MONITORING THE CHANGING SOCIAL CONDITIONS OF NEW ZEALANDERS

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Abstract

An agenda for developing a systematic, comprehensive and coherent set of annual social indicators using available statistics is advanced. Such indicators would allow the changing social conditions of New Zealanders to be regularly monitored. A preliminary attempt is essayed to assemble and display such indicators using the more readily available of such statistics. Trends are identified and the theoretical and methodological foundations are laid for the possible construction of interrelated models, which would show how different domains of social life influence each other. It is advocated that institutional arrangements be set up to provide adequately contextualised interpretative accounts of such time-series, including attention to inter-relationships amongst domains and policy implications.

INTRODUCTION

"Social indicators" are institutionalised measures of social well-being or quality of life. These have relevance to policy, generally through alerting policy analysts to deteriorating social conditions or in measuring broad impacts of policies. They are designed to both offset and complement economic indicators that measure the aggregate well-being of a country's economy. From the 1960s a "social indicators movement", of social scientists and policy analysts interested in promoting social indicators, has agitated for more systematic development of social indicators and for policy makers to pay them more heed in their policy considerations.

The social indicators movement has both risen and then languished in New Zealand. An early conference endeavoured to push the concept under the sponsorship of New Zealand's UNESCO Commission (Cant et al. 1979), and its later fruits came with a one-off Statistics Department survey (1984). Further influence came with some attention from the Social Monitoring Group (SMG) of the New Zealand Planning Council (which gave rise to the "From Birth to Death" series of publications, of which *Tracking Social Change in New Zealand: Birth to Death IV* (Davey 1998) is the most recent). However, no system of social indicators has become institutionalised, and the longer-term effect of work on social indicators has been apparently minimal.

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[1] This paper was prepared while the author was Professor of Sociology, University of Natal, Durban.

Certainly, some "social reporting" continues, largely by virtue of the efforts of people involved in these earlier efforts. However, this work either takes a quite broad focus on changes in aspects of social structure or takes a quite narrow focus on the harder end of social indicators: health, income and poverty. Although some published material is of particular pertinence (especially Davey 1998 and Thorns and Sedgwick 1997) these publications only partially perform the tasks of a social monitoring report, as they have wider concerns. A particular difficulty is that publication of large reports such as these can suffer from lack of timeliness although, impressively, Davey includes 1996 census data only two years later, while Thorns and Sedgwick include data series up to 1994 in their 1997 publication.

Some effort in social monitoring has recently been made by particular agencies in New Zealand. The most advanced system is that being conducted by the New Zealand Health Information Service, which is developing a National Health Index, Medical Warning System and National Minimum Data Set (see http://www.nzhis.govt.nz/DataDictionary).

Internationally there also seems to be a more widespread interest arising in social indicators and monitoring. A sweep around appropriate websites reveals work being carried out in several UN or UN-related agencies (most notably the Human Development Report Office) and other units at national and regional levels. For example, UNICEF issues "Statistical Profiles" for the countries of Asia and Pacific (and other regions), which include for each country: total population, children, annual births, infant mortality, Gross National Product per capita, proportion of under-five children who are underweight and proportion of children reaching grade 5). The Parliamentary Library of the Parliament of Australia has "monthly Economic and Social Indicators" (although this seemed confined to population data in 1999). Yet another example is the website of the Durban Metro Council, which lists a range of goals and then provides definitions and discussions of each of these together with a research programme for their regular measurement. By now, considerable international expertise is building up for the carrying out of social monitoring.

Finally, it is particularly appropriate to revisit the topic of social indicators given the commitment of the recently elected Labour-Alliance Coalition Government to improving the database for policy. This paper provides a broad canvas of information with the aim of generating discussion on these issues. To guide the reader in considering this information, I provide a review of recent developments in the area and of the methodological issues.

In this paper I review some of the readily available sources of information in New Zealand that might be built into a system of regularly examined social indicators. I also attempt to

build a more systematic domain within which these might be fitted. In order to provide a glimpse of the utility of such a system of indicators, I provide a sweep across some of the available social statistics in New Zealand that might be pressed into service in providing ongoing social indicators. I also attempt to draw attention to where there are major gaps in available data. I concentrate on those statistics that generally are available on an annual basis and so can measure the changing social condition of New Zealanders at a reasonably frequent interval. In contrast, census and other less-frequently-collected social data are better used to measure the more slowly changing "social structure". I argue that more systematic attention should be paid to these available social indicators, but I also will try to assess the adequacy of this approach as opposed to the need for fresh collection through surveys of quality-of-life information.

