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CONTENTS

Editorial	2	Child support – the Durie formula	13
Good and faithful servant	2	The Kyoto protocol	14
Ethnic Bias in the Population Census	3	New publication on the environment	16
Catching the wave?	5	NZEP – message from the incoming editor	16
Catching an earlier knowledge wave	8	Nobel Prize 2001	17
From the 2BRED File	9	From our foreign correspondents	18
Preferences and policy, signals and consistency	10	Research in progress	20
Costs, benefits and options	11	NZAE membership, database, profiles	22
Conference 2002	12	NZAE new members	22
		NZAE web-site	22

Knowledge, ignorance, or knowledge of ignorance?

EDITORIAL

There's a wide range of material in this issue, much of it connected by a central theme: how can we build a knowledge economy with partnership between the public and private sectors when policy is based on distorted or non-existent information and inconsistent reasoning?

There are numerous cross-disciplinary aspects to this, as can be observed in the following pages. To be relevant and have impact, economists must do more than just communicate with each other.

We have a wide range of contributions, but you will have to provide more if you want to avoid overexposure to Stuart Birks' idiosyncratic pieces.

John Gould's piece on ethnic bias in the census has relevance for the "Closing the Gaps" debate, and also has some parallels with the problem of defining families.

Is Kyoto an ineffective "feel-good" initiative? Phillip Bishop and Alex Sundakov raise some challenging questions. More work is needed by economists on this area, so let's hope that some people are spurred to action.

Don't overlook the Association news items on the back page. In particular, think about the email database and member profiles.

Thanks again to all our willing and able contributors. It is through such co-operation that we can build up a competitive advantage.

by Stuart Birks and Gary Buurman, Massey University

We invite members to submit a brief article on any issue of interest to NZAE members, and/or comments and suggestions. Enquiries and contributed articles should be sent to Stuart Birks and Gary Buurman [K.S.Birks@massey.ac.nz]. Views and opinions expressed in these articles are those of the authors, and do not represent the views of the New Zealand Association of Economists.

Good and Faithful Servant

It is with deep sadness that we heard about the passing away of Bill Maughan on 11 November in Bournemouth (UK). Bill was in many ways a unique economist and a great adventurer in his personal and academic life. During the sixties he was very involved in the National Development Conference, and his experience in Treasury during those years led him to writing the humorous book "Good and Faithful Servants". After obtaining a master degree in classical languages (according him the perfect prerequisite) Bill turned his sight to economics by obtaining another master's degree in economics. He lectured in the, erstwhile Department of Agricultural Economics and Farm Management at Massey University during the seventies and eighties. He played a major role in the Agricultural Policy Seminar that were organised by the Department and the Centre for Agricultural Policy Studies during that period. Bill introduced behavioural psychology into farm management, which stood in stark contrast to the theoretical models (based on linear and non-linear programming) in vogue in those days. Bill's ability to debate with people from widely differing backgrounds – farmers, unionists, professors, etc. in 'academic' establishments ranging from lecture rooms, to draughty farm sheds, to his favourite – the local bar- remains unsurpassed. Law and economics became Bill's next area of interest, which then led to the next adventure, starting a PhD in Economics (USA) at the age of 50. After his PhD Bill briefly returned to Massey University before moving to the UK to lecture at the University of Bournemouth.

Bill brought with him a lot of humour, enthusiasm and a healthy dose of scepticism about traditional inquiries into economics. He was a great colleague to work with, and will be sorely missed by all.

Anton Meister

Ethnic Bias in the Population Census

By John Gould, Emeritus Professor of Economic History, VUW.

This contribution summarises a Submission I recently made to the committee currently reviewing the measurement of ethnicity. It reveals and deplores a major ethnic bias in the Census resulting from the method used to process responses to the ethnicity question. I suggest a simple remedy.

The ethnicity question allows respondents to claim to 'belong to' more than one ethnic group. But the Census authorities believe, surely rightly, that most users prefer single, mutually exclusive ethnic categories. How to reduce multiple responses to single ethnicities is problematic, given the lack of information about the relative strengths of the affiliations of respondents.

One alternative way of reporting the responses was offered by recent Censuses under the title **Total Responses**. **Total Responses** count not the number of respondents, but the number of times each ethnicity is mentioned, on its own or as one of two or more reported by a single respondent. **Total Responses** has the recommendation of using all the information offered by respondents, which the current procedure does not do. But unfortunately it has serious shortcomings of its own.

First, **Total Responses** naturally add up to more than the total population of the country, which is confusing and inconvenient. Further, respondents reporting two or more ethnicities are not distributed, either ethnically or spatially, in the same manner as the rest of the population. Some combinations, notably Maori/European, are much more common than others, and may have a distinctive geographical distribution. Since the unit of measurement is **one mention of an ethnicity**, not **one person**, this creates biases in the measure and mapping of socio-economic states such as unemployment. It is as though in a General Election some were allowed two votes and some three.

The 1988 Review Committee on Ethnic Statistics left it entirely to the Department of Statistics to 'lead and co-ordinate the development of standard ethnicity classifications' and to determine how to allocate multi-ethnic responses into them.¹ In 1993 the **Standard Classification of Ethnicity** claimed that there was little to choose between different methods of doing this, since 'multiple group responses ... involve usually no more than four to five percent of all records, and any effects are 'swamped' by the bulk of single response records.'²

The Department in the event chose a system of ethnic prioritisation similar to that of the pre-1986 Censuses. The hierarchy in which this prioritisation is

expressed is now more disaggregated, but basically the scheme remains much the same: Maori (at the top); Pacific; Asian; Other, except European; European (at the bottom). Thus any respondent ticking the Maori option, with or without others, is recorded as Maori; anyone ticking a Pacific Island ethnicity is Pacific, unless he/she also ticks Maori; and so on down to NZ European-Pakeha, which consists of those ticking the NZ European-Pakeha option, **and no other**.

This method of reduction may be christened **Current Prioritisation**. It has attractive features: it is relatively simple, and its enumerations of ethnic groups add up to the total population. But it has a fatal defect. It distorts the enumeration of ethnic populations, and in particular, introduces a systemic bias in favour of Maori. (By virtue of heading the prioritisation hierarchy Maori numbers are naturally inflated at the cost of all other groups.) As far as I know no rationale for this pro-Maori bias has ever been offered. Admittedly recent policies have aimed to offer Maori compensation for the wrongs of the past, and positive discrimination to help remedy socio-economic disparities of the present. But falsifying 'Maori' numbers by applying ethnic bias to the processing of Census returns is surely not an appropriate or acceptable component of such policies.

By 1996 the guidelines mentioned in 1993 were well and truly transgressed, since nearly 15 percent of all responses and about 48 percent of Maori responses were multi-ethnic. Thus **Current Prioritisation** now offends against even the somewhat undemanding guidelines of the 1993 Standard Classification, and 'Maori' numbers have become **critically** dependent on the particular method of processing multi-ethnic responses. Were **Current Prioritisation** turned on its head, with NZ European-Pakeha at the top and Maori at the bottom - call this alternative **Mirror Image** - Maori would have numbered only 273,438 instead of the 523,371 reported by the 1996 Census.

Nor is the distortion caused by **Current Prioritisation** simply a question of numbers. I showed 11 years ago that what the Census calls the **Maori Ethnic Group**, now proclaimed to be the 'standard for the presentation of Maori statistics', is not homogeneous.³ On the contrary, there are very substantial socio-economic differences between two sub-groups: 'Sole Maori' (those ticking only the Maori option) and 'Mixed Maori' (those ticking also one or more other options). Another analyst, Simon Chapple, using different data sources and different statistical techniques, has recently rediscovered and elaborated

¹ *Report of the Review Committee on Ethnic Statistics*, Department of Statistics, Wellington, 1988. Recommendation 2, para. 4.1.3.

² *New Zealand Standard Classification of Ethnicity 1993*, Department of Statistics, Wellington, 1993, p. 26.

³ John D Gould, 'Counting Maori', *New Zealand Population Review*, 26(2) (2000), pp. 12-13; for Maori Ethnic Group as the 'standard', 1996 Census, Maori, Table 1, fn. 2.

this finding.⁴ Definition, then, heavily influences not only the size of the **Maori Ethnic Group** but also its socio-economic characteristics. **Mirror Image** would give a dramatically different account of both of these than does **Current Prioritisation**.

Another disadvantage of **Current Prioritisation** is that it can conflict with another aim seen by Statistics NZ to be desirable, namely, giving a 'boost' to the enumeration of very small ethnic groups lest they be lost sight of in the statistics. **Current Prioritisation** requires that while a response of Tokelauan/Samoan is coded Tokelauan, Samoans being a much larger group, a response of Tokelauan/Maori is coded Maori, though Maori are still more numerous.

Current Prioritisation, then, is a seriously faulted procedure. **Total Responses** and **Mirror Image** both being rejected, three alternatives remain. One is to finesse the whole problem by rejecting multiple responses, requiring respondents instead to state only their 'main' ethnic affiliation. This would ensure that if respondents are to be reported in a single ethnic group anyway, at least it would be that of their own choice, not one imposed on them by some scheme of arbitrary prioritisation.

