THE TREASURY
Kaitohutohu Kaupapa Rawa

Natural Capital and the Living Standards Framework

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7 March 2018

Introduction

Hello everyone

It's a great pleasure to come to the University of Waikato. To me, universities are among the most important institutions of any country. Among other things, it's where people learn to draw on different knowledge, disciplines and points of view to see things in new ways and better understand the world they live in. You realise you can't see the big picture through just one narrow lens.

The same is true at the Treasury. Our vision is to be a world-leading Treasury working towards higher living standards for New Zealanders. Economic growth and income are crucial components of living standards and will always be at the core of the Treasury's work – but if they were the only things we focused on then we wouldn't be doing our job.

The Treasury has an ambition to integrate a broader conception of economics and value into the everyday work of public policy. And the way we are taking this forward is through the further development of our Living Standards Framework. Traditionally, economists have focused their thinking about the factors of production, like land and labour, and how they are combined to create goods and services. The Living Standards Framework is an adaptation of this notion: the four capitals – natural, human, social and financial/physical, which collectively I like to describe as our economic capital – are the stocks which combine to generate flows of wellbeing.

Today I want to talk about how the development and application of the Living Standards Framework is progressing, and I'll be putting particular emphasis on natural capital. I'll also set out what's next in the work towards creating an effective set of living standards indicators for New Zealand and the lead-up to the 2019 Budget. The Treasury isn't going it alone on this, nor could we or should we. Instead, we are inviting academics, public policy specialists and others to support and contribute to this challenging and exciting work.

RFK speech

It's appropriate that I'm speaking on this topic at a university, as this month – in fact on 18 March – sees the 50th anniversary of an historic speech by Robert Fitzgerald Kennedy at the University of Kansas. The reason Kennedy's speech is significant and is still remembered 50 years on is because of his insightful words on the limits of GNP in measuring what people truly value. Here is what he had to say:

> *Too much and for too long, we seemed to have surrendered personal excellence and community values in the mere accumulation of material things. Our Gross National Product, now, is over $800 billion dollars a year, but that Gross National Product - if we judge the United States of America by that - that Gross National Product counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl. It counts napalm and counts nuclear warheads and armoured cars for the police to fight the riots in our cities. It counts Whitman's rifle and Speck's knife, and the television programs which glorify violence in order to sell toys to our children. Yet the Gross National Product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile.*

Kennedy was not the first person to hold such a view nor the first person to have expressed such sentiments but his words set out a remarkable challenge: to look beyond the value of goods and services produced in an economy – reflected in GNP or GDP – and measure "that which makes life worthwhile". We in the Treasury are now attempting to address the challenge laid down by Robert Kennedy 50 years ago.

Living Standards Framework and its context

The Living Standards Framework represents a continuation of the effort in New Zealand to take a more holistic approach towards measuring wellbeing, recognising that traditional economic and financial measures miss some important aspects of living standards not just of the current generation, but also of future generations. It uses a broad conception of national wealth or national income, one that supports the measurement of economic and social progress more comprehensively in terms of the wellbeing domains and linked to the health and growth of the capitals, instead of narrowly focused on national income.

Many others have pioneered this kind of work. The first attempts to develop national income accounting were in the 17th century and modern variants have been in continuous development since the 1940s. Academics and international bodies have started to develop wider living standards measures, but it is a complex and difficult task. As practitioners apply their work, gaps in current analysis will become increasingly apparent. That shouldn't be a surprise or a discouragement; almost every academic will recognise this in their own field. It's the way one learns and improves.

What we are now doing is taking wellbeing indicators and looking at how to actually apply them in policy development and resource allocation. This is world-leading. No other country has done this before. No other country has progressed the idea of integrating living standards measures into public policy development from the conceptual to the concrete.

So one of the big drivers of the development of the Treasury's Living Standards Framework is to improve public policy-making. The Treasury is the Government's lead economic and financial adviser, and improving public policy-making is a major part of what economics is all about. Economics exists as a distinct discipline because every person, as well as every society, faces an 'economic problem' arising from the fact that individually and collectively we have limited resources to meet unlimited wants. As a tool, economics provides a disciplined way of thinking about alternative mechanisms for addressing this problem in a way that contributes to the improvement of overall living standards.