There are major limitations on reporting such a broad exercise within the confines of a paper. Here, I merely seek to draw attention to the broader project. The presentation of the data alone would require much more space than is available, let alone the disaggregated versions of such time-series, the necessary detailed discussions of their validity and reliability, and the considerable need for nuanced and contextualised interpretations. Moreover, for the broader project to be carried out, much wider networks of researchers and policy analysts would need to be involved.

In most OECD countries (see Vogel 1994), an annual household survey of the social conditions of the population is at the centre of the national system of social reporting. I take it that there is not the will amongst the political, governmental, social policy or social science communities in New Zealand to sustain such an ongoing social survey that will carry subjective (as well as some respondent-reported objective) social indicator questions on a regular, preferably annual, basis. If there were such a will, such a survey would have developed, after its abortive first attempt (Statistics Department 1984). This is unfortunate, as such an annual survey would be a very sound and central backbone to the New Zealand system of social statistics.

Fortunately, until recently (to 1998) there has been a very thorough annual Household Economic Survey[2] (HES) in New Zealand, whose potential for piggy-back carrying of subjective indicator data-collection instruments has been explored from time to time. Indeed, the potential of the HES for working up further social indicators still needs to be thoroughly explored, especially to see if the ad hoc surveys now being commissioned by various government departments might not gain from being included in a more comprehensive and regular system of data collection. Such a regular survey would enable the monitoring of more subjective states of New Zealanders, which at present is left mainly to highly episodic, media-driven, private sector surveys, as well as whatever can

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[2] Formerly known as the Household Social Survey.

be gleaned from more academic survey series, such as the New Zealand Election Survey (see Vowles 1995), World Values Survey and the International Social Science Programme (ISSP) hosted at Massey University. Whereas the former is still continuing, albeit dependent on continuing funding from Foundation for Research Science & Technology, the latter appears to have been discontinued since 1996.

REQUISITE METHODOLOGICAL PROPERTIES
FOR SOCIAL INDICATOR DATA

The data assembled in this exercise fit within a particular methodological framework, which I will outline below. The literature discusses many of these issues in great detail. Annual social indicators should have some of the following methodological characteristics:
• Relevance/validity;
• Reliability;
• Cultural appropriateness;
• Timeliness;
• Relationship to the "population at risk";
• Potential for "disaggregability"; and
• Potential for multi-variate analysis.

Relevance and validity are conveyed in the choice of measures within an appropriate theoretical framework. This is developed in the next section, where I lay out some conceptual possibilities. Reliability refers to the accuracy of the data, and the procedures through which they are collected. Reliability is not a major problem with most of the measures reported here, which come from quite impeccable official sources. However, users of these data series need to be very familiar with the local methodological literature surrounding each data series.

Social indicators have to mean much the same thing to different cultural groupings: for example, non-religious people might very well not value a greater opportunity to participate in church services. So indicators need to be robust across different groupings and not reflect only the values of some. This can focus the search for indicators on measures that are of broad human concern.

Lack of timeliness still afflicts some New Zealand data series (as I document with these time-series), although hopefully with the better use of information technology we may expect that the time lags can be considerably cut back.

Absolute figures are of limited use in social indicator work. Rather, data need to be related to the "population at risk" even if this is only a "crude rate" on a per capita basis. While

many of the data series used in this study have already been calculated on such a basis, there is still room for improvement.

Where at all possible, indicators should be able to be presented for different population categories. The potential for them to be broken down for more specific categories is an important criterion in selecting indicators.

Lastly, social reality is complex and data must be able to be subjected to multi-variate analyses that allow causal sequences and causal effects to be traced. The joint effect of indicators in different realms needs to be able to be explored. One difficulty with some data-reporting exercises is that simple trends are reported without any attempt to relate these to some of the factors which mask or which aggravate them. The "surface pattern" of data can be misleading, although it is difficult to develop appropriate models that better reflect the complexities of changing social conditions.

The progress in information technology will considerably enhance the capacity of the social reporting system suggested here. Once data are entered on a regular basis (often as part of operating procedures), they can be almost instantly retrieved at the end of the annual period. Also, once data are made retrievable on a website, they may be quickly accessed.

Although the emphasis here is on the social conditions of people, it is important to also link to economic and political indicators, since these very often are measures of some of the various phenomena that have social consequences. As well as monitoring social conditions in and of themselves, it is important to be able to measure the apparent social impacts of economic, political and other influences.

