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Editorial Note

The world of public policy is ever diverse, ever changing and ever challenging. This diversity, change and challenge is reflected in the articles contained in this issue of *Policy Quarterly*. Five very different topics are addressed: the issue of whether sub-replacement fertility is a problem for New Zealand; the question of what kind of relationship New Zealand should have with its large diaspora; the problem posed by the potential for statistical studies to be misleading; the issues surrounding high country land reform in the South Island; and the challenge of how to generate more joined-up public services and joint outcomes (in the interests of higher-quality and more effective service provision) in a context of organisational fragmentation, bureaucratic politics, multiple accountabilities, disciplinary boundaries and timid leadership.

Population ageing has been a feature of virtually all industralised countries in recent times. While the reasons for this differ between countries, the primary cause has been a shift to below-replacement fertility rates. But is sub-replacement fertility actually a problem? Paul Callister and Robert Didham explore this question in the first article in this issue of *Policy Quarterly*. In so doing they examine whether there is an 'optimal' level of fertility and consider how policy makers might best respond if fertility rates are deemed to be too low. As in most policy areas, matters are rather more complex than might appear to be the case on first inspection. Equally, to the extent that sub-replacement fertility in a country like New Zealand is regarded a problem, the policy levers available to governments appear to be limited and of modest effectiveness.

The next piece, by Alan Gamlen, explores the nature, scale and implications of New Zealand's substantial international diaspora and considers three archetypical scenarios regarding state-diaspora relations, as backdrops for strategic thinking. Gamlen's premise is that 'good state-diaspora relations can mitigate the political and economic costs of sustained emigration'. Having explored the relevant terrain, he argues that New Zealand's diaspora, given its size and significance, deserves 'a more coherent, holistic and long-term approach' by governments.

On a very different tack, Amanda Wolf consider the problem of how even 'good' statistics 'produced and reported by respected, unbiased, technically acclaimed researchers, may nevertheless *mislead* key actors in the policy debate'. This is because, she argues, 'No statistic perfectly reflects either the natural context of individuals and societies or changes in that reality. Rather, a statistic expresses the probability that a measurable quantity in a particular situation is really the case'. Wolf explores a number of cases of misleading statistics, drawing on both New Zealand and international examples. She concludes her analysis by considering how the problem of misleading statistics might be minimised. Some may find aspects of Wolf's critique provocative. But given New Zealand's large investment in empirical studies, if her analysis generates extra thought and care about the production, interpretation and explanation of comparative statistics on the part of both researchers and policy makers it will undoubtedly have served its purpose.

Moving from the general issues of statistics to the particular problems associated with the sale of Crown land, Ann Brower, in the fourth article, considers the recent debate over land reform in the high country of New Zealand's South Island. Drawing on insights from a number of theoretical perspectives, and agency theory in particular, she considers the value of property rights in pastoral leases and the recent tenure review process in New Zealand. Her argument, in short, is that the process adopted by the government over the past decade or so for selling pastoral land owned by the Crown (and leased long-term to farmers mainly for pastoral use) has resulted in the government

receiving a significantly lower return than should have been the case. As she puts it, the 'tenure review outcomes defy legal and economic logic because the Crown' failed to properly 'defend its legitimate interests during negotiations'. This is not a happy outcome – except, of course, for those making the purchase!

Finally, Derek Gill and his collaborators provide a brief outline of, and some initial questions arising from, their 'Emerging Issues Project' on how to improve the quality of public services by ensuring that government agencies collaborate to a greater extent in meeting the needs of New Zealanders. The quest, in the current language of public sector management, is for more 'joined-up' public services. This Emerging Issues Project is one of a number being funded within the School of Government at Victoria University of Wellington by departmental chief executives. Future issues of *Policy Quarterly* will provide a full account of the findings of this particular project and some of the other projects currently underway.

The views of readers on the articles contained in this and other issues of *Policy Quarterly* are always welcome.

Jonathan Boston
Co-Editor

Sub-replacement Fertility: is this an issue for New Zealand?[1]

Paul Callister and Robert Didham

Introduction

In all industrialised countries, including New Zealand, the population is 'ageing'. The reasons for this vary somewhat between nations but, in most, a key driver has been a shift to below-replacement fertility rates. This ageing of the population has raised policy concerns in individual countries and international agencies as to how to economically support the growing proportion of the population that is projected to be no longer active in the labour market (e.g. Blöndal and Scarpetta, 1998; Weller, 2001). While reforming public retirement schemes is part of the policy agenda, other options to reduce the problems associated with an ageing population are also being investigated. These include increasing both fertility and the rates of female employment. This seems a difficult challenge because, as noted in a review article by the OECD (2001), fertility and women's employment have generally been viewed as alternative choices.

The key question in this paper is whether sub-replacement fertility is a problem, either now or in the immediate future, facing New Zealand. However, we also address a wider question as to whether there is an 'optimal' level of fertility. Given that female employment and fertility have the potential to move in different directions, we begin with a short overview of changing employment patterns. We then briefly examine trends in fertility in New Zealand. Taking employment and fertility patterns into account, the paper then considers possible public policy responses in relation to fertility.

Employment

In early 2000 the government stated that, while New Zealand's overall labour force participation rates were high, the rate for some groups of New Zealand women, particularly those aged 25–34, was below the OECD average (Clark, 2005). This created much debate about the costs and benefits of increasing female employment. However, since 2005 female employment has continued to increase. Long-term employment data show that, overall, in mid-2007 employment rates for women were at an historic high. These data show that in 1956 around 29% of women were employed, but by the June quarter of 2007 this had risen to just under 60%. In contrast, there has been a decline in male employment rates. In 1956, 90% of men aged 15 and older were in paid work. This reduced to a low of around 65% in the early 1990s, before climbing back to 73% in mid-2007.

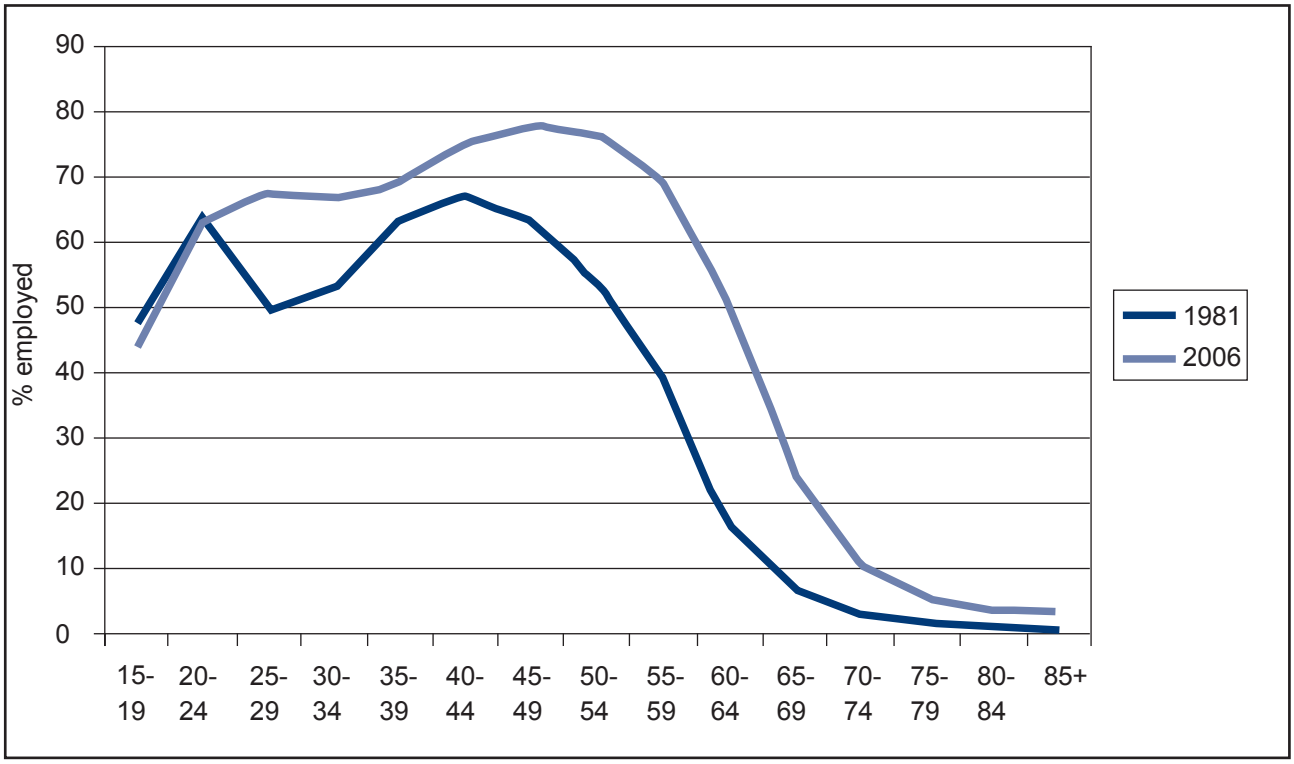
However, more important than the overall growth in employment is in which age groups changes have occurred. While there has also been strong growth in the proportion of women working among older age groups, Figure 1 shows significant growth in the broad 20 to 39 age group in the period 1981 to 2006. These are the main childbearing ages for women. But the census data also show that while employment for older men has increased, the rates for men aged 20 to 39 remain well below those of the 1980s. Both trends can potentially have an impact on fertility.

Fertility

Following the 2005 debate about increasing women's participation in the workforce, in 2006 the prime minister, Helen Clark, announced the Choices for Living, Caring and Working ten-year plan of action to improve the caring and employment options available to parents and carers (Clark, 2006). The plan has six key areas of activity, which are designed to enable people to better balance their work and caring responsibilities. These are: supporting parents who wish to care for their

1 This paper draws heavily on presentations given at a workshop on fertility held in October 2006 at the Institute of Policy Studies, http://ips.ac.nz/events/completed-activities/Fertility.html. It also draws on recent work by Statistics New Zealand.

Figure 1: Employment rates for women in each age group, 1981 and 2006



Source: Census of Population and Dwellings, Statistics New Zealand

children themselves in their first year of life; ensuring that families with children under five can access and participate in high-quality, affordable early childhood education; ensuring families have better access to quality, affordable and age-appropriate out-of-school services for their school-age children; improving the choices for New Zealanders who are caring for adults of all ages; encouraging flexible work practices; and an ongoing commitment to evaluation and research to ensure that the plan is effective over the next ten years. However, missing from the Choices programme of research and policy development was the consideration of policies that may support or, alternatively, create barriers to families making wise choices about whether to have children, when to have them, and family size. Health policies that could affect fertility, such as funding for IVF, also do not explicitly consider New Zealand's overall fertility levels.

Overseas, a major concern arising from the encouragement of women into paid work has been the potential impact on fertility. As part of a debate about employment and fertility in Australia, McDonald (2000, p.1) noted:

> if women are provided with opportunities nearly equivalent to those of men in education and market employment, but these opportunities are severely curtailed by having children, then, on average, women will restrict the number of children that they have to an extent which leaves fertility at a precariously low, long-term level.

By OECD standards, New Zealand currently has above average fertility for the level of female employment (OECD, 2004) and for the generosity of child assistance (Bradshaw and Finch, 2002). In fact, New Zealand's relatively high fertility has been seen as one reason for lower than OECD average workforce participation rates for women aged 25–34 (Johnston, 2005). The latest data show that the number of births in the June 2007 year was 61,610, the highest since 1972. As a consequence there has been some media attention misinterpreting this as a mini baby boom, but it is primarily related to population size and the composition of the childbearing cohorts. The fertility rates remain around replacement level and while there is some evidence that there is a slight increase in the TFR (total fertitlity rate), this is well within the volatility of this measure (Table 1).

Table 1: Total fertility rates, selected countries 1993–2005

	Australia	Canada	England and Wales	France	Japan	Netherlands	NEW ZEALAND	Norway	Sweden	Switzerland
1993	1.86	1.69	1.76	1.65	1.46	1.57	2.04	1.86	2.00	1.51
1994	1.84	1.69	1.75	1.65	1.50	1.57	1.98	1.87	1.89	1.49
1995	1.82	1.67	1.72	1.71	1.42	1.53	1.98	1.87	1.74	1.48
1996	1.80	1.62	1.74	1.73	1.43	1.53	1.96	1.89	1.61	1.50
1997	1.78	1.55	1.73	1.73	1.39	1.56	1.96	1.86	1.53	1.48
1998	1.76	–	1.72	1.76	1.38	1.63	1.89	1.81	1.51	1.47
1999	1.76	–	1.70	1.79	1.34	1.65	1.97	1.85	1.50	1.48
2000	1.76	1.49	1.65	1.88	1.36	1.72	1.98	1.85	1.55	1.50
2001	1.73	1.51	1.63	1.88	1.33	1.71	1.97	1.78	1.56	1.41
2002	1.76	1.50	1.65	1.87	1.32	1.73	1.90	1.75	1.64	1.39
2003	1.75	1.53	1.73	1.88	1.29	1.75	1.95	1.80	1.71	1.39
2004	1.77	1.53	1.78	1.90	1.29	1.73	2.01	1.83	1.75	1.42
2005	1.81	–	1.80	1.94	1.25	1.71	2.00	1.84	1.77	1.42

Source: Demographic Trends, 2006, Table 2.11, Statistics New Zealand

However, underlying the overall fertility rate there is considerable diversity of fertility patterns amongst individuals and families, a pattern Ian Pool (2007) refers to as 'polarisation'. For example, when compared with the OECD comparisons New Zealand has relatively high rates of teenage pregnancy. Yet overall in New Zealand there has been a strong shift to later childbearing. In addition, while there are childless families, there are also pockets of larger families.