But this option goes too much against the grain of the increasing tendency for people to feel some degree of affiliation with more than one cultural milieu. Further, many respondents would probably object to being required to name only a 'main' ethnic affiliation, and those feeling equally at home in two environments could not, strictly speaking, answer at all.

The second alternative is to ask those naming two or more allegiances to indicate their respective strengths, perhaps in fractional terms. This too would probably be seen as intrusive, and again would not solve the problem of the genuinely bi-cultural. Further, the unhappy precedent of the 1981 question showed that many New Zealanders have difficulty in knowing whether or not two or more fractions add up to one.

The third alternative - which may be called **Fractional Ethnicity** - would require no change to the ethnicity question as it was worded in 2001. Like **Total Responses** it would basically count not the number of respondents, but the number of times each ethnicity was claimed. But unlike **Total Responses**, the response of each **person** would be given equal weight, a total value of one for his/her ethnicities. This would be achieved by adding to each ethnicity a coefficient equal to the reciprocal of the number of affiliations claimed. Thus a respondent ticking only Maori would be coded (1/1) Maori; but a respondent ticking both the Maori and the NZ European - Pakeha options would be (1/2) Maori **plus** (1/2) NZ European - Pakeha. The total of the responses so coded would equal the total population, unlike in the case of **Total**

Responses, and again unlike that system would give every response the same weight.

Fractional Ethnicity implicitly assumes that over a relatively large number of people reporting any pair of ethnicities, preferences would tend to be distributed in something like the normal curve, whereas **Current Prioritisation** assumes that all the preferences would be at the same end. In the numerically important case of Maori/European responses we do not have to rest content with common sense or personal experience to prefer the first of these assumptions; there is strong evidence, some of it empirical and some inferentially derived from analysis of inter-ethnic mobility between the 1991 and 1996 Censuses, to support it.⁵

A further and clinching point is that a disproportionate number of the two-ethnicity responses in 1996 were not made by mature adults able to confidently identify and express their own feelings of ethnic allegiance. Many, in some combinations most, were the responses of children and teenagers whose replies must have been supplied, or in varying degrees influenced, by parents or guardians. In 1996 the median age of the total population was 32.3 years, but for two-ethnicity Maori/Europeans it was only 18.1 years, for Pacific/Europeans 16.4, and for Maori/Pacific a mere 11.2 years. Probably many parents in the growing number of mixed-ethnic unions feel that they should record the ethnicity of their children as a combination of their own ethnicities, either simply to preserve marital harmony, or in the hope that their children will grow up to be genuinely bi-cultural, or with the idea of keeping options open until the children are able to decide for themselves.

This is yet one more reason, and numerically a very important one, for rejecting the 'preferences all at one end' assumption underlying **Current Prioritisation**, and for seeing an average 50:50 split in two ethnicity preferences as far more plausible.

Of the four methods of transforming multi-ethnic responses into single-ethnicity allocations **Fractional Ethnicity** is thus clearly the best. (Naturally, respondents claiming only **one** ethnicity would continue to be so reported.) It respects and uses **all** the information provided by respondents, unlike **Current Prioritisation** or **Mirror Image**, and by doing so escapes the fatal criticism of manifest ethnic bias which afflicts both of these. **Fractional Ethnicity** is preferable to **Total Responses** in providing enumerations of ethnic groups which sum to the total population and in avoiding the biases, ethnic and spatial, introduced by the failure of **Total Responses** to give equal weight to all replies. It copes automatically with the problem of very small groups in danger of being 'swamped', and would be easy to implement, needing no change at all to the 2001 ethnicity question, and involving only the addition to each ethnicity coding of a coefficient which a minor change to computer programmes would easily generate.

⁴ Simon Chappie and David Rea, 'Time series analysis of disparity between Maori and Non-Maori labour market outcomes in the HLFS', *Labour Market Bulletin* 1998, 1 & 2, pp. 127-144.

⁵ Gould, 'Counting Maori', p. 16 and Note 1.

Catching the wave? A hitchhiker's guide to the knowledge economy.

By Hans-Jurgen Engelbrecht h.engelbrecht@massey.ac.nz

In recent years there has been much talk about the development of a 'knowledge(-based) economy' in New Zealand (NZ), though even experts are trying to establish what this term might mean. It seems to have to do with being clever in some ways, with education and learning in all its different forms, with creating knowledge and with being able to exploit knowledge commercially. The latter is seen as a way to lift our long-term economic performance and at least keep NZ in the group of rich countries.

Delving into the relevant economics-related literature, one is confronted with many different, but related, terms, e.g. the knowledge(-based) economy/society, the information economy/society, the learning economy, the new economy, the digital economy, the Internet economy, the weightless economy, the e-economy, etc. The knowledge economy seems an ideal topic for the many-handed economist!

Some basic ideas and concepts

In order to appreciate the complexity of the topic, it is useful to introduce some basic ideas. First of all, the creation, adoption, distribution and exploitation of knowledge has become much more central to wealth creation than it used to be, though it has always been important. Over the last 25 years or so the OECD has conducted countless studies on aspects of the 'information-' and 'knowledge-' based economy. NZ has been late waking up to this reality. Secondly, there are two non-mutally exclusive perspectives on the knowledge economy: *On the one hand it can be seen as a separate sector of the economy* - one could identify it with the education system, Crown Research Institutes, R&D firms, 'high-tech' firms, including computer hardware and software producing companies, the telecommunications sector, the business services sector, the 'creative industries' (media, film, performing arts) etc.. Separate analysis of some of these subcategories has led to some of the terms mentioned above (the Internet economy, the digital economy etc.). *On the other hand, the knowledge economy can be seen as a by-product of all economic activity*, even those not directly focused on knowledge creation and learning.¹

Compounding the general increase in knowledge-intensity of most economic activities have been the rapid advances in and widespread use of Information and Communication Technologies (ICTs), including networking technologies (e.g. the Internet), which have led to a new quantitative and qualitative relationship between knowledge, learning, and economic development. It has become technically possible and economically attractive to codify more and more of the previously tacit knowledge. Both types of knowledge are complements. Codification of knowledge has sped up. This codified knowledge, when applied, leads to the creation of new tacit knowledge, which at some stage becomes codified, creating more tacit knowledge etc..

However, the economic and social impact of ICTs, and especially those of the network technologies, are not yet well understood. On the one hand, there is a lot of 'cyberbole' (i.e. exaggerated and unsubstantiated statements about the impacts of ICTs). According to one major group of researchers in the U.K., decision makers in government and business should therefore adopt an attitude of 'positive scepticism'². On the other hand, economists researching these issues have come to the conclusion that probably only 15-20% of the potential benefits of ICTs have been exploited so far (with most of the still to be realised benefits depending on major organizational changes in firms which have not yet been implemented).³

A term with particular chameleon qualities is that of the 'new economy'. It initially referred to certain sectors of the U.S. economy, i.e. those associated with the *production* of ICT products. It has also been used in a broader sense to describe industries where the *application* of ICT has led to productivity growth. In that sense, the old economy may turn more and more into the new economy in the future. Another broad interpretation identifies the new economy with certain changes in macro-economic relationships, in particular a rise in potential output growth associated with low inflationary pressures. Economists are divided about whether the U.S., let alone any other country, has a 'new economy'.

Towards an 'economics of the knowledge economy'

What might the knowledge economy imply for the usefulness of our economic tools? The short answer seems to be that much of mainstream economics is not well suited to analysing the knowledge economy,

¹ For these and other basic knowledge economy concepts and terminology see, for example, D. Foray and B.-A. Lundvall (1996), *The Knowledge-Based Economy: From the Economics of Knowledge to the Learning Economy*, in: OECD, *Employment and Growth in the Knowledge-Based Economy*, Paris, pp. 11-32.

² Woolgar, S. (2000), *Virtual Society? Profile 2000*, Saïd Business School, University of Oxford.

³ For example, Hal Varian mentions 15% (in: 'Post-Bubble America: Okay, Now What?', *Fortune Magazine*, June 11, 2001).

but so far it seems more a question of emphasising the increased importance of already existing economic concepts instead of having to develop a 'new economics'. Below is a brief list of some of the major issues.

Knowledge has public good characteristics (it is nonrival and excludable to varying degrees). This implies the existence of economies of scale (i.e. increasing returns to scale), which are a major feature of the knowledge economy. Economies of scale are likely to occur in knowledge production itself, as well as in more and more (but not all) areas of goods and services production, especially when they are high or medium technology intensive. They are especially likely to occur when goods and services can be provided digitally (i.e. over the Internet).

