# HOW MUCH GOVERNMENT?

*The Effects of High Government Spending on Economic Performance*

WINTON BATES

NEW ZEALAND BUSINESS ROUNDTABLE
JULY 2001

The New Zealand Business Roundtable is an organisation comprising primarily chief executives of major New Zealand businesses. The purpose of the organisation is to contribute to the development of sound public policies that reflect overall New Zealand interests.

First published by the New Zealand Business Roundtable,
PO Box 10–147, The Terrace, Wellington, New Zealand
http://www.nzbr.org.nz

ISBN 1–877148–73–3



Design and production by *Daphne Brasell Associates Ltd, Wellington*
Typeset by *Chris Judd, Auckland*
Printed by *Astra Print Ltd, Wellington*
Cover illustration by *Graham Parslow, Wellington*

# CONTENTS

# LIST OF FIGURES, TABLES AND ABBREVIATIONS

## Figures



## Tables



## Abbreviations

| | |
|---|---|
| OECD | Organisation for Economic Cooperation and Development |
| TFP | Total factor productivity |
| ICRG | International Country Risk Guide |
| BERI | Business Environmental Risk Intelligence |
| WEF | World Economic Forum |
| ACC | Accident Compensation Corporation |
| WTO | World Trade Organisation |
| IMF | International Monetary Fund |
| AFDC | Aid to Families with Dependent Children (United States) |
| R&D | Research and development |

## ABOUT THE AUTHOR

Winton Bates is an economic consultant based in Canberra. Before becoming a consultant in 1995, he worked for two years as an advisor in the New Zealand Treasury. Prior to that he held the position of First Assistant Commissioner in the Industry Commission in Australia.

During his career, Winton Bates has worked on a range of public policy issues relating to the role of government, resource allocation and economic growth. This has been a constant theme in his work over more than three decades. His previous work for the New Zealand Business Roundtable includes reports on economic strategy under proportional representation, the links between economic growth and social cohesion, and farmer control of the processing and marketing of agricultural products.

## ACKNOWLEDGEMENTS

Many people have assisted in a variety of ways in the preparation of this report. Valuable comments on a draft of the report were provided by Erwin Diewert, Greg Dwyer, James Gwartney, Peter Hartley, David Henderson, Wolfgang Kasper, Roger Kerr, Denis Lawrence, Grant Scobie, Christopher Smith and Bryce Wilkinson. The report benefited greatly from many of their observations and insights, but they bear no responsibility for the final product.

The author is grateful to Roger Kerr for his guidance of the project and to other staff of the New Zealand Business Roundtable for the help they have provided.

# SUMMARY

## Many industrialised countries are overcoming the legacy of big government

The growth of government spending in industrialised countries was one of the distinguishing characteristics of the twentieth century. Over the period from 1913 to 1990 government spending increased, on average, from about 13 to 45 percent of gross domestic product (GDP) in industrialised countries. A substantial part of this increase occurred as a result of increases in public transfers and subsidies in the period from 1960 to 1980.

Since the early 1980s many governments have made efforts to reduce government spending. By the end of the century it was clear that the average government spending ratio for Organisation for Economic Cooperation and Development (OECD) countries had begun to decline. Substantial reductions in government spending ratios occurred during the 1990s in a range of countries, including some – such as the United States and Australia – that already had smaller governments than New Zealand.

## New Zealand has gone against the recent trend

The increase in the public spending ratio in New Zealand during the twentieth century was broadly similar to the OECD average. New Zealand reduced its government spending ratio in the early 1990s, but did not maintain this trend. Since 1996, New Zealand's public spending ratio has risen while the OECD average has declined.

## The quality of institutions is a crucial factor in economic growth

In considering the effects of government on economic growth it is necessary to look beyond the direct effects of government policies, such as those relating to investment in capital equipment, infrastructure, education, or research and innovation. Basic institutions – such as property rights, freedom of contract and freedom of citizens to choose how they use their income – play a crucial role in the growth process. There is a growing body of evidence that economic growth rates are strongly influenced by levels of economic freedom. Reforms that promote greater economic freedom tend to provide an added impetus to economic growth during a transitional period, which may last for a decade or more.

## New Zealand's reforms have not gone far enough

Extensive economic reforms since the mid-1980s have left New Zealand with a relatively high economic freedom rating. Econometric studies drawing on experience from a large number of countries suggest that reforms, commensurate with those undertaken in New Zealand, may raise economic growth rates by more than 2 percent per annum over the

longer term. These studies help to put New Zealand's relatively poor recent growth performance in perspective. They imply that in the absence of the reforms New Zealand's recent performance would have been a lot worse than it has been.

If New Zealand is to achieve growth outcomes comparable with those of countries that are more favourably located relative to major centres of economic growth, it will need to have better institutions than those countries. It is not good enough to have a high average economic freedom rating. All the important disincentives to wealth creation – including those associated with high government spending – need to be removed.

## Big government adversely affects economic performance in many different ways

- When the range of services provided by the government extends into areas where it has no competitive advantage the cost of services tends to increase.
- High levels of government spending on goods and services (including public sector employment) often involve waste of resources.
- Excessive regulation imposes large compliance costs on businesses and individuals.
- Attempts to regulate the macro economy using counter-cyclical fiscal policies do not necessarily have intended effects and may lead to worse economic outcomes over the longer term.
- Redistribution of income has adverse effects on the incentives of the intended beneficiaries, including possible changes in norms of behaviour leading to greater welfare dependency.
- Increases in government spending tend to encourage wasteful lobbying activities by suggesting to interest groups that governments are likely to be responsive to their pressures. As a result, much government spending – in areas such as health, education and retirement incomes – provides private goods for the benefit of middle-income families and is funded by the same people. Such government funding of private goods displaces more efficient private arrangements.
- The deadweight costs involved in raising additional revenue rise more than proportionately as the amount of revenue increases. When account is taken of deadweight costs associated with both taxation and delivery of benefits it is likely that these costs are equivalent to more than half of each additional dollar of government spending in New Zealand.

## Reductions in government spending would improve New Zealand's growth performance

With deadweight costs equivalent to about half of each additional dollar of government spending, a reduction in government spending from 40 to 30 percent of GDP could be

expected to add about 0.5 percent to the rate of growth of GDP over about a decade. This is a conservative estimate because it does not include the dynamic benefits of reducing the size of government. An econometric analysis that allows for dynamic effects suggests that a reduction in government spending of this order would add about 0.6 percent to the annual growth rate for 15 to 25 years. In addition to these transitional effects, there are good reasons to expect that smaller government would result in an ongoing improvement in New Zealand's economic growth performance.

## Big government will make it harder to attract internationally mobile resources

There are grounds for optimism about a continuation of the trend toward smaller government in OECD countries. This will be good for the world economy, but it is likely to become increasingly difficult for individual countries to attract internationally mobile resources if they go against the trend. This means that if New Zealand maintains high government spending and high tax rates in the years ahead it is likely to become increasingly difficult to achieve economic growth rates comparable with the OECD average.

## Spending cuts could go a long way before encroaching on core government functions

It is not possible to nominate a particular ratio of government spending to GDP that would be appropriate under all circumstances. The core government functions are to protect fundamental freedoms, including freedom of contract and security of property rights, to preserve the rule of law and to ensure provision of public goods, such as national defence. If we add the provision of a safety net to assist those in need, this would only add up to about 14–15 percent of GDP under current circumstances in New Zealand.

## Priority should be given to reducing the worst distortions

In reducing government spending, the highest priority should be given to removal of wasteful and poorly targeted programmes. In reducing taxes, priority should be given to reducing high marginal tax rates and taxes that impact on internationally mobile resources.

## People should be able to spend more of their own money

Priority should be given to reform of costly arrangements that tax people in order to spend money on private goods for the same people. Many people would have little difficulty in providing for family medical expenses, educational expenses, retirement incomes and contingencies, such as unemployment, if they were not required to pay through the tax system for their consumption of these services.

# 1

# INTRODUCTION

## 1.1 Why care about the size of government?

The report focuses on the effects of the size of government on economic performance. Why should we be concerned about economic performance? The most obvious answer is that economic performance is the basis for the material well-being of everyone. We generally prefer to have more goods rather than fewer.

That is not to say that economic performance is all-important. There are some things that many people value more highly than increased access to goods. If they had to choose between personal liberty and more goods, it is likely that most people would give higher priority to maintaining liberty. Faced with the need to make a choice, many people would also choose to help maintain the material well-being of people who are in greatest need, or to reduce environmental degradation, even if this would reduce the aggregate volume of goods available to the community.

Fortunately, the history of the world since the industrial revolution does not support the view that economic growth can only be achieved at the expense of other things that people value highly. The countries that currently enjoy high incomes – those most successful in sustaining economic growth over a long period – have generally been most successful in maintaining personal liberty, improving the material well-being of those in need and avoiding environmental degradation.

Economic performance is certainly not the only reason why we should care about the size of government. The wide range of factors involved is apparent in George Leef's list of five reasons why big government is bad:

1 Liberty: "Government actions that go beyond its defensive, rights-preserving functions necessarily entail some form of coercion that diminishes freedom of at least some people to do what they would like to do".

2 Prosperity: "big government invariably wastes resources".

3 Progress: "Frequently special-interest groups that feel threatened by some innovation will lobby to do what they cannot do legally on their own, namely, interfere with the freedom of the innovators. As a political favour to those groups, big government often locks in the status quo with laws and regulations. Progress is thereby stifled".

4 Harmony: "Big government … holds and inevitably uses the power to make some people better off at the expense of others. This creates hostility, bitterness, and sometimes violence where there would otherwise be none".

5 Morality: "When big government stands ready to enact laws and regulations that take from some and give to others, and when politicians campaign by promising to do exactly that, it leads people to believe that coercion is morally proper".[1]

Whether or not we agree with all these points, it would be difficult to argue that liberty, social harmony and morality are irrelevant to weighing up the advantages and disadvantages of smaller government. Many people would also want attention to be given to income inequality.[2] Effects of the size of government on income inequality and some other social outcomes are discussed in Chapter 3 of this report.

## 1.2 How is the size of government measured?

The main measure of the size of government used in this report is the public expenditure ratio (total government outlays as a percentage of gross domestic product (GDP)). A focus on total government spending has the advantage of encompassing the aggregate impact of spending (and taxation) as well as some of the different ways in which government may impact on economic performance.

Arguably, however, it is the extent to which the government affects the lives of citizens that ultimately differentiates big from small government. If Leviathan has long tentacles its size may not be measured adequately by weight or volume. In measuring the size of government by public spending ratios we have to be aware of the possibility that governments of similar size may have different effects on economic performance. This could occur, for example, because it is possible for similar public spending ratios to be associated with vastly different regulatory regimes.

In addition to the public expenditure ratio, other aspects of government size considered in this report are: the range of goods and services produced by government; the level of government spending on goods and services; the extent of government regulation at micro and macro levels; and the extent of income redistribution through transfer payments.

## 1.3 What has been happening to the size of government?

Big government has not always been with us. This point comes out clearly in a major study of public expenditure in the twentieth century by Vito Tanzi and Ludger Schuknecht.[3] Before World War I, government spending accounted, on average, for about

---

1 Leef, 1997, pp 744–748.

2 For a discussion of equity as a social goal, and for reasons why poverty rather than inequality should be the priority social goal, see Buchanan and Hartley, 2000, pp 227–231. For reasons why extensive government involvement in income redistribution may have adverse effects on social cohesion, see Bates, 1996b, pp 29–31.

3 Tanzi and Schuknecht, 2000. As the authors acknowledge, there are substantial problems in comparability of public expenditure data for different countries. It seems unlikely, however, that these problems affect the basic trends reported.

13 percent of GDP in industrialised countries.[4] By 1920, it had risen to about 20 percent, and by 1937 to 24 percent. Despite World War II, and the reinforcement of social safety nets in many countries in the years following this war, it had only risen an additional 4 percentage points by 1960. A much larger increase in government spending occurred in nearly all industrialised countries over the next 20 years.[5]

The growth in government spending for 14 industrialised countries from 1960 to 1990 is shown in Figure 1. The average of general government expenditure as a percentage of GDP for industrialised countries increased from 28 to 45 percent over this period.[6] As in some other countries, for example Ireland, the size of government in New Zealand was similar to the Organisation for Economic Cooperation and Development (OECD) average at the beginning and end of the 1960 to 1990 period. However, the experience of OECD countries varied markedly. For example, while the size of government in Norway was similar to that in the United States in 1960 (and similar to the OECD average), by 1990 government spending as a percentage of GDP was more than 20 percentage points higher in Norway than in the United States.

If increases in size of government occurred according to immutable universal laws the experience of OECD countries could be expected to have been more uniform. Outside the OECD, some countries with fairly high incomes still have relatively small governments. In recent years, Hong Kong and Singapore, both with per capita income levels higher than New Zealand, have had levels of government spending of about 14 and 17 percent of GDP, respectively.

The growth of government spending in OECD countries after 1960 was driven largely by increases in public subsidies and transfers. Considering the OECD as a whole, much of this increase occurred during the 1960s and 1970s. Government spending on subsidies and transfers in OECD countries rose from an average of about 10 percent of GDP in 1960 to 15 percent in 1970 and to 21 percent in 1980.[7]

Vito Tanzi and Ludger Schuknecht explain the increase in public subsidies and transfers as follows:

---

4 It has been estimated that government spending in New Zealand was about 10 percent of GDP in 1910 (Bassett, 1998, p 15). Other evidence suggests, however, that state intervention was greater in New Zealand at that time than in some other countries where government spending appears to have been higher (Bassett, 1998, p 123).

5 The figures are taken from Tanzi and Schuknecht, 2000, pp 6–7.

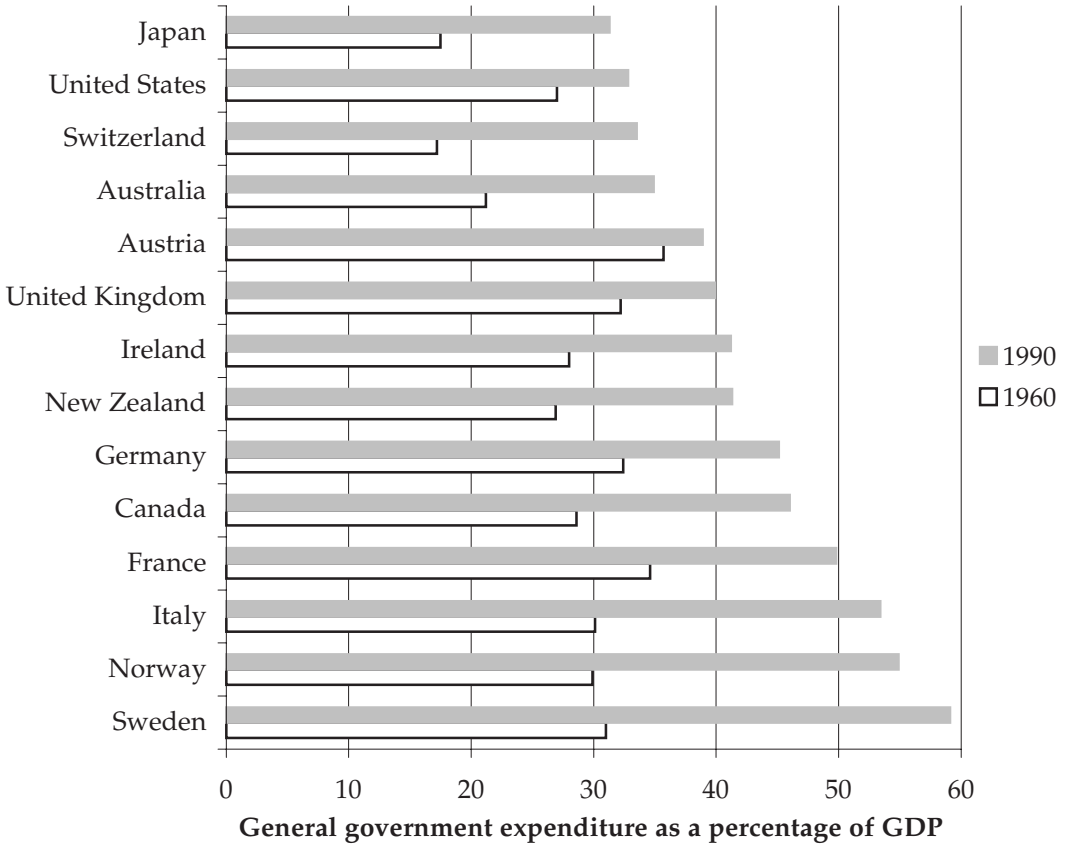
6 As defined by the OECD, general government spending includes capital outlays as well as current outlays, state and local government spending as well as central government spending and social security payments as well as spending on goods and services.

7 Tanzi and Schuknecht, 2000, Table II.4, p 31. There was considerable variation between countries in the timing of increases in transfers and subsidies. In some of the larger OECD countries this spending rose more rapidly in the 1960s than in the 1970s.

> To a small extent this was due to the emergence and extension of producer subsidies. Much more importantly, however, it reflects the increase in social spending for the expanding social or welfare activities of governments in industrialised countries. Political decisions to extend assistance programs to more and more people and to raise benefit levels were key to this spending growth, whereas technical factors such as population aging were of limited importance in this period. It is also worthwhile noting that most of the spending increase took place over the 1960–80 period, the period of great faith in the beneficial effects of government intervention in the economy and in policies aimed at guaranteeing and redistributing income.[8]

The results of this faith in the beneficial effects of government intervention were particularly evident in the growth of government spending in the aftermath of the oil price shock of the early 1970s. David Henderson has noted that over half of the total increase in public expenditure ratio for the G7 countries over the 23 years from 1973 to 1996 occurred during the two year period, 1973–75.[9]

Figure 1.1: Growth of public spending ratio – 1960 to 1990




*Source:* Based on data from Tanzi and Schuknecht, 2000, Table I.1, p 6.

[8] Tanzi and Schuknecht, 2000, p 30.

[9] Henderson, 1999, p 31. The G7 countries are: United States, Japan, Germany, France, Italy, United Kingdom and Canada. The public expenditure ratio increased by 4.7 percentage points (from 31.1 to 35.8 percent) over the 1973–75 period and by a further 3.5 points (from 35.8 to 39.3 percent) over the 1975–96 period. Much of the latter increase occurred in the first half of the period; there was an increase of 2.8 points (from 35.8 to 38.6 percent) over the 1975–83 period.

In New Zealand, the increase in social spending was much greater in the 1970s than in the 1960s. Although New Zealand's benefit entitlements were much more generous than in most other OECD countries during the 1960s, growth in numbers of beneficiaries was constrained. In the first half of the 1970s, the deterioration in international economic conditions resulted in increased spending under existing programmes. In addition, in that period several major policy initiatives, including the introduction of a comprehensive, no-fault accident compensation scheme and the domestic purposes benefit for support of sole parents and their children resulted over time in substantial increases in social spending. In the latter half of the 1970s some efforts were made to reduce government spending, particularly in 1976–77, but further spending initiatives were also introduced. A large expansion of government-funded retirement benefits occurred as a result of the introduction of National Superannuation in 1977. Michael Bassett, in his history of the growth of the state in New Zealand, has described National Superannuation as "undoubtedly the most generous benefit ever to have been introduced in New Zealand's history".[10] The absence of means testing also tends to make this benefit much more costly than the aged persons' pension provided in Australia.[11]

Interest payments have also played an important role in the expansion of total government spending in OECD countries since the 1960s. On average, over the period from 1970 to 1995, central government expenditure on interest in OECD countries increased from 1.4 to 4.5 percent of GDP.[12] The increase in interest payments was much greater in some countries than others. New Zealand began the period with interest payments above the OECD average and ended it with interest payments close to the average.[13]

In more recent years, with the emergence of fiscal surpluses and lower nominal interest rates, government interest payments have tended to decline relative to GDP in many OECD countries.

### *1.3.1 Recent trends in government spending*

Following efforts in many countries to control growth in government spending, dating from the early 1980s in some countries, the general tendency toward growth in public spending ratios in OECD countries has been halted. The average public spending ratio for OECD countries has now fallen below its level prior to the recession of the early 1990s and the OECD projects that it will fall further over the next few years.[14]

---

10 Bassett, 1998, p 346.

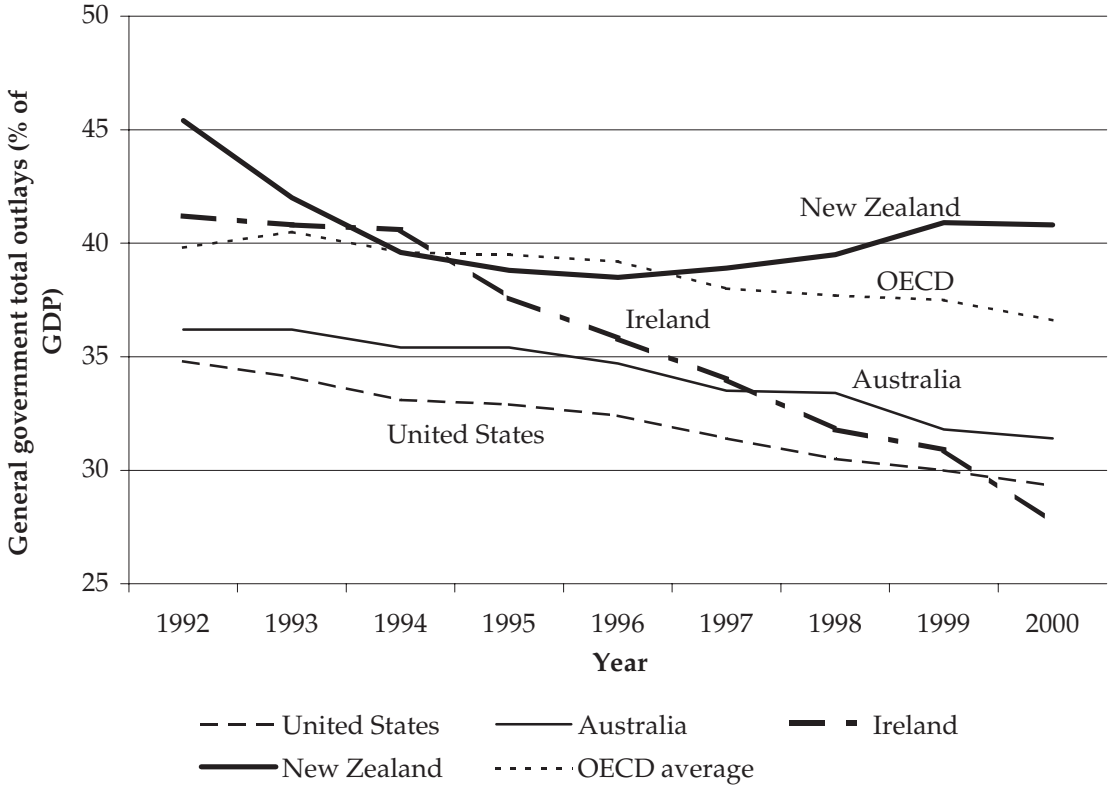
11 Over the period from 1960 to 1980, public expenditure on pensions increased from 4.3 to 7.7 percent of GDP in New Zealand and from 3.3 to 4.5 percent of GDP in Australia.

12 Tanzi and Schuknecht, 2000, p 46.

13 General government net debt interest payments tell a slightly different story. The relevant figure for New Zealand in 1995 was 1.5 percent of GDP, compared with the OECD average of 3.5 percent. However, this represented a marked improvement over the situation in 1990 when the figure for New Zealand was 4.2 percent (compared with an OECD average of 3.9 percent) (OECD, 1999, Annex Table 33, p 225).

14 OECD, 2000a, p 236.

Figure 1.2: Recent trends in public spending ratios in selected OECD countries




*Source*: OECD, 2000a, Annex Table 28, p 236.

Substantial declines in government spending ratios occurred in some countries during the 1990s (Figure 2). For example, government spending in Ireland fell spectacularly from 41 percent of GDP in 1992 to 28 percent in 2000, maintaining a declining trend established in the 1980s. Substantial declines in government spending ratios occurred in some countries with relatively big governments such as Norway (a decline from 52 percent in 1992 to 41 percent in 2000) and Sweden (from 64 to 54 percent over the corresponding period). There were also declines in some countries with somewhat smaller governments such as Australia (from 36 to 31 percent) and the United States (from 35 to 29 percent).

After falling in the early 1990s, the ratio of government spending to GDP in New Zealand has moved against the trend evident in most other OECD countries during the last few years. General government total outlays increased from 38.5 percent of GDP in 1996 to 40.9 percent in 1999.[15]

The New Zealand government's long-term fiscal objective in the latter part of the 1990s was to limit the burden of state spending on current and future taxpayers by reducing central government operating expenses to below 30 percent of GDP (a reduction of about 4 percentage points). However, new spending initiatives helped to take spending further away from this target. The current Labour/Alliance government adopted the

[15] OECD, *op cit*, p 236.

objective of maintaining operating expenses at around 35 percent of GDP.[16] The Treasury forecasts a slight decline in operating expenses as percentage of GDP in the years ahead, from 33.9 percent in 1999/2000 to 32.6 percent in 2004/2005.[17]

## 1.4 What questions do we need to consider?

Opposing claims are frequently made about the effects of the size of government on economic performance. Some people argue that high government spending in particular areas, such as infrastructure and education, can be highly beneficial. Others argue that government spending in such areas tends to be inferior to private spending. Some people argue that government expenditure on transfers has lower economic costs than government consumption. Others suggest that the opposite is more likely to be true when account is taken of the deadweight costs of taxation. Many past reviews of the relevant literature tend to conclude that there is not a great deal of agreement among economists about the economic effects of the size of government.

Before attempting to assess the conflicting claims that are made in the public debate, it is desirable to identify the basic questions that need to be addressed in considering the effects of the size of government on economic performance.

The first question to consider is: *How does government affect economic performance?* There is a simple answer to this question so far as it relates to some aspects of economic performance. There is a vast literature discussing how various kinds of government spending, taxation and regulation affect economic efficiency, the economic welfare of various groups, such as consumers and taxpayers, and average income levels in particular countries. Some of this literature is discussed in Chapter 3 of this report.

However, economic performance also encompasses economic growth. Over much of the past half century the bulk of the economic literature relating to determinants of economic growth treated the ongoing debate over the size and role of government as though it was irrelevant. This situation has changed during recent years, with a great deal of progress being made in identifying the institutions and policies most likely to contribute to economic growth. Chapter 2 discusses how government affects economic growth rates.

The next question is: *How does the size of government affect economic performance?* Chapter 3 is devoted to considering the various ways in which the size of government may affect income levels and growth rates. Questions arising include:

- How do the effects of government involvement in providing services vary with the range of services provided?
- What effect does the level of government consumption expenditure have on economic growth?

---

16 Cullen, 2000a.

17 Treasury, 2001.

- Is it possible to generalise about economic effects flowing from the extent of government regulation of economies?
- Are the short-term effects of increases in government spending more likely to be expansionary or contractionary?
- Does government involvement in income redistribution have ongoing implications for economic growth as well as static efficiency costs?
- How large are the efficiency losses involved in raising the revenue to fund each additional dollar of government spending?
- How should we interpret available evidence about the effects of government spending on economic growth rates?

After reaching conclusions about the effects of the size of government on economic performance, we are left with some important questions to consider in the final chapter. Is there a right size for government? Is the recent trend toward decline in the size of government in industrialised countries likely to continue? What approaches toward reducing the size of government should be considered in New Zealand?

# 2

# THE IMPACT OF GOVERNMENT ON ECONOMIC GROWTH

It is common to hear people argue that, in order to encourage economic growth governments should promote higher levels of investment in infrastructure, capital equipment, education or research. This reflects a view of economic growth in which investment is the crucial ingredient and it does not matter much whether this investment is undertaken by the private sector or the public sector. Under this view, institutions – the rules that structure human interaction – do not necessarily play an important role.[18]

Is this a satisfactory view of the growth process? What role do basic institutions – such as property rights, freedom of contract and freedom of citizens to choose how they use their income – play in determining economic growth? In order to answer this question it is useful to begin by considering the contribution of factor accumulation and technology to economic growth.

## 2.1 Is growth determined by factor accumulation?

The focus of much of the discussion of the determinants of economic growth is on the contribution of capital, labour and productivity improvements.[19] It is usually assumed that the quantity of output is determined by the technology used and the quantities of labour and capital that are employed.[20] The reason for this is fairly obvious. Within an individual firm, growth in output often requires growth in quantity (or quality) of inputs that are used, or improvements in technology.

