THE 1930'S AND THE 1980'S: SOME FACTS

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* The views expressed herein are solely those of the author(s) and are not necessarily shared by the Reserve Bank of Australia.

Preface

This paper was prepared for a plenary session at the 12th Conference of Economists held in Hobart in August 1983. It seeks to outline and compare the main economic facts in the 1920's and 1930's with those in the 1970's and the 1980's.

Helpful suggestions on the issues have been made by many economists. Particular acknowledgement must go to Bob Gregory, who also spoke on the subject at the Conference of Economists. Thanks also go to John Broadbent, William Coleman, Paul Johnson and Richard Wood for help on particular issues. The data base, which is available on request, owes a good deal to an earlier Research Discussion Paper by Matthew Butlin.

P.D. Jonson
12 September 1983

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1. INTRODUCTION

After fluctuating in the range from 3 to 6 per cent between 1910 and 1929, the rate of unemployment reached 20 per cent (almost 30 per cent amongst trade unionists) in 1932. Unemployment did not subsequently fall much below 10 per cent until the Second World War. During the past decade the unemployment rate has moved in two major steps from around 1-1/2 per cent to over 10 per cent. Graph 1 puts current experience into a long-term perspective.

Graph 1

On most criteria, the economic devastation of the 1930's was far more serious than anything experienced in the current episode. However, for many individuals, and especially perhaps in relation to the expectations built up in the earlier period, the recent deterioration may in some relative sense be on a similar scale.

This paper compares the main economic developments leading to and resulting from the high rates of unemployment in the 1930's and the 1980's. Developments in the world economy, in economic policies in Australia and in the main economic aggregates are examined. The statistics, particularly in the 1930's, are imperfect, and only a thumbnail sketch can be offered here. The references listed at the end of the paper provide a wealth of detail and interpretation.

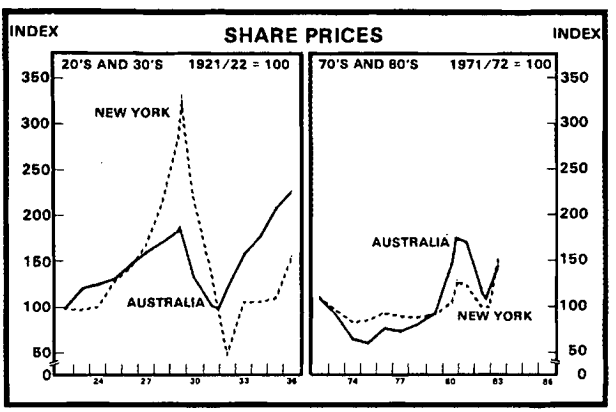
The data in this paper are largely presented in the form of graphs. Mostly there is a comparison of data for two fifteen year periods - from 1921/22 to 1935/36 and from 1971/72 to 1985/86. The latter period, of course, is partly in the

future. The figures for 1983/84 to 1985/86 are taken from the projections presented to the National Economic Summit[1]. While these data are only illustrative of one out of a large number of possible sets of developments, in one fundamental aspect the projections parallel earlier experience - the unemployment rate is assumed to remain high after the sharp lift in recent years.[2]

2. MAIN ECONOMIC INDICATORS

Share prices are one of the most general economic indicators, with particular relevance for the health of the corporate sector. Graph 2 shows indices of share prices in the United States and Australia in the 1920's and 1930's and the 1970's and 1980's.

Graph 2



In both countries share prices generally rose through the 1920's. The rise and subsequent fall was much greater in the

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[1] The figures used are those from the so-called "Scenario A". In presenting the Scenarios, the Treasurer stressed that they were not forecasts and that "surprises will inevitably occur". The figures from Scenario A, however, provide a set of numbers which indicate one way in which economic developments might unfold in the next three years.

[2] "Scenario C" assumed slightly lower unemployment while "Scenario B" assumed that unemployment would be noticeably higher than in Scenario A (peaking at 12.2 per cent in 1985/86). The uncertainties involved are illustrated by projections for the rate of unemployment. The average rate of unemployment projected for 1983/84 in Scenario A is 10 per cent. Another recent set of projections (by Blandy and Harrison (1983)), suggest that the rate of unemployment might be as low as 11 per cent or as high as 14 per cent in December 1983.

United States[3]. Movements in share prices[4] have been generally much smaller in the 1970's and the 1980's. Share prices generally fell in the early 1970's. There was a strong rise in Australia in the late 1970's with a peak in November 1980. Share prices in New York have risen by about 50 per cent from their trough in August 1982 to their value in mid August of this year.

Graph 3 shows growth in real GDP and Table 1 shows a break-down into major components.

Graph 3

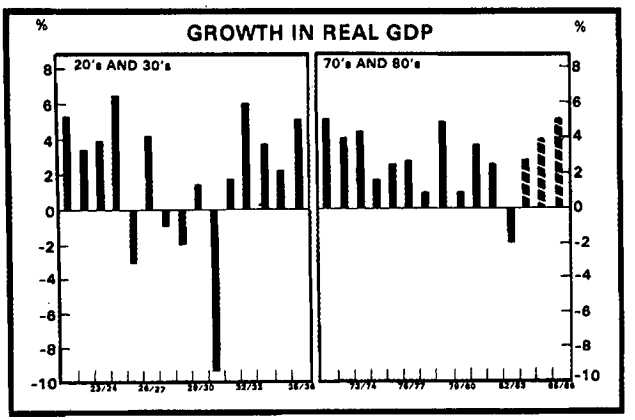


Table 1: Components of Gross Domestic Product
(average annual growth rates; per cent)

	private consumption	private investment	government spending
1921/22 - 25/26	6.1	8.2	4.8
1926/27 - 30/31	-3.0	-13.5	-3.7
1931/32 - 35/36	4.4	11.7	5.4
1971/72 - 75/76	4.2	- 0.6	5.4
1976/77 - 80/81	2.5	5.3	2.2
1981/82	3.6	8.3	2.6
1982/83	0.8	-17.1	3.5
	exports	imports	Total GDP
1921/22 - 25/26	4.2	-(7.8)	3.2
1926/27 - 30/31	3.5	-(-11.5)	-1.4
1931/32 - 35/36	1.8	-(11.4)	3.7
1971/72 - 75/76	3.3	-(4.0)	3.5
1976/77 - 80/81	3.5	-(4.3)	2.7
1981/82	1.0	-(12.1)	2.5
1982/83	1.4	-(-10.3)	-2.0

[3] Figures for June in each year are given, with figures for other months given as required to indicate peaks and troughs.

[4] In 1971/72 the Australian index was 15 times above its level in 1921/22 while the New York index was 17 times its 1921/22 level. Over the same period Australian consumer prices rose 3.7 times while U.S. prices rose 2½ times.

For the first half of the 1920's growth of real GDP was, except in one year, fairly strong. Domestic demand grew at a high rate (note the high growth rates of consumption and imports). In the second half of the decade Australia's growth performance deteriorated considerably. Boehm (1971) attributes the slow-down in the late 1920's to a conjunction of events including a sharp fall in the price and value of exports and a big reduction in capital formation financed by overseas borrowing. The big drop in export receipts reflected the disastrous reduction in world trade and the associated drops in commodity prices which are examined below. The falling away in capital inflow was partly due to a tightening in overseas financial markets, and partly due to the increasing concern of overseas lenders about the financial situation in Australia.

According to the estimates used in graph 3, real GDP fell by almost 10 per cent in 1930/31. Subsequently growth of real GDP resumed, albeit from a very low base.

Growth of real GDP was strong in the first three years of the 1970's, with private consumption and government spending both growing quickly. Performance for the rest of the decade was, in general, more subdued. There was a pick-up in real growth at the start of the 1980's, followed by a very sharp slow-down - at least by post-War standards. In 1982/83, real GDP fell by 2 per cent. The Treasurer indicated in his Budget speech that growth of around 3 per cent in 1983/84 might be achievable. Scenario A in the Economic Summit projected growth of 3.9 per cent and 4.8 per cent respectively in 1984/85 and 1985/86.

Table 2 sets out average rates of growth of population, the workforce and employment.

Table 2: Population and Labour Market
Average Annual Growth; Per Cent

	Population	Workforce	Employment	Unemployment Rate
1921/22-25/26	1.0	2.3	3.0	5.4
1926/27-30/31	1.6	1.2	-2.5	8.7
1931/32-35/36	0.7	1.7	4.0	15.9
1971/72-75/76	1.5	2.3	1.6	4.0
1976/77-80/81	1.2	1.5	1.3	5.9
1981/82	1.7	1.6	1.2	6.2
1982/83	..	1.6	-1.4	9.0

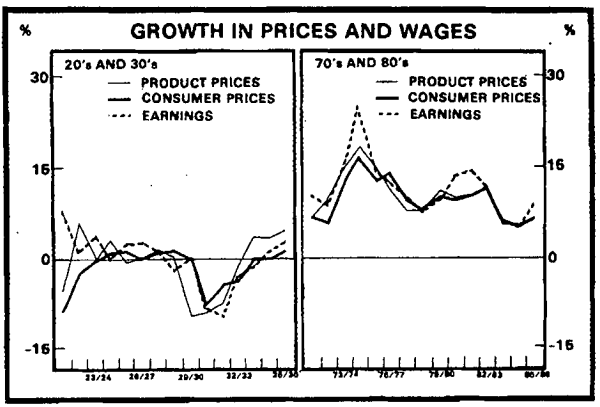
In the 1920's and 1930's population growth was generally low. In the first half of the 1920's, the participation rate increased strongly but the workforce nevertheless grew less quickly than total employment. The second half of the 1920's saw a big drop of employment, falling participation and generally rising unemployment. In the three years from 1929/30 to 1931/32, employment fell disastrously (by 17 per cent from the 1928/29 level). Then there was a period of strong employment growth (again from a very low base)[5].

[5] Attachment 1 examines the composition of employment in each episode. Employment in manufacturing and construction was most volatile in both episodes, with much greater fluctuations in the 1920's and 1930's.

Growth of population, the workforce and employment were all much steadier in the 1970's. The participation rate generally increased. Employment fell by about 1-1/2 per cent in 1982/83.

Graph 4 compares three measures of inflation in the two periods.

Graph 4



The solid lines show growth in consumer prices, the thin lines growth in a measure of product prices, and the striped lines growth in average weekly earnings[6]. There was a large rise in real wage incomes early in the 1920's, but thereafter wages and consumer prices moved fairly closely together until the cut in real wages in 1931/32 (reflecting the January 1931 decision by the Arbitration Commission to reduce wages by more than the fall in consumer prices).

The general tendency of the GDP deflator to rise in the early 1920's meant that wages as a cost to the employer rose more slowly than real wage incomes. In 1929/30, however, a big fall in product prices, reflecting the large decline in export prices, preceded the fall in consumer prices and earnings. Real labour costs, therefore, increased sharply; they rose a bit more in 1930/31 before declining in subsequent years.

The 1970's and 1980's, of course, have experienced strong inflationary pressures. For the period shown in the right-hand panel of graph 4 (including the projections for the next three years), the average rate of increase in consumer prices was 10 per cent, and the maximum (in 1974/75) was 16.7 per cent.

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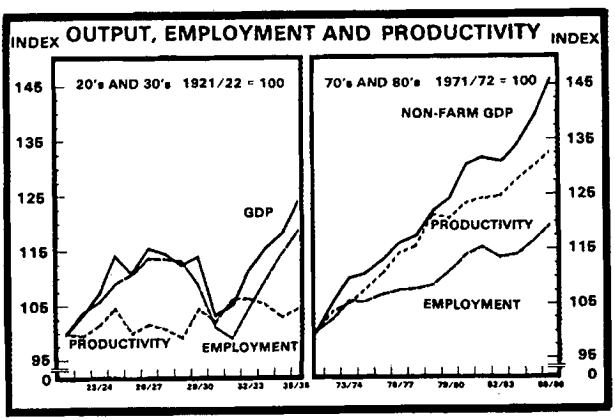
[6] Deflation of earnings by consumer prices gives information about spending power, while deflation by product prices is relevant for calculations of labour as a cost of production.