Economies of scale lead to market forms other than perfect competition and often create multiple possible equilibria. Many markets have 'winner-takes-all' aspects, i.e. a particular firm will dominate a market. Technological progress more often than not takes place through 'creative destruction' (a term originally popularised by the Austrian/U.S. economist Joseph Schumpeter). One implication of this is that existing firms often get replaced by new ones. This also implies that business failure should be seen as a natural and socially acceptable part of a vibrant knowledge economy. Competition in the knowledge economy is usually characterised by product differentiation. In the context of information goods, this often takes the form of 'versioning', i.e. different versions of a product are sold to different market segments at different prices.⁴ Historical lock-in (e.g. into computer systems) and feedback effects (virtuous and vicious cycles) become much more important. Relatedly, more products exhibit network externalities (i.e. the value of the product to a person increases with the number of other people consuming it). With knowledge being the major resource for wealth creation, its protection, through intellectual property rights (IPRs), has become a major issue. There is currently a danger that IPRs might become too restrictive, hindering the development of knowledge and thereby threatening the prospects of future growth in the knowledge economy. There are also important unresolved issues concerning indigenous knowledge, i.e. Maori knowledge in the NZ context. In general, the forces operating in a knowledge based (world) economy tend to increase existing inequalities within and between countries. In summary, many of the economic concepts mentioned above better fit the label of 'evolutionary' instead of 'neo-classical' economics. This is a major reason why the creation of 'level playing fields' has increasingly become insufficient as an aim of economic policy.

There are many other topics that should be covered under the heading 'economics of the knowledge economy'. They can mostly be taken from already established sub-disciplines of economics or related social sciences. This year I taught a new one semester Knowledge Economy paper. Topics included: The history and different manifestations of the knowledge economy; an overview of new growth theory; an introduction to human capital theory; the economics of innovation, science and technology at the micro and macro level (including an introduction to the literature on National Systems of Innovation); the 'new economy' and the productivity growth controversy; the economics of information and networks, including the digital economy and e-commerce, entrepreneurship and IPRs; the New Zealand knowledge economy; and developing countries in a knowledge-based world economy. Comments from students indicated that the paper provided a greatly appreciated new and critical perspective on economics in general, and in particular on some of the more traditional economics papers they had taken previously.

What direction for NZ's knowledge economy?

In many respects NZ already has a knowledge economy, albeit a mainly low-productivity one. It should be clear by now that the knowledge economy is not necessarily associated with a particular industry (i.e. it is not the same as having a large 'high-tech' sector). Rather, most parts of the (old) economy are becoming more and more knowledge intensive, slowly changing the character of the whole economy, and economies of scale apply in some industries more than in others. However, it is well-known that NZ faces some particular problems:

- Many of our major export industries are not amenable to economies of scale (natural resource-based industries are usually subject to diminishing returns);
- private sector R&D spending is low;
- exports are mostly low-tech;
- there is a lack of venture capital funds;
- there are perceived weaknesses in our education and training systems; etc..

The government, in conjunction with the private sector, is currently trying to address many of the problems. A major forum airing the issues was the August 1-3 Knowledge Wave Conference, organised by

⁴ The business economics of information/knowledge products is a fascinating subject. The interested reader is referred to C. Shapiro and H. Varian (1999), *Information Rules: A Strategic Guide to the Network Economy*, Harvard Business School Press, Boston, Mass.

the government and the University of Auckland. Besides some prominent overseas speakers, including some well-known expatriate economists, mostly local ‘movers and shakers’ were invited (e.g. politicians, permanent heads of government departments, chief executives, senior people from finance companies and management consultancies, university Vice-Chancellors, some mayors). Few NZ-based academics were present (it is difficult to know whether they were either not regarded as important, or whether the organisers realised at the outset that few would have been able to afford the conference fee, given the dire state of university budgets!).⁵

The aim of the conference was to develop a shared vision for the future of NZ as a society that, through the use of knowledge and innovation, improves not only its economic performance, but the well-being of all its members. It had five core themes: Innovation and creativity; people and capability; sustainable economic strategies; entrepreneurship; social cohesion and the knowledge divide.⁶

The solutions canvassed were very diverse, and it is not at all clear to me how the Conference may influence major government policies, many of which were declared sacrosanct (e.g. regarding the welfare system and business taxes). This view is supported by the fact that the government released much knowledge economy relevant material before or during the Conference, thereby arguably pre-empting much of what the Conference was set out to achieve. For example, three ‘unusual’ Treasury Working Papers on the ‘Inclusive Economy’ (papers 01/15, 01/16, 01/17) were released just before the Conference.⁷ To comment on just one of the many issues raised in them, don’t expect much comfort from the paper on human capital (01/16) if you think underfunding our universities is a barrier to creating a high-productivity knowledge economy in NZ! Also, the Prime Minister’s Science and Innovation Advisory Council released two publications at the Conference.⁸ The first one contains a vision for NZ’s knowledge economy.

There is little doubt that NZ’s economic future lies in adding value to its traditional industries, as well as in developing new knowledge-based businesses. In the past, NZ has been very successful in developing primary-based industries, and these will undoubtedly remain a major pillar of the economy. Unfortunately, meat or apples or kiwifruit cannot be sent in digital form over the Internet, i.e. although these industries may be world leaders (and aiming to stay that way in future through world class R&D), they cannot exploit the type of economies of scale which characterise digital products.

Last but not least, a major problem confronting any economist wanting to analyse the knowledge economy is its severe measurement problems (e.g. how do we measure knowledge and knowledge capital, human capital, the rate of innovation or the depreciation of existing knowledge?). With the increased importance of intangible inputs and outputs, the knowledge economy has paradoxically become much more of an unknown economy. In NZ, measurement problems are even more severe than in many other developed countries. We seem to have some idea about the broad economic trends (gleaned largely from overseas experience), but not about local specifics. For example, what particular industries, or sections of industries, do exhibit economies of scale? Have they changed over time? To answer such questions, we need better sectoral data. Is NZ good at taking advantage of knowledge spillovers from the rest of the world? They can be embodied in imported capital goods (imported machinery contains a lot of foreign R&D), or be available through codified knowledge (e.g. publications), etc.. There are as yet not many NZ-specific studies investigating these issues.

Instead of a conclusion

Many observers, including many Knowledge Wave Conference participants, have called for a ‘culture change’ in NZ. Presumably this implies New Zealanders becoming more entrepreneurial, encouraging and celebrating success, as well as valuing education and scientific achievements at least as much as sporting achievements.

Many economists, myself included, are sceptical of ‘cultural’ explanations (they are often an excuse for not understanding, or not wanting to understand, the economics at work). However, the front-page coverage of the NZ Herald of August 3, 2001, the last day of the Knowledge Wave Conference, did provide some food for thought. There was no article about the Conference, of which the NZ Herald was a major sponsor. Rather, it was dominated by the Christine Rankin employment court case.

⁵ I, along with the editors of *Asymmetric Information*, invite those members of our association who attended the Conference to contribute comments to the next issue (especially if they disagree with the views expressed here).

⁶ Speeches, background documents, etc., are available from the Catch the Knowledge Wave website at <http://www.knowledgewave.org.nz/>.

⁷ They are unusual because they represent official Treasury views, instead of those of individuals. The papers are available at <http://www.treasury.govt.nz/workingpapers/2001/>.

⁸ They are: *New Zealanders: Innovators to the world, turning great ideas into great ventures* and *New Zealand’s innovation report card: Lots of potential, can do better* (both are available at <http://www.siac.govt.nz>).

CATCHING AN EARLIER KNOWLEDGE WAVE

It was announced last Sunday (22 December) that Marconi had received during the previous week several signals at St Johns, Newfoundland, transmitted from Cornwall, England. . . . The distance between the Cornwall station at Poldhu, from which the signals were sent, and that on Signal Hill, Newfoundland, where they were received, is about 2 100 miles. The signals consisted in [*sic*] repetitions of three dots, corresponding to the letter 'S' in the Morse code, and were audible¹ in a delicate telephone connected with the receiving apparatus. Marconi has proved conclusively that the curvature of the earth is no obstacle to the system of wireless telegraphy. ... It still remains to be proved, however, that heavy banks of fog, low hanging clouds, and heavy showers along and in the path of the transmitted electric wave will not entirely obstruct its progress . . . experiments thus far have proved them so. Atmospheric conditions have also much to do with and strongly affect the electric wave. One great drawback of the system is that you cannot work more than one set of instruments at any one time between any two continents on account of mutual interference. ... 'If my system of wireless telegraphy can be commercially established... of the possibility of which I have not the slightest doubt, it would bring about an enormous cheapening in the methods of communication at present existing ... I believe the cost of what we now call "cabling" to England might be reduced twentyfold. The present rates are 25 cents a word . . . with the wireless system this cost. . . [could] be reduced to one cent a word or less.'