However, the qualification in the preceding sentence is important. It has not been uncommon in recent years to hear about firms that have been able to produce "more with less", while still using basically the same technology. The way inputs are combined to produce output is clearly not just a function of the technology that is used. It also depends on the quality of management and entrepreneurship.

This might suggest that we should consider the quality of management and entrepreneurship in a firm as additional factors of production. However, even if we had the information required to do this, the quantity of output would still not be fully

---

[18] As used here the term 'institution' refers to formal rules (constitutions, laws and regulations), informal rules (norms of behaviour, conventions and self-imposed codes of conduct) and their enforcement characteristics.

[19] Natural resources have generally been taken as a given. It is arguable that the impacts of resource discoveries are appropriately reflected in the extent to which growth is attributed to improved technology.

[20] This assumption is often implicit even when a production function has not been specified.

determined by the quantity of inputs used. Consider two hypothetical firms that employ identical factors of production. Imagine that each person in each firm, from shop floor to board level, has an identical twin in the other firm. Now, suppose that these firms are in different countries and there is no migration between these countries. The first firm is in a country that has low tax rates and does not provide any industry subsidies. The second firm is subject to a set of taxes and subsidies that ensure that the return on capital remains equal to the long-term bond rate (subject only to the condition that it must employ similar factors of production to those employed in the first firm). Would anyone expect the productivity of these firms to be unaffected by the differing incentives they face?

This example illustrates that when economists assume a relationship between inputs and outputs they are making assumptions, explicit or implicit, about the institutional environment. Institutional environments differ in the extent to which they provide incentives for firms to pursue profits and make efficient use of resources.

What implications does this have for the empirical regularities that have been discovered as a result of the huge amount of economic research that assumes that the same basic relationship between inputs and outputs applies in countries that differ vastly from each other? There is considerable uncertainty about the interpretation that should be placed on these findings. As discussed below, in interpreting the results of this research it is particularly important to take account of the fact that institutional environments are not the same in all countries.

### *2.1.1 Findings of cross-country studies*

One important finding of studies that seek to explain differences in the economic growth experience of large numbers of countries is that something other than differences in factor accumulation, often referred to as 'total factor productivity' (TFP), is responsible for the bulk of the differences in per capita incomes and growth rates among countries.[21]

It has been known since the 1950s that a high proportion of economic growth in the United States and other high-income countries cannot be accounted for by growth in capital or labour inputs. That discovery emerged as a result of ground-breaking work by Robert Solow and others.[22] Edward Denison later found that differences in the rate of physical capital accumulation per person accounted for only a small proportion of differences in growth rate among nine industrialised countries.[23] Later work, including that by Robert King and Ross Levine, covering over 100 countries with a wide range of per capita income levels, confirmed that Denison's conclusions apply more generally.[24]

---

[21] Growth of TFP can be defined as the growth of outputs that cannot be readily explained by the growth in inputs. Total factor productivity growth is sometimes interpreted as a measure of technological progress, but this interpretation is questioned below.

[22] Solow, 1957. Solow acknowledged prior contributions by Solomon Fabricant and Moses Abramovitz. The importance of TFP has not been universally accepted among economists. For example, Maurice Scott (1991) has argued that if capital stock is correctly measured there is no reason to expect any unexplained residual.

[23] Denison, 1967.

[24] King R and R Levine, 1994.

As William Easterly and Ross Levine have recently shown, the finding that TFP is largely responsible for differences in per capita incomes and growth rates has been strongly supported by a range of studies, including many that make explicit allowance for growth in human capital.[25] This finding seems quite robust despite considerable cross-country variation in the proportion of growth attributable to TFP and considerable variation in the rates of TFP growth estimated.[26]

Prior to recognition of the importance of TFP, economic growth was widely believed to be attributable to capital accumulation. A fairly mechanical relationship was thought to exist between investment and growth prospects. For example, Walt Rostow's theory of stages of growth implied that, as the proportion of net investment to national income rises to over 10 percent, economies are likely to experience take-off to self-sustained growth.[27] Rostow viewed this as a necessary condition for sustained growth rather than a sufficient condition, but the net impact of his theory was to reinforce the view of so-called 'capital fundamentalists' that the focus of policy should be to raise investment rates by raising savings rates.

### *2.1.2 Interpreting growth in productivity*

The finding that TFP is largely responsible for differences in per capita incomes and growth rates does not take us very far. It merely implies that something other than capital accumulation may be important, without identifying what it is. Solow referred to this residual as "technical change" and used this as a shorthand expression to cover education of the labour force and any kind of shift in the production function.[28]

Since TFP growth is often thought of in terms of shifts in a production function, it is not surprising that it has often been assumed to result largely from technical innovations, and externalities associated with the production and use of new technology. This way of thinking led to attempts during the 1980s to supply the missing explanation of long-run growth by developing endogenous growth theories in which technical change was

---

25 Easterly W and R Levine, 2000. The studies on which Easterly and Levine base their conclusions assume typically that capital's share of output (the elasticity of output with respect to capital) is of the order of 0.4. Much higher estimates of TFP growth have been obtained in studies that assume that the elasticity of output with respect to capital is much lower than this. For example, in one World Bank study covering the period from 1960 to 1990, the estimated elasticity of output with respect to capital was 0.40 when the regression analysis was restricted to high-income countries, but only 0.18 when low-income countries were also included in the analysis (World Bank, 1993, pp 63–65.) Use of the lower parameter estimates implied that a higher proportion of growth was attributable to TFP. The differences were substantial in countries that have had rapidly growing capital stocks. In the case of Japan, for example, the proportion of growth attributed to TFP was about 70 percent under one method of estimation and only about half that under another method.

26 For example, detailed work by Alwyn Young for Hong Kong, Taiwan, South Korea and Singapore suggested that the role of TFP in the rapid growth of these economies from the 1960s to the 1990s had previously been over-stated (Young, 1995). Young's study showed, nevertheless, that with the exception of Singapore, TFP growth in these countries was comparable with that in many OECD countries and much higher than the average for countries with similar per capita income levels in 1960.

27 Rostow, 1960, pp 36–40.

28 As noted above, TFP growth has been found to be largely responsible for differences in growth rates even in more recent measurements in which the contribution of improvements in human capital has been accounted for directly rather than left in the residual.

assumed to be dependent on other factors of production and hence endogenous.[29] In one contribution, Paul Romer showed that if firms that acquire new capital (defined to include human capital) also learn how to use it more efficiently, or become more innovative as a result, it might be possible to explain economic growth by factor accumulation after all.[30]

The endogenous growth models developed in the 1980s were strongly influenced by a view of TFP growth as related to the advance of scientific knowledge. However, it is often more accurate to view TFP growth as representing better use of available knowledge and resources.

Erwin Diewert and Denis Lawrence have suggested that the diffusion of existing knowledge may be more important for New Zealand than the initial creation of new knowledge:

> … what is perhaps most relevant for New Zealand is *not* the *initial creation* of the new knowledge but its *diffusion* to the local establishment level. The fact that a new product or production process has been developed somewhere in the world is of little significance to a local establishment that could use the innovation if the original knowledge is not transmitted or diffused to the establishment. Some of the factors that facilitate the rapid diffusion of new (and old) knowledge into a local market area are:
>
> - access to public libraries and university libraries;
> - access to newspapers, periodicals, journals, magazines, how to do it books, etc;
> - memberships in trade associations, industry associations, professional societies, etc;
> - access to international meetings and trade fairs where knowledge can be transmitted on a face to face basis (adequate local transportation infrastructure will facilitate this access);
> - access to good schooling and specialised training programmes;
> - access to specialised consulting services such as benchmarking and product information; and
> - access to telecommunications and, increasingly, internet services (that is, having good local telecommunications and internet infrastructure).
>
> The point that we are trying to make here is that New Zealand does not necessarily have to devote a high percentage of its resources to primary research and development (ie to the creation of new products and processes): it need only have easy access to the sources of new knowledge.[31]

---

[29] Important contributions to endogenous growth theory were made before the 1980s. For example, Kenneth Arrow (1962) emphasised the importance of learning from experience. In a much earlier contribution, Adam Smith suggested that specialisation of labour was likely to lead to discovery of better ways of doing things as well as improvements in skill (1776/1976, p 20). For further discussion see Diewert, 2001.

[30] Romer, 1986.

[31] Personal communication relating to a draft of this report. Diewert (2001, pp 18–19) notes that the importance of many of these methods of knowledge diffusion was recognised by Alfred Marshall.

The use that is made of existing knowledge can differ among countries for a variety of reasons, including levels of education. More fundamentally, the use of existing knowledge depends on incentives provided by institutions. The comments that Friedrich Hayek made in 1945 about the importance of knowledge of the particular circumstances of time and place are highly relevant in this context:

> Today it is almost heresy to suggest that scientific knowledge is not the sum of all knowledge. But a little reflection will show that there is beyond question a body of very important but unorganised knowledge which cannot possibly be called scientific in the sense of knowledge of general rules: the knowledge of particular circumstances of time and place. It is with respect to this that practically every individual has some advantage over all others in that he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation. We need to remember only how much we have to learn in any occupation after we have completed our theoretical training, how big a part of our working life we spend learning particular jobs and how valuable an asset in all walks of life is knowledge of people, of local conditions, and special circumstances. To know of and put to use a machine that is not fully employed, or somebody's skill which could be better utilized, or to be aware of a surplus stock which could be drawn upon during an interruption of supplies, is socially quite as useful as the knowledge of better alternative techniques.[32]

Hayek went on to make the point that the price system is a mechanism for making effective use of this dispersed knowledge and for coordinating the separate actions of different people. This means, among other things, that government interventions often dampen economic growth prospects by preventing effective use of knowledge that would otherwise be transmitted through the price system. For example, the activities of producer boards in agricultural marketing in New Zealand have reduced the incentive for potential innovators to make effective use of their particular knowledge of production and marketing opportunities.[33]

The suggestion by Arnold Harberger, in his Presidential Address to the American Economic Association, that TFP growth should be viewed as "real cost reduction" is consistent with the view that TFP encompasses the effects of improvements in use of available knowledge as well as advances in knowledge.[34] Harberger suggests that "there are 1001 ways to reduce real costs and most of them are actually followed in one part or other of any modern complex economy over any plausible period (say a decade)".[35] He is critical of the endogenous growth models developed in the 1980s because they did not represent very well the multifaceted nature of real cost reduction as we observe it in actuality.

What then should we conclude about the contribution of factors of production to economic growth? Investments in capital equipment, infrastructure and education are

---

32 Hayek, 1945, pp 521–522.

33 For further discussion, see Kerr, 1998, p 129.

34 Harberger, 1998.

35 Harberger, 1998, p 3.

clearly important in the growth process. But suggestions that investment in any or all of these areas is the crucial ingredient should be viewed sceptically. It is not valid to argue that because high economic growth rates are usually accompanied by accumulation of various types of capital, increased investment in those areas must result in higher growth.[36] The error involved here is to assume that productivity can be taken as given – determined by technology – rather than determined by incentives to make efficient use of resources.

The failure of many past policy experiments in which governments have attempted to increase growth rates by intervening to increase investment provides strong grounds to reject the idea that this is the crucial ingredient. Such intervention can often be likened to trying to push an object with a piece of string.

Capital accumulation should be viewed as just one of a number of characteristics of economic growth rather than the fundamental cause. Harberger observes that fast-growing economies tend to experience high rates of return on capital as well as high investment levels and high rates of TFP improvement. He suggests:

> What we are seeing here … is a genuine syndrome in which all sorts of good things go together. Strong real cost reductions and high rates of return create attractive investment opportunities which, when acted upon, bring about a high capital contribution to growth. It should be no surprise that under such circumstances the GDP growth rate itself tends to be high.[37]

An important implication of this vision of the economic growth process is the potential for institutions to influence the profitability of investment and incentives for real cost reduction.

## 2.2 What is the contribution of institutions?

One important requirement of any plausible model of the growth process is that it should be able to explain the differing growth performance of high-income and low-income countries. Neoclassical growth theory suggests that low-income countries should grow more rapidly than high-income countries, until they too become wealthy.[38] The fact that capital is scarce relative to labour in low-income countries suggests that the rate of return on investment would be higher in low-income countries. This would induce investment funds to flow from high-income countries to low-income countries, thus tending to raise growth rates in the latter countries.

---

[36] Such capital fundamentalism flies in the face of econometric evidence that the observed correlation between GDP growth and investment arises largely because GDP growth leads to higher investment, rather than vice versa. Relevant articles are cited in Easterly and Levine, 2000. Recent research also casts doubt on the view that economic growth rates can be lifted through increased public investment in education. Research by Mark Bils and Peter Klenow (2000) suggests that the impact of schooling on growth explains less than one-third of the observed cross-country relationship between schooling and economic growth.

[37] Harberger, 1998, pp 25–26.

[38] Robert Solow (1956) and Trevor Swan (1956) made fundamental contributions to development of neoclassical growth theory.

Unfortunately, the world does not work as the theory suggests. For reasons discussed below, returns on investment in poor countries are often lower than in more wealthy countries. On average, high-income countries have tended to grow faster than low-income countries. While some poor countries have grown very rapidly over long periods, many others have experienced low or even negative growth. Neoclassical theory suggests that New Zealand, with its modest per capita income levels, might have been expected to experience growth rates higher than a wealthy country like the United States during the latter half of the twentieth century. In fact, rather than catching up, per capita income levels in New Zealand tended to fall further behind those of the United States during most of this period.

Some growth theories developed in the 1980s – referred to as endogenous growth theories – appeared to be able to explain why poor countries have generally not grown more rapidly than rich countries in terms of initial investment levels. These theories implied that higher levels of investment may actually result in higher returns, rather than resulting in diminishing returns as predicted by neoclassical growth theory.[39]

These endogenous growth theories also imply that, once substantial investment levels had been achieved, growth will tend to be self-sustained. In other words, we should expect to see a high degree of growth persistence – economies that have high growth in one decade could also generally be expected to have high growth in the next decade and so forth. Research by Easterly and others indicates, however, that growth persistence is less common than might be expected. These authors found that less than 10 percent of inter-country variations in growth rates for periods as long as a decade is explained by the growth experiences in the preceding decade.[40]

In addition, as Mancur Olson pointed out, neither neoclassical nor endogenous growth theories "predict the relationship that is actually observed: *the fastest growing countries are never the countries with the highest per capita incomes but always a sub-set of the lower-income countries*".[41] Olson suggested that there are only two explanations of the great difference in per capita income across countries that can be taken seriously:

- that poor countries are poor because they are short of resources; or
- that poor countries are poor because their national policies and institutions allow them to achieve only a tiny fraction of their potential income.

His analysis of available resources, including natural resources, capital and labour (including skills and education) led him to come down strongly in favour of the second explanation. Olson argued, following Robert Barro, that poor countries adopting good

---

39 These theories assume that productivity growth is a function of investment levels. For further information see discussion in the section in this chapter on interpreting growth in productivity.

40 See Easterly and Levine, 2000; and Easterly, Kremer, Pritchett and Summers, 1993.

41 Olson, 1996, p 20. Olson's basic point is about the importance of institutions. His criticism of neoclassical and endogenous growth theories does not necessary apply to models that have been modified to take account of the role of institutions.

economic institutions and policies are able to enjoy rapid catch-up growth by making use of technologies developed in high-income countries.[42]

Olson dismissed the argument that low-income countries remain poor because they are handicapped by the cost of purchasing technology developed in high-income countries. He cited evidence that suggests that royalties and other payments for disembodied technology by South Korea have been minuscule despite high economic growth in that country.[43] Paul Romer – who was responsible in the 1980s for some endogenous growth models in which available technology is limited by capital accumulation – has also, more recently, emphasised the importance of institutions in enabling the effective use of knowledge:

> Increasingly, emphasis is shifting to the notion that it is ideas, not objects, that poor countries lack. The knowledge needed to provide citizens of the poorest countries with vastly improved standards of living already exists in the advanced countries. If a poor nation invests in education and does not destroy the incentives for its citizens to acquire ideas from the rest of the world, it can rapidly take advantage of the publicly available part of the worldwide stock of knowledge. If, in addition, it offers incentives for privately held ideas to be put to use within its borders (for example by protecting foreign patents, copyrights, and licenses and permitting direct investment by foreign firms), its citizens can soon work in state-of-the-art productive activities.[44]

### *2.2.1 Views on institutions*

The importance of institutions to economic growth has been recognised by some economists at least since the time of Adam Smith. Smith argued that the progress of a society toward "real wealth and greatness" is promoted by a "system of natural liberty", which he described as follows:

> Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interests in his own way, and to bring forth his industry and capital into competition with those of every other man, or order of men. The sovereign is completely discharged of a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient; the duty of superintending the industry of private people, and of directing it towards the employments most suitable to the interest of the society. According to the system of natural liberty, the sovereign has only three duties to attend to …[45]

Smith went on to present his view that the role of government should be confined to defence, administration of justice and provision of certain goods that cannot profitably be provided by the private sector.

It has been argued, for example, by Bela Balassa, that while relative prices were at the centre of economics during the first one-and-a-half centuries following the publication

---

42 Barro, 1991. For a more recent exposition, see Barro, 1998.

43 Olson, *op cit*, p 8.

44 Romer, 1993.

45 Smith, 1776/1976, p 687.

of the *Wealth of Nations*, they were relatively neglected for the next half-century.[46] Prior to the re-emergence of concern about price distortions during the 1970s and 1980s, interest in the efficiency of the price system was overshadowed by Keynesian economics in the industrialised countries, central planning in the socialist countries and doctrines of inward-oriented industrialisation and capital fundamentalism in many low-income countries.[47] As noted by Balassa, this had implications for the policies that were adopted:

> Policy-makers followed economists in de-emphasising prices and incentives, with government directives and interventions distorting the price system in developed and, in particular, in developing countries and supplanting it in socialist countries.[48]

All this has changed during the past 20 years. As David Henderson has noted, the centre of gravity has now moved closer to economic liberalism:

> As part of this process, the ideas of Friedman and Hayek have gained much wider recognition and acceptance – as also, in relation to developing countries, have those of Peter (now Lord) Bauer: the main stream of thinking has changed, so that it now embraces them.[49]

Renewed recognition of the importance of prices and incentives has been accompanied by efforts by 'new' institutional economists to improve understanding of institutional change and its links to economic performance. An important conclusion to emerge from this work is that the potential benefits of policy reform can take a considerable time to be achieved. Douglass North has pointed out that changes in informal norms are required as well as changes in formal rules:

> It is the admixture of formal rules, informal norms and enforcement characteristics that shapes economic performance. Whilst the rules may be changed overnight, the informal norms usually change only gradually. Since it is the norms that provide "legitimacy" to a set of rules, revolutionary change is never as revolutionary as its supporters desire, and performance will be different than anticipated.[50]

### *2.2.2 Quantifying the effect of policies on growth*

Until only a few years ago, quantitative research on the relationship between economic policies and economic growth was directed toward establishing the significance of particular policy variables. For example, one important area of research has been the relationship between trade barriers and economic growth.[51] The results of this work generally support the view that trade liberalisation stimulates economic growth.

---

46 Balassa, 1984.

47 Although Keynes should not be blamed for all the sins of his followers, it is noteworthy that the capital fundamentalism in development economics was often based on the Harrod-Domar model, which, in turn, was developed to extend the Keynesian framework of analysis into a long-period theory of output and employment, in order to examine such questions as the requirements to achieve steady state growth or avoid secular stagnation.

48 Balassa, *op cit*, p 612.

49 Henderson, 1999, p 55.

50 North, 1994, p 366.

51 For a survey of this work, see World Trade Organisation (WTO), 1998.

Another important area of research has focused on the relationship between institutional factors and economic growth. Gerald Scully made several contributions in this area in the late 1980s. He found that societies characterised by the rule of law, private property and the market allocation of resources had substantially higher economic growth on average than societies that lacked these characteristics.[52] In another study he found that rates of economic growth were lower where the state's command of economic resources is high.[53] More recently, Steven Knack and Philip Keefer found that the quality of institutions protecting property rights (measured using indicators derived from international risk assessment services) has a significant effect on growth.[54]

Robert Barro has made many contributions that are relevant to assessing the contribution of institutional factors to economic growth, following an initial article on this topic published in 1991.[55] The basis of his analysis is a model in which the rate of economic growth is determined by the starting position of the economy and the long-run position to which the economy is headed. The starting position depends on the initial level of per capita income and initial human capital. The long-run position depends on government policies and other factors. Under this view of the world, institutions are important determinants of per capita incomes in the longer term. The adoption of more favourable institutions enables countries to grow more rapidly during a transition period (which may be 50 years or more) while their economies adjust to the new institutional environment.

The factors that Barro has found to be statistically significant in enhancing economic growth include higher initial schooling and life expectancy, lower fertility, lower government consumption, better maintenance of the rule of law, lower inflation and improvements in the terms of trade.[56]

Barro's results suggest that while low-income countries can obtain substantial benefits from improved policies, there is little prospect that improved policies would raise the long-term per capita growth rate of high-income countries by more than a few tenths of a percentage point. He concludes:

> Basically, 2 percent per capita growth seems to be about as good as it gets in the long run for a country that is already rich.[57]

This conclusion follows from Barro's model and the results of his analysis. It is questionable, however, whether the limited range of institutional and policy variables included in the analysis reflects adequately shortcomings in the institutional environments of countries with relatively high incomes. The Fraser Institute's index of

---

52 Scully, 1988.

53 Scully, 1989.

54 Knack and Keefer, 1995. The risk data used in the study by Knack and Keefer were from International Country Risk Guide (ICRG) and Business Environmental Risk Intelligence (BERI).

55 Barro, 1991.

56 See Barro, 1998, particularly p 13.

57 Barro, 1998, p 47.

economic freedom suggests that the institutional environments of high-income countries were not particularly favourable to economic growth during much of the period covered by Barro's data set (1960–90).[58]

### 2.2.3 The measurement of economic freedom

The Fraser Institute's index of economic freedom is the result of an ambitious collaborative research venture that commenced during the 1980s, with guidance from Milton Friedman, among others.[59] There are now 125 countries covered by the study; summary ratings of economic freedom covering the entire period from 1970 to 1997 are available for about half of these countries.

The Fraser Institute's index reflects the view that individuals have economic freedom "when: (a) their property acquired without the use of force, fraud, or theft is protected from physical invasions by others and (b) they are free to use, exchange, or give their property to another as long as their actions do not violate the identical rights of others".[60] The index reflects 23 components spread over the following broad areas:

- size of government;
- government influence on production and allocation;
- monetary policy and price stability;
- freedom to use alternative currencies;
- legal structure and property rights;
- freedom to trade with foreigners; and
- freedom of exchange in capital and financial markets.

For example, size of government is measured by two components that are given equal weight: general government consumption expenditure as a percentage of total consumption; and transfers and subsidies as a percent of GDP.

Another index of economic freedom, published annually by the Heritage Foundation since 1995, has similarly been guided by the view that private property and the rule of law provide the institutional foundations for economic freedom.[61] This index reflects 50 variables spread over the following broad categories: trade policy, fiscal burden of government, government intervention in the economy, monetary policy, foreign

---

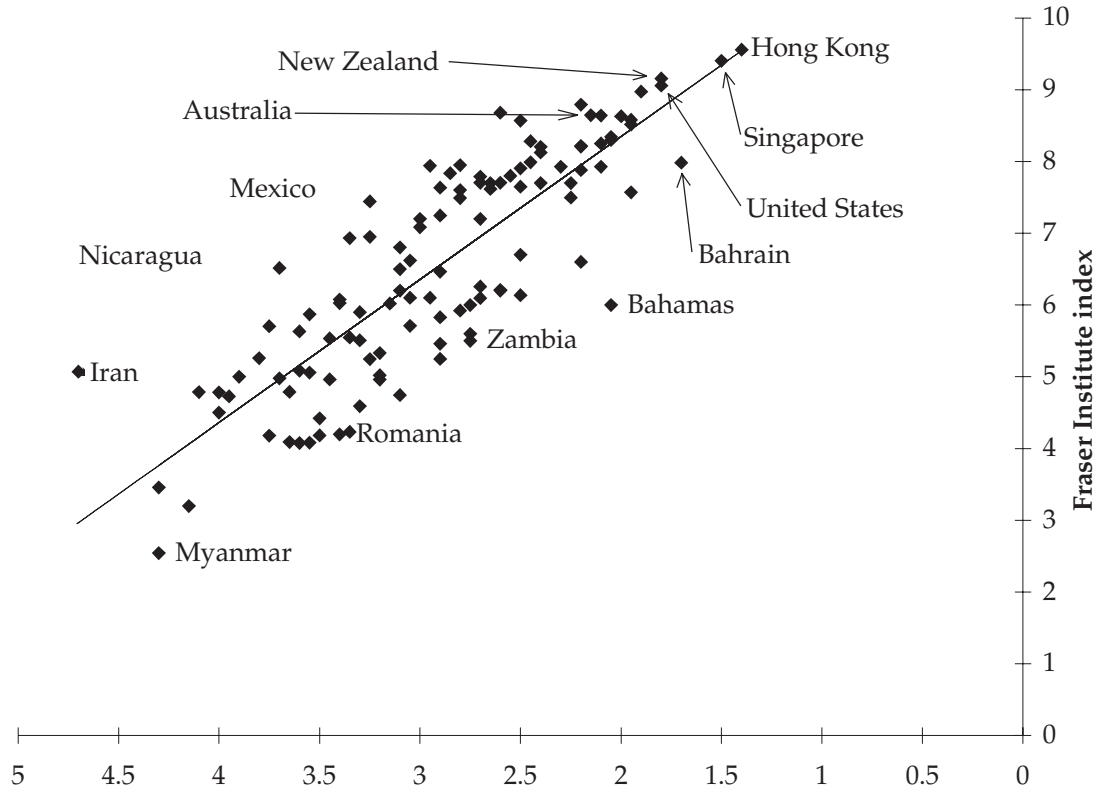
58 The Fraser Institute's index of economic freedom covers the period from 1970 onwards (Gwartney, Lawson and Samida, 2000).

59 Michael Walker outlined the history of the project in the introductory chapter of Gwartney, Lawson and Block, 1996.

60 Gwartney, Lawson and Samida, 2000, p 5. It is clear from this definition that there is a distinction between economic and political freedom. For example, although high tax rates may be enacted in a country that has a high degree of political freedom, they nevertheless impact adversely on economic freedom by depriving individuals of their property.

61 For a useful survey of indexes of economic freedom and competitiveness, see Hanke and Walters, 1997.

Figure 2.1: Economic freedom indexes for 1997




*Source*: Gwartney, Lawson and Samida, 2000; and O'Driscoll, Holmes and Kirkpatrick, 2000.

investment, banking, wages and prices, property rights, regulation and black market activity.

A comparison of the Fraser Institute and Heritage Foundation indexes (see Figure 2.1) shows that these indexes, in general, agree closely about the economic freedom of individual countries.[62] Nevertheless, there is a substantial divergence between the ratings for a few countries (including most of those labelled). In the case of New Zealand, as for Australia and the United States, the Fraser Institute's ranking is somewhat more favourable than that of the Heritage Foundation.[63]

[62] Figure 3 is based on the scores for 114 countries covered by both the Fraser Institute and Heritage Foundation indexes.

[63] New Zealand's rating in terms of the index of global competitiveness published by the World Economic Forum (WEF) is much lower than that of the United States and Australia. In recent years the WEF has defined the competitiveness of an economy "as the capacity to achieve high rates of economic growth on a sustainable basis" (Sachs and Warner, 2000, p 19). The WEF index reflects many factors other than the institutional variables reflected in economic freedom indexes.

### 2.2.4 *The impact of economic freedom on growth*

The fundamental reason why economic freedom fosters economic growth is because it encourages wealth creation – through what Adam Smith described as "the uniform, constant, and uninterrupted effort of every man to better his condition, the principle from which public and national, as well as private opulence is originally derived".[64] James Gwartney, Robert Lawson and Randall Holcombe suggest several reasons why economic freedom could be expected to foster economic growth:

> Secure property rights and low taxes will encourage individuals to engage more intensively in productive activity. Greater freedom of exchange will expand the realization of gains derived from specialization and economies of scale. Freedom to enter and compete in markets will help both to promote efficiency in production and to direct resources toward their most highly valued uses. Furthermore, entrepreneurial discovery of new and improved technologies, better methods of production and opportunities that were previously overlooked is an important source of economic growth. Economic freedom facilitates this process and thereby promotes growth.[65]

Several studies have attempted to determine the links between economic freedom and economic growth using the Fraser Institute's index of economic freedom.[66] The results of some of this research are summarised in Appendix 1, which also reports on an extension of previous work in this area to take account of the influence of initial per capita income levels and past economic growth rates.