A major distinction between economic and social indicators is that the latter are more useful if they can be disaggregated in terms of those major social aggregates that are pertinent to the society under study. In contrast, economic aggregates are more readily measured as wholes. Indeed, various "sectoral" forms of social monitoring are particularly important, e.g., in terms of Māori concerns or those indices that tell us directly about women's conditions. Some of the data I examine have this potential, and I will indicate this where possible. However, in my own reporting here I will not attempt any disaggregation. Rather, such disaggregations are suitable topics for further studies.

CONCEPTUALISATIONS

It is not easy to develop a conceptual framework within which a set of measures can neatly sit. The literature on social indicators provides some guidance in terms of concepts such as "quality of life" and also conceptualisations of the different "life domains" within

which people may experience different aspects of their lives. Many of these domains fit within the several "institutional areas" into which society is organised, and which also tend to each be the separate responsibilities of particular government ministries or departments.

It is important to consider how people's experiences in each of these domains are related to their experiences in others. Is their housing deficient, but not other domains? For example, poverty studies have often shown that if a household can gain secure and affordable housing, its ability to cope with other life domains is considerably enhanced. If its health is poor, does this lead to deficiencies in other areas of life? Unfortunately, such linkages would require access to primary data, either fresh survey data or some elaborate record-linkage of the various bodies of government statistics. In using existing government sources it is only possible to see how performance in different domains in general seems broadly in tune with performance in other areas.

Ultimately, it would be useful for the assessment of policy implications for a tightly conceptualised, systematic, social mapping to be available. However, I have adopted a more inductive strategy and work between theoretical concepts and what is available.

The available data do not fall into neat groupings. It seemed most appropriate to group them as follows:
1. Economic conditions;
2. Economic-related conditions;
3. Workplace/union-related conditions;
4. Political conditions;
5. Population/demographic conditions;
6. Government service provisions;
7. Social outcomes; and
8. Cultural outcomes.

I should emphasise that these are only preliminary categories, and further conceptual and/or empirical work might find that several need to be shifted. In addition, the whole schema might be effectively revised on a more radical footing. Moreover, there is undoubtedly some overlap across these conceptual groupings, and perhaps considerable complexities in feedback loops.

I shall refer to each of the eight groupings of measures as "domains" since each offers a particular perspective on the overall conditions of New Zealanders. The first five domains are somewhat external to social conditions and shape social consequences. The last two domains are more concerned with directly measuring social conditions. The sixth domain,

concerning government service provisions, overlaps conditions and consequences, partly measuring each.

The broad underlying thinking is that social, demographic, economic and political domains each have somewhat different tendencies and autonomies. They may have different social consequences. The demographic domain (the stock of people, especially in terms of their age and sex structure) grinds the most slowly, but surely, over the long term. Nevertheless, it can have potentially volatile aspects, such as internal migration, and is affected (e.g. through birth rates) by the longer-term tendencies of the economy.

The economy involves the performance of business and the labour force in terms of growth, relationship to other economies and distribution. The political is partly caught up in the operational steering of the economy, either offsetting or compounding its influences. In addition, guided by its ideological proclivities, those in the political realm may attempt to more broadly shape the economy as well as the social structure.

Finally, the social structural domain is a very broad category that involves the social units that people are involved with (households, networks, voluntary groups, locality, communities etc.) and the extent to which these involvements affect people's behaviour and attitudes, and especially their "quality of life". Of the various domains, the social structural is least readily measured in any direct way, and requires considerable reliance on indirect measures, especially through its presumed effects.

Each of these domains may have a somewhat different periodicity. There is a moderately (?) slowly changing social structure, which is affected in the longer term by the very (?) slowly changing demographic structure, and in the shorter term by the reasonably fast (?) changing economic situation, with the effect of the political situation having a moderate-to-fast timing in between the time periods of these other domains. It is well known that to some extent the economy tends to behave in terms of cycles of expansion and contraction, although these are far from regular. In addition, the economy may be influenced by long-term cycles. One of the objectives of this paper is to measure the extent to which the various time-series assembled fit most readily into one or other of these different time periodicities. If some trends are non-linear, perhaps fitting more into cycles or quite random patterns over time, this too needs to be considered.

Each of these domains is also affected in various ways by overseas influences. These influences include:
• ideologies and international political pressures experienced by the polity;
• the buffeting of the economy by the world economy;
• the influence on the population structure of international migration; and

- the effect on the social structure of change in lifestyles and orientations, which percolate through the media and are experienced more directly through travel.

How well New Zealand copes depends considerably on the way in which such overseas influences are dealt with, and especially in comparison to the way in which other aptly comparable countries have coped. This, in turn, suggests that measures of overseas impacts on New Zealand should be included in the measurement system. On the wider issue of making comparisons between New Zealand and other countries, it is important that appropriate "reference countries" are selected (see *New Zealand Official Yearbook* for some indirect guidance on this, as the changing choice of comparison countries is instructive).