Early in the 1970's, growth in wages outstripped that of prices. Real wages were then fairly flat until the early 1980's, when real wages once again grew strongly. Scenario A does not foresee any significant reduction of real wages in the next three years.

Graph 5 shows real GDP, employment and a measure of productivity.

Graph 5



GDP grew quickly in the first half of the 1920's, while slightly slower growth in employment implied a modest rise in productivity. In the middle of the decade, productivity tended to decline as GDP grew more slowly than employment. Through the depression years, productivity generally rose as employment fell faster than GDP. But over the 15 year period as a whole, productivity did not show much growth.

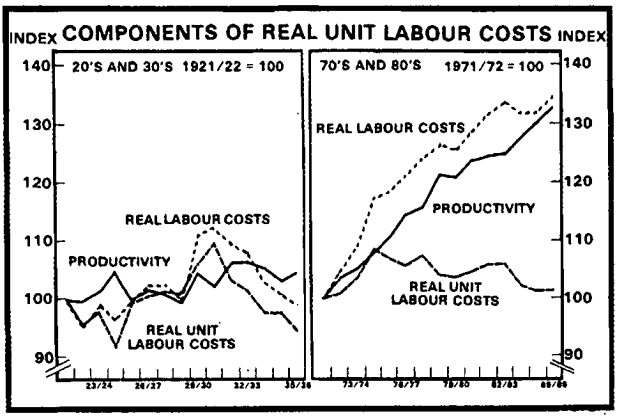
Experience in the 1970's and 1980's has been very different. Productivity showed relatively strong growth throughout, with both real non-farm GDP and employment generally increasing. This experience is projected in Scenario A to continue after the downturn of 1982/83.

The indices in graph 6 attempt to measure real unit labour costs[7]. They show real labour costs (measured as nominal

[7] Real unit labour costs are calculated by dividing average earnings by product prices and productivity (output per employed worker). In theory, this equals the wage share of output. In practice, differences in methods of measurement and the existence of taxes make this only approximately true. The series graphed here for the 1980's incorporates payroll tax as a cost to the employer. For further discussion of these issues see "The Measurement of Real Unit Labour Costs" in a Supplement to the Treasury Round-up of Economic Statistics, September 1978.

wages deflated by the GDP deflator) and adjusted for movements in labour productivity from graph 5.

Graph 6



Real unit labour costs fell in the early 1920's as a result of strong productivity gains. They then rose sharply with the cut in productivity in 1925/26, then more gradually until 1929/30, when the GDP deflator fell by 10 per cent while average weekly earnings were about unchanged. By 1930/31, real unit labour costs were 10 per cent above the 1921/22 level. In that year, real GDP dropped by almost 10 per cent and unemployment rose from around 10 per cent to 16 per cent. The effect on real labour costs of the 10 per cent drop in real wages implemented by the Arbitration Commission at the start of 1931 is illustrated fairly clearly[8]. With some increases in productivity, and further falls in real wages, unit labour costs declined more or less continuously from 1930/31 to the mid-1930's. By 1935/36, real unit labour costs were more or less back to their level at the start of the 1920's. As this implies, the share of profits in national income had also been restored to its level of the early 1920's.

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[8] The following extract from the Award of the Commonwealth Court of Arbitration, 22 January 1931, from Shann & Copeland (1931) is of considerable interest:

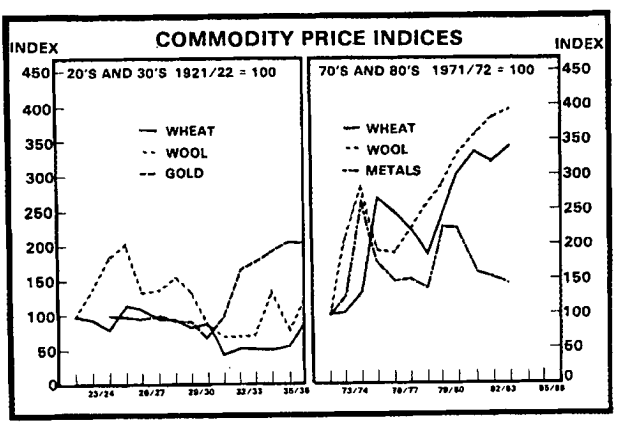
> "Great and increasing unemployment is strongly symptomatic of a wage level too high for our present capacity. The national loss of spending power synchronizes with the recent aggravated increase of unemployment; after analysis of other suggested causes elsewhere in this judgement, the conclusion is unavoidable that the present wage level is above that which can be supported by the marketable productivity of the Commonwealth and that a lowering of that level is one of the essential means of checking a further increase of unemployment, of gradually restoring employment and of restoring a proper economic balance."

In contrast to experience in the early 1920's, real labour costs and real unit labour costs rose sharply in the early 1970's. On the measure used in this graph real unit labour costs peaked in 1974/75 around 8 per cent above the level at the start of the decade. Then there was a gradual net fall of around 5 per cent over the next five years (as productivity rose more quickly than real labour costs), followed by another rise around the turn of the decade. By 1982/83 unit labour costs were about 6 per cent above the level at the start of the 1970's. Scenario A implies that unit labour costs will decline to the 1970/71 level over the next three years, basically as a result of increases in productivity.

3. EXTERNAL INFLUENCES

Graph 7 shows indices of the prices of commodities of particular importance to Australia. For the early experience, prices (in Australian pounds) of wool, wheat and gold are given. For the later episode, prices of wool and wheat are again given but an index of the price of metals replaces that of gold.

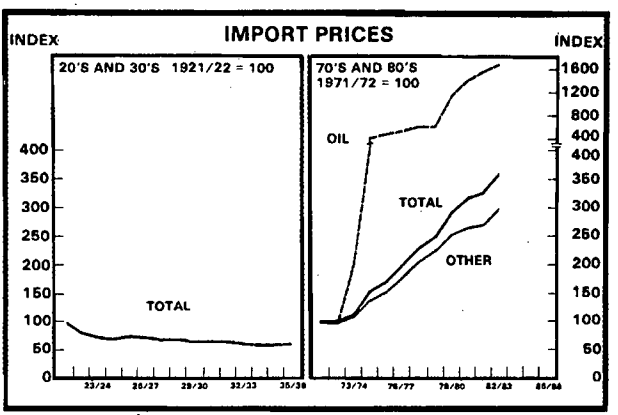
Graph 7



The 1920's were periods of generally falling prices. Wool prices rose strongly in the early 1920's, but then declined over the rest of the decade. The price of wheat also declined over the second half of the decade, with a very sharp drop in 1930/31. The price of gold was more stable, although this too declined slightly during the 1920's. During the recovery period of the mid-1930's, the prices of gold and, to a lesser extent, wool rose. The price of wheat did not rise appreciably until later in the decade.

The 1970's and the 1980's have been periods of generally rising prices. After a sharp rise in the years from 1972 to 1974, commodity prices declined as the world's economies moved into recession. The prices of wool and wheat are now almost double that at their respective troughs in 1975/76 and 1978/79. Metal prices fell sharply in the mid 1970's, rose strongly in 1979 and 1980, but have since fallen to levels not much above those of the mid-1970's.

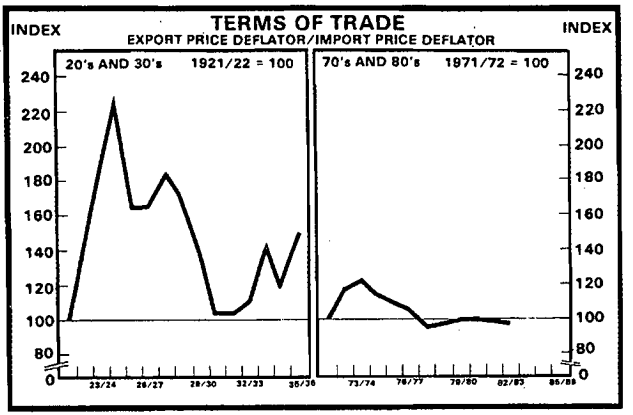
Graph 8



Graph 8 shows indices of the price of imports (for the latter period there is a division into the price of oil and other import prices). A general downward trend is evident for the 1920's and 1930's. Experience in the 1970's has been dominated by the two major hikes in the price of oil. The price of other imports has shown a general upward trend during the 1970's and 1980's.

The implications of these and other price movements for Australia are most simply summarised in the terms of trade, shown in Graph 9. For each period the index is defined as the average price of exports in relation to the average price of imports.

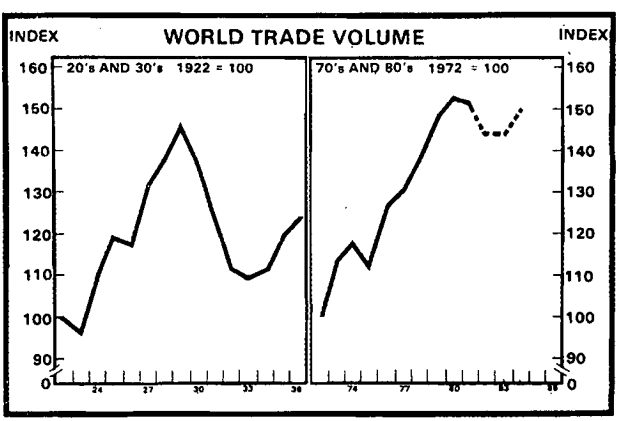
Graph 9



Mainly as a result of an increased price of wool, export prices rose (while import prices fell) in the early 1920's. Beginning with a sharp fall in 1925/26, there was a long period in which export prices generally fell more quickly than import prices. The terms of trade in fact rose by over 100 per cent in the five years to 1924/25 and then fell by 50 per cent in the next six years (bringing the terms of trade by 1930/31 roughly back to the same level as in the early 1920's).

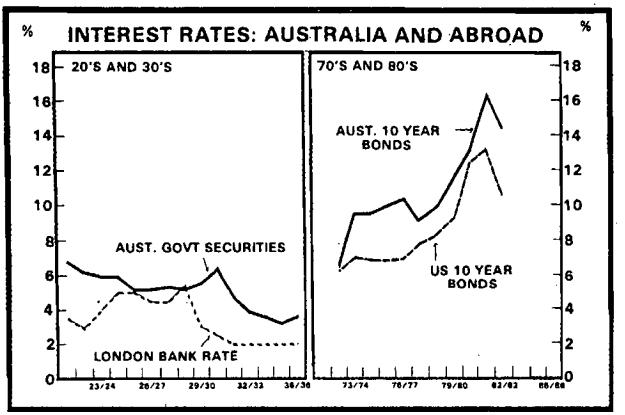
Although recent experience has been qualitatively similar, the magnitudes of the movements have been very much smaller. There was a 20 per cent rise in the terms of trade in the early 1970's and then a fall of similar magnitude in the next three or four years as the average price of imports rose by more than those of exports. Australia's terms of trade have been roughly constant since the late 1970's although there was a 2-1/2 per cent drop in 1982/83.

Graph 10



Graph 10 shows indices of world trade. (This graph is in calendar years, reflecting the available data.) The volume of trade expanded strongly through the 1920's, before the sharp slump around the turn of the decade. By 1934, world trade was once again growing. Apart from the sharp set-back in 1975, trade expanded strongly in the seventies. The sizeable declines in 1981 and 1982 went with reduced demand for Australia's exports. Current indications are, however, that some sort of recovery has commenced. (The graph includes the latest OECD forecasts for 1983 and 1984.)