Various possible approaches to the solution to this problem have been tried at different times throughout history. They all attempt to increase available resources on the one hand, and ration the allocation of these resources to their highest valued uses on the other.

All public policy asks the same fundamental question: whatever mechanisms we choose to use to solve the 'economic problem', what can the state do to make the mechanism work better towards improving collective wellbeing, or, in the spirit of Amartya Sen's teachings, to enhance the opportunities, capabilities and incentives of individuals to live the kinds of lives they have reason to value?

Economists have various tools and models to help them think in a disciplined way about the effectiveness of these different mechanisms, and how to select and use them to this social end. All public policy is about the choice of groups of such interventions and the design of institutions that will give effect to them. Economics helps us identify and analyse relevant trade-offs in making these choices.

The Living Standards Framework considers the collective impact of policies on intergenerational wellbeing, and there are many possible ways to understand intergenerational wellbeing and measure it. Our approach starts with a definition of current living standards, based on the OECD's "How's Life" analysis, and we use the four capitals as a way to organise intergenerational wellbeing indicators.

Our approach is unapologetically pragmatic: just as the Treasury expects government agencies to show where their work adds value, the Treasury's work on the Living Standards Framework is focused on an approach that can improve the quality of policy advice and government services.

There is much work to be done to convert the work by international organisations and academics into a practical approach to measuring living standards. Much of the academic discussion of living standards focuses on the limitations of using income as a proxy for wellbeing and the availability of alternative measures. However, government agencies have a more practical objective. There are already a wide array of easily accessible measures from the Ministry for the Environment; the annual report by Bryan Perry on income and its distribution; and the Treasury's monthly summary of economic data among others. Just last week, Statistics New Zealand published *Environmental-economic accounts: 2018*, which presents a summary of some of New Zealand's stocks and flows of natural capital. The question for us is how policy advice would improve if the imperfect measure of living standards, income, was brought together with this other data in a single framework?

The short answer for the Treasury is simply that it will improve our delivery of our core function of providing economic and fiscal advice.

The Treasury has always recognised the importance of diverse outcomes from government interventions. Nonetheless, like other government organisations, we have also tended to silo our policy advice. For instance, Treasury analysis of economic policy focuses on increased incomes, and is separated from departmental expectations and expenditures that have wider wellbeing objectives.

In practical terms, this means bringing a living standards focus to our core tasks, such as the Budget, and the routine information used to inform our advice such as the economic and fiscal updates, the Long Term Fiscal Statement and the Investment Statement.

The Living Standards Framework is the means to draw together the measurement of the variety of outcomes from government expenditure so they are consistent across the whole range of economic, social, and environmental policy, and consistent with the intentions of the expenditure. In particular, the four capitals put sustainable, intergenerational wellbeing at the core of the system. In the language of the State Services Act, the health of the four capitals is a way of assessing how well agencies are delivering their "stewardship role" for New Zealand public policy.

One of the main things we are working on right now is aligning our approach to the Living Standards Framework with the national accounts and the approach taken there to solving conceptual and practical measurement issues. In particular, the definitions in national accounts continually evolve and what matters is that everything is included, not where it is included.

For instance, national income in an economy is usually defined as the combined value of household expenditure, investment by firms, government spending, and the balance of expenditure on imports and exports. Though each of the terms in the previous sentence has a clear intuition, they are actually used in national accounts as identities that define national income. That is, categories like "household expenditure" and "investment by firms" incorporate expenditure by charities but exclude transfer payments and unpaid work. They are not, and are not intended to be, "real" entities. Rather they are accounting identities that help us understand what has been included and their definition changes as our knowledge of what needs to be included improves.

This approach is sometimes confusing because it may appear to exclude important aspects of future living standards. For instance, a number of additional capitals have been proposed, including a distinct “cultural capital”, “knowledge” and “intangible assets”. These are not excluded by the four capitals approach, but can be incorporated under the four capitals analogously to the way charities earnings are, for the purposes of national accounts, treated in the same way as for-profit organisations.

This sparse approach has three huge practical advantages. First, the four capitals approach is simple and aligns with an internationally consistent approach. This makes it easier for the Treasury to use the work of a wide variety of experts. As I mentioned earlier, the development of the Living Standards Framework focuses the Treasury’s work where it can add value. Reworking wide-ranging conceptual issues that others are addressing does not add much value.