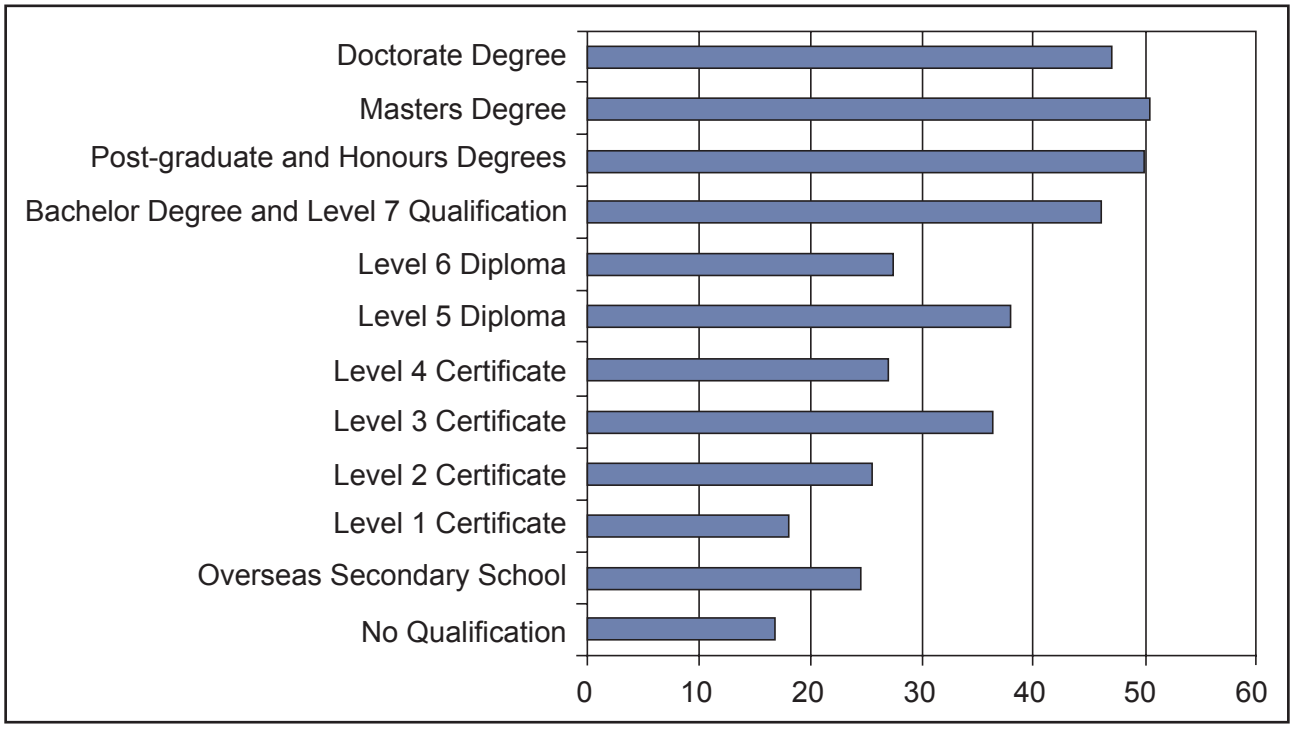
But, directly relevant to the question of sub-replacement fertility, there are signs that fertility could reduce in New Zealand in the future, particularly amongst the increasing numbers of well-educated women. For example, the 2006 Census shows that one in six of 40-year-old women had not started a family. But for those born just ten years later, in 1975, indications are that around one in four may remain childless throughout their reproductive lives (Boddington and Didham, 2007). If fertility levels are to be maintained in this situation, women who do choose to be mothers (i.e. non-childless women) would need to have on average 2.8 children each rather than the current 2.3. There are now pockets of low fertility in New Zealand and this relates to a number of factors, including the geographic areas where well-educated people tend to live (Didham, 2006). Figure 2 shows that while there are some areas of qualification that do not fit the trend, overall, women with higher levels of educational qualifications are less likely to have had children.

Timing and spacing of children are important in determining and sustaining fertility levels. Both biomedical data and demographic data show that first childbirth is being delayed in New Zealand. This delay appears to be causing fertility problems for a significant number of New Zealand women (Sceats, 2006; Peek, 2006). Delayed fertility is often a result of women participating in tertiary education and then investing in their career in their late 20s and early 30s. Research undertaken in New Zealand suggests that beliefs that fertility can be delayed are at odds with the biomedical evidence. By the early 30s fertility levels for women (and probably men) are dropping substantially (Labett, 2006; Peek, 2006).[2] Similarly, the spacing between births has important economic and social consequences.

Attitudinal surveys in Australia and New Zealand suggest that the vast majority of young women have

2 In New Zealand we have lower rates of children born through the assistance of reproductive technology than many other industrialised countries (Peek, 2006).

Figure 2: Percentage of women who were childless in each level of qualification, 25-44 age group, 2006



'traditional' goals (Sceats, 2006; Labett, 2006).[3] For women, one goal is finding an opposite sex partner before they have children, and, while many women are focused on developing their own careers, the majority are still looking for someone to share the financial burden of children with. This may help partly explain the keen interest of the media and the public in New Zealand in the misnamed 'man drought' in the 30–39 age group.

Fertility and public policy

Below-replacement levels of fertility are a concern for many policy makers. For example, in 2005, half of developed countries had in place policies to raise their birth rates, up from one third a decade ago (Jackson, Rottier and Casey, 2006). Countries which have total fertility rates of under 1.5 and which have policies in place include Italy, Spain and Japan. Even Australia, with a rate of around 1.7, has recently changed its policy stance from 'no intervention' to putting in place an explicit and indirect pro-natal fertility policy (ibid). In contrast, in the UN report on world population policies (United Nations, 2006) New Zealand, with its near-replacement fertility, is listed as having a 'satisfactory' level of fertility and is classified as wanting to 'maintain' this level.

Yet, implicit in any discussion of the effect of low fertility is an assumption that there is an optimum fertility rate for a particular social environment. The basic assumption is that this optimum should lie somewhere close to the local replacement level, which for New Zealand is around 2.04 births per woman on average, though the internationally assumed level is around 2.1 births per woman, to account for regimes with higher infant and maternal mortality. However, it needs to be kept in mind that replacement level is assumed to be optimal only if a country has decided that the current population level is what they want, or if nations are able to balance migration so that they have net gain, or countries can perhaps manage population change via migration to maintain a particular age structure that they want at the time.

While most discussions about fertility in industrialised countries focus on ways to maintain or raise fertility levels, it is worth considering possible benefits, particularly to the individual, of *lower* fertility. First, in the longer term for most women lower fertility has had major benefits. For example, it has allowed many women to invest in education and careers. This has also

3 In both these studies only women were interviewed.

had an indirect benefit for men in that there is greater opportunity for direct involvement in child-rearing. Lower fertility could also be important in terms of reducing the human footprint on the planet. One possible trade-off for long-term sustainability would be a reducing world population as standard of living, and thus resource use, for individuals increases.

There is also a need to think about low fertility in industrialised countries in other wider contexts. Concerns about below-replacement fertility rates are certainly not a worldwide phenomenon, with the world total fertility rate calculated as being 2.7 (Population Reference Bureau, 2007). In terms of future labour shortages in industrialised countries, McDonald and Kippen (2001) point out that the number of prime working aged people is growing very rapidly in some developing countries. They note, for instance, that the number of people aged 20–64 in Pakistan is projected to grow from 50 million in 1995 to 150 million in 2035; in India from 470 million to 850 million; and in the Philippines from 32 million to 70 million. Closer to home, Melanesia has a rapidly growing population (Bedford, 2007). Consequently, McDonald and Kippen argue there will be no global shortage of labour. A continuation of globalisation of industries and investment will mean that some of these prime working aged individuals are likely to be providing the labour for ageing societies even if they remain in their own countries. Yet many young people in these countries will also wish to migrate to currently wealthier nations such as New Zealand.

The impact of migration on the ageing of the population, and on fertility, in countries such as New Zealand is complex. Both skilled and unskilled people from high-fertility, low-income countries will want to migrate to low-fertility, high-income countries. While those migrants who possess few skills may tend to have relatively high fertility levels, the well-educated migrants will tend to have fertility patterns more similar to educated people in industrialised countries. In countries such as New Zealand, due to current migration policies flows of low-skilled migration are very limited. Yet, based on models such as the United States or Singapore, in the future low-skilled migration could be considered as a way of providing domestic workers who could help support higher-income working families in New Zealand to raise children (Callister, 2005). Even if there is some low-skilled migration, it is important to observe that fertility rates of migrants tend to be lower than those of the general population in their source countries, and that after migration migrants quite rapidly adopt local fertility norms pertaining within their communities.

But migration affects New Zealand in other ways. The ageing of the population in Europe and other industrialised countries provides a strong pull factor for our young people. This removes, either on a temporary or permanent basis, a significant number of the people who are making decisions about fertility. With our very large diaspora, decisions about fertility and the location of childrearing families are being made both within New Zealand and overseas. Not only are issues such as employment opportunities being considered by New Zealand's diaspora, but also the level of support for families provided by various countries.

Just focusing on New Zealand, surveys would suggest that there is some conflict between employment and fertility for some women in their childbearing ages, particularly among middle-class women with either established careers or strong career prospects (Sceats, 2006). Yet it is difficult, both methodologically and in fact, to find evidence linking policies to increase fertility and actual increases in fertility in industrialised countries (Robertson, 2006; Callister, 2002). It is easier to identify policies that result in very low fertility. For example, the inability of Italian women to combine career and family life has been linked to their very low fertility rates. While it seems that no one policy will have a major impact on fertility, it is more likely that the impact lies in how a wide range of policies work together.[4]

Certainly, providing additional support to women and their partners in areas such as childcare, parental leave and flexible work arrangements may help them to find better ways of combining work and family responsibilities. Based on the evidence, this might, in turn, marginally lift the fertility rates of those already deciding to have children. It is more difficult to see how to reverse the increase in the number of women who are not having children. However, providing additional family–work support measures might encourage some women who have decided to have children not to delay their childbearing so long, thereby

4 This is excluding draconian policies such as banning contraception.

reducing the infertility problems associated with delayed childbearing. However, for many women, and men as well, this may also require earlier partnering if their preference is to bring a child into the world within a two-parent family. It is possible that men do not want to partner earlier and do not feel the same urgency to have children as women. Research suggests that women have traditionally partnered with a male with a higher level of education than themselves. This may be through their own choice, or because in the past there were simply significantly more men with higher levels of education than women. However, changes in education outcomes for men relative to women has made finding a suitable partner based on this criterion more difficult for women. It may also be that men generally do not want to partner with women with better qualifications than themselves. Moreover, not insignificant for this process is the way in which educational qualifications are implicated in social status and wealth outcomes, which in turn influence decisions on family size.

There also appears to be some scope in terms of encouraging the greater sharing of unpaid work in couple families, which could assist women to better balance work and family commitments. This would generally require a reduction in the paid work hours of fathers.

Related to this, it is clear that the focus of historical discussions about fertility has been on the choices that women are making. Internationally, it is starting to be understood that attitudes and decisions being made by men are important (Goldscheider and Kaufman, 1996). Changing labour market and educational outcomes for men are likely to be having some influence on behaviour. For example, in an Australian context, Birrell, Rapson and Hourigan (2004) suggest that loss of jobs, as well as downward pressure on the wages of employed low-skilled men, may be having a negative impact on fertility levels. However, while overseas research is beginning to explore the role of men in partnering and fertility choices, research in New Zealand has yet to be carried out on male partnering and fertility attitudes and decisions.

While unlikely to have any significant influence on the overall fertility rate, public policy can have a major influence on individual outcomes. It has been suggested that New Zealand has provided inadequate support for public IVF programmes. Peek (2006) states that public funding of infertility treatment in New Zealand is severely restricted, allowing a maximum of two cycles in a couple's lifetime, and then only if stringent eligibility criteria are met. Criteria include the woman being aged 39 or younger, not being overweight and not smoking. Having children aged 12 or younger reduces points for eligibility, as does a shorter duration of infertility. Couples with 'unexplained' infertility need to wait five years to become eligible. Peek notes that for those starting in their mid-30s there is insufficient time to try for up to four years without eroding their chance of success with treatment if they do not become pregnant by themselves.

Conclusion

Is low fertility a problem for New Zealand? In our view, the continued stability of the TFR around replacement level over the last 30 years is an important indicator that the severe sub-replacement fertility experience in parts of Europe, for example, will not be a part of New Zealand's fertility future at least in the short term. However, if child-bearing trends continue, the fertility rate is likely to drop unless the increases in childlessness are offset by increases in the average family size. The degree to which fertility changes in the medium term will depend on the relationship between these two factors.

There are strong impediments against any significant rise in fertility without some non-demographic shock that may trigger a 'prolific survivor' reaction (Desbarats, 1995). Among these constraints are labour market demands, increasing age at which women begin child bearing, increasing levels of childlessness and steady fertility among mothers. As discussed, while there is not strong evidence linking policies to increase fertility and actual increases in fertility in industrialised countries, some countries, such as Italy, can be found that show there are policies associated with very low fertility. What does seem to be clear is that no one 'family friendly' policy will have a major impact on fertility; the impact seems to lie in how a wide range of policies work together.

Discussions of migration cannot be separated from discussion about fertility. Migration may provide some temporary rise in fertility if there are gains of women from high-fertility source countries, but the size of migrant flows necessary to achieve this are unlikely given the competition for migrants among all low-

fertility destination countries and current policies which seek skilled migrants rather than future mothers or existing families.

In recent decades fertility policy has not been high on the policy agenda. If it is going to become more central in debates it cannot be considered in isolation. It needs to be thought about in the light of wider policy discussions, including those around migration, climate change and sustainability both nationally and internationally, health, and labour market policy.

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Making Hay While the Sun Shines: envisioning New Zealand's state-diaspora relations

Alan Gamlen

Introduction

The diaspora is a long-term feature of New Zealand's migration system and its political landscape. Yet the New Zealand government does not have a coherent approach towards it. Why not? It cannot be because nothing important is happening: around 850 New Zealanders emigrate in the average week, and around one in five New Zealanders now lives abroad. Moreover, while not a first-order policy issue in itself, this is important across a range of policy areas, and occasionally requires urgent government attention. A more likely explanation for the absence of coherence is that New Zealand still sees itself as a migrant-receiving country, and that the diaspora has been a political hot potato, making level-headed debate difficult.

With some heat temporarily dissipated from the issue, it seems an appropriate time to consider long-term scenarios. This article suggests that the diaspora is a long-term social, political and economic reality for New Zealand, and that it therefore deserves a more coherent, holistic and long-term approach from the New Zealand Government. Moreover, it suggests that good state-diaspora relations can mitigate some of the political and economic costs of sustained emigration. With this in mind, the article presents three scenarios to illustrate what kinds of relationship the New Zealand Government *could* have with the diaspora. It is hoped that these scenarios might contribute to more strategic thinking in this area.

A New Zealand 'diaspora'?

