Neoclassical Economics and the Australian Community: How Does the Public Arrange Economic Knowledge?*

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Abstract:
With the success of neoclassical economic policy applications among governments in OECD (and other) nations, ordinary citizens find themselves increasingly living in societies with new 'ground rules'. Privatisation, competition policies, efficiency and 'user pays' principles, together with labour market reform, imply that individuals and families and other groups may find that a lack of economic 'nouse' may well be welfare reducing. This paper utilises the results of a survey of 236 Australian respondents (drawn from electoral rolls) which probed the extent to which the economic ideas of 'ordinary' Australians were consistent with neoclassical economics (loosely defined). The paper uses principal component analysis to determine the arrangement of lay economic 'knowledge' across three broad areas: trade and tariffs, market clearing, and efficiency. The results have implications for both the teaching of economics in schools, and the communication of economics through economic journalism.

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1. Introduction

For all sorts of reasons it is of interest to assess the distribution and extent of various kinds of knowledge among ordinary people in the population. It is one thing to appraise a modern society with respect to its possession of modern technology, or the sophistication of its institutions, it is another to know the extent to which a populace can actually operate gadgets such as computers, VCRs, and mobile telephones, and the extent to which non-specialists comprehend a range of medical procedures, legal matters, political processes, and economic ideas which contribute to our continued prosperity and well-being.

Economic knowledge is also an important component of human capital: ordinary citizens are often forced to make decisions which will impact their personal welfare, and this is nowhere more apparent than when they make bad financial decisions. Many who opted for variable housing interest rates over fixed rates in the 1980s saw their repayments balloon out to ruinous levels. Those who invested their life savings in 'building societies' that offered far superior rates than other financial institutions in the 1990s discovered that the source of their apparent good fortune was occasioned by those institutions having invested heavily in the commercial property market, and not home lending. When that market collapsed, a lot of Australians learnt that higher relative interest rates were invariably connected to higher risk: many saw their life savings disappear overnight.

The measurement of economic knowledge, however, has always been problematic. It could be useful to know how much simple 'economic common sense' exists among the public, but there will always be value judgments as to what constitutes 'common sense'. Since policy debates are often stoushes between competing economic schools of thought, sociologists might contend that such 'knowledge' is all relative or 'socially determined'. Political scientists may contend that since it is largely attitudes and the marketing of ideas (besides personalities and other factors) which determine voting practices, not knowledge levels, the level of public 'economic nouse' is irrelevant anyway.

Nevertheless, political parties and special interest groups (such as business lobby organisations) may be very interested in the knowledge base which *contributes to attitude formation*, while educational authorities may wish to evaluate both the sources and extent of economic knowledge among the public - largely to see if their programs have had any impact. Newspapers may also be interested in

economic literacy levels - moreso if they suspect their readers cannot decode the 'economese' they print daily. Finally, historians of ideas might be very interested in the impact of economic doctrines outside of academia.[1]

The purpose of this paper, however, is look at the *arrangement of simple economic ideas* as they are conceived by the Australian public. The data is drawn from a survey of 236 members of the general public (those on electoral rolls) who returned a 16-page questionnaire sent to them in 1996. The aim of the paper is not so much to provide insights for sociologists and political scientists, but rather to assist economic educators in how certain economic ideas - more specifically, ideas drawn from neoclassical economics - are received and organised by ordinary non-specialist laypeople. Such patterns, drawn largely from factor analysis, will hopefully provide clues to educators and communicators by helping to locate conceptual difficulties. So, to be more specific, the paper is looking at how the public mentally arrange common neo-classical economics ideas.

It could be argued that responses to all economic statements will be controlled by broader attitudes, that is, that economic perceptions form a smaller subset of larger drives and values better explained in sociological categories such as 'security', 'fair-play', 'justice', family values', 'civic cohesiveness', 'class consciousness' or national and regional identities. Whether responses to economic 'true-false' propositions are merely incidentally correlated with these sociological categories, or are controlled by them - or contrariwise are themselves a product of economic knowledge, is interesting. These aspects, however, are not addressed in the paper. Presumably, responses to questions about the truthfulness or otherwise of the operation of household electronic gadgets would not, strictly speaking, be interpreted within these sociological categories.

In fact, socio-demographic factors go a fair way in explaining the responses to the economic propositions used in this study - political allegiance is a particularly

1. To quote what is probably Keynes' most cited aphorism, ". . . the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is rules by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back." John Maynard Keynes, *The General Theory of Employment Interest and Money*, Macmillan & Co, London & Basingstoke, 1st Edition [1936], reprinted 1970, p. 383

good predictor.[2] But in many cases, the presence of economics education (either secondary, tertiary or other) is also important. A purely sociological view of economic knowledge could be seen as being overly determinist, giving little credence to lay intelligence and lay experience of certain economic realities.[3]

The propositions tested in this study are broadly drawn from neoclassical economics.[4] Since the 1960s, there have been surveys of economists' opinions

2. For the details refer to my Ph.D dissertation, Malcolm Anderson, *Neoclassical Economics and the Australian Community*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne, unpublished, 1998

3. It could also be argued that 'purely' sociological explanations become less plausible to the extent that questionnaire items ask for true-false responses to very simple economic knowledge propositions.

4. Neoclassical economics is an approach to economic analysis, shared by a number of 'families' within economic thought. All largely represent a reorientation in the emphasis and focus of classical economics that derived from the syntheses of economic understanding by David Hume (1711-1776) and Adam Smith (1723-1790); extended by Thomas Robert Malthus (1766-1834), David Ricardo (1772-1823), Jeremy Bentham (1748-1832), and Jean-Baptiste Say (1767-1832); and refined by later nineteenth century theorists which included John Stuart Mill (1806-1873), Nassau Senior (1790-1864), and others. In the great classical syntheses - especially Adam Smith's economic compendium, the *Wealth of Nations* (1776) - the accent was on aggregates such as *economic growth* (through capital accumulation and division of labour), *international trade* (especially its benefits, free from government obstruction and mercantilist objections; and in later writers, new concepts such as comparative advantage), *monetary economics* (especially the balance of payments equilibrium), and public finance. The *neoclassical economic* 'families' consisted of several 'schools' such as the Austrians around Karl Menger (1840-1921), a French-Swiss school centred on Leon Walras (1837-1910), and a fertile English tradition which included William Stanley Jevons (1835-1882) and, especially, Alfred Marshall (1842-1924). The *neoclassical economists* shifted the focus of economic explanation from aggregates to microeconomics, energising the classical concept of self-interest in individuals, households and firms, as the central explanatory principle for the 'invisible hand'. The theoretical tools that Marshall, for example, contributed, included partial economic analysis, the role of time in 'planning periods', the 'laws' of supply and demand, the principle of substitution subject to diminishing marginal returns, and a restatement of the idea of prices as signals. From Jevons, Menger and Walras, came powerful tools of marginal analysis; theories on the role of economising actions as shapers of institutions; the concept of opportunity cost, and ideas about economic agents (including consumers and suppliers) as constant comparers of multiple bundles of goods and services; and cost-benefit analysis (the standard for economic efficiency). Neoclassical economics was later refined even further by economists such as John R. Hicks and Paul Samuelson - the latter contributing the single most influential economics textbook since Marshall's *Principles.* Another important topic which attracted the interest of both the classical and neoclassical practitioners was the role of government. In Adam Smith, government had a pragmatic role, providing services and contractual enforcement which the market could not. Its intrinsic limitation however concerned its capacity for information: governments could not know the amount of knowledge about prices, production and demand that only millions of individuals could ascertain themselves, virtually instantaneously. In the neoclassical models, perfect competition provided the self-regulated mechanism which made government all but redundant in the marketplace, and provided optimal efficiency for all agents. In recent years, ideas usually associated with the outlook of economic liberalism - supported by the analysis provided by neoclassical economics - has been making great gains in western governments and their policy arms. Thus, the term 'neoclassical economics', as used in this study, is more consistent with its modern manifestations (sometimes associated with the American 'Chicago School'). The more prominent defenders of classical orthodoxy at the University of Chicago in the earlier part of the century were Frank H. Knight

conducted for the United States,[5] Britain,[6] Canada,[7] Russia,[8] South Africa,[9] New Zealand,[10] Australia,[11] East Asia,[12] France,[13] West Germany,[14] Switzerland,[15] Belgium,[16] Austria,[17] and various other Western European countries.[18] If worldwide surveys of professional economists - especially economics educators - are to be believed, neoclassical economics is the dominant paradigm in most western nations (though weaker among French economists).

(1885-1972) and Henry C. Simons (1889-1946). The faculty came into it own with the appointment of economists such as Milton Friedman (1912-), George Stigler (1911-1991), Gary Becker (1930-), Robert E. Lucas (1937-), and others.

cf. Phyllis Deane and Jessica Kuper (Eds), *A Lexicon of Economics*, Routledge, London and New York, 1988 pp. 47-50, 287-90; Douglas Greenwald (Ed), *Encyclopedia of Economics*, McGraw-Hill Book Company, New York, 1982 pp. 636-39, 699ff, 700; Robert L. Heilbroner, *The Worldly Philosophers*, 5th Edn, Touchstone/Simon and Schuster, New York, 1980, pp. 40-72; John Kenneth Galbraith, *A History of Economics: The Past as Present*, Hamish Hamilton, London, 1987, p. 188

5. J. R. Kearl, Clayne L. Pope, Gordon C. Whiting, and Larry T. Wimmer, 'A Confusion of Economists?', *American Economic Review Papers and Proceedings* 69, (2), 1979, pp. 28-37; Alston, Kearl, and Vaughan, *op. cit*, 1992

6. Samuel Brittan, *Is There an Economic Consensus?*, Macmillan Press, London & Basingstoke, 1973; Martin Ricketts and E. Shoesmith, *British Economic Opinion: A Survey of a Thousand Economists*, Institute of Economic Affairs, London, 1990

7. Walter Block and Michael Walker, 'Entropy in the Canadian Economics Profession: Sampling Consensus on the Major Issues', *Canadian Public Policy* 14 (2) 1988, pp. 137-150

8. Vincent Barnett, 'Conceptions of the Market Among Russian Economists: A Survey', *Soviet Studies* 44 (6), 1992, pp. 1087-1098

9. Stephanie Geach and W. Duncan Reekie, 'Entropy in South African Economics: A Survey of Consensus and Dissent', *South African Journal of Economics and Management Studies* 9, 1991, pp. 63-86

10. William Coleman, 'Concord and Discord Amongst New Zealand Economists: The Results of an Opinion Survey', *New Zealand Economic Papers* 26 (1), 1992, pp. 47-81

11. Malcolm Anderson and Richard Blandy, 'What Australian Economics Professors Think', *Australian Economic Review*, 3rd Quarter, 1993, pp. 5-19

12. Malcolm Anderson, Richard Blandy and Sarah Carne, 'Academic Economic Opinion in East Asia', *Australian Economic Review*, 4th Quarter, 1992, pp. 17-40

