

Journal of
Economics and SDGs Review

econsciences.com

Volume 1

March 2025

Issue 1

**The March Towards Poverty: Why the Labour
Government has much more to deal with than the
economic consequences of Covid-19 in its upcoming
budget**

By Roger DOUGLAS ^{a†}

Robert MacCULLOCH ^b

& Hugh McCAFFREY ^c

Abstract. The New Zealand economy is in a parlous state and not simply because of the economic fall-out associated with the pandemic. For decades now, New Zealand has been falling further and further behind its OECD partners, with institutional inefficiencies, poor policy making and the almost willful refusal of successive governments to admit to (let alone confront) mounting economic problems, all combining to place us on the edge of a deep, and lasting, economic downturn. Across a broad plethora of areas and key economic indicators, New Zealand lags behind almost every other advanced country against which it has traditionally measured itself. These areas include the three pillars of social wellbeing (education, health, and social welfare), housing, tax, productivity and debt. In every case, we are either falling behind outcomes achieved in other countries (education, health, productivity), entrenching inequality through our failure to cater for the needs of our most vulnerable (housing, health, education, social welfare, tax), or failing to prepare adequately for looming economic and social costs - including those incurred by a rapidly aging population. If ignored, these problems will precipitate a crisis that may make the burden of recovering from Covid-19 pale by comparison (superannuation, health, debt). In its much anticipated post-Covid budget, the Labour Government needs to not only provide a clear blueprint for helping those who have been adversely affected by the pandemic and New Zealand's subsequent lockdown, but also signal its intention to tackle the systemic weaknesses which have placed our economy at such risk, and which threaten to consign our future generations to unwelcome, and unnecessary, economic and social hardship.

Keywords. Covid-19, New Zealand economy.


JEL. I12, J13, Z12, D13.


SDGs. SDG1, SDG8

1. Introduction

It's time we faced an unpalatable truth: New Zealand is going backwards, falling behind the vast majority of our OECD partners in virtually every

^{a†} Minister of Finance in New Zealand, New Zealand. 

^b Matthew S. Abel Chair of Macroeconomics at Auckland University, New Zealand. 

^c Victoria University of Wellington, New Zealand. 

Isocial and economic measure that matters. Even now, the challenge of turning things around, and returning to a place where we can guarantee the future prosperity of our younger generations, is daunting. If we stay our current course, burying our heads in the sand and pretending that everything is all right, then that challenge will soon become insurmountable.

For this reason, Thursday's budget is perhaps the most important in New Zealand's history. In the aftermath of the economic fall-out caused by the Covid-19 outbreak, the Labour Government must not only seek to help those who have been most affected by the recent lockdown, but also introduce the framework for radical new policies; policies which address the systemic weaknesses that have undermined our economy and society for so long, and which threaten our very future. In these extraordinary times, the upcoming budget amounts to a singular opportunity, and a real test of leadership. The Government holds New Zealand's future in its hands. It has the chance to own up to our collective failings, hit the reset button, and provide for a prosperous future that advantages all New Zealanders.

2. Where we stand

When assessing the overall health of a country's society and economy, there are a variety of measures that should be taken into account. They include an assessment of:

- How well a country is handling the three cornerstones of social wellbeing - social welfare, education, and health.
- Its housing stock and the housing market.
- The level of tax burden that falls on individuals and corporations.
- Debt levels and their sustainability.
- Productivity.

In every single area, New Zealand lags behind countries against which it has traditionally measured itself. To catch up, bold thinking will be required, overhauling outmoded policy and institutional frameworks that have diminishing relevance in our modern world and which are inexorably leading us towards comparable poverty. Above all else, there has been a level of complacency and unwillingness to engage with ideas that challenge the prevailing norms. This conservatism has put us on the road towards poverty and threatens to jeopardise the social well-being of all New Zealanders. The good news is that it's not too late to change. An overhaul is still possible – and the authors have a template for change that they would like to add to the debate – but that is for another paper. Right now, we are facing a more pressing issue. It is this. To begin the process of fixing something that is broken, we must first own up to it being broken in the first place. New Zealand is broken. The rest of this paper explains how this has come to pass, and the scale of the task facing us, if we are to right the ship.

3. The emperor has no clothes

The New Zealand economy is like the man swimming naked in the ocean, blissfully unaware that the tide is going out. Everything is fine until the water recedes to a point where he is left exposed.

