

Ben Gleisner, Mary Llewellyn-Fowler
and Fiona McAlister

Broadening Our Understanding of Living Standards Treasury's New Policy Framework¹

Treasury's vision is to be a world-class Treasury working for higher living standards for New Zealanders. In performing its role as the government's adviser on economic, fiscal and regulatory issues, Treasury has focused on how improved economic performance can enhance living standards.

However, Treasury is also a central government agency and has oversight over all significant policy issues across the state sector. As such, it acknowledges that living standards are broader than income alone, and are determined by a wide range of material and non-material factors.

In order to ensure that the term living standards is understood and applied consistently across all Treasury advice, Treasury has developed a descriptive framework to help guide policy analysis. In developing the framework, it has drawn on the substantial theoretical and empirical literature on defining and measuring 'progress'.

The framework recognises the importance of looking beyond economic measures in assessing living standards, and in this is similar to thinking undertaken by the OECD (2010a–d, 2011a, 2011b), the United States Treasury (2011), the

International Monetary Fund (2011) and the Australian Treasury's Wellbeing Framework (2004).

Treasury's Living Standards Framework

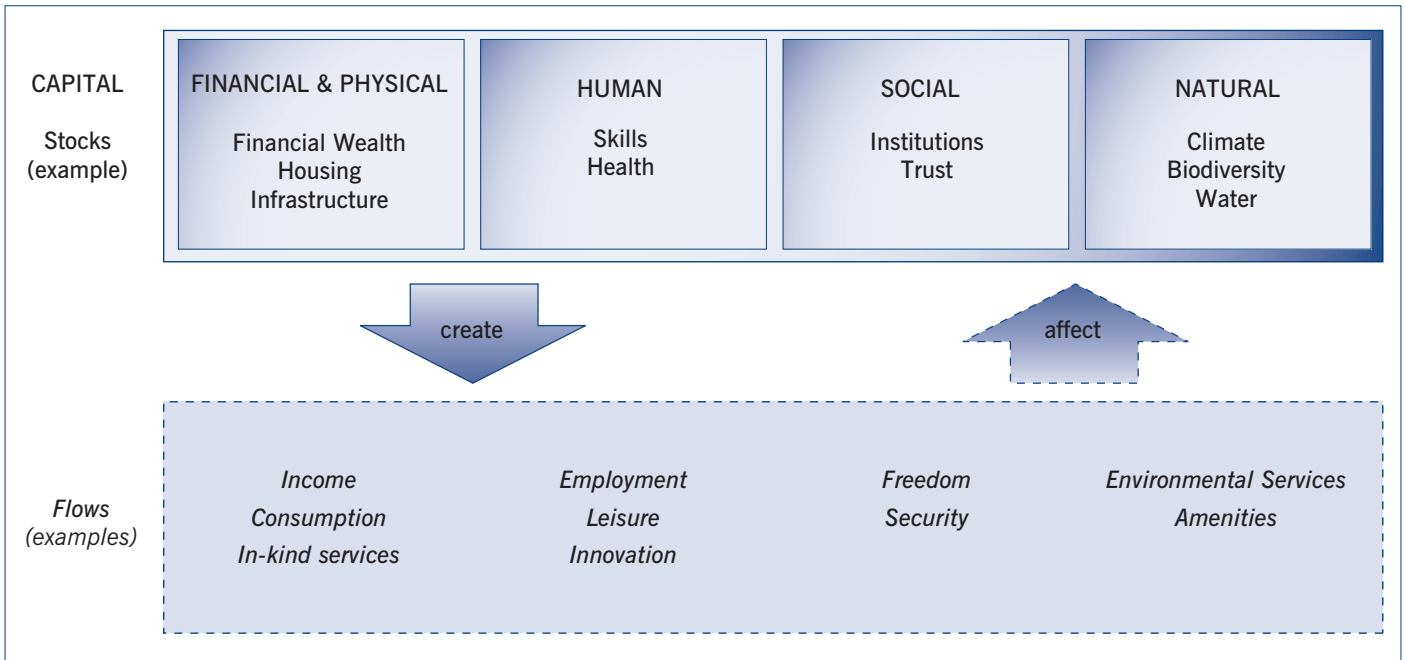
Treasury's Living Standards Framework incorporates a broad range of material and non-material factors from which individuals derive satisfaction: what economists call 'utility'. It also recognises that utility is not the only value relevant to living standards. Individual rights, freedoms and capabilities contribute to overall satisfaction, but also have independent value.

