

THE UNIVERSITY OF NEWCASTLE N.S.W., AUSTRALIA DEPARTMENT OF ECONOMICS

RESEARCH REPORT OR OCCASIONAL PAPER NO. 103

REAL WAGES AND EMPLOYMENT

by

Alan A. Powell* G55 (July 1984)

			×
			ř.
			*
			#
			\$2
			ь

RESEARCH REPORT OR OCCASIONAL PAPER NO. 103

REAL WAGES AND EMPLOYMENT

bу

Alan A. Powell* G55 (July 1984)

1984 NEWCASTLE LECTURE IN POLITICAL ECONOMY

*Ritchie Professor of Economic Research,
University of Melbourne,
Melbourne, Vic., Australia.

A NOTE TO READERS

The responsibility for the opinions expressed in the papers published in this series rests solely with the author(s).



FOREWORD

The first Newcastle Lecture in Political Economy was given in 1976 to commemorate the Bi-Centenary of the publication of Adam Smith's An Inquiry into the Nature and Causes of the Wealth of Nations. The Department of Economics hoped that it would be the forerunner of an annual public lecture of a similar nature "suitable for all students and staff with an interest in Economic History, History or Economics."

We are fortunate to have a distinguished economist and applied econometrician, Professor Alan Powell, Ritchie Professor of Research in Economics, the University of Melbourne, to deliver the Newcastle Lecture in Political Economy for 1984. His subject is Real Wages and Employment.

Alan Anthony Leslie Powell, B.Sc.Agr.(Syd.), Ph.D.(Syd.), F.A.S.S.A., was born in Sydney in 1937. In 1961 he was appointed Lecturer in Economics at the University of Adelaide. In 1964, he was awarded a Post-Doctoral Fellowship in Political Economy at the University of Chicago. This was followed by a Senior Lectureship (and then a Readership) in Economics at Monash University (1965-67) where he was appointed Professor of Econometrics in 1968. In 1979, he joined the University of Melbourne as Ritchie Professor of Research in Economics.

In the period March, 1974 to February, 1979, he was Director of the Commonwealth IMPACT Project and part-time Professor of Econometrics at Monash University. In 1968, he held, as a visiting Fulbright Fellow, an Associate Professorship at Rutgers University. During 1972, he was visiting Economist at the Development Research Center, World Bank, Washington, D.C.

His research interests and published writings have been mainly in statistical applications to applied economic problems, applied general equilibrium modelling, and in policy analysis. His research has been reported in several journals, including Australian Economic Papers, Australian Bulletin of Labour, Australian Journal of Agricultural Economics, Australian Journal of Statistics, Economic Record, Journal of Farm Economics, Journal of the American Statistical Association, Econometrica, Economic Journal, International Economic Review, Southern Economic Journal and Canadian Journal of Economics and Political Science.



Alan Powell's published books include:

Structural Adaptation in an Ailing Macroeconomy (Melbourne: Melbourne University Press, 1979), pp. xvii + 88). (Jointly with Peter B. Dixon and Brian R. Parmenter).

The IMPACT Project: An Overview, March 1977 (Canberra: Australian Government Publishing Service, 1977), pp. xx + 182.

Patterns in Household Demand and Savings
(New York: Oxford University Press for the
World Bank, 1977), pp. xxxii + 280. (Jointly
with Constantino Lluch and Ross A. Williams).

Empirical Analytics of Demand Systems (Lexington, Mass.: D.C. Heath, Lexington Books, 1974), pp. xiv + 149.

Econometric Studies of Macro and Monetary Relations (Amsterdam: North-Holland, 1973), pp. viii + 358. (As joint editor with Ross A. Williams).

Long Term Projections of Agricultural Supply and Demand: Australia, 1965 to 1980 (Monash University, Department of Economics). Report of a project commissioned by the United States Department of Agriculture, 1967, 2 Volumes, pp. xix + 650 (also published in the U.S. - Washington, U.S.D.A., May 1967, pp. ix + 480). (Jointly with F.H. Gruen and others).

A National Fodder Reserve for the Wool Industry University of Sydney, Department of Agricultural Economics, Mimeographed Report No. 3, 1963, pp. xiv + 229.

CLEM TISDELL Head of Department 18.7.84.

REAL WAGES AND EMPLOYMENT

by

Alan A. Powell*

ABSTRACT

The questions examined in this lecture are:

- 1. Do real wage rises destroy employment?
- 2. If so, why?
- 3. Is there any way out of the current unsatisfactorily high levels of unemployment?
- 4. Are the answers to the above questions mainly reflections of an economist's ideology, or can policy perspectives be reached which are largely independent of such subjective viewpoints?

^{**} Without implicating him in any remaining errors, I wish to thank my colleague Brian R. Parmenter for critical comments on an earlier draft.

The Effect of Real Wages on Employment

By the <u>real</u> wage is meant the money wage deflated by some index of the general level of prices. For our purposes, the consumer price index (CPI) will serve as deflator. We need to distinguish between real wages as a cost to employers of labour, and real wages as take-home pay (i.e., as disposable income). The former is important for labour demand because to the users of labour it represents a major component of costs. As a very rough rule, in a typical industry total costs split about 50:50 between the purchase of inputs of materials and services, and the costs of labour and capital. The latter two are referred to collectively as 'primary factor costs', in which the typical split between labour and capital is of the order of 65:35. Thus <u>directly</u> labour represents about 33 per cent of total costs (i.e., $100 \times 0.5 \times 0.65$). In an environment of wage indexation, however, the costs of material inputs and services tend to move with labour costs, so that a 10 per cent increase in real wages leads to an increase in costs greatly in excess of 3.3 per cent.

In emphasising the importance of real wages as a cost, we are following the neo-classical tradition. The Keynesian tradition, on the other hand, stresses the role of real wages as take-home pay. Before proceeding we should note that real wages as a cost and real wages as disposable income are not necessarily equal. First, and foremost, real wages as a cost include a host of items not normally thought of as 'take-home pay'. These include: workers' compensation insurance premiums, the cost of paid holidays, payroll tax, employers' contributions to superannuation, and (in some cases) several other fringe benefits. Many of

these items may correctly be regarded as income-in-kind; since they cannot be cashed and used at will for other purposes, however, they are not a discretionary component of individuals' expenditure.

An increase in disposable income leads to an increase in commodity demand. In a situation of general unemployment, such a fillip to the economy is magnified via a multiplier sequence. From this point of view, an increase in real wages as disposable income is desirable since it leads via the expansion of commodity demand to an increased demand for labour; i.e., to more employment. The proponents of this Keynesian view of the world tend not to be overly concerned with what happens on the cost side.