In the average year since 1979, 43,976 New Zealand citizens have departed the country, while only 23,398 have arrived (Statistics New Zealand, 2006). As a result, a comparatively large proportion of New Zealanders live abroad. Verifiable bare-minimum estimates (known to be undercounts[1]) put the number of New Zealanders abroad at between 459,322 (Bryant & Law, 2004) and 528,597 (Migration DRC, 2007). Scholars guesstimate between 600,000 and 850,000 (Bedford, 2001; Hugo, Rudd & Harris, 2003). Estimates of 1 million or more regularly appear in the media (Dusevic, 2006; see also www.nzedge.com/intro/). The number of New Zealanders abroad has never been accurately counted and remains unknown.

The key question is, do these people still actively identify themselves as New Zealanders, despite lengthy dispersion? In other words, are they a 'diaspora'[2] (Butler, 2001)? New data collected in early 2006 by the government-supported Kiwi Expatriate Association (Kea) sheds some new light on this question. Eighteen thousand people completed Kea's 'Every One Counts' questionnaire, which was directed at 'Kiwi expatriates' and distributed by a chain email. This method ensured that the sample was self-selective of people who identified as New Zealanders and were actively connected enough to receive the survey through their email networks. Respondents' most common transnational activities were social, such as staying in touch with family and friends in New Zealand. Transnational activities of a more civic nature were also fairly common – things like reading newspapers and websites, belonging to New Zealand organisations, and keeping in contact through government sources. Transnational economic activities were relatively uncommon, although many respondents held bank accounts or other securities in New Zealand.

The Kea respondents were certainly well dispersed: though concentrated in three main locations – the UK

1 For discussion of problems counting expatriates, see Dumont and Lemaître (2004) and Hugo (2006a).

2 Butler (2001) identifies four defining features of diaspora on which most theorists agree: dispersion across one or more locations, self-identification with a common group identity, maintenance of a relationship to a homeland, and persistence over two or more generations.

and Ireland (48.9%), the USA (11.6%) and Australia (26.3%) – they were spread across more than 150 countries. Many had been away for long periods, and wrote detailed comments on their identity. In some cases they eulogised national symbols, such as the All Blacks, the country's 'nuclear free' stance and its natural beauty. In other cases they expressed loyalty mixed with frustration, condemning things like the tax system and infrastructure, political correctness, and a range of other ways in which people felt New Zealand had ruined a perfectly good country.

Their ambivalence highlights an important question: does or will New Zealand identity persist beyond the first generation of emigrants? The survey methodology was inconclusive, but only around 5% of Kea respondents were New Zealanders by descent (as opposed to birth or 'naturalisation'). Whether this ambiguity disqualifies use of the word 'diaspora' in the New Zealand case depends largely on one's theoretical persuasions. Theorists are split on the question of whether persistence across generations is a defining characteristic of diasporas, with 'classical' theorists of the Jewish case arguing that it is, and contemporary theorists of transnationalism and globalisation not insisting on this point (for further discussion see Butler, 2001; Hugo, 2006a; Reis, 2004).

Notwithstanding theoretical quibbles, the Kea data shows that there is a New Zealand diaspora numbering at least 18,000 people – and it seems likely that they are selective of a much larger 'transnational New Zealand' population.

Why does the diaspora matter?

The New Zealand diaspora is unlikely to become a 'first-order' policy issue. However, it deserves higher priority attention than it currently receives, and this attention could be more coherent, holistic and long-term. As a benchmark, it is worth noting that the Australian diaspora is proportionally smaller than the New Zealand diaspora,[3] yet the Australian case has been characterised by a more sophisticated debate involving examination of more options (Australian Senate, 2005; Betts, 2006; Carli, 2006; Fedi, 2006; Fullilove & Flutter, 2004; Hugo, 2005, 2006a, 2006b; Hugo et al., 2003; see also www.southern-cross-group.org). Nor is Australia alone amongst developed nations in treating the issue seriously (see, for example, Cowen, 2002; Sriskandarajah & Drew, 2006).

Australian demographer Graeme Hugo (Hugo, 2006a) has outlined a number of reasons why the Australian 'diaspora' matters. The first relates to national identity, also a strategic priority for the New Zealand government. Taking into account migrants and their relationships with both origin and receiving states, social scientists in general are increasingly being forced to think outside the square of the nation state when they theorise society, using the so-called 'transnational lens' to analyse social dynamics that span national borders (Basch, Schiller & Szanton Blanc, 1994). As Hugo puts it, the country's geographical borders do not necessarily delimit its national population (Hugo, 2006b).

This point cuts deep into New Zealand's relatively 'new and fractured' (Spoonley, Bedford & Mcpherson, 2003) national identity. Consider, for example, that being Māori abroad involves a different formal relationship with 'home' than being a New Zealander abroad. New Zealand citizenship is 'earned' through a mixture of ancestral, birth and residence criteria, whereas formal membership in Māori society is inherited through *whakapapa* (genealogy).[4] Some groups might argue that current national identity legislation neither reflects nor affects who is and who is not Māori, and that all Māori in diaspora should be able to return to Aotearoa, their *turangawaewae* (home ground), even if they are not New Zealand citizens. Without necessarily advocating this view, one can discern both legal and normative arguments which might sustain it.

A legal argument for non-citizen Māori return could begin from articles two and three of the Treaty of Waitangi. Article the second 'guarantees to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession'. This clause might be interpreted as a guarantee that

3 Census estimates suggest that the Australian diaspora constitutes less than 5% of the Australian-born, while expatriates are around 15% of all New Zealand-born; around 25% of New Zealand's skilled workforce resides abroad. While not unusually large in comparison to the diasporas of the Pacific Island micro-states, which send many migrants to New Zealand, New Zealand's own diaspora is the second largest in the OECD after Ireland's.

4 Proving some Māori ancestry is a necessary and sufficient condition for being recognised as Māori.

Māori customs of kin-based membership and property rights will be protected in perpetuity by the state. Article the third of the Treaty grants Māori 'all the Rights and Privileges of *British Subjects*' (emphasis added), as opposed to the rights and privileges of *New Zealand citizens*. In 1840 when the Treaty was signed, the rights of British subjects included the right to come and go from New Zealand at will, and the legal category of New Zealand citizen did not exist. The latter was formed in the mid-twentieth century through decisions by the British and New Zealand governments, and confers more restricted mobility rights. It might be argued that these decisions did not honour the agreements in the Treaty, were not preceded by adequate consultation with Māori, and therefore do not legitimately limit the ability of non-citizen Māori to reside on their lands.

This technical argument is far from clear cut, but draws emotive strength from norms about post-colonial reparative justice, which underpin broadly similar claims in New Zealand on a regular basis. A more explicit normative argument could begin from theories of multicultural citizenship (Kymlicka, 1995). For example, Kymlicka argues that there are normative reasons why the state should provide minorities with 'external protection' from decisions made by the wider society which would otherwise restrict the liberty of minorities to maintain their cultural practices. Some people might argue that Māori residence on tribal land is a cultural practice that should be – or should have been – protected from external decisions to alter national identity legislation. What is particularly unsettling about this line of argument is that many liberal multiculturalists have campaigned vociferously against ethnic citizenship criteria (in receiving states), but here is a liberal multicultural argument *for* ethnic citizenship (in sending states). Perhaps this paradox illustrates that it is just as excessive to completely separate ethnicity and citizenship as it is to equate them.

Through the special ministerial grant of citizenship, New Zealand identity legislation does provide a channel for recognising intergenerational ties (Identity Policy Team, 2006a, 2006b). However, the 'rights' of non-citizen Māori still raise important questions. Must national identity legislation apply consistently to all cultural groups in increasingly diverse societies? Are expatriate Māori the only New Zealanders with significant intergenerational links to the country? Which models of belonging are appropriate for New Zealand: those that attach to territory, or those that attach to people? Is inherited national identity relevant in a globalising world? If so, should governments encourage citizenship by descent by emphasising the benefits of 'staying Kiwi'? What exactly are these benefits if one lives abroad, and are they consistent across ethnic groups? Systematically and cooperatively thinking through such questions in the context of a focused debate on state–diaspora relations would seem to fit squarely within the current government's strategic focus on national identity.

For Hugo (2006a) the diaspora also matters because diasporas can and do play a significant role in economic and social development in their home countries (also see Levitt, 1998; Newland & Patrick, 2004; Van Hear, Pieke & Vertovec, 2004; Vertovec, 2004). New Zealand is probably no exception, though the evidence is patchy. For example, it is well known that the expatriate experience has played a vital role in the development of a distinctive New Zealand literary and artistic culture (Belich, 2001), though this has not been the subject of social science research. There is increasing recognition that for young New Zealanders the overseas experience is an expected element of career development (for example, see Carr, Inkson & Thorn, 2005), yet there are no studies of the impact of overseas experience on career achievement or local economic development in New Zealand. Anecdotally we know that the Kiwi OE – like most labour migration flows – is often a route to social mobility and home ownership at home. Yet, despite a national debate about the impacts of net migration on inflation and housing prices, there is no discussion of the housing-market impacts of returning New Zealanders, who form a major component of our migration inflows. Indeed, despite all that we know from the international literature about the economic impacts of emigration at source, no study of New Zealand expatriates' financial transfers appears to exist. Various government strategies have emphasised how transnational engagement with expatriates provides opportunities for economic growth and transformation, and from other examples it is easy to see how this thinking has a basis in fact. In order for it to bear fruit, better qualitative and quantitative understanding is needed regarding the existing economic, political and sociocultural transnationalism of New Zealanders.

The diaspora matters to Hugo because it is becoming more self-aware and organised. As the Kea survey demonstrates, this is also happening in New Zealand – to the extent of it forming a loose lobby group through organisations such as Kea and the New Zealand Institute. If this trend of increasing coherence continues, successive governments will face not only increasing lobby pressure to form policies towards the diaspora, but also electoral pressure to seek constituencies within it – as has happened in many other countries with large diasporas. Overseas campaigning has already become an element of national elections in New Zealand. For example, the Labour Party increased their overseas vote by 40% in 2002 partly due to Australian-based trade unions campaigning on their behalf. A future increase in political participation amongst overseas voters could potentially transform New Zealand's political landscape.

However, emigration and the diaspora do not merely flash into existence at election time. This is a population that has accrued over many decades, is actively involved in the same social, economic and political fields as the New Zealand state, and will not disappear any time soon. Fewer than 23% of Kea survey respondents had definite return plans, while more than 50% didn't know, probably wouldn't return or definitely planned not to. Nor can the 'moral panic' over 'brain drain' which peaked in 2000 (Davenport, 2004) – and forced a reaction from the government – be considered an isolated event. The 2000 episode maintained a steady level of media prominence between 1999 and 2001, and, since the late 1980s, concerns about emigration (lumped under the heading of 'brain drain') have never been far below the surface (Bain, 1996; Button, 1988; Chamberlain, 2004, 2005; Collins, 2002; Davis & Thomas, 2005; Deutsche Bank, 2003; Gamlen, 2005; Jaspan & Colebatch, 2007; McCrone, 2007; McCurdy, 2004; *New Zealand Herald*, 2007). A mini brain drain debate flares up at peaks and troughs in net migration cycles, during debates over race relations, and at moments of economic downturn. In between times, emigration and diaspora are intimately bound up with angst over long-term strategic issues like New Zealand's ageing population (Bedford, Ho & Hugo, 2003), fears of losing contact with children and grandchildren living abroad,[5] and the taxation system.

In short, while not a first-order priority, the diaspora is a long-term feature of both the migration system and the political landscape in New Zealand, and at specific points it is an issue of acute political importance. A deliberate approach to fostering and managing good relations with the diaspora could offset the economic costs of emigrants taking their business elsewhere, and the political costs from accusations of causing or allowing a 'brain drain'. It would make sense if New Zealand's long-term state planning reflected this.

Tactics without strategy

However, the current approach to the New Zealand diaspora is one of tactics without strategy. The diaspora is affected by a collection of activities dispersed across government, some of which are old and all but forgotten, and others of which are new and prototypical. It is useful to separate these mechanisms into three simple categories, which are discussed below: extracting benefits, extending rights, and capacity building (Gamlen, 2006).[6]

1. Extracting benefits

Expatriates have always been called upon to contribute to New Zealand's export development and promotion activities, which have developed over the past 30 years and are currently managed by New Zealand Trade and Enterprise (NZTE). They have done so both formally (through mechanisms such as advisory boards) and informally (through access to in-market social and professional networks).

New ideas about extracting benefits from expatriates came out of the government's 2002 Growth and Innovation Framework strategy (GIF), which was developed in partnership with private sector stakeholders – including prominent expatriates (Office of the Prime Minister, 2002) – and aimed to raise per capita GDP performance. These ideas have precipitated two main initiatives, which have carried over into the current government's strategic focus on economic transformation. The first is a drive to stimulate return migration. The Department of Labour's (DoL) three-year, approximately $3m Expatriates Programme was

5 I am grateful to Paul Callister for suggesting this point.

6 These categories extend the predominant trend in scholarly literature on diaspora policies, which views them through the lens of national membership beyond the national territory. As their titles suggest, the following publications are indicative: Barry, 2006; Bauböck, 1994, 2005; Betts, 2006; Fitzgerald, 2006; Goldring, 1998; Guarnizo, 1994; Laguerre, 1999; Lee, 2004; Smith, 2003a, 2003b).

established in 2005 and focuses on keeping expatriates in touch with New Zealand, especially with a view to attracting them back. This workstream is aligned with two major fiscal incentives aimed at return and retention of 'talent'. The first is a five-year tax holiday on foreign income sources for returning long-term expatriates in high income brackets, with administrative and operating costs of approximately $1.1m in year one and $330,000 thereafter, and estimated annual fiscal costs of $10–13m. The second provides interest-free student loans for New Zealand residents at an annual cost of around $300m, and a 'fresh start' for overseas borrowers – including an amnesty on missed-repayment penalties – at an estimated net fiscal cost of $15m per annum.

The second (much smaller) initiative focuses on keeping expatriates connected and contributing to New Zealand from afar. For the eight-year period from 2002 to 2010, the government (mainly through the Ministry of Economic Development (MED)) has so far approved around $2.4m in infrastructure grants to the Kiwi Expatriate Association. Kea is a public-private sponsored network of 'talented' expatriates aiming to increase connections between New Zealanders in order to further New Zealand's economic interests. Its infrastructure consists of an online database of around 20,000 expatriates, along with smaller local chapters in key offshore regions, several of which employ a paid manager. Kea is aligned with two NZTE programmes: 'World Class New Zealand' (WCNZ) and 'Beachheads'. Founded in 2001, WCNZ was initially funded at $2.25m per annum. Its funding now reduced to $1.17m per annum, it comprises two distinct elements: a high-profile annual awards ceremony to celebrate prominent expatriates and other high-flying New Zealanders (see 'Capacity building', below), and a WCNZ network which links the 'top tier' of expatriates and 'friends of New Zealand' with a view to enhancing their engagement with and contribution to the country. WCNZ is jointly delivered with Kea, which has received around $1m for the contract since 2005 (in addition to the $2.4m in grants mentioned above). Beachheads is led by well-connected expatriates in offshore markets and aims to match high-potential New Zealand-based firms with mentoring from global business leaders (at an annual public cost of $1.2m ongoing).