While the overall level of living standards in New Zealand is important, Treasury also recognises that the living standards of each individual New Zealander are important. Therefore, it looks not only at aggregate living standards but also at their distribution across the population.

The sustainability of living standards for both present and future generations is a key part of the framework. This acknowledges Treasury's stewardship role of ensuring that the next generation is endowed with 'whatever it takes to achieve a standard of living at least as good as our own and to look after their next generation similarly' (Solow, 1992,

Ben Gleisner is a Senior Analyst in the Labour Markets and Welfare team at the Treasury
Fiona McAlister is an Analyst in the Health and Housing team at the Treasury
Mary Llewellyn-Fowler was previously an Analyst in the Health and Housing team at the Treasury

Figure 1: Treasury's Living Standards Framework



p.15). Finally, the framework recognises that people's subjective assessment of their own standard of living is important, and it therefore draws on insights from the subjective well-being, or 'happiness', literature.

The framework recognises the following five key elements:

- that there is a broad range of material and non-material determinants of living standards (beyond income and GDP);
- that freedoms, rights and capabilities are important for living standards;
- that the distribution of living standards across different groups in society is an ethical concern for the public, and a political one for governments. It also has efficiency implications, and empirically-based economic analysis can provide useful insights;
- that the sustainability of living standards over time is central to ensuring that improvements in living standards are permanent, with dynamic analysis of policy needed to weigh up short- and long-term costs and benefits; and
- that measuring living standards directly using self-assessed subjective measures of well-being provides a useful cross-check of what is important for living standards.

The framework describes a broad understanding of living standards, which

is appropriate given Treasury's role at the centre of policy making in New Zealand. While broad, however, the framework is not intended to be comprehensive or prescriptive, and there may be important values that are not included.

A capital stocks and flows approach

A 'capital stocks and flows' approach is the basis of the framework. This approach borrows the concept of capital from economics, traditionally used to refer to assets such as buildings and machinery which support a future flow of income. The notion of an asset that can be built up for future use has subsequently been broadened to include natural (OECD, 2001a) and human capital (Schultz, 1961; Becker, 1964). Recently, the importance of social capital has been recognised (Coleman, 1986), and cultural aspects are sometimes included (Bourdieu, 1986).

The following four types of capital are integral to current and future living standards:

- financial and physical capital;
- human capital;
- social capital; and
- natural capital.

Cultural aspects are included in human, social and natural capital. These four capital stocks make up the national wealth of New Zealand and create flows of goods and services that contribute to the living standards of New Zealanders

(see Figure 1). Changes in one stock or flow can have an impact on others. For example, increased investment in skills could increase future flows of employment and income. However, this investment could reduce the financial wealth of government or require a reduction in other government-provided services. The distribution of these effects may differ across the population and through time.

The framework is intended to be used as an input into policy development processes within Treasury, rather than a decision-making tool in its own right. It can be used by government advisers to illustrate the potential trade-offs and synergies that exist within public policy issues, as well as to inform ministers of distributional outcomes.

1. Financial/physical capital

Physical capital includes fixed assets in production processes, both tangible (e.g. machinery) or intangible (e.g. intellectual property). Financial capital includes equities, assets and liabilities that have a degree of liquidity, such as bank deposits, debt and government bonds (Statistics New Zealand, 2009).

The level of financial and physical capital (economic wealth) and associated income flows are important determinants of material standards of living, both now and over time (Stiglitz et al., 2009). Supplemented by government-provided

benefits, wealth and income determine an individual's or household's ability to consume market-produced goods and services.