Graph 11



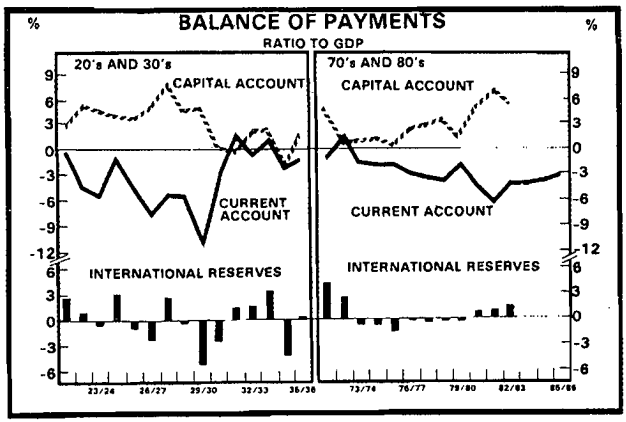
Graph 11 shows interest rates in Australia and in a major overseas centre - London for the 1930's and the United States in the 1980's. The London "Bank rate" peaked in June 1928, and then declined substantially, stabilising at around 2 per cent by the mid-1930's. The rate on Australian government securities rose from the mid-1920's to 1930/31, reflecting, at least towards the end of this period, declining confidence in the solvency of Australian government finance. The lessening of these fears, with the advent of the Premiers' Plan, and the legislated reduction in domestic interest rates associated with that Plan, led to a fall in market yields from late in 1931.

In the 1970's and early 1980's, interest rates around the world generally rose, peaking during 1981/82. This was due to a number of factors, including large budget deficits, high rates of inflation and the use of tough monetary policies to control that inflation. There has since been a slight decline.

4. BALANCE OF PAYMENTS

The solid lines on graph 12 show current account deficits (occasionally surpluses) in relation to GDP. The dashed lines show net capital inflows and the bars changes in international reserves, also in relation to GDP.

Graph 12



During the periods of relatively strong growth in the early 1920's the current account deficit fluctuated between 0 and 6 per cent of GDP. Current account deficits were financed by large overseas borrowings, mainly by State governments and government authorities. Most of this borrowing was in London, in some cases in the form of overdrafts[9].

With the decline in world trade and the fall in commodity prices, the current account deficit increased substantially in the second half of the 1920's. It peaked at over 10 per cent of GDP in 1929/30 (with real GDP growing by only 2 per cent). With a virtual drying up of capital inflow, there was a large drop of reserves in the same year. In the next two years, the rapid weakening of activity in Australia, large increases in protection and devaluation of the exchange rate produced a sharp move to surplus in the current account. Schedvin (1970, P.9), notes that this combination of factors "successfully restored payments balance around mid-1931, although this was achieved without the exhaustion of international reserves by the barest margin".

The 1970's opened with a strong current account. From 1973/74 on, the rest of the 1970's saw current account deficits of between 2 and 4 per cent of GDP. The deficit widened substantially in 1980/81 and 1981/82. There has been some cut-back during 1982/83 and this trend is projected in Scenario A to continue for the next three years.

Capital inflows were very strong in the early 1970's and then weakened considerably for the rest of the decade. In the early 1980's net capital inflows increased even more in

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[9] Schedvin (1970, P5) gives a succinct account of sources of instabilities to the market for overseas loan funds in the 1920's.

relation to GDP than did the current account deficit. The overall balance of payments has shown sizeable surpluses for the last three years.

Graph 13 shows interest payments on overseas borrowings as a ratio to export receipts. Table 3 gives some figures.

Graph 13

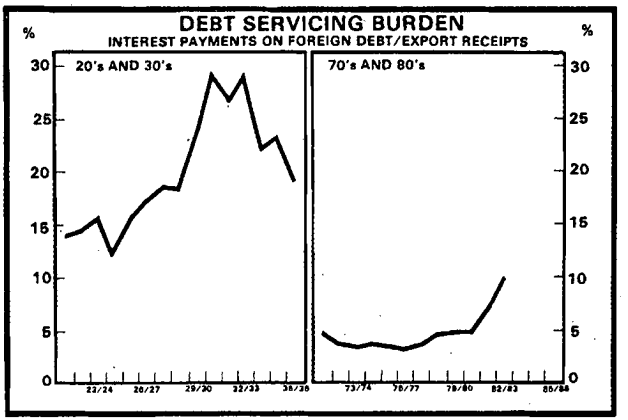


Table 3: Interest Payments and Export Receipts
($ million)

	interest on overseas debt*	export receipts# (current prices)	ratio (%)
1921/22 - 24/25	40	284	14.1
1925/26 - 28/29	52	297	17.5
1929/30	53	216	24.5
1930/31	59	201	29.4
1931/32 - 34/35	60	237	25.3
1971/72 - 75/76	323	8,257	3.9
1976/77 - 80/81	769	17,455	4.4
1981/82	1669	22,663	7.4
1982/83	2300(e)	24,559	9.4(e)

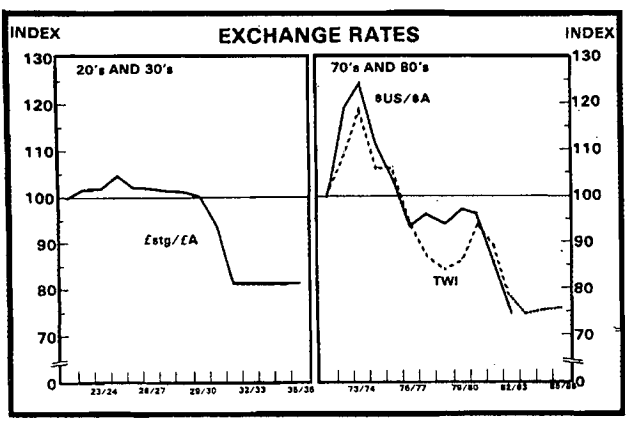
* For 1920's and 1930's, interest on government debt domiciled overseas. For 1970's and 1980's, includes interest payable on private overseas borrowing.

National Accounts basis.

The large overseas borrowings (as noted above, predominantly by governments) in the late 1920's meant that interest payments increased substantially in the face of generally falling export prices. Export earnings collapsed in 1929/30. As a ratio to exports, interest payments jumped from 14 per cent in the early 1920's to almost 30 per cent in 1930/31. There was subsequently a modest reduction.

In the 1970's the corresponding ratio has been much smaller, generally between 3 and 5 per cent, although the outcome for 1982/83 may be nearer 10 per cent. The sizeable increase in the last two years mainly reflects the increased use of offshore borrowing at high interest rates. In contrast to earlier experience, overseas borrowing in the 1970's and 1980's has been mostly on private account.

Graph 14

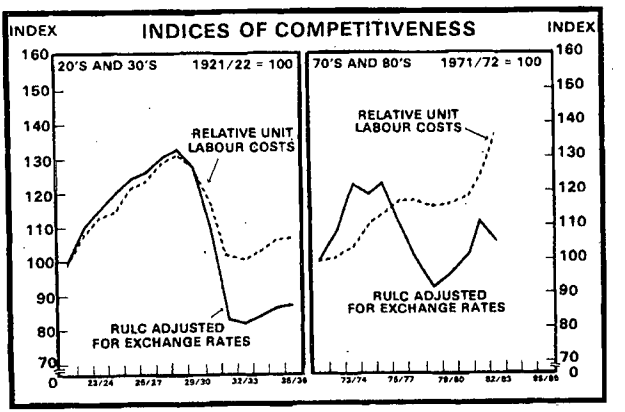


In graph 14, the exchange rate against Sterling is shown to have been fairly stable until the large devaluation in 1931, after which it again held constant. In the 1970's, exchange rates were much more volatile after the break-down of the system of fixed exchange rates which had operated since shortly after World War II. The Australian dollar appreciated against other currencies early in the decade. The effects of the subsequent devaluations are clearly seen. After the November 1976 devaluation, the trade weighted index tended to appreciate for several years. In the past two years, however, the value of the Australian dollar has fallen by around 17 per cent.

Competitiveness is shown in graph 15. Many measures of competitiveness can be constructed: those shown by the dotted lines are the ratio of unit labour costs in Australia to those in the United Kingdom (in the 1920's and the 1930's) and major OECD countries (in the 1970's and the 1980's). The solid lines adjust the ratios of unit labour costs for movements in the exchange rate (against Sterling in the early episode and the other

relevant currencies for the recent experience). In this graph a movement down indicates an increase in competitiveness (and vice versa).

Graph 15



For much of the 1920's the competitiveness of Australian industry declined relative to that of the United Kingdom. However, the large cut in real unit labour costs from 1931/32 onwards produced a substantial improvement in competitiveness. When the effects of devaluation were added, there was a very large increase in competitiveness in the early 1930's[10]. Giblin (1936) provides a nice summary of the situation:

> "With the depression came a gradual but strong improvement of competitive power by Australian factories, so that even when duties remained unchanged, less protection was used. This came about partly as a result of greater economy and efficiency induced by the depression and the keen competition of Australian factories for the reduced market.
>
> A still more powerful factor was the fall in wages

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[10] It would be possible to adjust the measures of competitiveness shown here to allow for the additional effects of the changes in tariffs on the competitiveness of manufacturing industry, as done for the 1973 changes by Gregory and Martin (1976). Such a procedure would suggest an even bigger improvement in competitiveness (for manufacturing) than that shown for the early 1930's in graph 15.

relative to wages abroad. This came about primarily through our peculiar method of adjusting wages to prices. The 10 per cent additional cut imposed by the Federal Court affected perhaps half the field of wages, but was offset by the slowness of some of the States, particularly New South Wales, to allow wages to be adjusted to lower prices. The net effect over all Australian wages has been a reduction almost exactly equal to the fall in prices. Wages in the three years 1930 to 1932 fell 21 per cent, and retail prices 22 per cent. In England, in the same time, the cost of living fell 15 per cent, and wages only 5 per cent. Wages now in Australia are 18 per cent lower than in 1930, but in England only 2 per cent lower. This fall in wages relative to the movement in England took place in the face of a depreciation of the currency in relation to sterling; it may be said at the present time that sterling wages have fallen 34 per cent in Australia since 1930, and practically not at all in England." (p.17).

Australian unit labour costs rose by considerably more than those in OECD countries during the 1970's and 1980's. However, the substantial net devaluation of the exchange rate over this period has largely offset the effects of larger increases in unit labour costs. It should also be noted that other measures - e.g. those based on relative prices of commodities - show a less unfavourable picture for competitiveness in recent years.

5. INDICATORS OF GOVERNMENT POLICY

A considerable debate occurred in the 1920's over protection of Australian industry. Graph 16 shows indices of rates of protection[11].

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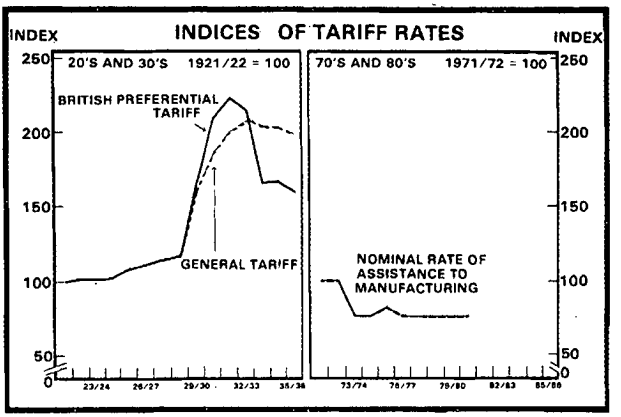
[11] The average level of protection in the 1970's was around 17 per cent for manufacturing, compared with average tariff rates of up to 50 per cent in the 1920's for non-U.K. goods. The figures for the 1970's and 1980's include IAC estimates of protection through quotas and other restrictions as well as tariffs, while the early figures do not allow for non-tariff barriers to trade. For some discussion of the latter see Schedvin (1970), Chapter 8.