In a justly famous article, Professor Trevor Swan (1955) points out that in an economy which is open to international trade, both the level of aggregate commodity demand and the domestic (e.g., Australian) level of costs need to assume appropriate values if we are to have a satisfactory level of employment without experiencing difficulties with our balance of trade. Figure 1 illustrates his argument.

Increasing the aggregate level of real expenditure (also called real absorption or aggregate demand) in the economy tends to lead to a deterioration of the trade balance; i.e., to make imports increase and exports fall. This occurs firstly, because buoyant demand conditions spir into imports and as well lead to additional domestic use of exportables; and secondly, because of the inflationary impact of the additional expenditure. This second effect acts to restrain exports because their

prices are determined in world markets more or less independently of Australian export volumes: Australian producers are poorly placed, therefore, to pass on cost increases due to additional inflation. Moreover our more vulnerable import-competing industries are disadvantaged relative to imports, and hence contract. In the face of the increase in aggregate demand, therefore, the trade balance can be preserved only if there is a compensating improvement in the international competitiveness of our import competing and exporting industries (which, of course, is the opposite of what tends to occur naturally). Such an improvement in Australian competitiveness could be achieved by a reduction in Australian real wage costs.

In Figure 1 the curves labelled B_1 , B_2 and B_3 indicate combinations of Australian competitiveness and of aggregate demand in Australia which are consistent with given balance of trade positions. Thus, on each of these B-curves the balance of trade is constant. The trade balance on B_1 is more favourable than that on B_2 which in turn is more favourable than that on B_3 . The reason that the B_1 curve lies above the others is that more favourable domestic cost conditions are required, at any level of aggregate demand, to achieve a large balance of trade surplus than would be required to achieve a small one.

Increases in real wages (i.e., decreases in our international competitiveness) lead to falls in employment. This is because of the deleterious effects (noted above) of the resultant cost increases on the performance of exporting and import-competing industries. In a situation of slack labour markets such as has been faced in Australia since the

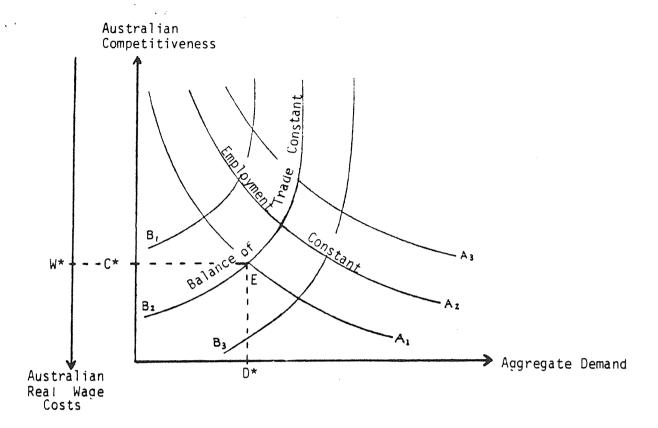


Figure 1 Swan Diagram The curves A_1 , A_2 and A_3 show combinations of real wage levels and aggregate commodity demand which keep employment constant. The constant level of employment along A_3 is higher than that along A_2 , which in turn exceeds that along A_1 . The curves B_1 , B_2 and B_3 represent three constant levels of the balance of trade surplus. The constant value of the surplus along B_1 exceeds that along B_2 which exceeds that along B_3 . A_2 represents full employment. The B curves become steep after their intersection with the A_2 curve because increases in real spending with a fixed trade balance, irrespective of Australian competitiveness, become impossible after all resources are fully employed. (After Swan (1955).)

mid-1970's, it is reasonable to assume that there is a virtually unlimited supply of labour available at the going real wage. An increase in real aggregate demand for commodities, therefore, leads to an increase in employment. Thus as real expenditure increases, employment demand will be kept to a given level only if there is a compensating deterioration in our international competitiveness. This explains why the curves A_1 , A_2 and A_3 in Figure 1 slope downwards from left to right. On each of these curves the level of employment is fixed. A_3 shows a higher (fixed) level of employment than do the other curves. This is because at any given level of aggregate demand a lower real wage (i.e., a more favourable competitive position) will lead to a greater volume of employment.

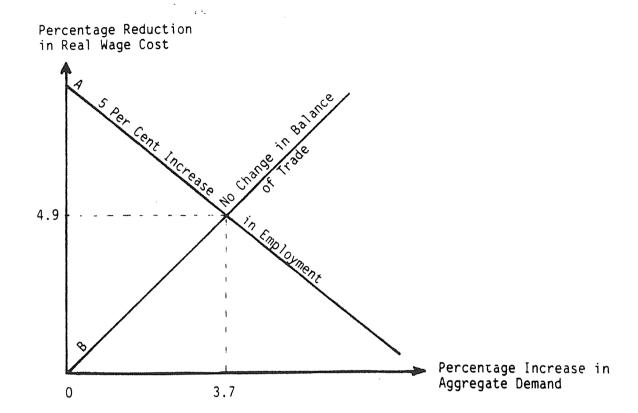
The Swan diagram illustrates the following 2-instrument 2-target problem: having selected a desired level of employment and a desired balance of trade position, find the levels of aggregace demand and of real wages necessary to achieve these gpals. If these desired levels are A_2 for employment and B_2 for the trade balance, then in terms of Figure 1 the solutions are W* for real wages (equivalently, C* for competitiveness) and D* for aggregate demand.

ORANI Estimates of the Swan Diagram

The policy debate in Australia largely hinges around different conceptions of the slopes and positions of the A and B trade-off curves shown in Figure 1. This is essentially an empirical matter. The characteristics of these curves depend on many hundreds of thousands of parameters relevant to the behaviour of economic agents in the Australian

community. To aggregate these micro behavioural parameters sensibly requires a formal modelling framework. Such a framework is provided by the ORANI model of the Australian economy (Dixon, Parmenter, Sutton and Vincent (1982)). With such a model it is possible to obtain quantitative estimates of the degree of restraint in real wages and of the expansion in aggregate demand which would be required to achieve given employment and balance of trade targets.