13. Bernard Bobe and Alain Etchegoyen, *Economistes en desordre: consensus et dissensions*, Economica, Paris, 1981

14. F. Schneider, W. W. Pommerehne and B. S. Frey, 'Relata Referimus: Ergebnisse und Analyse einer Befragung deutscher Oekonomen, *Zeitschrift fur die gesamte Staatswissenschaft* (138), 1982

15. B. S. Frey, W.W. Pommerehne, F. Schneider and H. Weck, Welche Ansichten vertreten Schweizer Oekonomen? Ergebnisse einer Umfrage, *Schweizerische Zeitschrift fur Volkswirtschaft und Statistik* 118, 1982, pp. 1-40

16. S. Boute, G. Carrin, V. Ginsburgh, and P. Pestieau, 'De Belgische economen: ivoren toren of toren van Babel?', *Tijdschrift voor Economie en Management* 27 (1), 1982, pp. 75-92

17. Werner W. Pommerehne, Friedrich Schneider, and Bruno Frey, 'Quot homines, tot sententiae? A Survey among Austrian Economists', *Empirica* 15, Summer, 1983, pp. 93-127

18. Bruno S. Frey, Werner W. Pommerehne, Friedrich Schneider, and Guy Gilbert, 'Consensus and Dissension Among Economists: An Empirical Enquiry', *American Economic Review* 74 (5), 1984, pp. 986-994; Bruno S. Frey, Victor Ginsburgh, Pierre Pestieau, Werner W. Pommerehne, and Friedrich Schneider, 'Consensus, Dissension and Ideology Among Economists in Various European Countries and in the United States', *European Economic Review* 23, 1983, pp. 59-69; Bruno S. Frey and Reiner Eichenberger, 'Economics and Economists: A European Perspective', *American Economic Review Papers and Proceedings* 82 (2), 1992, pp. 216-220

This does not imply that neoclassical economics is necessarily to be equated with common sense or 'true' knowledge. But is does suggest that the knowledge stock, against which the public is to be tested, is at least a reasonably consistent body of knowledge within itself. Also, the use of neoclassical knowledge levels, given that it is the 'dominant paradigm' within the economics profession, means it is one of the better proxies for the state of actual economic knowledge.[19]

An important feature of the questionnaire propositions has been the attempt to avoid jargon: in this respect the questionnaire differed from the various American economics education test instruments. Many of the items on the Test of Economic Literacy (TEL) questionnaire, the Test of Economic Knowledge (TEK) questionnaire, and the Test of Understanding in College Economics (TUCE)[20] would have been very suitable in that they were known to be reliable indicators of knowledge acquisition in so far as they cover the various (American) economics curricula: most of the items used on these surveys are those in which a statistical significant difference is recorded between large samples of matched 'before course' scores and 'post-course' scores. The American test instruments, however, relied very heavily on economic jargon, and this is fair enough if the quality sought for measurement included knowledge of 'economic language' which a student would be expected to acquire in a formal course. To use terms (as the US instruments did) such as 'opportunity cost', 'scarce resources', 'aggregate supply', 'capital investment', 'factor of production', 'public good', 'monetary policy', 'the law of comparative advantage'[21], and other technical economic terms would put at a disadvantage individual respondents who may understand the *ideas* of economics, but not the *language*.

The economic concepts chosen for testing on the questionnaire are grouped according to three broad areas, and these are discussed in turn in the three sections below. Briefly, the concepts covered are: gains from trade, costs and benefits of trade and tariffs, and general free-trade issues (discussed together as the 'trade and tariff issues'); business behaviour, price and resource usage, effects of price ceilings, effects of price floors, and market solutions to social issues ('market

19. Many of the propositions are not the sole property of neoclassically-inclined economists: they would be claimed as common inheritance of a large majority of practitioners.

20. John C. Soper and William B. Walstad, *Test of Economic Literacy: Examiner's manual*, Joint Council on Economic Education, 2nd edn., 1987; William B. Walstad and John C. Soper, *Test of Economic Knowledge: Examiner's manual*, Joint Council on Economic Education, 2nd edn., 1987; Phillip Saunders, *Test of Understanding in College Economics*, Joint Council on Economic Education, 3rd edn, 1991

21. These few examples were taken from the Test of Economic Literacy

clearing issues'); and economic rationalism, competition, privatisation, information costs, and economic solutions to environmental and unemployment problems ('efficiency issues'). These concepts are mainly related to particular neoclassical ideas which have had important policy impacts on Australian governments over the past two decades - especially in the area of trade and microeconomic reform. The propositions tested do not cover the entire corpus of neoclassical economic ideas.

2. Trade and Tariff Issues

Questionnaire items for trade and tariff issues have been grouped into those concerning 'gains from trade' ('Focus Area 1'), and 'costs and benefits of trade and tariffs' ('Focus Area 2'), and a more amorphous collection of questions explored various 'side issues about free trade' including comparative advantage and whether poorer third-world nations will ever be able to compete with richer traders ('Focus Area 3'). The initial task, to see how respondents reveal the mental arrangement of these issues, utilised factor analysis (or more precisely, principal components analysis). The aim of factor analytic techniques is primarily to discover underlying forces or opinions or prejudices or knowledge bases which elicit similar responses from particular questionnaire items. In most cases these similar responses will be fully expected (they are the basis of sociological questionnaires which like to ask the same thing in different ways, to ensure that grammatical nuances do not interfere with the identification of genuine factors). But these techniques also reveal less expected patterns - either because the underlying factor was hitherto unsuspected, or even to confirm an unorthodox hypothesis which suggested such a certain factor might *possibly* exist. A third aim of principal components analysis is to indicate circumstances where certain suspected factors may not exist at all, that is, where similarly posed questions (variables) may actually be driven in different directions (or 'dimensions') due to the operation of two or more different underlying factors. Another use of principal components analysis - in fact a most pragmatic use - is to eliminate the tedious examination of correlations between many variables.

Table 1 Principal Components Analysis of 'Economic Knowledge' Items Regarding Trade And Tariffs: Variable Description Ordered According to Factor Priority

Variable No. and Name	Focus Area	Variable Description
10 (T@Quotas)	2	Australia better off if the govt protect home industries by tariffs & quotas
8 (T@Selsf2)	2	Australia would be more prosperous if self-sufficient, & substituted for imports
7 (T@Selsf1)	2	Self-sufficiency is a sound way for the nation to increase its living standards
9 (T@Tcf1)	2	Effect of TCF tariff removal will have a better / worse effect on econ welfare
15 (Arnott@1)	3	Selling off Aust firms (Arnotts, Peters, Edgells) overseas, bad for Aust economy
2 (Gain@Per)	1	For every person who gains wealth, at least one other person must lose wealth
5 (Gain@Cn2)	1	For every country made wealthy by free trade, one other country made poorer
3 (Gain@Sta)	1	Econ prosperity in one state can only occur by causing job losses in another state
4 (Gain@Cn1)	1	Increase in wealth in one country means decrease in wealth in another country
11 (T@State1)	2	If the states imposed state tariffs: your state would be better off
12 (T@State2)	2	If the states imposed state tariffs: the whole country would be better off
17 (Trad@Nz)	3	Free trade with lower-wage countries (New Zealand) depress Aust wage rates
16 (Trad@Ind)	3	Free trade with low-wage countries (Indonesia, China) depress Aust wage rates
13b (T@JapOz2)	2	If Japanese-Australian trade interrupted: Aust economy would be better off
14b (T@NzOz2)	2	If New Zealand-Australian trade interrupted: Aust economy would be better off
13a (T@JapOz1)	2	If Japanese-Australian trade interrupted: Japan's economy would be better off
14a (T@NzOz1)	2	If New Zealand-Australian trade interrupted: NZ economy would be better off
6 (TarifCut)	2	Most Australians would benefit if government reduced tariffs on imports
1 (Gain@Swp)	1	Computer / stamp / bike swaps: one person gains in a swap, while the other loses
18 (Trad@Tw1)	3	Third world countries don't stand a chance trading on open world markets

Notes: This Table should be used in conjunction with Table 2 below. 'Focus Areas' reported in the second column refer to the categories in which the questions were first hypothesised 'gains from trade ('Focus Area 1' in the table); 'costs and benefits of trade'('Focus Area 2'); 'side issues about free trade' ('Focus Area 3'). For full wording of items, see Appendix A1.

The aim of a principal components analysis is to produce 'clean' factor loadings, that is, manageable groups of variables which all load highly on only one factor. Naturally, there will be some correlation between all factors and all variables, but program output can be arranged so as to print only factor loadings over a certain correlation *Pearson's r*. In the case of Table 2 for example, only loadings of 0.25 or more are printed. Factor analyses are much enhanced when highly diffuse variables - those which load across several factors - are omitted.

Table 2 Principal Components Analysis of 'Economic Knowledge' Items Regarding Trade And Tariffs: Factor Loadings on Rotated Factor Matrix

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
10 (T@Quotas)	.80813							
8 (T@Selsf2)	.75384							
7 (T@Selsf1)	.71958				-.30617			
9 (T@Tcf1)	-.71112			-.30135				
15 (Arnott@1)	.63780	.25433	.26490					
2 (Gain@Per)		.79343						-.25674
5 (Gain@Cn2)		.72242		.27765				
3 (Gain@Sta)		.71288					.33599	
4 (Gain@Cn1)		.44182		.32812	-.42256			
11 (T@State1)			.89656					
12 (T@State2)			.86859					
17 (Trad@Nz)				.86047				
16 (Trad@Ind)	.26157			.74551				
13b (T@JapOz2)					.76798			
14b (T@NzOz2)					.72010	.32890		
13a (T@JapOz1)						.85557		
14a (T@NzOz1)						.74196		
6 (TarifCut)							.78272	
1 (Gain@Swp)							.73759	
18 (Trad@Tw1)								.93163

Notes: Kaiser-Meyer-Olkin measure of sampling adequacy=0.6650; Bartlett Test of Sphericity=784.5; Significance (testing the null hypothesis that the correlation matrix is an identity matrix) p=0.0000. Only factor loadings of 0.25 or more are printed.

Table 1 lists the variables, together with a shorthand of their description, and their connection with the individual topic headings as they were originally conceived. They are listed in the same order as produced by the 'trade and tariffs' principal components analysis (which is reproduced in full in Table 2).

As Table 1 shows, respondents didn't necessarily group individual questions in the way that might have been expected, though most items line up as predicted. Eight orthogonal factors were identified by the analysis (Table 2); their arrangement gives some idea about the *structure* of economic understanding among the general

population regarding trade and tariffs. What interpretation can be put on this analysis?

Firstly, the fact that variables are in some intelligent arrangement argues against either indiscriminate response patterns (the assumption that the general public doesn't think about economic issues and only respond randomly) or the notion that the nuance of individual questions are inaccessible: to give an example, respondents answered the two questions on self-sufficiency (both loading on Factor 1) the same way. Likewise, the two questions on the wage effects of free trade (loading on Factor 4) were also highly correlated. In other words, respondents answered *consistently* (they *tended* to respond that either they agreed similarly worded propositions were both true, or both propositions were false - or were unsure of both)[22].