The main conclusions to emerge from the analysis in Appendix 1 are as follows:

- Economic reforms can have a substantial impact on long-term growth rates as well as on growth rates during a transitional adjustment period. The analysis suggests that the long-term impact of reforms commensurate with those undertaken in New Zealand from 1985 to 1995 may be to raise annual economic growth rates by about 2 percent (relative to growth rates that would otherwise be experienced).
- High levels of economic freedom can result in high economic growth rates even for countries that have relatively high per capita incomes prior to reform. The results provide some support for the neoclassical view that high-income countries do not have the potential to grow as rapidly as low-income countries. They suggest, however, that the positive effects of very high levels of economic freedom can offset the suppressing effects of high initial income levels. It may be too pessimistic to claim that 2 percent a year per capita growth is as "about as good as it gets" in the long run for a country that is already rich.
- The adjustment of growth rates to changes in economic freedom is a gradual and evolutionary process. Current growth rates are influenced by past growth rates. It takes time for the credibility of reforms to be established and for adjustment to the new incentives to occur.

---

64 Smith, 1776/1976, p 343.

65 Gwartney, Lawson and Holcombe, 1999, p 646–7.

66 The Fraser Institute's index is more suitable for this purpose because it covers a longer time period.

### *2.2.5 The dynamic effects of economic freedom*

It is easy to understand that increased economic freedom can enable a low-income country to grow rapidly by making better use of available technology. As its average incomes rise, however, we might expect the country's productivity growth to become increasingly limited by the progress of knowledge. Can this be reconciled with evidence that suggests increased economic freedom has a substantial impact on long-term growth rates as well as on growth rates during a transitional adjustment period?

Evidence that countries with high economic freedom ratings are capable of sustaining relatively high growth rates indefinitely seems to imply a relationship between economic freedom and advances in knowledge. This is consistent with Austrian economics, which has long seen a relationship between economic freedom and the process of entrepreneurial discovery.

The entrepreneurial discovery approach developed by Israel Kirzner and others during the past quarter-century has been built on elements derived from the work of Ludwig von Mises and Friedrich Hayek.[67] Market processes were seen, by von Mises, as being driven by profit-seeking entrepreneurs. Hayek emphasised the role of knowledge and its enhancement through market interaction. Kirzner has commented on the relationship between economic freedom and entrepreneurial discovery:

> A free society is fertile and creative in the sense that its freedom generates alertness to possibilities that may be of use to society; a restriction on the freedom of a society numbs such alertness and blinds society to the possibilities of social improvement. By the very nature of the damage such restriction wreaks, its harmful effects on social welfare may not be able to be noticed, measured or specified.[68]

The point that Kirzner is making here is that individuals have a strong incentive to be alert to the possibility of gaining knowledge that is potentially of benefit to society only when they can benefit from such knowledge themselves. In his own words: "the restriction of economic freedom may inhibit individuals from discovering opportunities they might have noticed had they been free to exploit them".[69]

In addition, the roles played by entrepreneurship and discovery and rivalrous competition are a crucial element of entrepreneurial discovery theory. Firms often undertake product innovations to position themselves favourably with buyers and earn more profits. They often undertake process innovations to reduce production costs and prevent profits from being competed away by rivals.[70] It follows, as Wolfgang Kasper has pointed out, that government intervention that protects firms from competition tends to reduce the willingness of firms to incur search costs and risk innovations. An economy in which

---

67 Kirzner, 1997, p 67.

68 Kirzner, 1979, p 239.

69 Kirzner, 1979, p 239

70 Wolfgang Kasper and Manfred Streit (1998, pp 235–245) provide a useful exposition of the role of rivalrous competition.

such interventions are prevalent typically displays little dynamic efficiency and "generates and utilises few useful new ideas".[71]

The view of technical progress associated with so-called neo-Schumpeterian versions of new growth theory, as developed by Paul Romer and others, is similar in some respects to the entrepreneurial discovery process described by Kirzner. Romer emphasises two aspects associated with production of new ideas, economies of scale and excludability. Economies of scale are large in the case of computer software, for example, because of the high research and development costs involved in production of the first copy. By contrast, the second and subsequent copies of the software cost very little to produce.[72] Excludability is important because it enables those who incur the costs of research and development to prevent imitation, and thus obtain a return on their investments in research and development.[73] Romer emphasises the differences between what he calls the information or knowledge-based economy and traditional activities that are more obviously governed by the law of diminishing returns. Nevertheless, the implications of economies of scale and excludability apply to discovery and adoption of ideas in all sectors of an economy.

The neo-Schumpeterian versions of new growth theory and the entrepreneurial discovery process of the Austrian school have similar views of the role of profit. Under both approaches profit is viewed as integral to the process of competition rather than as evidence of market failure. Expected profits are the motivating force for improvements in products and processes, whether such improvements are large or small. When successful innovation results in higher profits, this provides motivation for rivals to compete away such profits by developing superior products.

## 2.3 What determines economic success?

Mancur Olson concluded his final book with the claim "that (if we leave aside a few special conditions that are not important in this context) only two general conditions are required for a market economy that generates economic success".[74] These conditions are:

- "secure and well-defined individual rights";[75] and
- "the absence of predation of any kind".

---

71 Kasper, 1998, p 84.

72 This does not mean that scientific knowledge is disseminated at zero cost. As Omar Al-Ubaydli and Terence Kealey have pointed out, "economically valuable knowledge is not freely available: it has to be accessed via the brains of experts who can understand it and those experts are rivalrous" (Al-Ubaydli and Kealey, 2000, p 13).

73 For elaboration, see Romer, 1990 and Romer, 1994.

74 Olson, 2000, p 195.

75 These include the right to impartial enforcement of contracts that individuals and firms choose to make and secure and precisely delineated rights to private property.

Olson argued that it was necessary to include the second condition because some kinds of predation can, and often do, occur in societies in which property rights are secure and well-defined. "This is predation through lobbying that obtains special-interest legislation or regulation and through cartelisation or collusion to fix prices or wages".[76]

### *2.3.1 Do special conditions apply to New Zealand?*

The 'special conditions' that Olson leaves aside would include things like resource endowments and location. It is possible to envisage a situation where a country might have relatively good economic growth prospects despite relatively unfavourable institutions or poor growth prospects despite excellent institutions.

Do such special conditions apply to New Zealand? A strong case can be made that New Zealand benefited from special conditions in the past. It experienced moderate economic growth during the twentieth century, despite many policies inimical to growth including high barriers to external trade, extensive public ownership of business, public provision of many services at no charge to users, centralised wage determination, heavy-handed regulation of many activities including financial services and agricultural marketing, and wasteful government spending. It is highly unlikely that any growth could have been achieved with this set of policies if New Zealand's resource endowments had not been well suited to meeting growing demand for agricultural commodities on world markets.

It is sometimes suggested that New Zealand's growth prospects are now hindered by special conditions because the international market place has become less favourable to agricultural commodity exporting countries. This argument should not go unchallenged. It is reasonable to expect rapid productivity growth in New Zealand agriculture to have more than offset the effects of declining terms of trade for agricultural products. In other words, we should expect New Zealand to have been a winner from world-wide improvements in agricultural productivity. In addition, while New Zealand's exports have been hindered by market access problems, there is evidence that the adverse effects on international food prices of agricultural protectionism in Western Europe and Japan have been offset by policies in other countries that have tended to depress food exports.[77]

The contribution of New Zealand agriculture to economic growth has been constrained by poor institutional arrangements for marketing of agricultural products. Marketing boards have interfered with normal market incentives for the development of new products and markets.[78]

The view that New Zealand's growth prospects have been limited by remoteness from major markets seems to have more merit than the argument that New Zealand is disadvantaged because of its agricultural resources. Remoteness adds to the costs of maintaining contact with purchasers and suppliers and may add to freight costs.[79] It is

---

[76] Olson, *op cit*, p 196.

[77] Anderson, 1998, p 10.

[78] Roger Kerr has discussed these issues more fully. See Kerr, 1999a, p 34, 35.

[79] Distance is not always a good guide to freight cost because the cost of international ocean freight is often lower per unit of distance travelled than the cost of land-based transport.

more difficult for firms to respond promptly to changes in consumer demand when goods are a long time in transit. In addition, in an economy that is remote from major markets, it is more likely that the existence of a small domestic market will limit scope for achieving economies of scale.[80] Against this, the fact that transport and communication costs have been falling rapidly could be expected to be of most benefit to countries like New Zealand that have hitherto been disadvantaged by location.[81]

If New Zealand is relatively disadvantaged by its geographical location, this does not mean that it is doomed to be a low growth economy. What it does mean, as the OECD has pointed out, is that "New Zealand has to do better than other countries in order to make it an attractive location for both domestic and foreign labour and capital".[82] New Zealand will need to have better institutions than countries that are more favourably located relative to major centres of economic growth if it is to achieve comparable growth outcomes.

### *2.3.2 Importance of reducing redistribution*

Olson's two general conditions for economic success may be viewed as another way of saying that economic freedom is necessary for economic success. However, Olson makes an important contribution by identifying predation – the loss of economic freedom associated with redistribution of income and wealth – as a specific condition for economic success. In order to restore strong incentives for wealth creation in an economy with low levels of economic freedom, it is important to reduce all forms of predation.[83] The benefit of removing one form of redistribution will be dampened if other forms of redistribution remain in place. For example, barriers protecting declining industries from import competition involve redistributions of income that assist declining industries at the expense of industries with greater growth potential. The beneficial effects on economic growth that flow from removal of this form of redistribution must be dampened if a high proportion of the additional return to investment in growing industries is redistributed through the tax system, rather than remaining with investors.

---

80 This point is made in a recent article on the New Zealand economy in *The Economist* (2 December, 2000, p 89). Erwin Diewert (2001) also argues that New Zealand's smallness and geographic distance from major markets makes it difficult to provide specialised exports of goods and services to the world market and to develop specialised domestic inputs.

81 Roger Kerr has discussed these issues in recent speeches. See Kerr, 1999a and Kerr, 1999d.

82 OECD, 2000b, p 9.

83 It is questionable whether 'predation' is the most appropriate word to describe all redistribution of income and wealth associated with restrictions on economic freedom. On the one hand, coercion is involved in all government activities that redistribute income and wealth – even if only because payment of tax is not voluntary. On the other hand, 'predation' seems to imply an intent that may not exist. It does not seem plausible to imply that those who seek increased government spending on particular types of education or health care, for example, do so only for selfish reasons. As discussed in later chapters, wasteful redistribution activity can be expected to occur when the 'rules of the game' provide incentives for it to occur. Some aspects of the problem of redistribution are similar to the 'tragedy' of the commons – the tendency for over-grazing may occur even if those who use the commons do not have predatory intent. The essential problem of redistribution, insofar as economic growth is concerned, is the loss of economic freedom – and disincentive to wealth creation – that is involved.

The following comment by James Gwartney, a leading researcher in areas related to economic freedom and economic growth, is highly relevant in this context:

> New Zealand is still a big government welfare state. Government spending continues at nearly 40 percent of GDP, a figure much too large for maximum growth. I do not know of any country that has sustained per capita income growth of 4 percent or more with that level of government spending.[84]

Even though extensive economic reforms since the mid-1980s have left New Zealand with a relatively high average rating in terms of economic freedom, it is likely that the redistributions associated with big government remain a significant impediment to economic growth in this country.

---

[84] Comments provided in a personal communication from James Gwartney, professor of economics at Florida State University, in his review of a draft of this report in January 2001. New Zealand's rating using the Fraser Institute's measure of economic freedom in 1997 was 9.1 (out of 10) – ranking third, behind Hong Kong and Singapore – but its rating was only 7.1 for the size of government. Many other countries have a higher rating than New Zealand for the size of government.

# 3

# EFFECTS OF SIZE OF GOVERNMENT ON INCOME LEVELS AND GROWTH

The aim of this chapter is to consider available evidence regarding the effects of size of government on income levels and growth rates.

The chapter focuses on the various ways in which governments affect economic activity. They do this by:

- providing services;[85]
- purchasing services;
- regulating economic activities at an industry or micro level;
- attempting to regulate economic activity at a macro level; and
- redistributing income.

## 3.1 Providing services

The services provided by governments typically include a much wider range of activities than defence, administration of justice and public works, which were the "duties" of government listed by Adam Smith.[86]

The economic impact of the productive activities of government depends on the efficiency of government production relative to the private alternatives available. If there is no reason to believe that government has some advantage, relative to private firms or associations in producing a particular service, production by government can be expected to result in lower national income. This simply results from the inability of government to replicate the incentives for efficient production that apply in the private sector. Performance targets are not a good substitute for markets. The following comment in *The Economist* gets to the nub of the problem:

---

[85] The term 'services', as used in this chapter, includes the services provided by physical objects. The main reason for this is to avoid repetition of 'goods and services' when the reference is mainly to services. An alternative would be to follow the convention that the term 'good' also includes services. However, this can be confusing because many people think of physical objects when reference is made to 'goods'. For example, it is not obvious that purchase of 'goods' by government includes the services provided by employees.

[86] Smith, 1776/1976, p 687–8.

> Targets need to be simple, or they are no good as a management tool. Yet public services are often trying to fulfil many objectives. If public servants are asked to focus on one measure they will (rightly) ignore the others.[87]

One of the examples cited in the article was a target of reducing hospital waiting lists in Britain. This target was met, but at the same time there was an increase in numbers waiting to see a specialist or, as *The Economist* put it, "waiting to be put on a waiting list".

Public sector organisations have an incentive to function more efficiently if they are exposed to private competition. It is not possible, however, for an organisation to be fully exposed to market rewards and disciplines while remaining under government ownership.[88]

It is arguable that the government's monopoly on the use of coercive power is the only advantage that it has relative to the private sector in the provision of any service. Government does not have any other unique characteristic that could give it an advantage relative to all of the different types of organisation in the private sector (including non-profit activities). The coercive powers of government are also a source of disadvantage because they require managers to be subject to political control as well as, or instead of, the normal market disciplines that apply to private sector activities. An important reason for the prevalence of checks and balances in the public sector – the characteristic that distinguishes it most clearly from private activity – is to reduce the potential for abuse of the coercive powers of government. As a result of these checks and balances, responsibility for setting goals, deciding strategies and implementing decisions often overlaps, creating greater problems of accountability for performance than exist in the private sector.[89]

The use of coercive power is directly involved in provision of services associated with administration of justice and law enforcement. This includes enforcement of tax collections that enable provision of services such as national defence, which cannot be funded adequately through voluntary means. A degree of coercion is required to ensure adequate provision of such services (public goods) because it is impossible to exclude people who do not volunteer to contribute to funding from the benefits provided.

In addition to those situations where exclusion of non-payers is impossible, government provision of services is sometimes held to be desirable where economies of scale are sufficient to create a natural monopoly.[90] While private provision is possible in such

---

87 *The Economist*, 28 April, 2001, p 22.

88 For a discussion of these issues in a New Zealand context, see New Zealand Business Roundtable, 1988, pp 19–42, and New Zealand Business Roundtable, 1992.

89 For further discussion of this see Bates, 1996a, p 5–8.

90 Exclusion of non-payers is sometimes possible even where economies of scale enable services to be supplied at zero marginal cost. For example, it is possible to exclude non-payers from information that is made available on an internet site, even though there is negligible additional cost in making it available to additional people.

situations, a private monopolist may have an incentive to restrict supply in order to obtain a monopoly profit. This represents a potential loss of welfare because the value consumers would derive from the forgone production is greater than the savings in production costs.[91] Where such considerations provide a strong case for government intervention, rules of conduct that impose constraints on the activities of private monopolists can normally be expected to be a more efficient remedy than provision of services by government. It is not necessary to incur the economic costs involved in displacing normal market disciplines in order to prevent abuse of market power.

In considering the activities in which governments may have particular advantages, it is important to distinguish between government involvement in provision of services and funding of services. A government's objectives concerning such matters as ensuring access to basic education and health services may require some involvement in funding, but does not necessarily require involvement in provision of such services. Private provision is often a lower cost option than public provision, even when substantial government funding is involved.[92]

It should not be assumed, however, that the economic costs of government involvement in funding of services are trivial. Suppression of the processes of competition and price discovery is a basic problem associated with government funding of services that could be funded privately. Under private funding these processes determine the quantity and quality of service to be produced. Where governments provide services free of charge substantial economic losses can arise because of the political pressure that inevitably arises to meet consumer demand to the point where marginal benefit to consumers is zero, whatever the cost. When they attempt to limit funding, governments often resort to inefficient devices such as rationing (in the case of health services) and lowering quality (in the case of education and health). Government involvement in funding of services also involves economic costs associated with redistribution of income, which are discussed later in this chapter.

The impact of public sector economic reforms provides substantial evidence of the adverse effects on economic performance of extensive government involvement in provision of services. New Zealand itself provides ample evidence.[93] A recent study of productivity in New Zealand by Denis Lawrence and Erwin Diewert suggests that the rates of growth of total factor productivity in industry sectors subject to extensive reforms have been have been substantially higher (about 50 percent higher in the case of

---

91 The question of whether monopoly results in an actual loss of welfare requires a comparison of outcomes under alternative institutional arrangements. If potential competitive entry is an effective deterrent to restriction of supply by a monopolist, the costs of government intervention are likely to exceed the benefits. However, if a monopolist is using its market power to keep potential competitors out of the market, the benefits of enforcing appropriate rules of conduct may exceed the costs involved.

92 For example, studies by the Industry Commission in Australia have revealed savings ranging from 10 to 30 percent from competitive tendering and contracting in some areas of government spending (Industry Commission, 1996).

93 See, for example, the studies cited in Evans, Grimes, Wilkinson and Teece, 1996, pp 1872–1875.

communications and transport) since the commencement of the reforms in the mid-1980s.[94] It does not seem possible to explain this merely in terms of acceleration of the rate of technological change: the rate of productivity growth in these sectors in New Zealand since the commencement of the reforms seems to have been substantially higher than during a similar period in Australia.[95]

It is difficult to disentangle the extent to which improved performance resulting from public sector reforms in New Zealand reflects the effects of privatisation rather than corporatisation. Although some of the improvements following reforms are probably attributable to improved rules of the game accompanying corporatisation, particularly greater exposure to competition, there is a strong case that privatisation is necessary "to lock in the gains" by distancing corporatised firms from the political process.[96] Support for this view has recently been provided by a study of rail privatisation by the New Zealand Institute for the Study of Competition and Regulation. The report indicates that prior to privatisation in 1993, New Zealand Rail had five episodes of reorganisation to corporate-type forms under state ownership. The authors comment:

> In each case the rail business seems to have improved commercially but the improvement was not sustained. The data suggest that this was true as recently as the corporatisation of 1983.[97]

Despite reforms in New Zealand since the mid-1980s, provision of services by government still extends far beyond the areas in which government has any obvious advantages relative to private suppliers. A report prepared in 1996 by the New Zealand Business Roundtable, in association with the Auckland and Wellington chambers of commerce, noted that the government's investment in state-owned enterprises, crown entities and other assets remained substantial. It suggested that there were no valid grounds for continued government ownership of many of these entities, businesses and

---

94 The relevant TFP growth estimates (percent per annum) are as follows:

| | 1978–85 | 1986–98 |
|---|---|---|
| Communications | 4.72 | 6.98 |
| Transport and Storage | 2.88 | 4.26 |
| Electricity, Gas and Water | 3.37 | 4.08 |

*Source*: Lawrence and Diewert, 1999, Table 5.1.

95 Corresponding productivity growth estimates for Australia for 1988–89 to 1997–98 were:

| | |
|---|---|
| Communications | 2.8 |
| Transport and Storage | 1.1 |
| Electricity, Gas and Water | 3.4 |

*Source*: Productivity Commission, 1999, Table 3.2, p 43.

96 This argument has been advanced by Australia's Productivity Commission (1996, p 78) and other authors including Spicer, Emanuel and Powell (1996, p 204) and Nellis (1994). Research by the World Bank suggests that privatisation generally results in strong improvements in performance for firms operating in both competitive and non-competitive environments (Boubakri and Cosset, 1998).

97 New Zealand Institute for the Study of Competition and Regulation, 1999, Executive Summary, Part 2.

assets.[98] Little further progress has been made in privatisation since then.[99] The present government has called a halt to privatisation and moved in the opposite direction through renationalisation of the Accident Compensation Corporation (ACC).

## 3.2 Purchasing services

Government purchasing decisions are often insulated from the competitive disciplines that apply in the private sector. Government consumption expenditures – which consist mainly of wages – are often used as a non-transparent mechanism to provide benefits to particular groups favoured by governments, including public sector employees. This diverts resources from more productive activities and reduces national income. High government consumption expenditures may also be associated with attempts to cushion government employees, or particular regions or industries, from competitive pressures. Such interference with adjustment processes could be expected to result in an ongoing reduction in economic growth rates.

The evidence from cross-country studies tends to support the view that high government consumption expenditure has adverse effects on economic growth. As Jonathan Temple has suggested, however, it would be wrong to assert that a correlation between low government consumption and high growth "leaps out from the data" in cross-country studies.[100]

It is unrealistic to expect unambiguous evidence of a relationship between government consumption expenditure and economic growth to emerge from models that do not control for the differing quality of government in different countries. The impact of high government expenditure should be expected to vary depending on the extent to which

---

98 New Zealand Business Roundtable, Auckland Regional Chamber of Commerce and Industry, and Wellington Chamber of Commerce, 1996, pp 77–78.

99 Assets still owned by government include the main television broadcasting company, New Zealand Post, a coal mining company, most electricity generation capacity, the high voltage transmission system, roads (including the state highway roading network), most health care facilities (outside the primary health sector) and, at the local government level, water utilities, ports, airports and electricity distribution companies. For a recent discussion of privatisation in New Zealand, see: Norris, 2000.

100 Temple, 1999, p 145. Temple refers to a study by Levine and Renelt (1992) in which the correlation of government consumption with growth was identified as "fragile". Under the extreme bounds analysis employed by these authors, most other potential explanators of differences in economic growth rates were also identified as "fragile". It is arguable that the statistical test used by Levine and Renelt was too severe. However, a survey by Peter Nijkamp and Jacques Poot (2000) of 41 studies that examined the impact of government spending on economic growth found that results of a majority of the studies were ambiguous.

Analysis of the relationship between government consumption and GDP growth is complicated by the convention of measuring the contribution of the government sector to GDP at cost. Additional government consumption spending is assumed to add to GDP, as conventionally measured, even if nothing of value is produced as a result of this spending. This may result in an upward bias in estimates of GDP growth of countries in which government consumption is growing rapidly. However, it would not necessarily impart a systematic bias to estimates of GDP growth for countries that initially have either high or low government consumption spending.

that expenditure is wasted, rather than used for productive purposes.[101] It should also be expected to vary with the quality of bureaucracy and the differing propensity of governments to introduce price distortions. In addition, where bureaucracy is of particularly poor quality, it may be incapable of collecting the revenue required to fund high consumption expenditure.

In his studies of the relationship between government consumption spending and GDP growth, Robert Barro uses a measure of government consumption expenditure that is exclusive of education and defence, in order to focus his analysis on expenditure that he considers less likely to improve productivity. His results suggest that an increase of 6 percentage points in government consumption expenditure as a percentage of GDP,[102] (from, say 10 percent to 16 percent) would tend to reduce the annual rate of growth of GDP by about 0.8 percent.[103]

An insightful study of the effects of government on growth undertaken for the World Bank, by Simon Commander, Hamid Davoodi and Une Lee,[104] controls explicitly for the quality of bureaucracy[105] and the differing propensity of governments to introduce price distortions.[106] The authors found that the share of government consumption spending in GDP has an unambiguously negative effect on growth of similar magnitude to that reported by Barro.[107] They also found that the quality of bureaucracy has a significant positive effect on growth while policy distortions have a significant negative effect on growth. The results imply that, while it would take countries with low government consumption and a high quality of bureaucracy about 22 years to double per capita GDP, the time required would be lengthened to 36 years for countries with high government consumption and high quality of bureaucracy, and to 239 years for countries with high government consumption and a low quality of bureaucracy.[108]

---

101 Many studies have shown that relatively high government expenditures in areas such as education and infrastructure tend to be associated with relatively high economic growth rates. Poot (1999) found that of most of the relevant studies included in his survey "provide support for the hypothesis that education has a positive impact on growth" (p 15). He also found that "the evidence is relatively strongly supportive of a positive impact of infrastructure on growth" (p 16). As discussed in Chapter 2, however, correlation between various forms of investment and growth may occur because the conditions that favour growth also favour further investment. In addition, the finding that high government spending on education and infrastructure is associated with high economic growth does not say anything about the important question of the relative efficiency of public and private sector investment in these areas.

102 This corresponds to a one-standard deviation increase.

103 See, for example, Barro, 1998, p 26.

104 Commander, Davoodi, and Lee, 1997.

105 This is a composite index based on surveys of foreign investors that focus on perceptions of such things as the efficiency of the civil service, the extent of red tape and autonomy from political pressure.

106 The policy distortion index reflects openness to international trade, the extent of divergence between local and international prices and the extent of any exchange rate over-valuation.

107 Commander, Davoodi, and Lee, 1997, pp 27–35.

108 Commander, Davoodi, and Lee, 1997, p 58.

The results of the studies by Barro and Commander *et al*, suggest that the 70 percent increase in government consumption as a percentage of GDP that occurred in New Zealand during the period 1960 to 1980 could possibly account for a reduction in the economic growth rate of about 1 percentage point per annum. The partial reversal in government consumption spending that occurred subsequently would have been sufficient to restore less than one-third of the reduction in the economic growth rate. To put these numbers in perspective, reductions in growth rates of 1 percent and 0.67 percent per annum are sufficient, if sustained over 20 years, to reduce per capita income levels by about 21 percent and 14 percent respectively below what they would otherwise be.

## 3.3 Regulating economic activities

It is common for the extent of government regulation to be viewed in terms of a spectrum, with non-intervention (or the unfettered market) at one end, and a command economy, with all decisions made by government, at the other. As the Treasury noted in its briefing to the incoming government in 1984, however, market transactions are based on sets of rights and an institutional framework (including contractual law) that do not have an inherent existence of their own but emerge and change in response to pressures of social consensus and political choice.[109]

Friedrich Hayek also implied that the institutions that enable a market economy to work beneficially continue to evolve:

> We can probably at no point be certain that we have already found the best arrangements or institutions that will make the market economy work as beneficially as it could. It is true that after the essential conditions of a free system have been established, all further institutional improvements are bound to be slow and gradual. But the continuous growth of wealth and technological knowledge that such a system makes possible will constantly suggest new ways in which government might render services to its citizens and bring such possibilities within the range of the practicable.[110]

The institutional evolution that Hayek understood to be necessary to allow market economies to work better is evident, for example, in the emergence of property rights for use of the electronic spectrum in recent years.

Much of the regulation that occurred in many industrialised countries during the second half of the twentieth century has not enabled market economies to work better, even though it was introduced to correct alleged market failures. Market failures are said to exist whenever actual market conditions diverge from an imaginary ideal situation – a set of assumptions under which it is argued that market outcomes would be optimal. The common examples of market failure include pollution (when the cost to a firm of reducing emissions is less than the resulting benefits to those affected by the emissions), restriction of production by monopolies in order to maintain high prices (when the cost to a firm of increasing production is less than the benefit to consumers of obtaining

---

[109] Treasury, 1984, pp 295–6.

[110] Hayek, 1960, p 231.

additional supplies) and the adverse effects on consumer choices of poor information on product characteristics such as safety (when the cost to a firm of providing additional information is less than the benefit of this information to consumers).