Right now, the tide is retreating rapidly, pulled by the economic aftershocks of Covid-19 and the gravitational weight that comes from decades of policy inertia. Across almost every area of social and economic policy that matters, New Zealand is not simply in danger of being exposed, it is standing naked in the shallows.

3.1. The three pillars of social wellbeing

For the last 80 years, the State has provided for education, health and social welfare in New Zealand, with each successive government, whether Labour or National, increasing its year-on-year spend in all three areas. In real terms, we have increased annual spending on these items from \$4,500 per person in 1972 to over \$12,000 today (NZD 2019).

Put another way, 71 cents in every dollar of Core Crown Expenditure is now spent on education, health and social welfare. Given this, you would expect the outcomes, in terms of productivity and performance, to have improved considerably across all three sectors. Instead, the opposite is true. Our education standards have fallen in comparison to our OECD partners; costs and queues have risen in the health sector (and things will only get worse as our population ages); and our social welfare system is broken, not only the focal point of rising community anger and resentment, but so impoverished that it is putting the most vulnerable at risk.

3.1.1. Education

After 80 years of state-provided, free education and billions of dollars of investment, New Zealand might reasonably be expected to have a flourishing education system, with our attainment levels across all three major educational disciplines – literacy, mathematics, and science – amongst the best in the world. Sadly, this is not the case.

- In 2018, the Book Council announced its findings that 40% of Kiwi adults could not read at a day-to-day functioning level. Clearly, this is a troubling statistic, and – sadly - it is not one that we look like fixing in the near future. In 2017, the 'Progress in International Reading Literacy Study' found that New Zealand was one of only 12 nations where reading ability has fallen. This test, which recorded reading benchmarks for 10 yearolds across 50 countries, showed about 27% of New Zealand children did not meet the relatively low, "intermediate benchmark", for reading, compared to an international median figure of 18%.
- In 2015, 16% of all Year 5 pupils in New Zealand sat below the international benchmark for numeracy. Whilst this might not seem a bad result, at first blush, what this means is that 16% of our students were unable to add or subtract whole numbers, were unable to understand

Journal of Economics and SDGs Review

multiplication by single digit numbers, or how to read simple bar graphs and tables. By comparison, the international average was 7%.

- In 2015, 12% of all New Zealand students failed to meet the similarly low benchmark in science, compared to 5% internationally.

On the basis of these figures, it is impossible to escape the conclusion that education, in its current form, is failing many of our children and particularly our most vulnerable. If we are to catch up with the rest of the advanced world, we need to approach the problem differently than we have done.

3.1.2. Health

In 2019, we spent almost twice as much in real terms on healthcare as we did in 2001 (the spend having increased from around 9.5 billion in 2001 to in excess of 18 billion today – in 2019 dollars). Despite this increase in costs:

- At a primary healthcare level, there has been a decline in the number of consultations taken in New Zealand, per head of population.
- One in three New Zealanders over the age of 15 have one or more unmet needs from primary healthcare in the last year.
- Almost every single District Health Board in New Zealand is in debt, with their spending far outstripping their income (and, it might be added, using their allocated resources poorly, with around 33 cents in every dollar lost to institutional inefficiencies).
- Significant inequalities remain in terms of access to, and the provision of, healthcare, with Māori, Pacific peoples, disabled people, and people experiencing poverty, particularly disadvantaged.

When we add our aging population into the mix, and the enormous extra burden that will be imposed on our health-care system in the decades to come, it is hard to disagree with the Ministry of Health's own finding, in its 2016 strategy report, that the current services provided by the government are unsustainable in the long run and that "it is essential we find new and sustainable ways to deliver services."

3.1.3. Social welfare

The government currently spends around 9.7% of GDP on social welfare (including superannuation), well in excess of any other item, and almost as much as we spend on health and education combined. Whilst it does so for good reason - to alleviate poverty and material hardship for New Zealanders – our social welfare system is failing.

Despite a drastic increase in funding per beneficiary over 80 years of government, there are still large amounts of material hardship in New Zealand. In June 2019, 13.4% of all our children lived in a household experiencing material hardship, whilst the recent report published by the Welfare Expert Advisory Group (who were appointed by the current Labour Government), makes for harrowing reading. It notes that that the payments available to families who are reliant on benefits falls well short of "those levels of income necessary for an adequate standard of living, let alone the levels necessary for even modest participation in society."