The ORANI model is solved in terms of percentage changes in its variables. It is designed to answer hypothetical questions such as: If the real wage were to be increased, relative to some control scenario, by x per cent, by what percentage would employment demand differ from the value it would have taken in the absence of this increase in real wages? We can think of the control scenario as the point E in Figure 1. In terms of percentage changes, this is represented by O (no change). Thus the point E in Figure 1 becomes the origin in the percentage change version of the Swan diagram shown as Figure 2. We have chosen as our external balance target no change on the balance of trade: hence the trade-off line for this goal passes through the origin. Implicit in this treatment is the assumption that the initial trade balance position E in Figure 1 is satisfactory. For our employment target, however, we have looked to an improvement of 5 per cent over the initial situation. (If we had selected a more ambitious employment target, the A trade-off line would have been located upwards. and to the right, of that shown in Figure 2.) According to a recent version of the ORANI model, to achieve our targets would require real wage costs to be restrained by about 5 per cent, and aggregate demand to be stimulated by about 4 per cent (Parmenter, 1983). (In an earlier version, the corresponding percentages were estimated as 6 and 3 respectively (Dixon, Powell and Parmenter (1979).)



Percentage Change Version of Swan Diagram The line B shows combinations of wage restraint and demand stimulation which maintain the initial balance of trade position. The A line shows combinations of these variables consistent with a 5 per cent improvement in employment. According to the ORANI model, simultaneous achievement of both targets requires an increase in real expenditure of 3.7 per cent accompanied by a reduction in real wage costs of 4.9 per cent. (Source: Parmenter (1983).)

Answers to Questions 1 and 2

We can now answer the first two questions posed in this essay. Yes, increases in real wages which are reflected in real labour costs do cause employment demand to be less than would otherwise be the case. In a situation in which employment is less than full, therefore, rises in real wage costs actually destroy employment. This conclusion is inescapable for an internationally trading economy because of the need for its exporters and import competing industries to keep their costs in line with their overseas competitors. To fail to do so leads to a balance of trade deficit which cannot be eliminated without a fall in aggregate demand and in employment.

This conclusion holds equally under pegged and flexible exchange rate regimes; that is to say, changes in the nominal exchange rate (\$A per \$U.S., say) are only relevant to the extent that they change real cost levels in Australia. A <u>nominal</u> devaluation, therefore, cannot have more than transitory impact on our international competitiveness <u>unless</u> it succeeds in holding down real wage costs or the real return on capital. Because of the international mobility of the latter, a squeeze on profits cannot be maintained for long without a collapse of investment. (For a fuller discussion, see Corden (1974).)

Policy Options (An Attempt to Answer Question 3)

If alleviation of unemployment can be achieved by moderation in real wage costs and expansion of aggregate demand, one may well ask why governments have not implemented such a policy. One answer, of course, is

that they have <u>tried</u> to do so. The problem is that neither real wage costs nor real aggregate demand are under the direct control of the government.

In the case of wages, the Arbitration Commission makes decisions whose independence is guaranteed by statute. The Federal and State governments of course can, and do, seek to influence such decisions by their submissions to the Commission (especially in national wage cases). Not all wage decisions, however, follow this institutionalized path; i.e., private treaties account for some of the wage bargains struck.

Governments, by borrowing and/or manipulating tax rates, within very wide limits are able to finance any targeted amount of nominal (viz., money) expenditure. True, to the extent that the rate of inflation is affected by the amount of government expenditure, government has less direct control over real expenditure than over its nominal value. Moreover, the possibility of 'crowding out' private sector investment and/or consumption means that a given injection of government spending may lead to an increase in total spending which is less than the amount injected. Nevertheless, it is reasonable to suppose that the Federal Government has much tighter control over aggregate real expenditure in the economy than it does over wage costs.

The Hawke Government has attempted to have wage restraint recognized by the organized labour movement as an essential element of a policy for economic recovery. Relative to what might otherwise have occurred, this attempt has been judged by many commentators to have been successful. Nevertheless, unemployment and hidden unemployment remain high. The reluctance of organized labour to accept a squeeze on real wage rates

at first seems reasonable: on closer examination it is less so for the 'following reasons:

- (a) While demand for labour may not be very responsive to real wage costs in the very short run (3-6 months, say), in the longer run (1-2 years) it is almost certainly very responsive. (An identical conclusion is reached in the case of Belgium, another small trading economy (Drèze and Modigliani (1981).) Employment is lower than would be the case under a regime of lower real wage costs.
- (b) A lower level of real wages stimulates profits and thereby increases investment (and consumption) expenditure by profit earners. This is good for the labour market.
- c) The increased aggregate employment, and lower rate of inflation, engendered by real wage restraint, have favourable effects on the average propensity to consume. "Over the seventies, households spent a significantly reduced share of their disposable income whereas the average savings ratio for the four years ending June 1972 was 9.1 per cent, in the four years ending June 1976 the corresponding figure was 15.3 per cent. Why, in view of the rapid depreciation in the real value of money, did households choose to save more? ... Two factors likely to be important in the explanation can be identified. First, the accelerated inflation of the 1970s led to large

reductions in the real value of the stock of households' savings. In an attempt to mitigate this decline households apparently chose to save a larger proportion of current income. ... Second, the high inflation was accompanied by a much higher risk of unemployment [and the average length of a spell of unemployment increased dramatically]. Households' savings are used partly to tide workers and their dependants over periods of lay-off. Given that this risk became higher in the mid-seventies, households had an additional reason for saving. If these arguments are accepted, then it follows that a reduction in unemployment and inflation, via a reduction in real wages, could stimulate aggregate household expenditure by reducing the average propensity to save. It also follows that the standard of living need not fall, even of those who are employed before the reduction in real wages. (It is clear that the standard of living of formerly unemployed people who find a job at the lower real wage will be raised.)" (Dixon, Powell and Parmenter (1979)) Thus even if real household income were reduced (not a likely outcome), the improved macroeconomic climate could nevertheless allow households to maintain real expenditure because of diminished needs to repair the inroads of inflation into their assets and to carry liquidity as unemployment insurance.

Many observers consider it politically naive to expect Australian union leaders to be persuaded by the force of such arguments. Whilst this is not

a good reason for failing to engage unionists in discussion of the issues, it does make it more attractive for government to attempt to lower real wages as a cost without any cut in real take-home pay. Since the biggest component of the gap between the hourly rate of expense incurred by employers in obtaining labour services and the hourly take-home rate of pay are PAYE (income) taxes, a "wage-tax bargain" offers scope for restraining real costs without cutting take-home remuneration.

