A/£Stg	$A/$US		$A/£Stg	$A/$US
1900/01	2.0275	.4172	1930/31	2.1800	.4487	1960/61	2.5100	.8937
2	2.0250	.4167	32	2.5100	.7504	62	2.5100	.8925
3	2.0250	.4186	33	2.5100	.7478	63	2.5100	.8941
4	2.0250	.4214	34	2.5100	.5071	64	2.5100	.8961
5	2.0200	.4169	35	2.5100	.5145	65	2.5100	.8977
6	2.0200	.4184	36	2.5100	.5059	66	2.5100	.8941
7	2.0175	.4215	37	2.5100	.5076	67	2.5100	.8977
8	2.0225	.4214	38	2.5100	.5090	68	2.1427	.8921
9	2.0200	.4165	39	2.5100	.5049	69	2.1427	.9009
10	2.0175	.4166	40	2.5100	.5346	70	2.1427	.8945
1910/11	2.0150	.4177	1940/41	2.5100	.6088	1970/71	2.1427	.8969
12	2.0150	.4172	42	2.5100	.6254	72	2.1427	.8396
13	2.0175	.4196	43	2.5100	.6254	73	1.8410	.7843
14	2.0150	.4168	44	2.5100	.6254	74	1.5615	.6720
15	2.0350	.4198	45	2.5100	.6254			
16	2.0325	.4267	46	2.5100	.6254			
17	2.0325	.4267	47	2.5100	.6254			
18	2.0225	.4246	48	2.5100	.6250			
19	2.0225	.4167	49	2.5100	.6203			
20	2.0225	.4893	50	2.5100	.8929			
1920/21	2.0500	.5882	1950/51	2.5100	.8929			
22	2.0450	.5114	52	2.5100	.8993			
23	2.0050	.4441	53	2.5100	.8921			
24	2.0050	.4574	54	2.5100	.8921			
25	1.9500	.4168	55	2.5100	.8993			
26	2.0000	.4124	56	2.5100	.8941			
27	2.0025	.4129	57	2.5100	.8993			
28	2.0150	.4127	58	2.5100	.8925			
29	2.0200	.4164	59	2.5100	.8941			
30	2.0425	.4181	60	2.5100	.8949			

TABLE IV.20 INCOME AND INDIRECT TAX COLLECTIONS, CASH BENEFITS TO PERSONS AND SUBSIDIES ($M)

	Income Taxes	Indirect Taxes	Cash Benefits	Subsidies
1900/01	1	13	0	0
2	1	31	2	0
3	2	32	2	0
4	2	32	1	0
5	2	32	1	0
6	2	33	1	0
7	1	36	1	1
8	1	40	2	1
9	1	39	3	1
10	1	38	2	1
1910/11	3	43	4	1
12	4	48	4	1
13	4	50	5	1
14	1	50	7	0
15	7	52	7	0
16	15	58	7	0
17	20	56	11	0
18	24	52	14	0
19	38	65	19	0
20	39	74	22	0
1920/21	49	110	27	0
22	53	101	26	0
23	45	114	27	0
24	43	121	29	1
25	46	127	30	1
26	48	136	33	1
27	53	149	35	2
28	51	150	36	2
29	51	154	37	1
30	53	155	39	1

TABLE IV.20 INCOME AND INDIRECT TAX COLLECTIONS, CASH BENEFITS TO PERSONS AND SUBSIDIES ($M) (cont.)

	Income Taxes	Indirect Taxes	Cash Benefits	Subsidies
1930/31	56	132	47	1
32	46	136	57	8
33	41	165	50	6
34	48	165	47	7
35	58	161	48	10
36	65	172	51	6
37	70	174	55	2
38	78	189	60	2
39	83	201	60	6
40	100	226	62	6
1940/41	158	242	64	4
42	229	229	82	10
43	297	331	94	12
44	379	326	102	46
45	431	333	106	60
46	429	363	136	72
47	416	442	160	72
48	466	478	178	106
49	545	532	224	60
50	559	601	249	48
1950/51	903	717	420	86
52	1103	955	359	75
53	1109	920	423	59
54	1056	1029	451	53
55	1063	1121	488	50
56	1146	1200	545	42
57	1239	1349	574	43
58	1299	1359	633	46
59	1214	1522	699	50
60	1339	1702	753	65

TABLE IV.20 INCOME AND INDIRECT TAX COLLECTIONS, CASH BENEFITS TO PERSONS AND SUBSIDIES ($M) (cont.)

	Income Taxes	Indirect Taxes	Cash Benefits	Subsidies
1960/61	1611	1817	832	74
62	1652	1806	915	73
63	1617	1948	959	98
64	1870	2107	1053	103
65	2290	2333	1109	126
66	2544	2546	1189	150
67	2724	2735	1285	184
68	3028	3008	1343	209
69	3408	3338	1465	236
70	4042	3679	1664	274
1970/71	4603	3997	1852	291
72	5284	4519	2166	392
73	5698	5038	2695	327
74 ..	7503	6248	3313	281

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ERRATA

There are a number of minor errors in the exports series from 1914/15 to 1922/23 (see table IV.1). The correct figures are given below, along with the implications for private consumption.

$m current prices

	Exports	Change	Private final consumption
1914/15	142	(-1)	683
16	166	(-1)	757
17	243	(-1)	774
18	209	(-)	811
19	227	(-1)	903
20	300	(-1)	953
1920/21	268	(+10)	1026
22	268	(-)	960
23	262	(-)	1117

These changes have implications for private capital inflow (tables IV.17 and IV.18) and for real exports and real consumption. The effect on the deflator of private consumption is negligible; in 1920/21 when the estimate of real exports changes from $789 million to $820 million, and the real consumption estimate correspondingly moves from 3510 to 3479, the deflator changes by only 0.2%.

The revised private capital flow figures are given below.

Revised Capital Inflow

$m

1914/15	-27	1917/18	-96	1920/21	48
16	8	19	61	22	-32
17	8	20	9	23	65

The change in reserves for 1958/59 in Table IV.17 is incorrectly given as $23m; the correct figure is -$23m. This results in the estimate for private capital inflow in 1958/59 being $224m, and has implications for cumulated private capital inflow, but not for the series for the value of official international reserve assets in Table IV.14.

Finally, from 1957/58 the series for international reserves is overstated by $8m in Table IV.14.