R. Douglas, R. MacCulloch, & H. McCaffrey, JESDGR, March 2025, 1(1), p.1-12.

Journal of Economics and SDGs Review

The report further notes that “our current system was set up in a different time and no longer meets the needs of those it was designed to support”, that it is “unmanageably complex”, “infantilizing”, “puts vulnerable people at the whim of politicians”, and that it “diminishes trust, causes anger and resentment and contributes to toxic levels of stress.”

Clearly, the current system requires more thought if we are to create a welfare system that provides beneficiaries with the requisite levels of dignity and opportunity. It is difficult, though, to see where the money will come from, if the government continues to fund the sector under its current model.

In no small part, this is due to the looming crisis associated with superannuation: namely, the enormous costs that New Zealand will face in the coming decades, as it meets its commitments to an aging population.

In 1970, the median age of New Zealand was around 26 years old. In 2016, it had increased to 37, and is projected to increase to around 40 by the early 2030s, and to 46 by 2068. More troubling, the ratio between those who are of working age (15-64 years old) and those aged 65 and over, is dropping precipitously. In the mid-1960s this ratio was 7.1. It had dropped to 4.4 by 2016 and – under current modeling – will stand at 2.8 in the mid-2030s and 2.0 in 2068. In other words, by 2068, there will only be two working age New Zealanders to every superannuitant.

How can such a small working population, relatively speaking, possibly care for itself, at the same time as meeting the requirements imposed by our current social welfare policies; requirements which depend on New Zealand’s workers to cover the costs of caring for beneficiaries and those aged over 65? For too long, our governments have turned a blind eye to the coming tsunami, putting the problem of an aging population off for another day (and for another government to deal with).

We can no longer afford to do so. This is particularly clear when you also factor in the health costs of caring for an aging population. In New Zealand, by 2025, 50% of all Government spending on healthcare will be spent on those aged 65 and over (despite the elderly making up only 15% of the population). This is consistent with OECD statistics which indicate that, on average, those over 65 account for 40 to 50% of health spending and, per capita, have healthcare costs 3 to 5 times that of those under 65.

By not saving now for future healthcare costs and superannuation, and instead relying on future taxpayers to cover them, out of general tax revenue, we are playing a very dangerous game; one that puts the social well-being of New Zealand’s most vulnerable citizens at the mercy of political whims. We are not simply hoping that our future generations will be able to meet the costs of these payments, but that they will be willing to prioritise such spending over all other meritorious (and unmeritorious) demands for spending. If nothing changes, New Zealand will need to raise taxes significantly or borrow enormous amounts of money, simply to keep our health-care and superannuation programmes afloat.

The current social welfare model is broken. New methods of thinking are required to protect recipients, ensuring that:

R. Douglas, R. MacCulloch, & H. McCaffrey, JESDGR, March 2025, 1(1), p.1-12.

Journal of Economics and SDGs Review

- Beneficiaries are afforded a decent standard of living (including the opportunity to play a full role in society);
- Child poverty is eradicated;
- All New Zealanders have the opportunity to enjoy a comfortable retirement, with sufficient capital to earn a substantial income, no matter what their jobs have been in their working lives.

3.2. Tax

The age-old response of governments to crises like the ones outlined above, has been to increase the tax burden. This is no longer an option, for the following reasons:

- The economic consequence of the Covid-19 shutdown, unfolding as we write this paper, could be as great as the Great Depression. It has caused economic devastation; to individuals, their families, and their businesses. At the moment, they simply cannot afford the costs of higher taxes. For the medium term at least, tax rates will need to stay where they are, and arguably (in the case of low income workers and small businesses), should even be reduced.
- New Zealand's tax burden is already amongst the highest in the world. Whilst this might come as a surprise to those who are encouraged by our politicians to simply compare our headline personal tax rates with those of our OECD partners, the truth is that our proportion of income tax and company tax to GDP is high, as is our proportion of GST revenue to GDP. In a recent study using the Heritage Foundation's Economic Freedom Index, New Zealand economist, Bryce Wilkinson, found that in 2018, individuals living in 135 out of 180 countries had a lower tax average than New Zealand. By count of population, that amounted to 94% of the world's population living in a lower tax environment than we do!
- History tells us that when governments create a high tax environment, they unwittingly provide an incentive for those who can afford it to hire smart accountants to find innovative ways to lower their tax. In other words, high taxes will often result in a reduction in tax revenues. The lessons of 1988 are salutary here. When the Labour Government of the time reduced the top tax rate (for those earning \$60,000+), from 66% to 48%, and then to 33%, the number of New Zealanders declaring income over \$60,000 rose six-fold, with a revenue increase from \$876 million to \$2,544 million (1993 dollars).