The prospects for successfully implementing a wage-tax bargain depend on two key factors. The first is the compliance of organized labour. Once the bargain is struck it must be "adhered to by the unions even when unemployment is substantially reduced as a result of the associated demand expansion" (Corden and Dixon (1980), p.210). The second is technical and empirical: the additional product demand engendered by the conditions pertaining in the environment of the wage-tax bargain must be capable of being satisfied by the additional supply made possible by the cut in costs. An initial exploration of this issue by Corden and Dixon (1980) was not optimistic about the chances of satisfying this technical requirement; at least one of the authors (Dixon (1984)), however, now believes that there is a chance of the package working, and that this chance is better than the alternative of doing nothing. The crucial unknown in assessing the technical viability of any particular wage-tax proposal is the willingness of the public to accept paper assets issued by the government in exchange for claims on current production which their money incomes would otherwise entail.

Model Results and Ideology

We have seen above that real wage restraint is an essential element of any policy aimed at improving the overall level of employment. Equally essential is an expansion in real aggregate demand. Estimates of the Swan diagram, which shows the relevant trade-offs involved, have been They were based on the ORANI model when used in a standard neo-classical fashion. It is also possible to use the model in a neo-Keynesian way. The latter involves the allowance of less substitution possibilities between capital and labour, the application of fixed mark-ups on capital services in use in induscries other than agriculture, the assumption of an excess capacity of such services at the going mark-ups, and the assumption that Australian exports are completely unresponsive to changes in local cost conditions. Dixon, Powell and Parmenter (1979) have provided estimates of the Swan diagram based on these assumptions. The results differ only marginally from those obtained under neo-classical assumptions. This robustness stems from the following consideration. Under the neo-Keynesian assumptions, demand expansion generates more employment per unit deterioration in the balance of trade than in the neo-classical case. This is (1) because producers' costs, and hence the domestic price level, rise less rapidly as output expands; and (2) because a smaller proportion of the economy is vulnerable to the adverse effects of cost increases. In particular, exponders are no longer allowed to reduce their outputs in the face of declining profitability (nor to increase them when profits rise). So while factor (1) implies that demand expansion is less inflationary and therefore less damaging to the trade balance, factor (2) (namely, the reduced sensitivity of the economy to cost changes) implies

that in order to correct any given deterioration in the balance of trade, a larger cut in real wages is required in the neo-Keyresian than in the neo-classical case. The net outcome is to make the required amounts of wage restraint and demand expansion roughly equal under the two sets of assumptions (see Dixon, Powell and Parmenter (1979) pages 36 - 40).

This robustness is not confined to conclusions based on the work of a single group of authors. Using a variety of approaches, a large number of researchers have reached qualitatively similar results about the essential nature of real wage restraint in policies for economic recovery. For instance, on the basis of entirely different methods to those underlying ORANI, Valentine (1980) concluded:

These results indicate that a successful policy to deal with unemployment would combine wage restraint with a moderate expansion of government spending ... A similar conclusion was reached [by Valentine 11378] and a study of the depression period ... It is unfortunate that those people who support one of these policies are usually opposed, for reasons which are largely ideological rather than analytical, to the other one.

Valentine's perspective is, I believe, representative of current thinking among Australian policy economists (see a spreading (1984), p.6).

Question 4 can now be answered with reasonable confidence. A satisfactory strategy for a restoration of macroeconomic health involves an essential element of real wage restraint. I see this view as largely independent of the ideological stances taken by individual economic analysts.

REFERENCES

- Corden, W.M. (1974) Trade Policy and Economic Welfare (Oxford: Clarendon Press).
- Corden, W.M. and P.B. Dixon (1980) "A Tax-Wage Bargain in Australia: Is a Free Lunch Possible?", Economic Record, Vol. 56, No.154 (September), pp. 209-221.
- Dixon, P.B. (1984) Interview by Michael Schulberger on Melbourne ABC Radio Station 3LO, 13 March 1984, 9.00 a.m. (approx).
- Dixon, P.B., B.R. Parmenter, J. Sutton and D.P. Vincent (1982) <u>ORANI, A Multi-Sectoral Model of the Australian Economy</u> (Amsterdam: North-Holland).
- Dixon, P.B., Powell, A.A., and B.R. Parmenter (1979) Structural Adaptation in An Ailing Macroeconomy (Melbourne: Melbourne University Press).
- Drèze, J.H. and F. Modigliani (1981): "The Trade-Off Between Real Wages and Employment in An Open Economy (Belgium)", European Economic Review, Vol. 15, pp. 1-40.
- Higgins, C.I. (1984) "Coming of Age in the 1970s: Reflections of A Practical Macroeconomist", paper prepared for a symposium entitled "Lessons from Recent European and Australian Macroeconomic Experience", Ottawa, 8-9 June 1984, Royal Commission on the Economic Union and Development Prospects for Canada.
- Parmenter, B.R. (1983) "The IMPACT Macro Package and Export Demand Elasticities", Australian Economic Papers, Vol. 22, No.41 (December), pp. 411-417.
- Swan, T.W. (1955) "Long-Run Problems of the Balance of Payments", paper presented to Section G of the ANZ Association for the Advancement of Science, Melbourne, 1955; published in H.W. Arndt and W.M. Corden (eds), The Australian Economy (Melbourne: Cheshire, 1963), pp. 384-395.
- Valentine, T.J. (1978) "The Battle of the Plans: An Econometric Analysis", paper presented to the Seventh Conference of Economists, Sydney, 1978.
- Valentine, T.J. (1980) "The Effect of Wage Levels on Prices, Profits, Employment and Capacity Utilization in Australia: An Econometric Analysis", Australian Economic Review, 1st Quarter, pp. 13-22.

FURTHER READING

- Meagher, G.A. (1984) "An Empirical Analysis of the Effects of A Change in the Mix of Direct and Indirect Taxation on the Australian Economy", IMPACT Project General Paper No. G-53, University of Melbourne (May).
- Powell, A.A. (1980) "Employment Prospects for Keynes' Grandchildren: Some Popular Fallacies", Australian Bulletin of Labour, Vol.6, No.2 (March), pp. 84-101.