Second, it separates the practical issues of measurement from more conceptual discussions about the entities themselves. The discussion of, say, the role of the charitable sector in national income is distinguished from the practical measurement issue of deciding whether family trusts or private schools have been properly measured and if they should count as firms or households. They are counted somewhere, and the second order definitional issues are treated as second order.

Finally, treating entities as accounting categories creates a common language for discussing them where both sides of any debate may agree to use the language without making a philosophical commitment to what is “really” happening. Thus in the national accounts, estimating the size of the economic role of private schools by treating them as firms does not commit the discussion to a view of their status.

One thing I must emphasise is that the Living Standards Framework is a work in progress. It’s still not in its final shape, the clay is still wet, and we are keen for people to help us mould it. A couple of weeks ago we published a Treasury Paper and four discussion papers with the aim to promote and support conversations about living standards measures for New Zealand. One sets out the Treasury’s formal approach to the Living Standards Framework, while the others provide an overview of international and academic work on wellbeing frameworks and three of the capitals: social, human and natural. I encourage you to read these papers on our website and to share your thoughts.

Natural Capital

I’d like to go into a bit more depth about our work so far on natural capital.

First of all, how do we define it? Natural capital refers to all aspects of the natural environment. It includes individual assets such as minerals, energy resources, land, soil, water, trees, plants and wildlife. It also includes broader ecosystems – that is, the joint functioning of, or interactions among, different environmental assets, as seen in forests, soil, aquatic environments and the atmosphere.

Many of the benefits of natural capital come from its role in the production of other capitals. Natural capital is managed by many people: by the Crown in, for example, national parks; in common like oceans, rivers or the air; or by private individuals in forests, mines and farm land.

What our work seeks to do is provide more information about the quantity, state and value of natural capital in New Zealand, and inform decision-making by providing more quantitative information on the environmental costs and benefits of public policies.

I said before that our approach to the Living Standards Framework is unapologetically pragmatic, and for us that means it's important to identify the financial value of natural capital. I acknowledge that some people will object to this as a matter of principle. Putting a price on nature is contentious, but shying away from it misses the point of economic valuation.

There are not infinite resources to devote to protecting nature, so hard choices need to be made about using or conserving natural resources. Commensurate values for all potential uses or non-uses are useful for informing those choices. Some bits of nature cost more than others to protect, and some are valued more highly than others because they yield more benefits. Economic valuation informs choices, but as a resource's price reflects the relationship between its supply and demand for what it provides, value also depends on accurate measures of the physical extent and condition of natural resources. Such definitions are still relatively vague, but they give a flavour of what measures of natural capital need to capture.

We have adopted what's called the Total Economic Value (TEV) framework for how we think about the overall value of natural capital. This framework identifies the value people derive from not just using but also from not-using natural capital, and also allows for various valuation alternatives, such as quantitative, qualitative or a mix of both.

Measuring the value of natural capital is not easy and although we have started on this journey we are still very much near the starting line. I mentioned the work of Statistics New Zealand and its *Environmental-economic accounts:* 2018, which uses the System of Environmental and Economic Accounts, or SEEA. SEEA provides a central framework of agreed standards for preparing natural resource accounts consistent with the economic accounts, so it's a useful tool. However, it's only a partial measure of the total value of natural capital.

Given our focus on intergenerational wellbeing, a key aim of assessing natural capital is to determine whether we are on, moving away from, or moving closer to, a sustainable development path. What our discussion paper states is that for the most part, the key environmental indicators we looked at have been trending downwards and suggests that the overall state of the environment is declining. But I should say here that a reduction in natural capital does not necessarily mean an automatic reduction in intergenerational wellbeing, especially if it leads to improvements in the other capitals.

Sustainability can be framed in different ways, but is often assessed according to the concepts of 'weak sustainability' and 'strong sustainability'. The concept of weak sustainability defines sustainable development as a situation where wellbeing for a given population is not declining, or preferably is increasing over time. From this perspective a decline in natural capital, such as a loss of forests, can be compensated for by an increase in another capital like human capital. On the other hand, strong sustainability takes the position that natural capital is distinct from other capitals and cannot be substituted at all.