Several factors are included in the framework as part of financial/physical capital. The first of these is the stock of financial wealth, which provides people with opportunities to consume and to invest, and the financial security to take risks. Wealth can be consumed by running down assets or increasing debt, or it can be invested to generate future income flows. Increased savings will also add to wealth, and will allow higher future consumption, whereas increased debt levels represent higher consumption today which must be paid for by reduced consumption in the future. Further, high public and private (national) indebtedness may increase vulnerabilities to future economic shocks, which can undermine incomes and require costly government responses. Measures of wealth which include savings and debt levels are therefore 'an important indicator of the sustainability of consumption' (Stiglitz et al., 2009, p.29).

The stock of physical assets such as infrastructure and housing is also an important component of a household's or country's wealth. Well-functioning infrastructure, including roads, airports and telecommunications systems, helps enable economic growth and social cohesion (New Zealand Government, 2010). Adequate housing in particular is recognised as being an important contributor to other factors that underpin living standards, such as health (Howden-Chapman et al., 2007).

Income is a flow generated from economic production, wages and investment. Income is critical for material living standards because of its direct link to consumption. Not having adequate income is a key characteristic of poverty and social exclusion (Sen, 1999). While income has traditionally been measured on a per-person basis, recent literature emphasises the importance of measuring it at the household level (Stiglitz et al., 2009).

The government provides a variety of income transfers, such as the unemployment benefit and New Zealand

superannuation, and in-kind services such as subsidised health care, educational services and the provision of infrastructure. These services directly influence the level of consumption that a household can sustain. The sustainability of income transfers and in-kind services is related to the fiscal position of the government, and the same principle of sustainable consumption that applies at the household level also applies to the government and the economy as a whole. As the government is ultimately owned by households, the wealth of households can be effectively increased or reduced by

the fiscal position of government.

Income measures should be considered alongside measures of consumption and wealth to provide a fuller picture of consumption possibilities. Income can differ over time without compromising a person's consumption possibilities, as long as their longer-term income expectations, or permanent income, do not change (Friedman, 1957). While permanently low income levels are likely to have a significant negative effect on living standards, short-term decreases in income may not.

Income is most commonly generated through employment. Employment affects living standards in two key ways. Firstly, it increases income, therefore directly increasing living standards. Secondly, there are additional living-standard benefits from employment that are significant. Job loss and the resulting drop in income and experience of unemployment – particularly long-term unemployment – have a detrimental effect on personal well-being beyond the loss of income alone (Layard, 2005; Welfare Working Group, 2010). Paid

employment also has a number of benefits from a national perspective. It raises economic output and income per capita, and improves the government's fiscal position by providing tax revenue and reducing the demand for income and in-kind transfers.

Unpaid employment produces many benefits. Much unpaid work involves the provision of services that would otherwise need to be paid for, such as household tasks, cooking, cleaning and caring for children. These tasks are of substantial economic value regardless of whether money changes hands or not. Unpaid

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work can also have significant well-being benefits. For example, volunteering in the community improves the well-being of the volunteer as well as of those they are assisting, particularly when it involves engaging with other people.

While employment generates a raft of benefits, there is also a trade-off between work and the amount of leisure time people have. The subjective well-being literature indicates that the amount of leisure time people have and how they spend it is important for living standards (Layard, 2005). Leisure time spent doing recreational activities, building social relationships and engaging in community activities is particularly beneficial for personal health and social cohesion (OECD, 2009).

2. Human capital

Financial/physical capital is underpinned by the capabilities of people to participate productively in society and in the economy. This next section discusses the national resource which is embodied in our people.

Human capital is the stock of 'knowledge, skills, competencies and attributes embodied in individuals' (OECD, 2001b, p.18). The term was originally used to refer to personal attributes that produce economic value, but human capital can also be defined as the broader personal attributes and capabilities that contribute to a person's happiness and life satisfaction. David and Lopez (2001) distinguish between human

The flow of personal well-being and social benefits from human capital accrue both to the individual receiving the education and to the community in which they live. For example, higher levels of education are associated with lower levels of crime (Wolfe and Haveman, 2001). Investment in education also generates economic benefits for people other than the individual making the investment (positive externalities), which provides

should take into account both morbidity – impairment of functioning, which is a measure of quality – and mortality, which is a measure of quantity (Stiglitz et al., 2009). Some measures, such as 'quality adjusted life years', try to combine these two elements (Ministry of Health and Statistics New Zealand, 2009).