PREVIOUS PUBLICATIONS IN THIS SERIES

- No. 1 JOHNS, B.L., "Import Substitution and Export Potential The Case of Manufacturing Industry in West Malaysia", October 1973, 15BN 0 7259 0063 6.
 also published in <u>Australian Economic Papers</u>, Vol 12 No 21, becember 1973, pp. 175-195.
- No. 2 JACOBI, S.N., "Economic Policy Alternatives for Relieving Urban Traffic Congestion", October 1973, ISBN 0065-2.
 also published in Webb, G.R. & J.C. McMaster, (eds.) Australian Transport Economics, (ANZ Book Co., Sydney, 1975) pp. 122-139.
 - No. 3 JP, P.C., "Am English Versus a Scottish Pound and a Fixed Versus a Flexible Exchange Rate", October 1973, ISBN 0-7259-0067-9.
- No. 4 1P, P.C., "Macroeconour, Pulicy for an Open and Unemployed Economy", October 1975, 1738, 0 7253 0068 7.
- decision of the European 1973, 1980 of the Evidence on the Size and Growth of Fire ", November 1973, 1980 0 7259 0073 3.
- b. (a. 1773 HG), U.E., "A Limport of the style of Some Implication, of Gibrat standard," November 1773, 1214 U.22 of 0027 G.
 a stygnely different and shorter version was published in Auttralian Economical (Mr. 22, 10) 13 No. 23, December 1973, pp. 22, 230.
- 1 or of the LOPer J.C., Tending to find Size Distribution of Population Centres with Special Resorder to Australian Evidence", December 1973, 1866 C 7209 0080 t.
- Colin, C.A., "The Third of Grand Charterists Elementary Speculation about Analysis and Poling", Press 1974, 1888 0 7259, 6098-9.
 also published in United Materials, Vol. 12, 1975, pp. 61-75.

÷

...

- B. S. H. P.C., "Inflation, Cased Expert and Concent. Growth", June 1974, 1558 0 7255 0078.
- d. It TIMOR, WILL, "Canons bark tong" obly, 1974.
 Pari I Marketon behaviour Banana Growers New South Rales.
 f to a won In to transfer Response Model.
 Take of 259 011; c.
 - Part 11 The National Langua Marketing Scheme.
- ko, ir II. Mici. "Exchange fate, "iscal and % acta, Folicy for Stabilisation of National Incort, October 1944, ISBN 0-7259-0119-5.
- No. 37 (SprinkA), 2.4., "A Rad." or confrontation", Outober 1974, 180, 37 (SprinkA), 180, 67259-0120-8.
- No. 35 Table Chest Chest Company of the More of the Mage in a Developing Dust (7059 G126 B.
- Medicable of the Marketine of Marketine of Charles of the Spinger one Structure Channel Charles of the Charles

- No. 15 DYER, JAMES, IV, "Efficient Markets and Random Walks in Australian Stock Market Prices", November 1974, ISBN 0 7259 01314.
- No. 16 DOUGLAS, E.J., "A Pedagogical Reformulation of the Edgeworth Duopoly Model witn Identical and Differentiated Products", November 1974, ISBN 0 7259 0132 2.
- No. 17 IP, P.C., "The Open-Economy Phillips Curves and the Welfare Gains from Trade", November 1974, ISBN 0 7259 0136 5.
- No. 18 AISLABIE, C.J., "Market Signals, Size of Firms and Incentive to Invent", December 1974, ISBN 07259-0146-2.
- No. 19 TISDELL, C.A., KEATING, G.R. & McDONALD, P., "Man-Made Fibres and Fluctuations in the Prices of Natural Fibres", March 1975, 155N 0 7259 0165 9.
- No 20 DYEK, JAMES, IV, "A Descriptive Analysis of the Distribution of Returns from Australian (Ordinary) Snares", March 1975, ISBN 0-7259-0166-7.
- No. 21 DYER, JAMES, IV & KEATING, G.R., "On the Question of a Seasonal in Australian Stock Markets", May 1975, 158% O 7259 0179 9.

 also published as "On the Question of Seasonal Regularities in Australian Capital Markets", in Eustralian Journal of Management, Vol 2 No 1, April 1977, pp. 1-10.
- An 22 TISDELL, C.A., "Promotion and Advertising by Monopolies and Cartels A Neglected Welfare Aspect", November 1975, ISBN 0-7259-0212-4.

 also published as "Is Advertising Expenditure Socially Excessive?", in Eulletin of Economic Research, Vol 29, 1977, pp. 57-69.
- No. 23 TISDELL, C.A. & McDONALD, P.W., "Variability of Wool and Cotton Prices Empirically Related to Cupe. to Utilisation in the Man-Made Fibre Industry", April 1976, 1584 of 7259 0227 2.

 incorporated in Economics of Fibre Markets: Interdependence Between Man-Made Fibre., Moo. and Cotton, (Pergamon Press, Oxford, 1979).
- No. 24 IP, P.C., "Fiscal Policy and the Natural Rate of Unemployment", May 1976, 1586; 0 7259 0230 2.
- No 25 AISLABIE, C.J. & RICHARDSON, J.K., "Uronomics Theory and the Theory of Health Insurance", August 1976, 15BN 0-7259-0239-6.
- No 26 TISDELL, C.A. & MCDONALD, P.W., "Price Instability of Wool Related to Mark. Share and Capacity Utilisation of Man-Made Fibres Multiple Regression Analysis," September 1976, ISBN 0-7259-0242-6.
 incorporated in Economic of Fibre Markets: Interdependence Between Man-Made Fibres, Wool and Cotton, (Pergamon Press, Oxford, 1979)
- No. 27 YOUNGSON, A.J., "Adam Smith and the emmipresent State", November 1976, 1586 G 7259 0247 7, (Adam Smith Bi-Centenary Lecture, the First Newcastle Lecture in Political Economy).
- Ap. 28 TISDELL, C.K., "Generally attory of Theorems by On and Tisdell on the Effects of Price Fluctuations of the Profit", November 1976, 1858, 0.7235, 0251.

. 3 12 h. 1, February 1978,

- No. 29 AISLABIE, C.J., "Notified Infectious Hepatitus in the Hunter Health Region", November 1976, ISBN 07259-0253-1.
- No. 30 TISDELL, C.A., "Does Price Instability Increase Consumer's Welfare as Maugh and Massell Suggest?", November 1976, ISBN 0 7259 0954 X.
- No. 31 IP, P.C., "Financing Tertiary Education", January 1977, ISBN 0 7259 0259 0.
- No. 32 IP, P.C., "Stabilisation Policies and Welfare", January 1977, 15Bi 0 7259 0260 4.
- No. 33 TISDELL, C.A., "Simple Economic Models of Pest Control Models with Possible Application to the Control of Fer 1 Pigs and Other Wild Animals", Nay 1977, 188N 0 7259 0265 5.

