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What is the most pressing intergenerational challenge facing our tax system?

Introduction

"*What is the use of a house if you haven't got a tolerable planet to put it on?*"
This quote by Henry David Thoreau (1894) encapsulates the underlying importance of the environment to our society. There are several challenges that are likely to face New Zealand's tax system in the future, including population ageing, housing affordability and capital gains taxes. Potentially the most urgent issue that must be dealt with, however, is the degradation of the environment.
This essay will argue that the most pressing intergenerational issue that the New Zealand tax system will face in the future is the environmental challenges that threaten our natural capital. Natural capital is one of the four capitals that make up the Living Standards Framework (Ng, 2017), and while there are certainly challenges facing the other capitals which comprise this framework, the pollution and depletion of New Zealand's natural capital stocks is arguably the most pressing and most likely to affect all generations of New Zealanders.

The importance of New Zealand's natural capital to the wellbeing of New Zealanders

The Treasury's Living Standards Framework (LSF), set out by the Tax Working Group, is a model that establishes four major capital stocks that are essential for intergenerational wellbeing. These capitals are natural, social, human and financial capital (Ng, 2017), and together they form the basis of New Zealand's wealth and wellbeing. Represented by four interwoven flax strands, the capitals are inextricably linked – as such, it is important that they all be considered when drafting public policy. Analysis of current trends indicates that New Zealand will face challenges to a number of forms of capital in the future – for example, the predicted ageing of the population is a factor that is likely to place pressure on New Zealand's financial capital (Stats NZ, 2000). While these challenges must be acknowledged and addressed, the threat posed to natural capital is arguably the most pressing issue facing New Zealand because of its importance to the LSF.

Natural capital refers to "the aspects of our environment that improve intergenerational wellbeing, including land, soil, water, biodiversity… and ecosystem services" (Ng, 2017). This encompasses many different types of natural capital stocks, all of which contribute to the wellbeing of New Zealanders.

The most obvious benefit of natural capital is the economic output of natural assets such as forests and oceans. New Zealand is an export-driven economy, and our natural resources contribute significantly – in 2016, our top five exports were all outputs of our natural capital (The Observatory of Economic Complexity, 2016). Besides revenue from exports, the primary industries also provide employment for a significant number of New Zealanders – in the year ending June 2015, agriculture and forestry alone employed over 6% of the workforce (Ministry of Business, Innovation and Employment, 2018).
Natural capital is also indirectly important to the economy through tourism. In the year ending March 2016, tourism contributed 5.6% to GDP and directly employed 7.5% of the workforce (Tourism New Zealand, 2016). This tourism is largely due to our global reputation as a country that is '100% pure' and our clean, green image (Anderson, 2012). These figures indicate how important New Zealand's natural capital is for the strength of the LSF, as it underpins our financial capital as well.

Besides the economic importance of our natural capital, these resources also support New Zealand's human and social capital. Forests, for example, provide a myriad of services to the community, such as carbon sequestration, water and nutrient cycling and pollination (Van Zyl & Au, 2018). Studies also suggest that the presence of green spaces provides several social benefits, including reductions in stress, mental fatigue and crime and violence (Beyer *et al.*, 2014).
Our natural capital is also important for social capital. The environment is very important to Māori – the ocean, for example, holds spiritual and cultural value because of its importance in traditional Māori culture (Ministry for the Environment, 2016). The social capital of the wider community is also undermined when the environment is exploited for economic gain. It is obvious that natural capital holds enormous importance for New Zealanders' wellbeing besides its economic output.

The decline in the value of New Zealand's natural capital

Having established the value of natural capital to New Zealanders, we must examine how these assets are being impacted by human activities. In recent years we have seen a decline in the health of many aspects of our natural capital – these effects are largely a result of two behaviours; pollution and unsustainable resource use.

Pollution is a major issue in New Zealand, particularly in the decline of water quality in recent decades. Pastoral farming has been strongly implicated in this trend – accounting for 40% of New Zealand's land area, data from the National Rivers Water Quality Network shows that streams in pastoral land are among the most polluted in New Zealand (Proffitt, 2010). This pollution has rendered many rivers and lakes unsuitable for recreational use – about half of our freshwater sites were declared unsuitable for swimming by the Ministry for the Environment in 2012 (Anderson, 2012). This has an obvious effect on New Zealand's human capital by removing these recreational opportunities.
Pollution is also implicated in climate change. While not a problem isolated to New Zealand, our carbon emissions per dollar GDP were second-highest in the OECD in 2017 (Tax Working Group, 2018). We therefore have a social responsibility to minimise this contribution.

The second major threat to natural capital stocks is unsustainable resource use. Of New Zealand's native forests and wetlands, 75% and 90% respectively have been cleared so far (Inland Revenue Department & Treasury, 2018). Similarly, many water sources in New Zealand are likely to come under pressure in the future as demand increases – between 2002 and 2017, the area of irrigated land in New Zealand increased by 70% (Kitchin, 2017).