In a famous article, published in 1960, Ronald Coase emphasised that it was necessary to take account of transactions costs in deciding what, if anything, should be done about a form of market failure, which he described as "harmful effects":

> All solutions have costs and there is no reason to suppose that government regulation is called for simply because the problem is not well handled by the market or the firm.[111]

Much of what is described as market failure merely results from the existence of transactions costs – the economic equivalent of friction in physical systems – that prevent trades that would otherwise be mutually beneficial to the parties concerned. Richard Zerbe and Howard McCurdy mount a strong argument that the market failure concept is unsatisfactory because of the ubiquity of transactions costs:

> In the real world, of course, transactions costs are always greater than zero. Although no such world exists, the world of zero transactions costs is the world in which market failure analysis operates. Conceptually, the market failure model fails because it ignores the role of transactions costs. The externalities on which market failure analysts tend to focus are defined by transactions costs. In essence, externalities exist because the transactions costs of resolving them are too high.[112]

The market failure concept also fails to capture the possibility that the best solution to some problems may be to expand, rather than constrain, market activity. For example, the following comments by Peter Hartley suggest that the concept has little relevance to environmental problems:

> It is sometimes argued that environmental problems arise because markets fail and greater market activity *necessarily* comes at the expense of environmental amenity. Most of the conservation and environmental costs of commercial activities arise, however, from the *absence* of suitable markets (in clean air and water, in endangered species, in valued habitats and so on). The most effective way to ensure that increased market activity does not come at the expense of environmental amenity is to *extend* the domain of markets so that market prices reflect the benefits of environmental amenities to consumers, and the costs of using resources include the costs of eliminating valued environmental goods and services.[113]

The appropriate criterion for evaluating government intervention is that the expected benefits of intervening to modify the outcomes through private initiatives should exceed the expected costs, where benefits are construed to include improvements in efficiency and equity. In areas such as environmental protection and abuse of market power, the benefits of regulation can vary greatly depending on the supposed 'problem' that is being addressed and the form of regulation that is used.

---

111 Coase, 1960/1971, p 498.

112 Zerbe and McCurdy, 2000, p 11.

113 Hartley, 1997, p vii.

The question of whether there is too much or too little regulation is essentially an empirical one. A substantial amount of research has been undertaken on the benefits and costs involved in particular forms of regulation. The general conclusion that has emerged from this research since the 1960s is that there is a tendency for governments to adopt too much regulation, rather than too little, and to impose excessive compliance costs on businesses and individuals. Estimates of regulatory costs are often highly uncertain but those made for the United States, where the greatest amount of work in this area has been undertaken, suggest that total regulatory cost may amount to as much as 9 percent of GDP.[114] Research by Robert Hahn suggests that while the benefits of environmental, health and safety regulations in the United States exceeded costs in aggregate terms, less than half of the federal regulations between 1981 and 1996 would pass a neutral economist's benefit-cost test.[115]

The evidence on the relationship between economic freedom and growth, discussed in the preceding chapter, suggests that excessive and inappropriate regulation can have substantial adverse effects on economic growth. There are close links between the economic costs of regulation and the loss of economic freedom associated with regulation. The core elements of economic freedom are personal choice, protection of private property and freedom of exchange. Many regulations tend to constrain the use that people can make of their property and their ability to engage in mutually beneficial exchange with others. Components related to regulation (price control and conscription, freedom to use alternative currencies, legal structure and property rights, freedom of international trade and freedom of exchange in capital and financial markets) account for more than 70 percent of the weight of all components in the Fraser Institute's index of economic freedom. As might be expected, changes in economic freedom in individual countries have generally been closely related to the extent of regulatory reform (measured in terms of change in the components of the economic freedom index that are related to regulation).

Substantial reform of economic regulation – affecting prices, quantity, entry and exit for specific industries – occurred in most OECD countries during the 1980s and early 1990s. OECD data suggest that in terms of entry and price restrictions, covering a range of industries including airlines, road transport, telecommunications, postal services and utilities, New Zealand's economic reforms had transformed it from one of the most highly regulated OECD countries in 1975 to one of the least regulated in 1990.[116]

The limited information available on trends in social regulation – regulation aimed at correcting alleged market failure – suggests that the total amount of this regulation continued to increase in New Zealand, as in many other industrialised countries, during the 1980s and 1990s. In his survey of trends in regulation, Robert Hahn notes, however,

---

[114] Hahn, 2000, p 9.

[115] Hahn, 2000, p 3. The results of neutral economists' benefit-cost studies are usually less favourable to regulation than those undertaken by regulatory agencies (Lutter, 1999).

[116] Hahn, 2000, pp 15–16.

that in some countries there is a trend toward using approaches to regulation that attempt to achieve better outcomes at lower cost.[117] Hahn also provides evidence of the efforts being made to develop mechanisms and institutions to review new or existing regulation in many countries.[118]

There is insufficient information available on the benefits and costs of regulation in New Zealand to know whether more than half of regulations would fail an independent benefit-cost test, as Hahn estimated for the United States.[119] A strong case can be made, however, that since the early 1990s efforts to turn back the regulatory tide in New Zealand have been ineffective.[120]

## 3.4 Attempting to regulate the macro economy

While the Keynesian view of the benefits of counter-cyclical fiscal policy no longer enjoys the popularity that it had in the 1960s and early 1970s, it is still sometimes used as an argument for increases in government spending. According to this view, when an economy is in recession, increases in government spending will tend to promote economic growth by adding to total spending and, hence, raising the level of economic activity. Similarly, reductions in government spending will tend to reduce growth, at least in the short term, by subtracting from the total amount of spending in the economy.

Important qualifications to this view are widely accepted even by economists who see a potential role for counter-cyclical fiscal policy:

- First, in an open economy in which capital flows are highly mobile and the exchange rate floats, the impact on aggregate demand of changes in government spending will tend to be offset by changes in net exports. This is because higher government spending will tend to push up domestic interest rates, thus attracting additional capital inflow and resulting in exchange rate appreciation.[121]
- Second, attempts to implement counter-cyclical fiscal policies are likely to fail when deficit spending during downturns is not subsequently balanced by surpluses. The poor economic performance of many industrialised countries over the period from the mid-1970s to the early 1990s is attributable, in part, to the inflationary impact of

---

117 Hahn, 2000, p 22.

118 Hahn, 2000, pp 22–29.

119 Some New Zealand business organisations have argued that many existing regulations in New Zealand would fail a cost-benefit test. See, for example, New Zealand Business Roundtable, Auckland Regional Chamber of Commerce and Industry and Wellington Chamber of Commerce, March 1996, p 6 and pp 49–66.

120 Roger Kerr has documented the many increases in regulation in New Zealand since the early 1990s in a recent speech (Kerr, 2000b).

121 This is the implication of the open economy analysis developed independently by Marcus Fleming (1962) and Robert Mundell (1963).

> deficit spending, which forced central banks to maintain higher interest rates than would otherwise have been necessary.[122]

A more fundamental challenge to the advocates of counter-cyclical fiscal policy arises from evidence concerning the effects on investor confidence of the operation of automatic fiscal stabilisers.[123] The OECD has reported that although automatic stabilisers have generally had the expected stabilisation impact:

> … where fiscal positions threatened to become unsustainable, even if this was due to cyclical weakness, business and financial market confidence deteriorated in a number of countries. Therefore risk premia in real long term interest rates rose, which had a negative influence on economic activity. When this occurs, the negative effect on private spending operates to diminish or even reverse the supportive effects of automatic fiscal stabilisers … When financial markets respond to rising budget deficits in this way, there is little alternative to correcting the fiscal position even if this means overriding the automatic stabilisers. Several cases have been reported where such policy responses helped to reverse increases in long term interest rates and contributed to a brisk recovery, notably in Finland, Denmark, Ireland and Sweden.[124]

The view that government deficits are expansionary and surpluses are contractionary is also challenged in a fundamental way by evidence relating to the effects of successful fiscal consolidation that has resulted in a decline in the ratio of public debt to GDP. An International Monetary Fund (IMF) study, by John McDermott and Robert Wescott, identified 14 cases of successful fiscal consolidation during the 1970s and 1980s and examined how these countries performed during a four-year period spanning the period of fiscal consolidation. The study found:

> The data show that in all 14 cases economic growth and job creation did in fact increase on average throughout the four-year period. The unemployment rate declined. Both short and long term real interest rates fell and currencies appreciated in real effective terms (that is adjusted for inflation, the value of the currency of the reforming country rose in terms of the currencies of its trading partners).[125]

There are several possible reasons why successful fiscal consolidation might be expected to stimulate economic growth. First, the Ricardian argument, named after the nineteenth century British economist David Ricardo, suggests that reductions in public spending

---

122 Some advocates of counter-cyclical fiscal policies have suggested that such policies would work better if important aspects of their implementation were removed from the political process. One such proposal would involve giving an independent body powers to make discretionary adjustments to tax rates without the need for parliamentary approval. Advocates of this proposal see a parallel with central bank independence in implementation of monetary policy. See Business Council of Australia, 1999 and Ball, 1996.

123 Automatic fiscal stabilisation refers to the tendency for tax collections to decline and for government expenditures to rise automatically during recession without discretionary changes in tax rates or social security provisions.

124 OECD, 1999, p 140.

125 McDermott and Wescott, 1997.

tend to stimulate increased private spending. This is because households and firms may anticipate that lower government spending will result in lower future tax burdens and, hence, an increase in lifetime disposable income.[126]

Another possible explanation lies in adverse investor reactions to higher public expenditure. Tony Makin argues that sustainability of a current account deficit stemming from fiscal expansion depends on the terms on which foreign investors are prepared to acquire bonds denominated in domestic currency.[127] Foreign investors may expect that policies that stimulate an increase in aggregate expenditure will not induce a corresponding increase in aggregate output and are therefore likely to cause the exchange rate to depreciate (rather than to appreciate as under the Mundell-Fleming analysis). This is particularly likely if the fiscal expansion is expected to be inflationary. If foreign investors expect the exchange rate to depreciate, they will require an interest rate premium, relative to prevailing global interest rates, before being willing to acquire bonds.[128] In that situation, domestic interest rates will need to be above foreign rates to enable the increased funding requirement to be met.

Under this view, fiscal consolidation is likely to foster economic growth. It will reduce the risk of currency depreciation and, therefore, result in lower interest rates and increased investment.

Alberto Alesina and collaborators have offered a further possible explanation of the expansionary impact of some fiscal consolidations.[129] These authors have developed a model linking the role of profits as determinants of investment and the effects of government spending on business profits. They suggest that a reduction in government spending tends to increase business profits via labour market interactions. Labour supply tends to increase as a result of lower taxes on labour income and reduced welfare payments, while reduced government expenditure tends to reduce the public sector's demand for labour.

Alesina *et al* have tested their model using panel data for 18 OECD countries.[130] They reached the following conclusions:

- Reductions in government spending increase profits and, hence, investment to a substantial extent. The effect is particularly strong when the spending cut falls on government wages.
- Reductions in taxes increase profits and investment but the magnitude of these tax effects is smaller than on the expenditure side.

---

126 For a simple explanation, see Barro, 1996, p 93.

127 Makin, 1998.

128 This is additional to any interest rate premium related to risk of default.

129 Alesina, Ardagna, Perotti and Schiantarelli, 1999.

130 New Zealand, Portugal and Switzerland were excluded because of data problems.

- The model seems capable of explaining the behaviour of investment during episodes of both expansionary and contractionary fiscal adjustment. Spending cuts tend to be expansionary while tax increases tend to be contractionary. There may be nothing special about the behaviour of investment at the time of expansionary fiscal adjustments.

The important point to emerge from this brief discussion of counter-cyclical fiscal policy is that increases in government spending are not necessarily expansionary and reductions in government spending are not necessarily contractionary. The impacts of fiscal policies on expectations about future inflation rates, tax rates, exchange rates and profitability are of crucial importance. Past experience with the use of fiscal policy to stimulate economic activity in recessions does not provide grounds for confidence that such a policy could actually be implemented in a way that would lead to better economic outcomes over the longer term. The argument that spending increases during recessions would have beneficial counter-cyclical effects has turned out, in retrospect, to be little more than a convenient excuse for further growth of total government spending.

## 3.5 Income redistribution

Many of the activities of government have effects on the distribution of income and wealth. Regulatory interventions frequently benefit some individuals or groups at the expense of others. Government policies that are inflationary may also have massive effects on the distribution of income and wealth. The main focus of the following discussion, however, is on government involvement in redistribution through direct payments – for example, payments to the unemployed or elderly – and through collective funding of services, such as education or health, that would otherwise be paid for on a user-pays basis.

### *3.5.1 The leaky bucket*

It may not be obvious why the extent of government redistribution of income should be expected to affect per capita income levels or economic growth rates. There is a tendency, even among economists, to talk about distribution of the national product as though its size can be taken as given. This follows the tradition established by John Stuart Mill who argued that: "once the product is there, mankind, individually or collectively, can do with it whatever it pleases".[131]

Arthur Okun's metaphor of the leaky bucket captures the essential point that redistribution involves economic costs. Okun suggested that when funds are transferred from rich to poor, some disappears in transit because of adverse effects on the economic incentives of taxpayers and recipients of transfer payments, and the administrative costs of tax collection and transfer programmes.[132]

---

[131] FA Hayek described this statement as "an incredible stupidity, showing a complete unawareness of the crucial guide function of prices" (Nishiyama and Leube, 1984, p 323).

[132] Okun, 1975, p 91. Okun's metaphor is not perfect because it invites the question: Who gets the income that leaks from the bucket? To the extent that the bucket leaks because of disincentives associated with redistribution, this lost income is actually no longer created.

Roger Kerr has suggested that in the current New Zealand setting the question of how much additional waste is acceptable to achieve a further reduction in poverty does not arise in a stark form:

> There is ample scope to achieve both greater efficiency and greater equality by restructuring existing programmes – to eliminate middle-class welfare and to provide effective assistance to the poor to improve their income-earning potential. It is paradoxical that much government intervention in areas as diverse as education, health, conservation and the labour market actually tends to result in increased income inequality.[133]

While government involvement in redistributing income can usefully be thought of in terms of taking funds from taxpayers and giving it to beneficiaries, in cash or in kind, most of these transfers have little to do with helping people who are poor. The main form of redistribution in many programmes is a redistribution of family income over time. Funds are taken from people in their earning years in order to fund benefits that they, and members of their families, have already received or will receive at some time in the future. This redistribution tends to displace private funding arrangements, including saving, insurance purchases and intra-family transfers. In the absence of public funding, most people pay directly for the education of their children from current income or savings. They meet contingencies such as illness or unemployment by saving, insuring or borrowing. They fund their own retirement or rely on direct support from family members.

Like redistribution from rich to poor, the government's redistribution of family income over time involves the use of a leaky bucket – adverse effects on the economic incentives of taxpayers and beneficiaries. The main difference is that, while it may be sensible to talk of a trade-off between efficiency and equality in the case of redistribution from rich to poor, this concept has no obvious meaning when those who receive and pay for benefits are members of the same family or income group. Okun asked his readers to consider whether they would support transfers from rich to poor when leakage from the bucket was 10 percent, 20 percent or some higher figure. How would people respond if asked whether they wanted the government to use a leaky bucket to redistribute their family's income over time? It seems reasonable to expect that many people would be reluctant to use the government's leaky bucket to redistribute their income if they could choose instead to achieve redistributions, according to their own circumstances and preferences, using buckets that do not leak.[134]

The main reason the government's redistribution bucket is leaky is that, in the process of taking income from some people and then giving it back to them, or giving it to others, the government alters the behaviour of taxpayers and benefit recipients.

The inefficiencies arising from changes in the behaviour of benefit recipients are discussed in Appendix 2, using unemployment benefits as a specific example. An upper bound

---

133 Kerr, 1999e, p 236.

134 Where the alternative to redistribution by government is funding via private saving, the actual alternative to the leaky bucket is one in which the contents accumulate according to market rates of return.

estimate of the reduction in economic surplus associated with payment of unemployment benefits is derived in the appendix, based on New Zealand estimates of the relevant labour market elasticities. This suggests that up to about half of government spending on unemployment benefits could leak from the redistribution bucket. This estimate does not take into account the disincentive effects of the taxation required to fund unemployment benefits.

Overseas evidence tends to confirm that the government's redistribution bucket is very leaky. For example, according to Robert Moffitt, research on the former US Aid to Families with Dependent Children (ADFC) programme implied that:

> For every dollar transferred to female heads, about 37 percent leaks out in the form of reduced earnings. Put differently, about $1.60 must be spent on female heads to raise their income by $1.00.[135]

The evidence from negative income tax experiments conducted in the United States in the 1970s seems to indicate that the disincentive effects of programmes can be substantial even when guaranteed income is modest and benefits are phased out gradually as income rises. Reductions in work effort were particularly large for young males who were not heads of families (43 percent) women in two-income households (15 percent) and female heads of family (12 percent).[136]

Calculations by Martin Feldstein suggest that the deadweight costs associated with universal pay-as-you-go (unfunded) retirement income programmes also may be very large. Feldstein provides the following simplified example based on the view that the average annual growth of real wages since 1960 (2.6 percent) serves as a reasonable estimate of what such a programme can yield over the long term, whereas the real pre-tax return on non-financial corporate capital averaged 9.3 percent over the same period.

> Consider an employee who contributes $1,000 to Social Security at age 50 to buy benefits to be paid at age 75. With a 2.6 percent yield, the $1,000 grows to $1,900 after the 25 years. In contrast, a yield of 9.3 percent would allow the individual to buy the same $1,900 retirement income for only $206. Thus, forcing individuals to use the unfunded system dramatically increases their cost of buying retirement income.[137]

Feldstein suggests that the costs involved are significant relative to GDP:

> Even a conservative estimate that each dollar of Social Security wealth displaces only 50 cents of private wealth accumulation implies that the annual loss of national income would exceed 4 percent of GDP.[138]

It is possible that the divergence between real wage growth and rate of return on equities will be substantially lower in future than suggested by the historical numbers Feldstein

---

135 Moffitt, 1992, p 17.

136 The results of the negative income tax experiments have been summarised by David Green (1996, pp 71–2).

137 Feldstein, 1997, p 3.

138 Feldstein, *ibid*, p 5.

has used. Nevertheless, this example illustrates the potential for the leakage from the buckets that governments use in redistributing income to be very large.

It is also likely, of course, that the extent of leakage in some government programmes is quite small. It might be argued, for example, that deadweight costs involved in compulsory saving arrangements such as those in Chile, in which contributions are invested in equities through private funds, have been relatively small.[139] The deadweight costs associated with provision of student loans are also likely to be small – and may even be more than offset by efficiency gains through more efficient functioning of capital markets. As a general rule, however, government redistribution programmes have not been designed to capture possible beneficial impacts of this kind.

### *3.5.2 Welfare state dynamics*

Under a static view of the deadweight costs of redistribution, high social expenditures could result in a substantial reduction in average income levels and yet have only transitory effects on economic growth. Under this view, it would be reasonable to expect countries to experience lower growth rates while they are establishing welfare states, but there would be no reason to expect that their subsequent growth performance would be adversely affected.

As Okun recognised, however, his leaky bucket experiment obscures the dynamics of the incentive effects:

> He [an opponent of redistribution] might contend that any success in equalization today is likely to be transitory, as the adverse impact on work and investment incentives mounts over time and ultimately harms even the poor. What leaks out, he might insist, is the water needed to irrigate the next crop.[140]

Some eminent economists have endorsed the view that welfare spending tends to result in changes in habits and norms of those receiving assistance. Milton and Rose Friedman have argued that redistribution that involves "spending someone else's money on still another person" tends to corrupt the beneficiaries:

> The capacity of the beneficiaries for independence, for making their own decisions, atrophies through disuse. In addition to the waste of money, in addition to the failure to achieve the intended objectives, the end result is to rot the moral fabric that holds a decent society together.[141]

Gary Becker suggests that the idea that habits and preferences are endogenous, which has a long tradition within economics, has been under-emphasised in modern economics.[142] Becker argues that the characteristics of an economy can change tastes and

---

[139] Proposals for funded programmes, which would involve large equity funds being administered by a government agency could also avoid some of the deadweight costs of unfunded programmes, but are likely to be more vulnerable to inefficient fund allocation arising from lack of competition and political involvement in setting of investment guidelines.

[140] Okun, 1975, p 92.

[141] Friedman and Friedman, 1980, p 119.

[142] Becker, 1996, p 18–19.

preferences by changing personal and social capital (a concept that he uses to capture such things as the way the happiness of individuals is influenced by respect or acceptance by others). For example, "workers in economically advanced countries tend to come to work on time … not only because time is more valuable in richer countries but also because people develop a habit for promptness after living in a society that puts a premium on being prompt".[143] Becker argues that government entitlement programmes can similarly have sizeable effects on preferences:

> Welfare discourages the independence and self-reliance of recipients, while social security weakens the ties that bind together older parents and their children and encourages retired people to believe they deserve government support.[144]

Although welfare state dynamics have yet to be thoroughly researched, Assar Lindbeck has made useful progress in opening up this field.[145] While Lindbeck views the modern welfare state as "a triumph of western civilisation" he argues that there is a serious risk that hazardous dynamics will destroy its economic foundations. One important source of risk is delayed adjustment to the disincentive effects of welfare state policies. Lindbeck argues that such delays occur for more profound reasons than merely the cost and time involved in acquiring information about new programmes and adjusting to this information.

> A more profound reason why disincentive effects on individual behaviour are often delayed is that habits, social norms, attitudes, and ethics restrict the influence of economic incentives on economic behaviour. More specifically, it is reasonable to assume that the individual experiences disutility when breaking existing habits and violating social norms – because of a loss of reputation (possibly in connection with punishment) *and* because of a subjectively felt resistance to violating norms that he or she believes should be obeyed. It is also likely that a single individual is more inclined to conform to traditional habits and social norms the greater the number of individuals in society who do so – an example of the importance for individual behaviour of a "critical mass" of people with similar behaviour patterns.[146]

Lindbeck suggests that reduced adherence to habits and norms (or change in prevailing habits and norms) tends to occur as people emulate friends and neighbours.

David Thomson has argued that what he refers to as "the laws of the mass common" come into play to erode restraint:

> Experience teaches the individual to get what he or she can from the common as soon as possible, since that is what others, too numerous to see or control, will also be doing. Everyone may recognise that this will deplete the common and threaten the future, but the individual sees little way to do anything about it. One's own restraint will make minimal difference, will probably not be noticed, and may well not be reciprocated. The best the individual can do in the circumstances is to make personal profit faster than others, and so

---

143 Becker, 1996, p 19.

144 Becker, 1996, p 19.

145 See, for example, Lindbeck, 1995 and Lindbeck, 1999.

146 Lindbeck, 1995, p 10.

> be positioned to command a share of whatever is left of the common in the future. The lessons are insidious: individual virtue or self-denial does not pay.[147]

There is considerable evidence to support the existence of changes in habits and norms in response to welfare state policies, even though few econometric studies have addressed this question.

- People have often abstained from applying for benefits for which they are eligible. Research suggests that this so-called welfare stigma (which is presumably attributable to some degree to adherence to the norm that we should try to avoid becoming a burden on others) is associated mainly with the act of welfare recipiency per se and does not vary with the amount of benefit once on welfare.[148]
- Even though real benefit rates have tended to decline in New Zealand since the 1970s, total numbers of beneficiaries have continued to increase. The proportion of the working-age population receiving benefits rose from about 5 percent in 1980 to about 14 percent in 1990. Total numbers of beneficiaries have increased further since then, even in periods when employment has been growing strongly.[149] When people receiving retirement benefits and children supported by benefits are included, about 30 percent of the population have been on welfare benefits in recent years.[150]
- Research in the United States suggests that the probability of beneficiaries leaving welfare tends to decline as the period on welfare increases.[151]
- The rapid increase in numbers of recipients of domestic purposes benefits since the introduction of this benefit in 1973 seems to be the result of a change in norms that may be attributable, at least in part, to the existence of the benefit itself. James Cox comments:

  > … as the number of domestic purposes beneficiaries has increased, the receipt of a benefit has become less unusual and hence more acceptable. Thus, over time, the proportion of sole parents who receive benefits has tended to increase.[152]

- There is some evidence that benefit levels influence variables such as marital breakdown that are often associated with welfare dependency. Research by Cox indicates:

  > Australia not only has lower benefits for sole parents than New Zealand but also has fewer sole parents, a greater proportion of working sole parents, a lower proportion of sole parents receiving benefits and lower proportion of unmarried and young sole parents.[153]

---

147 Thomson, 1992, p 20.

148 Moffitt, 1983, pp 103–4

149 Cox, 1998, pp 17, 19, 28.

150 Jones, 1997, p 47. Some of these people, particularly those receiving New Zealand Superannuation, also had other sources of income.

151 Cox, 1998, p 55.

152 Cox, 1998, p 18.

153 Cox, 1998, p 41.

Econometric studies in the United States suggest that benefits have had some effects on rates of sole parenthood and illegitimacy, but these effects have generally been small.[154]

- There is some evidence that the children of single-parent families that are dependent on benefits are themselves more likely to develop behaviours that could lead them to become dependent on benefits.[155]
- There is a great deal of anecdotal evidence about changes in norms of behaviour occurring as a result of the payment of welfare benefits. Leaders of groups who would be thought likely to benefit from redistribution are among those who have made some such claims. For example, Noel Pearson, an Australian Aboriginal leader, suggests:

> True, some government money has been spent on Aboriginal health and education. But the people of my dysfunctional society have struggled to use these resources for our development. Our life expectancy is decreasing and the young generation is illiterate. Our relegation to dependence on perpetual passive income transfers meant that our people's experience of the welfare state has been negative – indeed, in the final analysis, completely destructive and tragic.[156]

In similar vein, Alan Duff has referred to warnings by a famous Maori politician, Apirana Ngata, 60 years ago:

> "Don't give welfare to my Maori people or you'll kill them".

Duff commented that this could have been said about any race or any individual receiving welfare on a long-term basis.[157]

### *3.5.3 Relationship between size of government and social outcomes*

When we think in terms of trade-offs between economic efficiency and achievement of social goals, it seems reasonable to suppose that those countries with greatest government spending, relative to GDP, would have achieved the best social outcomes. In fact, research by Vito Tanzi and Ludger Schuknecht suggests that social outcomes of countries with big governments are much the same as those of countries with small governments.[158]

As shown in Figure 4, based on research by Tanzi and Schuknecht, industrialised countries with big governments tend to have substantially higher government spending, relative to GDP, on health, education and transfer payments than those with small governments. As the researchers note, however, performance indicators for health and education are "quite similar" across groups of countries:

> Literacy, secondary school enrolment, infant mortality, and life expectancy are relatively uniform across industrialised countries. Medium-sized governments trail behind somewhat in tertiary school enrolment for women. Educational attainment (as measured by the

---

154 Moffitt, 1992, p 31.

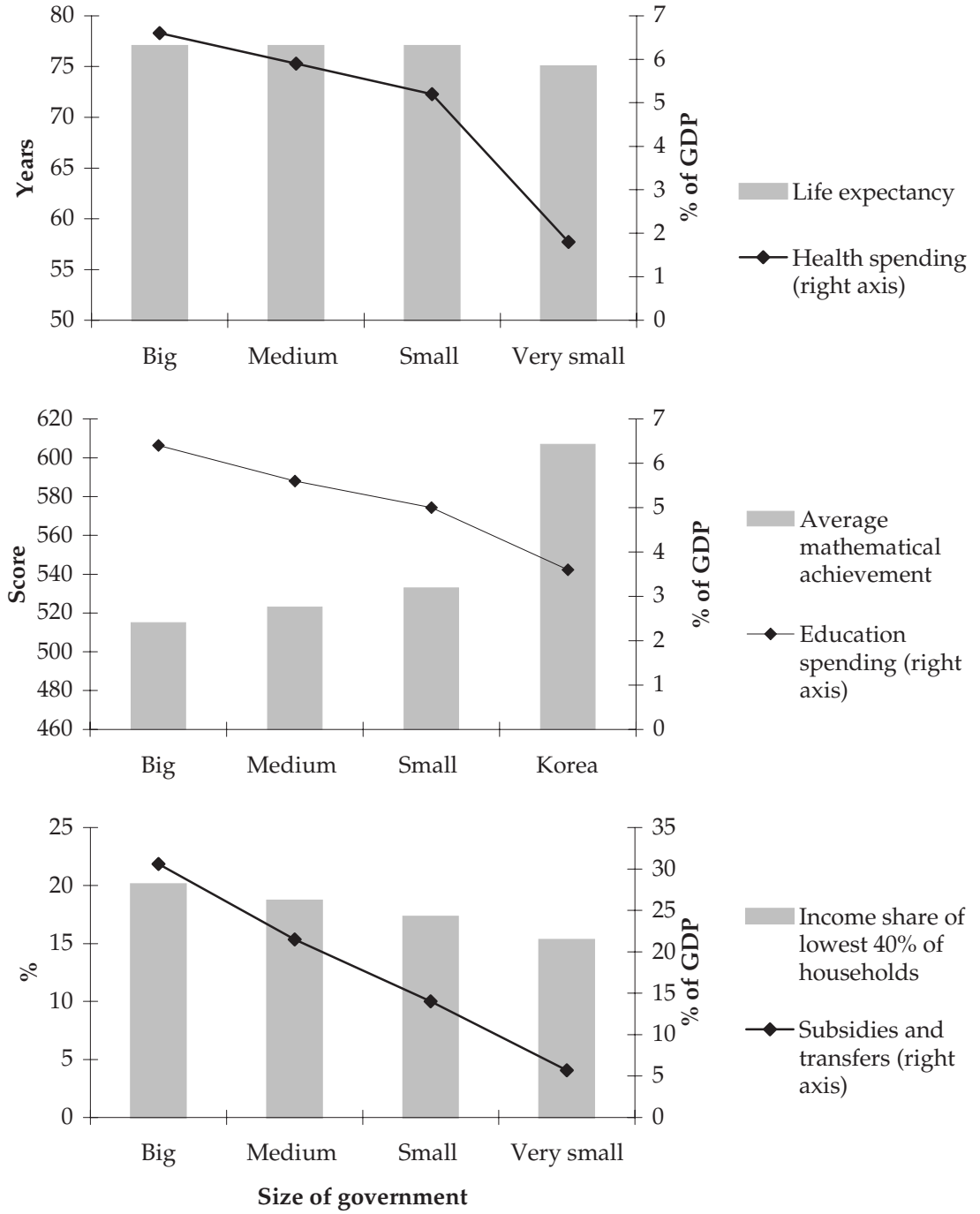
155 Cox, 1998, pp 68–75.