Electrical World, 28 December 1901

¹ As three faint 'ticks'

From: P.104 of Wroughton J and Cook D (1976) *Documents on World History: Book One 1870-1918*, London: Macmillan

From the 2BRED File

by Grant M. Scobie (grant.scobie@treasury.govt.nz)

Unions have recently been picketing the Nelson port to protest “casualisation” (what an ugly Americanism that word). In listening to the newscasts about this event, I was struck by a certain irony. In January 1911, a young Scot disembarked in Auckland, and because employment on the waterfront was “casual”, he was readily able to find work. That was the first step that was to lead him eventually to the Prime Ministership, arguably L(l)abour’s greatest leader. His story is admirably documented through painstaking research by Michael Bassett and Michael King in *Tomorrow Comes the Song: A Life of Peter Fraser* (Penguin: 2000). This biography was a challenge in that Fraser left virtually no personal papers or letters as raw material. The result is that we learn relatively little of Fraser the man – what he thought, felt and believed. However, the authors have provided a sweeping social and political history of the trauma of two wars and the depression that were the backdrop to a remarkable career. Less than a year after his release from 12 month’s imprisonment in the Terrace Goal, Fraser won a by-election for Wellington Central. So much of what was to shape New Zealand in both its domestic policies and external relations has its origins in the period in which Fraser was a major figure in New Zealand politics.

So much for the past. What of our future as a nation? Oblivion as we sink further into the economic mire, dropping off the OECD ranking altogether and becoming an eco-friendly, retirement island in the South Pacific? Or the economic vibrancy (well, at least the Federal transfers) that might accompany a political merger with Australia? If the French and the Germans can do it, surely the obstacles facing Australia and New Zealand must be infinitely more trivial. These are the choices that Bob Catley lays out for us in *Waltzing with Matilda: Should New Zealand Join Australia?* (Wellington: Dark Horse Publishing Co.: 2001). A Welshman by birth, a former Labour MP for Adelaide in the Federal government in Canberra, Professor of Political Studies at Adelaide, ANU, Otago and now the foundation chair of Governance at the University of the Northern Territory...surely a formidable CV for taking on this question. In a short, a sweeping book written with more journalistic flair than scholarly airs, he lays out the history, politics and pros and cons of full political integration. He addresses all of the potential stumbling blocks and while being careful to state that his intention is to inform the debate, the reader is left in no doubt that he believes it would be in our interest. Would that more of our academic brethren contributed to current policy issues in such an accessible style. Fun reading, informative and provocative. And incidentally, before you dismiss it out of hand as the fanciful flights of an imaginative academic...have you got a better plan for restoring Kiwi prosperity?

I have read and enjoyed a number of books by Thomas Sowell. When I recently saw an announcement for his autobiography, I raced to my computer and fired off an order to Amazon (I am planning to enhance global efficiency by having my salary deposited straight to their account) – and presto, a week later it was here and (after a minor scuffle with my wife about who could get to it first), duly devoured. One cannot but wonder, in fact marvel, at how such a brilliant scholar was able to emerge from his grim, poverty-stricken dysfunctional family circumstances that typified so much of the black south. After running away from home, staying at a home for Homeless Boys, brushing with the law and dropping out of high school in New York, Sowell eventually graduated from Harvard, Columbia and Chicago. His recounting of his life is replete with anecdotes that foreshadow his impeccable command of logical argument. He taught at Douglas College, Howard, Cornell, Brandeis and UCLA universities. His uncompromisingly high standards and his refusal to make concessions to black students resulted in inharmonious relations with the bureaucracy (and hence the frequent moves) but (eventual) respect of from the students. This is much more than a story of one life and a prolific scholar – it is a commentary on tumultuous social change which formed the backdrop to his pain, struggle and ultimate accomplishments. A real must...*A Personal Odyssey* by Thomas Sowell (New York: The Free Press, 2000) - and see also: <http://www.tsowell.com>.

One approach to innovation is through the combination of ideas from different areas. If true, this can apply as much to economics as to anywhere else.

Economists commonly treat preferences as exogenous. There are other possibilities, and we can identify some of these by looking at other work outside economics. I shall illustrate by consideration of accepted thinking on family violence and relationships. There, I believe we can observe three distinct approaches.

One approach could be called “endogenous macro”. Behaviour is therefore not exogenous, but prescribed by wider social factors. The approach is based on the Duluth Wheel, a gender specific model taking a “patriarchal power and control” view of relationships. It underpins family violence legislation and policy in New Zealand, although subsequent gender-neutral versions suggest that the original is an oversimplification. Family violence is considered to involve an “abuser” or “batterer” and a “victim”. The former is responsible for “his” actions (Snively, for example, assumed that all family violence is perpetrated by men). The violence is considered to occur because of male socialization and traditional beliefs of male power over women, hence the “macro” dimension. It is said to be inappropriate to assign any responsibility to the woman, as that would involve “blaming the victim”, and “there is no excuse” for the violence. Attempted solutions are in the form of removal of the abuser from the family, and re-education. Attempts by an abuser to explain the behaviour in terms of relationship dynamics are taken as denial of responsibility.

In a second approach, behaviour is shaped by past and current interactions between family members. This could be called “endogenous micro”. An example is “battered women's syndrome”, whereby a woman's experiences affect her perceptions to the point where she may feel compelled to behave violently when such behaviour would normally be considered unacceptable. Perceptions and behaviour are said to be shaped by a person's immediate environment. The “battered woman” is herself a victim, and her resulting violence is therefore largely excusable - the violent woman should not be considered responsible as her actions are really caused by the “batterer”.

A third approach is evident in the attention given to “parental alienation”. This more closely resembles the economist's “exogenous preferences” in that the phenomenon is largely ignored. According to the parental alienation literature, a child's opinion of and attitude towards a parent can be negatively influenced by others, generally by the other parent. It is suggested that, in extreme cases, a child could be unable to see any positive qualities in, and refuse to see, the alienated parent. Some analysts talk of parental alienation syndrome, but it was not included in the Law Commission's investigation of psychological syndrome evidence (although battered women's syndrome was considered). On the contrary, we see people advocating greater attention being given to children's stated opinions, as if those opinions or perceptions would not be influenced by those around them. Paradoxically, it is simultaneously suggested that children are adversely affected by observing violence between their parents. In other words, in relation to alienation, children are not affected by their immediate environment, and in relation to violence, women and children are influenced, but men are not.

The above reasoning shapes the implementation of family law. It is worth asking whether economists' approaches to law coincide with those of people more directly involved with lawmaking and implementation. Commonly economists analyse regulations under the simplifying assumptions that they are always obeyed, and there are zero enforcement costs.

On occasion, judges impose deterrent sentences, and are alert to the possibility that they may be giving a signal to others about acceptable behaviour. The term, “shadow of the law” refers to people resolving matters without a judicial decision, but being influenced by the outcome that might be expected were the matter to be resolved through a hearing. These suggest that, although the process may not be costless, legislation may influence wider behaviour. Paradoxically, this view is contradicted in numerous statements by people such as Steve Maharey and Margaret Wilson, and by the Family Law Section of the Law Society. In the current debate on guardianship, custody and access, there have been repeated claims that the only impact of decisions arising from hearings is on the cases that have gone to hearing. All other disputes are resolved without the prevailing law having any impact whatsoever.

The above discussion suggests that there are several ways that economists are being overly restrictive in their assumption of exogeneous preferences. There are several examples where endogeneity of preferences is central to academic thinking outside economics. I have looked at one area. Other fruitful avenues might include political science and marketing.

Another challenging issue for consideration also emerges from this cogitation. Observed behaviour may not be simply an expression of revealed preferences. Rather, it may be revealed behaviour based on perceptions of the environment which may themselves be distorted. The significance of perceptions is considered in literature on announcement effects and on indicative planning. Perhaps this dimension area should be more than just an add-on or afterthought in economic discussion.

One thing is clear. We do see similar situations simultaneously viewed in markedly different ways. This has the potential to be a serious problem for economists. Our assumption of rationality does not sit well with the public's revealed preference for inconsistency.

Costs, Benefits and Options

By John Small (jp.small@auckland.ac.nz)

In the previous edition of *Asymmetric Information*, Stuart Birks argued that no cost-benefit analysis is complete until it has considered the full set of available alternatives. He has since kindly allowed me to use this as an excuse to talk about one of my favourite topics.

The reason Stuart's piece got me interested is that it has much broader relevance than the public policy evaluation issues he discussed. In particular, it applies with equal force to a large range of everyday business decisions that bear little resemblance to public policy analysis. Indeed, this idea is the key distinction between the modern "real options" approach to capital investment and the now largely discredited NPV analysis.

The simplest form of real option is the option to delay an investment project. In this case, the choice is not between investing now or never, it is between investing now or deferring the decision to invest. A simple NPV analysis that indicated a positive return to investment could easily lead one astray, just as a restricted cost benefit analysis could. This is because investing now forecloses the option to invest later: these are mutually exclusive alternatives. If the NPV of the "delay" strategy is higher than that of the "invest now" strategy, then delay is optimal even though immediate investment is profitable.

There are many other types of option, including options to expand, contract and/or abandon an investment project at some time in the future depending on how the relevant markets evolve. Research and development investment can be thought of as buying options to exploit the knowledge gained for example. It is worth thinking for a moment about how you might value such an investment project. There are several distinct sources of uncertainty (Will my rivals also invest in this area? What opportunities might be created by the R&D? How valuable might these be?). Depending on how these uncertainties are resolved, you might either invest more to commercialise the knowledge or abandon the project and switch resources into some other area. This future flexibility is valuable but is not counted by traditional NPV analysis.

