

# Living Standards: A Short Guide to 'Economic Growth'

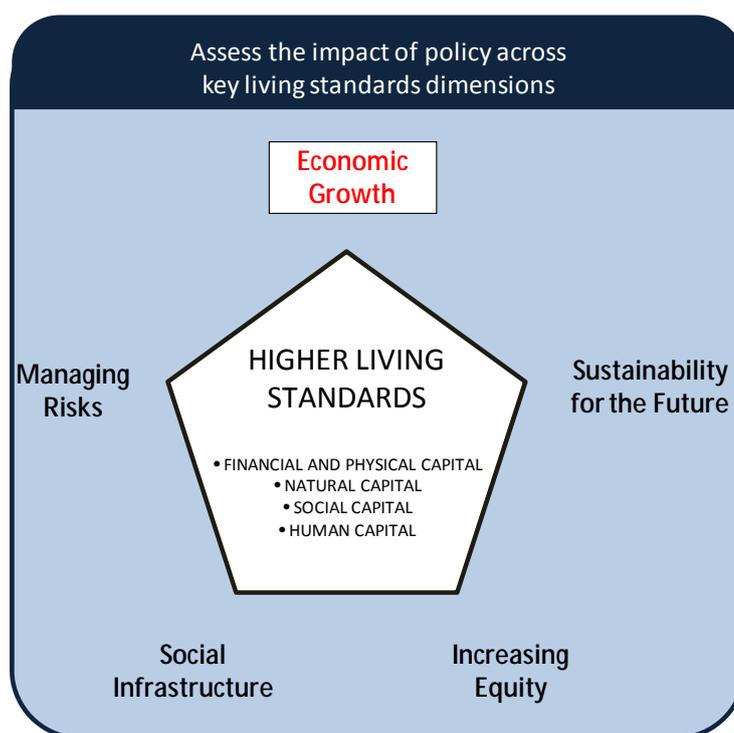
## Economic growth as part of the Living Standards Framework

At a very broad level, economic growth is used as shorthand to refer to the level and growth of average income of New Zealanders.

One of the Treasury's key priorities is to provide advice on policies to improve economic performance, across the broad dimensions of macro-economic and fiscal policy settings, tax, welfare, natural resources and the business environment. This work involves understanding the evidence about what drives economic growth, New Zealand's economic performance, as well as consideration of a range of practical options to support better economic performance.

The Treasury's Living Standards Framework highlights that living standards are multi-dimensional. The framework encourages analysts to think in an integrated way across policy objectives, consider their trade-offs and complementarities, and have regard to all of the impacts of policy.

While average income is important, advice needs to be firmly grounded in the broader objectives of Government policy. This means that advice on priorities to lift economic growth needs to be aware of the broader distributional consequences and impacts on other policy objectives. The key challenge from the living standards work therefore is to place the economic growth story in a broader context, to consider distributional consequences and to look beyond year to year changes in economic growth.



# Economic growth frameworks

## Summary

There are a variety of different economic tools for thinking about how changes will influence economic outcomes. Growth accounting approaches typically decompose drivers into their impacts on [multi-factor] productivity and levels of labour and capital input. General equilibrium approaches typically consider the impacts of changes in prices or inputs on firm and household behaviour based on a range of assumptions about the way in which households and firms respond to incentives. Historians typically consider the underlying drivers of longer-term patterns and structural change.