Secondly, respondents answered the question about individual wealth gains through exchange ("one problem with free-enterprise capitalism, is that for every person who gains wealth, at least one other person must actually lose wealth") *in the same way* as nation to nation wealth gains through exchange (one proposition being "An increase in wealth in one country [because of international trade] usually means that some other country [or countries] has a corresponding decrease in wealth"; and "For every country made wealthy by free trade, there would be at least one other country made poorer"). Taken together - with another variable on how prosperity in one Australian state affects other states (ie. whether gains in one state occur always at the expense of another state) - the fact that these four 'wealth gain' variables all lined up (loading highly on factor 2), suggests that the general public think about personal gains individuals make by trading *in the same way* as they think about international trading gains. This may be of considerable interest for the communication of economics since it also suggests that those who have trouble conceiving of *international* trade gains are also those who have difficulty grasping the concept of *personal* trade gains. The variables on factor two were also tested for *reliability*. A reasonably high Cronbach's alpha for these four variables (0.7094) indicating that they 'stick together' well.

22. In some cases, where similar variables were worded positively and negatively, they still load on the same factor but the sign of one of them is negative (such as the 'Textiles, Clothing and Footwear' item on Factor 1 in Table 1).

Table 3 Correlation coefficients for the five 'Gains From Trade' variables.

	2 (Gain@Per)	4 (Gain@Cn1)	5 (Gain@Cn2)	3 (Gain@Sta)
4 (Gain@Cn1)	0.2292**			
5 (Gain@Cn2)	0.3567**	0.4836**		
3 (Gain@Sta)	0.5371**	0.2911**	0.3942**	
1 (Gain@Swp)	0.1667*	0.2214**	0.2402**	0.2807**

Notes: * correlation significant at 0.05
** correlation significant at 0.01

However, there was one 'Gains From Exchange' variable which did not load on that second factor in Table 2, namely, the variable concerning 'mutual gains from swaps' . This proposition (which respondents were asked whether true or false) stated:

> Australians often go to informal markets to *swap* things (such as computer swaps, stamp swaps, motorbike swaps etc). As a general rule, one person generally **gains** in a swap, while the other person generally **loses**

The *expectation* was that this variable would load on the same factor as the other four items (in factor 2). However, while this variable was not too far removed from the other four, it still correlated well with these others (Table 3). Not a lot should be inferred from the failure of the swap item to correlate as closely as the other four 'Gains From Trade' variables: it may be that the general public do not easily recognise that all trade is essentially a 'swap'.

A third interesting aspect that emerged from the analysis concerns the arrangement of responses to questions on the impact of *incidental hindrances to trade*. In the event of a disrupted trading arrangement (forcing two trading partners to look elsewhere), the questions asked whether either trading partner would be better off, worse off, or the same. The first question hypothesised the case of Australian-Japanese trade, asking whether the Japanese economy would be or worse off in the event of a trade disruption, as well as asking whether the Australian economy would be better or worse off. Similarly, an almost identical question took the case of a disruption to Australian - New Zealand trade.

Table 4 Correlation coefficients for the four 'Trade Disruption Effects' variables.

	13a (T@JapOz1)	13b (T@JapOz2)	14a (T@NzOz1)
13b (T@JapOz2)	.1387		
14a (T@NzOz1)	.4528**	.2174**	
14b (T@NzOz2)	.2671**	.2958**	.3239**

Notes: ** correlation significant at 0.01

In general, there were high correlations between all four variables (Table 4). The principal components analysis however (Table 2), indicated that two separate factors may be present. If this were to be the case, it would be expected that respondents might group the 'Trade Disruption Effects' variables in such a way as to suggest that *both* trade partners were worse off (or both were better off) simultaneously. If this were the case, it would be expected that the items would also load on Factor 2 with the other 'trade gain' variables. In fact, respondents grouped the effect on Australia *differently* than they imagined the response on our trading partners. This suggests that respondents believe that disruptions to trade have a fundamentally different effect on Australia than they have on any of our trading partners.

Table 5 Eigenvalues of the Trade and Tariffs Factor Matrix

Factor	Eigenvalue	% of Variation	Cumulative %
1	4.25830	21.3	21.3
2	2.01463	10.1	31.4
3	1.77913	8.9	40.3
4	1.43559	7.2	47.4
5	1.39119	7.0	54.4
6	1.19310	6.0	60.4
7	1.14829	5.7	66.1
8	1.04230	5.2	71.3

Notes: The sum of the squares for each factor is its eigenvalue: the total variance accounted for by all factors will be identical to the total variance for all individual variables. In the case of the factor analysis in Table 2, there were 20 variables, hence the aim is to simplify this system (with its eigenvalue of 20) by a fewer number of factors which can largely replace the original variables. The first factor (Factor 1, first row beneath the headings, above), alone, can explain 21.3% (4.2583/20) of all variation in the system (that is, the equivalent of the variance in 4.2583 variables). To put it another way, it would be possible to replace the system of 20 original variables with only eight new variables (that is, factors). These eight new variables would explain 71.3% (last row, last column) of total variation.

A fourth interesting aspect emerging from the factor matrix concerns the *first factor*. On it are loaded several variables relating to the welfare effect on Australia of protective tariffs, along with the effects of national self-sufficiency, and also the 'disappearing corporate icon' effect (the losses, real or imagined, associated with the sale of Australian companies to overseas buyers - such as Arnotts, Peters and Edgells). Together, the five variables that load on Factor One account for 21.3 percent of the total variance (the largest) of the sample (Table 5).

Such a significant factor points to the existence of an underlying viewpoint, either attitudinal in nature, or knowledge based (or, conversely, 'ignorance' based), which effects these five variables in a similar way. As alluded to above, the task in this case is to allocate a moniker to this factor, that is, find a label that best represents the essence of the five questions which respondents grouped together. This has been called the 'Tariffs and National Identity' scale, since the factor combines views about the effects of quotas and tariffs in general (as well the effect of the abolition of textile, clothing and footwear tariffs) with the 'corporate icon' losses and economic effects of self-sufficiency.

A fifth inference concerns the interesting observation that the *gains from trade* items do not load on the same factor as *benefits of eliminating hindrances to trade*. items. In other words those who see general welfare advantage when trade is permitted to be free are not necessarily the same as those people who see general welfare disadvantages when trade is (later) restricted by a tariff or quota. It was expected that if respondents were convinced about the benefits of free trade *for good economic reasons,* they would likewise extend the analysis to the reverse situation, the drawbacks of restricting trade using tariffs and quotas. But it is clear from the fact that these items do not load on the same factor that the public conceive of tariffs and quotas in a completely different way to how they see gains from trade and exchange.

A sixth and final inference of the principal components analysis relates to the arrangement of the other apprehensions regarding trade and tariff items (those labelled 'Focus Area 2' back in Table 1). Clearly these items were not strongly associated. In fact, these items - which cover the impact of quotas and tariffs across both Australian states and between countries, international trade disruption effects and self-sufficiency - loaded across four or five separate factors (Factors 1, 3, 5, 6

and 7). Especially interesting, is the fact that the 'Impact of State Tariffs' scale is not perceived in the same way as the impact of tariffs (or their removal) between sovereign nations. What might this suggest? An initial hypothesis might imply that respondents do not solely understand tariffs in terms of pure benefits over costs or costs over benefits; rather, international tariffs may be a way of keeping the outside world at bay, an arrangement which respondents do not see appropriate for relationships between individual Australian states.

3. Market Clearing Issues

Table 6 presents the shorthand descriptions of the variables which entered the market clearing principal components analysis - in the order in which the factors were produced (arranged from the factor which accounted for the greatest amount of variation to the ninth factor which accounted for the least).

The result of the principal components analysis is reported in Table 7. Even though questionnaire items were conceived of in five broad categories (business behaviour, price and resource usage, price ceilings, price floors, and market solutions to social problems), they were so grouped mainly for convenience. In one sense, the ideal result would have been to see all market clearing variables, whether they be resource allocation, price ceilings, price floors or market clearing solution variables all loaded on one factor (or very few factors). Failing this, it would be expected that variables would be arranged approximately by *topic* (the crime link to drugs variables loading together, the petrol pricing variables together, etc).

Table 6 Principal Components Analysis of 'Economic Knowledge' Items Regarding Market Clearing: Variable Description Ordered According to Factor Priority

Variable No. and Name	Focus Area	Variable Description
7 (Pat@Nz)	1	Closing a factory in Aust only to reopen in cheaper-wage New Zealand immoral
6 (Pat@Fiji)	1	Closing a factory in Aust only to reopen in low-wage Fiji / Nauru is immoral
12 (Ren@Por1)	3	Rent controls are an effective method of ensuring adequate affordable housing
2 (CorpProf)	1	When companies make big profits: sure sign customers are getting ripped off
4 (CorpLoss)	1	When a company makes a big loss: customers must be getting good deals
3 (BankLoss)	1	When a bank makes a big loss: customers must be getting good deals
25 (Drug@Cr2)	5	Drug-addicts tend to turn to crime to support their addiction
24 (Drug@Cr1)	5	An increase in number of drug-addicts leads to increase in robberies / burglaries
23 (Min@Legi)	4	Minimum wage legislation reason why young / unskilled workers cannot find jobs
10 (Pet@Use)	3	If govt reduced petrol prices, average Aussie would use more petrol
19 (Min@Yuth)	4	If govt legislated increased youth wage rate: employers take older workers
11 (Pet@Expl)	3	If govt reduced petrol prices, oil companies would spend less on oil exploration
20 (Min@Unsk)	4	If govt legislated increased unskilled wage rate: employers take less unskilled
26 (Drug@Sft)	5	A freemarket in soft drugs thru chemist shops would reduce crime
27 (Drug@Hrd)	5	A freemarket in hard drugs thru chemist shops would reduce crime
9 (DisScen@)	2	The world is about to run out of resources: someday will face a disaster scenario
29 (Milk@)	4	Minimum price for milk - dairy farmers better off or worse off
15 (Phar@Res)	3	If pharmaceutical companies forced to drop prices: less research investment
16 (Phar@Won)	3	If pharmaceutical companies forced to drop prices: fewer wonder drugs found
14 (Exec@Cou)	3	If firms not allowed to pay huge exec salaries, whole country less productive
13 (Exec@Tax)	3	Australians better off if million-dollar executive salaries taxed more heavily
1 (BankProf)	1	When banks make big profits: sure sign customers are getting ripped off
21 (Min@Ethn)	4	If an ethnic group exempted from minimum wage: more of them would get jobs
18 (IR@Home)	3	If govt ordered low interest rates, more Aussies would get home loans
17 (IR@Inves)	3	If govt legislated low interest rates, more businesses would get investment loans
5 (Pat@Dona)	1	Corporations allowed to donate to charities only if shareholders approve
8 (Res@Aid)	2	If land offered freely to graze animals: land would be better / worse condition
22 (Min@Long)	4	If the long term unemployed exempted from minimum wage: more would get jobs
28 (Blod@Sel)	5	A freemarket in the buying / selling of blood would solve shortage of blood

Notes: This table should be used in conjunction with Table 7 below. 'Focus Areas' reported in the second column refer to the categories in which the questions were hypothesised: ie. 'business behaviour' ('Focus Area 1' in the table); 'price and resource usage' ('Focus Area 2'); 'the effect of price ceilings' ('Focus Area 3'); 'the effect of price floors' ('Focus Area 4'); and 'market clearing solutions' ('Focus Area 5'). For full wording of items, see Appendix A2.