3. *Social capital*

As already noted, human capital is determined in part by an individual's inherited genes and the family environment in which they grow up. The wider social and political environment also has important impacts on human capital and other aspects of living standards.

The World Bank defines social capital as 'the degree of trust in a society and the ability of people to work together for common purposes' (World Bank, 2006, p.xviii). Other definitions include networks, norms, and institutions such as the rule of law and transparency of political processes (Statistics New Zealand, 2009). Treasury has previously emphasised the importance of social capital for living standards: 'when there are high levels of participation, interconnection and cohesion, there are correspondingly high levels of social capability; that is, a high level of the ability of various interests in society to co-operate towards common goals' (Treasury, 2001a, p.6). Social capital is built on co-operation and trust at an institutional and interpersonal level, effective institutions, and a strong sense of culture and social cohesion.

Effective public institutions underpin social capital, as they provide the framework within which the society and the economy function, and set the tenor for interpersonal interaction (Treasury, 2001a). Institutions affect living standards directly through opportunities for democratic participation and the protection of important individual freedoms, and indirectly through their impact on the functioning of society and the economy.

Trust is an important element of social capital, which is strengthened when communities have shared values, low levels of antisocial behaviour and confidence in public institutions. High levels of trust can be developed through

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capital's tangible aspects, such as health and longevity, and intangible ones, such as cognitive and non-cognitive skills.

Human capital, particularly in the sense of cognitive skills, is widely recognised in labour economics and growth theory as one of the key factors underpinning economic production and the employability of individuals (Hanushek and Woessmann, 2008). Empirical studies confirm that measures of cognitive skills account for a significant part of the variance in labour market outcomes between individuals. For example, across developed countries an extra year of education is associated with increased individual earnings of between 5% and 15% (Krueger and Lindahl, 2000). Recent economic studies suggest that non-cognitive skills, such as personality and behavioural traits, also explain a significant proportion of the variance in individual outcomes (Bowles et al., 2001).

Skills, cognitive and non-cognitive, are important for wider well-being and for avoiding antisocial behaviour, independent of their effects on earnings and productivity. For example, higher levels of education are associated with higher social and political participation, less exclusion, higher trust and higher social cohesion (Putnam, 2000).

an economic justification for public investment in education (Sianesi and Van Reenen, 2003).

Skill levels are important from a distributional perspective because of the high transmission of human capital from one generation to the next (Currie and Moretti, 2003). This transmission is sometimes described as cultural capital that can be inherited by the family passing on culture and traditions (Bourdieu, 1986).

A society's knowledge and capability to use knowledge are critical for the flow of innovation, which is an important determinant of economic growth. The OECD argues that 'in advanced industrial economies, innovation and exploitation of scientific discoveries and new technology have been the principal source of long-run economic growth.... In the future, the innovation performance of a country is likely to be even more crucial' (OECD, 2005, p.7).

In addition to skills, a person's health is integral to their experience of life and ability to participate in society. Health is an important element in most definitions of well-being at both the individual and societal level. Individuals' health underpins productivity, both now and in the future, and it is also a key contributor to their subjective well-being (Layard, 2005; Holt, 2010). Measurements of health

bonding – strong ties that emphasise a shared identity within a group such as a whānau; or bridging – weaker ties that help foster broader links and communication between separate groups (Putnam, 2000).

Rights and freedoms are an integral part of social capital and are inherently connected to an individual's relationship to the state and society. Freedom – economic, political, and personal – is one of the main factors explaining differences in life satisfaction across nations (Veenhoven, 2006). Effective public institutions and the rule of law serve to protect individual freedom, but protecting freedom may also require limitations on the state's interference in people's lives.