2. Extending rights

Four areas of government activity are relevant here. First is the right to vote, which New Zealand extends fairly expansively by international standards: both citizens and permanent residents can vote from abroad (for up to three years and one year after last departure, respectively). Second is the right to consular protection, which contrasts widely by consular post – from minimum services specified in the Vienna Convention on Consular Relations (United Nations, 1963) (such as in Sydney), to a much broader range of activities including outreach into expatriate communities (such as in London). Third are social rights, which New Zealand extends through a number of bilateral agreements on social security and pension transferability (though these are primarily negotiated to achieve fiscal net savings rather than in the interests of expatriates' rights as such).

Finally, two emerging discussions are relevant to external citizenship rights: one surrounds the intersection of population ageing and the needs of transnationally scattered families (for example, see Lunt, McPherson & Browning, 2006), and the other surrounds the development needs of Māori in Australia (Hamer, 2007). Such discussions have run parallel to one of the government's strategic themes (Families – Young and Old), but have not made a substantial impact on mainstream policy discussions; they take place against a background of emphasising celebration of 'talent' and counteracting the tall poppy syndrome, which tend to create the impression that all expatriates are successful (though actually there are also pockets of vulnerability that New Zealand 'owns' at least as much as it owns the 'World Class New Zealanders'). Nevertheless, as one senior analyst in the Ministry of Social Development put it (speaking unofficially), policy questions surrounding the diaspora revolve around the question, 'What can the expatriates do for us?'

3. Capacity building

This term refers to activities that promote national identity among emigrants, and to efforts at building state institutions dedicated to this population. Identity-fostering activities include the offshore national events and celebrations supported to varying degrees by diplomatic and consular postings; the awards components of the World Class New Zealand programme mentioned

above; and, at a more fundamental level, work on citizenship by descent within the Department of Internal Affairs (Identity Policy Team, 2006a, 2006b). The only two institution-building activities of note are DoL's time-limited expatriates programme and Kea (which is quasi-non-governmental), and there was been limited coherence between the two. Beyond these, activities that affect expatriates are fragmented and dispersed across government – having come into being at different times, for different reasons, in different locations within the state system – and there is no agency with responsibility for coherence among them.

In sum, although New Zealand has a relatively large number of programmes and activities that have an impact on the diaspora, these are dispersed widely across government. Prominent ideas regarding expatriates have been voiced in strategic plans about growth, innovation and economic transformation, but only small initiatives with relatively little coherence have fallen out of this rhetoric. How can this situation be explained? One plausible account is that it reflects the politicised nature of debate over emigration and expatriates: long-term brain drain fears, which peaked in 1999–2001, have forced government to respond to accusations of causing or allowing a brain drain, despite a lack of consensus about the exact nature of the 'problem', and what to do about it. Established tools to react have been noticeably absent, because New Zealand still sees itself essentially as a migrant-receiving country.

Envisioning state–diaspora relations

However, New Zealand is now also a substantial migrant-sending country, and this is unlikely to change any time soon. State–emigrant relations are an important channel through which migrant-sending states keep emigrants engaged in national development and block political accusations of causing/allowing brain drain. What kinds of long-term relationship *could* the New Zealand state have with its emigrants? To help stimulate thinking and discussion in this area, this article outlines three hypothetical scenarios regarding New Zealand's state–diaspora relations, based on the work of Peggy Levitt and Nina Glick-Schiller (Levitt & Glick Schiller, 2004). Each scenario involves both threats and opportunities – these are not intended as policy options but rather as schemata within which different approaches and outcomes might be conceptualised.

In any of these scenarios, the diaspora is a source of pressures on political actors in the sending state. On one hand are economic pressures, motivating the government to economically incorporate expatriates as a way of boosting growth, and social pressures to redistribute wealth 'fairly' among members of the nation, motivating the government to extend rights to the diaspora. These two pressures tend to reinforce each other: attempts to extract economic benefits on the basis of shared identity generate demands for 'fairness' on the same grounds, and vice versa. On the other hand there are political pressures on the government – from both domestic and international sources – to limit governmental activity to the national territory. These take the form of accusations of interference from receiving states, and complaints from domestic actors against governments that seem to 'over-serve' emigrants. Thus, economic and social pressures are centrifugal, tending to stimulate engagement with the diaspora, while political pressures are centripetal, tending to constrain engagement.

In the first scenario, New Zealand is a *transnational nation state*, which treats its emigrants as long-term, long-distance members with undiminished rights and responsibilities attached to national belonging. In this scenario, the diaspora is integrated deeply into New Zealand's formal economic, political and sociocultural fields. New Zealand depends on the economic and political contributions of its diaspora and the state cultivates it attentively. New Zealanders abroad are hard-wired into national governance processes, and consular officials are held somewhat responsible for protecting and representing them – though they also monitor and attempt to manipulate diaspora communities. The government cautiously avoids accusations of interference from host states and complaints from domestic electorates about over-serving emigrants.

In the second scenario, New Zealand is a *strategically selective state*, which encourages some form of long-distance economic and political nationalism but tries to selectively and strategically manage what emigrants can and cannot do. Recognising both the political and economic influence that emigrants wield, and the fact that many are unlikely to return, New Zealand's public institutions take steps to encourage emigrants to remain involved at home. However, the government exerts some control over their ties, trying to prevent

the interests of emigrants from conflicting with those of the state. It switches between courting and milking elements of the diaspora, whichever is currently the most politically and economically expedient tactic. The transaction costs of frequently changing tack are significant: there are short-term opportunities for freeloaders to pose as representatives, and some more legitimate representatives are alienated by what they see as an exploitative attitude.

In the third scenario, New Zealand is a *disinterested and denouncing state*, which treats emigrants as if they no longer belong to their homeland. Some sections of the diaspora are deeply dissident: they see New Zealand's public institutions as illegitimate and act as a vocal opposition to the state, using their external positioning to foment internal conflicts and create international pressures to overturn and replace the New Zealand state. Overtures by New Zealanders abroad are viewed as suspect because migrants are seen as having turned their back on the homeland, or even as traitors to its cause. Emigration is the target of punitive policies, and it is made difficult for returnees to reintegrate.

These are not options, but scenarios, and each is contingent on more than state actions alone. This paper highlights only two broad options: either New Zealand can actively steer a course through these scenarios, or it can passively react to the increasingly transnational nature of its society. The latter approach seems to have avoided dispute recently, for two probable reasons. Firstly, 'replacement' migration has generated net population inflows, thus both masking emigration itself and allaying the associated economic fears by helping to sustain economic growth. Secondly, a sprinkling of (mostly cosmetic) programmes has had some success at deflecting the political heat on the government: the abolition of interest on student loans somewhat rebuts the charge that government is causing emigration, while the contrasting programmes in DoL and MED pacify different groups who demand different responses to emigration. However, this default approach seems a short-term game – one that may, in the long term, lead to an undesirable scenario.

Conclusion

While not a first-order policy issue in itself, the diaspora is a long-term feature of New Zealand's migration system and political landscape. There is little evidence to suggest that an economic turnaround, a worsening of the global instabilities precipitated by 9/11, or even a contraction of global transport infrastructure in response to climate change and 'peak oil' would dramatically reduce the size of the diaspora or the significance of emigration within New Zealand's migration system. It is similarly unlikely that long-term brain drain fears are gone forever. The current economic upswing will end someday. 'Replacing' New Zealand citizen departures with new immigrants will continue to generate debates over transaction costs and social cohesion – and the next cyclical economic downturn will exacerbate the ugly xenophobic tone of these debates once again. New Zealand's brain drain debate will buzz into life again (when the theory comes back into vogue internationally, at least), and the current New Zealand government's somewhat half-hearted swatting tactics may not be sufficient to nail the sceptics next time round.

A coherent, holistic and long-term approach could help the state to reduce the downside of emigration and the diaspora – the recurrent political exposure to the charge of causing or allowing brain drain, and the costs incurred as a proportion of emigrants simply drift away and disengage with New Zealand permanently. Moreover, such an approach also has an open upside, when one looks at the successes of countries such as Israel, Ireland, India and China in 'leveraging' their diasporas. The first requirement of such an approach is to acknowledge that New Zealand's population is transnational, and to conceptualise the role of the state within it. This article has outlined some broad scenarios to contribute to a process of envisioning state–diaspora relations. Moreover, it suggests that now may be a sensible time to develop a coherent approach to state–diaspora relations: with economic growth currently reaching a peak and brain drain fears at a low point, there is some thinking space for decision makers to consider long-term strategies, instead of reacting to immediate political attacks or economic crises. This window of opportunity seems narrow, with economic storms on the horizon coming into an election year. In short, emigration management is a long game, and right now there is time to make hay while the sun shines.

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Misleading Statistical Studies

Amanda Wolf

Misleading: That [which] leads someone astray, or causes someone to have an incorrect impression or belief; deceptive, delusive. (Oxford English Dictionary, online edition)

Introduction

Large statistical studies in the social sciences, including one-off or repeated cross-sectional surveys, time-series surveys and cohort longitudinal research, offer important numeric evidence for policy making. Although single studies rarely occasion dramatic policy shifts, statistical research findings can affect policy debate, even if not always directly or openly. At best, these studies reveal shapes and patterns in the social fabric relevant to health, safety, education and other social goals. Numerical measures of many social phenomena, such as unreported crime, illicit drug use, child-rearing practices or family composition, enter into a policy-making milieu crowded with competing numbers and qualitative information, as well as non-evidential values and power-based influences.

Statistical studies can cost millions, and draw significantly from modest research budgets. By one estimate, 39 public sector organisations planned to spend $87.4 million on policy research in 2006/7 (MoRST, 2007). I have been told that a longitudinal study of New Zealand children and families, under development by a group led from the University of Auckland and the Ministry of Social Development, would likely have *annual* costs ranging from $2 million to $6 million or more. Getting the most public value from costly statistical research depends on how well researchers design their studies, and on how accurately and effectively they analyse and convey their findings to decision makers. In the process, the researchers themselves, academic and technical critics, the media, the public and government officials all interpret and apply numbers with more or less skill, fortitude and scepticism. Accordingly, Joel Best, in his *Damned Lies and Statistics*, reminds us not to avoid statistics but to become 'better judges of the numbers we encounter' (Best, 2001, p.6). Better judgement means fewer *misinterpretations* of numbers, and ought, therefore, to result in fewer *misapplications* of numbers for policy purposes.

In this article, I leave aside misinterpretation and misuse of statistics, and their onus upon the 'consumer'. Instead, I consider residual and insidious determinants of the public value of statistics: the ways in which good numbers, produced and reported by respected, unbiased, technically acclaimed researchers, may nevertheless *mislead* key actors in the policy debate. Misleading numbers can flourish even in the absence of sloppiness, self-interest or malign intent by a producer or advocate of numbers (matters which are well-addressed by Best). In the policy debate, a badly interpreted or misused number may be better than no number at all, because it can stimulate correction. But a misleading number may become embedded in the policy milieu with no further scrutiny. The less misleading a number is, the less will be the collateral damage from misinterpretation and misuse.

A comprehensive treatment of misleading statistics would require struggling through some roiling epistemological waters. Instead, the following briefly serves my purposes: no statistic perfectly reflects either the natural context of individuals and societies or changes in that reality. Rather, a statistic expresses the probability that a measurable quantity in a particular situation is really the case. 'Reality', or 'truth', has some qualities that may be known to an observer, but never beyond the shadow of doubt. At best, statistical observations are guesses. Therefore, even the best measures of reality may mislead, may cause the observer to have an incorrect belief about the truth. Statisticians have developed some

sophisticated techniques to minimise the proliferation of misleading numbers, and to accurately convey the uncertainty of numbers. Yet, outside their circle, among those who commission, fund and communicate research activities, this sophistication is often lost. Because no number exists in a vacuum, numbers can mislead if their initial presentation confuses people, or suggests wrong inferences to them.

In this article, I identify and illustrate several instances of misleading statistics, drawing upon four recent studies. I focus particularly on statistics used to 'explain' outcomes and to draw conclusions from comparative assessments. Such statistics attract keen scrutiny in government-sponsored research, especially when variables are tracked over time. Two of the four are products of New Zealand's acclaimed longitudinal studies. One links abortion to mental health outcomes (Fergusson, Horwood & Ridder, 2006), and the other claims an association between work-related stress and depression and anxiety (University of Otago, 2007). The other studies are cross-sectional surveys. I selected reputable non-New Zealand studies that attracted entirely positive media attention: a study on the IQ advantages of first-borns, reported in *Science* (Kristensen & Bjerkedal, 2007), and a US Centers for Disease Control and Prevention survey that shows that men have more sex partners than women (Fryar et al., 2007).

All four are examples of large-scale, multi-million dollar, policy-relevant research. Some doubt that such studies actually *do* affect policy. But if they do not, one must query why not, given the resources invested. Frequently, of course, researchers seeking government funds must promise policy relevance. Perhaps understandably, they face incentives to assert more certainty in the evidence than is warranted. They are reluctant to note caveats. Within government departments, research is commissioned to investigate important social variables. Here, too, the incentives to collect and assess data with the highest policy relevance can, counter-intuitively, result in blind spots in the evidence base. I intend no critique of most of the measuring, categorising and analysing undertaken in the production and use of official statistics: these are nourishing waves replenishing our knowledge base.

The need to appreciate the causes of misleading statistics and to ameliorate their toll is especially acute for New Zealand. Large-scale statistical studies are costly financially (even as they are relatively cost-effective in gathering and assessing masses of data). Yet the opportunity costs and flow-on effects may be many times more significant for the quality of available evidence and, ultimately, for social outcomes.

Four studies: what misleads and why?

Gina Kolata (2007), in 'The myth, the math, the sex', reports on a survey of sex practices, done under the auspices of the US Centers for Disease Control and Prevention (CDC), in which men claim they have had a median of seven partners in their lifetimes, whereas women claim four. The median calculations of 'vaginal, oral or anal sex' partners exclude people with no opposite sex partners (Fryer et al., 2007). Kolata quotes David Gale, an emeritus professor of mathematics at the University of California, Berkeley: 'Surveys and studies to the contrary notwithstanding, the conclusion that men have substantially more sex partners than women is not and cannot be true for purely logical reasons.'