In Figure 1 an attempt is made to sketch some of the relationships amongst the several domains being discussed. The solid lines represent major links, while the broken lines represent minor links. The economic, the global and the demographic are placed across the top to indicate the rather different sources of their effects. Although some of the more intermediate domains have some degree of autonomy and their own processes of change, economy-related, political and social-structural domains also act as intermediaries through which some of the effects of the first group of domains influence things. Finally, social consequences and cultural outcomes are influenced and shaped by conditions laid down by the preceding domains. However, this only suggests the broadest stream of influences. In addition, there are many reciprocating influences, joint effects and, of course, feedback loops.

Figure 1   Relationships Amongst the Domains
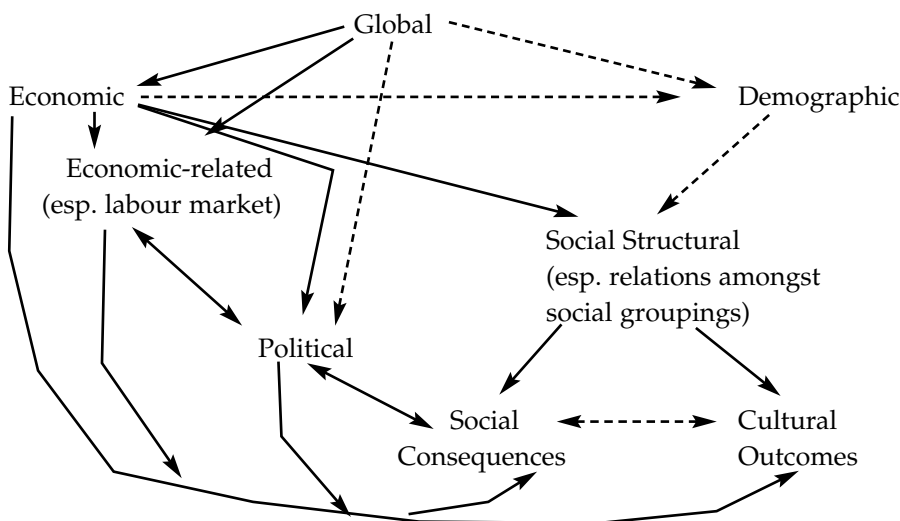
MEASURING THE SEVERAL DOMAINS:

Economy and economic-related: The economy is represented in this data set by an array of traditional measures including economic and employment growth, inflation and the taxation and debt burdens (see Dalziel 1999 for a much fuller report). These direct measures of the health of the economy as a whole are supplemented by an array of phenomena that measure particular aspects of the economy that have likely social consequences. These include unemployment (and especially the proportion of long-term unemployment), income shares, and bankruptcies and new company starts (as indicators, perhaps, of economic optimism). Another partly related grouping of measures concerns other aspects of the labour market: union membership and strike activity.

Political conditions: The "political" is measured by a dummy variable indicating which party is in power and, therefore, what general ideological tendencies can be expected to be driving policy choices (assuming, for example, that the 1996-1999 Coalition is essentially one led by the National Party). Alternative measures (to be used in future work) might include annual measures of electoral support, the strength of the governing party in Parliament to enforce its own political direction, or the extent to which the Government's political programme seems motivated by closely hewing to some ideological position. For example, State asset sales are one possible measure of the strength of political motivations, at least under the current agenda of political concerns.

Demographic conditions: The demographic structure can be measured, like the economic domain, in a fairly standard fashion. These measurements include population size, change components (birth, death and migration), and distributions (especially in terms of age and gender). These data are regularly collected by Statistics New Zealand through censuses and, also, ongoing vital statistics. The demographic domain sets the general level of demand for the provision of jobs, government and other services etc.

Government service provision: An ill-assorted group of measures indicates both the population's demands on the Government as well as the government services' attempts to provide for those demands. Those readily available include various social security benefits, numbers attending schools and hospital waiting lists. These measures are, for present purposes, an uneasy mix of these two aspects of "demand" and "supply". Because of this ambiguity they constitute a particularly difficult set of indicators. In addition, there can be longer-term effects, some influenced by political ideologies that shape how government policies influence the type and level of service offered. Policies in relation to mental hospitals are a major case in point, although this illustrates – at the extreme – the more general situation common to this set of indicators. (Over the last two decades government policy has been to de-institutionalise patients who might earlier have been

hospitalised, and also to increase the extent of community and home care. As a result, fewer "mentally ill" people are admitted, but the inference that in some way New Zealanders in general are less likely to be mentally ill cannot be correctly drawn.)