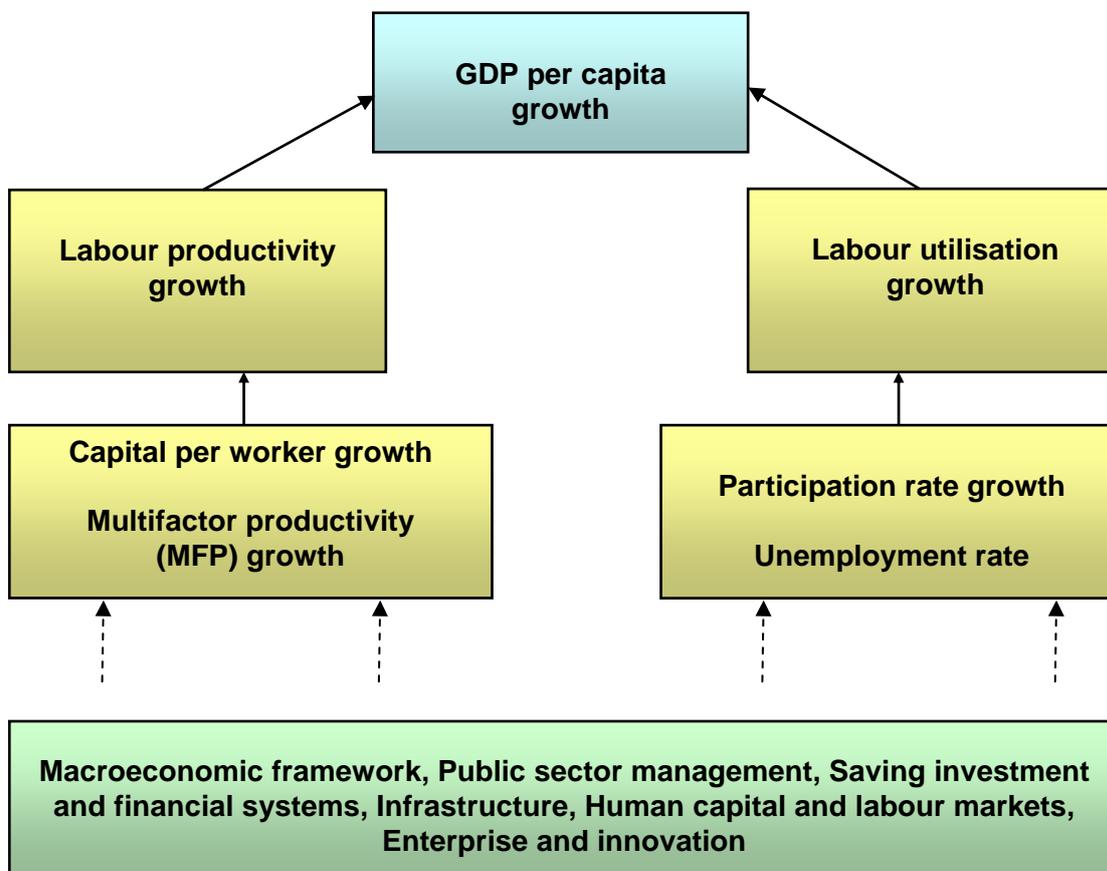
The Treasury draws on wide and diverse literature on economic growth.<sup>1</sup> A useful summary framework is the growth accounting framework (see figure 1). This framework splits the drivers of economic growth into labour utilisation and labour productivity. To understand the role of policy requires an understanding of the factors that have caused the evolution of productivity and input accumulation. This requires an understanding of the ultimate factors that have influenced New Zealand's growth. These factors include institutions, economic policy, geography and the impact of convergence effects and economic shocks (which are not necessarily mutually exclusive).

The policy issues are grouped into the areas of macroeconomic framework and stability, public sector management, saving, investment and financial systems, infrastructure, human capital, labour markets, and enterprise and innovation (the list is not exhaustive). Figure 1 illustrates that these policies impinge on economic growth via their effects on labour utilisation and labour productivity.

---

<sup>1</sup> See for example: <http://www.treasury.govt.nz/publications/research-policy/tp/economicgrowth>; <http://www.treasury.govt.nz/publications/research-policy/tprp/08-01>.

Figure 1: Growth accounting framework



Source: Treasury (2004); "New Zealand Economic Performance: An Analysis of Performance and Policy"

## Discussion

The neoclassical growth model (Solow, 1956 and Swan, 1956) is based on an economy-wide production function in which the level of output is related to the level of technology, labour and capital. The economy-wide production function is assumed to exhibit constant returns to scale and technology is assumed to be labour augmenting (that is, technology is assumed to raise the productivity of labour).

Within the neoclassical growth framework, the steady-state or long-run growth rate in per capita output is determined by the growth rate in labour augmenting technology, which is determined outside the model. Thus per capita GDP growth in the neoclassical growth framework cease in the absence of technological change. This result highlights the centrality of technological change (knowledge accumulation) in sustaining per capita GDP growth.