In principle, 'sex partner' is an objective, countable phenomenon. So, discrepancies in reported totals must be due either to gender-specific over- and/or under-reporting, or to gender-specific differences in the way 'sex partner' is construed. Unfortunately, we don't know the degree to which either happens, nor the underlying mechanisms involved in construing and recalling events. While the survey design and analysis could be improved by better defining terms, or by further disaggregating the reported totals, the magnitude of the discrepancy is too large to be satisfactorily resolved by such methods.

Why was manifestly false data published with no reader advisory? The scientist's answer, provided by the study's lead researcher, is that data is what it is; the reasons why are not for her to gauge. Another answer, Kolata intimates, is that we accept what we expect: '[e]veryone knows men are promiscuous by nature. It's part of the genetic strategy that evolved to help men spread their genes far and wide. The strategy is different for a woman, who has to go through so much just to have a baby and then nurture it. She is genetically programmed to want just one man who will stick with her and help raise their children.' So, the numbers also mislead because they reinforce a stereotype, supposedly backed by rigorous science. Unfortunately, if policy makers need evidence on numbers of lifetime sex partners, this survey comes up empty.

The survey also collected data on illicit drug use. Should these drug-use statistics be used to plan enforcement and prevention activities? On the plus side, the data do not defy logic in the manner of the sex partner data. Against this, might drug users and non-users (the very same providers of the distorted sex partner data) contribute systematically inaccurate data? Similar concerns accompany *any* study in which the data are based on self-reports concerning activities and events that are conceptually vague: one person's recall and reporting of 'sex partner' or 'use of drugs' may not be another's.

The second illustration mainly avoids the limitations of self-reported data. Kristensen and Bjerkedal (2007) find that IQ falls as birth order rises (that is, children born second in a family will tend to have lower IQs than first-born children, and third-born children will tend to have even lower IQs). A younger sibling accrues an IQ advantage comparable to a first-born by becoming a 'social first-born' when an elder sibling dies in infancy. The difference amounts to a 'statistically significant' 2.3 IQ points between first- and second-borns. The data come from over 240,000 Norwegian 18- and 19-year-old male conscripts, who took an intelligence test as part of compulsory military service between 1985 and 2004. All conscripts within the specified period took the same test (though the year of conscription was controlled for in case the test was, by chance, easier or harder in one year than another).

Frank Sulloway (2007), in a companion comment in *Science*, is convinced 2.3 points matters, and finds a way to exemplify it. He writes, 'if Norway's educational system had only two colleges – a more prestigious institution for students with IQs above the mean, and a less desirable institution for all other students – an eldest child would be about 13% more likely that a secondborn to be admitted to the better institution'. Another reviewer, Roxanne Khamsi (2007), writes in *New Scientist*, 'The findings could suggest better ways of parenting the youngest children in a family' to overcome the 'social factors' that lead to their lower IQs.

Having assumed the finding's merits, Sulloway and Khamsi (whom I consider knowledgeable media exemplars) both fall into the trap of presenting (or implying) an explanation that fits, drawing authority from theories that do not feature in the study. Sulloway refers to a 'confluence model', which explains the observation that older children tend to have lower IQs than younger children when tested as children, but then recover their first-born advantage by adulthood. The reasoning holds that older children score lower when they find themselves in a 'degraded' intellectual environment when a younger sibling arrives. Later, older children shift to the intelligence-enhancing role of tutor to the younger sibling. Sulloway admits there is little evidence for the tutoring effect. Khamsi, however, asserts the possible explanation that parents have more time and resources to invest in their first-born, but offers no backing for her claim.

Ever since Galton observed in 1874 that first-born sons were more likely than chance would predict to attain prominent positions, his negative association between intelligence and birth order has been confirmed in numerous tests using IQ measures. Yet just why this is so remained contested. Given no self-reporting bias or conceptual ambiguity, and with various statistical controls, the Norwegian study claims to support a 'family-interaction' theory rather than a competing 'gestation-order' theory.

Family interaction is a complex construct. As often happens in large statistical studies, the researchers adjusted the data, in this case for parental education, maternal age at birth, family size, birth weight and year of conscription. The report states, 'Because children from families with an adverse reproductive history had a less-advantageous distribution on a number of factors associated with low IQs, we considered it important to adjust for those factors.' In other words, the researchers statistically isolated 'family interaction' from some family-related events but not others (such as time spent with a child or sibling tutoring), to more accurately account for the association between birth order and IQ.

As variables, birth order and number of living older siblings have a conceptual clarity and precision that IQ scores lack. IQ *scores* are precise (given as 103 or 92, for instance), but the score's relation to 'intelligence' is not. The measurement of intelligence generally and the interaction of intelligence, IQ testing and social factors in the home did not feature in the small number of news reports and blogs I encountered. Yet Sulloway reports a consistent finding that first-borns are perceived as 'achievers' within the family. (Subsequent-borns occupy niches such as 'sporty' or 'clown'.) Might niche correlate

with test scores? Perhaps first-borns learn to be just a tad more serious about completing multiple-choice tests well. In short, there might be some *other* explanation that would explain the IQ findings.

My last two illustrations come from longitudinal cohort research. Such studies complement large-scale, one-off or repeated-snapshot studies. Rather than measuring a few variables in a very large sample, longitudinal studies measure a large number of variables a moderate number of times in a moderately sized sample. The data collection supports a wide range of discrete analyses. Hundreds of peer-reviewed papers have appeared from New Zealand's studies. Among these, for example, a reviewer of this article points out that a paper linking breastfeeding to academic achievement (Horwood & Fergusson, 1998) continues to be influential in scientific research. (Are first-borns perhaps breastfed longer than subsequent-borns?)

Recent analysis from the Dunedin Multidisciplinary Health and Development Study (University of Otago, 2007), which has followed 1,000 people since their birth in 1972/73, finds that 'work stress precipitates depression and anxiety in young working women and men'. High psychological demands, such as long hours, tight deadlines or pressure from supervisors, are associated with clinical depression, anxiety or both in women and men. At age 32, 50 women and 52 men were diagnosed with depression, anxiety or both for the first time. Because of the research design, researchers claim to have linked workplace stress to mental health disorders independently of other factors known to predict disorders, such as personality and socio-economic status. The misleading potential in this case arises from a combination of self-reported data, researcher involvement in setting thresholds for defining participants in or out of conceptually fuzzy categories, and the tendency to abstract selected associations from participants' lived experiences.

Longitudinal researchers invest considerable time gathering and analysing data. At each measurement stage, participants provide information and submit to tests over the course of a day. Corroborating evidence may be sought through a variety of means. Unlike numbers of sex partners and IQ scores, workplace stress levels and psychiatric disorders must be *inferred* by the researchers from the information reported by the subjects or measurements made of them. While standardised diagnostic tools assist with identifying psychiatric disorders, gauging workplace stress is a matter of the researchers' qualitative interpretations of study members' self-reports. The authors defend their work: 'Other research has shown that self-reports of workplace stress are probably more accurate than reports by co-workers or supervisors. In the area of mental health, individuals' perceptions of their work environment are thought to be especially important.'

Yet they also write, 'workplace stress levels and psychiatric disorders were tested at the same time, [so] it is possible that depression may have influenced the answers given about work characteristics. The researchers did control for "negative reporting style" to account for this possibility.' That is, the researchers applied their *own* measure of reporting style to 'control' for a possible confounding variable. Since only 45% of newly diagnosed cases (46 individuals) were directly attributable to job demands, the effect of controlling for reporting style is ambiguous. What of the remaining 55%, for whom the 'association' between stress and depression cannot be directly attributed? What, indeed, of the 900 or so others, for whom any workplace stress or mental health concerns were judged below relevant thresholds, or whose work and mental health profiles otherwise differed? Nevertheless, the lead author asserts in a press release that '[i]n their 30s, most people are settling into careers, but it is also a time when people are at elevated risk for psychiatric disorders. Putting preventive efforts into reducing work stress at that age could bring big benefits' (University of Otago, 2007). Clearly, the author is directing readers to draw certain inferences from the numbers. But if no one questions the inference – are *most* people in their 30s *settling into careers*? – the numbers, whatever they show, are more likely to mislead.

The Christchurch Health and Development Study, New Zealand's other long-standing longitudinal study, has also been following a birth cohort over time. Recently, as the study participants reached 25 years of age, the researchers investigated various associations with abortion. Unlike previous studies, the Christchurch study compared women who have abortions with both women who had been pregnant but did not have an abortion *and* women who had not been pregnant. While adverse mental health effects from abortion have been attributed to guilt and unresolved loss, the

researchers expected that other ('third' or 'confounding') effects could be associated with both abortion and mental health outcomes. They find that 'those having an abortion had elevated rates of subsequent mental health problems including depression, anxiety, suicidal behaviours and substance use disorders. This association persisted after adjustment for confounding factors' (Fergusson et al., 2006). The research adjusts for 19 possible confounding socio-economic factors, childhood- and family-related factors, and health and personality factors. In addition, however, the researchers acknowledge a vague category of 'woman's circumstances at the time of the pregnancy'. The circumstances include her age, whether her pregnancy was planned, and the stability of her partnership.

Although the researchers appropriately note possible limitations in their study from omitted covariates and possible distortions due to respondents' under-reporting abortions, the catch-all 'circumstances' category points to an additional source of misleading information. The authors essentially admit that they do not know much about what influenced a woman in their study to seek an abortion (or not). Perhaps, they suggest, the mental health effects are due to the unwanted pregnancy and not to the abortion. No doubt many contextual factors, singly and in combination, are linked to mental health. In short, if context matters – where context is *a combination of factors* – neither modelling more variables nor improving the reporting of abortion incidence will add substantially to understanding.

Minimising misleading statistics

The illustrations together highlight three important ways that statistical studies can mislead. First, key constructs are open to wide interpretation regardless of whether data are self-reported, objectively measured and/or researcher-adjusted. Second, initial interpretations may overreach due to ambiguity in the variables used to measure complex social life. Ambiguity may arise from unquestioned consensus, or because researchers control for only some alternative associations, or because the notionally small step between a relatively unambiguous quantitative measure and some plausible conclusion actually traverses a deep chasm that invalidates the causal logic. Third, at the heart of the matter lurks a black box, the fuzzy and multi-faceted 'context' or 'personal factors' or 'subjective meaning', which cast doubt on both simple counts and causal explanations.

Plainly, studies of individual and social outcomes can *never* include all the contributing factors or possible explanations. The possibility that statistics will mislead cannot be avoided. Where does this leave us? Two recent books, one by William Starbuck, a noted management thinker with a background in science and engineering (2006), and the other a provocative argument by the Danish planner/geographer Bent Flyvbjerg (2001), struck me as particularly trenchant in their observations bearing on the mitigation of misleading statistics.

Starbuck claims that 'signals' and 'noise' look remarkably similar in statistical studies. Both occur as 'systemic components' and both vary erratically. While technical procedures attempt to distinguish the two, some mightily huge assumptions must hold for us to trust the results. Yet, instead of presenting hedged claims, researchers trumpet 'statistically significant but meaningless noise ... [and] often mistake confounding background relationships for theoretically important information' (Starbuck, 2006, pp.47-9).

Moreover, Starbuck claims, 'knowledge is what people say it is .... social processes elevate perceptions into facts, convert beliefs into truths' (2006, p.75). Statistics become the truths they estimate: first-borns *are* clever; men *do* have more sex partners than women. Flyvbjerg, however, drawing on Giddens' 'double hermeneutic', argues that what is to count as a relevant fact 'is determined by both the researchers' interpretations and by the interpretations of the people whom the researchers study'. He follows with the consequent implication: 'this means that the study of society can only be as stable as the self-interpretations of the individuals studied. And inasmuch as these interpretations are not constant, the study of society cannot be stable either' (2001, p.33): we *say* (for now) that first-borns are clever, we *believe* men have more partners (but 'sex' for men is not the same as it is for women).

Starbuck recommends that researchers *disturb themselves*, shake themselves out of their tendency to fall victim to poor assumptions. Then, he suggests, they should actively *experiment*, eschewing the classic strategies of building on previous research by more finely testing existing explanations or searching for something new in some overlooked crack in the landscape.

As Starbuck sees it, 'There are many more combinations of symptoms than there are diagnoses, so translating symptoms into diagnoses discards information. Moreover, there are many more treatments than diagnoses, so basing treatments on diagnoses injects random errors. Doctors can make more dependable links between symptoms and treatments if they leave diagnoses out of the chain' (2006, pp.108-9). He continues:

> Academic research is trying to follow a model like that taught in medical schools. Scientists are translating data into theories, and promising to develop prescriptions from the theories. Data are like symptoms, theories are like diagnoses, and prescriptions like treatments ... Theories do not capture all the information in data, and they do not determine prescriptions uniquely .... The systems social scientists are trying to understand are very complex and flexible, perhaps too complex and flexible for traditional research methods that rely on spontaneous data and static analyses. (Starbuck, 2006, p.113)

Flyvbjerg adds context back into the picture, not because context holds variables that need to be brought under analytic control, but because context is *interpretively meaningful* experience:

> The problem in the study of human activity is that every attempt at a context-free definition of an action, that is, a definition based on abstract rules or laws, will not necessarily accord with the pragmatic way an action is designed by the actors in a concrete social situation. Social scientists do not have a theory (rules and laws) for how the people they study determine what counts as an action ... because theory – by definition – presupposes context-independence. (Flyvbjerg, 2001, p.42)

His prescription, based on Dreyfus' model of learning, reminds researchers that lower-level analytic cognition must be complemented by intuition and judgement at higher levels. Research must move beyond methodological formalism, just as Starbuck's 'doctors' should leave diagnoses out of the chain. The goal is improved social dialogue on the questions of: Where are we going? Is this desirable? Who gains and who loses? The whole point, he says, 'is to enter into a dialogue with individuals and society and . . . to make moral debate part of public life' (p.63).