Table 7 Principal Components Analysis of 'Economic Knowledge' Items Market Clearing: Factor Loadings on Rotated Factor Matrix

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
7 (Pat@Nz)	.81209								
6 (Pat@Fiji)	.80159								
12 (Ren@Por1)	.70219								
2 (CorpProf)	.55698	.33709					.43862		
4 (CorpLoss)		.92913							
3 (BankLoss)		.90541							
25 (Drug@Cr2)			.81837						
24 (Drug@Cr1)			.77542						
23 (Min@Legi)			.45714	.35354			-.42480		
10 (Pet@Use)				.64862					
19 (Min@Yuth)				.60745					
11 (Pet@Expl)				.58248			-.29130		
20 (Min@Unsk)			.28669	.47757					
26 (Drug@Sft)					.74849				
27 (Drug@Hrd)					.74427				
9 (DisScen@)	.29112				.47360				-.25827
29 (Milk@)					.42255	-.26940		.30992	
15 (Phar@Res)						.85136			
16 (Phar@Won)						.78804			
14 (Exec@Cou)				.28035			-.70498		
13 (Exec@Tax)	.41221						.54819		
1 (BankProf)	.31499	.25653	.35229	.29336	.49656				
21 (Min@Ethn)				.29277		-.27826	.37378		.27488
18 (IR@Home)	.31353							.67656	
17 (IR@Inves)	.27175							.66051	
5 (Pat@Dona)				.25340				.54816	-.27085
8 (Res@Aid)	.26715								.66695
22 (Min@Long)	-.32356								.60743
28 (Blod@Sel)					.43672				.44196

Notes: Kaiser-Meyer-Olkin measure of sampling adequacy=0.6678; Bartlett Test of Sphericity=1357.8; Significance (testing the null hypothesis that the correlation matrix is an identity matrix) p=0.0000. Only factor loadings of 0.25 or more are printed.

While Item 29 (the 'milk' question) was included on the principal components analysis, it was judged too unclear for further discussion.

The results from the principal components analysis are both reassuring and surprising: a tentative interpretation of the pattern would be as follows. Firstly, there are good correlations between the *expected*, similarly worded questionnaire items. These include: 'Business Loss' (Factor 2), 'Patronage Allocation' (Factor 1), 'Interest Rate Ceilings' (Factor 8) 'Drugs and Markets' (Factor 5), 'Drugs and Crime' (Factor 3), 'Pharmaceutical Profits' (Factor 6), 'Petrol Ceilings' (Factor 4) and 'Executive Salaries' (Factor 7). All of these pairs of variables correlated at one percent level of significance. Again, it is clear that respondents are not answering indiscriminately; whether 'right' or 'wrong', respondents hold consistent opinions about a range of market clearing ideas.

Table 8 Eigenvalues of the Market Clearing Factor Matrix

Factor	Eigenvalue	% of Variation	Cumulative %
1	4.24429	14.6	14.6
2	2.70029	9.3	23.9
3	2.22426	7.7	31.6
4	1.82200	6.3	37.9
5	1.61550	5.6	43.5
6	1.45602	5.0	48.5
7	1.32430	4.6	53.1
8	1.29686	4.5	57.5
9	1.14258	3.9	61.5

Notes: The sum of the squares for each factor is its eigenvalue: the total variance accounted for by all factors will be identical to the total variance for all individual variables. In the case of the factor analysis in Table 7, there were 29 variables, hence the aim is to simplify this system (with its eigenvalue of 29) by a fewer number of factors which can largely replace the original variables. The first factor (Factor 1, first row beneath the headings, above), alone, can explain 14.6% (4.24429 / 29) of all variation in the system (that is, the equivalent of the variance in 4.24429 variables). To put it another way, it would be possible to replace the system of 29 original variables with only nine new variables (that is, factors). These nine new variables would explain 61.5% (last row, last column) of total variation.

Secondly, the overall pattern is much more diffuse than the factor matrix produced by the trade and tariffs items (Table 2). Both principal component analyses created around the same number of factors (8 for the trade and tariffs; 9 for the market

clearing), yet the leading three factors for the market clearing analysis (see the Eigenvalues output in Table 8) only accounted for 31.6 percent of the total variation (as against 40.3 percent for the trade and tariffs analysis - see Table 5), and the top eight accounted for only 57.5 percent (versus 71.3 percent for trade and tariffs). In the language of factor analysis, the market clearing loadings are not as 'clean' as those for the trade and tariff items. A number of items were diffused untidily across several factors: the 'banking profits' item (variable 'BankProf'), for example loaded highly across five separate factors (the first five factors), while no less than five other variables loaded highly (that is, greater than 0.25) across at least three separate factors. The ideal, of course, is to try and arrange high factor loadings on one factor only - although there will always be smaller correlations on other factors. With varimax rotation, factors are orthogonal: a variable, therefore, which loads highly on two or more is 'strung out' in the middle spaces between (uncorrelated) factors.

The presence of awkward combinations without any theoretically sensible hypotheses (such as for Factors 3, 4 and 5) raises the likelihood of incidental, spurious correlations, something which should not be unexpected given the diffuse factor analysis such as Table 7 presents. There is certainly no clear overall 'market clearing' idea within the general public as might be expected to underlie the relevant chapters in a neoclassical economics textbook.

Following on from the observation of 'variable scatter' in Table 7, the arrangement of the nine 'price ceilings' items (the 'Focus Area 3' items listed in Table 6) suggests a third aspect about the principal components analysis. As intimated earlier, if all these items lined up clearly on a single factor, it could be argued that respondents recognise an underlying 'market clearing implications of price ceilings' factor. Table 9 presents the correlations between these nine 'price ceilings' items. Given that four pairs were expected to correlate (since they represent very similar items, it is interesting than only 12 of the remaining 32 pairs of variables in Table 9 correlate at the 0.05 percent level or better. This is certainly not clear evidence for the existence of a 'market clearing implications of price ceilings' factor.

Table 9 Correlation coefficients between all nine 'Price Ceilings' Variables

	10 (Pet@Use)	11 (Pet@Expl)	12 (Ren@Por1)	14 (Exec@Cou)	13 (Exec@Tax)	15 (Phar@Res)	16 (Phar@Won)	18 (IR@Home)
11 (Pet@Expl)	*.2774***							
12 (Ren@Por1)	.1138	.2021**						
14 (Exec@Cou)	.0603	.2429**	-.0713					
13 (Exec@Tax)	.1113	-.0259	.3433**	*-.3020***				
15 (Phar@Res)	.0859	.2543**	-.0039	.1217	-.1116			
16 (Phar@Won)	.0916	.3655**	-.0202	.1615*	-.0341	*.5561***		
18 (IR@Home)	.1399*	.2738**	-.0735	.2659**	-.0435	.0069	.1983**	
17 (IR@Inves)	.0855	.0056	.2651**	.0122	.1587*	.0539	.0195	*.4934***

Notes: * correlation significant at 0.05
**correlation significant at 0.01
Figures in italics signify correlations between similarly worded items which were expected to correspond.

A fourth aspect emerging from the principal components analysis concerned the 'patronage allocation' variables[23] and the 'business behaviour' variables. As

23. What - in the eyes of an economically illiterate public - is responsible for who gets what and how much they get? It could be hypothesised that the most common belief about final income and wealth outcomes resembles a kind of 'patronage allocation' model. In this conception, firms are not merely (if at all) economic agents that shift resources and production in response to prices and profits; rather, they are seen as privileged wealth depositories which need to be convinced (or forced) to share their good fortunes with others for common benefit. In fact, this view is strengthened when public corporations make large (and well-publicised) donations to all sorts of popular causes. This view is also evident by public interest concerning the proportion of national income going to various factors (especially wage and salary income as against profits). In the 'patronage allocation model' great faith (and expectations) are placed in governments which are believed to be able to decisively influence wealth production by manipulating the unseen forces that determine ultimate allocations. Political parties themselves, contribute to the widespread belief in the 'patronage allocation model' by promising they can deliver the results electorates demand. The media also propagate this model with 'hard luck' stories of entrepreneurs who cannot make a 'decent living' out of a particular industry (in economese: low profitability would simply signal a redirection of investments). In one sense economists and commentators also contribute to this myth when they use such phrases as 'increased costs are *passed on* to the consumer'. In fact, rare is the occasion that the whole of a cost increase is borne by consumers: demand contracts until the new market clearing price is established, while often there is an increase in the supply of product substitutes.
The 'patronage allocation model' (as hypothesised) is a view about society and economics in which competing social interests and groups (consumers, producers, workers, entrepreneurs, bankers, classes, landlords, tenants, alike) all receive their respective outcomes according to whether 'justice', or 'fair share' principles are being observed or not. This also implies that firms which respond to changing market conditions - such as increasing their investment in machinery or shifting production offshore in response to wage increases - are often seen as playing unfairly, even dishonestly.

expected, most of these variables did load apart from the market clearing variables: six of the seven items in these categories loaded highly on either or both of the first two factors (ie. Factors 1 and 2 in Table 7 - together accounting for 23.9 percent of total variation). Table 10 reports the matrix of correlation between these seven variables (13 of the 21 possible pairs are significant at the 0.05 level or better). What this structure shows is that there are two closely connected scales which disclose underlying opinions about how enterprises function - in a sense it reveals the non-specialist's 'theory of the firm'. The first scale identifies those who believe that big profits by businesses and banks are earned by cleverly defrauding customers (perhaps by deceiving them into paying too much for their products) and correlates them *with* those who take the view that when firms close factories in Australia only to reopen offshore, they are acting immorally. At the other pole of this scale, of course, is the view that both profit-making *and* factory relocations are the result of good business decisions made under *legitimate* 'market rules' conditions. This scale, in other words, helps to define and identify the 'patronage allocation model'. The second scale is very similar: it simply identifies a polarity among respondents concerning the implications of large losses by banks or corporations. Again one end of this lay 'theory of the firm' is persuaded that a corporate loss must imply that customers are getting good deals (that is, the firm has miscalculated by underpricing its goods). The other end of this scale, while affirming that loss-making firms have misread the market, deny that its customers have necessarily gained.

From a cursory comparison of Tables 9 and 10, it is evident that the existence of the 'patronage allocation' factor (or 'factors') is stronger and more focused than that of a market clearing 'implications of price ceilings' factor.