The reason that NPV fails to capture this flexibility is that it discounts the sum of expected net cash flows where the expectation is formed across the range of possible outcomes at each future date. Formally, the NPV rule is to select the alternative that maximises the expected future sequence of payoffs. By contrast, the real options approach is to estimate the expected value of the future sequence of maximum payoffs. At each relevant future date, the investor is assumed to take stock of the environment and optimise her next move. The sequence of pay-offs expected to result from this process is the real options valuation of the project.

As one might expect, the risk ascribed to a project changes once we recognise that the outcomes will be actively optimised in response to new future information. An additional benefit of the real options approach is therefore that it promotes a more accurate estimate of the cost of capital.

If the managers of a proposed investment are expected to do more than just passively accept the consequences of changing circumstances, they can add value through responding to these new environments. NPV analysis of such a project is directly analogous to a cost benefit analysis that selects just one possible future stream of value (the average) and compares this with the cost of the investment. At best a rough guide, this is more likely to be seriously misleading.

A real options valuation will collapse to an NPV valuation when the management strategy is passive but will differ in all other cases. The main difficulty with real options analysis to date has been that it is based on fairly intractable mathematical models that are difficult for managers to understand and use. This is changing, however, and a binomial option valuation approach combined with simulation methods to model uncertainty seems likely to bring these tools within the grasp of practitioners in the near future.

NZAE CONFERENCE 2002

PRELIMINARY NOTIFICATION

DATES: Wednesday 26th – Friday 28th JUNE inclusive

VENUE: James Cook Hotel Grand Chancellor, 147 The Terrace, Wellington.

(If booking accommodation with James Cook Hotel Grand Chancellor please state it is for the 'Economist Conference' – to receive the negotiated room rate of \$150.00 plus gst per night (Monday – Thursday) and \$115.00 plus gst per night (Friday – Sunday), for either single or twin share.)

REGISTRATION FEE and other charges will be detailed in our registration form which will be sent to all members in January.

The programme is at the planning stage but two of the keynote speakers (subject to final confirmation) are:

Dr *Athanasios Orphanides*, Federal Reserve Board, Washington, DC, USA
(sponsored by the RBNZ)

Prof *Mark Taylor*, Dept of Economics, University of Warwick

REQUEST FOR PAPERS:

You can help by:

1. organising a themed session
2. reporting on completed research
3. reporting on work in progress
4. offering to chair sessions or discuss papers
5. encouraging postgraduates to attend and present papers
6. encouraging recent graduates to enter Jan Whitwell Prize
7. contacting the conference convenor Grant Scobie (grant.scobie@treasury.govt.nz) with any suggestions/bright ideas for speakers/themes/workshops.

The formal Announcement and Call for Papers together with Procedures for the Submission of Abstracts will be mailed to members and posted on the website in January.

Please address preliminary enquiries to:

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Administrator

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Application forms for NZAE membership can be obtained from the Administrator

The Law and Economics Column!!

Child Support – the Durie Formula

By Stuart Birks k.s.birks@massey.ac.nz

Well, we couldn't get a lawyer for this. An anonymous contact told me they are too busy earning money even to have time to read anything else, never mind write about it. Justice Robertson said something similar a while back, also. Failing the arrival of copy, here's something from me:

There are serious, but seldom acknowledged, problems with the formula in the Child Support Act. The Act is a gem for economists wishing to challenge the loose use of the term "equity" (see my piece in the *New Zealand Law Journal* of August 2000, pp.297-299). While possibly an example of judicial activism, a major breakthrough in opening up debate on these matters is to be found in Judge Durie's December 2000 decision in *C v D* (AP No.11/00). He presents what I shall call the Durie formula.

He determined that a parent's share of the costs of the children should equal the parent's share of the combined incomes of both parents. Hence if one parent earned \$60,000 a year and the other earned \$40,000, then the costs of the children should be split 60-40. The costs of the children are the sum of the costs incurred by each parent. Child support payments are used to meet the difference between the required share and costs incurred.

To take a simplified assumption that costs are proportionate to the time spent with each parent, the above higher-earning parent would be expected to cover 60 percent of the costs, and would meet 40 percent of the costs directly if caring for the child for 40 percent of the time (a borderline shared parenting situation). Assessed child support would then equal the remaining 20 percent of the costs.

By the formula in the Act, if the above parent were considered non-custodial¹ and was living alone, then with four children the child support would be nearly \$15,000. Such a payment under the Durie formula would indicate total costs of the children at \$75,000, or more than the combined after-tax income of both parents and nearly three times the costs of three children used by Durie in a specific case when the combined parental income was about \$300,000. This suggests that the formula assessment in the Act is far too high in this instance.

Such an extreme divergence between the two formulae should result in numerous applications for review of child support assessments, with calls by aggrieved parties for application of the Durie formula as one more closely meeting the objects of the Act.

More importantly, Durie recognises that a non-custodial parent's time with children should be given weight, as should a custodial parent's income. Thus he addresses, however imperfectly, two major problems with the Act formula. Relating payments to the actual costs of the children is also a valuable precedent, as it introduces a degree of accountability from the recipient parent to the paying parent with respect to the money paid.

The Durie formula is directly related to time with a child. There is a danger that this would result in greater obstruction of access, a sore issue even now. This could be limited if child support is based on ordered rather than actual access in such cases. It is also less likely to be a problem if Judge Mahony's recent statements carry through to affect custody and access decisions (Murdoch W, 2001, "A Court where children come first", *Evening Post*, 7 August, p.7). He gave support for the involvement of both parents, and this should signal the Court to recognise the importance of both parents, and to withhold custody from an obstructive or hostile parent.

Durie, considering a specific case, only addressed the 50-50 shared custody situation. His formula should be suitable for cases with roughly equal sharing. Overseas research indicates that costs of children are not proportionate to time, however (Henman P and Mitchell K, 2001, "Estimating the costs of contact for non-resident parents: a budget standards approach", *Journal of Social Policy*, July, 30(3), 495-520). There are high initial costs, which can be spread more evenly as time is increased. His formula would unduly penalise non-custodial parents with, say, contact every alternate weekend. Where time is shared unequally, there should therefore be some adjustment in favour of the parent with less time.

The use of actual income can also be problematic. The Property Relationships Act refers to two important concepts. They are the "likely earning capacity" of the parties, and an entitlement to share in a partner's income in exchange for an unpaid work contribution. For consistency, there should be an adjustment to earnings figures for child support purposes to reflect both potential and imputed earnings of each parent. It should also be noted that lump sum transfers that may be ordered in property settlements are in fact capitalisations of future earnings. Formula incomes should therefore be increased for recipients of these transfers and reduced for payers.

Child support payments to a custodial parent on the DBP contribute to the income of that parent. This suggests that there could be problems in applying the Durie formula when one of the parents is a beneficiary.

Matters such as these are mere details, however. For many cases, the Durie formula, even in its crudest form, is a major advance on the formula in the Act.

Any responses to this piece would be most welcome, especially if written by a lawyer, or a feminist, or both.

¹ As an aside, note that the individual would not be considered a parent according to the definition in the Census, but then, nor would any liable non-custodial parent.

The Kyoto Protocol: How much benefit and at what cost?

Phillip Bishop and Alex Sundakov¹

PhillipB@nzier.org.nz alex.sundakov@nzier.org.nz

The New Zealand government has announced its intention to ratify the Kyoto Protocol before the World Summit on Sustainable Development, also known as Rio + 10, in Johannesburg next September. Just what is the Kyoto Protocol, and should we be going along with it?

The purpose of this column is to highlight a few of the Protocol's key shortcomings and why, therefore, New Zealand should slow down, take a deep breath, and undertake a careful analysis of the benefits and the costs before we do anything careless. In our view, there are three key failings with the Protocol: it has a short term focus; very few countries are tangibly committed to it; and those commitments that do exist are not directed at specific actions but rather to results that will be measured at some point in the future.

Some background

Mounting concern and scientific evidence that greenhouse gas emissions from human activities are contributing to global warming culminated in the international adoption of the Framework Convention on Climate Change (FCCC) in Rio de Janeiro in 1992. In the years since Rio, an intense debate has been seen amongst scientists and government officials from many countries. Indeed, it would be fair to say that global warming has firmly established itself as the preeminent international public policy issue.

Among the most significant events have been the international agreement on the protocols adopted in 1997 at Kyoto, and reports of the IPCC (Intergovernmental Panel on Climate Change). The Kyoto Protocol was signed by about 180 countries, with about 30 of them, essentially the developed economies, "committing" to reduce their greenhouse gas emissions back to 1990 levels – or thereabouts. The period over which emissions are to be reduced is 2008 to 2012. In New Zealand's case, and depending on how our emissions continue to increase, this will mean a reduction of some 20 to 30 percent from 2008 levels.

Very simply, countries can meet their commitments by undertaking actions that result in reduced emissions, or by trading emissions permits with other countries. Trading ensures that abatement occurs where it is least costly. There are some other "flexibility" devices available as well: Joint Implementation and the Clean Development Mechanism.