An important role of public institutions is to provide security from harm. There are a variety of external factors which put people's security at risk: crime, accidents, terrorism, bio-security hazards and natural disasters (Stiglitz et al., 2009). Public institutions such as the defence forces, police, courts, the prison system and civil defence should strive to enhance community safety while respecting the rights of all citizens.

Social capital exists within, and is shaped by, the cultural context. Cultural values and a sense of cultural identity, which are inherited from the previous generation and adapted by current members of the community, assist in building and transferring social capital. Cultural norms differ across groups within a society. For example, an analysis of social capital in a Māori society is likely to identify an important role for culture in establishing a sense of identity and belonging, along with other features such as the primary importance of extended family relationships (Statistics New Zealand, 2002).

4. Natural capital

The above three sections have discussed aspects of human civilisation which contribute to our living standards. This section recognises the crucial role that the environment plays in making our way of life possible.

Natural capital refers to the earth's natural resources and systems which

support life. As such, it encompasses both non-renewable natural resources, such as land, coal, oil, gas and minerals, and conditionally-renewable resources, such as forests, fish and water (Statistics New Zealand, 2009).

Natural capital provides a flow of environmental services. For example, the natural environment absorbs waste products, up to its absorptive capacity, which would otherwise cause pollution damage and endanger people's health (WGSSD, 2008). In addition, natural capital provides services that contribute

concentrations of carbon dioxide and other greenhouse gases in the atmosphere are affecting the climate, which will have a significant impact on New Zealand's primary production sector (MFE, 2008).

As well as being crucial to sustaining life, stocks of fresh water are a key input into many of New Zealand's industries. New Zealanders are used to having an abundance of fresh water, and on average use an estimated two to three times more water per person than the inhabitants of most other OECD countries (MFE, 2008).

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to economic activity. This is especially true in New Zealand, where the primary sector accounts directly for about 7% of GDP, while tourism, which trades off New Zealand's '100% Pure' image, accounts for another 10%. Furthermore, consumers in New Zealand and overseas are placing an increasingly high value on environmentally-friendly production, and in some markets environmental sustainability is becoming the price of entry for New Zealand's exports (Treasury, 2010).

Natural capital also provides amenity value and contributes to New Zealand's cultural identity, with both the rural and urban environments being fundamental to people's lifestyles. In addition, natural capital has a high importance for Māori as tangata whenua, with local geographical features playing an important role in narratives of community origins.

In New Zealand, stocks of natural capital, in particular the atmosphere, fresh water, soil, fish stocks and biodiversity, are of particular importance to living standards. The earth's atmosphere makes life on earth possible. It also helps determine the climate, which in turn supports primary industries. Increasing

A significant amount of New Zealand's GDP depends on the top 15 centimetres of soil, making topsoil another important input into the primary sector. Since the mid-1980s intensified land use in the agricultural sector has resulted in increasing amounts of nitrogen in the soil, which has negative effects on freshwater stocks (MFE, 2008).

Amounting to nearly 3% of GDP, the fishing industry is another important part of New Zealand's economy. However, in 2008 approximately 29% of New Zealand's assessed fish stocks were below target levels, up from 15% in 2006 (Statistics New Zealand, 2009). Biodiversity – stocks of flora and fauna – helps sustain the ecosystems that support life and provides flows of services that contribute to economic production. Protecting biodiversity is a challenge. In spite of efforts to do so, between 2002 and 2005 more native species saw a deterioration in their threat status than saw an improvement (Statistics New Zealand, 2009).

It is critical that governments efficiently allocate and properly account for the depreciation of stocks of natural capital, to ensure their sustainability and

the sustainability of the flows of services and amenities they generate.

Distributional outcomes

The discussion of the four capital stocks above illustrates the importance of considering the wide range of factors which contribute to living standards. Another critical element in the framework is the consideration of the distribution of living standards. Treasury's vision of higher living standards for New Zealanders implies a focus on both aggregate levels

towards those at the lower end of the income distribution, in particular those with long-term and multiple barriers to developing and using their human and social capital, for whom additional assistance will have the greatest impact.