Table 10 Correlation coefficients between all 'Business Behaviour' and 'Patronage Allocation' Variables

	1 (BankProf)	2 (CorpProf)	3 (BankLoss)	4 (CorpLoss)	5 (Pat@Dona)	6 (Pat@Fiji)
2 (CorpProf)	.6501**					
3 (BankLoss)	.1353*	.2065**				
4 (CorpLoss)	.0935	.2173**	.8690**			
5 (Pat@Dona)	.1698*	.1347*	-.0115	-.0198		
6 (Pat@Fiji)	.2426**	.3647**	.0027	-.0258	.0682	
7 (Pat@Nz)	.3255**	.4323**	.0930	.0703	.1604*	.7006**

Notes: * correlation significant at 0.05
**correlation significant at 0.01

A fifth aspect of the principal components analysis concerns the 'market clearing implications of price floors' items (listed as the 'Focus Area 4' items in Table 6). This part of the project included one question on the implications of price floors on milk production - an item which was probably not well expressed on the questionnaire (and played little part in further analysis) - and which, in any case, did not correlate at all with any of the five items concerning the implications of minimum wages (as a price floor on labour). These five minimum wage items are sprayed all over the factor matrix (loading onto four different factors); Table 11 (below) reveals that of the ten possible pairs between these items, only three pairs correlate at the five percent level of significance or better. In other words, there is no clear mental arrangement within the public's mind concerning the implications of the abolition (or retention) of minimum wage policies.

Table 11 Correlation coefficients between the five 'Minimum Wage' Variables

	23 (Min@Legi)	19 (Min@Yuth)	20 (Min@Unsk)	21 (Min@Ethn)
19 (Min@Yuth)	.1898**			
20 (Min@Unsk)	.1999**	.2758**		
21 (Min@Ethn)	-.0728	.1002	.0996	
22 (Min@Long)	-.0664	.0534	.0871	.0860

Notes: **correlation significant at 0.01

A final aspect of the Table 7 principal components analysis has to do with the links between illegal drugs and the level of robberies. Here there are two clear factors: the first concerns the direct link between drug addiction and crime (two items), and the second, whether the level of robberies and burglaries would moderate if narcotics were readily available through a controlled agencies such as chemist shops (two items). As Table 12 shows, only the pairs of items on the factors - those which were expected to correlate - did so. There was no correlation at all between these two factors however.

Table 12 Correlation coefficients between the four 'Drugs and Crime' Variables

	24 (Drug@Cr1)	25 (Drug@Cr2)	26 (Drug@Sft)
25 (Drug@Cr2)	.5841**		
26 (Drug@Sft)	-.0372	.0187	
27 (Drug@Hrd)	-.1209	-.0365	.5118**

Notes: **correlation significant at 0.01

4. Efficiency Issues

The efficiency items comprised the largest proportion of those on the questionnaire. With such a large number of variables relating to a good number of topics organised around the idea of 'efficiency' - some more loosely organised than others - it would be expected that the principal components analysis might be a little scrappy. Nevertheless, the factor matrix is not too bad. Together with careful correlation analysis, it was possible to identify clear scales. Table 13 lists the shorthand descriptions of the variables which were included in the efficiency principal components analysis (itself set out in Table 14). Some twelve factors were produced by the method; the largest, represented by the privatisation variables, accounted for 15 percent of the total variation (Table 15).

Questionnaire items were conceived of in four general 'efficiency' categories - namely, competition, information costs, privatisation, and economic solutions to social problems - together with a category on community perceptions on the economics discipline and its practitioners, the economists themselves.

There was no expectation that these should necessarily correlate (and be found loaded on only one factor). Rather, it was thought that the factors ideally, would at least be neat and clean for the competition, privatisation, and information cost items. A restricted range of factors (say, two or three) would ideally liked to be found for the 'economic solutions to social problems' category, but there was no expectation at all (given the scatter of the principal components analyses in sections 2 and 3) that a common 'efficiency' principle would be recognised by respondents (and in fact, in this aspect at least, there was no surprise).

Table 13 Principal Components Analysis of 'Economic Knowledge' Items Regarding Efficiency: Variable Description Ordered According to Factor Priority

Variable No. and Name	Focus Area	Variable Description
23 (Elec@Sta)	4	If govt sells electricity generation, will state govt gain or lose
24 (Elec@Eco)	4	If govt sells electricity generation, overall state economy better off / worse off
27 (Tram@Eco)	4	If govt sells public transport, overall state economy better off / worse off
26 (Tram@Sta)	4	If govt sells public transport, will state govt gain or lose
22 (Elec@Bil)	4	If govt sells electricity generation, cost of producing elec more / less
25 (Tram@Bil)	4	If govt sells public transport, cost of providing public trans more / less
28 (Jail@Cst)	4	Running costs of <u>private</u> jails *cheaper* or *more expensive* than if govt ran them
29 (Grow@Bn1)	5	While economic growth benefits the rich, it *also* benefits the poor
31 (Grow@Job)	5	Gnereally speaking, more economic growth means more Australians get jobs
30 (Grow@Bn2)	5	Economic growth only benefits the rich and middle class: it rarely benefits poor
32 (Grow@Bad)	5	Further economic growth will be bad for Australia
16 (Adv@Info)	3	Advertising provides infomation: buyers and sellers get the best prices possible
8 (Com@Optu)	2	Phone calls now cheaper due to competitive entry of Optus
9 (Com@Jobs)	2	If Aust industries more competitive, more jobs would be generated
10 (Com@Ford)	2	More competition among automotive suppliers means more jobs in car-making
42 (Resort@1)	5	The government should be an employer of last resort & guaranteed job program
34 (Grow@Red)	5	How would <u>greater redistribution of income</u> affect economic growth: good / bad
20 (Car@Add)	3	If government legislated <u>maximum commission</u> on used cars: cheaper to obtain
33 (Grow@Pol)	5	An increase in economic growth almost certainly means pollution levels rise too
7 (Com@Ris)	2	If you increase competition, prices usually <u>rise</u>.
6 (Com@Fal)	2	If you increase competition, prices usually <u>fall</u>.
41 (Parrot@)	5	Private enterprise best option for saving endangered parrots?
36 (Sustpop@)	5	Australia rapidly approaching its maximum sustainable population level
18 (Adv@Rest)	3	If govt passed laws restricting advertising - product prices eventually rise
35 (Grow@Agr)	5	Growth in service industries does not constitute 'real' or 'actual' econ growth
40 (Env@3rd)	5	Western enviromental legislation direct threat to environment in 3rd-world
21 (Car@Expn)	3	If maximum commission set on used cars: they would be more expensive to obtain
12 (Com@Qant)	2	If more foreign airlines compete with Qantas / Ansett: air travel prices rise
38 (Env@Prf1)	5	Environmentally-conscious companies likely to be just as profitable as others
39 (Env@Prf2)	5	Environmentally-conscious companies less likely to be as profitable as others
5 (EconVal)	1	Study of economics could be valuable to understand public issues & controversies
4 (EconHelp)	1	Study of economics could be helpful to you as a citizen when voting
17 (Adv@Petr)	3	If governments pass laws restricting petrol advertising - petrol prices will fall
15 (Adv@Cost)	3	If all firms advertised less, the whole economy would be a bit better off
19 (Car@Save)	3	Used-car saleyards save buyers and sellers lots of search time
14 (Com@Dupl)	2	Optus entry means equipment duplication: must mean higher phone prices later
37 (Env@Pol1)	5	What would be the effect of a pollution rights tax: more pollution or less

13 (Com@Bank)	2	Banking fees higher if foreign banks were excluded from Australia
11 (Com@Farm)	2	If farmers more competitive: more jobs generated in food-processing industries

Table 13 (Continued) Principal Components Analysis of 'Economic Knowledge' Items Regarding Efficiency: Variable Description Ordered According to Factor Priority

Notes: This table should be used in conjunction with Table 14 below. 'Focus Areas' reported in the second column refer to the categories in which the questions were first conceived, ie. 'economic science and economic rationalism' ('Focus Area 1' in the table); 'competition' ('Focus Area 2'); 'information costs' ('Focus Area 3'); 'privatisation' ('Focus Area 4'); and 'efficient solutions to social problems' ('Focus Area 5'). For full wording of items, see Appendix A3.

As the factor analysis is not as clean as would be wanted, interpretation is aided by taking correlation coefficients into account. Six broad patterns emerge.

Firstly, respondents grouped their answers to the seven *privatisation* questions quite similarly. In other words, the fact that responses to three different economic issues (sale of electricity generation, sale of public transport, and the privatisation of jails) tend to 'stick together' argues for the existence of a common underlying factor regarding *the idea of* competency of government to run businesses (some respondents clearly supportive, others not). As mentioned elsewhere, even if frequency counts for two different questions were identical, this is no guarantee that the same individual was answering each item the same way. However, the high loadings on this first factor (Table 14) indicates that respondents have answered each question similarly - those who see gains from the privatisation of public transport are generally the *same* individuals who hail gains from the off-loading of electricity generation utilities. These seven registered a very high level of inter-correlation and returned correlations among each other at the one percent level of significance or better (Table 16). The 'Privatisation' factor accounted for the largest amount of variation for the entire 'efficiency' variables system (15.3 percent, as shown in Table 15).

Table 14 Principal Components Analysis of 'Economic Knowledge' Items Regarding Efficiency: Factor Loadings on Rotated Factor Matrix

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
23 (Elec@Sta)	.85205						
24 (Elec@Eco)	.82811						
27 (Tram@Eco)	.81502						
26 (Tram@Sta)	.74285						
22 (Elec@Bil)	.56458	.35757		-.29193			
25 (Tram@Bil)	.52028	.30761		-.25350			
28 (Jail@Cst)	.38211	.34827			-.28940		
29 (Grow@Bn1)		.76343					
31 (Grow@Job)	.28073	.70612	.27296				
30 (Grow@Bn2)		-.58051			.35479		
32 (Grow@Bad)		-.49073				.26529	-.28628
16 (Adv@Info)			.74820				
8 (Com@Optu)			.67421				
9 (Com@Jobs)	.27098		.53033				
10 (Com@Ford)			.48499	.31924			
42 (Resort@1)	-.32008		.36136	.31489			-.33434
34 (Grow@Red)				.80705			
20 (Car@Add)			.27432	.59923			
33 (Grow@Pol)		-.25573		.56024			
7 (Com@Ris)					.76935		
6 (Com@Fal)			.25714		-.73269		
41 (Parrot@)					-.55625		
36 (Sustpop@)		-.43009			.43125		
18 (Adv@Rest)			.27920			.68591	
35 (Grow@Agr)						.59585	
40 (Env@3rd)						.57047	.27678
21 (Car@Expn)				-.39039		.52363	
12 (Com@Qant)					.34922	-.37979	
38 (Env@Prf1)							-.83480
39 (Env@Prf2)							.68661
5 (EconVal)							
4 (EconHelp)							
17 (Adv@Petr)							
15 (Adv@Cost)		-.28269		.47751			

```
19
(Car@Save)
14              -.44896
(Com@Dupl)

37
(Env@Pol1)

13
(Com@Bank)
11                                .45249
(Com@Farm)
```

Table 14 (Continued) Principal Components Analysis of 'Economic Knowledge' Items Regarding Efficiency: Factor Loadings on Rotated Factor Matrix

	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12
23 (Elec@Sta)					
24 (Elec@Eco)					
27 (Tram@Eco)					
26 (Tram@Sta)					
22 (Elec@Bil)				.29922	
25 (Tram@Bil)				.28602	
28 (Jail@Cst)				.27741	
29 (Grow@Bn1)					
31 (Grow@Job)					
30 (Grow@Bn2)					
32 (Grow@Bad)		.26612			-.31888
16 (Adv@Info)					
8 (Com@Optu)					
9 (Com@Jobs)					
10 (Com@Ford)			.41862		
42 (Resort@1)					.30073
34 (Grow@Red)					
20 (Car@Add)					
33 (Grow@Pol)		.31484			
7 (Com@Ris)		.25656			
6 (Com@Fal)					
41 (Parrot@)		.38907			.31204
36 (Sustpop@)		.25287			
18 (Adv@Rest)					
35 (Grow@Agr)					
40 (Env@3rd)			.30785		
21 (Car@Expn)			.25863		
12 (Com@Qant)		-.25793	.34366		
38 (Env@Prf1)					
39 (Env@Prf2)					
5 (EconVal)	.86548				
4 (EconHelp)	.85233				
17 (Adv@Petr)		.78003			
15 (Adv@Cost)		.47991			

19 (Car@Save)	.75361		
14 (Com@Dupl)	.45282		
37 (Env@Pol1)		.70356	
13 (Com@Bank)		-.28411	.61493
11 (Com@Farm)	.29027		-.53110

Notes: Kaiser-Meyer-Olkin measure of sampling adequacy=0.6374; Bartlett Test of Sphericity=1892.4 Significance (testing the null hypothesis that the correlation matrix is an identity matrix) p=0.0000. Only factor loadings of 0.25 or more are printed.