 incorporated in Wild Plys: Environmental Pest or Economic Resource?, (Pergamon Fress, Sydney, 1982).
- No. 34 STANTON, P.J. & GILLING, D.M., "Structure, Conduct and Performance of the Auditing Profession", September 1977, ISBN 0-7259-0280-9.
- No. 35 TISDELL, C.A., "Dissent from Value, Preference and Choice Theory in Economics", September 1977, ISBN 0-7259-0282-5.
 also published in International Journal of Social Economics, Vol 10 No 2, 1983, pp. 32-43.
- No. 36 HARCOURI, G.C., "Eric Russell, 1921-77: A Great Australian Political Economist", October 1977, 1584 O 7259 O236 8, (The Second Newcastle Lecture in Folitical Economy).

 also published in Rerr, F. (ed.), Th. Sucial Science Impericlists and Other Essays: Selected Essays of G.C. Harcourt, (Routledge and Reyan Faul, London, 1982).
- No. 37 GORDON, B.L.J., "The Catholic Social Theory of Trade Unionism: An Exposition", October 1977, ISBN 0725902906.
- No. 38 TISDELL, C.A., "Imperialism and Traditional Economic Views of Development", October 1977, ISBN 0-7259-0288-4.
- No. 39 OAKLEY, A.C., "A Bibliographical Analysis of Karl Marx's Writings in Political Econory", October 1977, ISBN 0-7259-0291-4.

 an expanded and revised version appears as The Making of Marx's Critical Theory. A Bibliographical Analysis, (Routledge and Kegan Paul, London, 1983).
- No. 40 GORDON, B.L.J., "Economic Enquiry and Western Thought, 700 B.C. -A.D. 1600: a bibliography of research in the history of ideas", December 1977, 155N 0 7259 0292 2.
- 4) TISDELL, C.A., "Observations on the Wild Pig Problem in N.S.W. A Survey and Interpretation of Economic Aspects based on Reports from Pasture Protection Boards", March 1978, ISBN 0-7259-0-304-X. incorporated in Wild Pigs: Environmental Pest or Economic Resource?, (Pergamon Press, Sydney, 1982).

۶.

- No. 42 GORDÓN, B.L.C., "Mager Studies to Afterdisa Economic Ineory and Policy", April 1975, Isaa o 2009 8.
- No. 40 Tisburg Color of the color of the color of test to be Managed",

· 10年6、第一年 17 日 日 日 日 日 日 日 日 日

- No. 44 TISDELL, C.A., "A Further Review of Pollution Control", June 1978, 158N 0 7259 0314 7.

 also published as "Pollution Control: Policies Proposed by Economists", in Journal of Environmental Systems, Vol 12 No 4, 1983, pp. 363-380.
- 45 FISHER, J.R. & SMITH, A., "International Competition in the Australian Wire Market 1880-1914", August 1978, ISBN 0 7259 0316 3.

 also published in <u>Business History</u>, XXII No 1, January 1980, pp. 71-86.

. Q

- No. 46 TUCKER, G.S.L., "The Political Economy of William Huskisson", October 1978 ISBN 0 7259 0322 8. (The Third Newcastle Lecture in Political Economy).
- No. 47 IISDELL, C.A., "Economics of Wilderness", December 1978, ISBN 0 7259 0325
 also published in Robertson, R.W., P. Helman, & A. Davey, (eds. Wilderness Management in Australia, (Department of Natural Resources, Canberra College of Advanced Education, Belconnen, 198 pp. 132-149.
- No. 48 IISDELL, C.A., "On the Economics of Saving Wildlife from Extinction", February 1979, ISBN 0 7259 0329 5.
- No. 49 SHARPE, I.G. & VOLKEP, P.A., "The Australian Reserve Base/Money Relationship", May 1979, ISBN 0 7259-0345-7.

 also published as "The Australian Monetary Base/Money Supply Relationship 1964-1977", in The Economic Record, December 1980, pp. 331-337.
- NO. 50 DOELEMAN, J.A., "On the Social Rate of Discount The Case for Macro-Environmental Policy", July 1979, 158N 0 7259 0350 3. - also published in <u>Environmental Ethics</u>, Vol II, Spring 1980,
- No. 51 STANION, P.J., "International Market Structure and Trade: A Case Study of the International Tyre Industry", September 1979, ISBN 0 7259-0356-2.
- No. 52 MATHEWS, R.L., "The Distribution of Tax Sharing Entitlements Among the States", October 1979, ISBN 0 7259 0362 7, (The Fourth Newcastle Lecture in Political Economy).
- No. 53 OAKLEY, A.C., "The Value-Price-Distribution Articulation Problem in Karl Marx's Critique of David Ricardu's *Prinsiplee*", May 1980, 1SBN 0 7259 0378 3.

 a revised version appears as Chapter 4 in Marx's Critique of Political Economy: Intellectual Sources and Evolution, Volume II: 1861-1863, (Routledge and Kegan Paul, London, 1984).
- No. 54 PULLEN, J.M., "Malthus on the Doctrine of Proportions", May 1980, 158N 0 7259 0379 1.
- No. 55 OAKLEY, A.C., "Marx's Grandriese Analysis of the "Laws of Motion" of Capitalism", May 1980, 156N 0 7259 0380 5.

 a revised version appears as Chapter 7 in Marx's Critique of Political Economy: Intellectual Sources and Evolution, Volume 1:1844-1860, (Koutleage and Aegan Paul, London, 1984).

