

New Zealand's Prosperity

'Development is about transforming the lives of people, not just transforming economies.' – Joseph Stiglitz, *Making Globalization Work*

New Zealanders work harder and earn less than most other people in the developed world. This book is about how we can change that. We unravel why we have fallen behind and show how to boost our prosperity and lure our young people home. To do this, we argue, we need to start capitalising on our smarts, not just our sheep; we need to start seeing ourselves as people of learning, not just of the land; we need to start harnessing science and innovation, the sources of prosperity in the modern world; and we need to figure out how to export knowledge, not nature.

To the rest of the world, New Zealand is a land of sheep and spectacular tourist destinations. That is hardly surprising. It is exactly how we depict ourselves. But Kiwis need to start seeing themselves differently. New Zealand is not, in fact, the land of innovators that the myth of our number-eight-wire mentality suggests. In fact, on a per capita basis, the average OECD country produces four times as many patents as New Zealand. Why is this? What is it about us that hinders our capacity to innovate? To answer this question, we will look at how innovation works both in New Zealand and in other countries. We will examine how connectivity and collaboration play a key role in determining rates

of innovation and economic growth. We argue that if New Zealand is to grow its economy more rapidly it must overcome its small size and low population density to build nationwide communities of innovators, entrepreneurs and businesses.

WHY PROSPERITY?

Prosperity describes a state of flourishing or thriving. In New Zealand there is a sense that we have flourished less than we might, and especially less than many other countries we like to compare ourselves with. Through insufficient resources, our health system is unable to provide the treatments that are available for free in countries such as Australia or Canada. Our infrastructure is decrepit, our roads are poor, our passenger train systems are an embarrassment to us, and many of our houses are inadequate or, even when new, badly built. Our native forests are in decline because we cannot afford to address pest control in a comprehensive manner. Our universities have been slipping in international rankings, solely because lack of investment has made it harder to retain and attract the best staff. Our young people see their futures abroad; we export 24 per cent of our university graduates. And now, we face the great crisis of our generation: the need to rebuild Christchurch at the same time as the rest of the world struggles out of a global recession. The cost of this rebuild has been variously estimated at up to \$40 billion, much of which will ultimately fall on the shoulders of New Zealand taxpayers, at around \$10,000 per citizen.

We make no apology in adopting the standpoint that prosperity *does* matter to New Zealanders, that we *do* need to grow wealth in this country. And despite the savage list of problems outlined above, this book will show that we can grow our prosperity; indeed we argue that it will not even be hard to do so. At the heart of the strategy proposed here is an emphasis on the role of innovation in a modern economy. Remarkably, we are well placed to grow our capability dramatically.

This is partly because our school system happens to be excellent, much better in fact than most other countries that belong to the Organisation for Economic Co-operation and Development (OECD), and because our universities, despite meagre funding, set very high standards. But it is also because New Zealanders have an attitude that enables them to quickly see the essence of a problem, without flourish or drama, and to get a job done.

So why have we found ourselves in our current predicament? The gap between ourselves and other OECD nations opened during a period in the latter half of the twentieth century in which we delayed making essential structural changes to our economy. It was not until the deregulation of the mid-1980s that we allowed our economy to shift to more productive industries. It is now performing relatively well, such that our economic growth rate over the last two decades has been close to the OECD average. But the lag in making the necessary changes has left us trailing behind in absolute terms, albeit with a gap that is at least no longer expanding. This lost ground is illustrated by figure 0.1, which shows prosperity, as measured by real (i.e. inflation adjusted) gross domestic product (GDP) per capita, from 1970 to 2011,

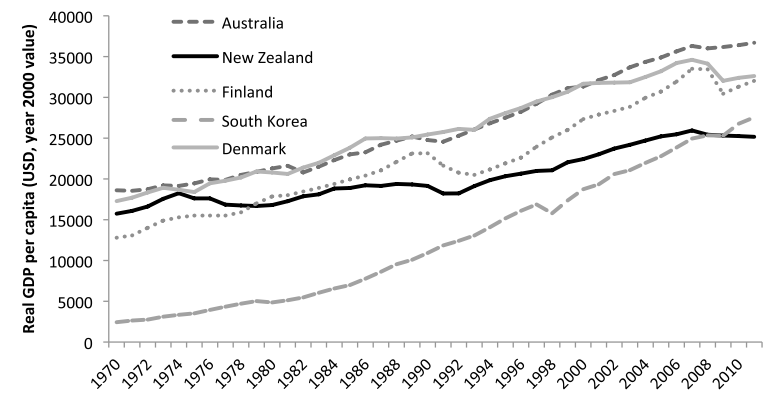


Figure 0.1 Change in real GDP per capita from 1970 to the present

Source: OECD.Stat database, 2012

for New Zealand, Australia, Finland, Denmark and South Korea. We will explain in the next section why we use per capita GDP as a proxy for economic prosperity. For the moment, note that a constant rate of growth in prosperity will be represented by a constant upwards slope on the graph. There is a sudden upturn in New Zealand's growth rate in 1993, and from then on it approaches a growth rate similar to those of Australia and Denmark, close to the OECD average. With the gap in growth rates greatly reduced, our challenge is now to close the gap in prosperity. That means we need to grow faster, at least for a while, and once we catch up, we will need to stay at the growth frontier. That this is possible is illustrated by the performances of South Korea and Finland, which have both grown much faster than the OECD average over the last two decades.