Table 15 Eigenvalues of the Efficiency Factor Matrix

Factor	Eigenvalue	% of Variation	Cumulative %
1	5.97790	15.3	15.3
2	3.16560	8.1	23.4
3	2.47185	6.3	29.8
4	2.18078	5.6	35.4
5	2.00759	5.1	40.5
6	1.92029	4.9	45.4
7	1.79610	4.6	50.1
8	1.44084	3.7	53.7
9	1.30408	3.3	57.1
10	1.25413	3.2	60.3
11	1.14387	2.9	63.2
12	1.08969	2.8	66.0

Notes: The sum of the squares for each factor is its eigenvalue: the total variance accounted for by all factors will be identical to the total variance for all individual variables. In the case of the factor analysis in Table 14, there were 39 variables, hence the aim is to simplify this system (with its eigenvalue of 39) by a fewer number of factors which can largely replace the original variables. The first factor (Factor 1, first row beneath the headings, above), alone, can explain 15.3% (5.9779 / 39) of all variation in the system (that is, the equivalent of the variance in 5.9779 variables). To put it another way, it would be possible to replace the system of 39 original variables with only twelve new variables (that is, factors). These twelve new variables would explain 66.0% (last row, last column) of total variation.

Table 16 Correlations for all Privatisation Variables

	23 (Elec@Sta)	24 (Elec@Eco)	22 (Elec@Bil)	26 (Tram@Sta)	27 (Tram@Eco)	25 (Tram@Bil)
24 (Elec@Eco)	.6182**					
22 (Elec@Bil)	.3882**	.6153**				
26 (Tram@Sta)	.5854**	.4760**	.2954**			
27 (Tram@Eco)	.5410**	.6720**	.5334**	.6595**		
25 (Tram@Bil)	.3455**	.5138**	.6330**	.3408**	.5903**	
28 (Jail@Cst)	.1630*	.2669**	.4054**	.2444**	.2905**	.3119**

Notes: *significant at 0.05; **significant at 0.01

Table 17 Correlations for all Economic Growth Variables

	29 (Grow@Bn1)	30 (Grow@Bn2r)	31 (Grow@Job)	32 (Grow@Bdr)	34 (Grow@Red)	33 (Grow@Pol)
30 (Grow@Bn2r)	.5654**					
31 (Grow@Job)	.3473**	.1973**				
32 (Grow@Bdr)	.3179**	.2617**	.2203**			
34 (Grow@Red)	-.1287	-.1907**	.0200	-.0007		
33 (Grow@Pol)	-.1310	-.2457**	.0071	-.2632**	.1812**	
35 (Grow@Agr)	-.0739	-.1377*	.0739	-.1526*	.2288**	.0794

Notes: *significant at 0.05; **significant at 0.01
The variable 'Grow@Bn2' has been reversed ('Grow@Bn2r')

But the idea of welfare gains (or losses) from privatisation was not the only economic concept that appeared to be well unified in the minds of respondents. Seven items were included to test for the concept of *gains from economic growth*, and the results from these led to a second interesting implication of the factor analysis. Four of these items - those testing for the benefits of economic growth upon general welfare and the poor, as well as its impact on employment opportunities - loaded strongly on the second highest factor (explaining another eight percent of total variation; Table 15). Other items probed the trade off between growth and pollution, and between growth and income redistribution, while a third sought to discover whether respondents identified economic growth in 'service industries' (the 'paper shuffling' industries like banking and finance) the same as they would growth in the more 'tangible' manufacturing, mining and agricultural industries. It was apparent that these items were not as readily seen to be undergirded by the same comprehension of the term 'economic growth' as the four which loaded on Factor 2 of the principal components analysis; this result is confirmed by the correlations in Table 17.

Thirdly, it is intriguing that three of the privatisation items (in fact one from each of the electricity generation, public transport and jail privatisation areas) loaded reasonably well on the major 'economic growth' factor (Factor 2). The correlations were clearly not accidental (Table 18). In other words, some support may be inferred for the notion that those respondents who recognise the benefits of privatisation also connect these benefits with the idea of economic growth. Conversely, this conjunction is also evidence that those who do not readily grasp the welfare benefits of economic growth are also those who believe governments run their services more cheaply than private businesses.

The fourth interesting aspect of the factor analysis - and by way of contrast to the privatisation and economic growth issues - concerns the nine *competition* items. Three of them load highly on Factor 3, while a fourth (relegated to the twelfth and last factor) also revealed a reasonably high loading on the third factor. In correlation analysis, all four correlated well with one another at the five percent level of significance or better (cf. Table 19). This general 'Applied Competition' factor, returned a reasonable inter-correlation.

Table 18 Correlations Between 'Privatisation' Items and 'Economic Growth' Items

	22 (Elec@Bil)	25 (Tram@Bil)	28 (Jail@Cst)
29 (Grow@Bn1)	.3470**	.2622**	.1999**
30 (Grow@Bn2)	-.3280**	-.2653**	-.2471**
31 (Grow@Job)	.2283**	.2225**	.2194**
32 (Grow@Bad)	-.1042	-.1402*	-.1817**

Notes: *significant at 0.05; **significant at 0.01

Table 19 Correlations for all Competition Variables

	6 Com@Fal	7 Com@Ris	8 Com@Optu	14 Com@Dupl	12 Com@Qant	13 Com@Bank	9 Com@Jobs	11 Com@Farm
7 (Com@Ris)	-.4102**							
8 (Com@Optu)	.3082**	-.1777*						
14 (Com@Dupl)	-.2053**	.2478**	-.2355**					
12 (Com@Qant)	-1998**	.2830**	-.3201**	.2191**				
13 (Com@Bank)	.0421	.1303	.0990	.0441	.0351			
9 (Com@Jobs)	.1886**	-.0302	.2367**	-.0798	-.1352*	.1749*		
11 (Com@Farm)	.1298	.0651	.2028**	.0971	-.0714	-.0034	.2371**	
10 (Com@Ford)	.0381	.1768**	.1480*	.1546*	.0014	.0808	.3380**	.2570**

Notes: *significant at 0.05; **significant at 0.01

A more basic 'pure theory' competition scale was created by the two items which simply asked whether prices rose or fell when competition increased (in Factor 5). These items correlated (significantly) in only four out of eight pairs when aligned against the 'Applied Competition' variables (Table 19). This suggests that respondents, while recognising the real world effect of competition, nevertheless do not necessarily connect it with the theoretical construct as economists usually

understand it. For this reason, it was appropriate that two separate scales represent *the idea of overall welfare gains (or losses) from competition* in later regression analysis: namely' Competition Theory' and 'Competition Applied.'

Likewise, three other competition items did not cleanly associate either with each other, or with the other two 'competition' scales. These items probed the effect of competition among airlines, and between banks. Along with a third 'theory' item which explored the issue of capital duplication among telecommunications competitors (and its inference that later price rises would need to occur to fund the duplication), these three items loaded across three separate factors (namely, factor 6, 12, and 10 respectively in Table 14). Such a result further supports the contention that the concept of competition is understood 'in clumps', but does not cohere as well, for example, as the idea of general welfare gains (or losses) due to privatisation.

The fifth aspect of the analysis concerns the issue of *information costs:* questions ranged across the supposed efficiency benefits of advertising in general (four items) and the example of whether used-car dealers made the search and consequent information gathering costs cheaper or not (another three propositions). Of these seven items (which form 21 pairs of correlations), 13 returned significant correlations while 8 indicated no correlation (Table 20). In other words, the concept of 'search costs' is very weak among the public. As can be seen from Table 14, these seven items are scattered untidily across five different factors (Factors 3, 4, 6, 9, and 10).

Table 20 Correlations for all Information and Search Costs Variables

	16 Adv@Info	18 Adv@Rest	17 Adv@Petr	15 Adv@Cost	20 Car@Add	21 Car@Expn
18 (Adv@Rest)	.2803**					
17 (Adv@Petr)	.0130	-.0096				
15 (Adv@Cost)	-.0935	-.1622*	.2674**			
20 (Car@Add)	.1724**	.0832	.2186**	.4408**		
21 (Car@Expn)	.1581*	.2682**	.0350	-.2072**	-.1637*	
19 (Car@Save)	.1299	-.0345	.2028**	.0932	.1481*	.2059**

Notes: *significant at 0.05; **significant at 0.01

The sixth and final aspect of the factor matrix relates to the *environment questions*. Six questions were included on the questionnaire with the idea of determining whether respondents saw a common idea in mooted neoclassical economic solutions to environmental and pollution concerns (that is, a common idea which they might reject or accept). Of the 15 possible pairs of correlations between these six items, 13 reported no significant correlation (Table 21). The six items are diffused across four different factors in the factor matrix (Factors 5, 6, 7 and 11). It is not merely a case of whether neoclassical notions *of economic solutions to environmental issues* are supported or not - the very idea is virtually non-existent in the mind of the public.

Table 21 Correlations for all Environmental Economics Variables

	38 (Env@Prf1)	39 (Env@Prf2)	37 (Env@Pol1)	36 (Sustpop@)	40 (Env@3rd)
39 (Env@Prf2)	-.5046**				
37 (Env@Pol1)	-.0955	.0015			
36 (Sustpop@)	.1322*	.0280	-.0140		
40 (Env@3rd)	-.1210	.1217	.0619	.0975	
41 (Parrot@)	.0108	-.0557	.0248	-.0731	.0704

Notes: *significant at 0.05; **significant at 0.01

5. Conclusion

By and large, the questionnaire presented respondents, firstly, with (usually) at least two propositions or questions which were very similar in subject matter or *wording*, and secondly, with groups of items which were similar in *concept*. An example of the former would be the two items which asked whether corporations which were environmentally conscious were likely to be as profitable as those firms which were not (items 38 and 39 in Table 15). The purpose of this was to ensure that respondents did not accidentally misunderstand a question; this technique is standard, and indispensable, on social science surveys. Such questions are typically scattered throughout a questionnaire (in this respect, the public survey was no exception). These 'wording' items, of course, also tested economic concepts in their own right, usually a narrower idea within a larger grouping.