156 N Pearson, 'Welfare state hurts aborigines', *Australian Financial Review,* 17 August, 2000, p 41.

157 A Duff, 'Kiwis win gold in Welfare Olympics – and it's a killer', *The Australian,* 30 August, 1999.

158 See: Tanzi and Schuknecht, 1995; Tanzi and Schuknecht, 1998; Tanzi and Schuknecht, 2000.

Figure 3.1: Variation of social expenditures and outcomes with size of government (about 1990)




Notes: The countries with big governments are Belgium, Italy, Netherlands, Norway and Sweden (public expenditure more than 50 percent of GDP); those with medium-size governments are Austria, Canada, France, Germany, Ireland, New Zealand, Spain (public expenditure between 40 and 50 percent of GDP); and those with small governments are Australia, Japan, Switzerland, United Kingdom and United States. The selected countries with very small governments are Chile, Hong Kong, Korea and Singapore (all newly industrialised countries).

*Sources*: Tanzi and Schuknecht, 1995; and Tanzi and Schuknecht, 1998.

> mathematical scores of eighth graders attending secondary school) is highest in countries with small governments.
>
> Newly industrialised countries show lower indicators for literacy, and for secondary school enrolment. It is remarkable, however, that the educational standards in Korea are significantly higher than in all industrialised countries.[159]

Tanzi and Schuknecht found that the poorest 40 percent of households had 20 percent of national income at their disposal in industrialised countries with big governments. They comment:

> This share is, on average, 2.8 percentage points higher than in countries with small governments but in some cases there is no difference at all. Therefore, the question should be asked whether this marginal difference in the distribution of income justifies public spending levels which are on average 20 percent of GDP higher (55 percent as compared to 35 percent).[160]

Other relevant findings by Tanzi and Schuknecht include the following:

- Improvements in social indicators in industrialised countries have been quite limited since 1960 and countries with small governments have generally not fared worse than countries with large governments (even though social spending increased more rapidly in the latter countries).[161]
- Economic performance, as measured by indicators such as GDP growth and unemployment levels, has been better on average in countries with small governments than in countries with big governments.[162]

### *3.5.4 Middle class welfare and rent seeking*

Why is it that increased social spending by governments has not resulted in commensurate improvements in social outcomes? In addition to possible adverse effects of this expenditure on habits and norms of beneficiaries, as discussed above, there has been a tendency for the benefits of increased social spending to flow to the middle classes, rather than those most in need of government help.[163] The following comment by *The Economist* about social spending in western democracies is relevant:

---

159 Tanzi and Schuknecht, 1998, p 78.

160 Tanzi and Schuknecht, 1998, p 80.

161 Tanzi and Schuknecht, 1995, pp 20–22.

162 Tanzi and Schuknecht, *op cit*, p 20.

163 According to Tanzi and Schuknecht (2000), government transfers in the big government group of countries were so badly targeted that only 22 percent of total transfers went to the poorest 20 percent of the population. The corresponding percentages for medium and small government groups were 25 and 34, respectively (Table V.4, p 113). An OECD study indicates that fiscal churning, the extent to which the same households both receive payments from government and pay taxes, tends to be positively related to government expenditure as a percentage of GDP (OECD, 1998, p 163). For example, churning of income accounts for 27 percent of government spending in the United States, 18 percent in Australia and 50 percent in Sweden. Government spending as a percentage of GDP in these three countries in the mid-1990s was 24 percent, 30 percent and 68 percent, respectively.

> The huge expansion of the state, especially after 1960, has improved the lot of the poor by far less than the increased transfers and higher spending on services might have led you to expect. What all these countries have in common over this period is that their welfare states have been, to a greater or lesser extent, "captured" by the middle classes.
>
> In most western countries, much of the expensive government programmes are nowadays the middle class 'entitlement' programmes – intended not to provide a safety net for the poor but to deliver elaborate and expensive services to all. These include pensions, health care, education (up to and including university education), public housing and transport subsidies. The poor get some benefit from these programmes, along with everybody else. Plainly, however, these policies are no longer aimed principally at helping the least well-off, if that was ever the goal.[164]

How can this so-called 'middle class capture' of benefits be explained? There are difficulties with the view that the growth of middle class entitlement programmes is the result of competition by major political parties to woo the 'median voter'. Even if the middle-income group gains more from increases in entitlements than it pays in higher taxes, this group is unlikely to be a net winner from such increases after the impact of efficiency costs is taken into account.[165]

It is possible that the growth of middle class entitlements may be partly attributable to poor community understanding of these costs and benefits. The 'median voter' may be poorly informed.[166] However, there does not seem to be any obvious reason for the 'median voter' in countries with small governments to be better informed on these issues than their counterparts in countries with large governments.

A more plausible explanation of the growth of middle class entitlements lies in rent seeking by particular interest groups – that is, in attempts by these groups to have the powers of the state used for their benefit.[167] The middle class is such a heterogeneous group that it is difficult to conceive that it has used its political influence in a concerted way to 'capture' benefits at the expense of the wealthy or the poor, or both. It is possible, however, for some groups of middle-income voters to gain from increased expenditure

---

164 *The Economist*, 20 September, 1997, pp 22, 25.

165 In addition, even assuming costless redistribution, the median voter may only expect to benefit to the extent that mean incomes exceed median incomes. Thomas Borcherding discusses this outcome of the "income class approach to redistribution" and alternative theories of voting and redistribution in his survey article on causes of government expenditure growth in the United States (Borcherding, 1985, pp 370–372).

166 This could be the result of rational ignorance – the low probability that any individual's vote will be decisive may make it rational for individuals to remain ill-informed (Downs, 1957). In addition, even informed voters may find it difficult to make choices about complex non-repetitive problems (North, 1990, p 51).

167 Gordon Tullock defines rent seeking as "the use of resources for the purpose of obtaining rents for people where the rents themselves come from some activity which has negative social value" (Tullock, 2000, p 45). Tullock goes on to explain that rent seeking involves obtaining special privileges from government. James Buchanan's definition emphasises that the adverse consequences of rent seeking arise because of institutional settings: "The term rent seeking is designed to describe behaviour in institutional settings where individual efforts to maximize value generate social waste rather than social surplus" (Buchanan, 1980, p 4).

in particular areas – such as removal of means tests from retirement benefits or removal of university fees – even if such policies are detrimental to the interests of the rest of the community, including the majority of middle-income earners. The likelihood of success of such rent seeking depends on the prevailing political culture. Interest groups advocating increases in public spending are likely to be most successful where it is accepted practice for political parties to seek power by appealing to particular groups of voters, rather than by advocating policies to further the wider interests of the community.

The rent seeking explanation for middle class welfare entitlements is supported by the existence of organisations that lobby political parties to maintain and extend such entitlements. There would be no reason for such lobbying to occur if governments maintained middle class entitlements for 'public interest' reasons, such as avoiding creation of poverty traps or reducing the social stigma associated with receiving welfare payments.[168]

The economic costs of rent seeking include the cost of resources used in the lobbying process as well as the deadweight costs associated with the redistribution of income and wealth. Gordon Tullock points out that the cost of lobbying activities to obtain special privileges is, to a considerable extent, a gamble:

> As for other types of lotteries, the winner makes a large profit, but the bulk of the people who buy lottery tickets lose and the total losses are larger than the benefit.[169]

When the size of government is growing, there is a general presumption that citizens who do not seek additional benefits in return for the tax they pay will end up having to pay just as much tax, while obtaining less in return. In this way, rather than being generally frowned on as akin to vote buying, attempts by political parties to appeal to particular interests tend to become the norm.

The growth in middle class entitlements can, thus, be viewed as the political counterpart of the laws of the mass common discussed earlier. In both cases, when experience teaches people that substantial benefits may be available to those who seek to get as much out of the 'common' as soon as possible, it is difficult for norms relating to exercise of restraint to be maintained.

Earl Brubaker has described the process of converting private property into common property as "the tragedy of the public budgetary commons".

---

[168] It is sometimes argued that universal benefits are in the best interests of the poor because the political support of middle class recipients is necessary to ensure that the poor continue to receive benefits. In commenting on this argument, Michael James has suggested that "in unconscious parody of Adam Smith's famous 'invisible hand' metaphor, it brings the delightful message that the best way to be charitable is to be selfish!" (James, 1992, p 24). Available evidence does not support the view that countries, such as Sweden and France, in which distribution of transfer payments has been regressive, have been more successful in raising incomes of the poor than other countries, such as Australia, where a relatively high proportion of transfers goes to the poor. (Tanzi and Schuknecht, 2000, Table IV.11 and IV.12 pp 96, 97.)

[169] Tullock, 2000, p 48.

> By converting private property into common property, the public budgetary process creates its own form of tragedy. Mainstream public microeconomics indicates that the common fund should be allocated to the creation of "public goods" – nondepletable goods providing benefits simultaneously to all at no direct charge. In practice, however, the common fund becomes the object of attempted alienation by interest groups striving to secure allocations of benefit mainly to themselves. As a result, the common fund most often finances not pure public goods but the proverbial all-too-depletable pie to be divided among competing claimants.[170]

When unchecked, this clamour by competing groups for a greater share of the common fund results in additional transfers of private goods to the common fund. In turn, such transfers are a disincentive to wealth creation in the private sector. When the process is allowed to continue it tends to result in increasing conflict over the distribution of a slow-growing, and eventually diminishing, national product.[171]

## 3.6 The impact of total government spending

The economic effects of total government spending depend on the effects of the taxes that are required to finance that spending as well as on the factors discussed above relating to government functions and the nature of spending.

### *3.6.1 The excess burden of taxation*

Taxes impose an excess burden (or deadweight loss) because they distort spending decisions and incentives to work, save and invest, resulting in a reallocation of resources away from their most productive uses. The simple example provided below illustrates how taxes impose an excess burden.[172]

*A simple example of the excess burden of taxation*

The following example illustrates how a tax can impose an excess burden (or deadweight loss) by eliminating market transactions and the economic surplus associated with those transactions.

Let us suppose that Jack mows Jenny's lawn each week for $30, which is the going rate in the city where they live. Jenny would actually be prepared to pay Jack up to $33 to mow her lawn, taking into account the income she would forgo and the costs (including displeasure) she would incur if she mowed the lawn herself. Jack would be prepared to mow Jenny's lawn for $28, because Jenny lives close to many of his other clients and the cost of mowing her lawn is, therefore, lower than for clients in another area, whom Jack regards as marginal to his business. This means that there is an economic surplus of $5 ($33 minus $28) associated with this transaction.

---

170 Brubaker, 1997, p 356.

171 For further discussion, see: Bernholz, 1995, pp 161–168 and Bates, 1996b, pp 29–31.

172 In economics textbooks the deadweight costs of taxation are usually explained using diagrams showing supply and demand schedules. For a simple diagrammatic exposition, see Mankiw, 1998.

Now, consider what happens when the government introduces a tax of 30 percent, which applies to the income that Jack earns from lawn mowing. To keep the example simple, we will assume initially that Jenny does not have to pay the tax on her own income.

After the tax is imposed, Jack tells Jenny that, in order to pay the tax, he will have to raise the price that he charges her to a minimum of $36.40 ($28 plus 30 percent of $28).[173] Jenny responds that the most she is prepared to pay is $33. Jack calculates that this would leave him with only $25.38 after paying the tax, which is not sufficient to compensate for the time involved in mowing Jenny's lawn. So, the result is that Jenny mows her own lawn and both Jack and Jenny have lower levels of well-being. No tax is collected, but the economic surplus of $5 is lost. This is the excess burden that is incurred by Jack and Jenny because the tax has discouraged a mutually advantageous transaction.

The rate of tax is an important factor determining whether or not the transaction continues to occur following introduction of the tax. It could be expected to continue with tax rates of up to almost 18 percent – that is, at rates that would not entirely remove the economic surplus that makes the transaction mutually beneficial. Substitution possibilities are also important. If Jenny were unable to substitute her own services for Jack's by mowing the lawn herself, the initial economic surplus on the transaction would have been larger and she might have been willing to accept a pre-tax price of $36.40, or even higher. Similarly, if Jack's potential earnings in alternative occupations were a lot lower than in lawn mowing he might be prepared to continue to mow Jenny's lawn for a post-tax return of $25.38, or even less.

When Jack's clients also have to pay tax on their incomes, transactions with larger economic surplus are also eliminated. Let us suppose that, prior to introduction of the tax, Jenny's neighbour, Bill, has to work an additional 30 minutes at his job in the market economy in order to pay Jack $30 for mowing his lawn. Rather than mow his own lawn, Bill would be willing to work for up to an additional 50 minutes in the market economy. This means that there is an economic surplus of $22 ($50 minus $28) on Bill's transaction with Jack. If the tax applied only to income from lawn mowing, Bill would have to work for 36.4 minutes in order to pay Jack $36.40. When Bill also has to pay the tax, he would have to work for 52 minutes in order to earn the $52 he would require before tax in order to pay Jack $36.40 (and the tax authorities $15.60). This is not acceptable to Bill, however, so, like Jenny, he mows his own lawn. The tax results in loss of the $22 economic surplus on Bill's transaction with Jack.

The size of the excess burden associated with a tax depends on:

- the rate of tax; and
- substitution possibilities in consumption and production (and, hence, elasticity of demand and supply).

The excess burden associated with some tax systems is greater than for others that raise similar amounts of revenue. In general, the excess burden can be expected to be greater

[173] The tax authorities may allow Jack to deduct the costs he incurs in mowing Jenny's lawn. This complication is left out of the story to keep it as simple as possible.

where taxes are narrowly based than where a broad range of economic activity is taxed at a uniform rate. The advantages of a broad-base, low-rate system arise partly because the broad base is expected to reduce the potential for substitution of untaxed goods for taxed goods, as well as because the excess burden is expected to be lower when tax rates are low.[174]

Reasoning along these lines seems to have led to a great deal of complacency about the excess burden associated with broadly based taxes such as income tax. This is reinforced by evidence that some of the relevant elasticities, such as the elasticities of supply of labour and savings, are quite low, resulting in relatively low estimates of the deadweight losses associated with broadly based taxes.[175] Low elasticities imply that the disincentive effects that well-designed taxes will have on work, savings or investment will be low.[176]

Recent analyses suggest that this complacency is not based on firm foundations. Several points need to be taken into account.

- Even if the relevant supply and demand elasticities are relatively low, the deadweight cost associated with further increases in tax rates becomes substantial as tax rates rise. For example, if relevant elasticities result in an average excess burden of 5 percent (deadweight loss of 5 cents per dollar of revenue raised) with a tax rate of 10 percent, the marginal excess burden at that point is 10 percent (additional deadweight loss of 10 cents for every dollar of revenue raised). Maintaining the same elasticities, the marginal excess burden rises to 37.5 percent when the tax rate is 30 percent, and to 83.3 percent when the tax rate is 50 percent (Figure 5).[177]

---

174 Broad-based taxes also have the advantage of being less demanding of information than alternatives that are theoretically superior, but require rates to vary according to demand and supply elasticities. Uniform tax rates also make it easier for governments to reject requests for favourable tax treatment by particular groups and, therefore, reduce incentives for political lobbying.

175 For example, in an influential contribution in the 1960s, Arnold Harberger estimated the deadweight loss of a tax on labour income was equal to about 2.5 percent of the revenue raised (Harberger, 1964).

176 If readers suspect that the author is trying hard to excuse such complacency, it may be because he has, in the past, been attracted to that line of reasoning.

177 Data for Figure 5 were derived as follows. The deadweight loss (L) is given by the following formula for the area of a triangle:

(1) $L = 0.5\ eqt^2$ where:

e is defined as the harmonic sum of compensated supply and demand elasticities. $e = [e_1^{-1} + e_2^{-1}]^{-1}$ where $e_1$ is the absolute value of the elasticity of demand around the no tax point and $e_2$ is the absolute value of the elasticity of supply around the no tax point.

q = pre-tax equilibrium quantity of goods exchanged in the market with units defined such that the price equals unity at this point.

t = rate of tax (t = .1 means that the tax rate is 10 percent of the initial price).

Revenue (R) is given by:

(2) $R = qt - eqt^2$.

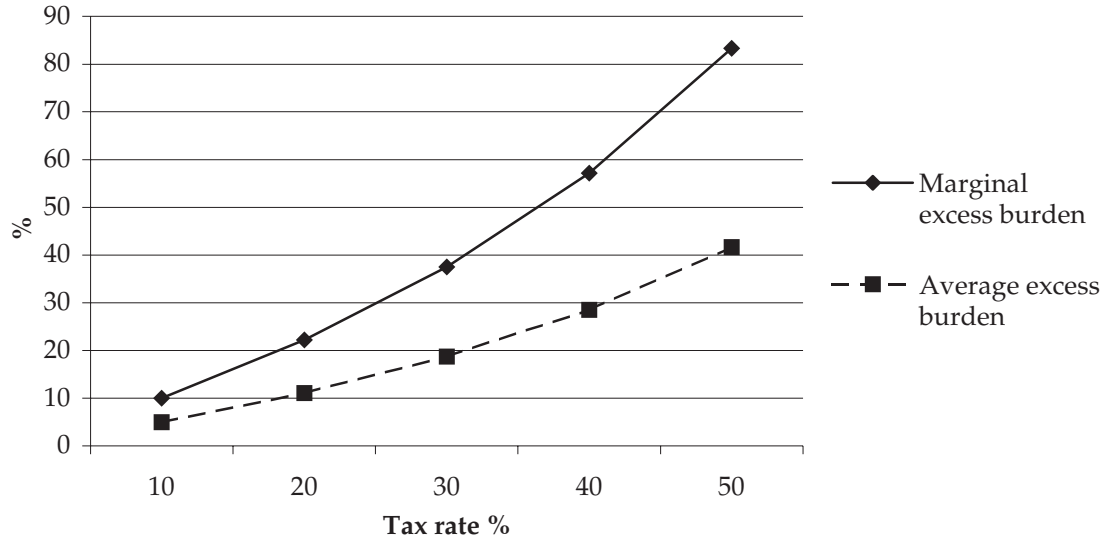
The slope of the curve relating deadweight loss to tax rate (dL/dt) is given by:

(3) $(dL/dt) = eqt$.

The slope of the curve relating revenue to tax rate (dR/dt) is given by:

(4) $(dR/dt) = q - 2eqt$.

Figure 3.2: The excess burden of taxation at various tax rates




- It has become increasingly unrealistic to assume that everyone in the labour force wants full-time work, regardless of the take-home pay on offer.[178] Empirical studies suggest that while the labour supply elasticity for prime age males is relatively low, that for females tends to be much higher. Many families have second earners whose decisions regarding number of hours of work involve a weighing up of after-tax earnings against the benefits of being at home, which may include better quality child care as well as savings on the costs of child care. In addition, people often have discretion over the timing of their retirement and the extent of any part-time work during retirement. Emigration is also an option in some countries if high labour taxes make after-tax earnings unattractive, relative to those available elsewhere. Moreover, labour supply involves more than just turning up at work. To use Martin Feldstein's words:

It follows that the increase in deadweight loss for each additional dollar of revenue raised (marginal excess burden) is given by:

(5) MEB = et / (1 – 2et).

The average deadweight loss per dollar of revenue raised is given by:

(6) L/R = 0.5 et / (1 – et).

Formula (5) is equivalent to the formula for marginal excess burden used by Diewert and Lawrence (1994, pp 9–10) except that these authors approximate demand and supply curves at tax distorted points rather than at the no tax point and do not make the simplifying assumption of setting the no tax price equal to unity. The author is grateful to Erwin Diewert for clarifying this point.

With t = .1, L/R = .05 if e = 0.90909. The estimates of excess burden given in the text and shown in Figure 5 were obtained by assuming e = 0.9091.

178 The view that labour supply is inelastic is influenced by the observation that many people tend to work longer hours when their incomes fall. However, taxes have an excess burden because of their substitution effects rather than because of their income effects. The burden of a tax (the loss of income equal to the amount of tax paid) may cause people to work longer or harder, but the excess burden arises because the tax also has a substitution effect (for example, it induces substitution of leisure for work). This means that in calculating the excess burden, labour supply elasticitities should be income-compensated. Compensated labour supply elasticities are higher than uncompensated ones.

> The relevant distortion to labour supply is not just the effect of tax rates on participation rates and hours but also their effect on education, occupational choice, effort, location, and all the other aspects of behavior that affect the short-run and long-run productivity and income of the individual.[179]

- Evidence that savings rates tend to be relatively unresponsive to changes in interest rates does not necessarily mean that investment levels are not affected by taxes. It is possible that taxation to finance income transfers may reduce aggregate savings by lowering lifetime incomes and redistributing income from the high-saving working-age population to people with a higher propensity to consume additional income.[180] In addition, with integrated international financial markets it is possible for savings of foreigners to be drawn upon to finance domestic investment and for domestic savings to be invested in other countries. Differences in taxation of investment income can, therefore, influence the location of investment.

  The greater attractiveness of jurisdictions with high levels of economic freedom as locations for internationally mobile resources is one reason for the relationship between economic freedom and economic growth reported in Chapter 2. As Wolfgang Kasper puts it: "trade and mobile resources favour jurisdictions with freedom-enhancing and trust-inspiring institutions".[181]

  Political leaders who perceive that poor institutions are a handicap in attracting internationally mobile resources have an incentive to promote reforms. Despite fears expressed in some quarters, however, there is little evidence that international capital mobility is resulting in a "race to the bottom" in which governments are slashing taxes and services to lure foreign capital. The OECD comments that "there appears to be little evidence" that major tax bases have collapsed:

  > Overall, taxes have risen, not fallen, over the past several years, and although tax rates have tended to converge over time there remains substantial variation across countries. And within countries, where there are few formal barriers to geographic mobility, differentials of major taxes also seem to be significant and stable over time.[182]

  Nevertheless, recent empirical work suggests that international capital mobility is substantially higher than it had previously been thought to be – and is increasing.[183] The OECD suggests that tax reforms in many member countries – involving the

---

179 Feldstein, 1996, p 22.

180 Leibfritz, Thornton and Bibbee, 1997, pp 19–21.

181 Kasper, 2000, p xix.

182 OECD, 1998, p 166.

183 In a much-cited paper Feldstein and Horioka (1980) found that national rates of saving and investment were highly correlated in OECD countries and interpreted this to imply that capital mobility is relatively unimportant. The results of a study by Leibfritz, Thornton and Bibbee (1997, p 24), which sought to remove some potential sources of bias in the relevant regression coefficient, suggest that the influence of domestic savings on domestic investment levels is much less strong than implied by the Feldstein–Horioka result. Recent work also suggests that the influence of domestic savings on domestic investment levels was substantially lower during the 1990s than in the period covered by the original Feldstein–Horioka study (Obstfeld and Rogoff, 2000, pp 11, 56).

flattening of personal income tax schedules, base broadening by limiting exemptions and taxing fringe benefits, reductions in corporate income tax rates, and increasing reliance on social charges and consumption taxes – have been partly a response to a tendency for tax bases to migrate to low-tax countries.

> The tax reforms implemented over the past several years were, at least in part, a response to the need to enhance economic performance. But they can also be understood as a response to the perception that tax bases were being eroded due to high tax rates, increasing avoidance and evasion, and the migration of taxable income to low-tax jurisdictions. Thus, reform tended to reduce tax rates on elastic tax bases, and raise them on inelastic ones.[184]

- Higher tax rates provide an incentive for individuals to substitute non-taxable forms of compensation, for example, nicer working conditions, for taxable forms of compensation. Martin Feldstein has reported the results of several studies that suggest that the elasticity of taxable income with respect to the net of tax share (the share of income that taxpayers are able to keep) is substantially larger than traditional estimates of the compensated labour supply elasticity.[185] Feldstein estimates the average excess burden of the personal income tax in the United States to be about 32 percent and the marginal excess burden to be about 78 percent.

A few years ago Erwin Diewert and Denis Lawrence undertook a major study of the marginal costs of taxation in New Zealand using a rigorously specified general equilibrium model.[186] The key findings of that study were as follows:

- The marginal excess burden associated with labour taxation increased from 5 cents to 18 cents per additional dollar of revenue raised over the period from 1972 to 1992.
- The marginal excess burden of consumption taxation (all indirect taxes other than property taxes and import duties) increased from about 5 cents to 14 cents.
- These increases in marginal excess burden were the result of increases in tax rates and increases in the flexibility of the New Zealand economy.
- A government project financed by increased labour taxation would need to return $1.18 net of collection costs for each dollar spent on it just to cover the opportunity costs to the community of the dollar and the deadweight loss. If the last dollar of government spending returned a benefit to the community worth only one dollar, the gain from reducing spending by that amount would be 18 cents – effectively an 18 percent return.

Diewert and Lawrence suggested that their deadweight loss estimates were likely to be conservative because they had not calculated the marginal excess burden of capital taxation. The marginal excess burden of capital taxation could be expected to be higher

---

184 OECD, 1998, p 164.

185 Feldstein, 1999, pp 676–677.

186 Diewert and Lawrence, 1994. This study was undertaken for the New Zealand Business Roundtable by Swan Consultants (Canberra).

than for labour, particularly because of the greater potential for capital to move internationally in response to changes in tax rates.[187] Subsequent work by Diewert and Lawrence, for Australia, suggests that the marginal excess burden of capital taxation was about 48 percent in the 1990s.[188]

When account is taken of deadweight costs involved in both taxation and delivery of benefits it is likely that an additional deadweight cost of more than 50 cents would be associated with each additional dollar of government spending in New Zealand.

Even though estimates of deadweight costs are derived under static equilibrium assumptions, changes in deadweight costs can have significant implications for economic growth rates. For example, if deadweight costs amount to about half of each additional dollar of government spending, a reduction in spending from 40 percent to 30 percent of GDP would increase average incomes by about 5 percent. If this took place over a decade, it would add about 0.5 percent per annum to the rate of growth of GDP over that period. It is likely, however, that the smaller size of government and lower tax rates would also have dynamic effects – for example, by discouraging welfare dependency or by encouraging entrepreneurship – that would have an additional, longer-term, impact on the economic growth rate.

### *3.6.2 Impact on economic growth*

Recent reviews of relevant economic literature undertaken within the OECD and the New Zealand Treasury tend to support the view that increased size of government has a negative effect on economic growth.[189] As these reviews indicate, however, the results of many econometric studies in this area are ambiguous. Of the 41 studies recently surveyed by Peter Nijkamp and Jacques Poot relating the impact of fiscal policies on long-run growth, more than half (22) were inconclusive.[190] The majority of the other studies (12 of the 19) found that big government was detrimental to growth.