- No. 83 SHARPE, I.G. & HOGAN, W.P., "On the Relationship Between the New York Closing Spot U.S.S/SA Exchange Rate and the Reserve Bank of Australia's Official Rate", June 1983, ISBN 0-7259-0456-9. also published in Economic Letters, forthcoming 1983.
- No. 84 FORSTER, B.A., "Acid Rain in North America: An International Externality", July 1983, ISBN 0-7259-0458-5.
- No. 85 TISDELL, C.A. & FAIRBAIRN, I.J., "Labour Supply Constraints on Industrialisation, and Production Deficiencies in Traditional Snaring Societies", Adeast 1993, ISBN 0-7259-0461-5.
- No. 86 GORDON, B.L.J., JARVIE. W. & GORDON of "Sub-negronal Labour Markett of Newcastle and the Hunter. In themse, the 1971 Census", September 1983, ISBN 0-7254-04cc-6.
- No. 87 DICK, H.W., "PLUS CA CHANGE... The Evolution of Australian Liner Shipping Policy", October 1983, ISBN 0-7259-0467-4.
- No. 88 GRUEN, F.H., "The Prices and Incomes Accord, Employment and Unemployment", September 1983, ISBN 0-7259-0469-0, (The Seventh Newcastle Lecture in Political Economy).
- No. 89 KIBRIA, M.G. & TISDELL, C.A., "Productivity Progress and Learning by Doing in Bangladesh Jute Weaving Industry", October 1983, ISBN 0 7259 0470 4.
- No. 90 McSHANE, R.W. & Smarts of Australian Tracting Bank Loan/Deposit Interest Marthau 1987 1987 2000 1982 1988 1982
- No. 91 TISDELL, C.A., muostabemetro apervo accidenta con entra and informational Constraints on a configuration and a constraints on a constraints.
- No. 92 KIBRIA, M.G. & Historia, C.R. D. Introduction, a strong transfer and a Third world country. The last of cutte wearing to Bangledesn's November 1970, 1752 in 7202 (47)
- No. 93 GORDON, B. & JOSEPH, E., Sociates on the Unit of Joseph A. Schumpeter, Economist: A Centenary Cred Tot", Hove ben 1983, ISBN 0-7259-0474-7.
- No. 94 PULLEN, J.M., "Malthos, de ds, and Juntah", these of 1954, ISBN 19678-04-05
- No. 96 FISHER. B.H., TAUS WELL ELL TOTS FOLLOW SET SUPERIOR ADDITION OF A SET 135 NO. 71 10484
- No. 97 TISDELL, C.A., 17% Essayu in the Ageman Economissis May, 1984, ISBN 6-7253-0485-7.
- No. 98 TISDELL, C.A., "Three issaes in Administral address, May, 1984," ISBN 6-7274-254
- No. 99 KEATING, 6... State the last optical enables state using Splane Regression of the last of the last of the state of the last optical enables of the last optical ena

- HOGAN, W.P., SHARPE, 1.G. & VOLKER, P.A., "Regulation, Risk and the Pricing of Australian Bank Shares, 1957-76", September 1980 Economic Record, - also to be published in The ISBN 0 7259 0389 9. 99 . چ
- IISDELL, C.A., "Law, Economics and Risk-Taking", October 1980, 158N 0 7259 0393 7. 23 . چ
- also published in Kyklos, Vol 36 No 1, 1983, pp. 3-20.
- J.R., "Tenurial Deficiencies in the English Land System: The Mid-Nineteenth Century Debate", November 1980, - an anended and comenhated version appears in Agricultural History Egyles 3, fart 1, 1983, pp. 15-25. 158N U 7259 0397 7. 58 ₽.
- A.W., "Ref office of the Professionalization of Economics", November 1980, 1888 U 7259-0399-6. COATS, 5,5
- City, "Notes on the influence of Micksell's fleories on American and British commic Thought", July 1981, ISBN 0-7259-0411-9-. E ž ž
- STAHL, Care, "Care areas and a second consistent on a December of the area of À.
- Car. (1977) 1. (1974) 1. (Ę. --,
- well-will the principles of the selection of Patenie II. An a state of the series of th Aug traig. PAR FO SELL ---
- Javans & Control C. (1811) 1. The real of the first of 1259 0419 4. Section 19
- | Dine | Fonce | Company | Company | Discription | Discrip 15 *:*..
 - Frofit and the Corditions of Machinish Demand Corditions or Erofit and the Corditions of Tachtit Result | April 1982, HERELL, C.A. . The 7 ź
- or in Journal of Agricultural Economics. 67 IISNFEL, U.f., "Fracultion and the Parional Learnament, Iwo Economic Fragic", Carll 1992.
 A. 1259 0027 5.
 Lessay 1: 415 5.
 Angress of Agricultural Economic Vol 34 No. 2, 1983, pp. 175-185. Ę.
- Man, "The data of the contribution theorem: Some Comments of the History, and terringue, date 1982, ISBN 0-7259-0431-3. FULLER, J.M., "The Balant's con-5

5

<u>ن</u>و 20 Mustivariate Certy, 187, June 1982, 1888 of 7259-0432-1. - also published to Australian Southell of Management, Vol. Ę,

ĝ.

- J.A., "Concerning the Contilling mature of the Discipline of Economics to the Teaching of Environmental Studies", July 1982, ISBN 0-7259-0436-4.

 also published in Journal of Environmental Education, forthcoming, 1983. DOEL EMAN, 2 . ₽
- UHR, C.G., "The Economic Writings of Sir William Petty, 1623-1687, Revisited", July 1982, ISBN 0 7259 0435 6. 7 ₽.
- SHARPE, 1.G., "On the Predictability of the Spot U.S.\$/A\$ Exchange Rate: 1978-1981", July 1982, 1SBN 0 7259 0437 2. No. 72
- Experience", in Environmental Conservation, Vol. 10 No. 1, 1983, TISDELL, C.A., "The World Conservation Strategy: Its Economic Basis and Australian Proposals", August 1982, ISBN 0 7259 0440 2.
 - also published as "An Economist's Critique of the World Conservation Strategy, with examples from the Australian No. 73
- JACOBI, S.N., "The Economics of Crime: A Survey of Issues", August 1982; ISBN 0-7259-0441-0. 74 . چ
- SHARPE, 1.6. & HOGAN, W.P., "Regulation, Investor/Depositor Protection and the Campbell Report", June 1982, ISBN 0-7259-0444-5.

 also published as "On Prudential Controls", in Economics Paper Special Edition on The Experis Report, April 1983, pp. 144-164. 8 "Some Issues in uder fal Regulation and Examination", in Juttner, D.9, & F. Valentine (eds.), The Economics and Management of Financial assitutions, (Longman Cheshire, Melboun 1983). 75 . <u>§</u>
- Essay I also published in the Manchester School of Economic and Social Studyer, Vol. 51, No. 2, 1983, pp. 152-158; & Estay in Oxford Appear to the forthcoming TISDELL, C.A., "Three Migreciano in Essays", September 1982, ISBN 0-7259-0845-1 9/
- 77 TISDELL, C.A. & FAIRBAISH, I.A. Subsistence Economies and Unsustainable newspapers 1987 are simple Theory", September 1982 Journal of Development Studies - also published to luc Vol. 20, No. 2, dansari Development and 115BN 0 7259 0446 1 ₽.
 - under and Volatility of Australian SHARPE, I.G., "The Ireasury Mote ¥o. 78
- TISDELL, C.A. & DE SILVA, N. W., "Economic Spacing of Trees and Other Crops", November 1732, 384 C 7259 0448 B. Also published in European Review of Agr. ultural Economics, 1983, Vol. 10-3, Short-Term interes, Pat st., October 1982, ISBN 0-7259-0447-A. 79 ġ
- SHARPE, 1.G., "Covered Interest ate Parity: The Australian Case", March 1983, ISBN 0-7259-0452-6.
 also published in Applied Economics, forthcoming 1984. 8 <u>.</u>

83

. چ

in th

- 1983, TISDELL, C.A. & FAIRBAIRN, 1999, Development Problems and Planning in a Resource-Poor Pacific Country: The Case of Tuvalu", April 1983, FISHER, J.R. & SMITH, A., "Tarif's and the Victorian Wire Industry Federation Era", April 1983, ISBN 0-7259-0453-4. 85 ₽
 - Also published in Public Administration and Development, ISBN 0 7259 0454 ?.