An example of the second type, the *concept* questions, would be the five propositions about the effects of minimum wages (Items 19 to 23 in Table 7) - designed to see if respondents would recognise the common principle that linked

the group. These kind of questions are also scattered randomly throughout the questionnaire (in the case of the five minimum wage items one each is found on pages 2, 3, 4, 5 and 14 of the questionnaire).

The first important result about the way the respondents ordered their answers concerns the *high level of consistency in the arrangement of the 'wording' items.* Besides the items on the relative profitability of environmentally conscious firms, there were 'wording' items on gains from trade between international partners, the effect of free trade on domestic wage levels, the effect of tariffs between Australian states, welfare implications of self-sufficiency, the morality of relocating factories to cheaper wage countries, the effect of business profits (and business losses) on customer welfare, the relationship between narcotics and crime levels, the effects on crime levels of a free trade in narcotics, the relationship between executive salaries and national productivity, pharmaceutical discoveries and drug pricing, interest rates and the level of loanable funds, the effect of economic growth on the poor, and the effect of competition on prices. Almost without exception, these 'wording' items correlated highly.

But this exercise tested more than merely whether respondents understood similar items the same way. Recall, that for the typical lay person - most of whom had not had the benefit of a formal economics education - these items are not their daily business in the same way as would be expected of a professional economist. The *expectation* was that the principle or analytic idea behind at least some of these sets of similarly worded items would not be understood at all. And it was hardly possible for a respondent to 'remember' what he or she answered to an item buried at the bottom of page two in the questionnaire so as to match it with an identical idea in a similarly worded item camouflaged in the middle of page thirteen. This high level of correlation of the twinned 'wording' items points to one of two conclusions. Either respondents had actually thought about the issue previously, and perhaps came to a conviction about the truth or otherwise of simple economic ideas (drawing from a pre-existing reservoir of economic 'knowledge'), or, respondents were capable (then and there, when filling out the questionnaire) of conducting an analytical 'thought' experiment about economic phenomena.

In other words, regardless of whether responses were consistent with neoclassical economics, 'common sense', or anything else, the responses were at least consistent within themselves; they were, on the whole, arranged intelligently, not haphazardly, not randomly. These respondents held consistent opinions about a

considerable range of economic ideas. This fact alone is reasonable evidence that Australians are not opaque when it comes to economic ideas, that their grasp of certain simple economic principles is far from amateurish.

When it comes to *major economic concepts* (the second type of questionnaire item discussed above), a range of findings emerge. A schematic representation of the major economic concepts tested on the questionnaire is displayed in Chart A below. The left hand column indicates concepts which appeared to be well integrated in the public mind, that is, it represents those conceptually identical items which cohered in the various principal components analyses. Those in the right hand column, by contrast, indicate concepts which did not cohere at all: the public did not recognise that the individual items had anything in common with one another. The vertical scale refers to whether or not respondents thought of these concepts according to either neoclassical or anti-neoclassical categories.

Chart A Schematic Representation of Results

	Concepts Held Clearly	***Structured, Yet Equivocal***	***Concepts Held Obscurely***
Pro-Neoclassical	A. GAINS FROM TRADE A. Australian state tariffs B. Corporate losses B. Drugs & crime link C. Applied competition C. Competition theory C. Economic growth theory	C. COMPETITION	B MINIMUM WAGES
Middle Position	A. Free trade & wage rates B. Drugs & markets link B. Pharmaceutical profits	B. BUSINESS BEHAVIOUR	C. INFORMATION COSTS C. ECON RATIONALISM
Anti-Neoclassical	C. PRIVATISATION A. Self sufficiency B. Executive salaries B. Interest rates B. Patronage allocation	A. TARIFFS	B. PRICE CEILINGS C. ENVIRON SOLUTIONS C. Economic growth applied

Notes: Schematic representation of major results. 'A' refers to trade and tariff concepts (discussed above in section 2); 'B' to market clearing concepts (section 3); and 'C' to efficiency concepts (section 4). Block letters refer to major overall ideas; small letters refer to *examples* used to test major concepts, or twinned 'wording' propositions - or component parts of major concepts.

This schematic chart, essentially a summary of the principal component findings (Tables 2, 7 and 15), shows that the concepts of gains (or losses) from trade, and overall welfare gains (or losses) due to privatisation were ideas that the public had clear or consistent ideas about. That is, they were clear on the truthfulness or otherwise of neoclassical statements. The public were also fairly clear about the concept of general welfare gains from competition. However, while they held clear ideas about both 'the theory of competition' and 'competition in practice' (or 'applied competition'), they did not necessarily connect the two aspects of

competition with each other. Respondents held certain structured ideas about the general welfare effect of tariff removals but it was embedded in an overarching 'tariffs and national identity' attitude (along with ideas on the desirability of self-sufficiency and the sale of 'national icon' corporations abroad). Similarly, respondents, while possessing an overall, broadly integrated view about the rules of business ('business behaviour') did not hold it in sharp focus.

Quite a number of major economic concepts were obscurely conceived. Foremost among these was their comprehension of the employment effects of minimum wage legislation, and the concept of transaction costs (the idea of advertising information, and the value of 'middlemen' such as used-car saleyards). These were items which sprayed all over the principal components analyses - indicating that respondents saw no common link in the individual items. While some of the ideas which tested for individual examples of the effects of price ceilings held together well (the effect of pharmaceutical profits as incentives for further investment and discovery; the implications for resource allocation by highly paid executives; and the effect of tampering with interest rates), the overarching concept of 'price ceiling effects' was non-existent. Likewise, respondents did not conceive of any overarching concept of economic solutions to environmental problems.

There were other interesting inferences to be made from the principal component results. The idea of economic growth as a theoretical construct cohered well, but not with the economic growth 'practical application' items. In fact there really was no concept of the usefulness of economic growth as a solution to applied problems. The 'gains from trade' items, which (as discussed above) did cohere well, did not align with the gains from tariff-removal items. Interestingly, respondents who believed there were mutual gains when two individuals exchanged or swapped were (by and large) the same individuals who believed in mutual gains when nations traded; but there was no clear transference of the concept (inversely) when it came to issues of interruptions to trade, or impediments to trade (such as tariff barrier construction).

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Appendix: Questionnaire Items Discussed in Text

Table A1 Summary of Trade and Tariff Questionnaire Items

Item No.	Variable Description
	Focus Area 1: Gains From Trade
1	Australians often go to informal markets to *swap* things (such as computer swaps, stamp swaps, motorbike swaps etc). As a general rule, one person generally **gains** in a swap, while the other person generally **loses**. ('Gain@Swp')
2	One problem with free-enterprise capitalism, is that for every person who gains wealth, at least one other person must actually lose wealth.('Gain@Per')
3	Generally speaking, a surge in employment due to economic prosperity in one Australian ('Gain@Sta')
4	An increase in wealth in one country (because of international trade), *usually* means that some other country (or countries) has a corresponding decrease in wealth. ('Gain@Cn1')
5	For every country made wealthy by free trade, there would be at least one other country made poorer ('Gain@Cn2')

Table A1 (cont) Summary of Trade and Tariff Questionnaire Items

Item No.	Variable Description
	Focus Area 2: Barriers to Trade
6	Most Australians would benefit if the government reduced tariffs on imported goods ('TarifCut')
7	Some people urge that Australia should aim to be self-sufficient in the goods that we produce, and that we should **not** be dependent upon trade with other countries. **Would you agree** that this is a very sound way for the nation to increase its living standards. ('T@selSf1')
8	Australia would probably be a more prosperous country if it became self-sufficient, and started to locally manufacture those products it currently imports. ('T@SelfSf2')
9	Recently, the government decided to take away tariff protection for the clothing and footwear industry - and many people lost their jobs. Over time, however, do you think these changes will have a better overall effect on the whole country - or a worse effect?('T@Tcf1')
10	In the long term, Australia would be better off if the government protected home industries by imposing tariffs and quotas on foreign imports ('T@Quotas')
11	**Just suppose** that each of the Australian states and territories were allowed to impose state tariffs to protect their own industries from cheaper producers in other states: Queensland could protect its sugar industry from other states, NSW could protect its milk producers, Victoria its citrus producers etc. In the long-term, do you think YOUR STATE (or TERRITORY) would be MUCH BETTER off, better off, the same (=), worse off, or MUCH WORSE? ('T@State1')
12	And if this was the case, what about the whole country. BETTER off with interstate tariffs or WORSE off? ('T@State2')
13	**What do you think?** Australia imports electrical machinery from Japan, while the Japanese import agricultural products from Australia. If this arrangement was forced to stop and Japan and Australia had to get these products from elsewhere, would either country's economy be any worse off than it was before? ('T@JapOz1' and 'T@JapOz2')
14	**Australia imports household appliances from New Zealand,** while NZ imports sugar from Australia. If this arrangement was forced to stop and New Zealand and Australia had to get these products from elsewhere, would either country's economy be any worse off than it was before? ('T@NzOz1' and 'T@NzOz2')

Table A1 (cont) Summary of Trade and Tariff Questionnaire Items

Item No.	Variable Description
	Focus Area 3: Free Trade Side Issues
15	Over the past few years, many firms have been sold off to overseas owners (Arnotts Biscuits, Peters Ice Cream, Edgells etc). This means more profits will have to flow OUT to overseas shareholders. This state of affairs **is not good for the Australian economy**. Australia would be better off if we prevented the sell-off of Aussie companies ('Arnott@1')
16	Free trade with low-wage countries such as Indonesia and China will eventually cause the wages of most Australian workers to fall ('Trad@Ind')
17	Free trade with lower-wage countries such as New Zealand will eventually cause the wages of most Australian workers to fall. ('Trad@Nz')
18	Third world countries don't stand a chance competing against western nations on open world markets ('Trad@Tw1')

Table A2 Summary Market Clearing Questionnaire Items

Item No.	Variable Description
	Focus Area 1: Business Behaviour
1	When a bank makes a very big profit, it is a sure sign that its customers must be getting ripped off ('BankProf')
2	When a company makes a very big profit, it is a sure sign that its customers must be getting ripped off ('CorpProf')
3	When a bank makes a big loss, it is a sure sign that its customers must be getting good deals ('BankLoss')
4	When a company makes a big loss, it is a sure sign that its customers must be getting good deals ('CorpLoss')
5	Corporations should only be allowed to make large donations to charities if their shareholders approve ('Pat@Dona')
6	Generally speaking, a company which closes a factory in Australia and reopens the factory in a low-wage Pacific island nation (such as Fiji or Nauru) is acting immorally ('Pat@Fiji')
7	Generally speaking, a company which closes a factory in Australia and reopens the factory in New Zealand because of cheaper wages (since NZ factory workers earn less than Australian factory workers) is acting immorally ('Pat@Nz')