Analysis of the distribution of living standards is fundamental to good policy advice. Understanding and analysing the distribution of wealth, income and other outcomes across society gives ministers a more complete picture of living standards than is gained from relying on aggregate

There is a growing consensus that both subjective and objective indicators are needed to measure living standards

of living standards and their distribution across individuals and groups, both within and between generations.

When thinking about distributional outcomes, Treasury is mindful of distinguishing between normative and positive approaches. Normative approaches consider what constitutes an equitable or fair distribution of resources across society. Positive approaches, in contrast, ask what the distribution is. They also consider whether there is evidence to suggest that a particular distribution poses social or economic problems, and the effect different policy interventions may have on how living standards are distributed. Treasury takes a positive approach to distribution as opposed to a normative, value-based one. This approach is appropriate to Treasury's policy advisory role, as it allows the organisation to provide advice on the distributional priorities of the government of the day, while maintaining an apolitical position that is grounded in empirical economic analysis.

Treasury's advice on distribution has tended to emphasise the inefficiencies that result from having living standards distributed in ways that prevent some people from fully participating in the economy and society. This has led Treasury to advise targeting policy interventions

measures alone, and ensures that policy interventions are targeted to where they will have the greatest effect.

Subjective well-being

Finally, as well as considering objective measures of living standards, Treasury's Living Standards Framework is supplemented by insights from the subjective well-being literature. Subjective measures of well-being assess how well someone is living from that individual's own perspective or experience. There is a growing consensus that both subjective and objective indicators are needed to measure living standards (Stiglitz et al., 2009; OECD, 2011a, 2011b).

Subjective measures of well-being have been used in the framework primarily as a useful cross-check to ensure that the objective measures are the right ones. For example, the subjective well-being literature has reinforced the intuitive understanding that factors such as good health and employment are very important to people's lives. It has also given prominence to the importance of social connectedness, such as having strong relationships with family, friends and the community, and the distribution of living standards (Layard, 2005).

Using the framework in policy advice

The Living Standards Framework is intended to be used as an input into the policy process, rather than as a decision-making tool in itself. Its main value is in the way it encourages a broad understanding of living standards.

When applied to policy advice, the framework emphasises consideration of:

Levels

Considering aggregate levels of the factors in the framework is important because it allows Treasury to compare New Zealand's living standards with those in other countries, and to track how they are changing over time.

Distribution – now and into the future

As well as considering aggregate levels of the factors, it is important to be aware of their distribution among individuals and groups in society. This allows Treasury to provide empirically-based advice to help governments achieve their distributional priorities. Distributional outcomes need to be considered in both a static and a dynamic sense, and to take account of the long-term sustainability of living standards.

Interactions

Finally, identifying interactions among factors in the framework is important. Some of these interactions are mutually reinforcing. For example, trust leads to voluntary exchanges and good economic outcomes that in turn reinforce the original trust. However, some interactions will require complex trade-offs. Natural capital, for example, can be consumed to build up physical and financial capital, but this may not be desirable where it results in reductions in non-substitutable stocks. Other trade-offs may occur between short- and long-term outcomes, between individual and societal outcomes, or between efficiency in increasing aggregate living standards and the equity of their distribution.

Decisions about acceptable levels of factors within the framework, distributional outcomes, and trade-offs are political in nature and beyond the realm of policy advice. However, highlighting

them will ensure Treasury's advice is robust and theoretically grounded, and that governments' decisions are well-informed.

Treasury has developed the Living Standards Framework to provide a common understanding for internal policy

discussions, to improve the consistency of advice, and to be more transparent with the public about how it conceives of living standards. Treasury also hopes the framework will contribute to a wider public discussion and debate about the objectives and outcomes of public policy,

which will help New Zealand achieve a better standard of living for all.

1 This article is a shortened version of the Treasury publication *Working Towards Higher Living Standards for New Zealanders* (2011), available at <http://www.treasury.govt.nz/publications/research-policy/tp/higherlivingstandards>.

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