Social consequences: The most direct available measures of New Zealand's social condition constitute several "behavioural outcomes" which reflect activities people decide to carry out themselves. These "outcomes" are undoubtedly influenced considerably by social circumstances in general, but presumably are not merely the direct impacts of institutional programmes. (Even these measures, though, have difficulties; for example the number of crimes reported to the Police is in part influenced by Police policies and behaviour.) These measures are the most important measures of the set assembled here. They include suicide, violent crime and crime, alcohol and cigarette consumption, road deaths and infant mortality. The data for these series are collected in the first instance by appropriate authorities and then most are available through Statistics New Zealand. All these have been identified in various studies as measures of social stress. For example, it is possible to take the level of complaints made to the Race Relations Office as something of a measure of the degree of inter-group stress.

Cultural outcomes: Finally, there is some need to offset the rather negative image of the usual depressing measures of social stress, which tend to crowd studies such as this, by an attempt to bring in some "cultural" indicators. However, there are few obvious available candidates, and this is an area needing much future attention. Perusal of recent issues of the *New Zealand Official Yearbook* suggested that the number of subsidised condoms is one potential candidate! Information on non-subsidised condoms is not available, apparently, and of course the "subsidised" measure is highly dependent on government policy. Other candidates are the number of hours of locally produced TV and books originating in New Zealand.

Those time-series that were available were assembled into a data set (I refer to this as the "NZ Social Indicator Data-Base"). This consists of a large number of variables, with values entered for each year back to 1980, where these data are available. Each indicator in the system has been graphed (in particular to identify its pattern of change over time), but the graphed output is far too voluminous to reproduce here. Also, the time-series were each correlated against several key variables (using a Pearson's product-moment correlation): year, political party in power, economic growth and CPI change. Only the correlates with year are reported here. Table 1 provides information on the mean value of each time-series over the approximately 20-year time-period, the number of years for which information was obtained, and the correlation between the time-series and year. For further details see Crothers (1999).

Where the correlation is high (i.e. close to 1.00) this indicates that the variable is increasing over time, at least insofar as this involves a linear pattern. A high negative correlation (close to -1.00) indicates that there is an overall pattern of decline in terms of that time-series over time. Where the value of the correlation coefficient is low (close to 0) this indicates either a complex pattern with no overall trend over time, or a simpler pattern of non-relationship. Other patterns of relationship are possible (for example, some phenomena may vary in relation to the business cycle), but this cannot be read from the results in the table. I have also included, in an appendix, an edited version of the events reported in the time-line chronology of the *New Zealand Official Yearbook On-Line* to show how it is possible to also include some important historical contextual information in order to help understand the trends shown.

Table 5   Overview of Results

Correlation with Year	Mean	Years of Info.	Variable
Economic Conditions			
.78	9,920.22	18	Government Indebtedness Percent
-.79	7.08	16	Inflation Change
.12	2.39	15	Economic Growth Rate
.59	1,351.90	19	Employment Nos.
.95	9,416.29	14	Public Debt
.97	17,100.43	15	Taxation $
.86	7.50	19	Taxation Percent
.62	6.50	18	Unemployment Rate
.45	28.25	10	% Unemployed Over One Year
.52	104.42	12	Top Quintile
-.30	95.61	12	Middle Quintile
-.76	95.56	12	Bottom Quintile
.88	1,725.11	18	Bankrupcies (000)
.06	349.15	13	Into Receivership
.77	699.85	13	Court-Ordered Liquidations
.52	1,210.54	13	Voluntary Liquidations
-.35	75.45	11	Stock Exchange Firms, Overseas
-.77	190.73	11	Stock Exchange Firms, NZ
-.32	1,441.45	11	Share Price Index
.90	12.36	18	New Companies Registered (000)
-.86	1,452.41	13	Companies Struck Off Register