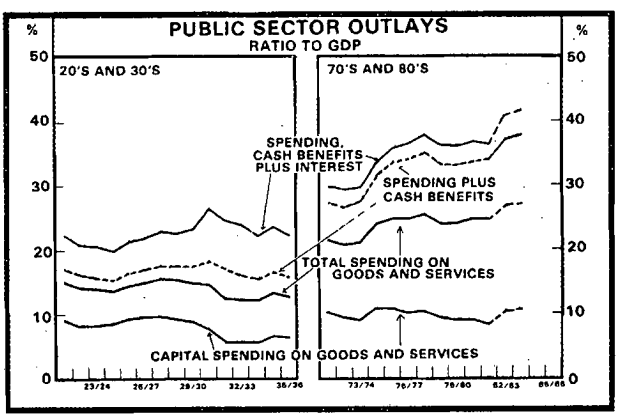
A feature of recent changes to protection policy has been the increase in the dispersion of levels of protection. This increase means that the stability shown in the right-hand panel of graph 16 is more apparent than real.

Graph 16

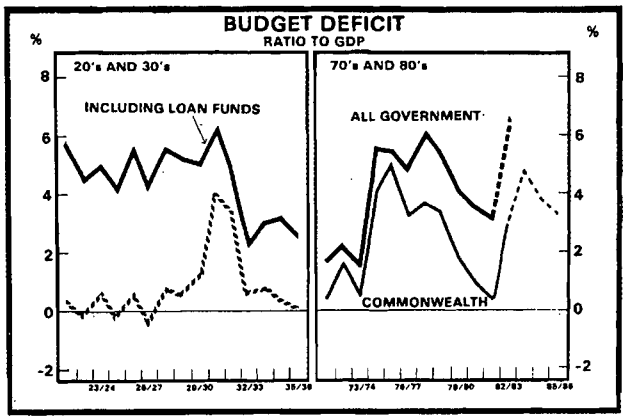


A gradual upward trend through the early and mid-1920's was followed by sharp increases when the foreign exchange crisis of 1929-31 forced policy-makers to act to reduce imports sharply. In the 1970's and 1980's overall rates of protection have been much more stable.

Graph 17



Graph 18



The size of government budgets was another big issue in the 1930's. Graph 17 shows public sector outlays by type and relative to GDP in the 1920's and 1930's and in the 1970's and 1980's. While capital spending on goods and services was roughly the same proportion of GDP in both periods, current spending in the 1920's and 1930's was about half that in the 1970's and 1980's. Cash benefits accounted for a much smaller share of total government outlays in the 1920's and 1930's than in the 1970's and 1980's but interest payments were relatively larger in the former period.

Relative to GDP, there was a steady upward trend in public sector outlays from the mid 1920's until 1930/31, with a sharp acceleration in the latter year. Early on this mainly reflected rising expenditure on capital goods and rising interest payments but later a sharp increase in interest payments and cash benefits combined with falls in GDP were the main influences. The rise in total outlays was, however, moderated by a rapid fall in capital spending after 1928/29. This reflected severely restricted opportunities for overseas borrowing.

The left-hand panel of graph 18 shows measures of public sector deficits (relative to GDP) during the 1920's and 1930's. There was a gradual rise in public sector revenues relative to GDP over this period, due mainly to growth in indirect taxation revenues (relative to GDP). Consequently, the rise in the deficit at the onset of the depression is much less pronounced than that in outlays. The fall in capital spending in the late 1920's also moderated the increase in the deficit. This is shown in graph 18 by the fact that the deficit including loan funds (shown by the black line) increased by much less than the consolidated revenue deficit (represented by the striped line).

The policy, adopted in the Premiers' Plan, of balancing, or at least trying to balance, budgets is clearly

reflected in the sharp fall in the size of both measures of budget deficits by 1932/33.

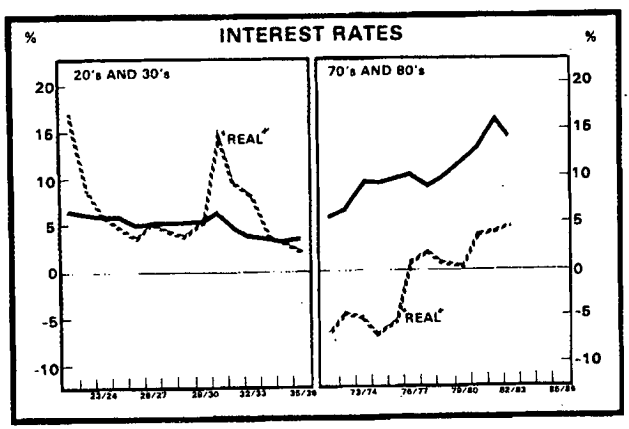
The right-hand panel of graph 17 shows public sector outlays by type (again relative to GDP). In the early 1970's total government outlays were about 32 per cent of GDP. There was a sharp increase in government outlays beginning in 1974/75 and due mainly to increased current spending on goods and services and increased cash benefits. Total outlays continued to increase relative to GDP until 1977/78 before falling slightly and then levelling out.

The combination of weakening economic activity and expansionary policies (both of the Commonwealth and the non-Commonwealth authorities) contributed to a marked increase in public sector outlays in 1982/83. As shown in graph 17 this increase is reflected in all the categories of outlays.

Public sector deficits in the 1970's and 1980's are shown in the right-hand panel of graph 18. The thick line in this panel shows the consolidated deficit of all public authorities. In the early 1970's this deficit amounted to about 2 per cent of GDP. It subsequently increased sharply with the expansion of Commonwealth outlays in the middle of the decade. The relative size of deficits was gradually pegged back in the late 1970's, but the increase in spending by non-Commonwealth authorities, financed mainly by borrowing, prevented the consolidated deficit from falling to the same extent as the Commonwealth deficit.

Both deficit measures increased sharply in 1982/83 and this trend has been projected to continue in 1983/84. Scenario A projects further large Commonwealth deficits in the following two years, but with some declines (especially relative to GDP).

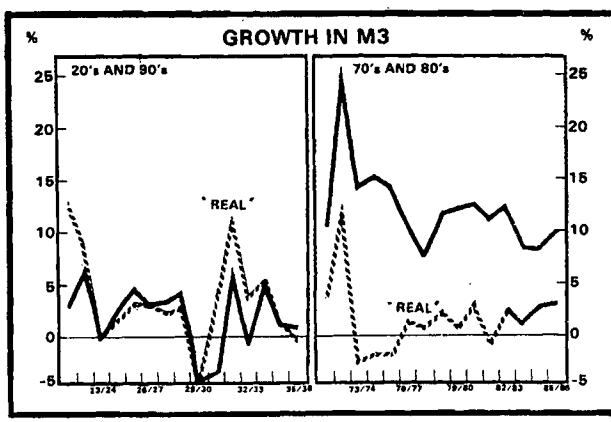
Graph 19



Graph 19 shows nominal and "real" interest rates[12]. Nominal rates were fairly stable in the earlier period, with the volatility in real rates caused mainly by fluctuations in inflation. With prices falling, real rates of interest reached over 15 per cent in 1930/31. The Premiers' Plan included a cut in interest rates; the effects of this cut are seen in the latter part of the early period.

In the early seventies, high and persistent rates of inflation exceeded nominal rates of interest, implying negative real interest rates (as measured) for some years. In the last few years, nominal rates have exceeded inflation, implying positive real rates which approached 5 per cent in 1981/82 and 1982/83. For the 1970's and 1980's, however, real rates of interest have, on average, been much lower than in the 1920's and 1930's.

Graph 20



Graph 20 shows the rate of growth in the supply of money, in nominal and real terms. Both measures of money fell substantially in 1929/30. In the following year, money again declined but by less than the general level of prices. This implied growth in real terms, which continued in the next two years. Towards the middle of the thirties, growth rates (on both real and nominal measures) again declined.

In the early seventies, there was a sharp acceleration of monetary growth, associated with large foreign exchange surpluses. This was followed by almost as sharp a deceleration in 1973/74, and a further reduction in 1977/78. In subsequent

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[12] The "real" rate of interest is defined for this graph as the yield on government bonds adjusted for movements in the linked c-series for the 1920's and 1930's and the GDP deflator for the 1970's and 1980's.

years at the end of the 1970's and early 1980's, monetary growth was generally between 10 and 13 per cent. After adjustment for inflation, monetary growth in real terms has (since 1972/73) been a good deal more stable than in the 1920's and 1930's.

6. CONCLUDING COMMENTS ON THE FACTS

In comparing the 1920's and 1930's with the 1970's and 1980's, it is quickly evident that there are similarities and differences. Both periods saw a sharp rise in unemployment. Prices were generally falling in the 1920's and 1930's while most prices have risen (in some cases by a large amount) in the 1970's and 1980's.

World trade fell much more severely from the late 1920's than seems likely in the current episode. The rise and fall in Australia's terms of trade was much larger in the earlier episode. While Australia is still a small open economy its economic base is now much wider; also the external shock has been much smaller in the current episode.

Overseas borrowings in the 1920's was on a much vaster scale in relative terms than in the 1970's. The debt servicing burden is consequently much smaller in the 1980's than it was in the 1930's. Also, in the late 1920's, capital inflow dried up (forcing large adjustments to eliminate the current account deficit) whereas in recent times capital inflow has tended to exceed the large current account deficits.

Although the timing and mechanisms differed, both periods saw a noticeable rise in real unit labour costs. The rise was larger in the earlier episode and strongly influenced by the enormous fluctuations in the terms of trade. Helped by a "once for all" cut in real wages, there was a sharp fall in unit labour costs in response to the economic crisis of the 1930's. A more gradual reduction has been predicted for the 1980's.

The responses of general economic policy have also been different in the later episode. Budget deficits were cut back strongly in the 1930's while they have expanded in the 1980's. Levels of protection were raised sharply in the 1930's and the exchange rate was cut relatively late. In the 1980's the exchange rate was devalued early and average levels of protection have not changed much. Monetary policy has been more stable and, on average, less deflationary in the recent episode (whether measured by real rates of interest or by the growth of monetary aggregates).

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ATTACHMENT 1: EMPLOYMENT BY INDUSTRY

The attached graphs show the level of employment for five sectors of the economy:

- primary;
- manufacturing;
- commerce;
- construction; and
- services and other industries including, for example, community services, financial and property services, public administration, transport, storage and communication.

In 1922, a 1 per cent rise in employment implied about 21,000 extra jobs while a 1 per cent rise in 1972 would imply an additional 56,000 jobs. (These benchmarks have been used for scaling the graphs.)

The fluctuations in employment which occurred in the 20s and 30s were much larger than those in the 70s and 80s. From a peak in 1926/27, total employment declined by almost 300,000 persons or 13 per cent over the next five years. The job loss was recovered within three years and by 1935/36 employment was about 4 per cent above its previous peak.

The drop in employment in the late 20s commenced when manufacturing employment turned down in 1927/28. Employment in construction turned down in the following year. For both sectors, the big shake-out occurred in 1929/30 and 1930/31 - manufacturing employment declined by 7 per cent and 18 per cent respectively while employment in construction declined by 21 per cent and 28 per cent in these years.