Conclusion

We do not inhabit a 1984 world of immoral policy experiment. Nor do we choose to debate morality at every turn. Yet public policies, such as legalised prostitution or ACC coverage for workplace stress, *are* experiments. Values *are* close to their core. Policy-relevant statistical studies provide qualified measures of the facts of matters such as sexual practices and causes or outcomes of workplace stress. Statistics, and their initial presentation, carry with them the possibility to mislead. Starbuck and Flyvbjerg offer intelligent, complementary strategies that researchers can use (and that funders can support) to reduce misleading numbers. Researchers can adopt an open and exploratory stance by disturbing themselves and actively pursuing knowledge through experiment. And they can adopt an expert's stance in judging contextual complexity. In the remainder of this article, I offer some suggestions along these lines. In the space allowed, I cannot expand each to a complete argument, so I must trust readers to think laterally from their own perspectives, aided by the preceding illustrations. Although the illustrations are big, expensive studies, in posing the suggestions I have in mind moderately sized studies, achievable by small teams.

New Zealand is a small and diverse country, where signals can be especially hard to detect in noise: Why *do* families form and dissolve? *Are* first-born children breastfed longer? It is wasteful to sift through masses of data and to accumulate associations in the hope that some will prove useful. Researchers should design studies to search for bigger needles in smaller haystacks. A big needle is a finding that is neither empty nor misleading. A small haystack is a search field selected according to specific criteria by a researcher who knows the contours of the *social* terrain, as well as those of the academic terrain. Time and effort are needed in the scoping stages of new research to develop and test variables and their measurement realistically and to craft focused data collection.

To confront vagueness and ambiguity in the scoping phase, researchers should disturb themselves by questioning measures of convenience or convention that might otherwise clutter a survey; by openly tracking their

assumptions as a way to find alternative measures of their main constructs; and by retaining multiple measures, not all of which are 'obvious', congenial to the researcher or even mutually compatible. Qualitative research, especially evaluations of prior policy 'experiments' and investigations of meaning in self-reported data, can direct researchers' attention to the more informative variables and associations, including some which will not yet have occurred to them. Researchers should confidently draw on their own knowledge and expertise, because these supply hunches that can help them to bridge weaknesses in formalised knowledge.

If richness of variables and measures intensifies, then scale may need to be reduced to maintain research tractability. Yet, a study with five freshly developed variations involving 100 participants each may be more informative than a study with 1,000 participants, which differs little from previous work. Variations can be approached serially, as the successive probes of researcher-as-'experimenter'. Whereas Starbuck's 'experiment' is tinged with social engineering – he favours introducing real changes to observe their effects – I adopt an interpretation that implies multiple probes of 'reality' in order to narrow uncertainty without oversimplification.

No number should be allowed to speak for itself. Too often we fail to adequately analyse, contextualise and interpret the data we collect. Conversely, some data are collected that can be only summarised, but not fruitfully analysed, in part because New Zealand's size and diversity limit the statistical power of tests. I would like to see researchers more actively engaged as expert spokespeople for – and against – various plausible interpretations of their findings. More surgically precise data collection, coupled with greater sophistication in analysis and comparison with findings from related research, could substitute for an undisciplined tendency to supply explanations beyond what the data can support.

Initial interpretations of research findings should be far-ranging – what's new, not new, missing, possible, surprising, disturbing, confusing? Findings should be examined in light of researchers' multiple activities to combat ambiguity and in light of prevailing 'truths'. Pursuing knowledge through experiment requires matching emerging findings to as many different situations and possible explanations as possible – what's the same, what's different? Applying judgement requires the researcher to come out from behind an academic screen and speak to the public directly: 'I have immersed myself professionally in this field and this is what I see in this number.' Researchers should explicitly address prominent 'myths' when reporting results and openly discuss manifestly questionable data.

Interpretive ambiguity cannot be addressed at the level of semantics or statistics alone. Nor should consensus always be expected or demanded. Not every social phenomenon has one or a few generalised descriptions or causes that can be derived from a few variables. Thus, research designs should allow for multiple interpretations and draw on different individual and social meanings that are developed from a range of perspectives, rather than from expert theory alone. What level of commitment, or attraction, makes a person a 'sex partner'? What might account for the observation that one person avoids depression when a similarly situated person does not?

'Being critical', says Best, 'means more than simply pointing to the flaws in a statistic' (2001). In this article, I chose examples that contain excellent statistics. My aim was to direct attention to 'flaws' that mislead and that can be addressed by brave and open choices, especially at the design and initial reporting stages. Such added attention of this sort does not obviate the need to improve in other areas: we still need, for instance, solid baseline statistics and a more numerate media. We still need to counter an overreliance on simplistic analysis with both greater technical skill and creative qualitative analysis.

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Whither the Crown's Interest in South Island High Country Land Reform?

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The South Island high country has long been the subject of debate over resource use and ecological protection. Since early 2006, the ownership and relative value of property rights in high country pastoral leases have become controversial. This article reviews recent research (chiefly Brower (2006) and Brower, Monks and Meguire (in review)) on the law, politics and economics of land reform in the high country.

Flanking the eastern slopes of the Southern Alps, the Crown pastoral estate comprises a full tenth of New Zealand's land area. This pastoral land is owned by the Crown, and leased long-term to farmers for pastoral uses, chiefly extensive grazing and residential occupation. Since 1992, 77 pastoral leaseholds have undergone a gradual land reform process called tenure review, which grants the former lessee full freehold title over some part of his leasehold. The remainder of the leasehold shifts into the conservation estate, to be managed by the Department of Conservation (DoC) as a reserve or park. Between 1992 and 2006, 264,000 ha (58%) of those leaseholds were privatised and 193,000 ha (42%) were converted to public conservation land (Brower, 2007).

Brower (2006) concluded that tenure review outcomes defy legal and economic logic because the Crown does not defend its legitimate interests during negotiations. This paper uses data on individual tenure review outcomes to test those initial findings, and confirms that tenure review prices are not governed by the strict letter of the law. This is consistent with Ellickson's (1991) findings.

The traditional law and economics hypothesis

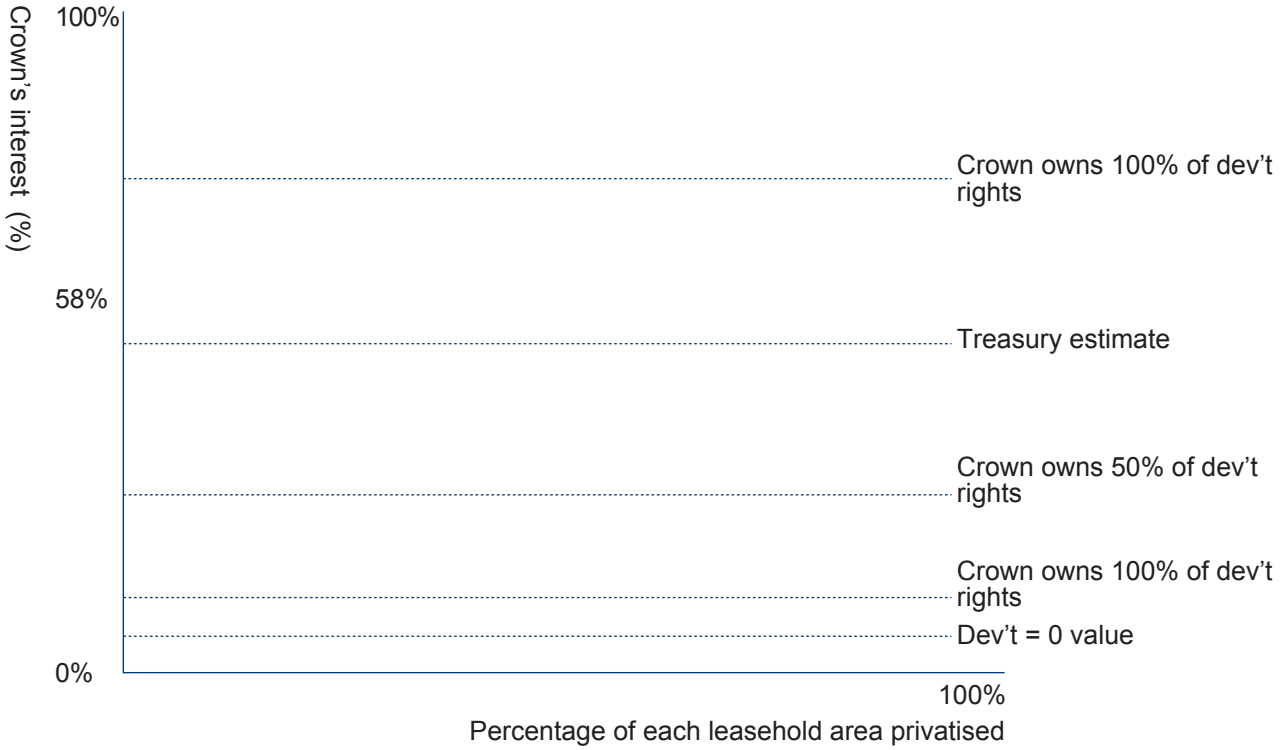
Common law conceives of property as a bundle of rights, not a physical object. In pastoral leases, the farmer owns some rights and the Crown owns others. In tenure review, the Crown and the lessee exchange their rights, along with some cash. Conventional law and economics predicts that how much cash the parties exchange depends on who owns which rights, and the rights' value as estimated by empirical economic research.

The value of rights to use land for various purposes has been of some interest to empirical economics. In his study of rural land prices in New Zealand, Stillman (2005) found that land used for extensive pastoralism commanded the second lowest price among all categories of land use considered. The most valued land uses were horticulture and lifestyle blocks. Land developed in any way beyond extensive pastoralism was 2.5 to 14 times more valuable than land used for extensive pastoralism. Though attenuated by the lease contract, the rights to develop land appear more valuable than the rights to graze land (Brower, 2006, 2007).

Who owns the valuable development rights is a matter of legal interpretation. Not surprisingly, there are several competing claims of ownership. The Land Act 1948 and the Crown Pastoral Land Act (CPLA) 1998 stipulate that the lessee holds the right of exclusive pasturage (grazing) and exclusive occupancy (to reside on the leasehold and to exclude trespassers). And he owns the value of all physical alterations to the land (housing, fencing, barns, fertiliser). Moreover, pastoral leases are perpetually renewable, and the rights they grant are transferable and compensable if revoked by the Crown.

Meanwhile, the Crown owns title and all other use rights. Extensive pastoralism is construed so narrowly that a lessee may not even irrigate without Crown consent. Though the Crown has, in certain cases, consented to specific land uses other than extensive pastoralism, Brower (2006) argued that, by virtue of its control rights, the Crown withholds the all-important

Figure 1: Law and economics hypothesis



right to develop the land under lease. Under this interpretation, tenure review consists of the Crown's notional purchase of the lessee's rights to graze and occupy the land, and notional sale to the lessee of its rights to adjudicate development of the land. Hence what the Crown sells appears more valuable than what the Crown buys.

Indeed, the New Zealand Treasury (1995) estimated that the Crown's rights in the pastoral estate were worth $50 million in 1995; the corresponding lessees' interest was worth $36.4 million. Hence the Crown's share of the total value was 50/(50+36.4) = 58%. This fraction is called the Crown's interest (Brower, Monks and Meguire, in review). The remaining 42% is the lessee's interest. These estimates seem to bear out Brower's (2006, 2007) contention that the Crown should net money under tenure review.

However, some disagree (see Aspinall, 2006; Scott, 2006; Wallace, 2006b; Wallace, 2006c; Gorman, 2006). Some have argued that the Crown does not own the full development rights, so the lessee's interest is more valuable than the Crown's; hence the Crown should rightfully pay lessees. Three variants of this argument appeared in the New Zealand press over the course of 2006:

1 Lessee owns 50% of the value of development rights: 'The value of these [development] opportunities is shared between the two parties to the contract.' (Aspinall, 2006)

2 Farmer owns 100% of the value of development rights:[1] 'These potentially valuable unallocated rights have been alienated by the Crown.' (Thomson, 2006; echoed by Armstrong et al., 2006)

3 Development rights have no value, and the Crown's interest is just the net present value of rent: 'The value

1 While tenure review has been controversial for some time, assertions that lessees own some or all development rights are of recent date. Prior to 2006, the only times use rights had come up was in discussions of how much rent the government should charge. Lessees argued that their rents should be low on the grounds that lessees do not own development rights. See, for example: 'Mr Aubrey [then chair of High Country Accord] said any [rent] rise should take into account that … land was subject to restrictions. "To make an urban analogy, it would be like leasing a gorse-covered section in a town with no right to clear the gorse or right to build a house, with no services laid on such as water, power and sewage. You would have to ask the Crown for permission to undertake any work on the land"' (*Otago Daily Times*, 22 February 2005).

> of the lessor's interest is no more than the present value of the stream of rental income.' (Evans and Quigley, 2006; echoed by Armstrong et al., 2006)

As economic reasoning predicts that the Crown's interest will be a function of ownership and value of property rights in the land under lease, four claims of ownership yield four variants of a hypothesis. Because ownership is set by statute and does not vary across leaseholds, a scatterplot of the Crown's interest in a leasehold, against the percentage of a leasehold privatised under tenure review, will result in points randomly scattered about a horizontal line. The height of that line will depend on who owns which rights. Four of the five lines in Figure 1 arise from one of the proposed readings of the applicable law, and the fifth arises from Treasury's estimate.

The value of the Crown's interest will vary because leaseholds have idiosyncratic characteristics. For instance, rights to develop lakefront land are more valuable than rights to develop isolated land. But as location is not correlated with percentage privatised (Brower, Monks and Meguire, in review), it will introduce variability in the scatterplot but will not alter the slope of the predicted line.

Improvements might also influence price, because when the Crown buys back the grazing rights in improved land, it must also buy the improvements. But the CPLA also stipulates that land:

1 'capable of economic use' should be privatised;

2 with conservation and recreation value should be conserved '(preferably)' in public ownership (CPLA §24(a)(ii and iii)).

As not every hectare of every lease has been improved, the privatised land is likely to include most improved land because improved land: 1) does not have major conservation value;[2] and 2) is, by definition, capable of economic use.

Hence the Crown compensates for the loss of improvements only if the Crown buys improvements in land that it does not take. The Crown will, of course, compensate for some improvements, but this should not cause the slope of that line to deviate from zero. If improvements do alter the slope of the line, it suggests a serious bookkeeping error, whereby the Crown is behaving like a shopper who pays for something only to leave it at the checkout stand.

In sum, the conventional law and economics hypothesis predicts that the scatterplot will consist of points randomly scattered about a horizontal line. The height of this line reveals the Crown's interest averaged over all deals. The Crown's interest and the size of the Crown payout in turn depend on who owns the development rights.