The combined effect of these two behaviours has had a destructive impact on natural capital stocks. Besides the aforementioned consequences for water and land, biodiversity has also been negatively impacted with around 800 native species at risk of extinction (Ng, 2017). A study that covered 189 countries ranked New Zealand 18th worst in preserving our natural surroundings (Bradshaw *et al.*, 2010) and the unabated continuation of these behaviours will continue to further deplete New Zealand's valuable natural capital. In essence, these activities are the most pressing challenge facing the tax system because of the flow-on effects that this capital has for the three other branches that make up the LSF. Because the environment is inextricably linked with all forms of capital, undermining natural capital means that the other capitals are also impacted, and this weakens the LSF as a whole. As such, this issue has the potential to affect the wellbeing of every New Zealander, and is thus the most pressing intergenerational issue facing the tax system.

The role of the tax system in protecting natural capital

As outlined by the Tax Working Group, the primary objective of the tax system is to provide revenue that the government can use to achieve its goals (Tax Working Group, 2018). Although this is the focus of tax policy, the system is also capable of functioning as a regulatory system through which the government can actively discourage certain behaviours, or alternatively encourage beneficial behaviours. These are known as Pigouvian taxes, and operate on the premise that if an activity is causing a social cost, it should be taxed (Tax Working Group, 2018). Environmental taxes allow both pollution and resource use to be managed, and provide an incentive for sectors that currently contribute significantly to these issues to either switch to alternative means of production or lower their current contribution (Tax Working Group, 2018). As such, the tax system is uniquely placed to enact change in this way.

The success of this approach in discouraging harmful behaviours can be observed overseas. New Zealand's environmental taxes are among the lowest of OECD countries at 1.3% of GDP. In comparison, environmental taxes in Denmark total over 4% of GDP (Tax Working Group, 2018). The effects of these taxes are obvious – Denmark was one of the first countries to introduce a carbon tax in 1992, which was estimated to reduce emissions by 4.6%. Similarly, a water tax introduced in 1994 reduced water consumption by 33 million cubic metres between 1993 and 1995 (Green Budget Europe, 2014). Data such as this indicates that taxes are an effective way of encouraging environmental responsibility.

As well as discouraging destructive behaviours, environmental taxes also provide an additional source of governmental revenue. In 2002, a plastic bag tax in Ireland reduced their use by 90%, at the same time collecting around €10 million a year in revenue ("Irish bag tax", 2002). These funds can be redirected into beneficial initiatives, such as the development of cleaner technologies.

While potentially effective, this solution is not without its difficulties. The prioritisation of which behaviours are most destructive, for example, and therefore most requiring of the imposition of a tax, could be a difficult process. Taxes must be applied uniformly to ensure cooperation – while applying different tax rates to different groups can indicate the level of pollution, it is often difficult to measure a specific contribution to pollution, and this strategy risks creating inequity by disproportionately placing a larger tax on a particular group (Organisation for Economic Cooperation and Development, 2011). For this reason, the introduction of any tax must be carefully considered and supported by empirical evidence.

The protection of New Zealand's natural capital must also not come at the expense of New Zealand's other forms of capital. The LSF shows that the wellbeing of New Zealanders is influenced by all four capitals, and thus any solution must be introduced with consideration for other forms of capital. An example is New Zealand's primary industries, which contribute substantially to the financial capital of the country. The dairy industry has often been maligned as a major contributor to water quality issues, and in 2016 was the largest contributor to greenhouse gases of any sector at almost half of emissions (Ministry for the Environment, 2018). While taxes may be useful to encourage best management practices, the consequences to the industry must also be considered so as not to protect one form of capital at the expense of another. Undermining the dairy industry would undoubtedly have a negative impact on financial capital, not to mention human capital. As the primary focus of the tax system is to improve the wellbeing of New Zealanders, this is an obviously undesirable outcome.

There are strategies to circumvent this outcome – for example, international coordination ensures that businesses are not placed at a disadvantage compared to offshore companies that are not held to the same standards, allowing New Zealand to remain competitive in our international markets. The use of a transitional introductory period is another tool to ease strain on business – this allows companies time to revise their production protocols (Organisation for Economic Cooperation and Development, 2011), reducing the pressure placed on businesses.

The inherently complex nature of this issue means that the development and implementation of tax policy will take time, which only makes it more pressing. Delaying the action required to protect these resources will allow further depletion of these stocks than is necessary – therefore, tax policy must be developed in anticipation of this becoming a necessity, not when it inevitably becomes so. Former CEO of General Electric, Jack Welch, was quoted saying "change before you have to" (Saaty, 2015) – this concept is just as true in business as in the development of policy to protect our natural capital.

Conclusion

While the application of tax to protect New Zealand's natural capital may have its complexities, this does not mean that it should not be pursued. The loss of natural capital is an issue that will affect the wellbeing of every New Zealander if allowed to proceed unchecked, both directly and by undermining the three other capitals of the LSF. Therefore, this is the most pressing intergenerational challenge that is currently facing the tax system.

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