In the five years to 1931/32, manufacturing employment suffered the largest absolute decline of 131,000 persons or 26 per cent. In relative terms, however, employment in construction, which was cut almost in half, fared much worse. The other main loss of employment occurred in commerce. These three industries accounted for 97 per cent of the drop in employment. During the upturn to the mid-30s, these industries were also the major areas of growth in employment. From 1931/32 to 1935/36, employment increased by 162,000 (43 per cent) in manufacturing, 123,000 (87 per cent) in construction and 71,000 (24 per cent) in commerce.

Employment in primary industries actually increased during the shake-out to 1931/32 and continued to rise during the upturn to the mid-30s. Experience in the service industries was diverse. Community services grew over the entire period (with the exception of an insignificant decline in 1930/31); public administration remained fairly static during the depression years and then grew as the economy expanded; while others (for example, gas, electricity and water and finance and property services) tended to move cyclically.

Relative to the 20s and 30s, growth of employment in the 70s and 80s has been much steadier. The outstanding feature of the latter period has been the growth of the service industries. The "cyclically-responsive" industries are still manufacturing, construction and commerce.

Total employment declined in 1974/75 due to a fall of around 8 per cent in manufacturing and around 1 per cent in commerce. A large fall in manufacturing employment was more than sufficient to explain the overall fall in employment in 1977/78. In the last year or so the fall in employment has again been concentrated in manufacturing and construction. By mid-1983*, employment in manufacturing was about 18 per cent below its peak level of 1973; over the same period, employment in construction has dropped by 17 per cent. For commerce, employment has tended to rise in line with activity.

Over the last ten years, employment in services has grown from 38 per cent of the total in 1971/72 to 46 per cent in 1981/82. With the further decline in employment in manufacturing and construction over the last year, this proportion has increased further (to over 47 per cent). Industries within this sector cover a wide range of activities and have shown quite diverse patterns of growth. Community services (for example, health and education services) have made the dominant contribution in this group, having provided almost 400,000 new jobs over the last ten years. Other industries in this group (for example, financial and property services, public administration and electricity, gas and water) have grown fairly quickly during periods of expansion and remained static or declined somewhat in economic downturns.

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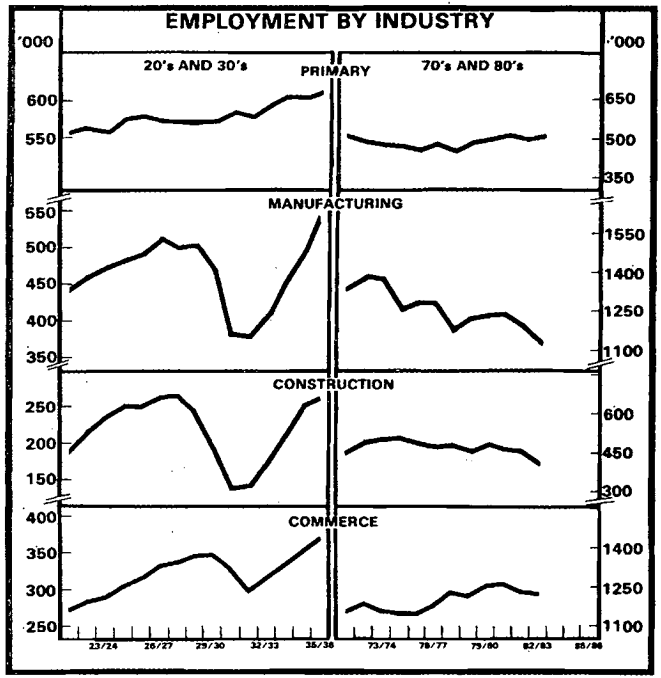
* Figures for May 1983 have been adjusted to make them comparable with the August data used for previous years. If the seasonally adjusted level of employment did not change from May 1983 to August 1983, the actual level would be approximately 35,000 lower in August relative to May.


EMPLOYMENT BY INDUSTRY
'000
20's AND 30's
70's AND 80's
PRIMARY
600
550
650
500
350
MANUFACTURING
550
500
450
400
350
1550
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1250
1100
CONSTRUCTION
250
200
150
600
450
300
COMMERCE
400
350
300
250
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73/74
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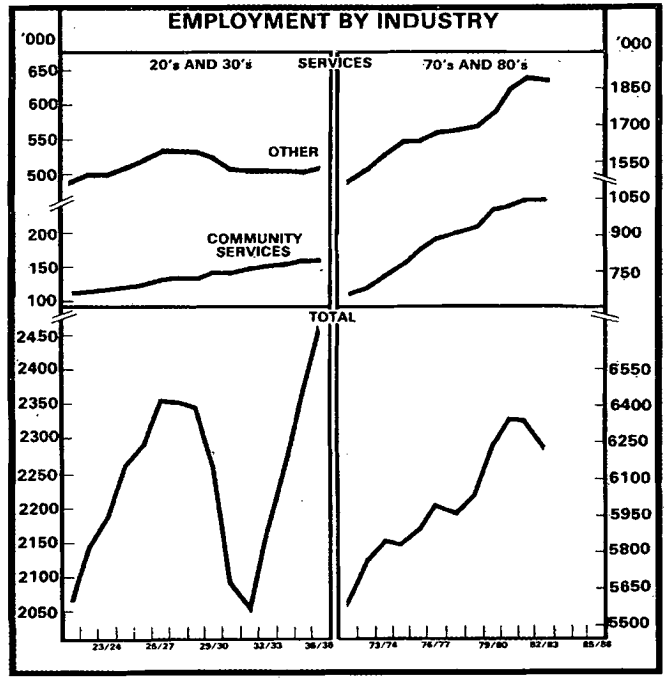
EMPLOYMENT BY INDUSTRY
'000
20's AND 30's
SERVICES
70's AND 80's
650
600
550
500
200
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100
OTHER
COMMUNITY SERVICES
1850
1700
1550
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900
750
TOTAL
2450
2400
2350
2300
2250
2200
2150
2100
2050
6550
6400
6250
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5800
5650
5500
23/24
26/27
29/30
33/33
36/36
73/74
76/77
79/80
82/83
85/86

ATTACHMENT 2: UNEMPLOYMENT BENEFITS IN 1930's AND 1980's

This attachment compares the amount of official assistance received by the unemployed in the 1930's and in the 1980's.

Information on unofficial assistance is sparse but such assistance was almost certainly relatively larger in the 1930's.

The unemployed received three kinds of official assistance during the Great Depression:

(i) Assistance (variously known as "sustenance", "food relief" or "rations") which was given to the unemployed who were not participating in relief work programs;

(ii) Sustenance work. Wages much below award wages were paid on the condition that the assisted work one or two days a week in special "make-work" schemes;

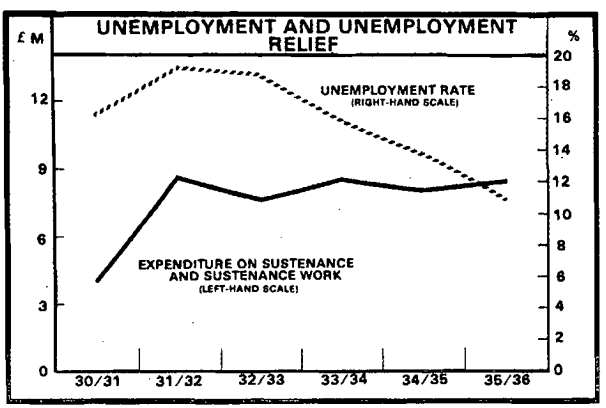
(iii) Miscellaneous assistance, in particular with regard to health, housing and retraining.

Today unemployment benefits are paid in cash rather than partly in kind and various forms of miscellaneous assistance have been expanded considerably.

I. SUSTENANCE AND SUSTENANCE WORK

The rapid rise in unemployment in the early 1930's overwhelmed traditional methods of relieving unemployment. Sustenance programs were set up in the latter months of 1930. Excepting Queensland, most States avoided sustenance work schemes until late 1933 when they were expanded rapidly. Graph 1 shows the expansion in sustenance and sustenance work relief in the early 1930's. By June 1934 the ratio of sustenance workers to ordinary sustenance recipients was around 2.6 in New South Wales and 3.6 in Victoria.

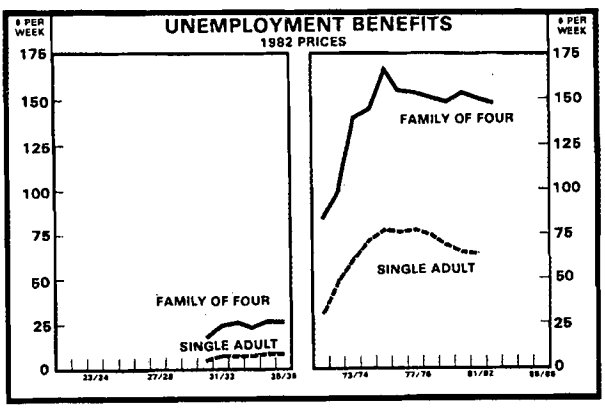
Graph 1



Graph 2 shows the value of the rate of sustenance in N.S.W. in the 1930's expressed at 1982 prices and compares it to the current rate of unemployment benefits. Since the early 1930's, prices have risen about 15 times, while the benefit for a family has increased about 90 times. Clearly, the purchasing power of benefits has vastly increased.

	Sustenance		Sustenance[1] work		Unemployment Benefit
	Sept. 1933				June 1982
	s d, 1933 prices	$, 1982 prices	s d, 1933 prices	$, 1982 prices	$
16-17 year old	5/6	7.95	9/5	13.61	36.00
Single Adult	5/6	7.95	9/5	13.61	58.10
Married & Two Children	16/6	23.86	21/10	31.56	143.60

GRAPH 2



1. 1931 Labour Report (Feb. 1933), Commonwealth Bureau of Census and Statistics P.109. This has been converted into 1982 prices using a retail price index going back to 1901 published in 1981 Australian Year Book.

The comparison probably underestimates the increase in benefits between the two periods since in most States in the 1930's sustenance was in the form of food rations, and elementary welfare economics suggest that the welfare gain of a cash benefit exceeds that of a benefit-in-kind of equal money value. Confirming this, some of the unemployed were quoted by unemployment relief authorities in the 1930s as saying 10/- of cash was worth 20/- of food rations.[2]

But how many were eligible for assistance? With regard to age, eligibility conditions were relatively liberal. In both N.S.W. and Victoria 16 and 17 year olds could receive the single adult benefit.[3] Other conditions were more difficult to meet. In the otherwise generous Queensland Unemployment Insurance Scheme assistance was limited to 13 weeks in any one year. In New South Wales in 1932 the recipient with a family of four must have exhausted any realisable wealth (apart from his house) and have income of less than 25/- a week, about $35 in today's prices. Today, there is no assets test for unemployment benefit, though the income test remains. A married person with two children will receive no benefit if his income exceeds $192.30 per week.

Either the sum of eligibility conditions were difficult to meet, or there was an aversion to "going on the dole", since the proportion of unemployed receiving relief in the Depression is surprisingly small. Graph 3 shows the ratio of sustenance and sustenance work recipients to unemployed in New South Wales in the mid 1930's and compares that to the ratio of beneficiaries to unemployed in New South Wales in recent years. It shows that in New South Wales in 1933, when unemployment was around 25 per cent, only a slight majority of the unemployed received either sustenance or sustenance work.[4]

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2. Annual Report of N.S.W. Unemployment Relief Council, 1933/34 P.22.

3. F.A. Bland "Unemployment Relief in Australia", International Labour Review July 1934 pp 34, 38. In Queensland until July 1932 single men 18 and over were required to travel across the State to look for work in order to receive their "travelling rations" of 5/- a week.