There are important reasons why econometric studies that seek to measure the overall effects of government size on economic growth might be expected to be inconclusive.

- The existence of high deadweight costs associated with taxation and government spending does not necessarily imply that size of government will affect economic growth rates. Neoclassical economic theory suggests that the size of government will impact on average income levels rather than economic growth rates. It implies that,

---

[187] A study by Dale Jorgenson and Kun-Young Yun (1991) for the United Sates suggests that consumption and labour income tax bases are much more efficient than capital income tax bases. Jonathan Kesselman (2000) suggests that the efficiency costs of capital taxation are higher because capital is more mobile domestically – in the sense that it can be switched into lesser taxed forms such as owner-occupied housing and capital gains – in addition to being more mobile internationally. Kesselman also notes that taxes on capital income and savings lead individuals to make inefficient choices between current and future consumption, typically by saving less for retirement.

[188] Diewert and Lawrence, 1998.

[189] See Leibfritz, Thornton and Bibbee, 1997; and Galt, 2000.

[190] Nijkamp and Poot, 2000. The authors note that in some of these studies government expenditure is net of financial transfers (social security payments and subsidies).

after they have adjusted to increases in the size of government, countries with big governments may be able to grow at a similar rate to countries with small governments. Even though the neoclassical view ignores dynamic factors that are likely to have important effects on economic growth rates, it is reasonable to expect the relationship between the government spending ratio and economic growth to be weaker than the relationship between the change in the government spending ratio and economic growth.

- Mechanisms by which the size of government may have an impact on growth – for example, by changing norms of behaviour relating to the entrepreneurial discovery process and the extent to which individuals seek opportunities to enhance their productivity – are complex. If social norms restrain responses to the economic incentives and disincentives associated with government spending and taxes, it is possible that some important effects of government policies on growth may have gestation periods of several decades.[191] Such effects may not show up in the results of regression analyses because the time spans covered are generally too short and functional forms usually specify that elasticities remain constant.
- There is evidence that the effects of government spending and tax collection on economic growth vary widely between different taxes and different forms of spending.[192] In addition, as Gary Becker and Casey Mulligan have shown, tax collection tends to be more efficient in countries with big governments.[193] Failure to control for this in regression analysis may result in parameter estimates that tend to understate any adverse impact of size of government on economic growth.
- It is difficult to disentangle the separate contributions of various policy variables by cross-country or time series analyses using aggregate data. The results of econometric studies that seek to measure the effects of many other policy variables are also inconclusive.[194] When a selection of such variables is combined in indexes of economic freedom, however, their combined contribution has been shown to be significant (see Appendix 1).

Despite the inclusive results of many econometric studies in this area, a recent study, undertaken by James Gwartney, Randall Holcombe and Robert Lawson, has concluded that there is a strong negative relationship between size of government and growth.[195] The study focused on the relationship between size of government and economic growth

---

191 This is not to deny that other important effects can occur quickly. For example, investor sentiment can change in anticipation of a change of policy direction, leading to almost immediate changes in the level of investment and the economic growth rate.

192 For example, Kneller, Bleaney and Gemmell, 1999.

193 Becker and Mulligan, 1998.

194 There has been considerable discussion of the robustness of the findings of cross-country regression analyses regarding the significance of policy variables. See, for example, Levine and Renelt, 1992; and Sala-i-Martin, 1997.

195 Gwartney, Holcombe and Lawson, 1998.

in 23 OECD countries over the period from 1960 to 1997. The main finding of the study was that a reduction in government spending as a percentage of GDP of 10 percentage points (for example, from 35 percent to 25 percent) would increase the annual growth rate by about 1 percentage point (for example, from 3 to 4 percent per annum).

This finding raises at least three questions that are worth exploring:

- To what extent are the results driven by the fact that over the period considered the average size of governments in OECD countries went up while average growth rates declined? If the results are driven largely by this trend it is arguable that the decline in growth rate and increase in government spending might be due to some third factor (such as institutional rigidities that impeded adjustment to the oil price shock in the 1970s and resulted in higher unemployment). Alternatively, it might be argued that spending may have increased because the growth rate fell, rather than vice versa.
- How robust are the results when attempts are made to control for other variables, such as other components of economic freedom, which may account for some of the decline in growth rates in OECD countries during this period?
- How robust is the observed relationship between the initial size of government and subsequent economic growth when previous change in government spending is included in the analysis. As noted above, it is reasonable to expect the relationship between the government spending ratio and economic growth to be weaker than the relationship between the change in the government spending ratio and economic growth.

These questions are considered in Appendix 3. The following conclusions emerge from the analysis:

- The results obtained by Gwartney *et al* seem to be driven largely by a tendency for countries with big governments to grow less rapidly than countries with small governments. When allowance is made for the possibility that growth rates in particular decades may be influenced by factors other than size of government, the estimated coefficient is lower but a strong inverse relationship between size of government and economic growth is still evident.
- The inclusion of other variables that affect economic growth rates – the rate of growth in the preceding decade, initial per capita income level and initial economic freedom rating – reduces the apparent significance of the relationship between initial size of government and subsequent economic growth rates. However, these results probably understate the effects of initial size of government. This is because the influence of initial size of government is likely to be reflected in some of these additional variables, particularly the rate of economic growth in the preceding decade.
- There is evidence that previous change in size of government has significant effects on economic growth rates. The results reported in the appendix suggest that a reduction in government spending as a proportion of GDP by 10 percentage points would increase the subsequent annual growth rate by 0.6 percent per annum for between 15 and 25 years. This would amount to a total increase in per capita income

of between 9 and 16 percent.[196] Impacts of this magnitude imply that the deadweight losses associated with increases in government spending may exceed the amounts of spending involved.

The finding that change in size of government has significant effects on income levels has implications for future differences in per capita income levels between New Zealand and high-income countries such as the United States. In recent years, average income levels have been about 40 percent lower, and government outlays as a percentage of GDP about 10 percentage points higher, in New Zealand than in the United States. The results suggest that if New Zealand reduced the size of its government by 10 percentage points this would result in a reduction in the gap between average income levels in New Zealand and the United States to between 24 and 31 percent.

In addition, there are also good reasons, discussed above, to expect that a reduction in government size would lift the longer-term growth rate of the New Zealand economy. Unfortunately, the magnitude of such effects remains unclear because econometric studies have not enabled the contribution of size of government to be disentangled from other factors, including changes in other components of economic freedom.

---

196 The upper estimate assumes that there is no reverse causation involved in the estimated coefficient relating the economic growth rate to change in government size occurring over the same time period. It may be argued that this coefficient could be biased upwards because increases (falls) in the ratio of government spending to GDP can occur because of lower (higher) economic growth rather than vice versa.

# 4

# CONCLUSIONS

The main conclusion to emerge from this report is that the large increases in the size of government that occurred in most OECD countries during the twentieth century had substantial adverse effects on economic performance. This chapter summarises the nature of these adverse effects before considering what is the right size for government and the forces leading to the growth and subsequent decline in size of government in most OECD countries. The final section of the chapter identifies some of the issues involved in reducing the size of government in New Zealand.

## 4.1 The effects of big government

It is evident from preceding chapters that growth in the size of government in OECD countries has typically been associated with high costs of service provision, waste of resources, large costs of compliance with regulation, adverse effects on incentives of intended beneficiaries, diversion of resources into rent seeking and large deadweight costs in raising government revenues.

### *4.1.1 High costs of service provision*

The further the range of services provided by the government extends beyond the limited area where it has a competitive advantage, the higher the cost is likely to be of providing the services concerned. The evidence emerging following privatisations in recent years suggests that there are substantial gains in withdrawal of government involvement from provision of services that the private sector can supply more efficiently.

### *4.1.2 Waste of resources*

A high level of government spending on services often reflects political objectives, such as cushioning employees or other groups from competitive pressures, rather than the objective of providing services to the public at least cost. There is evidence that high government spending in these areas has resulted in ongoing reductions in economic growth rates as well as reductions in national income levels.

### *4.1.3 Large compliance costs*

In conjunction with growth in size of governments, there has been a tendency toward excessive regulation in many countries. This has imposed large compliance costs on businesses and individuals. There are close links between the economic costs of regulation and the loss of economic freedom associated with regulation. Components related to regulation account for more than 70 percent of the weight of all components in the Fraser Institute's index of economic freedom. There is strong evidence that countries with high levels of economic freedom tend to grow more rapidly than countries with low levels of economic freedom.

### *4.1.4 Adverse effects on incentives*

Redistribution of income by government has adverse effects on the economic incentives of intended beneficiaries as well as taxpayers. These disincentive effects can be substantial, even when benefits are phased out gradually as income rises. There is also considerable evidence that redistribution results in changes in habits and norms in ways that encourage welfare dependency. Such changes are likely to impact adversely on economic growth over the longer term.

### *4.1.5 Rent seeking*

It is not possible to explain high social spending in OECD countries as a deliberate choice by voters to sacrifice some economic growth in order to advance social objectives. Outcomes in terms of income distribution, health and education do not seem to be any better in countries with relatively high social spending. One reason for this is a tendency for increased social spending to displace private spending by middle-income earners, rather than to assist those most in need of help. The main form of redistribution in many programmes involves use by governments of the 'leaky bucket' to redistribute family income over time rather than to assist the poor.

The efforts of various groups to lobby against means testing of benefits from government divert resources away from productive activities. This rent seeking activity also tends to increase the deadweight costs of taxation.

### *4.1.6 Deadweight costs of taxation*

Deadweight costs tend to rise in proportion to the square of the tax rate. Even when low taxes have little effect on supply of labour, savings or other behaviour of taxpayers, the deadweight costs associated with raising an additional dollar of revenue can be substantial.

There is evidence that labour supply responses to taxes may be higher than has often been supposed in the past when families typically had only one income earner and there was much less flexibility in working hours, age of retirement, reward for effort and form of remuneration. In addition, with increasing international capital mobility, there is now a greater tendency for high taxes on capital to discourage investment. It is reasonable to expect that taxes on investment income will tend, increasingly, to involve very high deadweight costs relative to revenue collected.

On the basis of the available evidence, it is likely that, to be worthwhile, additional government spending in New Zealand would have to yield a benefit to citizens equal to about $1.50 for each $1.00 spent. In areas of government spending where each $1.00 spent yields a benefit of about $1.00 – for example, where public spending substitutes for private spending – there is potential for the well-being of citizens to be improved by about $1.50 for every $1.00 by which government spending is reduced. There would not be many things that a government could do that would yield as great a benefit to citizens.

### *4.1.7 Is there a right size for government?*

It is not possible to nominate a particular ratio of government spending to GDP that would be appropriate for all time and all circumstances. The most important reason for this can be illustrated by considering the case of defence – one of the most basic government functions and a classic case where private provision is not feasible. The fraction of GDP devoted to providing security to citizens against external aggression should obviously depend on a country's circumstances. In the face of a serious security threat a major mobilisation of resources may be appropriate. That is why government spending typically rises at times of war. In the absence of external threat, however, it may be appropriate for defence spending to be cut back.

The same logic applies to the level of provision of other public goods, such as policing and biosecurity, as well as defence. However, New Zealand voters and governments are not currently seeking large increases in spending on such services. Indeed, over the last decade New Zealand governments have reduced defence spending, presumably on the basis that there are no major recognisable security threats to New Zealand. In the light of recent instability in the international environment, there may be grounds to argue that cutbacks in defence spending in New Zealand have gone too far. Even if defence spending were boosted to earlier levels, however, it would still account for only a small fraction (perhaps 2 percent) of GDP in foreseeable circumstances.

The appropriate size for government depends fundamentally on what functions governments should or should not be expected to perform. Contrary to assertions that are sometimes made, decisions relating to the size of government do not necessarily involve a choice between the amount we should spend on health, education, roads or other services that are mainly paid for through taxes at present and the amount we spend on housing, entertainment, travel, clothing or other services that we pay for directly. When the scope for private provision is increased in areas such as health care, education and road construction, which have previously been funded from tax revenue, the choices that people make often result in increases in total spending. The important issue is whether particular spending decisions are better made through political processes than through market exchanges and the other voluntary processes of civil society, including non-profit activities.

When private spending on some good or service rises, this is the outcome of choices made by people, individually or as family groups, about their expenditure patterns. People are constantly deciding whether to buy more of some things and less of others or to bring spending forward in time or to defer it. When government spending rises, however, the government is acting as an agent to make such choices on behalf of consumers and taxpayers. When we use the government as an agent to make decisions for us, we run into the inherent weaknesses of political processes as mechanisms of choice. Roger Kerr has noted some of the problems that arise:

> For a start, we typically have to vote for only one of several political parties, some of whose policies we like and some we dislike. We cannot signal with our votes how intensely we prefer some things relative to others within our preferred party's bundle of policies. Then we have the problem of holding politicians accountable – a problem that is particularly

> acute with proportional representation systems of government where deal-making and compromise to form coalitions after elections is almost inevitable. In such systems small, unrepresentative parties can hold the balance of power, but even majority parties can force through decisions with which many people disagree. In turn, elected politicians often have trouble holding the agencies of government accountable for implementing their policies. And as the body of research known as public choice has taught us, politicians frequently pursue the narrow interests of groups which support them rather than the general public interest.[197]

These weaknesses of political institutions as mechanisms of choice and governance imply that:

- people are more likely to get value for the money they pay when services that can be supplied through market processes or other forms of voluntary cooperation are supplied in that way, rather than through the complicated process of voting; and
- governments are likely to perform their core functions – functions that cannot be performed through voluntary cooperation – more efficiently if the mechanisms of political choice and governance do not have to cope with a great number of other functions as well.

We need governments to protect fundamental freedoms, including freedom of contract and security of property rights, to preserve the rule of law and to ensure the provision of some public goods such as national defence. As Peter Hartley has pointed out, however, the existence of public goods provides much less of an argument for using the coercive power of the state than is commonly supposed:

> Divorcing the finance for providing a public good from a market test of its value to consumers can result in an inefficient level of output. Furthermore, financing the provision of public goods through taxation itself imposes efficiency losses. While the market solution might not be the best imaginable, financing provision through taxation may not be able to do any better, and might do far worse.[198]

In addition to carrying out its core public goods functions, some other activities may need to be undertaken by the government if widely accepted social objectives are to be achieved. Most people would accept that government should provide a safety net to help people meet their living and medical expenses, when they have no other resources to draw upon. They would also want to ensure that all children have access to quality education. The extent that such activities do actually 'need' to be undertaken by the government, rather than by voluntary organisations, remains an open question. For the sake of this discussion, however, let us accept that social objectives will not be met adequately if the government does not play a significant role in this area.

The amount of government spending that can reasonably be attributed, at present, to provision of a social safety net is a matter for conjecture. This is because safety net expenditure is lumped together with government spending on behalf of people who

---

197 Kerr, 1999c, p 213.

198 Hartley, 1997, p 75.

would have little difficulty providing for their own medical and unemployment insurance, family education, retirement incomes and so on, if they were not required to pay through the tax system for their consumption of these services.

On reasonable assumptions, however, it is difficult to see how appropriate functions of government (core functions plus provision of a safety net to assist those in need) could amount to more than a small proportion of GDP in New Zealand under current circumstances. For example, Ted Sieper has calculated that if a third of social security and welfare, health and education spending is added to core government spending in New Zealand, this would still only add up to 14–15 percent of GDP earmarked for those functions most usefully performed by the state.[199]

The extent of help to people in need that could be provided within a government spending ceiling of 15 percent of GDP would depend on the eligibility tests to be applied. It is possible that, if other eligibility conditions remain unchanged, the introduction of stringent income tests (with high abatement rates) would have disincentive effects similar to those of high marginal tax rates and would worsen poverty traps. However, the problem of poverty traps is largely attributable to perverse incentives associated with eligibility conditions and forms of assistance under current welfare programmes. Low abatement rates do not necessarily provide people with appropriate incentives.[200] A better way to avoid poverty traps is to improve welfare programme design to ensure that those receiving payments meet appropriate obligations to help themselves become fully self-supporting.

It is important to note that even if a strong case could be made that pursuit of widely accepted objectives requires the functions of government to correspond to spending of 25 percent of GDP, rather than 15 percent, this would still be less than two-thirds of the current level of government spending in New Zealand.

The adverse effects on economic performance of further expansion in size of government were probably much smaller in moving from small government to medium-size government than in moving from medium-size government to big government. The following comments by James Gwartney provide an explanation for the observed relationships between economic performance and size of government that is consistent with the findings of this report:

> For most countries, government spending and taxation levels in the range of 10 to 15 percent of GDP are perfectly adequate to provide the core functions. Even spending levels of 20 to 25 percent of GDP may not be too damaging if the spending focuses on core functions and is designed to minimize the adverse impact on trade and the incentive to earn.
>
> As government spending moves to 30, 40, and 50 percent of GDP, however, it will undermine both the incentive to earn and the market process. The effects on growth may not be immediately obvious because it takes time for markets to adjust and people to alter their

---

199 Sieper, 1996, p 14.

200 For example, low abatement rates may provide an incentive for beneficiaries to seek part-time, rather than full-time, work so that they can receive benefits for a longer period. See: Cox, 1998, p 92.

> habits and social norms. Modern growth is primarily about gains from trade, discovery, and innovation. The adverse effects of government on these activities may not be immediately observable. In the short term, they may be over-shadowed by cyclical and other short-run factors. This will make it difficult to isolate their impact, but with time, there will be observable effects on long-term growth.[201]

What is the practical significance for policy choices in a country like New Zealand of the relationship between the size of government and economic performance discussed above? To some readers, any consideration of the 'right size' for government may appear, if not totally irrelevant to policy choices in the real world, to be far removed from any policy goal that any major political party might be willing to adopt in the near future. However, two points emerge from this discussion that are highly relevant to immediate policy development:

- First, there are substantial gains to be attained by reducing government spending and taxation from current levels. There might be reason to doubt, given our present state of knowledge, whether significant gains might be achievable if we were talking about reducing government spending from, say, 25 to 15 percent of GDP. When the first step is to reduce government spending from 40 to, say, 30 percent of GDP, however, we can point to strong evidence that this will enable large deadweight costs to be avoided.
- Second, there is substantial potential for reductions in size of government to occur without encroaching on areas in which government spending is having a net positive impact on the well-being of New Zealanders.

## 4.2 The turning tide

### *4.2.1 The end of complacency*

The huge expansion of government during the latter part of last century appeared, at the time, to occur without much adverse effect on economic performance. In the 1940s, in a famous exchange of views, John Maynard Keynes agreed with Colin Clark that the maximum tax level an economy could sustain was about 25 percent of national product. By the end of the 1960s, this appeared to be a good example of an inaccurate forecast by eminent economists. Since then, however, it has become more difficult for anyone to remain complacent about the effects of high tax rates on economic performance.[202]

As discussed in Chapter 3, the concept of a public budgetary commons is helpful to understanding the past growth of government spending. With growth in the size of government, many groups came to the view that if they did not pursue their particular interests by obtaining additional benefits from the pool of tax revenue, they would end up paying just as much tax while obtaining less in return. The result was competition among political parties to satisfy the demands of interest groups. Increases in total

---

[201] Comments provided in a personal communication from James Gwartney, professor of economics at Florida State University, in his review of a draft of this report in January 2001.

[202] Nevertheless, Clark's efforts to shed light on the effects of the size of government on economic performance were probably hindered, rather than helped, by the concept of a maximum sustainable tax level.

spending that resulted from this expansion of 'entitlements' were aggravated during the 1970s, when lower rates of economic growth resulted in increased demand for unemployment benefits and other welfare payments.

It was easy to be sanguine about the growth of government while any adverse economic effects were swamped by economic growth. The results of economic analysis in the 1950s and 1960s also tended to encourage complacency. As noted in Chapter 2, research relating to the contribution of factors of production to economic growth showed that total productivity growth was much more important than capital accumulation. Many economists viewed productivity growth to be almost synonymous with technological progress and the advance of knowledge. It did not seem obvious that productivity growth was closely related to anything that governments might do or refrain from doing, with the possible exception of funding research and development (R&D). Government policies might result in price distortions and some minor losses in economic welfare, but future income levels depended mainly on economic growth, and growth depended on technological factors. Expansion of government spending appeared to be particularly inconsequential because it had to do with distribution of the fruits of technological progress rather than with the size of the economic harvest.

However, with the decline in economic growth rates in OECD countries during the 1970s and subsequently, it became increasingly apparent that an economy is not like the bountiful tree in some fairy tale that keeps bearing more fruit year after year, no matter what happens. In the real world, the yield of fruit trees is influenced by the fertiliser, pesticides, water, irrigation technology and so on, that are applied – and the incentive for people to provide those inputs depends on, among other things, institutions that enable them to be recompensed from the proceeds of the harvest. Similarly, as discussed in Chapter 2, the size of the economic harvest for the whole economy depends on institutions that determine incentives.

### *4.2.2 Leviathan shrinking*

Although the 1970s marked the end of a period of complacency about economic growth in OECD countries, it did not result in an immediate contraction in the size of governments or in the influence of governments on economic activity. As David Henderson has observed, the early and mid-1970s brought a decline in the fortunes of economic liberalism.[203] Many governments responded with additional interventionist measures, including controls on wages and prices and increased trade protection, and, as noted above, the worsening economic situation resulted in substantial increases in government spending under existing welfare programmes.

A general trend toward economic liberalisation in OECD countries was not evident until the 1980s. Reforms tended to focus initially on areas such as deregulation and privatisation. Although many governments made efforts to constrain the growth of public spending, clear evidence of more than a temporary decline in government spending ratios did not begin to emerge until the latter part of the 1990s.

---

[203] Henderson, 1999, p 12–13.

Improved growth performance during the 1990s has played a role in the decline of government spending ratios. The evidence discussed in this report suggests strongly, however, that much of this improvement in growth performance is itself attributable to improved economic policies.

Although it may be premature to declare that 'the era of big government is over', the decline in government spending ratios that has occurred in OECD countries during the 1990s may well mark the beginning of a longer-term trend. David Henderson has identified two reasons for a continuing impetus to economic liberalism, both with implications for government spending ratios. First, internal pressures such as the ageing of populations and the reluctance of voters to accept higher taxes will force many governments to rethink their systems of public transfers and free or subsidised provision of services. Second, international market pressures associated with closer cross-border integration may be increasingly felt. For example, there is likely to be increasing pressure on governments for tax reform arising from a wish not to get too far out of line with the practice of other countries where rates have been brought down.

> More broadly, national governments are becoming increasingly aware of the need to maintain policy regimes which internationally-minded and potentially mobile enterprises will find acceptable. At the same time, further developments in communications, and in particular the growth in transactions carried out via the Internet, may make it harder to enforce official restrictions on the ability of people and businesses to pursue their interests and make unregulated deals.[204]

Extending this line of argument, there seems to be a huge potential for recent developments in electronic communications to lift productivity in areas such as provision of education and health services. Citizens in countries whose institutions provide appropriate incentives for firms and individuals to take advantage of these possibilities are likely to be greatly advantaged relative to those that hold to arrangements that favour public funding and provision by government agencies.

Another reason to expect a continuing decline in government spending ratios is a general decline, since the mid-1970s, in faith in the view that it is desirable to expand government spending during periods of high unemployment in order to stimulate job creation. Since it was easier to increase government spending during recessions than to reduce it during booms, the application of this view had an inherent bias toward growth of government spending. Following the emergence of stagflation of the 1970s, it became obvious that further expansion of government spending did not provide a remedy for unemployment. In recent years there has been much greater recognition by most governments and their advisors that the short-term impacts of changes in fiscal policy depend to a large extent on the way they affect expectations about such variables as future inflation rates, tax rates, exchange rates and profitability.

There is some support for the alternative view that the recent impetus toward economic liberalism may not last for more than a few more years. Wolfgang Kasper argues that

---

[204] Henderson, 1999, p 83.

now the growth process has been running strongly for a couple of decades, pressures for redistribution will tend to intensify:

> In such conditions, legislators begin to take fast growth for granted and therefore switch from the tedious business of nurturing growth to electorally rewarding social issues and redistribution.
>
> At the same time, governments become more ruthless and try to increase their 'take' from national income – whether a bigger government share adds to national productivity or not.[205]

Some countries will probably succumb to the pressures that Kasper identifies. For policy backsliding to have much effect on the international economic environment, however, it would need to involve the United States or a few other large economies. There does not seem to be much evidence that any major economy, except perhaps Japan, is at risk of succumbing to such pressures. The public spending ratio in the United States seems set to decline further in the years ahead, following partial acceptance by Congress of the president's tax cut proposals.[206]

Kasper provides sound advice when he argues that it would not be wise for individual countries to rely, for prosperity in the decades ahead, on a continuation of the current growth wave in the world economy.[207] It is quite likely that the global economy will not grow as rapidly in the current decade as in the 1990s, even with a continuation of the international trend toward smaller government. And, we can never be sure what might lie around the next corner. Major shocks will no doubt continue to occur from time to time, but most OECD economies should now be able to cope with such shocks without the trauma that they experienced in the 1970s. Regulatory reforms since then have made most OECD economies more flexible and, hence, able to adjust more readily to external shocks.

On balance, there are stronger grounds for optimism than for pessimism about the future of economic liberalism at a global level in the years ahead. This will be good for the world economy and for most countries. At the same time, however, with a continuation of the trend toward smaller government in other OECD countries, it is likely to be

---

205 Kasper, 2000, p 65.

206 It is too pessimistic to view democracies as being caught up in a deterministic cycle in which the good times produced by good policies inevitably favour bad policies. That view involves the unrealistic assumption that people are not capable of learning from experience. It does not seem likely that a majority of people in most OECD countries would be prepared to vote for a re-run of the policies that produced low growth rates, high inflation and high unemployment in the 1970s and 1980s. Minority parties with populist agendas can be influential, particularly under proportional and preferential voting systems. Even so, there is not much evidence to suggest that interests favouring increased government spending and regulatory intervention to protect industries from international competition are about to regain the influence on policy outcomes that they exercised in many OECD countries during the 1960s and 1970s. The popularity of policies involving reductions in taxes and removal of regulations that impede the ability of industries to compete in domestic or international markets is an important countervailing force. The recent successful campaign for reduction in fuel excise in Australia is an example of interest group pressure favouring lower tax rates.

207 Kasper (2000, p 103) suggests that it is during a supply-side crisis or global economic down wave that "society's institutions are tested, and when the quality of institutions makes a big difference".

increasingly difficult for New Zealand (or any other country) to maintain high government spending and high tax rates, and yet attract the internationally mobile resources required to achieve economic growth rates comparable to the OECD average.

## 4.3 Issues for New Zealand

The big question that arises from this consideration of the adverse effects of high government spending on economic performance is how the ratio of government spending to GDP can be reduced from current levels. The purpose of the following discussion is merely to identify some of the issues that need to be considered.

In developing a strategy to achieve reductions in the government spending ratio it is clearly important to remove the worst distortions as soon as possible.

- Wasteful and poorly targeted spending should be identified and removed as a priority.
- Priority should also be given to reducing taxes that are most harmful to economic performance. High marginal tax rates are an obvious target. The impact of taxes on resources that are internationally mobile (capital, skilled labour and entrepreneurship) also warrants careful attention.

However, it is also important to deal effectively with the political forces that have led to growth of government spending in the past. Even though the tide seems to be running strongly in favour of smaller government in OECD countries, recent experience in New Zealand indicates that the forces leading to increased spending are not yet under control in this country.

As a result of reforms undertaken in the early 1990s, New Zealand now has better institutions to deal with interest group pressures.[208] The Fiscal Responsibility Act 1994 is an important mechanism that can be used by governments to spell out a clear objective for reductions in the government spending ratio in the years ahead. By establishing a clear goal for reductions in spending and pursuing policies that will enable that goal to be achieved, governments can free themselves from the intense pressures for higher spending that arise when interest groups perceive that 'everything is up for grabs'.

It is possible for a significant reduction in the government spending ratio to be achieved over a few years by holding government spending below the rate of growth of the economy.[210] For example, if government spending is held constant in real terms and the economy grows at 3 percent per annum, as projected by the OECD,[209] this would result in a drop of more than 5 percentage points in government spending as a percentage of GDP over five years.

---

[208] The re-introduction of a First Past the Post voting system would make the institutional environment even better able to deal with such pressures.

[209] OECD, 2000b, p 31.