The Kyoto Protocol must be ratified by at least 55 Parties to the Convention before it comes into effect. The United States, of course, has already announced that it will not be ratifying the Protocol, primarily because it views the costs as being too high relative to the benefits.

So what are the problems with Kyoto?

As we noted above, we see three key problems with the Protocol.

First, it has a very short term focus. While there are undoubtedly some opportunities in some countries to reduce emissions at low or no cost, these amount to very little in the grand scheme of things. Greenhouse gases remain in the atmosphere for decades to centuries, and even if all of the Kyoto targets were met, it would only amount to a first but tiny step in the right direction. We would argue that by focusing on what we can do now (i.e. in 2008-12) rather than what we ought to do over the longer term, we have neglected to lay the necessary groundwork for a durable and meaningful set of actions. On the one hand, a short term view has seen the adoption of modest (some might even say trivial) global targets. And this has the advantage that the total global costs of doing something can be kept relatively low. Moreover, avoiding drastic action means we won't prematurely render large amounts of the capital stock obsolete. But, on the other hand, the future severity of the climate change threat requires more ambitious goals to be put in place. Such goals would be more willingly accepted if they were in the context of a longer timeframe, and were therefore capable of motivating economically viable technological change. This requires research, development, and time.

In defending the short term focus, some have argued that the Kyoto Protocol is, in essence, like insurance. In other words, relatively minor emissions reductions now are seen as a form of insurance against uncertain future climate changes. The insurance notion appeals; after all, prudent people buy insurance. But the analogy is flawed and curtailing greenhouse gas emissions is not insurance. Insuring your car does not mean you leave it in the garage. Rather, it means making an investment so that, should an accident occur, resources are available to cover the damages. If the cost of meeting some short term and largely ineffective emissions reduction means that we forego the opportunity to develop long term viable alternatives, who is the beneficiary? Surely not the environment. "Insurance" of the Kyoto type doesn't lead to resources being made available for future mitigation efforts; to the extent that there are costs involved, it simply denies us resources that could be put to better use today. Insurance works by pooling risk; lots of people buy it, but only a few people collect on it.

¹ The authors are from the New Zealand Institute of Economic Research. This views expressed in this column do not necessarily reflect the views of NZIER or its Board.

Which brings us to the second problem: not many people are buying Kyoto. The intent is that some time after 2012, developing countries will join the effort and it will then become a truly global agreement. But it is hard to see this happening. While major emitters such as China, India, Brazil, and Indonesia, and about 100 smaller developing countries have much to lose from climate change, they are hardly in a position to retard their economic development by curtailing energy use. In fact, their best defense against the negative impacts of climate change will be their own development, i.e. to get wealthier. And nobody believes they will be “rich” by 2012. Much of the future growth in emissions is likely to come from developing countries.

Moreover, to the extent that emissions are reduced in the developed countries, it is likely to be through the relocation of emission intensive industries to the developing countries, e.g. cement and steel making. This is referred to as “leakage”. If this happens, then the net environmental benefits are zero, as it doesn’t matter from where on earth the emissions emanate.

Few would argue that the developing countries should be made to bear the same costs as the developed world, at least not until they get wealthier. But if the agreement is to be truly effective, there should be an explicit mechanism for voluntary accession of developing countries to binding commitments, plus an agreement on a mechanism for such countries to take on further commitments once some threshold income level (e.g. per capita GDP) has been reached. As Harvard professor Robert Stavins has put it, “in the short run, developing countries must board the global climate agreement train, but we cannot expect them to pay for their tickets”.

The third problem we would highlight is the lack of a commitment to specific actions. The commitments that countries like New Zealand are signing up to relate to results that will not be measured until after, or during, the 2008-12 implementation period. No one will be able to tell in advance who is on schedule and who is not. More importantly, nations undertaking commitments focused on results a decade or more hence are unlikely to have any reliable way of knowing what precise actions will be required. A government that commits to actions at least knows what it has committed to. Moreover, specific actions are then enforceable because respectable governments are bound by a sense of duty and honour. It is difficult to imagine any country accepting financial penalties or other such sanctions for failing to meet emissions targets.

What should New Zealand do?

The government has made it plain that it intends ratifying Kyoto. But when it comes to specific policy actions, which won’t be put in place until after the next election, we should proceed carefully. There seems to be a view, in some quarters at least, that New Zealand can meet its obligations at low or no cost. We would disagree. In fact, we are of the view that New Zealand’s commitments are potentially quite onerous. Given our emissions are less than one half of one percent of global greenhouse gas emissions, our efforts won’t make any difference anyway. But that is hardly a valid reason to do nothing. However, is it really worth incurring any cost if the benefits are zero?

At this point New Zealand has barely begun to think about the costs of implementing Kyoto. Recent work at NZIER confirms the results of a government commissioned study by ABARE in Australia. That is, some sectors such as livestock agriculture might contract by up to 25% under certain policy scenarios. With dairy alone accounting for nearly one quarter of our exports, is such an outcome really likely to come at low or no cost?

The harsh reality is that New Zealand is an energy intensive economy, not because we are necessarily inefficient in our energy use, but because we have a comparative advantage in energy intensive activities, e.g. dairy product manufacturing and processing wood. Some of our largest manufacturing activities such as aluminium and steel have been attracted here largely because of relatively cheap energy. A further difficulty for New Zealand is that about half of our emissions come from enteric fermentation in livestock; no other developed country has such a large share of their total emissions emanating from non-fossil fuel sources.

Our past reliance on hydro as the primary source of electricity also counts against us. With most hydro opportunities already exhausted, our future growth in electricity will come largely from fossil fuel sources. Hence the marginal cost of our emissions from electricity generation will exceed our average costs. The situation is reversed for most other countries where there is a shift from coal to gas fired electricity generation, for example.

One bright spot for New Zealand, in the short term at least, is carbon sinks, i.e. afforestation activities. But there are many issues associated with sinks that are not straightforward to sort through, and it would be foolish to imagine that forests will provide a long term solution for negating New Zealand’s greenhouse gas emissions.

The problems inherent in the Protocol as it currently stands are closely linked with its economic effects: if taken seriously it will be costly to implement, especially for New Zealand. And at this stage it is difficult to see the benefits.

Now would be a good time for economists to stand up and have their say.

New Publication on the Environment

Perceptions of the State of New Zealand's Environment: Findings from the first biennial survey undertaken in 2000

**Hughey, K.F.D., Kerr, G.N., Cullen, R., Cook, A.
Lincoln University, 2001**

This new report measures, and analyses New Zealanders' perceptions, attitudes and preferences towards a range of environmental issues. Data were obtained from a postal survey designed around the Pressure-State-Response framework of state of the environment reporting and covered a wide range of resources and environmental issues. 2000 surveys were mailed in February 2000 to a sample drawn at random from the New Zealand electoral roll. The survey received an effective response rate of 48 per cent (N = 894). The sample had a margin of error at the 95% confidence interval of approximately three per cent. Resources surveyed included: air quality, native plants and animals, native forest and bush, soils, beaches and coastal waters, marine fisheries, marine reserves, freshwaters, national parks, wetlands, urban environments, and the natural environment in other developed nations. The research also examined participation in environmentally friendly activities, preferences for changes in government expenditure between environmental and other government activities, and management of hazards in New Zealand.

Data are reported to highlight public perceptions of pressure, state and response for each resource type. Findings generally reflect the view that New Zealanders believe they live in a 'clean-green' environment. It is also clear that New Zealanders believe many aspects of the environment are of high quality and generally well managed. There are surprises however, with public perceptions sometimes running counter to scientific understanding. For example, the public generally considers fisheries and coastal resources to be of high quality and well managed. Some policy implications for environmental managers are developed. The survey is designed to operate biennially with the next survey scheduled for 2002.

Copies of the 90 page report may be purchased from:
AERU, PO Box 84, Lincoln University. \$55 including P&P
Email: christia@lincoln.ac.nz
Fax (03) 325 3847.

New Zealand Economic Papers - Message from the incoming editor

I will be taking on the editorship of New Zealand Economic Papers with effect from Volume 36 (2002), and welcome submissions of papers by mail or email. The journal is basically in sound shape, and I will be building on the good work of the outgoing editor, Frank Scrimgeour, and his predecessors.

I see two goals for the editor of a small regional Economics journal: (1) to produce something that is useful to its readers (and hopefully expand the numbers of those); and (2) to provide a quality-control service to the local economics profession, by maintaining high editorial standards and reasonably rigorous refereeing of papers.

These two objectives may sometimes be in conflict. I interpret the first goal as making it rather unlikely that I will publish papers at the extremes of either technique or topic spectrums -- that is, nothing that is forbiddingly hi-tech, or highly abstract and theoretical (or, for that matter, an applied paper which is likely to be extremely limited in the interest of its application).

The conflict with the second goal could arise, for example, when a young theorist at a NZ university is looking to get publications in support of their tenure application. Alas, *Econometrica* or *JET* may be your best option.