4.

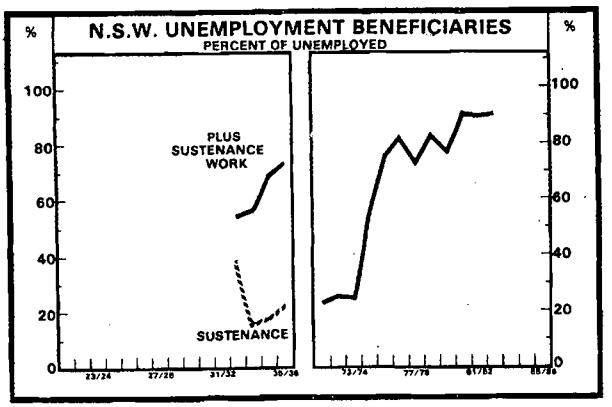
	Sustenance Recipients	Sustenance Work Recipients June 1933	Total Recipients	Unemployed	Ratio
N.S.W.	83,151	34,229	117,380	222,506	53%
VIC.	8,525	18,943	27,468	119,791	23%

The data for sustenance recipients come from the Year Books of N.S.W. and Victoria. The data for unemployed comes from the 1933 census.

The unemployment figures used for the calculation of the ratio used in the graph for the 1930's comes from a series in the 1937/38 N.S.W. Yearbook. It is not a primary series but an estimate.

So about 12 per cent of the workforce was unemployed but received no assistance from the government. (Graph 3 shows the ratio rising considerably in the mid-30s because unemployment was falling rapidly but the sustenance-work schemes were maintained.)

GRAPH 3



III. MISCELLANEOUS ASSISTANCE

Health

The provision of almost free health care is an important form of assistance to the unemployed today. The Health Care card entitles its holder to free public hospital care and pays 85-100 per cent of medical services. In June 1982 about 85 per cent of unemployed held Cards. The unemployed are also entitled to pharmaceutical prescriptions at 50 per cent of the cost charged to the general public. In contrast, there was little organised assistance for health care in the Great Depression, though some charitable hospitals would have helped. In Queensland single unemployed men were entitled to free medical care. In New South Wales organised medical care for the unemployed only began in 1937.

Housing

The "Rent Problem" was a vexatious issue of the 1930's. Most States only supplied food rations to the unemployed and so there was no cash to pay the rent. Even in

States where cash was granted the cost of housing was much larger.[5] This situation led to the "Happy Valleys" of the Great Depression.

To alleviate the situation the Lang Government legislated to allow tenants to secure Court orders indefinitely postponing eviction. There was also some financial assistance (£70,000 in New South Wales in 1932/3) and the Unemployed Housing Fund provided shelter for some. Victoria supplied accommodation at 8/- a week to evicted tenants. Government camps supplied accommodation to men in Western Australia and Queensland. In Queensland workers in the Intermittent Relief Scheme who were evicted from private accommodation were entitled to a hut valued at £10.

Today, despite the vast increase in unemployment benefits, there is still a rent problem. People who are unemployed because they are sick are eligible for $10 a week rent assistance (this program cost $5 million in 1981/82). A much broader program of rent relief was instituted in January 1983. This program provides "one-off" grants to the unemployed for bonds and rent-in-advance. In the period January-June 1983 about 19,000 families in New South Wales were granted $5.2 million (This was the equivalent of an average payment of about $10 per family per week).

Retraining

In New South Wales in the early 1930's about 1,000 unemployed teenagers were given 12 months' free instruction at Technical Colleges and Trades Schools each year.[7] Another 500 were trained in "rural pursuits" each year. By 1938/39 £200,000 per annum was spent on retraining, about $5.0 million at today's prices.[8]

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5. Labour Report (Feb. 1933), Commonwealth Bureau of Census and Statistics p 142. The average rental for a house of four or five bedrooms in 1932 was 17/7, larger than the money value of sustenance in many States. In June 1983 in Sydney the median rental for a 3 bedroom house was $116.20[6] a week, compared to unemployment benefits of $157.30 for a family of four. The figures quoted have suggested that rents have over risen 60 times since the Depression (while the CPI has risen about 15 times).

6. Annual Review of the Rental Property Market 1982/83 The Real Estate Institute of Australia.

7. 1933/34 Annual Report of Unemployment Relief Council of New South Wales P.13.

8. 1938/39 N.S.W. Yearbook P.964.

Retraining for the unemployed is available in a much greater variety and depth today. In the 1982/3 Commonwealth Budget $93.4 million were allocated for the Education Programme for Unemployed Youth, Special Youth Employment Training Programme and General Training Assistance for the Unemployed. 116,150 people were expected to be trained by these programmes in 1982/3.[9]

9. Statement No. 3 1982/83 Budget pp 187-192.

RDP 8303 Appendix V

THE 1930s AND THE 1980s: DATA SOURCES

The data used in the graphs are grouped appropriately at the rear. The sources of data shown in the graphs and tables in the main paper are presented below in the same order as they appear in the paper. The catalogue number of each ABS publication is given in the first reference made to it; only the name is given thereafter. Where raw data, or basic manipulations of raw data, have been shown, the source is simply listed (with comments where appropriate). Where the computations are more involved, details are given. Where possible, an attempt has been made to point the reader to some discussion of the quality of the data and alternative sources. All projections for 1983/84 to 1985/86 are from Scenario A of National Economic Summit Conference (1983).

Graph 1 - Unemployment Rate

The most comprehensive source of data on the labour market for the first sixty years of the twentieth century, is Keating (1973). Keating used information from population censuses as bench-marks and interpolated between them using data from various other sources, to arrive at estimates of the workforce. One approach was to estimate employment directly in the various sectors, and then aggregate. The other approach was to use the census data to derive bench-mark estimates of labour force participation rates and then estimate population and participation rates in intervening years to arrive at estimates of the total workforce.

Estimates of unemployment, based on returns supplied to the Bureau of Census and Statistics by Trade Unions, were then incorporated to give an estimate of the total workforce and the unemployment rate. The series in graph 1 uses Keating's data from the first of the two approaches above, as presented and updated in Butlin (1977)[1].

The procedures involve a number of assumptions and a good deal of estimation. Among the problems, as pointed out by Keating (1973) and Forster (1965):

- the exclusion of certain industries from the Trade Union unemployment estimates;
- the under-representation of women and part-time employees, and the exclusion of young people who had never worked, from the Trade Union estimates.

From 1966/67 to 1981/82, the data are from The Labour Force (Annual and Monthly), ABS Cat. No's 6203 and 6204 respectively.

Graph 2 - Share Prices

The series for Australia in the 1920's and 1930's is the Commercial and Industrial Index compiled by the Sydney Stock Exchange. This series does not cover financial and mining shares but is often used to extend the Sydney All Ordinaries Index back

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1. Butlin makes minor adjustments to Keating's data for overseas residents.

to 1875. The New York series is series P1 presented in Alfred Cowles and Associates (1938) PP66-7. It is an antecedent of the Standard and Poors Index which has been used for the 1970's and 1980's. The latter was taken from IMF International Financial Statistics. The Australian data for this period is the Australian All Ordinaries Index from Reserve Bank of Australia Bulletin, Table H.2.

The points shown are June averages but the peaks and troughs in the late 1920's early 1930's and 1980's are also shown.

Graph 3 - Growth in Real GDP

The primary source for the expenditure-based estimates of gross domestic product is Butlin (1962). Butlin (1977) made minor adjustments to these figures. These later estimates have been used as the source of all National Accounts data for the 1930's. They are, as far as possible, consistent with the basis on which the National Accounts are presently prepared. It should be noted that there are at least two other sources of estimates of GDP in the 1930's, viz. Clark and Crawford (1938) and Clark (1951).

For the 1980's the source is the National Accounts (Quarterly Estimates of National Income and Expenditure, ABS Cat. No. 5206).

Graph 4 - Prices and Wages

For the 1930's, estimates of average weekly earnings and prices are available in Butlin (1977). Once again, there is some question as to the reliability of early data. Butlin's estimates are based on earnings for male factory workers in Victoria. These data therefore cannot allow for differences in earnings between States, between manufacturing and other sectors, or between manual and non-manual workers. Alternative data for N.S.W. are available from Campbell (1956). A study of wage rates and unemployment in Australia up to 1930 is found in Pope (1982).

For the 1980's, sources are Consumer Price Index and Average Weekly Earnings, ABS Cat. Nos 6401 and 6302 respectively. Prior to September 1982, earnings of males were adjusted to give an estimate of earnings per person. This series was then spliced to the new, post-September 1982 series for ordinary-time earnings of persons.

Graph 5 - Output, Employment and Productivity

For the 1930's, estimates of real GDP and employment are from Butlin (1977). Productivity is estimated as the ratio of the two. For the 1980s, non-farm GDP is from the National Accounts. Employment is employed persons, from The Labour Force, and per hour productivity is real non-farm GDP is divided by total hours worked by non-farm wage and salary earners. The latter component is discussed in more detail with Graph 6.

Graph 6 - Real Unit Labour Costs

Conceptually, real unit labour costs can be calculated by dividing average earnings by a price index, to get real labour costs, and then dividing this by productivity to arrive at real labour costs per unit of output. For the 1930's, the calculation is done as above, using Butlin's (1977) estimates for average weekly earnings, the GDP deflator, employment and real GDP.

For the 1980's, the calculation is more involved. Payroll taxes, for example, are an additional cost to the employer, and thus must be taken into account. Furthermore, changes in the number of hours worked affect unit labour costs. The series used in this graph is as follows (the sources for components are given in brackets):

$$RULC \quad \frac{(WSS + PT).}{(E_{WS}.AWH_{WS}.P)} \times \frac{E.AHW}{RGDP}$$

WSS = non-farm wages, salaries and supplements (National Accounts)

PT = payroll tax paid (National Accounts)

E_{WS} = number of non-farm wage and salary earners (Labour Force after September 1976, and Civilian Employees Australia ABS Cat. No. 6214 prior to then)

AWH_{WS} = average weekly hours worked by wage and salary earners (Labour Force)

P = non-farm product price deflator (National Accounts)

E = non-farm total employment (Labour Force)

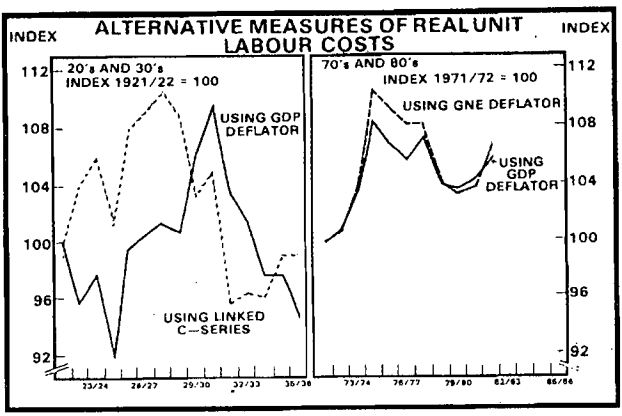
AHW = average weekly hours worked by all employees (Labour Force)

RGDP = real non-farm GDP (National Accounts)

The comparison of graphs 4 and 6 in the main paper reveals an interesting characteristic of the 1920's. Early in the decade, earnings were rising strongly, whilst consumer prices were falling. This might be expected to imply a large rise in real unit labour costs. But graph 6 shows real unit labour costs falling in this period. This is because they are calculated using the GDP deflator (rather than consumer prices) which rose during this period, mainly due to a sharp rise in export prices. This illustrates the large impact that the terms of trade had on the economy at the time: a large rise in real wages (in terms of consumption goods) could be sustained because product prices rose sufficiently to allow profitability to be maintained. Another way of expressing this would be to say that the increase in the community's well-being as a result of favourable movements in the terms of trade was mostly taken in the form of higher real wages.