Endogenous growth models bring technological change (knowledge accumulation) to the forefront of the analysis. The introduction of knowledge introduces additional complexities because knowledge has public good characteristics of being (partially) non-rival and (partially) non-excludable. The non-rival nature of knowledge is an important source of increasing returns to scale because new knowledge arises from existing knowledge and because knowledge spillovers occur between people and firms (Hansen, 2002). The difficulties in making knowledge excludable reduce the incentive to invest in knowledge accumulation. This creates a tension between making knowledge available for all to use, but

ensuring some degree of excludability so there is an incentive to invest in knowledge accumulation.

Temple (2003) has argued that when thinking about the theoretical insights that emerge from the economic growth literature, the sharp distinction between level effects and growth effects should not be made, for two reasons. First, the steady-state is a theoretical abstraction that is of limited practical relevance. Most countries are probably not on their steady-state growth paths, with much of the observed variation in per capita output growth across time and countries due to transitional dynamics. Second, the sharp distinction between level effects and growth effects tends to downplay the importance of level shifts in per capita output which may have significant welfare effects.

Rodrik (2003) has pointed out that sound institutions should be based on first order economic principles (for example, protection of property rights, competition, and appropriate incentives) to underpin economic growth. However, he also noted there is wide scope in designing specific institutions based on first order economic principles. Hence it is possible for countries to develop quite different institutional arrangements which still underpin economic growth.

The empirical growth literature identifies institutions, economic policies and economic geography as being important for per capita GDP growth. Moreover, the interaction of economic shocks with institutions and economic policies is also important to countries' relative economic growth performance. For example, countries' relative economic growth performance may be adversely affected by poor institutions and economic policies that do not allow economies to readily adjust to economic shocks. Poor institutions and economic policies may also impact on the speed at which countries converge to their steady-states. Moreover, institutions, economic policies and economic geography may also determine countries' steady-state level of per capita GDP.

## Recent economic growth performance

New Zealand's average GDP per capita growth for the last six decades has been poorer than all other OECD countries. New Zealand's GDP per capita ranked third among OECD countries in 1950 and 22nd in 2009 (of 34 OECD member countries). In order to maintain New Zealand's living standards we need to materially narrow the income gap between New Zealand and the most advanced economies. The Treasury's Statement of Intent 2011–2016 indicated that to close the gap with Australia within 15 years would require average GDP per capital growth of above 4%. The Treasury still considers this is a relevant long-term target. Reflecting the current global economic environment, a more feasible target for the period of this Statement of Intent is real GDP per capita growth of 2% to 3% (see table 1). For a country of New Zealand's size, much of this growth will need to be driven by strong export performance as reflected in tradable sector growth.

Table 1: Performance measures of economic growth and performance in Treasury's 2012-17 Statement of Intent

Indicator	Current performance	Target
<b>Real GDP per capita growth</b>	<ul style="list-style-type: none"> <li>▶ Real per capita GDP was 1.8% lower in the year ending December 2011 than in the year ending December 2006. 2011 was the first year we have had positive GDP per capita growth since 2008.</li> <li>▶ NZ's GDP per capita would need to increase 36% to reach Australia's GDP per capita level, 20% to reach the UK's, 56% to reach USA's, and 14% to reach the OECD average.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Growth rates sufficient to deliver high incomes to New Zealanders. A solid recovery in 2013 is sustained, lifting five-year average real GDP per capita above the OECD average and ultimately reaching 4% per annum.</li> <li>▶ This requires real GDP per capita growth of between 2% and 3% per annum over 2012-17.</li> </ul>
<b>Tradable sector growth</b>	<ul style="list-style-type: none"> <li>▶ Tradable sector output was 4.9% lower in the year ending December 2011 than in the year ending December 2006.</li> </ul>	<ul style="list-style-type: none"> <li>▶ 2.5% to 3.5% per annum over 2012-17 and ultimately reaching a rate consistent with achieving GDP per capita growth of 4%.</li> </ul>

## Key economic priorities

New Zealand's poor performance reflects its labour productivity, associated with relatively low levels of both capital intensity and multi-factor productivity. To reverse this decline requires policy changes with the potential to lift productivity across the economy and support a substantial lift in export performance. This will require:

- ▶ restoring fiscal buffers and supporting rebalancing of activity towards the tradable sector through continued restraint in government spending (expanded under the Treasury's A Stable and Sustainable Macroeconomic Environment outcome)
- ▶ avoiding macroeconomic instability (expanded under the Treasury's A Stable and Sustainable Macroeconomic Environment outcome)
- ▶ encouraging increased savings relative to investment to lower the cost of capital and reduce pressure on interest rates and the exchange rate (expanded under the Treasury's A Stable and Sustainable Macroeconomic Environment outcome and below)
- ▶ improving the domestic business environment by raising the productivity performance of firms, minimising the cost pressures they face and maintaining their ability to adjust to changing circumstances (the Treasury's role and focus in achieving this are outlined below)
- ▶ maximising the long-term value of New Zealand's significant natural resource endowment, by providing certainty and efficient allocation (the Treasury's role and focus in achieving this are outlined below)
- ▶ improving international competitiveness to overcome the disadvantages of size and remoteness, and to increase incentives to invest and conduct business in New Zealand (the Treasury's role and focus in achieving this are outlined below)

- ▶ enhancing our human capital and labour supply to improve our labour productivity and utilisation

## Key questions when thinking about economic growth

Key policy interventions to lift economic growth are around improving capabilities and opportunities, improving incentives and removing obstacles. Advisors and analysts to policy makers therefore may wish to consider the following questions:

### *Statement of the problem*

- ▶ What exactly is the 'problem' that this policy is intended to address?

### *Role of the State*

- ▶ It is important that at the outset the analyst is clear about the extent to which the proposed intervention properly falls within the role of the state (e.g. the provision of a public good, the correction of a market failure).

### *Statement of the Proposed Intervention*

- ▶ A clear statement of the exact nature of the policy intervention is essential.

### *Change in behaviour*

- ▶ What changes in behaviour by which agents are sought in order to 'correct' the problem?

### *Mechanism of changes*

- ▶ How will the policy bring about those changes in behaviour?

### *Wider effects*

- ▶ Is it possible that the policy might produce other 'unintended' consequences? Could it induce behavioural changes in other agents?

### *Ceteris paribus*

- ▶ In many cases the role of policy will be based on a partial (as distinct from a general equilibrium) approach. As such it is important to be clear what is, or is not held constant; for example if tax credits are proposed for research and development expenditures, is the analysis based on fiscal neutrality? Has the dead weight loss of the taxation needed to fund the intervention been included?

### *Nature and quality of the evidence*

- ▶ Is there international evidence on the possible impacts of the proposal? Is there New Zealand evidence? How robust is this evidence? Is there a wide dispersion in the empirical estimates? Are the methodologies appropriate for identifying causal relationships?

### *Context dependence*

- ▶ Are there aspects of the New Zealand economy (size, distance, industry structure) which suggest that international results may not be appropriate? What direction do we expect the bias would be?

### *Acknowledging uncertainty*

- ▶ Inevitably uncertainty will surround the possible impacts of a policy intervention; these need to be explicitly acknowledged and where possible some indication of lower and upper bounds presented.

### *Timing*

- ▶ Would the intervention take effect immediately? Would a change in the measure of impact be expected in the current period? Would there be a lag before any effect was expected? Would the impact be spread over a number of years?

### *Measuring the impact*

- ▶ It is essential that the metric being used to measure the impacts is clearly identified; for example is the intervention designed to increase the rate of economic growth as distinct from generating a one-off shift in the level of income?

### *The adding up constraint*

- ▶ When a large number of independent exercises such as this are conducted with no linkages between them, the “sum of the parts might be greater than the whole”. When we aggregate the growth impacts of each of the projects, we could well find that were we to undertake all of them the total effect would appear to be the sum of the individual impacts and more than likely add to some improbable results. For example 10 projects with an average impact on GDP of +1.5% each, will almost certainly not increase GDP by 15% if all are simultaneously implemented. Fundamentally, *cet. par.* would have been violated.

### *Distributional consequences*

- ▶ Are there likely to be winners and losers? Can these be identified? Is the policy likely to improve/worsen the distribution of income or wealth?

### *Treaty of Waitangi*

- ▶ Is the intervention congruent with the articles of the Treaty?

### *International obligations*

- ▶ Is the proposed intervention consistent with New Zealand’s obligations under international agreements and treaties?