Otherwise -- and I hope this could really go without saying -- the journal will be open to competent analyses from any 'school' or tradition. To get the journal more useful to its (mostly New Zealand) readers, I will be looking for -- and possibly commissioning -- papers or groups of papers on important policy-related themes. And to expand the readership and raise the international profile of the journal, I will be looking for occasional contributions (on interesting topics, of course) from high-profile overseas economists. Both of these strategies will be implemented in the June 2002 issue, about half of which will be given over to selected papers from the forthcoming International Conference on Database Integration (Wellington, next March), including papers from two of the international leaders in this area, John Haltiwanger of the University of Maryland, and John Abowd from Cornell).

Suggestions of topics and papers for symposia will be welcomed, as will be offers of sponsorship to produce special issues of NZEP. In general, I ask all NZAE members to support their journal on the supply as well as the demand side -- especially when I tap you on the shoulder to referee!

**Tim Hazledine, Dept of Economics, The University of Auckland, Private Bag 92019, Auckland,
t.hazledine@auckland.ac.nz**

Nobel Prize 2001

Press Release - The 2001 Sveriges Riksbank (Bank of Sweden) Prize in Economic Sciences in Memory of Alfred Nobel, 10 October 2001

The Royal Swedish Academy of Sciences (<http://www.kva.se/>) has decided to award the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel, 2001, jointly to

George A. Akerlof, University of California at Berkeley, USA,

A. Michael Spence, Stanford University, USA, and

Joseph E. Stiglitz, Columbia University, USA

"for their analyses of markets with asymmetric information".

Markets with asymmetric information

Many markets are characterized by *asymmetric information*: actors on one side of the market have much better information than those on the other. Borrowers know more than lenders about their repayment prospects, managers and boards know more than shareholders about the firm's profitability, and prospective clients know more than insurance companies about their accident risk. During the 1970s, this year's Laureates laid the foundation for a general theory of markets with asymmetric information. Applications have been abundant, ranging from traditional agricultural markets to modern financial markets. The Laureates' contributions form the core of modern information economics.

George Akerlof demonstrated how a market where sellers have more information than buyers about product quality can contract into an *adverse selection* of low-quality products. He also pointed out that informational problems are commonplace and important. Akerlof's pioneering contribution thus showed how asymmetric information of borrowers and lenders may explain skyrocketing borrowing rates on local Third World markets; but it also dealt with the difficulties for the elderly to find individual medical insurance and with labour-market discrimination of minorities.

Michael Spence identified an important form of adjustment by individual market participants, where the better informed take costly actions in an attempt to improve on their market outcome by credibly transmitting information to the poorly informed. Spence showed when such *signaling* will actually work. While his own research emphasized education as a productivity signal in job markets, subsequent research has suggested many other applications, e.g., how firms may use dividends to signal their profitability to agents in the stock market.

Joseph Stiglitz clarified the opposite type of market adjustment, where poorly informed agents extract information from the better informed, such as the *screening* performed by insurance companies dividing customers into risk classes by offering a menu of contracts where higher deductibles can be exchanged for significantly lower premiums. In a number of contributions about different markets, Stiglitz has shown that asymmetric information can provide the key to understanding many observed market phenomena, including unemployment and credit rationing.

More information at: <http://www.nobel.se/economics/laureates/2001/public.html>

From our foreign correspondents

30th Annual Conference of Economists, Perth, Sept 24-26, 2001

By Grant Scobie (Grant.Scobie@treasury.govt.nz).

3 days, 278 people registered, 198 papers, 12 keynote addresses, good Perth weather and great WA wine – combined with smooth running and the result was a worthwhile event, both professionally and socially. 5 Kiwis registered amongst a total of 33 foreign addresses. But of course from the WA Branch President (Sandra Hopkins) down, there were expat Kiwis by the cartload... and giving some excellent papers. The terrorist attacks disrupted the travel plans for some, but only about 15 papers in total were withdrawn.

The offering was rich and varied. The new economy, e-commerce, the internet and productivity growth remain flavours of the month. But the standard fare of health, education, tax, labour markets, public policy and trade were all there. Check the Society's homepage for a programme listing (<http://www.ecosoc.org.au/>), but so far neither the abstracts nor the papers have appeared (One noted the marked contrast with the ESAM meeting in Auckland recently where participants received a disc on arrival, carrying copies of all the papers). But keep a watch out – I understand they may be listed..

The keynote speakers were not generally such big names as in last year's conference, and I found the quality variable. Catherine Morrison Paul on productivity growth and spillovers, and Mark Skousen's entertaining if somewhat superficial romp through the history of thought were my favourites. In the contributed sessions, Ross Guest argued that future living standards were unlikely to fall as the population ages (negating the need for special action now), and Peter Robertson found that among 17 OECD countries (NZ included!) that there was no significant difference in their rates of growth of GDP per capita since 1950 – that was cheery news!!

One area that was notably skimpy in the offerings was macroeconomics. Perhaps the greater stability, lower inflation and reduced unemployment has led to less attention to macro issues. More likely, is the alternative hypothesis, that the formation and regular meetings of the Australian Macroeconomics Group has taken this theme to a separate forum. Maybe such specialisation is efficient, but your correspondent would prefer to maintain a broad based offering at the Annual Conference of Economists. Another notable absence was any session on Law and Economics.

The conference dinner was a highlight. The Royal Perth Yacht Club on the river's edge provided a most congenial setting, and the food and wine were two standard deviations above the usual conference fare (but I suppose at over \$NZ100 a head, one might have expected a bit of reasonable tucker). The evening was topped off by the award of a Distinguished Fellow of the Australian Economics Society. An entertaining nominating speech was given by Bruce Chapman of ANU, and the recipient Bob Gregory, his colleague at ANU, responded in style. As a leading international labour economist, the award to Bob was well merited.

What can we learn that would help us enhance our own NZAE Conference? In the first place, we should resist adopting the peculiarly Australian practice of running sessions of contributed papers parallel with key note speakers. It is hard for a contributed paper to compete with a big name keynote speaker – and it seems a wee bit of a put down to invite a keynote speaker, and having paid their way, not to create a plenary session. The Australians manage to attract a higher share of foreign visitors to their conference than we do? Perhaps we could advertise more vigorously, but it may reflect our small size and remoteness (though Perth is not exactly at the hub of the universe). We continue to do much better with the use of the website for information, registration and papers afterwards. I would argue for retaining the role of discussants that we have been using – at the Australian conference, there were no discussants, little time for discussion, and the contributed sessions were chaired by one of the speakers – not entirely satisfactory, but easier to organise!! The Australian Conference seems to attract a wide range of (largely public sector) sponsors? Nine state and federal Departments, two universities, a private foundation and a WA bank were all listed as either Gold or Silver sponsors. Could we do better with sponsorships in NZ?. And do our members want to spend \$NZ610 on registration and \$NZ100 for dinner? It buys great wine!!

Next year the conference is in Adelaide: 30 September – 3 October, 2002.

Abstracts (max 300 words) due by 31 May 2002. Send them to : ecoconf@adelaide.edu.au

Australian and New Zealand Regional Science Association International, Bendigo, October

By Wai Kin Choy (WaiKin.Choy@treasury.govt.nz), Paul Killerby (University of Otago, paulkillerby@hotmail.com) and Joanna Smith (JoannaS@NZIER.org.nz)

The 25th annual conference of the ANZRS AI, held in the first few days of October at Bendigo, Victoria, was attended by more than 160 delegates from the eight states/territories of Australia and New Zealand, as well as keynote speakers and presenters from further afield. The association includes a mix of practitioners, policy makers and academics from both the natural and social sciences, so the annual conference generates considerable networking opportunities. ANZRS AI's multi-disciplinary focus was mirrored in this year's conference theme - "Excellence in Integration: Contemporary Issues in Delivering the Triple Bottom Line".

For us, the New Zealand delegates, the conference offered an insight into the great wealth of knowledge and experience on sustainable regional development issues that is available at our doorstep. Each of the Australian states has adopted a relatively independent approach to regional development, allowing lessons to be drawn from both comparisons and contrasts. (Two NSW websites of particular interest are www.business.nsw.gov.au/regional and www.communitybuilders.nsw.gov.au/regional).

Lessons from the conference were timely and relevant given New Zealand's current approach to regional development. Since December, Industry New Zealand has committed \$2.5 million of seed funding for strategic planning and capability building in 21 communities of interest (the latest being Taupo and the Chatham Islands). Some of these regions will soon be eligible for implementation funding of up to \$2 million each. The acknowledgement of regional issues, coupled with a bottom-up approach to strategic planning, is a reflection of the level to which social capital theory is now influencing economic policy in this country. The new catch-cry is local participation and local ownership of development initiatives.