The reality is that researchers and policy analysts should use a combination of these two forms when assessing sustainability. An often ideal place to begin assessment is to start from the perspective of strong sustainability and non-substitution of natural capital, then move towards weak sustainability to find an optimal combination.

The impression I have from our discussion paper on natural capital is that there is very good work happening in this domain and we have several useful indicators. It also shows that there is a lot we don't know. The quality and comprehensiveness of data are not yet good enough to inform an overall value of natural capital or its sustainability. But does that make our Living Standards Framework work a waste of time right now? The answer is an emphatic no. The work going on now by the Treasury and many others helps to build understanding. It allows us to identify what information needs improving in order to achieve what we want from our natural capital.

Investment Statement

On 20 March we will be publishing our four-yearly Investment Statement, and this will reflect our progress so far on natural capital.

If you're not familiar with the Investment Statement, it's a document we are required to produce that describes and states the value of the Crown's portfolio of significant assets and liabilities, how this has changed from the past, and how it is expected to change in future. Managing the Crown's balance sheet well is important for delivering the services needed today in ways that derive value for money, and for sustainable, resilient and adaptable public finances that will serve living standards for generations to come.

A healthy balance sheet acts as a buffer against shocks, as we saw with the Canterbury earthquakes, and strengthens our resilience in the face of medium and long-term changes. Natural capital is a major consideration in this buffer function. There are several trends that we need to plan for now such as sea-level rises and extreme weather events, because over time they will have a growing impact on the state of our natural capital and the state of our balance sheet.

On a smaller scale, we want a balance sheet which takes account of the values associated with natural capital and environmental quality, and a way of making cost-benefit appraisals for project proposals more comprehensive. Capturing the full value of natural capital in decision-making is the goal, but what the Investment Statement will make clear is that this is still very hard right now.

That's for a number of reasons. First, we need to collect more of the non-use values that are required to properly account for the value of natural capital. Without doing this we are effectively perpetuating the problem of natural capital being under-valued. Second, we need to aggregate natural capital indicators and measures so that we have a consistent national approach, but this can overlook a host of individual and local problems. That's something we need to address. And third, there are some major scientific issues involved in natural capital assessments, including characterisation of thresholds in environmental processes beyond which behaviour and resilience shifts abruptly for the worse.

Next steps in our programme of work

All in all, what's shown by the papers we published two weeks ago and the Investment Statement we'll publish in two weeks' time is that our Living Standards Framework is developing well and there's still much we plan to do. We're now into a major programme of work running throughout 2018, leading up to Budget 2019, and then going beyond. Let me tell you about some of what's happening next.

In a few months' time we will release a second tranche of discussion papers that we would like you to engage with. These will be covering a number of topics such as resilience, culture, Māori living standards, Pasifika living standards, and physical and financial capital. We'll set out how each of these fit within the Living Standards Framework. For instance culture, particularly māoritanga, is reflected in all four capitals, for example Māori interest in the natural resources; Māori relations and trust in the state; the Māori economy; and the impact of the education and health systems on Māori human capital and the role of Māori culture in that.

We will also discuss progress on the Living Standards Framework work at several forums around the country and abroad. The biggest of these will be the Third International Conference on Wellbeing and Public Policy to be held in Wellington on 5-7 September. The conference will bring together world-leading scholars and organisations to share the latest developments in their work on wellbeing and its application to public policy. We're proud to be hosting this in partnership with Victoria University and the International Journal of Wellbeing, and I hope to see many of you there.

By the end of 2018 the Treasury intends to develop a dashboard of indicators suitable for understanding intergenerational wellbeing in New Zealand. The dashboard of indicators will need to be robust to provide long-term advice, but also be responsive to the wide variety of short- and long-term requirements that the Treasury and other government organisations have.

There will be three distinct types of indicator:

- **Best evidence indicators for comparison** between New Zealand and other countries, to understand current and future trends in living standards.
- **New Zealand specific indicators** of current and long-term wellbeing, particularly with respect to Treaty of Waitangi obligations and values, and other aspects of New Zealand's unique diversity.
- **Indicators for current policy priorities** that supplement the medium to long term focus of other indicators to support short term focussed action by government and government agencies.