Correlation with Year	Mean	Years of Info.	Variable
Labour Market Conditions			
-.20	508.59	12	Trade Union Memberships
-.94	186.71	14	Trade Unions
-.93	187.72	18	No. Stoppages
-.56	314.88	18	Person-days Lost (000)
-.90	84.10	18	Persons Striking (000)
Political Conditions			
-.19	1.32	19	Party in Power (National seats in parliament)
.25	1.79	19	No. State Asset Sales
Demographic Conditions			
.98	3,427.50	18	Estimated Population (000)
.04	12.34	17	Divorce Rate
-.86	7.20	14	Marriage Rate
.78	-.99	17	Net Migration (000)
.81	52.91	16	In-migration (000)
-.40	53.46	16	Out-migration (000)
.08	3,367.20	17	Net Migration Pacific Islands
.60	2.05	15	Total Fertility Rate
.94	44.89	15	Ex-nuptial Births (%)
.96	67.11	13	Age at Death, Males
.99	73.32	13	Age at Death, Females
.99	26.19	18	Age at Marriage
.99	24.03	18	Female Age at Birth
Government Service Delivery			
.90	97.22	18	Unemployment Benefits (000)
.96	17.99	18	Sickness Benefits (000)
.98	27.63	18	Invalid Benefits (000)
.98	76.67	18	Domestic Purposes Benefits (000)
.64	464.80	18	National Super (000)
.90	211.95	15	Housing Supplement Allowance ($000)
.98	112.65	13	No. Pre-schoolers (000)
.99	77.34	18	University Students (000)
.91	49.57	18	Technikon Students (000)
.94	58.95	19	Hospital Waiting List (000)

Correlation with Year	Mean	Years of Info.	Variable
Social Consequences			
.81	132.35	15	Suicide Rate
.94	26.70	16	No. Violent Crimes
.98	430.06	17	No. Crimes
.90	10.47	19	Imprisonment Rate
.97	14.64	11	Abortion Rate
-.73	192.50	10	1st Mental Hospital Admissions, Māori
-.57	122.33	6	1st Mental Hospital Admissions, non-Māori
-.57	651.95	19	Road Deaths
-.47	18.06	17	Road Accident Rate
-.94	10.50	16	Alcohol Consumption
-.97	1,855.37	19	Tobacco Consumption
.63	257.1	20	Complaints to Race Relations Office
Cultural Outcomes			
.97	5.32	6	Subsidised Condoms (M)
.85	44.89	10	No. Hrs Local TV (00)
.93	45.20	5	New NZ Publication Titles

Source: "NZ Social Indicator Data-Base" (see Crothers 1999)

RESULTS

Since many of the trends reported here are well known, my commentary draws attention only to the more important points. Each section of data is reported in a linked paragraph.

Data availability: The number of years for which a time-series is available provides only a broad indication of when time-series began and when they were most recently available, as in some cases they have actually been discontinued. I found that most series were available throughout the period, although I would have preferred a higher proportion to continue back to 1980 at least. Many significant social indicators were available with about an 18-month delay, although there are unfortunate backlogs in the processing of some series.

Economic conditions: After leaping to a high rate in the early 1980s, inflation (as measured by change in Consumer Price Index) was gradually brought down to a moderate level by the end of the 1980s and remained at a low level throughout the 1990s. Economic growth has fluctuated considerably, with higher periods in the mid-1980s and again (for a longer

period) in the mid-1990s. Employment growth has followed this pattern, increasing by about 100,000 (to 1,405,000) over the two-decade period. Public indebtedness and tax per head have fairly steadily increased over the period.

Labour market conditions: Unemployment rose from a fairly negligible level in 1980 (2.8%) to its peak in 1989-1993 (9-10%) and has fallen back somewhat, by the end of the period, to some 6-7%. Income shares are presently available only for a fairly limited time period: by 1993 the top quintile had gained some 8% compared to the base (1982) whereas the middle quintile and the lowest quintile had both lost some 6% and 8% respectively over this period. Bankruptcies had increased: tripling from some 800-900 in the early 1980s to nearly 2,500 per annum for the latest available figures (1997). Receiverships seemed to follow the (curvilinear) economic growth pattern, as have liquidations, although the latter have increased to much higher levels than in the early 1980s.

Trade union and related activity has followed a remarkably linear pattern. Whereas numbers of unions fell from the mid-1980s under a reorganisation campaign, union membership rose with the reorganisations, only to fall precipitously once voluntary unionism came in. Alongside this, the extent of strike activity (by any of the three measures available) fell off dramatically; undoubtedly as the power of the trade unions to mobilise fell away and as rising levels of unemployment eroded much of the will to strike.

Political conditions: Labour governments began and ended the two decades being reviewed, with the trajectory of neo-liberalism (as perhaps measured by privatisations) beginning later on, accelerating and then dropping off.

Demographic conditions: Most demographic measures march steadily across the period in a linear fashion. Population steadily increases, as does the ageing of the population and the average age at death (although a tiny drop in average age at death of males is recorded from 1997 compared to 1996). Extra-marital nuptiality also increased, from just over one third to over one half of births by the 1990s (the rate of increase steadied by then). The fertility rate dipped in the mid-1980s, "recovered" during 1990 and 1991, and then fell again. External migration has been much more volatile.