- No. 100 STANTON, P.J., "Protection and Structural Adjustment in the Australian Tyre Industry, 1960 to 1980", June 1984, ISBN 0 7259 0489 5.
- No. 101 TISDELL, C.A., "Externalities and Coasian Considerations in Project Evaluation: Aspects of Social CBA in LDCs", June 1984, ISBN 0 7259 0490 9.
- No. 102 DOELEMAN, J.A., "Historical Perspective and Environmental Cost-Benefit Analysis", July 1984, ISBN 0 7259 0492 5.

NEWCASTLE LECTURES IN POLITICAL ECONOMY

FIRST LECTURE:

ADAM SMITH AND THE OMNIPRESENT STATE,

presented by A. J. Youngson,

November 1976.

SECOND LECTURE:

ERIC RUSSELL, 1921-77: A GREAT AUSTRALIAN

POLITICAL ECONOMIST,

presented by G. C. Harcourt,

October 1977.

THIRD LECTURE:

THE POLITICAL ECONOMY OF WILLIAM HUSKISSON,

presented by G. S. L. Tucker,

October 1978.

FOURTH LECTURE:

THE DISTRIBUTION OF TAX SHARING ENTITLEMENTS

AMONG THE STATES,

presented by R. L. Mathews,

October 1979.

FIFTH LECTURE:

REFLECTIONS ON THE PROFESSIONALIZATION

OF ECONOMICS,

presented by A. W. Coats,

November 1980.

SIXTH LECTURE:

SOUND MONEY: THE IMPERIAL POUND

presented by I. Pearce,

October 1981.

Paper not available in Research Report or

Occasional Paper Series.

SEVENTH LECTURE:

THE PRICES AND INCOMES ACCORD, EMPLOYMENT

AND UNEMPLOYMENT

presented by F. H. Gruen,

September 1983.

EIGHTH LECTURE:

REAL WAGES AND EMPLOYMENT

presented by Alan A. Powell

July 1984.

INDUSTRY ECONOMICS DISCUSSION PAPERS

- No. 1. JOHNS, B. L., Tariffs and the Process of Structural Change.
- No. 2. WARD, R. G., The Future of the Manufacturing Industry.
- No. 3. AISLABIE, C. J., Targets and Instruments in Industrial Policy.
- No. 4. DIXON, R., Variations in the Industrial Composition of Employment in the Australian Economy.
- No. 5. FISHER, J. R., & SMITH, A., The Australian Wire Rope Industry:

 A Case Study in Import Substitution. OUT OF PRINT
- No. 6. KASPER, W., Activity Characteristics An Approach at Identifying Long-Run Comparative Advantages of Australian Industries.
- No. 7. JONES, B. O., Employment Implications of Recent Structural Change in Australia.
- No. 8. CALLAGHAN, B., The Investment Theme in Australia's Approach to International Trade.
- No. 9. TISDELL, C. A., Factors Influencing the Degree of Patenting in Australia: A Report on a Survey of Patent Attorneys.
- No. 10. HAWKINS, R. G., Economic Management and Structural Change.
- No. 11. SHEEHAN, W. J., The Small Firms Sector Some Issues of Public Policy.
- No. 12. TISDELL, C. A., Economic Factors of Influencing the Degree of Patenting of Inventions in Australia: Preliminary Results from a Survey of Companies.
- No. 13. UHRIG, J. A., & EDWARDS, C., Frespects for an Outward Looking Manufacturing Sector.
- No. 14. MACDONALD, S., MANDEVILLE, T., & LAMBERTON, D., Computers in Small Business in Australia.
- No. 15. CRISP, J. D. C., Manufacturing Today and Tomorrow.
- No. 16. DICKINSON, N. J., & TWOHILL, B. A., Protection and Balanced Regional Development.
- No. 17. STONE, J. O., Australia in a Competitive World Some Options.
- No. 18. DICK, H. W., Power Subsidies to Aluminium Smelters in N.S.W.
- No. 19. TISDELL, C. A., The International Realpolitik of Science and Technology Policy.
- No. 20. SHAW, R. W., & S. A., Excess Capacity and Rationalisation in the West European Synthetic Fibres Industry.
- No. 21. CAMPBELL, J. K., MATHESON, I. C., & STAMMER, D. W., The Implications of Deregulating Interest Rates.
- No. 22. McSHANE, R. W., A Survey of the Beef and Veal Sector of the European Economic Community.
- No. 23. TISDELL, C. A., & KIBRIA, M. G., Estimates of Productivity Progress
 Parameters in Jute Spinning and Weaving Plants: The Startup Phase.
- No. 24. TISDELL, C.A., Technological Change in Australia and Japan and its Transfer: A Perspective on Australia-Japan Relationships and the Pacific.

OTHER PUBLICATIONS BY INSTITUTE* (Conference Series)

- No. 1. The Small Business Its Economic Prospects OUT OF PRINT
- No. 2. The Future of Manufacturing Industry in Australia OUT OF PRINT
- No. 3. Future Economic Prospects for Newcastle and Its Region OUT OF PRINT
- No. 4. Regional Innovation and Economic Adjustment OUT OF PRINT
- No. 5. The Economics of Structural Change and Adjustment OUT OF PRINT
- No. 6. Regional Industrial Recovery A Few Giant Strides and Many Small Steps OUT OF PRINT
- No. 7. Small Business Development Government Assistance and Private Initiatives OUT OF PRINT
- No. 8. The Shortage of Skilled People (\$10.00).
- No. 9. Government Regulation of Industry (\$12.00).
- No. 10. Input-Output Analysis and Regional Multipliers (\$15.00).
- No. 11. Small Business Research (\$15.00).
- No. 12. Policy Priorities for Australian Steel Regions (\$20.00).

* Prepaid price includes packing and postage

(Monograph Series)

No. 1. Energy Policy and Research in Australia and New Zealand, C. D. Ellyett (17.95).