Conversely, in the late 1920's and early 1930's, when there was only a relatively small rise in real wages (shown on graph 4), real unit labour costs soared partly as a result of falling productivity, but mainly as a result of the disastrous deterioration in the terms of trade.

The graph below shows real unit labour costs calculated using both the GDP deflator and consumer prices for the 1930's, and the deflator for gross national expenditure for the 1980's, to deflate average earnings. The difference between the two curves reflects (mainly) these terms of trade effects.



Graph 7 - Commodity Prices

Commodity prices for the 1930's are from Commonwealth Yearbooks. In the case of the prices of wool and wheat, the Yearbooks quote prices in £A for exports. Gold prices are derived by dividing the value of gold exports (in £A) by estimates of the physical quantity exported.

For the 1980's, wool and wheat prices are the average prices (in $A) for Australian exports, from Exports of Major Commodities and Their Principal Markets, ABS Cat. No. 5403. For metals, The Economist Metals Index (in $US) is used, converted to $A at the average US$/$A exchange rate for the year.

Graph 8 - Import Prices

For the 1930's, the implicit price deflator for imports from Butlin (1977) is used. For the 1980's, implicit price deflators from Exports and Imports (Balance of Payments Basis) at Constant Prices, Australia. (ABS Cat. No. 5332).

Graph 9 - Terms of Trade

For the 1930's, both price deflators are from Bambrick (1970) as presented by Butlin (1977). Among the problems inherent in these series is their measurement of imports and exports on an f.o.b. basis, which means that the cost of invisibles is ignored. This problem is not encountered with the data for the 1970's, which are from the National Accounts.

Graph 10 - World Trade

World trade volume for the 1930's is from Lewis (1952), p.107 and p.118. Lewis gives, on p.107, index numbers for the value of trade in primary commodities and figures for the percentage of total trade accounted for by manufactured products. With the assumption that these two components make up the whole of trade, this implies an index number for trade in manufacturers, and for total trade, which can then be deflated by the price deflators on p.118.

For the 1980's, the data are "world exports" in the IMF's International Financial Statistics. For 1982-84, OECD (1983) forecasts of growth rates for trade in the OECD area have been used to extrapolate the index.

Graph 11 - Interest Rates

Until 1925/26, Lamberton (1960) is Butlin's (1977) source for data on the long-term bond rate. From 1926/27, Butlin uses Reserve Bank data for the yield on bonds maturing in ten or more years. It should be noted that the bond market was not highly developed in this period.

The London Bank Rate is taken from The Economist. The Bank Rate is, of course, a short-term rate, and it would be preferable to use a longer-term rate for the comparison in this graph. Unfortunately, no such series is available.

For the 1980's, the source for both the US and Australian bond rates is the Reserve Bank Bulletin.

Graph 12 - Balance of Payments

The data in Butlin (1977) for the current account have a long history. Early estimates for 1904 to 1927/28 were made by Wilson (1931). From 1928/29, estimates were prepared by the Bureau of Census and Statistics (1950). Further work was done by McLean (1968) and Swan (1968), and the result is reported in Butlin (1977).

The series for the change in international reserves used by Butlin (1977) until 1926/27 originated in Butlin, Hall and White (1971), and is based on annual data for the foreign currency holdings of Australian banks converted to £A. Butlin (1977) believes them to be less reliable than the post-1928 data, which was originally from Giblin (1957).

For the 1980's, the exports and imports figures are from Balance of Payments, annual and quarterly releases (ABS Cat. Nos 5302 and 5303). The figures for the change in international reserves are the movements due to transactions in Official Reserve Assets (i.e. gold and foreign exchange and Australia's reserve position in the IMF), also sourced in the above releases. For the purpose of calculating a ratio, GDP at current prices is used, the source for which is National Accounts.

Graph 13 - Debt Servicing Burden

For the 1930's, data on interest payments on government securities domiciled overseas and export receipts in current prices are from Butlin (1977). He derives the data on interest payments from Bureau of Census and Statistics Finance Bulletins.

For the 1980's, data on interest on both public and private securities payable overseas are from balance of payments data available on request from Australian Bureau of Statistics. Exports in current prices are from the National Accounts.

Graph 14 - Exchange Rates

For the 1930's, the data are from Butlin (1977), originally from Butlin et. al. (1971), and are in most cases the end-December observation.

For the 1980's, the data are available in the Reserve Bank Bulletin, and are end-June observations.

Graph 15 - Indices of Competitiveness

For the 1920's and 1930s the series compares unit labour costs in Australia with those in the U.K. adjusted for exchange rates. The £stg/£A exchange rate is that shown in graph 14. The unit labour cost series for the U.K. is the wage share of GDP at factor cost taken from Table 18 of Feinstein (1972), multiplied by the implied GDP deflator from Tables 3 and 5. This source provides data on a calendar year basis so the data have been lagged six months, i.e. the 1922 observation is taken as the observation for 1921/22. The error so introduced is probably small given that the wage share is fairly stable, ranging from 60.3 in 1925 to 63.6 in 1932 and 1933.

The Australian series for unit labour costs over this period is that described in connection with graph 6, without deflation by the GDP deflator.

For the 1970's and the 1980's the series shows Australia's unit labour costs relative to those of our six major trading partners - U.S.A., U.K., Japan, West Germany, Canada, France - adjusted for a weighted exchange rate. The unit labour cost measure for each country compares the compensation of employees with real GDP, data being taken from the OECD Quarterly National Accounts. The weights given to the six countries in the index were derived from their respective shares in Australian imports in 1979/80. These countries are the source of approximately 60 per cent of Australia's imports.

In both periods, the broken line is the relevant relative unit labour cost measure without the exchange rate adjustment.

Graph 16 - Indices of Tariff Rates

The data for the 1930's are taken from Carmody (1952). These earlier data do not take account of non-tariff barriers to trade which act to protect domestic industries, such as quotas, prohibitions, etc. Some of these were used heavily in 1930 to reduce Australia's imports bill. See Schedvin (1970) chapter VIII for a discussion.

For the 1980's, the nominal rate of assistance to manufacturing is from various Annual Reports of the Industries Assistance Commission.

Neither set of figures takes account of the indirect effects of protection on other industries. The effective rate of protection, which measures not only the protection of an industry's output but also the increased cost of protected inputs, tended to be higher than the nominal rate in the 1970's. No comparable data are available for the 1930's. For further discussion of the concept of the effective rate of protection, see the IAC's 1980/81 Annual Report, pp 57-58.

Graph 17 - Public Sector Outlays

Data for the 1930's are all from Butlin (1977); for the 1980's data are available in Australian National Accounts (Annual), ABS Cat. No. 5204.

Graph 18 - Budget Deficits

In the early part of the century, there were three funds on which the accounts of the Commonwealth and State governments were mainly based: The Consolidated Revenue Funds, the Trust Funds and the Loan Funds. The slashed line in this graph shows the combined Commonweatlh and States deficit on Consolidated Revenue Funds. The solid line shows the sum of this deficit and expenditure from Loan Funds, which, as the name implies, was expenditure for capital works purposes financed entirely by debt.

Funds held by governments in the Trust Funds, which were not for the purpose of meeting expenditure commitments, are ignored in this graph.

For the 1980's, the dashed line is the Commonwealth budget deficit, which is available from Budget Statement No. 6. The solid line is the consolidated deficit of all Commonwealth, State and Local Government Authorities. These are from Table 7 of Government Financial Estimates (ABS Cat. No. 5501); this figure is conceptually similar to the solid line in the left hand panel. The estimate for this line for 1982/83 is the estimate presented by the Statistician in the 1982/83 edition of Government Financial Estimates, adjusted for the extent to which the Commonwealth's deficit exceeded the original estimate.

Graph 19 - Interest Rates

For the 1930's, the interest rate is the yield on long term government securities from Butlin (1977). For the 1980's, the yield used is for 10 year non-rebate bonds, at end-June.

The real rate of interest is defined as:

$$R = 100\left(\frac{1+r}{1+p} - 1\right)$$

where r and p are the proportionate rates of interest and inflation respectively.

The price deflator for the 1930's is the linked C-series reported by Butlin (1977) (page 48), and originally from Bambrick (1970). The GDP deflator is used for the 1980's. The rate of inflation is measured year-on-year (which is all there is available) for the 1930's but June quarter on June quarter for the 1980's, since the interest rates are at end-June.

Graph 20 - Growth in M3

Butlin (1977) reports data for M3, compiled from Butlin et.al. (1971), for the 1930's. For the 1980's, the source is the Reserve Bank Bulletin. To arrive at growth rates for real M3, a method of deflation similar to that in Graph 19 is used, using the linked C-series for the 1930's and the GDP deflator for the 1980's.

Table 1

The data are average annual growth rates calculated from Butlin's (1977) estimates of national accounts aggregates for the 1930's and from the National Accounts for the 1980's.

Table 2

For the 1930's, population data are from the Commonwealth Labour Report (various issues) and workforce and employment data are from Keating (1973). For the 1980's population is from Australian Demographic Statistics (ABS Cat. No. 3101). Workforce and employment data are from The Labour Force.

Table 3

For both the 1930's and the 1980's, data on interest on overseas debt is sourced as in Graph 10. Export receipts in current prices for the two periods are sourced in Butlin (1977) and National Accounts respectively.

TABLE 1: OUTPUT, EMPLOYMENT AND UNIT LABOUR COSTS

	GDP Current Prices	GDP Constant 1966/67 Prices	Employment ('000's)	Real Unit Labour Costs (1921/22=100)	Relative Unit Labour Costs (1921/22=100)	Adjusted for Exchange Rates (1921/22=100)
1920/21	1382	5255	2077	89.5		
1921/22	1378	5534	2143	100.0	100.0	100.0
1922/23	1570	5720	2225	95.9	108.5	110.1
1923/24	1569	5943	2268	97.8	113.1	115.4
1924/25	1722	6331	2340	92.1	114.7	120.4
1925/26	1659	6144	2376	99.6	121.5	124.3
1926/27	1729	6404	2439	100.7	123.6	126.2
1927/28	1739	6347	2436	101.5	128.7	130.6
1928/29	1712	6225	2427	100.8	131.3	132.8
1929/30	1566	6315	2338	106.2	127.5	127.7
1930/31	1287	5720	2168	109.9	116.5	109.3
1931/32	1210	5817	2122	103.4	102.3	83.4
1932/33	1264	6166	2244	101.5	100.7	82.1
1933/34	1356	6396	2352	97.7	103.1	84.0
1934/35	1432	6539	2459	97.7	106.2	86.5
1935/36	1574	6873	2548	94.7	106.9	87.2
		1979/80 prices		1971/72=100	1971/72=100	1971/72=100
1970/71	33737	87746	5466	98.7		
1971/72	37680	92232	5540	100.0	100.0	100.0
1972/73	42907	95929	5681	100.9	101.0	108.1
1973/74	57366	100168	5863	103.6	104.1	122.3
1974/75	61773	101726	5856	108.6	111.2	119.5
1975/76	72826	104273	5929	106.9	114.2	123.0
1976/77	83165	107124	5966	105.9	117.5	111.8
1977/78	90340	108090	5981	107.2	118.0	101.4
1978/79	102163	113366	6019	104.1	116.0	92.2
1979/80	114757	114757	6157	103.8	116.6	95.8
1980/81	130817	118916	6326	104.4	119.0	102.1
1981/82	147938	121890	6404	105.8	124.7	111.9
1982/83	160892	119412	6312 (e)	106.0 (e)	136.7	106.0