The apolitical administration hypothesis

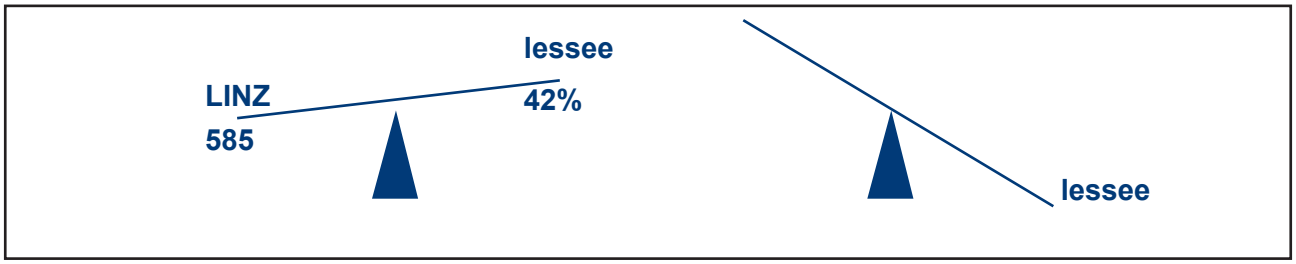
In stark contrast to Treasury's estimate that the Crown would net money in tenure review, Land Information New Zealand (LINZ) annual reports on revenue and expenditures for the years 1992–2005 reveal that the Crown has paid $18.2 million more than it has received in payments, with only ≈20% of leaseholds having been reformed. The dissonance between the Treasury prediction and policy outcome suggests that something other than conventional law and economics might be driving tenure review prices.

Indeed, the agency (LINZ) administering tenure review follows a policy–operations split (see Boston et al., 1991, pp.260-5) as follows: decisions about policy direction and political advice to Cabinet are taken by people employed in a division of LINZ distinct from the part that implements policy (the 'operations'). LINZ officials report that tenure review is wholly administered by people employed on the operations side of this split, who are purportedly 'outside the washing machine of politics'. Further, tenure review negotiations are not carried out by LINZ 'operations' officials themselves, but are delegated to contractors from three property management and consultancy firms – Quotable Value, DTZ and Opus. Hence LINZ appears to subscribe to the politics–administration dichotomy, first proposed by Woodrow Wilson (1887), positing that administration can and should be apolitical.

In tenure review implementation, 'apolitical' seems to morph into commercially 'neutral' in negotiations. LINZ instructs the contract negotiators to be neutral, to listen with an open mind, not to advocate for the Crown, and not to take sides in negotiations. Further, several contract negotiators have described LINZ instructions in the following manner: '[They told us

2 In interviews, DoC officials in Canterbury and Otago state that improved land is not likely to be identified as containing 'significant inherent values', hence is likely to be privatised.

Figures 2a and 2b



that] it is not our place to drive hard bargains … The Commissioner and LINZ [officials] have always told us that money should not be a constraint'; 'Money should not stand in the way of a deal'; 'The Commissioner told us we should not hold up the deals for money' (Brower, Monks and Meguire, in review).

However, the Crown retains a financial interest in the land it is re-allocating. Instructing negotiators to be non-partisan – to avoid systematically favouring conservation over farming land uses (or the reverse) – is defensible. But instructing them to be commercially neutral – especially where the financial interest of the Crown is concerned – is less defensible. A non-partisan public service is rightly a prominent feature of New Zealand's Westminster system of government. Nevertheless, it appears that those administering tenure review have made the leap from Westminster's non-partisan civil service to the less advantageous commercially neutral. When the Crown refuses to take sides, the interests of the public are at risk.

To illustrate this, consider the following 'teeter-totter' theory of public negotiations. A teeter-totter teeters up and down as the children riding it cooperate and compete. A 'dominant' child causes his side to totter to the ground with a loud thunk. Similarly, if the Crown advocated for the 58% interest estimated by Treasury, the power dynamics in the negotiations would look something like Figure 2a. But if the Crown were neutral and avoided advocating for its interest, then the Crown would probably recoup less money than law and economics predicts (see Figure 2b).

In short, the apolitical administration hypothesis posits that failure to advocate amounts to a tacit agreement to lose. In asking 'who is sticking up for the Crown?', Brower (2006, p.3) answered, 'the politics of tenure review remain win-win as long as the Crown agrees to lose'. If apolitical administration indeed leads the Crown to not advocate for its monetary interest, then the Crown will pay what the lessees want it to pay. Hence the aforementioned scatterplot will reveal a downward sloping relation resembling the lessees' demand curve for freehold land.[3]

Agency theory and the principal-agent hypothesis

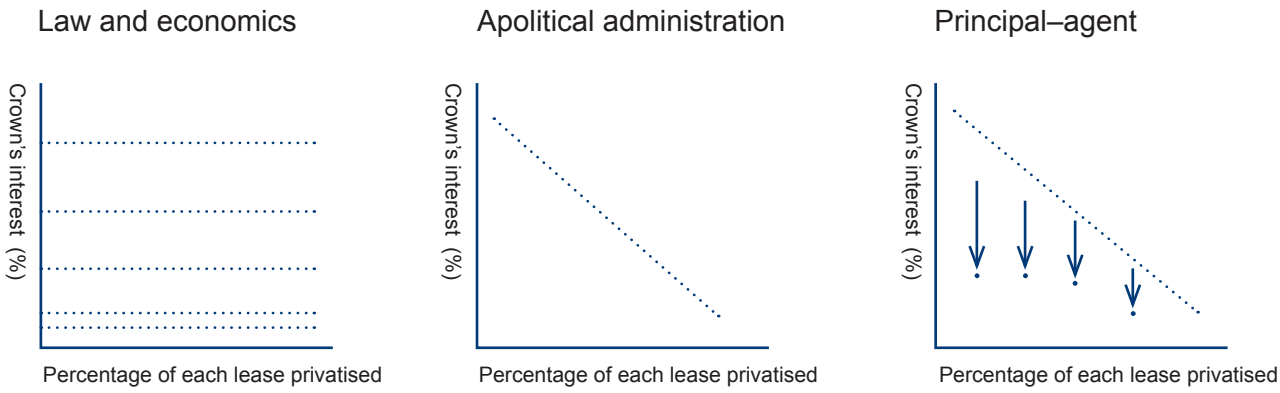
Agency theory tells a story differing somewhat from that of apolitical administration, and paints a somewhat bleaker picture. A principal–agent problem (Niskanen, 1971) occurs when the agent ignores or subverts the principal's goals (Laffont and Martimort, 2002; Ricketts, 2002, ch.5; Waterman and Meier, 1998; Mueller, 2003). Several institutional features of tenure review suggest that it might be subject to a principal–agent problem:

Since 1998 the Crown has been represented in tenure review negotiations by contractors hired by LINZ and employed by one of three property management firms (DTZ, Opus and Quotable Value). These contractors answer to LINZ officials.

Contractors are not paid on commission, but are paid pre-arranged contractual sums for administrative progress towards the ultimate goal (a signed tenure review deal). Hence the Crown does not pay more for a cheap deal or less for an expensive deal, nor does the Crown set a reserve price from which the contractors negotiate.

3 A demand curve predicts someone's willingness to pay for a good. Assuming that a good has a positive value, one will be willing to pay for it. But the price one is willing to pay depends on the quantity she acquires. An individual is willing to pay a high price for 1 kg of prime steak. But she is willing to pay less per kilo for 20kg of steak. At 100kg of steak, she is willing to pay very little per kilo. Hence the marginal utility of each kilogram of steak declines with the volume acquired. This translates to a downwardly sloping demand curve. The height and exact shape of the curve depend on what the individual is buying, but demand curves slope down, and she who buys the most steak gets the most generous price.

Figure 3: Three competing hypotheses (adapted from Brower, Monks and Meguire, in review)



Until August 2006, tenure review outcomes were confidential, giving rise to asymmetric information. Only LINZ and the contractors knew who paid whom how much in a given deal.

Agency theory posits, in short, that agents are most mindful of those outcomes for which they are accountable and rewarded, and least mindful of outcomes for which they are not accountable and not rewarded. When instructed to do X, but rewarded when they do Y, agents often do Y – especially when few can ascertain if the agent is doing X, Y, or even Z.

In tenure review, the ministerial principal directs the agents to: 1) complete tenure review deals;[4] and 2) get a 'fair financial return for the Crown' (Cabinet Policy Committee, 2003, 2005). But contractors are paid when they close deals, being neither rewarded for driving a hard bargain nor penalised for paying too much. The principal–agent hypothesis predicts that agents will follow the principal's directive to close deals, but ignore the directive to be fair to taxpayers. When scatterplotted, the data from easy deals would trace out the lessee's demand curve. But when a lessee drives a hard bargain, the prices would reveal agents' willingness to sacrifice the Crown's interest, and the resulting data would plot below the lessees' demand curve.

4 In 2003 Cabinet encouraged closing deals by setting a deadline that all pastoral leases would have completed tenure review by the year 2008. That deadline has since been relaxed. (Wallace, 2003)

Tenure review outcomes

In August 2006 the minister of land information consented to release the individual transaction prices (Beston, 2006). These data enabled testing of the theoretical predictions against the data for the 77 deals completed between 1992 and 2006.

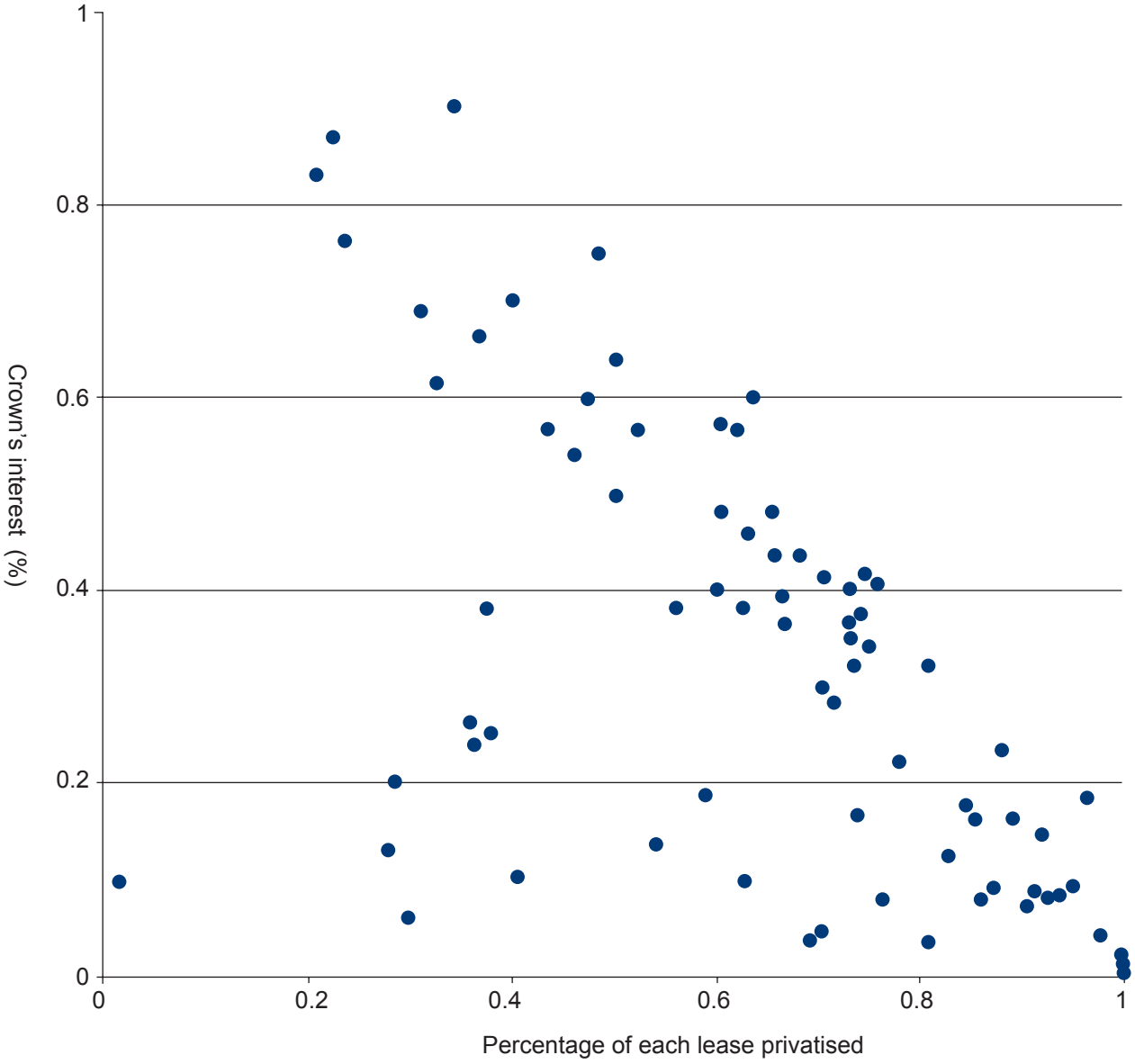
Most points trace out a line with a slope of –1, consistent with the apolitical administration hypothesis and fully inconsistent with any prediction of law and economics. He who gets the most land gets the best price. Sixteen of the 77 dots fall well below this line, indicating that the Crown's interest is even lower, and the review hence more favourable to the lessee, than the apolitical administration thesis predicts. Each of these 16 deals was completed after 1998 and features a Crown payout exceeding $250,000 (one was $5.6 million). Auxiliary variables (rent, easements and location combined) explain only 39% of the deviation from the diagonal line (Brower, Monks and Meguire, in review).

Discussion

The declassified prices suggest that price negotiations start – and usually end – on the lessees' demand curve, and that the law of property does not shape tenure review outcomes (Brower, Monks and Meguire, in review). While it is appropriate for lessees to drive hard bargains with the Crown, it is less appropriate for the Crown to readily capitulate. To agree to start negotiations with the other party's demand curve is to agree to lose.

If the apolitical administration hypothesis were wrong, and the Crown were advocating its legal and financial

Figure 4: Tenure review results 1992–2006



interest, the scatterplot would consist of random deviations from a horizontal line, whose height would depend on the ownership and value of development rights. Even if leasehold ownership held precisely the same value as freehold ownership (as some lessees and their advocates have argued; see, for example, Hutching (2006), citing a lessee), the results would fall along a horizontal line. But tenure review outcomes reject the law and economics hypothesis, regardless of who is assumed to own what.