Government services: The supply of government services has attracted an almost uniformly steady increase in numbers. In some categories the increase is very considerable: three times as many at pre-school, double the university students, a huge increase in those attending polytechnics full-time. Hospital waiting lists remain high.

Social consequences: The measures of social stress have also climbed over the two decades.

The suicide rate is up about one third, and the rate of violent crimes has tripled, while that of crime more generally has increased by about some 150%. The imprisonment rate is half again as high as it was in 1980. The abortion rate steadily increases. Mental hospital admission rates (first time) show no pattern, which is not surprising given the strong policy resistance to increasing domestic facilities. It is perhaps most particularly in the area of road deaths that fatal accidents show some improvement: the rate grew until the late 1980s and has fallen away quite considerably since then. Tobacco and alcohol consumption has steadily fallen. The strong recent increase in complaints to the Race Relations Office is a matter for some concern.

Cultural outcomes: The last group of indicators provides very limited information. It is, after all, the most difficult area of indicator work to try to measure what "cultural activities" people are indulging in and to what extent constraints in this area of their life may affect their well-being. Cultural indicators attempt to measure the well-being of people's minds and their lifestyle interests, including exercise of the intellect, body and soul. Such measures need not at all have connotations of "high culture". Nevertheless, it can be reported that subsidised condom "use" and local book production have steadily increased during the 1990s, and that the level of local TV production remains much higher throughout the 1990s than it was in the 1980s. Whether in fact New Zealanders are better off from these is another matter!

FURTHER MODELLING

As well as the central methodological aim of the present exercise, a further aim could be to use the data assembled to explore some of the (reputed) effects of Rogernomics and the successive neo-liberal approach to economic policies followed by New Zealand governments over the last 15 years or so. This would involve attempting to explore the social effects of some of the economic parameters. However, this task would require much more work.

Nevertheless, in the literature there is considerable discussion about how such time-series might be analysed in order to pinpoint causal effects, or perhaps even causal sequences. The work of Harvey Brenner has raised much interest (see Brenner 1987, Cook and Zarkin 1986). Brenner investigated the effects of economic growth or economic recession, unemployment and economic inequality, on mortality, morbidity more generally, and suicide. Multiple regression time-series methods were used, and the expected results have been verified for Sweden and the United States. However, the methods are difficult and have given rise to considerable controversy so that such modelling, while sorely needed, is better only carried out where the relevant methodological expertise is readily available.

Most of the variables deployed in this study are the subject of particular attention from policy analysts and scholars involved in the domain to which they particularly apply. Education attendance, for example, is examined by educational policy analysts and academic educational researchers. Another interesting example has been research demonstrating a feedback loop whereby, if judges realise that prisons are overflowing, they will put more emphasis on sentencing that does not build up the prison populations further. Where possible, insights gained from these more specific bodies of expertise about very particular social conditions are incorporated in this paper.

However, my purpose is somewhat different: I am trying to utilise the various indicators assembled here to measure the broad social condition of the people of New Zealand. I do not make any attempt to reproduce the considerable exercises being covered by those concerned with particular types of social condition; for example, the very considerable attention being devoted to the monitoring of medical conditions, and also crime, family issues, and education. Where indicators are drawn from these policy domains, my concern is rather what these tell us about the social condition of New Zealanders in general.

CONCLUSIONS

What does this rather ragged assembly of time-series tell us? It seems to me that there are three main lessons to be derived. One is that the demand for State-supplied services, as well as those provided by other organisations, not only remains but also has in most areas steadily increased, despite some effort by various governments to roll back on their involvement in welfare services.

A second lesson is that the New Zealand population has suffered a considerable degree of stress over this period. Levels of social distress have clearly risen in many areas of social life, although there are some signs of improvement in some areas. It is more than likely that the averages provided by these time-series hide some of the concentrations of stress in particular population groups, which might well be revealed by disaggregated data.

A third lesson seems to be that for many of these social indicators the trends they report are well and truly "built into" the ongoing social structure: they roll out, apparently inexorably, year by year, and the resulting time-series are simple and quite linear. Only a few social phenomena, at least as measured here, seem particularly reactive to different political ideologies or programmes, and even the variable operation of the economy only has a mild effect. This is in some part because many of the activities reflected here are shaped by the demographic structure, which is largely slow changing, although it too shows some signs of being affected in some aspects by economic and/or political forces.