The official opening of this year's ANZRS AI conference was marked by an informative address from John Brumby, the Minister for State and Regional Development in Victoria. Mr Brumby discussed recent sustainable development initiatives in Victoria, in particular the economic effects of transferable water rights in the state. Keynote speakers Bill Pritchard and Phil McManus of the University of Sydney then presented a paper explaining the policy-on, policy-off approach to regional policy in Australia in terms of cyclical political imperatives, an issue that is also relevant in the New Zealand context. Their paper included a "sympathetic" critique of the triple-bottom line approach to public sector accounting, which prompted discussion about the importance of choosing the right terminology. The political reality is that concepts such as ecological sustainability and social cohesion gain more credence when they are re-packaged as "triple bottom line accounting" and "social capital".

A highlight for many participants was the keynote presentation by Vani Borooah of the Department of Applied Economics at the University of Ulster. Deliberately dispensing with both microphone and visual aids, Professor Borooah "told the story" of globalisation and its effects on unemployment and inequality between regions and countries, comparing the European high unemployment experience with the (less acknowledged) US low-wage phenomenon. The focus of his address was the specific barriers to employment and social inclusion, bringing together aspects of neoclassical theory and good old-fashioned common sense.

Another highlight was a field trip held on day two of the conference, which allowed attendees to learn from the experiences of local industries following the principles of the sustainable development. Following a two-hour train ride on what is ordinarily a freight line, participants opted to visit either the Pyramid Hill Salt operations or the recently developed Timbercorp olive plantation. The latter, which will cover almost 4000 ha when fully planted, is partly a result of new water rights policies, and reflects the campaign for regional Bendigo and surrounding area to become "The New Mediterranean".

Overall, the annual ANZRS AI conferences represent a valuable learning and networking resource that continue to be under-utilised by New Zealanders. In each of the past two conferences, the New Zealand delegation could be counted on one hand. The ANZRS AI will subsequently be stepping up its profile in New Zealand through greater contact with relevant national associations. To learn more about the regional science association and its activities (including the *Australasian Journal of Regional Studies*), check out the website <http://www.uq.net.au/~zzanzrsa/>. There is a new publication produced by the association called *Sustaining Regions*, which endeavours to present topical articles and information on cutting edge issues affecting Australasian regions in an informative and accessible fashion (see <http://www.ssn.flinders.edu.au/geog/anzrsai/>). For any further information, contact Ifor Ffowcs-Williams at e4@clusternavigators.com or Wai Kin Choy at wai.kin.choy@treasury.govt.nz. Ifor and Wai Kin are both on the ANZRS AI Council. For those interested in the programme and papers presented at the Bendigo conference, contact Linda Pink at anzrsai@uq.net.au.

research in progress...

Continuing our series on the research projects currently underway in Economics Departments and Economics Research Units throughout New Zealand, in this issue we profile the research currently being undertaken by economists at the New Zealand Institute of Economic Research. The objective of this section is to share information about research interests and ideas **before** publication or dissemination - each person was invited to provide details only of research that is **new** or **in progress**.

... economic research at the New Zealand Institute of Economic Research as at November 2001.

Prepared by John Yeabsley [johny@nzier.org.nz]

John Ballingall's research interests include:

- international trade and trade liberalisation
- the housing market
- macroeconomics in general

John is currently working with Ralph Lattimore on creating a resource base on trade liberalisation. Other current research includes an examination of the implications of the Kyoto Protocol on NZ and other countries; and an investigation of the social and economic costs of fires in schools.

He can be contacted at johnsb@nzier.org.nz

Phil Bishop's research interests include:

- issues having to do with the primary sector and resource-based industries
- trade and marketing
- firm-level operations and logistical problems

Phil is currently working on assessing the impact to the New Zealand economy of climate change policy. He is also working on the design of techniques for evaluating the consequences of natural disasters.

Phil can be contacted at phil.bishop@nzier.org.nz

Phil Briggs' research interests include:

- Long term changes in the structure of the New Zealand economy
- Trade patterns and their influence on New Zealand's economic development

- Applications of economic forecasting techniques

Phil can be contacted at phil.briggs@nzier.org.nz

Ian Duncan's research experience and interest lie mainly in issues of industry and market structures, and their implications for decisions, policies, and performance in both private and public sectors.

He is also interested in the analysis of local economic development initiatives, and in how economic development strategy should be designed and applied at the local level.

He is currently working on:

- An economic assessment of the New Zealand film industry
- An economic and social assessment of fires in schools
- Economic development strategy for a provincial region.

His email address is iand@nzier.org.nz

John Feil's research interests revolve around aspect of law and economics (especially issues of competition law and policy) and the economics of business strategy and organisation.

He can be contacted at john.feil@nzier.org.nz

Ralph Lattimore's research interests include:

- industry and trade policy

- competition law
- market behaviour

Ralph is currently working on industry/regional growth poles, the trade and wages issue, the demand for educational qualifications and models of NZ's interests in the upcoming WTO Round.

Ralph can be contacted at: ralph.lattimore@nzier.org.nz

Anna McKinlay's research interests include:

- micro economic policy, in particular competition policy and utility regulation;
- the implications of developments in telecommunications and converging sectors; and
- the impact of regulation on business activity.

She can be contacted at: anna.mckinlay@nzier.org.nz

Chris Nixon's research interests include:

- agricultural and applied economics;
- industry studies;
- the micro economics of public policy; and
- trade issues.

Chris is currently working with John Yeabsley on a project reviewing NZ's trade policy history with a view to suggesting lessons for the future.

Other research being pursued includes examining the R&D policy in New Zealand, and the economics of new technologies.

He can be contacted at: chris.nixon@nzier.org.nz

Jean-Pierre de Raad's prime areas of interest are health economics and public policy. He is currently investigating the interface between the public and private roles in the health sector, as well as health labour market issues. Jean-Pierre is also contributing to the Institute's work on the impact of the Kyoto Protocol on the competitiveness of nations.

You can contact him at jp.deraad@nzier.org.nz

Joanna Smith's areas of interest include:

- environmental economics;

- labour market analysis;
- demographics; and
- macroeconomics.

She has recently been involved with projecting industry GDP and employment at the regional level.

She is currently working on analysis of New Zealand's exports using gravity modelling.

Jo can be contacted at: joanna.smith@nzier.org.nz

Doug Steel's research interests include:

- Macroeconomics
- Econometrics and forecasting
- Household savings and investment

Doug is co-editor of NZIER's quarterly forecasting publication, *Quarterly Predictions*. He also edits NZIER's *Quarterly Survey of Business Opinion*. Doug compiles the WestpacTrust Household Savings Indicators each quarter.

Doug can be contacted at: doug.steel@nzier.org.nz

Alex Sundakov, Mary Clarke and Doug James are working on a multi-staged investigation on the impacts of climate change policies in the forestry sector. This involves carefully considering all the aspects of the policy decision, including negatives relating to input costs (fibre, energy and transport).

Alex can be contacted at alexs@nzier.org.nz

John Yeabsley's research interests include:

- law and economics;
- industry and competition;
- the micro economics of public policy; and
- trade and immigration issues.

John is currently working with Chris Nixon on a project reviewing NZ's trade policy history with a view to suggesting lessons for the future. Other research being pursued includes looking at the impacts associated with temporary movement of people into and out of New Zealand, and examining the relationship between theories of credibility and 'experts', in the context of the quality of public policy advice.

He can be contacted at: johny@nzier.org.nz

...about NZAE

The New Zealand Association of Economists aims to promote research, collaboration and discussion among professional economists in New Zealand. Membership is open to those with a background or interest in economics or commerce or business or management, and who share the objectives of the Association. Members automatically receive copies of New Zealand Economic Papers, Association newsletters, as well as benefiting from discounted fees for Association events such as conferences.

Membership fees:

full member: \$90

graduate student: \$45

If you would like more information about the NZAE, or would like to apply for membership, please contact:

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Administrator, NZAE

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fax: (04) 801 7106

email: economists@nzae.org.nz

EMAIL DATA BASE

We are currently setting up an email database of members to keep up to date with technology, and we are working towards eventually e-mailing as many of our notices/publications as possible. *If you have not yet supplied the Administrator with your email address please email: economists@nzae.org.nz*

MEMBER PROFILES

If you would like your profile included on the NZAE website - please email your details to: economists@nzae.org.nz

W*elcome!* to the following people who have recently joined NZAE...

Ozer Karagedikli (Victoria University); **Kevin Counsell** (Statistics NZ); **Martin Richardson** (University of Otago); **Vijay Narayan** (West Coast Regional Council); **Matthew Bell** (The Treasury); **Paul Rodway** (The Treasury); **Katherine Henderson** (The Treasury); **Simon Hay** (The Treasury); **Nathan McLellan** (The Treasury); **Christopher Green** (The Treasury); **Michele LLOYD** (The Treasury); **Heather Kirkham** (The Treasury); **Struan Little** (The Treasury); **Renee Lister** (The Treasury); **Tracy Wilkinson**; **William Chetwin** (Reserve Bank of NZ); **Kishti Sen** (Royal Exchange, NSW); **Matthew Hickman** (Environment Waikato), **Geoff Simmons** (The Treasury).

WEB-SITE - The NZAE web-site address is: <http://nzae.org.nz/>