Having rejected the law and economics hypothesis, and found support for the apolitical administration hypothesis, we turn to principal–agent. If the Crown were sticking up for itself even while negotiating from the lessees' demand curve, a few deals would plot above that curve. Instead, all deviations from that curve are decidedly in the lessees' favour, with a low Crown interest and a high Crown payout. The presence of points below the demand curve and the absence of dots above it suggest that while some lessees drive a

hard bargain, the Crown never does so. Even within the agree-to-lose negotiation framework, it appears that the Crown is not sticking up for itself.

But these datapoints below the curve emerge only after 1998, when Parliament passed the CPLA and authorised LINZ to administer tenure review (which had begun quietly in the bureaucracy in 1992). The CPLA introduced a new player in the principal–agent equation – the sub-agent. While contractors from only one firm had been accountable to only one principal before 1998, LINZ subsequently became an agent standing between the contractor (who thereby became a sub-agent) and the principal (Brower, Monks and Meguire, in review).

Although apolitical administration and principal–agent are subtly different narratives, their combined effect offers a cautionary tale about governmental negotiation processes. Under the former, the passivity of agents and sub-agents in negotiations with a vested interest leads to results which some would describe as agency or regulatory capture (Selznick, 1949; Stigler, 1971; Levine and Forrence, 1990). Prices that trace the vested interest's demand curve certainly point to the capitulation of capture. But in principal–agent, sub-agents actively facilitate rent-seeking by offering prices even more generous to lessees than capture would predict. Results revealing that some deals are substantially more generous than the demand curve suggest that tenure review makes mere capture look rather attractive.

Two things appear to have gone wrong. First, neutrality and negotiation do not mix. The New Public Management, and the public choice theory on which it relies, offer several tools designed to avoid capture. One such tool is the policy–operations split (see Boston et al., 1991, pp.40, 260-5 for a description and critique of the split). Tenure review negotiations are contracted out of the operations side of the split, which already professes to be politically neutral. This makes it likely that ministerial directions to advocate for the Crown's financial interest will get shunted to the policy side of the split – far from the contractors (Brower, in review).

Second, in contracting, three is a crowd. Ministerial directives to advocate for the Crown's financial interest will dissipate when agents think they should be impartial. They dissolve when the agent, not the principal, sets the contract terms. And they disappear altogether when the agent tells sub-agents to ignore the cost to the Crown. Thus, apolitical administration and principal–agent combine to suggest that ministerial authority over negotiators contracted to the operations side of an agency is attenuated at best. Contracting out of the operations side of a split agency exacerbates capture, rather than avoiding it. Those presiding over future government negotiations would be wise to avoid the same fate.

Finally, the above results measure only the dollars exchanged between the Crown and lessees, not the non-pecuniary opportunity costs. Information asymmetry in agency theory predicts that money is the last thing agents and sub-agents will sacrifice in a negotiation, because it is the outcome most easily measured. In any bureaucracy, measurability means accountability. The non-monetary characteristics of land are harder to measure; hence contractors are less likely to be accountable for them. As such, tenure review negotiators will likely first sacrifice such things as recreation, biodiversity, landscape aesthetics and cultural heritage.

Conclusion

This article does not criticise, much less condemn, the contractors. But it appears that ministerial directions dissipate, then disappear, in the principal–agent–sub-agent chain of command. Indeed, agency theory aptly predicts that contractors will heed the directive to close deals (because they are rewarded to do so) and disregard the directive to be fair to the taxpayer (because they are not penalised for ignoring it). Closing the deal at any cost is beneficial to all present at the negotiating table (the agent, the sub-agent and the lessee), at the expense of those absent from that table (the taxpayers) (Brower, Monks and Meguire, in review). Prior to September 2006, even the minister was absent from the table (White, 2006).

In sum, most prices strongly resemble the lessees' demand curve, except when the Crown is even more generous. The results bear no resemblance to the law and economics hypothesis, for all conceivable interpretations of ownership. Tenure review outcomes are consistent with the apolitical administration hypothesis, whereby no one advocates for the Crown and the Crown tacitly agrees to lose. But the most satisfactory explanation for these outcomes is that of agency theory, which predicts that neither financial nor opportunity cost will stand

in the way of reaching an agreement. This amounts to 'closing the deal at any cost'. One thing is certain: when it comes to property rights in the high country, the law does not rule.

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Managing for Joint Outcomes – the breakthrough from the front line

Derek Gill, Elizabeth Eppel, Miriam Lips and Bill Ryan

> *Politics is a strong and slow boring of hard boards. It takes both passion and perspective. … man would not have attained the possible unless time and again he had reached out for the impossible. But to do that a man must be a leader, and not only a leader but a hero as well, in a very sober sense of the word.* (Max Weber, *Politics as Vocation*, 1965, p.54)

Moving from planning for outcomes through formal accountability documents such as Statements of Intent to actually *managing* for outcomes is a difficult challenge – the 'reach for the impossible', in Weber's words. But it is an important challenge if we are to achieve the goal of 'a world class system of professional State Services serving the government of the day and meeting the needs of New Zealanders'.[1] One way to progress managing for outcomes is through top-down approaches, reflected in the central agency guidance, *Getting Better at Managing for Shared Outcomes.*

An alternative approach – which is the one adopted here – is to take the 'worm's eye' view from the front line, not the 'bird's eye' view. This article summarises some of the initial questions prompted by the Emerging Issues Project (EIP) on public management which Public Service Chief Executives have commissioned from Victoria University of Wellington. This project is focused on three research questions:

- What are the preconditions for more joined-up user/citizen-centred services?
- What are the characteristics of policy areas where more joined-up user/citizen-centred services are found in New Zealand?
- What helps and what hinders the diffusion of more joined-up approaches to user/citizen-centred services?

The view from the front line provides a quite different perspective from the view from central agencies or from departmental head offices in Wellington. This is well documented in the literature on service delivery, starting with Pressman and Wildavsky (1973) and leading to Lipsky's (1980) 'street-level bureaucrats', the most cited example of this approach. The last three decades of implementation research illustrate that managing for outcomes from the street-level or front-line perspective requires balancing contradictions such as those of 'passion' and 'perspective', which Weber highlighted (in the quote above).

The view from the front line

To understand the front-line perspective, staff from Victoria University are undertaking intensive interviews with workers involved in a range of examples of joined-up ways of working.[2] One case looks at the response of staff in a number of agencies to two whanau in south Auckland which had experienced a series of youth suicides.

'Everyone in this room is talking crap', commented a whanau representative, having listened for an hour to staff from a range of government agencies talking about what services they could provide to the whanau. The breakthrough moment came when the staff realised they had to work differently; it was not about packaging up existing services for the whanau. Their system perspective, their pre-existing silos, categories and management practices, simply didn't align with the real-world lives and needs of the people they were dealing with. It was these that needed to change, not just the clients. Things had to be turned the other way

1 The State Services Commission's overall state services goal is further articulated in six development goals, including 'coordinated state agencies ensuring that the total contribution of government agencies is greater than the sum of its parts'.

2 The examples include a range of sectors: autism, integrated case management in the social sector, recognised seasonal employer scheme in the labour market, South Auckland schools, the Mayors Task Force for Jobs, and the National Maritime Coordination Centre.

round – it was about working with whanau, building on their strengths to work out what services they needed (Schwass, 2007, p.1).

Parenting children with disabilities such as autism is a difficult journey. In addition to the challenge of parenting and keeping other family relationships intact, it also involves navigating through a range of government-sponsored service provision agencies, including Needs Assessment Service Coordinators (NASCs), Group Special Education of the Ministry of Education, Work and Income, social workers from District Health Boards and social service agencies, and sometimes Child Youth and Family (CYF). Each has their own process and criteria. Most staff do the job to the best of their ability, treating each case on its merits to ensure that families receive their entitlement. But some staff define their role as acting as brokers and facilitators to join up access to services. The breakthrough comes when they cease to see the client as a case and focus on the holistic needs of the individual person.

The stories of staff acting 'as leaders and heroes' to make the system work are encouraging. Actions of individual staff to make what is necessary happen can ensure that outcomes meaningful to the client are achieved. Isolated individuals acting on their own will not be enough to achieve systematic change. In fact, no particular understanding or appreciation exists of the work of these 'public entrepreneurs'. As a result, this research is focused on the preconditions, enablers and keys to success for this cross-agency way of working. The particular concern is to focus on services reconfigured to what New Zealanders really need. It is also focused on identifying potential 'show stoppers' and 'derailers', and the keys to success that characterise this way of working.

Inter-agency working covers a range of activities and

Figure 1: Continuum of joined-upness

Fully Focused	<---------->	**Fully Connected**
Co-operation	*Co-ordination*	*Collaboration*
Limited connection	Medium connections	High connection
Low intensity	Medium intensity	High intensity

there is no lingua franca or accepted definitions for the various multi-party arrangements that exist. This article will follow Keast & Brown (2007) in distinguishing a continuum of the 'three Cs', ranging from co-operation to co-ordination and collaboration. While these terms are often used interchangeably, the three Cs are not the same.

Co-operation is conceptualised as the starting or base level of inter-organisational relationships: 'merely the task of getting along with others so that you could both achieve your own goals'.

Co-ordination has an instrumental function involving processes requiring organisations to work together. Participating in co-ordination does not require loss of individual member autonomy. Co-ordination represents an efficient way of driving through goals and undertaking joint tasks.

Collaboration moves beyond the instrumental processes of co-ordination to find 'ways to work better together' and achieve greater efficiencies and scale of outcome. Collaboration is seen as a more intensive process. It involves processes to get to a position of trust and shared understandings of language, values and goals. Collaboration is more likely to lead to new ways of working and innovation.

This article focuses on the most intensive or collaborative end of the spectrum. Collaboration is a far more radical activity than co-operation. It involves seeing the world from a new perspective, one which starts with outcomes, works backwards in terms of 'what's therefore needed', and then redefines what providers and agencies need to do – a radical shift which usually seems to require a 'magic moment' of recognition of failure before it can occur. This usually involves an inversion of meaning which redefines what was once taken as normal to be problematic, sometimes coming from the client, sometimes from the staff. Almost all of the case studies being reviewed have these characteristics.

The international literature[3] suggests that collaborative approaches are more likely to form when there is growing turbulence in the external environment and there is a growing realisation that 'we can't do it on our own'. Groups, once formed, are more likely to succeed when

3 See the literature review by Elizabeth Eppel (2007, available on request) and in particular Bryson, Crosby & Middleton Stone (2006).

there are already in existence linking mechanisms, such as existing networks and shared understandings about competing mental models and meanings of key words.

Quality process is also emerging as important both in the literature and in specific examples being reviewed as case studies. In particular, joint working groups are more likely to succeed when conflict is managed and power imbalances reduced, and trust is built, providing both the lubrication and the glue. One factor featuring strongly is the role of leadership by 'public entrepreneurs', while in some, but not all, examples, leadership by committed sponsors and effective champions is also important.

Interestingly, the international literature identifies formal agreements such as plans and memoranda of understanding as important for success, but this is not coming through as important in the dialogue with practioners in New Zealand, where practice relies heavily on informality. Similarly, there are different experiences of whether inputs, processes and outcomes need to be closely tracked. One open question is whether decentralised and more or less self-governing networks are more effective than inter-agency groups centralised around a lead agency.

One key conclusion to emerge repeatedly, both in New Zealand and overseas, is that success is difficult. Working jointly is hard and it takes energy and commitment. It involves working on the edge and taking managed risks.

This raises the question of when are more collaborative services likely to emerge?

A number of sources have noted the need to be clear about the perceived problem to which horizontal co-ordination and integration are seen as solutions.

Interestingly, Perri 6 (2004) suggests that the challenge is not in the specialisation of each agency. It is more likely to be in the fragmentation of how each organisation sees the issue and responds to it; lack of good conflict management; or inadequately structured relationships between specialties. The rhetoric often used of 'overcoming barriers' or 'breaking down boundaries' is often misleading. Rather, collaboration is about attempts to put boundaries in different places and to create 'border crossings' suitable for particular vehicles.

The next phase of the EIP project is to test how important the factors identified by the international literature and New Zealand examples are. A number of early ideas are emerging:

Role for public entrepreneurs. Entrepreneurship in the public sector is not an oxymoron. Public entrepreneurs defined their role to include keeping the flame alive and driving through to achieve success, sometimes at personal cost in terms of time, career and reputation. They exhibited a passion to make a difference. Some take comfort that 'no-one ever got fired for doing the right thing'.

The importance of mental models. Staff start in different places with different views about their roles, different ideas of what is important, and sometimes completely different meanings for key shared terms. Over time a quality process leads to shared understanding of these differences. Often the breakthrough comes when they cease to see the client as a case and focus on the holistic needs of the individual person.

Making the formal system work. Front-line staff report making the system work, managing within the formal system by coming up with a way to work around, and working up to and testing the boundaries of the formal system without explicitly breaking formal rules.

Multiple accountabilities. Front-line staff report a strong sense of loyalty and responsibility to their colleagues in their network and to the client or service user. They manage in multiple worlds, balancing their horizontal responsibilities with their formal accountability upwards within the organisation. Often this formal accountability is seen as secondary and is just part of the formal system to be managed.

Rules versus discretion. Some staff work in a high-trust, high-discretion environment, others in a lower-discretion environment. Even those with lower formal discretion exercise judgement about which rules to enforce in a particular context. What is common is that the job was defined as being about achieving the best outcome for the client or service user.

The paradox of authority. To be effective, staff in a network need 'soft' power or authority (access to resources, ability to commit to actions), but use of hard power, such as sanctions and threats, is often counter-productive.

Conclusion

There are a number of factors driving new ways of working to deliver public services. From the top down there has been a shift in emphasis in the formal public management system from the managing of outputs to managing for outcomes. In turn, this shifts the focus from efficiency (how can we deliver our services better) to effectiveness (what services do we deliver and how can we work with others on this). From a bottom-up, street-level staff perspective, all the examples show a passion to make a difference for clients almost regardless of the formal public management system. Other contextual factors include the nature of 'wicked' issues, where outcomes are co-produced and these cannot be addressed effectively through traditional bureaucratic service delivery. Another factor again is a decline of trust in the 'professionals know best' maxim and increased expectations of citizens of the quality of service delivery. We live in a world where, increasingly, power is shared and in which many groups are involved in acting on public challenges.

The relative importance of these factors in New Zealand is being examined in the next phase of the EIP project, once the data gathering has been completed. We will report further in *Policy Quarterly* in 2008 on what we found. In the interim, if you want to know more about the project or have something to offer, contact derek.gill@vuw.ac.nz.

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