"Official social bookkeeping data" is clearly insufficient for the task. Data from surveys and polls could be, and need to be, usefully added to the measurement system that is proposed. This includes both governmental, parastatal and private surveys, such as those sponsored by newspapers and other media related to political opinion. In particular, the Household Economic Survey is a useful source of social indicator measurement, and could be usefully supplemented and redesigned to facilitate this. Unfortunately, however, information from other survey operations is often too sporadic, of uneven quality and tied to a monthly or quarterly periodicity. This is a pity, as the social reporting systems of many countries are built around an annual survey.

The preliminary run through the more available data provided in this paper indicates that there is considerable worth in the enterprise of regular monitoring. However, much more work is needed. A wider range of information needs to be tapped and the reliability of the data needs to be verified. On the other hand, being deluged with almost completely uninterpretable information is not a goal! Adequate and robust analyses need to be undertaken and interesting models constructed. Disaggregation will yield more significant findings and extending the span of years covered will also provide further insights. Above all, international comparison is required in order to disentangle what is unique to the New Zealand experience and what is common, and also to point up through "quasi-experiment" what causal sequences seem more pertinent. Clearly, too, a team drawn from a variety of domains is required to bring together the necessary expertise.

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APPENDIX: SELECTED HISTORICAL ITEMS OF HIGH "SOCIAL" AND/OR "POLITICAL" RELEVANCE

1980   Saturday trading partially legalised. Eighty-day strike at Kinleith Mill.

1981   South African rugby team's tour brings widespread disruption.

1982   First kōhanga reo established. Year-long wage, price and rent freeze imposed – lasts until 1984.

1984   Labour Party wins snap general election. Finance Minister Roger Douglas begins deregulating the economy. New Zealand ratifies the United Nations Convention on the Elimination of All Forms of Discrimination Against Women. Te Hikoi ki Waitangi march and disruption of Waitangi Day celebrations. Auckland's population exceeds that of the South Island.

1985   Anti-nuclear policy leads to refusal of a visit by the American warship, the USS "Buchanan". First case of locally contracted AIDS is reported. Waitangi Tribunal given power to hear grievances arising since 1840.

1986   Homosexual Law Reform Bill passed. Goods and Services Tax introduced.

1987   Share prices plummet by 59% in four months. Labour wins general election. Māori Language Act making Māori an official language passed. First lotto draw.

1988   Number of unemployed exceeds 100,000. Bastion Point land returned to Māori ownership. Combined Council of Trade Unions formed. Royal Commission on Social Policy issues April Report. Gibbs Report on hospital services and Picot Report on education published. State Sector Act passed. New Zealand Post closes 432 post offices. Fisheries quota package announced for Māori iwi.

1989   Prime Minister David Lange suggests formal withdrawal from ANZUS. Jim Anderton founds New Labour Party. Lange resigns and Geoffrey Palmer becomes Prime Minister. First annual balance of payments surplus since 1973. Reserve Bank Act sets bank's role as one of maintaining price stability. First school board elections under Tomorrow's Schools reforms. First elections under revised local government structure. Sunday trading begins. Third TV channel begins.

1990   Māori leaders inaugurate National Congress of Tribes. Dame Catherine Tizard becomes first woman Governor-General. Geoffrey Palmer resigns as Prime Minister and is replaced by Mike Moore. National Party has landslide victory. Jim Bolger becomes Prime Minister. Telecom sold for $4.25 billion. Welfare payments cut.

1991   Welfare payments further reduced. The Alliance Party is formed. Employment Contracts Act passed. Consumers Price Index has lowest quarterly increase for 25 years. Number of unemployed exceeds 200,000 for the first time.

1992   Public health system reforms. State housing commercialised.

1993   Centennial of women's suffrage celebrated. New Zealand First Party launched by Winston Peters. National wins election without majority. Referendum favours MMP electoral system.

1994   New Zealand's first casino opens in Christchurch.

1995   New political parties form: the Conservative, Christian Heritage and United New Zealand.

1996   First legal sports betting at TAB. First MMP election brings National/New Zealand First coalition government.

1997   Compulsory superannuation is rejected by a margin of more than nine to one in New Zealand's first postal referendum. Jim Bolger resigns as Prime Minister after a National Party coup; he is replaced by New Zealand's first woman Prime Minister, Jenny Shipley.

1998   The Coalition Government is dissolved leaving the Jenny Shipley-led National party as a minority government. Several cases of tuberculosis discovered in South Auckland in the worst outbreak for a decade. The Hikoi of Hope marches to Parliament calling for more support for the poor.

Source: *New Zealand Official Yearbook On-Line*