We will argue in this book that the gap between New Zealand and the rest of the OECD is, in essence, a knowledge gap. At the same time as we began our market reforms, the world economy was changing. Globalisation had begun in earnest, and as the accessibility of world markets grew, so too did the premium attached to good ideas, to unique products and services, and to new fields of knowledge. As we will see, the countries that have prospered in this era are those, such as Finland, that have invested in science and technology. The countries that have, like New Zealand, neglected their innovation sectors have fared less well. Today, Finland produces ten times as many patents per person as New Zealand. To accelerate our economic performance we will need to close this knowledge gap.

In science it is well understood that much of what constitutes conventional thinking – ‘common sense’ in everyday parlance – is indeed the very opposite of the truth. Lewis Wolpert once defined science as a means of discovering knowledge that defies common sense: ‘if something fits in with common sense it almost certainly isn't science.’¹ (It is, after all, common sense that the sun revolves around the earth.) In fact, Wolpert thought the same was true of economics. And when it comes to the New Zealand economy, our situation is seen by many as deeply

paradoxical. International economists refer to the ‘New Zealand paradox’ when pointing out that getting the market fundamentals right doesn't always lead to economic growth. In later chapters we will look at why markets do not support enough innovation. We will see that countries that rely solely on the market to provide science and technology will be left behind by those with governments that invest in knowledge.

But there are other puzzles that stand in our way. Here we try to identify them, and in doing so, propose a means of unravelling them. Let us make a list of just a few ‘common-sense’ beliefs about New Zealand's economy:

- we are overtaxed;
- there is too much bureaucracy impeding property rights and this holds us back;
- we are an agricultural economy with an income supplemented by tourism and hence, to grow prosperity, we need to build on those capacities;
- manufacturing is not suited to New Zealand because we cannot compete with low-wage manufacturing economies like China;
- being small is a disadvantage when it comes to exporting in the global economy;
- if we are to develop technology businesses, we need to ‘play to our strengths’ – such as farming or our clean and green environment – by focusing on biotechnology, smart foods or clean technology;
- when we try to enhance our technology sector, we should focus on the big companies, because this is where the greatest gains will come.

These are just a sample of apparently common-sense assumptions that are fundamentally flawed, as we shall show. Yet it is hardly surprising that we believe them, given our erstwhile capacity to construct a mythology of New Zealand that is unreliable at best and at worst is patently false. Here are some of the myths in which we immerse ourselves:

- we are ‘clean and green’, despite the destruction of our native forests by introduced pests, our declining river and lake water quality and our ongoing loss of species of native flora and fauna;
- we are an egalitarian society, ideal for raising children, despite our severe income disparity and our dreadful child-poverty statistics;
- we are nuclear free, despite our entirely sensible use of radioactive isotopes in our hospitals and in the smoke detectors in our homes, isotopes that are generated not only in our own cyclotrons but also in the plutonium-based reactors of those whose nuclear facilities we deplore.

Our capacity for childish inconsistency goes further. We raise spiritual or pseudoscientific objections to the import of genetically engineered foods, yet we protest in the name of science when the Australians raise similar pseudoscientific objections to the import of our apples. And, perhaps the greatest silliness of all, we have a chip-on-the-shoulder attitude – even outright hostility during sporting events – towards our best friend and nearest neighbour, Australia: the destination for most of our exports, the haven for New Zealanders seeking better jobs and a higher standard of living, and the ultimate guarantor of our security. Until we rise above the myths that hold us back and honestly address our inconsistent attitudes, we can hardly expect to solve our deep-seated problems.

Table 0.1 shows a sample of societal comparisons that were published in the *New York Times* in February 2011. While the countries we might like to compare ourselves with seem to enjoy less income inequality and lower incarceration rates, we can console ourselves that some of our indicators are exceptionally good. Our performance in secondary school education, in reading, in science and in maths, is amongst the best. Therein lies enormous opportunity. The bedrock for improved economic performance is sound, as the rest of this book will make clear.

Table 0.1 A sample of social and economic indicators for New Zealand and a range of comparator countries*

	Income inequality (Gini index, higher scores indicate greater inequality)	Unemployment rate (% of workforce)	Life expectancy (years)	Prison population (per 100,000)	Student performance at age 15 (higher scores indicate stronger performance)	
					Maths scaled score	Science scaled score
Australia	30.5	5.1	81.7	133	514	527
Canada	32.1	8.0	81.2	117	527	529
Denmark	29.0	4.2	78.5	79	503	499
Finland	29.5	7.9	79.1	60	541	544
Israel	39.2	6.4	80.9	325	447	445
New Zealand	36.2	6.5	80.5	203	519	532
Singapore	48.1	2.3	82.1	273	542	542
United States	45.0	9.0	78.2	743	487	502

Note: The student performance scores are based on standardised test results that are scaled so the average is 500 across the OECD countries.
 Source: Charles M. Blow, ‘Empire at the End of Decadence’, *New York Times*, 18 February 2011

PROSPERITY AND PER CAPITA GDP

What do economists mean by prosperity? Traditionally, the standard prosperity measure is the annual gross domestic product (or GDP) of a country divided by the total number of its citizens, in other words annual GDP per capita. GDP is equivalent to the market value of all final goods and services produced in a country in a given period. We will address the issue of whether per capita GDP is really a true measure of human well-being in a moment, but before doing so let’s clear up one potential point of confusion. There is another measure of prosperity known as gross national product (GNP), the difference between the two being that GNP is based on ownership while GDP is based on location. For example, if a country earns money from assets owned abroad, or alternatively if a country has to pay interest on loans taken out abroad, then these incomes and outgoings would be accounted for in GNP but not in GDP. GNP is the net product produced