TABLE 1A: UNEMPLOYMENT RATE: 1900/01 - 1982/83

	Butlin Series	T.U.%		Butlin Series	T.U.%		
1900/01	3.9		1930/31	16.4	24.3	1960/61	2.3
02	4.8		32	19.7	28.9	62	3.2
03	8.5		33	18.9	27.5	63	2.2
04	9.4		34	16.0	22.7	64	1.7
05	8.6		35	14.0		65	1.2
1905/06	6.6		1935/36	11.0		1965/66	1.4
07	5.2		37	8.8		67	1.8
08	3.4		38	7.5		68	1.9
09	3.3		39	8.8		69	1.8
1909/10	3.3		40	9.0		70	1.7
1910/11	2.9		1940/41	4.9		1970/71	1.7
12	2.4		42	1.9		72	2.3
13	5.0		43	1.0		73	2.7
14	3.3		44	1.0		74	2.2
15	5.9		45	1.2		75	4.1
1915/16	3.5		1945/46	2.2		1975/76	4.9
17	3.3		47	2.9		77	5.2
18	3.4		48	2.0		78	6.2
19	3.6		49	1.5		79	6.3
20	3.4		50	1.8		80	6.1
1920/21	5.8		1950/51	1.1		1980/81	5.9
22	6.1		52	1.4		82	6.2
23	5.0		53	2.9		83	8.9
24	4.7		54	2.0			
25	6.3		55	1.4			
1925/26	4.9		1955/56	1.5			
27	4.2		57	2.0			
28	6.2		58	2.6			
29	6.7	10.2	59	2.0			
30	9.8	14.6	60	2.4			

TABLE 2: PRICES AND WAGES

	GDP Deflator	Linked C-series	Average weekly earnings	Export price deflator	Import price deflator			Commodity Price Indices: Wool	Wheat	Gold
	Growth Rates - % p.a.			Levels 1966/67=1.000				(1921/22=100)		
1921/22	-5.3	-8.9	8.0	.250	.370			100.0	100.0	n.a.
1922/23	6.0	-2.3	1.2	.296	.304			139.7	94.2	n.a.
1923/24	-	-	4.0	.361	.273			183.4	81.2	100.0
1924/25	3.0	1.0	0.2	.407	.264			205.9	115.9	99.8
1925/26	-0.7	1.3	2.6	.312	.279			134.0	110.1	95.3
1926/27	-	-	2.7	.302	.269			136.7	97.1	99.2
1927/28	1.5	1.0	1.5	.324	.259			155.6	95.7	92.7
1928/29	0.4	1.3	-1.9	.299	.256			133.6	84.1	92.2
1929/30	-9.8	-	0.1	.231	.247			85.9	87.0	67.9
1930/31	-9.3	-7.6	-8.3	.175	.247			69.6	43.5	99.8
1931/32	-7.6	-4.5	-9.7	.173	.244			70.4	52.9	163.4
1932/33	-1.4	-4.0	-3.0	.170	.277			72.6	52.2	177.1
1933/34	3.4	-	-1.4	.216	.222			131.9	50.0	191.7
1934/35	3.3	-	0.9	.181	.222			81.1	53.6	205.7
1935/36	4.6	1.5	2.9	.228	.225			116.7	85.5	204.7
		CPI			1979/80=1.000	Petroleum	Other		(1971/72=100)	Metals
1971/72	6.5	6.8	10.2	.352	.356	.095	.396	100.0	100.0	100.0
1972/73	9.3	6.0	8.9	.421	.360	.094	.392	209.9	104.1	126.8
1973/74	14.8	12.9	16.2	.502	.410	.190	.433	285.8	132.7	267.9
1974/75	18.3	16.7	25.4	.601	.526	.388	.545	190.6	269.4	176.0
1975/76	15.0	12.8	14.4	.641	.587	.458	.604	189.4	249.0	148.7
1976/77	11.2	14.0	12.4	.716	.678	.515	.702	226.1	222.4	151.4
1977/78	7.7	9.5	9.9	.743	.775	.575	.808	264.0	187.8	139.6
1978/79	7.8	8.2	7.7	.823	.851	.590	.890	284.4	238.8	227.0
1979/80	11.0	10.2	9.8	1.000	1.000	1.000	1.000	333.3	300.0	226.6
1980/81	10.0	9.4	13.5	1.078	1.085	1.353	1.051	359.6	334.7	159.4
1981/82	10.4	10.4	14.5	1.100	1.117	1.488	1.076	385.2	320.4	153.4
1982/83	11.0	11.5	11.4	1.176	1.220	1.610	1.178	394.4	340.8	143.7

TABLE 3: FINANCE

	Australian Government Securities (% p.a.)	London bank rate (% p.a.)	"Real" interest rate (% p.a.)	Growth in M3 (% p.a.)	Real growth in M3 (% p.a.)	Share price indices Australia	Share price indices New York (1921/22=100)	Exchange rates £STG/£A
1921/22	6.8	3.5	17.2	3.1	13.1	100.0	100.0	100.0
1922/23	6.3	3.0	8.8	6.7	9.2	120.5	98.8	102.0
1923/24	6.0	4.0	6.0	0.2	0.2	125.3	102.1	102.0
1924/25	6.0	5.0	5.0	2.8	1.8	131.4	127.8	104.9
1925/26	5.2	5.0	3.8	4.8	3.4	146.9	142.9	102.3
1926/27	5.3	4.5	5.3	3.2	3.2	160.3	169.7	102.1
1927/28	5.4	4.5	4.4	3.5	2.5	171.7	213.7	101.5
1928/29	5.3	5.5	3.9	4.4	3.0	184.0	280.4	101.2
1929/30	5.6	3.0	5.6	-4.5	-4.5	133.7	224.7	100.1
1930/31	6.5	2.5	15.3	-3.5	4.5	103.9	139.9	93.8
1931/32	4.7	2.0	9.6	6.6	11.6	122.8	50.4	81.5
1932/33	3.9	2.0	8.2	-0.1	4.0	158.3	107.1	81.5
1933/34	3.6	2.0	3.6	5.5	5.5	177.5	107.5	81.5
1934/35	3.3	2.0	3.3	1.3	1.3	209.0	111.0	81.5
1935/36	3.7	2.0	2.2	1.1	-0.4	227.3	155.3	81.5

	10 year bonds	U.S. 10 year bonds						US$/$A (1971/72=100)	TWI
1971/72	5.9	5.6	-0.7	10.5	3.6	100.0	100.0	100.0	100.0
1972/73	6.7	6.3	-4.6	25.7	12.5	92.0	97.0	119.0	109.5
1973/74	9.5	7.0	-4.7	14.5	-2.3	65.6	84.1	124.9	119.1
1974/75	9.5	6.9	-6.7	15.4	-1.6	60.6	85.9	111.3	106.9
1975/76	10.0	6.9	-5.5	14.4	-1.6	76.6	94.8	103.7	106.9
1976/77	10.4	7.0	1.1	11.0	1.6	74.6	90.2	93.7	93.9
1977/78	9.1	7.9	2.0	8.0	0.9	80.7	89.3	96.3	87.5
1978/79	10.0	8.3	0.8	11.8	2.5	94.0	93.5	94.1	84.4
1979/80	11.8	9.4	0.5	12.3	1.0	147.4	106.6	97.2	86.3
1980/81	13.1	12.4	3.7	12.7	3.3	170.9	123.1	96.4	94.3
1981/82	16.4	13.3	4.1	11.3	-0.7	115.7	101.4	85.8	89.5
1982/83	14.8	10.6	4.9	12.5	2.8	145.6	155.1	73.4	78.9

TABLE 4: EXTERNAL TRADE AND PAYMENTS

	Balance on current account $m	Balance on capital account $m	Change in foreign reserves $m	Interest payments on overseas debt $m	Export receipts $m		World trade volume (1922=100)
1921/22	-5	40	35	38	268	1922	100.0
1922/23	-67	81	14	38	262	1923	97.2
1923/24	-85	75	-10	42	265	1924	110.2
1924/25	-17	72	55	42	341	1925	119.9
1925/26	-78	63	-15	48	302	1926	118.5
1926/27	-129	87	-42	49	286	1927	131.4
1927/28	-91	136	45	55	293	1928	137.7
1928/29	-91	84	-7	57	308	1929	146.7
1929/30	-161	78	-83	53	216	1930	138.5
1930/31	-39	5	-34	59	201	1931	126.3
1931/32	20	-2	18	59	219	1932	112.1
1932/33	-8	28	20	66	225	1933	110.5
1933/34	16	32	48	58	259	1934	112.2
1934/35	-33	-27	-60	57	244	1935	119.1
1935/36	-21	26	5	55	287	1936	124.6
							(1972=100)
1971/72	-356	1834	1544	188	5605	1972	100.0
1972/73	691	385	1079	194	6945	1973	113.4
1973/74	-944	519	-384	207	7810	1974	118.0
1974/75	-1269	810	-460	300	9920	1975	113.2
1975/76	-1409	417	-1053	318	11005	1976	126.9
1976/77	-2423	1952	-190	330	13208	1977	131.1
1977/78	-3049	2514	-474	375	13980	1978	138.2
1978/79	-3714	3681	-167	485	16502	1979	148.4
1979/80	-2049	1703	-348	625	21585	1980	152.9
1980/81	-5466	6604	1101	709	22002	1981	151.7
1981/82	-8952	10214	1364	1314	22663	1982	144.3
1982/83	-6460	8903	2460	826	24559	1983	144.3

TABLE 5: GOVERNMENT SECTOR

	Budget deficit ($m)	Loan fund expenditure ($m)	Capital expenditure on goods ($m)	Current expenditure & services ($m)	Cash benefits ($m)	Interest ($m)	Indices of tariff rates 1921/22 = 100 British Pref.	General
1921/22	5.0	82.5	127	83	26	73	100.0	100.0
1922/23	1.5	74.6	126	90	27	73	101.9	101.9
1923/24	-10.4	69.4	134	85	29	77	101.9	101.9
1924/25	-1.4	75.2	149	88	30	77	102.8	102.8
1925/26	10.0	81.6	154	88	33	82	108.5	109.3
1926/27	-5.6	81.1	167	94	35	84	112.3	112.0
1927/28	12.4	84.4	171	102	36	90	114.2	113.9
1928/29	10.8	89.3	161	105	37	87	117.9	116.7
1929/30	20.8	59.0	141	95	39	92	167.0	160.2
1930/31	52.4	28.1	104	87	47	103	209.4	187.0
1931/32	41.6	19.4	69	84	57	90	224.5	200.0
1932/33	8.8	21.1	73	82	50	98	215.1	208.3
1933/34	11.4	30.1	77	88	47	91	166.0	204.6
1934/35	5.2	41.2	97	94	48	100	167.9	203.7
1935/36	2.2	40.9	103	98	51	101	159.4	199.1
	Commonwealth deficit	All government					Nominal Assistance to Manufacturing (%)	
1971/72	134	640	3295	4787	2157	920	22	
1972/73	696	990	3484	5450	2684	1022	22	
1973/74	279	824	3980	6841	3304	1088	17	
1974/75	2546	3459	5653	9214	4585	1312	17/15	
1975/76	3566	3996	6699	11456	6401	1494	16	
1976/77	2719	4072	7136	13390	7735	2065	15	
1977/78	3310	5490	7945	15105	8669	2514	15	
1978/79	3455	5578	8151	16734	9516	3058	15	
1979/80	2033	4696	8833	18696	10348	3549	15	
1980/81	1110	4749	10105	22139	11686	4241	15	
1981/82	549	4614	10892	25351	13601	5067		
1982/83	4472	10700(e)	13432	28742	16583	6233		

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