Excuse me while I get technical here for a moment. The indicators will need, within the data limits, to cover issues including the distribution of wellbeing, a consistent international and intertemporal time series to support analysis and provide historical benchmarks. In other words, these have to be indicators that deliver what advisors need. While GDP is measured cardinally, using a fiscal weighting to address aggregation issues, it is unclear if this will be possible or desirable using a multi-dimensional measure of living standards or the capitals.

The issue of how the indicators are measured will need to be addressed, along with alternative approaches that are good enough for the purpose. This includes considering ordinal changes, rather than the level, assessing if the indicator shows greater/smaller, more/less, and so on; or purely qualitative measures. This potentially deals with some data availability issues.

If you were able to follow what I just said, the Treasury would welcome your contributions to help bring these strands of work together. If you couldn't follow it, don't worry; we'd still appreciate your input. We are very keen to keep expanding the community of policy research.

As I mentioned at the beginning, this is challenging and exciting work. While some critics suggest it's straying beyond the boundary of where economists should be, I think we're at the harder and leading edge of economics.

As the development of the Living Standards Framework progresses the public sector will need to adapt, not least because of the Government's intention to amend the Public Finance Act to require reporting on living standards measures. I suspect some in academia will need to adapt too.

To give you an example, the complexity of government processes means substantial time is needed to integrate new approaches. At this stage there is a stronger case for using the Living Standards Framework in strategic decisions, which is closer to the intent of the work by international organisations, than using it on a programme-by-programme basis.

As another example, the Treasury will be using this work to bring evidence to advise on trade-offs, and at times this will have implications that make some proponents of wellbeing approaches uncomfortable. For instance sustainability. While the Brundtland Commission's definition of sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" is widely accepted, this encompasses a variety of different criteria that will, in practice, differ by context.

This is demonstrated very well by the work of the University of Waikato's own Professor Les Oxley who has been supporting the development of Treasury's work on Natural Capital. He and his team investigated how human, physical and both renewable and non-renewable natural capital have contributed to the wellbeing of New Zealanders over the last sixty-five years.

Your view of his conclusions will depend on your interpretation of the Brundtland Commission's definition. Professor Oxley follows the World Bank approach in understanding sustainability as the overall state of the capitals. On this view New Zealand has been developing sustainably for that period. Non-renewable natural capital has been traded off against the development of other forms of capital. The "needs of the present" have not compromised "the ability of future generations to meet their own needs".

Of course that is not the whole story. There has been depletion of non-renewable natural capital. If your view is that *each* capital must be sustainable then the depletion of natural

capital means these developments are unsustainable, even if the resulting development of human and other capitals sustainably improves the wellbeing of New Zealanders.

The Treasury is committed to improving the living standards of all New Zealanders so our advice reflects a view of sustainability closer to Professor Oxley's. We suspect most economists would agree with this perspective. More importantly, a robust, evidence-based living standards framework means the Treasury's advice can move beyond generalities about potential costs and benefits, to give Ministers advice based on a clear understanding of the consequences of the difficult choices they have to make. As in most real policy issues there is no simple right answer, but there are plenty of wrong ones we wish to help Ministers to avoid.

Conclusion

GDP measurement and GDP growth remain fundamental for economic policy. But it's not the whole picture and the Treasury's work on the Living Standards Framework is taking on Robert F. Kennedy's challenge, to measure, and ultimately enable policy choices on, "that which makes life worthwhile". How to improve living standards is at the heart of economic thought and the objective of economic policy. As I said last year, our role as economists is to bring together different strands of evidence and analytical thought and weave them into a basket to carry forward public policy. It's a challenge – *a leap of thinking* – that we want to meet working with others.

So I'd like to conclude with an acknowledgement of all the work that has contributed to the Living Standards Framework and relevant measures so far, and offer my thanks in advance for the contributions to come. International organisations like the OECD, government departments like Statistics New Zealand, Ministry for the Environment and Ministry of Social Development, academics like Professor Les Oxley, and many others have great expertise and experience for New Zealand to draw on. It's their work that the Living Standards Framework is building on and bringing together in a way that helps us deliver better public policy, gauge our progress towards the outcomes we strive for, and enhance the intergenerational wellbeing of New Zealanders. It's a privilege to work with you.