[210] In a recent report to the Joint Economic Committee of Congress of the United States, Richard Vedder and Lowell Galloway (2001) argue for continuation of a policy of holding the growth of government spending below the growth of GDP. The authors provide econometric evidence that containment of the growth of government spending played an important part in the improvement in economic performance that occurred in the United States during the 1990s.

More fundamentally, however, the basic approach to reducing the burden of government must involve allowing people to spend more of their own money. To use Roger Kerr's words:

> It is economically costly to tax people in order to spend the money on private goods for the same people – be it in health, education, or retirement income. We sacrifice large amounts of income by so doing – income that could make everyone better off.[211]

Given the substantial deadweight costs involved, it does not seem likely that many people would freely choose to have the government spend their money for them. When collective funding has been in place for many years, however, the dynamics involved can be an important obstacle to reform. Many people feel that they have 'earned' an entitlement to benefit from future government spending through past tax contributions that have enabled governments to spend funds for the benefit of others. It is questionable whether this sense of entitlement can be justified on equity grounds, in the light of the extent to which increased public spending has, in the past, been funded by increasing public debt levels rather than higher taxes. The attitude persists, nevertheless, and may have an important influence on the way people perceive reform proposals when they cast their votes.

The most common way to deal with objections to the introduction of means tests on government spending programmes is to introduce them gradually in a way that leaves current beneficiaries unaffected. However, there are some alternative approaches that deserve to be considered. One possible way to deal with claims for retirement incomes, for example, which are claims that older people have come to expect, would be for the government to compensate people over a certain age by cashing out those claims.[212]

Another possible way to enable people to spend more of their own money is to give them the right to opt out of arrangements for collective funding and provision of services.[213] Those opting out of the collective funding arrangements for health, education, retirement incomes and so on, would not be eligible to benefit from government spending in these areas and would have their tax correspondingly reduced.

Arrangements would need to be made to ensure that those opting out of collective funding continue to meet their obligation to help fund the welfare safety net. A desirable side-effect of doing this would be to make redistribution more transparent. It would be necessary to distinguish between public spending that is used at present to provide the safety net (the social insurance element) and public spending that is used for collective funding of services that many taxpayers would prefer to purchase directly.

The introduction of arrangements to enable people to opt out of collective funding of services may be an appropriate way to bring to an end the battle over the role of

---

211 Kerr, 2000a, p 27.

212 In raising this proposal in an Australian context, Wolfgang Kasper has suggested that the people who were allocated these savings balances would be required to invest them in portable, individual superannuation accounts. Kasper, 2000, p 91.

213 This is one of several proposals suggested by Earl Brubaker, 1997.

government that characterised the twentieth century. On the one hand, those people who see collective funding as having special merit would be able to continue to have a government agency pay for education, health and other services on their behalf, from the proceeds of the tax they pay. On the other hand, those who prefer to pay directly for the services they use would be able to avoid the deadweight costs associated with collective funding.

Possible implementation problems associated with various approaches to the reform of government obviously need to be carefully considered. The best approach to adopt may well vary between different areas of government spending.

Priority should be given to finding the best ways to proceed with reform of government. The evidence in this report suggests that substantial benefits will flow from allowing New Zealanders to spend more of their own money in the manner of their own choosing.

# APPENDIX 1
# HOW MUCH DOES ECONOMIC FREEDOM AFFECT ECONOMIC GROWTH?

The objective of this appendix is to summarise the results of some previous research on the relationship between economic freedom and economic growth and to extend this work to take account of the influence of initial per capita income levels and past economic growth rates.

Initial per capita income levels are incorporated into the analysis reported here to test whether increases in economic freedom have similar effects on growth of high- and low-income countries.[214] Past economic growth rates are incorporated in order to test whether it is valid to view the growth process as one in which current growth depends, to some extent, on the momentum of previous growth experience, as well as on current levels of economic freedom.

## A1.1 Previous research

Previous research has established that economic freedom is a significant factor in explaining why some countries have higher per capita levels and economic growth rates than others.[215] A recent study by James Gwartney, Robert Lawson and Randall Holcombe is a good example of analysis of the relationship between economic growth and economic freedom.[216] The focus of this study is the relationship between growth and economic freedom, both the level and change, for 82 countries over the period 1980 to 1995. The countries were selected on the basis of data availability and include both high- and low-income countries.

Gwartney, Lawson and Holcombe found economic freedom and changes in economic freedom to be statistically significant determinants of long-term growth rates and to account for a substantial proportion of the variation in economic growth across countries.[217] Various statistical tests suggest that these results are robust. The economic freedom variables remained generally significant following the inclusion of other variables including the ratio of investment to GDP, human capital and the dependency ratio.[218] The authors tested their model for other time periods and report similar results.[219]

---

214 This seems important in the light of Robert Barro's assertion, mentioned in Chapter 2, that "2 percent per capita growth seems to be about as good as it gets in the long run for a country that is already rich". Barro, 1998, p 47.

215 Many relevant publications are listed in Gwartney, Lawson and Samida, 2000, Appendix 3, p 239.

216 Gwartney, Lawson and Holcombe, 1999.

217 *Op cit*, p 648.

218 *Op cit*, p 649.

219 *Op cit*, p 651-653.

Gwartney *et al* also conducted statistical tests of the direction of causation and concluded that higher economic freedom leads to higher growth rates, rather than vice versa.[220]

The basic results of the analysis by Gwartney, Lawson and Holcombe are reported in the first column of Table A1.1. An attempt was made to replicate these results for the 79 countries for which data were available for use in the subsequent analysis.[221] These results, shown in the second column of the table, are similar to those obtained by Gwartney *et al*.

Gwartney *et al* also present results for expanded models that incorporate variables such as the investment to GDP ratio and human capital formation. It is likely, however, that the estimated coefficients on the economic freedom variables in these models tend to understate the contribution of economic freedom. This is because an institutional environment with greater economic freedom could be expected to be more attractive to investment and human capital formation.

## A1.2 Augmented model

The results for an augmented model, taking account of the possible influence on growth rates of initial per capita income levels and past growth rates, are shown in the third column of Table A1.1. These results suggest that both of these variables are significant.[222] Inclusion of the variables in the model substantially improves its ability to explain variation in growth rates without having much effect on the estimated coefficients on the economic freedom variables. The augmented model also provides a more accurate prediction of New Zealand's growth performance in the period covered by the analysis. Whereas the original model predicted New Zealand's growth rate to be 1.6 percentage points higher than actual, the augmented model predicts it to be 0.4 percentage points higher than actual.

The augmented model has been tested for different time periods and the sample has been split in two to see whether results are similar for high- and low-income countries. As for the models tested by Gwartney *et al*, similar results were obtained for the different time periods considered (Tables A1.1 and A1.2). In general, the model provides as good an explanation for variations in growth rates over the period 1985 to 1997 as for the period 1980 to 1995. However, it does not perform as well in predicting New Zealand's growth rate in the latter period.

---

220 *Op cit*, p 654.

221 The database used in the study was compiled from the World Bank's Global Development Network Growth Database and the Economic Freedom Network database.

222 As indicated in the table, initial per capita income is measured by an index in which US per capita income in 1980 is equal to unity. Initial per capita income was not significant when included in the analysis by itself. Initial per capita income was not significant when measured in some different ways, for example as the log of per capita GDP (the variable used in Barro, 1998). Gwartney *et al* report (*op cit*, footnote 11, p 653) that initial per capita income was not significant in the models they tested.

Table A1.1: Economic freedom and other determinants of economic growth – 1980 to 1995

| *Independent variables* | *Dependent variable: Annual rate of change in per capita real GDP 1980–1995 (t-ratios in parentheses)* | | | |
|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* |
| | *Gwartney and others* | *Replication* | *Augmented model* | *Medium- to high-income countries* |
| Economic freedom: 1975 | 0.61*** | 0.66*** | 0.77*** | 0.90*** |
| | (3.15) | (4.45) | (3.98) | (4.49) |
| Change in economic freedom: 1975–80 | 1.02*** | 0.99*** | 0.91*** | 0.98*** |
| | (3.07) | (4.45) | (3.45) | (4.24) |
| Change in economic freedom: 1980–85 | 1.63*** | 1.71*** | 1.61*** | 1.46*** |
| | (4.71) | (4.85) | (5.10) | (4.69) |
| Change in economic freedom: 1985–90 | 1.08*** | 0.77*** | 0.89*** | 0.21 |
| | (2.97) | (2.51) | (3.18) | (0.70) |
| Change in economic freedom: 1990–95 | 0.95*** | 0.67*** | 0.44** | 0.52** |
| | (3.59) | (2.45) | (1.81) | (1.79) |
| Per capita income index (Average for US in 1980 = 1.0) | | | –2.31** | –4.21*** |
| | | | (–2.34) | (–4.22) |
| Annual rate of change in per capita real GDP: 1965–1980 | | | 0.36*** | 0.35*** |
| | | | (4.30) | (3.77) |
| Constant | –3.10 | –3.36 | –4.10 | –3.27 |
| Adj $R^2$ | 0.31 | 0.37 | 0.53 | 0.70 |
| Number of countries | 82 | 79 | 79 | 39 |

* Significant at 90 percent level ** Significant at 95 percent level *** Significant at 99 percent level

The results obtained for medium- to high-income countries (column 3 of A1.1 and column 2 of A1.2) and low- to medium-income countries (column 3 of A1.2) are fairly similar to those for all countries. There are some differences, however. For example, the model explains a higher proportion of the variation in growth rates among the higher income group of countries and the coefficient on initial per capita income is not significant for the low-income countries.

## A1.3 Implications of the results

The results suggest that economic reforms can have substantial positive impacts on long-term growth rates, even for countries that have relatively high per capita incomes prior to reform. Nevertheless, the results also provide some support for the neoclassical view that high-income countries do not have the potential to grow as rapidly as low-income countries.

The results suggest that the process by which growth rates adjust to changes in economic freedom is gradual and evolutionary. Current growth rates are influenced by growth rates in previous periods. In addition, the results suggest that there is a time lag before reforms impact on growth rates. This is probably related to the need for reforms to be

Table A1.2: Economic freedom and other determinants of economic growth – 1985 to 1997

| *Independent variables* | *Dependent variable: annual rate of change in per capita real GDP 1985–1997 (t-ratios in parentheses)* | | |
|---|---|---|---|
| | *(1)* | *(2)* | *(3)* |
| | *All countries* | *Medium- to high-income countries* | *Low- to medium-income countries* |
| Economic freedom: 1980 | 1.06*** | 1.18*** | 0.60** |
| | (5.18) | (5.78) | (1.72) |
| Change in economic freedom: 1980–85 | 1.27*** | 1.21*** | 1.22** |
| | (3.60) | (3.09) | (2.31) |
| Change in economic freedom: 1985–90 | 1.26*** | 0.39 | 1.61*** |
| | (4.24) | (1.22) | (3.57) |
| Change in economic freedom: 1990–95 | 0.75*** | 0.75** | 0.66** |
| | (2.96) | (2.30) | (1.77) |
| Per capita income index (Average for US in 1985 = 1.0) | –3.85*** | –7.07*** | 1.91 |
| | (–3.62) | (–6.79) | (0.34) |
| Annual rate of change in per capita real GDP: 1975–1985 | 0.36*** | 0.24** | 0.37*** |
| | (4.13) | (2.25) | (3.00) |
| Constant | –4.64 | –2.56 | –3.51 |
| Adj $R^2$ | 0.52 | 0.65 | 0.51 |
| Number of countries | 79 | 39 | 40 |

* Significant at 90 percent level ** Significant at 95 percent level *** Significant at 99 percent level

sustained for some time before economic decision makers become convinced that the changes are permanent.

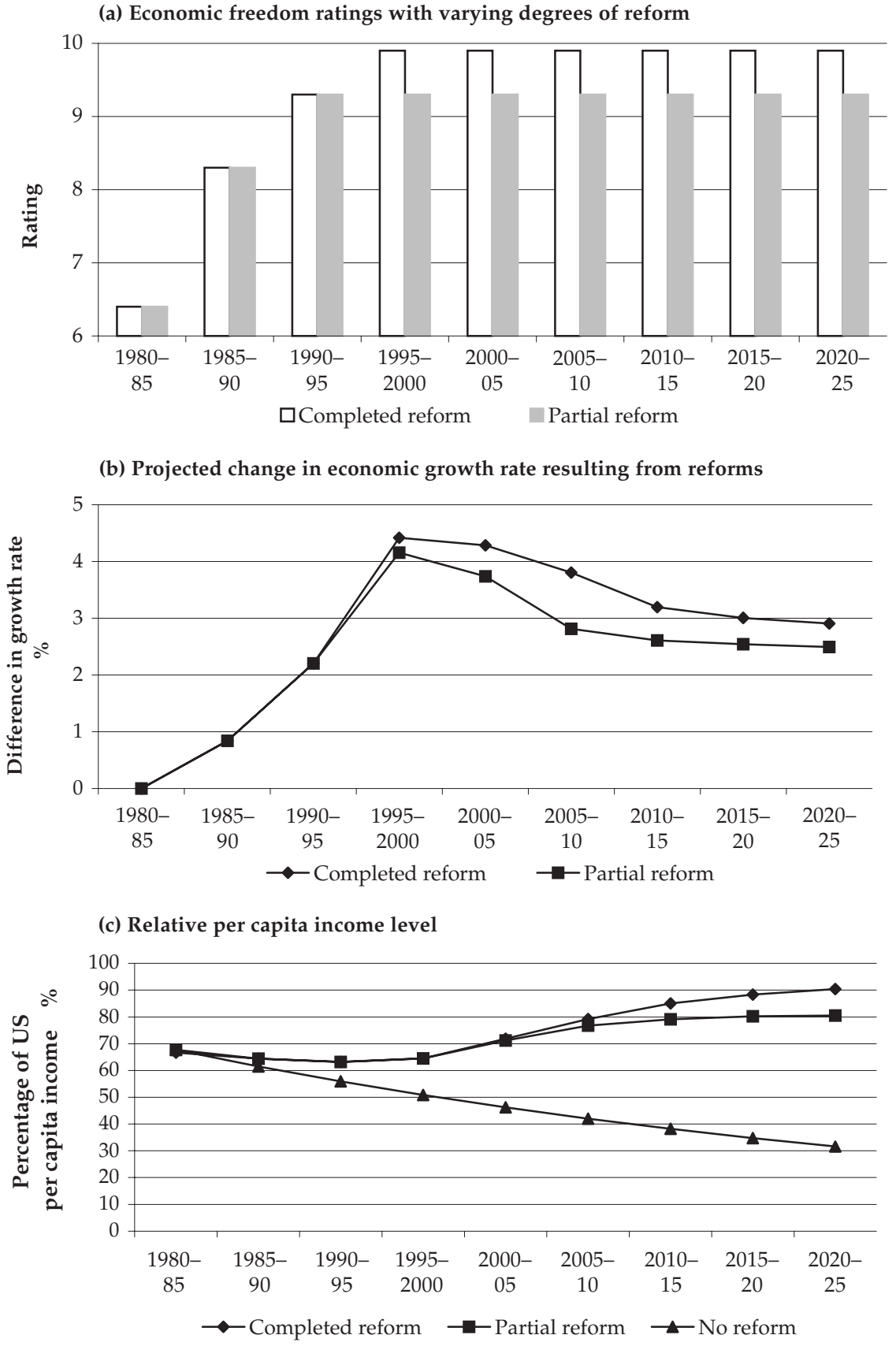
The impact of increased economic freedom on economic growth rates is illustrated in Figure A1, using a hypothetical example of a country with initial characteristics similar to those of New Zealand in 1980 and a reform profile similar to that of New Zealand over the period 1985 to 1995.[223] The pattern of economic growth following reforms that is shown in this illustrative example is based on the experience of a large number of countries. The actual experience of any individual country also depends on additional country-specific factors that are not taken into account in the model.

Characteristics of the pattern of adjustment illustrated in Figure A1 include:

- the time required for greater economic freedom to be reflected in higher growth rates;
- the large positive impacts of reform on growth during a lengthy transitional period; and
- the potential for economic reforms to have substantial ongoing impacts on economic growth.

[223] The parameters used in this example are those estimated using the analysis for 'all countries' for the period 1980 to 1995.

Figure A.1: Impact of increased economic freedom on economic growth



The projected change in economic growth rates shown in Figure A1 is the difference between projected growth rates with and without reform. The projections imply that in the absence of reform, growth in the hypothetical country would have been negative during the period 1980–95.

Figure A1 also illustrates the potential for higher growth rates to emerge if further economic reforms are undertaken. With further reforms the per capita income levels of the hypothetical country are projected to catch up substantially to those of the United States during the early decades of this century.[224]

[224] This projection assumes that some further gradual reform is also undertaken in the United States. Under the completed reform scenario the hypothetical country and the United States end up with the same economic freedom rating.

# APPENDIX 2
# THE DEADWEIGHT COST OF UNEMPLOYMENT BENEFITS

The deadweight cost associated with payment of unemployment benefits is illustrated in Figure A2, which depicts the supply and demand for labour.

The supply curve, $S_{0,}$ represents the marginal cost of an additional unit of market work (or the amount of remuneration required to compensate for loss of leisure and other costs incurred by those supplying the additional unit of labour) prior to payment of unemployment benefits. The demand curve D represents the marginal benefit to employers of hiring an additional unit of labour. At the initial point of equilibrium (at wage rate $W_0$) the quantity of labour supplied ($N_0$) is equal to the quantity of labour demanded.

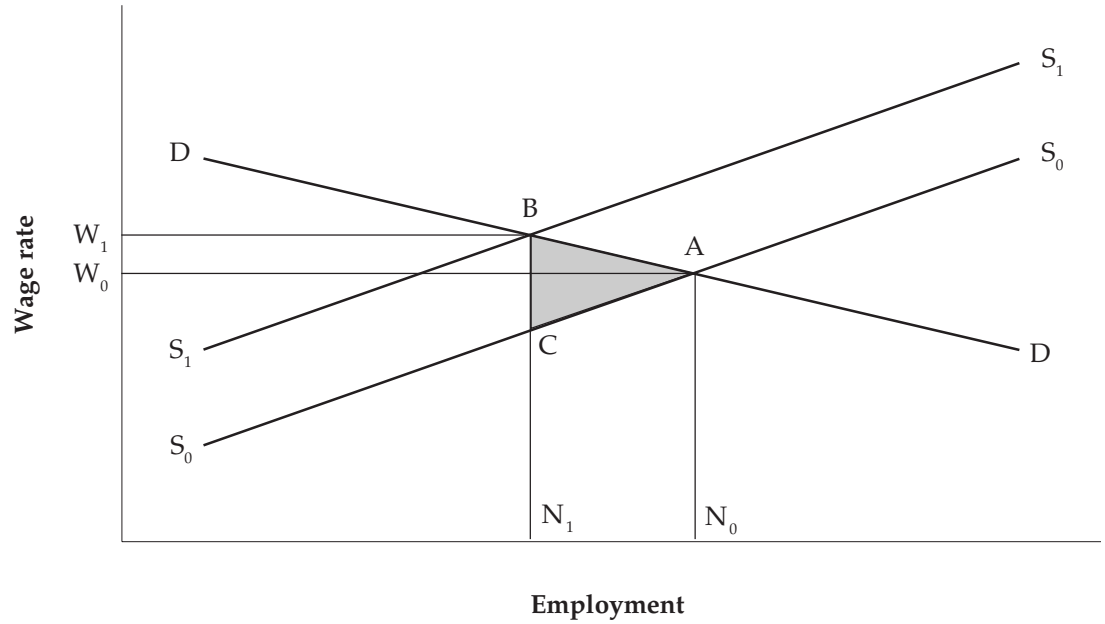
Unemployment benefits tend to reduce the relative attractiveness of employment relative to unemployment. They raise the opportunity cost of market work to employees, leading to a contraction in the supply of labour at any given wage. Following introduction of unemployment benefits the labour supply curve shifts from $S_0$ to $S_1$. The diagram illustrates that the contraction in supply of labour would result in higher wages (rising from $W_0$ to $W_1$) and a decline in employment (from $N_0$ to $N_1$) to re-establish equality between labour demand and supply.

Most importantly, the reduction in trade between buyers of labour and sellers of labour involves a reduction in economic surplus (indicated by the shaded area in the diagram). This loss of surplus occurs because the payment of unemployment benefits distorts choices between participation in market work and other uses of time. The marginal benefit of increased employment exceeds the marginal cost at employment levels between $N_1$ and $N_0$.

The supply curves $S_0$ and $S_1$ are 'compensated' to remove income effects of changes in unemployment benefits and wages. The loss of economic surplus can be thought of as the difference between the actual improvement in welfare of beneficiaries of the unemployment benefit and the improvement in their welfare that would have occurred with a hypothetical transfer of equal magnitude (for example, an unconditional gift from a relative) that did not distort choices involved in decisions to seek work and how many hours of work to seek. Recipients of such hypothetical non-distorting transfers would tend to seek more work and earn higher market incomes than would recipients of unemployment benefits.

How leaky is the redistribution bucket that the government uses for payment of unemployment benefits? It is possible to obtain some idea of the losses involved by using

Figure A.2: Deadweight loss from unemployment benefits




the results of research undertaken by Tim Maloney on the responsiveness of labour supply to changes in benefit levels.[225]

Maloney's estimates imply that a 10 percent increase in benefits would reduce employment propensity (total employment as a proportion of the working-age population) by 1.67 percentage points if wages remain unchanged.[226] The effect of an increase in unemployment benefits on the level of real wages has implications both for the quantity of labour supplied and demanded. Using Maloney's estimate of the elasticity of supply of labour with respect to the wage rate (0.486) and assuming elasticity of demand for labour of –0.7, a 10 percent increase in the level of benefits would result in a reduction in employment propensity of approximately 1 percentage point.[227]

In an attempt to estimate the reduction in economic surplus associated with payment of unemployment benefits, Maloney's elasticity estimates have been used to estimate the

---

225 Maloney, 1997. The parameter estimates resulting from this econometric research seem to be unusually reliable because of the use of detailed Household Labour Force survey data, a methodology that controls for various factors that influence the potential income that individuals could earn from full-time work, and the fact that the period covered in the study (1987 to 1995) included substantial variation in benefit levels (particularly in 1990–91).

226 Maloney, 1997, pp 42–43.

227 This can be derived as follows. From the supply side, the change in employment is given by:
n = –1.7 + .49 w where w is the change in equilibrium wage rate.

From the demand side:

n = –0.7w (assuming Diewert and Lawrence's (1994, p 62) estimate of the elasticity of demand for labour).

Solving these simultaneous equations gives n = –1.0 and w = 1.4

size of the shaded area in Figure A2.[228] There is potential for upward bias in the resulting estimates because the relevant elasticities incorporate income effects as well as substitution effects. In addition, there is potential for large measurement error in applying estimates of the relevant elasticities far beyond the range of the data from which they were estimated.

The base of the triangle, the area of which is to be estimated, is equal to the number of people being paid unemployment benefits.[229] The height of this triangle (the vertical distance between the supply curves, $S_0$ and $S_1$) is a measure of the extent to which payment of unemployment benefits would raise average real wages if demand for labour were perfectly inelastic.[230]

On this basis, the reduction in economic surplus associated with payment of unemployment benefits in 1995 is estimated to be equivalent to about half of total government spending on unemployment benefits.[231] This should be viewed as an upper bound estimate of the reduction in economic surplus associated with these transfer payments because of the potential for upward bias, as noted above.[232] It should also be noted, however, that the economic costs associated with payment of unemployment benefits also include deadweight costs of taxation, which have not been taken into account in this estimate.

---

228 Data used in the estimation are for 1995.

229 There were about 151,000 people being paid unemployment benefits in 1995.

230 If a reduction in unemployment benefits of 10 percent results in an increase in employment propensity of 1.67 percentage points (wages constant), removal of unemployment benefits might be expected to result in an increase in employment propensity of about 16.7 percentage points (wages constant). This implies that the vertical distance, BC, involves a reduction in the average real wage of about 34 percent (16.7/0.49). With average weekly earnings of $578 per week, this implies that the distance, BC, is initially equivalent to about $196 per week. (This is not an estimate of the extent to which the equilibrium wage rate would fall following removal of unemployment benefits. The wage rate at point C is far below the equilibrium wage rate at point A.)

231 The reduction in economic surplus is estimated to be about $14.8 million per week.

232 Some idea of the possible extent of bias can be obtained by testing the sensitivity of the estimate to arbitrary changes in the relevant elasticities to compensate for income effects. If the elasticity of employment with respect to changes in welfare benefit is reduced by 50 percent (from –0.17 to –0.085) and the elasticity of labour supply with respect to the wage rate is raised by 50 percent (from 0.49 to 0.73) the reduction in economic surplus is estimated at about 20 percent of government spending on unemployment benefits.

# APPENDIX 3
# HOW MUCH DOES SIZE OF GOVERNMENT AFFECT ECONOMIC GROWTH?

The purpose of this appendix is to test the findings of some previous research on the effects of the size of government on economic growth rates in OECD countries and to extend the analysis to examine the effects of previous change in the size of government.

A recent study by James Gwartney, Randall Holcombe and Robert Lawson examined the relationship between size of government and growth in per capita GDP for 23 OECD countries over the period from 1960 to 1997.[233] Cross-section and time series data were pooled to give four observations for each country and 92 observations in total. The authors used regression analysis to explain the rate of growth in each decade in terms of total government expenditure at the beginning of each decade and change in government spending during each decade.

The main results of the study, presented in the first column of Table A3.1, suggest that a 1 percentage point increase in government spending (as a percentage of GDP) would reduce the annual rate of economic growth by 0.11 percentage points. This may not seem much, but when applied to the average increase in government spending as a percentage of GDP in OECD countries from 1960 to the mid-1990s (21 percentage points) it amounts to 2.3 percentage points per annum. This would be sufficient to explain the entire decline in the average economic growth rate of OECD countries from the 1960s to the 1990s.

One possible objection to this result is that it does not leave room for factors other than the size of government, including other components of economic freedom, to play a role in explaining changing growth performance in OECD countries. It is possible that the results could be driven by third factors that have influenced trends in government spending and growth rates rather than by a tendency for countries with big governments to grow less rapidly than countries with small governments. In order to test for this, the results obtained by Gwartney *et al* have been replicated[234] (column 2) and their model has been extended to include dummy variables to allow for the possibility that growth rates in particular decades may have been influenced by factors specific to those periods (columns 3 and 4).

---

[233] Gwartney, Holcombe and Lawson, 1998.

[234] For reasons of data availability, the data set includes two fewer countries than that used by Gwartney *et al*. The countries excluded were Luxembourg and Switzerland.

Table A3.1: Size of government and other determinants of economic growth in OECD countries – 1960 to 1997

| *Independent variables* | *Dependent variable: annual rate of change in per capita GDP each decade (t-ratios in parentheses)* | | | |
|---|---|---|---|---|
| | *Gwartney, Holcombe and Lawson*[a] *(1)* | *Replication (2)* | *Allowing for factors not specified in the model to have different effects in each decade (3)* | *(4)* |
| Initial size of government[b] | –0.11*** (–8.14) | –0.10*** (–6.76) | –0.07*** (–3.89) | –0.05*** (–3.00) |
| Change in size of government during decade[c] | –0.05** (–1.70) | –0.06*** (–2.42) | –0.09*** (–3.12) | |
| Period dummy (1960 to 1970) | | | 6.62*** (10.70) | 5.65*** (10.02) |
| Period dummy (1970 to 1980) | | | 5.93*** (7.86) | 4.65*** (6.96) |
| Period dummy (1980 to 1990) | | | 5.18*** (6.32) | 4.36*** (5.33) |
| Period dummy (1990 to 1997) | | | 4.89*** (5.88) | 4.31*** (5.05) |
| Constant | 7.724 | 6.88*** (10.58) | | |
| Adj $R^2$ | 0.43 | 0.35 | 0.41 | 0.35 |
| Number of observations | 92 | 84 | 84 | 84 |

* Significant at 90 percent level ** Significant at 95 percent level *** Significant at 99 percent level

Notes:

[a] Gwartney, Holcombe and Lawson, 1998, Column (1) Table 4, p 177.

[b] Total government outlays as a percentage of GDP.

[c] Change in total government outlays as a percentage of GDP.

The inclusion of period dummies tends to reduce the size of the estimated coefficient relating economic growth to initial size of government. However, the coefficient remains highly significant. The coefficients on the period dummy variables are all fairly similar, except that for 1960–70.