Table A2 (cont) Summary Market Clearing Questionnaire Items

Item No.	Variable Description
	Focus Area 2: Price and Resource Use
8	**What do you think?:** If an aid agency purchased a large tract of fertile land in a poor country so that any needy family who wanted to could use it to graze their animals, what would be the most likely outcome. The land would soon be in a . . . condition ('Res@Aid')
9	The world is about to run out of resources. At some stage we will face a disaster scenario ('DisScen@')

Table A2 (cont) Summary Market Clearing Questionnaire Items

Item No.	Variable Description
	Focus Area 3: Price Ceilings
10	If the government decided there should be a reduction (say, 10 or 20 percent) in the price of petrol, the average Australian would tend to use more petrol. ('Pet@Use')
11	If the government decided there should be a reduction (say, 10 or 20 percent) in the price of petrol, the oil companies would spend less money on oil exploration. ('Pet@Expl')
12	Rent controls (that is, setting the **maximum** rent levels which land-lords can charge) are an effective method of ensuring adequate housing at a price the poor can afford ('Ren@Por1')
13	Some executives in Australia are paid salary packages of a million dollars or more. Australians generally would be better off (in the long term) if these packages were taxed more heavily ('Exec@Tax')
14	If firms were not allowed to pay their executives huge salaries, the whole country would be less productive (Exec@Cou')
15	If pharmaceutical companies are forced (by the government) to drop the prices of life-saving drugs, these companies will be **less likely** to invest in further research ('Phar@Res')
16	If pharmaceutical companies are forced (by the government) to drop the prices of life-saving drugs, fewer 'wonder drug' discoveries will be made by these companies ('Phar@Won')
17	If the government passed legislation to always keep interest rates low, more businesses would get investment loans ('IR@Inves')
18	If the government ordered the banks to make a drop in interest rates, more ordinary Australians would get home loans ('IR@Home')

Table A2 (cont) Summary Market Clearing Questionnaire Items

Focus Area 4: Price Floor: Minimum Wages	
19	If the government legislates an increased rate for youth wages, then employers will tend to employ older, more experienced workers instead ('Min@Yth')
20	If the government legislates an increased wage rate for unskilled workers, then employers will tend to spend more on machines and employ fewer unskilled workers ('Min@Unsk')
21	Suppose the Australian government decreed that businesses could take on workers of a particular ethnic group at a rate below the minimum wage. Setting aside questions of social justice and fairness for the moment, what effect might this have on the group. Would more members of this ethnic group get jobs - or less? ('Min@Ethn')
22	Suppose the Australian government decreed that businesses could take on long-term unemployed people at a rate below the minimum wage. Setting aside questions of social justice and fairness for the moment, what effect might this have on them. Would more long-term unemployed people get jobs - or less? ('Min@Long')
23	The existence of legislation which ensures minimum wages is a significant reason why young and unskilled workers cannot find jobs ('Min@Legi')

Table A2 (cont) Summary Market Clearing Questionnaire Items

Item No.	Variable Description
Focus Area 5: Market Clearing Solutions	
24	Generally speaking, an increase in the number of drug-addicts in Australia would lead to an increase in crimes such as robberies and burglaries ('Drug@Cr1')
25	Generally speaking, drug-addicts tend to turn to crime (such as robberies and burglaries) to support their addiction ('Drug@Cr2')
26	Regardless of whether it would be right or wrong, a 'free-market' in the sale of soft drugs (such as marijuana) through controlled agencies (such as chemist shops) would have some effect in reducing crimes such as robbery and burglary ('Drug@Sft')
27	Regardless of whether it would be right or wrong, a 'free-market' in the sale of hard drugs (such as cocaine and heroin) through controlled agencies (such as chemist shops) would have some effect in reducing crimes such as robbery and burglary ('Drug@Hrd')
28	Regardless of whether it would be right or wrong, a 'free-market' in the buying and selling of blood (through the Blood Bank) would be an effective way to solve the blood-shortage problem ('Blod@Sel')

Table A3 Summary of Efficiency Questionnaire Items

Item No.	Variable Description
Focus Area 1: Economic Science and Economic Rationalism	
1	Economic analysis assumes people act only out of selfish motives. It doesn't take into account the humanitarian side of humankind ('EconAnl@')
2	You may have heard the term "economic rationalism" mentioned in the media. Would you say 'economic rationalism' is an excellent policy for the country, a terrible policy, or something in between? ('Er@Good')
3	Although it might hurt now, nevertheless for the benefit of our future, Australia needs a good dose of economic rationalism ('Er@Dose')
4	Do you think the study of economics could be helpful to you in making decisions as a citizen (for example, when voting in political elections)? ('EconHelp')
5	Do you think economics could be a valuable study in helping to understand public issues and controversies (eg. issues such as woodchipping, health, unemployment)? ('EconVal')

Table A3 (cont) Summary of Efficiency Questionnaire Items

Item No.	Variable Description
	Focus Area 2: Competition
6	If you increase competition, prices usually fall. ('Com@Fal')
7	If you increase competition, prices usually rise. ('Com@Ris')
8	Prices in telephone calls have recently come down in Australia. The *reason* for these price cuts is directly attributable to the introduction of competition, that is, the entry of Optus as a competitor to Telstra ('Com@Optu')
9	If all Australian industries were more competitive, we would see more jobs being generated in this country ('Com@Jobs')
10	If there was more competition in the *components* industries which supply Ford, GMH, and Toyota (such as plastics, steel, rubber, electric generator makers), then we should see more employment generated in the car-making industry ('Com@Ford')
11	If Australian farmers were even more competitive, more jobs would be generated in the various food-processing industries ('Com@Farm')
12	If more foreign airlines were allowed to fly in and out of Australia, and compete with Qantas and Ansett, the price of air travel would probably rise. ('Com@Qant')
13	The costs consumers pay for banking in Australia (account fees, cheques, financial services etc) would probably be even higher if foreign banks were excluded from opening branches in Australia ('Com@Bank')
14	The entry of Optus into the telecommunications market has caused some duplication of equipment (cables, mobile phone towers, etc) as well as extra costs for marketing and advertising. Even though prices for telephone calls have come down now, this extra cost must lead to higher prices later on ('Com@Dupl')

Table A3 (cont) Summary of Efficiency Questionnaire Items

Focus Area 3: Advertising, Information and Search Costs

15 The cost of advertising to firms comes to hundreds of millions of dollars each year. Advertising adds to the **cost** of everyday goods and services - and ultimately it is we consumers who pay. So, if all firms agreed to advertise a little less, the whole economy would be a bit better off ('Adv@Cost')

16 Advertising (for all its many faults) **provides lots of information** which enables buyers and sellers to get the best prices possible ('Adv@Info')

17 If governments (for some reason) passed laws to restrict advertising by petrol companies, the price consumers pay for petrol would probably fall ('Adv@Petr')

18 If governments passed laws to restrict the advertising of certain products, prices consumers pay for those products would eventually rise ('Adv@Rest')

19 By bringing lots of vehicles together in the one place, used-car saleyards save buyers and sellers lots of time (and money) which would otherwise be spent searching for the right car at the best price ('Car@Save')

20 Used-car salesmen often add thousands of dollars onto the price of the vehicles they sell to the public. If the government legislated the maximum commission allowable, most people would find second-hand cars cheaper to obtain ('Car@Add')

21 If a law was passed legislating a maximum commission allowable on second-hand cars, many salesmen would go out of business, forcing the public to spend too much time searching for the right car. The total cost of obtaining a used-car would probably be more expensive in the long-run because of this legislation ('Car@Expn')

Table A3 (cont) Summary of Efficiency Questionnaire Items

Focus Area 4: Privatisation	
22	Suppose your state government sells its electricity generating authority to competing private companies. In the long run do you think the cost of producing electricity is likely to be higher than if the government ran it - or lower? ('Elec@Bil')
23	And what about your state government? If it sells its electricity generation to private enterprise, do you think the state government itself will **lose** or **gain** (financially) in the long term? (circle one). The government will. . . ('Elec@Sta')
24	And what about the economy of your state? If the government sells its electricity generation to private enterprise, do you think the overall economy, will **be worse off** or **better off** in the long term? (circle one). The overall economy will be. . ('Elec@Eco')
25	Suppose your state government sells its public transport system to competing private companies. In the long run do you think the cost of providing public transport is likely to be higher if private companies ran it (than if the government ran it) - or lower? ('Tram@Bil')
26	And what about your state government? If it sells its public transport system to private enterprise, do you think the state government itself will **lose** or **gain** (financially) in the long term? (circle one). The government will. . . ('Tram@Sta')
27	And what about the economy of your state? If the government sells its public transport system to private enterprise, do you think the overall economy will **be worse off** or **better off** in the long term? (circle one). The overall economy will be. . .('Tram@Eco')
28	[Some state governments are considering the privatisation of jails. If the government went ahead and sold the jails to private companies] . . . Do you think **running costs** of private jails would be *cheaper* or *more expensive* in comparison? ('Jail@Cst')

Table A3 (cont) Summary of Efficiency Questionnaire Items

Focus Area 5: Economic Solutions to Problems

29 While economic growth benefits the rich and the middle class - it *also* benefits the poor ('Grow@Bn1')

30 Economic growth only benefits the rich and the middle class: it rarely benefits the poor as well ('Grow@Bn2')

31 Generally speaking, more economic growth means more Australians get jobs ('Grow@Job')

32 Further economic growth will be bad for Australia ('Grow@Bad')

33 An increase in Australia's economic growth almost certainly means that the level of pollution would also rise ('Grow@Pol')

34 Suppose the government changed the tax structure to bring about a greater redistribution of income in Australia. How would this affect our **rate of economic growth**? Good for growth, or bad ('Grow@Red')

35 Growth in 'service industries' such as tourism or finance does not constitute 'real' or 'actual' economic growth in the same way as it is in manufacturing, mining or agricultural industries ('Grow@Agr')

36 Australia is rapidly approaching its maximum sustainable population level. Fairly soon, the country will not be able to support its population at the present standards of living ('SustPop@')

37 Suppose the government decides to do something about the environment: it proposes to sell 'pollution rights'. That is, factories may pollute streams and air upon payment of an annual 'carbon tax' (or **pollution rights tax**). The tax would be about equal to the factory's annual pollutant-filtering costs. What would be the effect of this policy over time. . .? ('Env@Pol1')

38 Environmentally-conscious companies are likely to be just as profitable as companies which are not so environmentally conscious ('Env@Prf1')

39 Environmentally-conscious companies are **less likely to be as profitable** as companies which are not so environmentally conscious ('Env@Prf2')

40 Generally speaking, legislation which tightens environmental safeguards in wealthy western nations is a direct threat to the environment in third-world countries ('Env@3rd')

41 In Europe and America, rare endangered Australian parrots fetch thousands of dollars. Enterprising poachers make big profits smuggling the parrots overseas. Which ONE of these alternative strategies might be the BEST option for saving endangered parrots . . .('Parrot')

42 The government should be an employer of last resort and initiate a guaranteed job program ('Resort@1')

43 Automation is a major cause of unemployment. If we keep allowing machines to replace people, we are going to run out of jobs ('Automat@')