A second possible objection to the result obtained by Gwartney *et al* is that some of the effect on the growth rate attributed to the size of government is actually due to other factors. In order to test this, variables included in the models developed in Appendix 1 have been included in the analysis. To do this, it was necessary to reduce the size of the data set by dropping data for the 1960s.

Inclusion of the additional variables has the effect of reducing the size and significance of the estimated coefficient on initial size of government (column 3 of Table A3.2).[235]

[235] The first two columns of Table A3.2 indicate that the size of government variable remains significant and the estimated coefficient is about the same magnitude when the period dummy variables are excluded.

Table A3.2: Size of government and other determinants of economic growth in OECD countries – 1970 to 1997

| *Independent variables* | *Dependent variable: annual rate of change in per capita GDP each decade (t-ratios in parentheses)* | | | |
|---|---|---|---|---|
| | *Including period dummies (1)* | *Excluding period dummies (2)* | *Adding variables from previous model (3)* | *Including previous change in size of government (4)* |
| Initial size of government[a] | –0.05*** (–2.69) | –0.06*** (–3.38) | –0.03* (–1.66) | |
| Change in size of government during decade[b] | –0.07*** (–2.65) | –0.03* (–1.45) | –0.05** (–2.38) | –0.04** (–1.84) |
| Initial Economic Freedom rating[c] | | | 0.13 (0.88) | 0.04 (0.24) |
| Initial per capita income index (US = 1.0) | | | –2.83*** (–2.87) | –2.89*** (–2.99) |
| Previous growth rate[d] | | | 0.25** (2.20) | 0.24** (2.15) |
| Change in size of government in preceding decade[b] | | | | –0.06*** (–2.50) |
| Lagged size of government[e] | | | | –0.02 (–0.90) |
| Period dummy (1970 to 1980) | 4.99*** (6.89) | | | |
| Period dummy (1980 to 1990) | 4.14*** (5.32) | | | |
| Period dummy (1990 to 1997) | 3.85*** (4.91) | | | |
| Constant | | 4.71*** (6.28) | 3.75** (2.77) | 4.25*** (3.14) |
| Adj $R^2$ | 0.19 | 0.13 | 0.33 | 0.36 |
| Number of observations | 63 | 63 | 63 | 63 |

* Significant at 90 percent level ** Significant at 95 percent level *** Significant at 99 percent level

Notes:

[a] Total government outlays as a percentage of GDP.

[b] Change in total government outlays as a percentage of GDP.

[c] Adjusted to exclude the size of government component.

[d] Annual rate of change in per capita GDP during preceding decade.

[e] Total government outlays as a percentage of GDP lagged one decade.

However, this may be because some of the effects of size of government are reflected in other variables. For example, the rate of growth in the preceding decade could be expected to incorporate longstanding effects of the size of government on economic growth rates.

It is also possible that the results obtained by Gwartney *et al* may be biased because the model the authors specify does not include previous change in the size of government as an explanatory variable. As discussed in Chapter 3, there are theoretical grounds to expect a stronger relationship between change in government spending and economic growth rates than between size of government and economic growth rates.

Previous change in size of government does seem to be significant in explaining economic growth rates (column 4 of Table A3.2) and with inclusion of this variable the coefficient on initial size of government becomes insignificant (even though lagged to eliminate the overlap with change in size of government). The results suggest that an increase in government spending of 10 percentage points in one decade would depress the annual rate of growth in the following decade by 0.6 percent.[236]

Further evidence of the importance of change in the size of government as a determinant of growth is provided in the results presented in Table A3.3, which relates to growth in OECD countries over the period 1985–97. The approach adopted was to apply the model developed in Appendix 1 to the OECD data set, simplify it and then incorporate variables relating to size of government and change in the size of government.

The results shown in the first column of A3.3 are not greatly different from the results for the same time period for medium- to high-income countries shown in Appendix 1 (Table A1.2). The significance of the initial economic freedom in the 'stripped down' version (column 2) increases confidence that the direction of causation runs from economic freedom to growth. The variables reflecting previous change in government size are significant both when the period of this change is the preceding five years (column 3) and the preceding 15 years (column 4) although the estimated coefficient is lower in the latter case. This suggests that changes in government size may have significant effects on economic growth rates for a considerable period following those changes.

---

[236] The estimated coefficient on the initial economic freedom rating in columns 3 and 4 is not significantly different from zero. One possible explanation for this result is the questionable accuracy of measurement of economic freedom for 1970. Ratings for that year are based on patchy information. For example, information on 'Area II: Structure of the economy and use of markets', is not included for many countries for that year. This component may be related to economic flexibility and, hence, to the ability of economies to cope with the oil price shock of the 1970s. The absence of a component of the economic freedom index relating specifically to labour markets may also limit the ability of the index to explain performance in the 1970s.

Table A3.3: Growth of government and other determinants of economic growth in OECD countries – 1985 to 1997

| *Independent variables* | *Dependent Variable: Annual rate of change in per capita real GDP 1985–1997 (t-ratios in parentheses)* | | | |
|---|---|---|---|---|
| | *Previous model (Appendix 1)* (1) | *Simplified model* (2) | *Adding initial size of government and growth in size of government* (3) | (4) |
| Economic freedom: 1980 | 1.03*** (2.82) | | | |
| Change in economic freedom: 1980–85 | 1.05** (2.28) | | | |
| Change in economic freedom: 1985–90 | 0.08 (0.17) | | | |
| Change in economic freedom: 1990–95 | 1.76*** (2.97) | | | |
| Economic freedom: 1985 | | 0.67*** (2.84) | | |
| Size of government 1980[a] | | | –0.02 (–1.30) | |
| Change in government size 1980–1985 | | | –0.08*** (–2.63) | |
| Size of government 1970[a] | | | | –0.004 (–0.23) |
| Change in government size 1970–1985[b] | | | | –0.06** (–2.45) |
| Change in government size 1985–1997[b] | | | -0.05** (-2.16) | -0.06** (-2.31) |
| 'Other' component of economic freedom[c] | | | 0.41** (2.24) | 0.43** (2.36) |
| Initial per capita income index (US = 1.0) | –4.68*** (–3.24) | –6.39*** (–4.85) | –6.74*** (–6.05) | –6.92*** (–5.92) |
| Previous growth rate[d] | 0.92*** (4.33) | 0.69*** (2.77) | 0.65*** (2.83) | 0.66*** (2.81) |
| Constant | –4.75** (–1.84) | 0.30 (0.21) | 3.66** (2.38) | 3.30** (2.17) |
| Adj $R^2$ | 0.71 | 0.53 | 0.70 | 0.68 |
| Number of countries | 21 | 21 | 21 | 21 |

* Significant at 90 percent level ** Significant at 95 percent level *** Significant at 99 percent level

Notes:

[a] Total government outlays as a percentage of GDP.

[b] Change in total government outlays as a percentage of GDP.

[c] Economic freedom index in 1985 adjusted to exclude size of government component.

[d] Annual rate of change in per capita real GDP: 1975–1985.

# REFERENCES


Alesina A, S Ardagna, R Perotti and F Schiantarelli, 1999, *Fiscal Policy, Profits and Investment*, Working Paper 7207, National Bureau of Economic Research, Cambridge, MA.

Al-Ubaydli O and T Kealey, 2000, 'Endogenous Growth Theory: A Critique', *Economic Affairs*, September, Institute of Economic Affairs.

Anderson K, 1998, 'Are Resource-abundant Economies Disadvantaged?', *Australian Journal of Agricultural and Resource Economics*, 42 (1).

Arrow K, 1962, 'The Economic Implications of Learning by Doing', *Review of Economic Studies*, 29.

Balassa B, 1984, 'Prices, Incentives and Economic Growth', *Weltwirtschaftliches Archiv*, 120 (4).

Ball L, 1996, *A Proposal for the Next Macroeconomic Reform*, Imprint, Victoria University of Wellington Foundation, Wellington.

Barro R ,1991, 'Economic Growth in a Cross-Section of Countries', *Quarterly Journal of Economics*, 106.

Barro R and J Lee, 1994, 'Sources of Economic Growth', *Carnegie-Rochester Conference Series on Public Policy* (40).

Barro R, 1996, *Getting it Right, Markets and Choices in a Free Society*, MIT Press, Cambridge, MA and London.

Barro R, 1998, *Determinants of Economic Growth, A Cross-country Empirical Study*, MIT Press, Cambridge, MA and London.

Barry P, 2001, *How Do We Compare? New Zealand's Public Policy Directions in an International Context*, New Zealand Business Roundtable, Wellington.

Bassett M, 1998, *The State in New Zealand 1840–1984, Socialism Without Doctrines*, Auckland University Press, Auckland.

Bates W, 1996a, *Will a Coherent Economic Strategy be Possible in New Zealand under Proportional Representation?*, New Zealand Business Roundtable, Wellington.

Bates W, 1996b, *The Links Between Economic Growth and Social Cohesion*, New Zealand Business Roundtable, Wellington.

Becker G, 1996, *Accounting for Tastes*, Harvard University Press, Cambridge, MA.

Becker G and C Mulligan, 1998, *Deadweight Costs and the Size of Government*, Working Paper 6789, National Bureau of Economic Research, Cambridge, MA.

Bernholz P, 1995, 'Efficiency, Political-economic Organization and International Competition Between States', in G Radnitzky and H Bouillon (eds) *Values and the Social Order, Volume 2: Society and Order*, Aldershot, Brookfield, United States.

Bils M and P Klenow, 2000, 'Does Schooling Cause Growth', *American Economic Review*, 90 (5).

Borner S, A Brunetti and B Weder, 1995, *Political Credibility and Economic Development*, St Martins Press, NY.

Boubakri N and J Cosset, 1998, 'Privatization in Developing Countries, An Analysis of the Performance of Newly Privatized firms', Note No 156, *Public Policy for the Private Sector*, World Bank, Washington.

Borcherding T, 1985, 'The Causes of Government Expenditure Growth: A Survey of the US Evidence', *Journal of Public Economics*, 28.

Brubaker E, 1997, 'The Tragedy of the Budgetary Commons', *The Independent Review,* I (3), Winter.

Buchanan C and P Hartley, 2000, *Equity as a Social Goal,* New Zealand Business Roundtable, Wellington.

Buchanan J, 1980, 'Rent Seeking and Profit Seeking', in Buchanan J, R Tollison and G Tullock, *Towards a Theory of the Rent-Seeking Society,* Texas A&M University Press, College Station, Texas.

Business Council of Australia, 1999, *New Directions: Avoiding Boom/Bust: Macroeconomic Reform for a Globalised Economy,* Discussion Paper 2, October.

Caragata P, 1998, 'From Welfare State to Optimal Size of Government', *Agenda,* 5 (3).

Coase, R, 1960/1971, 'The Problem of Social Cost', reprinted (1971) in W Breit and H Hochman (eds) *Readings in Microeconomics,* Holt, Rinehart & Winston, NY.

Commander S, H Davoodi and U Lee, 1997, *The Causes and Consequences of Government for Growth and Well-being,* Policy Research Working Paper 1785, World Bank, Washington.

Cox J, 1998, *Towards Personal Independence and Prosperity: Income Support for Persons of Working Age in New Zealand,* New Zealand Business Roundtable, Wellington.

Cullen M, 2000a, *Budget 2000,* The Treasury, Wellington, 15 June.

Cullen M, 2000b, *December Economic and Fiscal Update,* The Treasury, Wellington, 19 December.

De Long B and L Summers, 1991, 'Equipment Investment and Economic Growth', *Quarterly Journal of Economics,* 106 (2).

Denison E, 1967, *Why Growth Rates Differ,* Brookings Institution, Washington, DC.

Diewert E and D Lawrence, 1994, *The Marginal Costs of Taxation in New Zealand,* report prepared for the New Zealand Business Roundtable by Swan Consultants, Canberra.

Diewert E and D Lawrence, 1998, *The Deadweight Costs of Capital Taxation in Australia,* Discussion Paper 98–01, Department of Economics, University of British Columbia, Vancouver.

Diewert E, 2001, *Productivity Growth and the Role of Government,* Discussion Paper 01–13, Department of Economics, University of British Columbia, Vancouver.

Downs A, 1957, *An Economic Theory of Democracy,* Harper and Row, NY.

Easterly W, Kremer M, Pritchett L, Summers L, 1993, 'Good Policy or Good Luck?', *Journal of Monetary Economics,* 32.

Easterly W, 1994, 'Economic Stagnation, Fixed Factors, and Policy Thresholds', *Journal of Monetary Economics,* 33.

Easterly W and Ross Levine, 2000, *It's Not Factor Accumulation: Stylized Facts and Growth Models,* Working Paper, World Bank, Washington.

Evans L, A Grimes and B Wilkinson with D Teece, 1996, 'Economic Reform in New Zealand 1984–95: The Pursuit of Efficiency', *Journal of Economic Literature,* 34, December.

Feldstein M, 1996, *How Big Should Government Be?*, Working Paper 5868, National Bureau of Economic Research, Cambridge, MA.

Feldstein M, 1997, 'Privatizing Social Security: The $10 Trillion Opportunity', project on Social Security Privatization, SSP No 7, Cato Institute.

Feldstein M, 1999, 'Tax Avoidance and the Deadweight Loss of the Income Tax', *Review of Economics and Statistics,* 81 (4).

Feldstein M and C Horioka, 1980, 'Domestic Savings and International Capital Flows', *Economic Journal,* 90 (June).

Fergusson D, M Lynskey and L Horwood, 1995, 'The Adolescent Outcomes of Adoption: a 16-year longitudinal study', *Journal of Child Psychology and Psychiatry,* 36 (4).

Fleming J, 1962, *Domestic Financial Policy Under Fixed and Floating Exchange Rates*, IMF Staff Papers, 9, International Monetary Fund, Washington.

Friedman M and R Friedman, 1980, *Free to Choose,* Harcourt Brace, San Diego.

Galt D, 2000, *New Zealand's Economic Growth,* Treasury Working Paper, 00/09, The Treasury, Wellington.

Gerson P, 1998, *The Impact of Fiscal Policy Variables on Output Growth,* IMF Working Paper, WP/98/1, International Monetary Fund, Washington.

Green D, 1996, *From Welfare State to Civil Society: Towards Welfare that Works in New Zealand,* New Zealand Business Roundtable, Wellington.

Gwartney J, R Lawson and W Block, 1996, *Economic Freedom of the World 1975–1995,* The Fraser Institute, Canada.

Gwartney J, R Holcombe and R Lawson, 1998, 'The Scope of Government and the Wealth of Nations', *Cato Journal,* 18 (2).

Gwartney J, R Lawson and R Holcombe, 1999, 'Economic Freedom and the Environment for Economic Growth', *Journal of Institutional and Theoretical Economics,* 155 (4).

Gwartney J, R Lawson and D Samida, 2000, *Economic Freedom of the World, 2000 Annual Report,* The Fraser Institute, Canada.

Hahn R, 2000, *Reviving Regulatory Reform, A Global Perspective,* AEI-Brookings Joint Centre for Regulatory Studies, Washington.

Harberger A, 1964, 'Taxation, Resource Allocation and Welfare' in J Due (ed), *The Role of Direct and Indirect Taxes in the Federal Reserve System,* Princeton University Press, NJ.

Harberger A, 1998, 'A Vision of the Growth Process', *American Economic Review,* 88 (1).

Hartley P, 1997, *Conservation Strategies for New Zealand,* New Zealand Business Roundtable, Wellington.

Hanke S and S Walters, 1997, 'Economic Freedom, Prosperity and Equality: A Survey', *Cato Journal,* 17 (2).

Hayek F, 1945, 'The Use of Knowledge in Society', *American Economic Review,* XXXV (4).

Hayek F, 1960, *The Constitution of Liberty,* University of Chicago Press, Chicago.

Henderson D, 1999, *The Changing Fortunes of Economic Liberalism: Yesterday, Today and Tomorrow,* The Institute of Public Affairs and New Zealand Business Roundtable, Melbourne and Wellington.

Industry Commission, 1996, *Competitive Tendering and Contracting by Public Sector Agencies,* Report No 48, AGPS, Melbourne.

James M, 1992, *From Welfare State to Welfare Society,* Occasional Papers 38, The Centre for Independent Studies, St Leonards, Australia.

Jones M, 1997, *Reforming New Zealand Welfare,* Policy Monograph 37, The Centre for Independent Studies, St Leonards, Australia.

Jorgensen D and K Yun, 1991, 'The Excess Burden of Taxation in the United States', *Journal of Accounting, Auditing and Finance,* 6 (Fall 1991).

Kasper W, 1998, *Property Rights and Competition,* Policy Monograph 41, The Centre for Independent Studies, St Leonards, Australia.

Kasper, W and M Streit, 1998, *Institutional Economics: Social Order and Public Policy,* Edward Elgar, Cheltenham, United Kingdom and Northampton, United States.

Kasper, W, 2000, *Building Prosperity, Australia's Future as a Global Player,* The Centre for Independent Studies, St Leonards, Australia.

Kerr R, 1998, 'Moving Beyond Producer Boards', *Excellence Isn't Optional,* New Zealand Business Roundtable, Wellington, November.

Kerr R, 1999a, 'Is New Zealand Doomed to be a Low-Growth Economy?', *Turning Gain Into Pain,* New Zealand Business Roundtable, Wellington, May.

Kerr R, 1999b, 'How Big Should Government Be?', *Turning Gain Into Pain,* New Zealand Business Roundtable, Wellington, May.

Kerr R, 1999c, 'Politics, Markets and Voluntary Action: Different Mechanisms, Different Roles', *Wake Up New Zealand,* New Zealand Business Roundtable, Wellington, October.

Kerr R, 1999d, 'Trade, International Competitiveness and the New Zealand Transport Industry', *Wake Up New Zealand,* New Zealand Business Roundtable, Wellington, October.

Kerr R, 1999e, 'The Third Way: New Packaging, Old Product', *Wake Up New Zealand,* New Zealand Business Roundtable, Wellington, October.

Kerr R, 2000a, 'Promoting Smaller and Better Government', *Can New Zealand Afford to Replay the Economic Past?* New Zealand Business Roundtable, Wellington, December.

Kerr R, 2000b, 'The Quagmire of Regulation', *Can New Zealand Afford to Replay the Economic Past?* New Zealand Business Roundtable, Wellington, December.

Kesselman J, 2000, *Flat Taxes, Dual Taxes, Smart Taxes: Making the Best Choices,* Policy Matters, 1 (7), Institute for Research on Public Policy, Montreal, Canada.

King R and R Levine, 1994, 'Capital Fundamentalism, Economic Development and Economic Growth', *Carnegie-Rochester Conference Series on Public Policy* (40).

Kirzner I, 1979, *Perception, Opportunity and Profit,* University of Chicago Press, Chicago.

Kirzner I, 1997, 'Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach', *Journal of Economic Literature,* Vol XXXV, March.

Knack S and P Keefer, 1995, 'Institutions and Economic Performance, Cross Country Tests Using Alternative Institutional Measures', *Economics and Politics,* 7 (3).

Kneller R, M Bleaney and N Gemmell, 1999, 'Fiscal Policy and Growth: Evidence from OECD Countries', *Journal of Public Economics,* 74.

Lawrence D and E Diewert, 1999, *Measuring New Zealand's Productivity,* Report prepared for the Department of Labour, Reserve Bank of New Zealand and The Treasury, March, Treasury Working Paper 99/5.

Leef G, 1997, 'What's So Bad About Big Government Anyway?', *The Freeman,* December.

Levine R and D Renelt, 1992, 'A Sensitivity Analysis of Cross-Country Growth Regressions', *American Economic Review,* 82 (4).

Leibfritz W, J Thornton and A Bibbee, 1997, *Taxation and Economic Performance,* Working Paper 176, OCDE/GD (97) 107, Organisation for Economic Cooperation and Development, Paris.

Lindbeck A, 1995, 'Hazardous Welfare State Dynamics', American Economic Review papers and proceedings, *American Economic Review,* 82 (2).

Lindbeck A, 1999, 'Social Norms and Economic Incentives in the Welfare State', *Quarterly Journal of Economics,* CXIV (1).

Lutter R, 1999, 'The Role of Economic Analysis in Regulatory Reform', *Regulation,* 22 (2).

Makin T, 1998, 'Why Fiscal Consolidation is Expansionary', *Agenda,* 5 (4).

Maloney T, 1997, *Benefit Reform and Labour Market Behaviour in New Zealand,* Institute of Policy Studies, Wellington.

Maloney T, 1998, *Five Years After*: *The New Zealand Labour Market and the Employment Contracts Act,* Institute of Policy Studies, Wellington.

Mankiw N, D Romer and D Weil, 1992, 'A Contribution to the Empirics of Economic Growth', *Quarterly Journal of Economics,* 107 (2).

Mankiw N, 1998, *Principles of Economics,* Harcourt College Publishers, Fort Worth, Texas.

Mauro P, 1995, 'Corruption and Growth', *Quarterly Journal of Economics,* August.

Moffitt R, 1983, 'An Economic Model of Welfare Stigma', *American Economic Review,* 73 (5).

Moffitt R, 1992, 'Incentive Effects of the US Welfare System: A Review', *Journal of Economic Literature,* Vol XXX, March.

Mundell R, 1963, 'Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates', *Canadian Journal of Economics and Political Science,* 29.

McDermott J and R Wescott, 1997, 'Fiscal Reforms that Work', *Economic Issues,* 4, International Monetary Fund, Washington, January.

Nellis J, 1994, 'Is Privatisation Necessary?', *Viewpoint,* FPD Note No 7, World Bank, Washington.

New Zealand Business Roundtable, 1988, *State Owned Enterprise Policy: Issues in Ownership and Regulation,* New Zealand Business Roundtable, Wellington.

New Zealand Business Roundtable, 1992, *The Private Benefit of Public Ownership: The Case for Privatisation,* New Zealand Business Roundtable, Wellington.

New Zealand Business Roundtable, Auckland Regional Chamber of Commerce and Industry, and Wellington Chamber of Commerce, 1996, *Moving Into the Fast Lane,* New Zealand Business Roundtable, Wellington.

New Zealand Business Roundtable, 2001, *Submission on the Tax Review 2001,* Wellington.

New Zealand Institute for the Study of Competition and Regulation Inc, 1999, *The Privatisation of New Zealand Rail,* Treasury Working Paper, 99/10.

Nijkamp P and J Poot, 2000, 'Meta-analysis of the Impact of Fiscal Policies on Long-run Growth', paper presented at the 2000 conference of the New Zealand Association of Economists, Wellington, July.

Nishiyama C and K Leube (eds) 1984, *The Essence of Hayek,* Hoover Institution Press, Stanford.

North D, 1990, *Institutions, Institutional Change and Economic Performance,* Cambridge University Press, NY.

North D, 1994, 'Economic Performance Through Time', *American Economic Review,* 84 (3).

Norris R, 2000, 'Roles for Public and Private Capital in Infrastructure Development: New Zealand Experience', paper presented to Eisenhower Fellowship Conference in Sydney, November 13.

Obstfeld M and K Rogoff, 2000, *The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?*, Working Paper 7777, National Bureau of Economic Research, Cambridge, MA.

O'Driscoll G, K Holmes and M Kirkpatrick, 2000, *2000 Index of Economic Freedom,* The Heritage Foundation and the *Wall Street Journal*.

OECD, 1998, *Economic Outlook,* OECD, Paris, June.

OECD, 1999, *Economic Outlook,* OECD, Paris, June.

OECD, 2000a, *Economic Outlook,* OECD, Paris, December.

OECD, 2000b, *Economic Surveys: New Zealand,* OECD, Paris, November.

Okun A, 1975, *Equality and Efficiency: The Big Tradeoff,* Brookings, Washington.

Olson M, 1982, *The Rise and Decline of Nations,* Yale University Press, New Haven.

Olson M, 1996, 'Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor', *Journal of Economic Perspectives,* 10 (2).

Olson M, 2000, *Power and Prosperity,* Basic Books, NY.

Poot J, 1999, 'Can Government Influence Long-Run Rate of Economic Growth?', *Victoria Economic Commentaries,* Victoria University of Wellington, October.

Productivity Commission, 1996, *Stocktake of Progress in Microeconomic Reform,* AGPS, Canberra.

Productivity Commission, 1999, *Microeconomic Reforms and Australian Productivity: Exploring the Links,* Commission Research Paper, Ausinfo, Canberra.

Romer P, 1986, 'Increasing Returns and Long Run Growth', *Journal of Political Economy,* 94 (5).

Romer P, 1990, 'Endogenous Technological Change', *Journal of Political Economy,* 98 (5).

Romer P, 1993, 'Economic Growth', *The Fortune Encyclopaedia of Economics,* David R Henderson (ed), Time Warner Books, NY.

Romer P, 1994, 'The Origins of Endogenous Growth', *Journal of Economic Perspectives,* 8 (1).

Rostow W, 1960, *The Stages of Economic Growth,* Cambridge University Press, NY.

Sachs J and A Warner, 2000, 'Globalisation and International Competitiveness: Some Broad Lessons of the Past Decade', in *Global Competitiveness Report 2000/2001,* World Economic Forum, Geneva.

Sala-i-Martin, 1997, 'I just ran two million regressions', *American Economic Review,* 87 (2).

Scott M, 1991, *A New View of Economic Growth: Four Lectures,* World Bank Discussion Papers 131, World Bank, Washington.

Scully G, 1988, 'The Institutional Framework and Economic Development', *Journal of Political Economy,* 96 (3).

Scully G, 1989, 'The Size of the State, Economic Growth and the Efficient Utilization of National Resources', *Public Choice,* 60 (1).

Scully G, 1996, *Taxation and Economic Growth in New Zealand,* revised Inland Revenue Department Working Paper No 14, Wellington.

Sieper E, 1996, 'Formal Review of Gerald W Scully, Taxation and Economic Growth in New Zealand', mimeograph.

Smith A, 1776/1976, *An Inquiry into the Nature and Causes of the Wealth of Nations,* Oxford University Press, Oxford.

Solow R, 1956, 'A Contribution to the Theory of Economic Growth', *Quarterly Journal of Economics,* 70.

Solow R, 1957, 'Technical Change and the Aggregate Production Function', *Review of Economics and Statistics,* 39 (3).

Swan T, 1956, 'Economic Growth and Capital Accumulation', *Economic Record,* 32.

Spicer B, D Emanuel and M Powell, 1996, *Transforming Government Enterprises*, Policy Monographs 35, The Centre for Independent Studies, St Leonards, Australia.

Tanzi V and L Schuknecht, 1995, *The Growth of Government and the Reform of the State in Industrial Countries,* IMF Working Paper, WP/95/130, International Monetary Fund, Washington.

Tanzi V and L Schuknecht, 1998, 'Can small governments secure economic and social well-being?' in H Grubel (ed), *How to Use the Fiscal Surplus,* The Fraser Institute, Vancouver.

Tanzi V and L Schuknecht, 2000, *Public Spending in the 20th Century,* Cambridge University Press, UK.

Temple J, 1999, 'The New Growth Evidence', *Journal of Economic Literature,* Vol XXXVII, March.

Thomson D, 1992, *Welfare States and the Problem of the Common,* Occasional Papers 43, The Centre for Independent Studies, St Leonards, Australia.

Tullock G, 2000, 'The Cost of Rent Seeking', in G Tullock, A Seldon and G Brady, (eds), *Government: Whose Obedient Servant? A Primer in Public Choice,* Institute of Economic Affairs, London.

Treasury, 1984, *Economic Management,* Wellington.

Treasury, 2001, *Budget Economic and Fiscal Update 2001,* Wellington, 24 May.

Vedder, Richard K and Lowell Galloway, 2001, *Wealth and Poverty Revisited*, report prepared for the Joint Economic Committee of Congress, Washington, DC.

Williamson O, 1985, *The Economic Institutions of Capitalism,* The Free Press, NY.

World Bank, 1993, *The East Asian Miracle,* Oxford University Press, NY.

World Bank, 1995, *World Development Report 1995,* Oxford University Press, NY.

World Trade Organisation, 1998, 'Chapter 4: Globalization and Trade', *Annual Report 1998,* World Trade Organisation, Geneva.

Young A, 1995, 'The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience', *Quarterly Journal of Economics,* August.

Zerbe R and H McCurdy, 2000, 'The End of Market Failure', *Regulation,* 23 (2), Cato Institute.