Ultimately, there is a tipping point where increases in taxes actually cause a decrease in revenue. From the evidence, New Zealand may have already reached that point, meaning that raising taxes – either now or in the foreseeable future – will not be the panacea many statisticians would have us believe. Rather than helping us pay our way out of trouble, such a move would almost certainly have a detrimental effect, both from an economic and societal standpoint.

And besides, the simple truth is this: *we already have enough money in the system to provide world-class services*; it's just that the money is being poorly

R. Douglas, R. MacCulloch, & H. McCaffrey, JESDGR, March 2025, 1(1), p.1-12.

used, captured by the very institutions that are meant to help, rather than being passed through to the pupil, the patient, or the consumer, in a way that makes a material difference to their lives.

3.3. Housing

A few decades ago, most New Zealanders regarded home ownership almost as an implicit right; a cornerstone of our egalitarian tradition and a safe harbor to store and accumulate wealth.

How times have changed. In the last 20 years, house prices have quadrupled, with low housing stocks, an overly complex policy environment, land banking, and the intransigence of privileged landowners, all contributing to a situation that not only undermines the opportunity for New Zealanders to own their own home, but our entire social fabric.

When we look at the issue of housing, we see the following problems:

- Our house prices are too high. All of us understand this instinctively, but by applying the 'median multiple' method which Demographia International uses to conduct an annual survey of housing affordability, we can truly see how difficult it has become to own a home in New Zealand. The 'median multiple' measures house prices divided by median household income to compare cities and countries around the world (i.e., how many years annual income does it take to buy a house?). Demographia considers that if the median multiple is less than 3, house prices are generally considered affordable. At the other end of the scale, if the multiple is more than 5.1, then they consider house prices to be severely unaffordable. In 2019, the most affordable housing markets were to be found in the US, with a 'moderately unaffordable' multiple of 3.9, followed by those in Canada at 4.4, the UK at 4.6 and Ireland at 4.7. In comparison, Australia's measured cities had a multiple of 6.9, whilst Auckland – *with a staggering multiple of 8.6* – was considered severely unaffordable.
- When house prices increase, it has a disproportionate impact on low income New Zealanders, not simply because they have no hope of purchasing their own home, but because rent prices increase too. Inevitably, high rents take up a greater portion of disposable income for low-income earners. In 2016, housing costs typically consumed 20% of income of a working-age household, as compared to 14% in the mid-1980s. But if you sat in the poorest fifth of New Zealand in terms of income over that period, housing costs rose from 29% to 49%. Such an increase cannot come without a commensurate increase in material hardship for many New Zealanders. **If we want to find a reason why 13% of our children live in poverty or near poverty, then rent and mortgage costs are a good place to start.**
- High house prices also affect investment in New Zealand. Because high prices consume savings, there is less left over to invest in productive industries.

Journal of Economics and SDGs Review

- The demand for houses has far outstripped supply. A report prepared for the New Zealand Initiative by Michael Bassett and Luke Malpass found that New Zealand's new house building is lagging, with a shortfall of at least 10,000 new houses annually, whilst the New Zealand Productivity Commission's enquiry into housing affordability found that New Zealand, in comparison to most of its OECD partners, has been slow (and about half as effective) in its responsiveness to changes in housing demands. Of course, this is not because we suffer from a paucity of land in New Zealand upon which to build. Rather, the shortage is an artificial one, with limits imposed by Local Councils, Central Government and/or private developers all working to maximize returns from land banking, at the expense of affordable land and housing.
- When you add the complex set of rules and regulations that New Zealand operates under, then matters become worse. Of particular concern is the system we've created that protects privileged landowners at the expense of those most in need, with existing homeowners having broad rights to object to any change to their neighbourhoods. Inevitably, such rights lead to a reduction (or, in many cases, the elimination) of any new construction in an area, locking people out of the housing market or relegating them to distant suburbs, so that our society becomes increasingly stratified geographically. When you consider that affluent suburbs typically have better public services available, including schools, libraries, transportation, and other amenities, then this issue might be seen as lying at the root of New Zealand's pervasive social inequality, with ramifications beyond the simple fact that many low-income families are forced to live a considerable distance from the city.
- Finally, too much of our limited housing stock is of poor quality. As the Productivity Commission has noted, the poor condition of New Zealand's housing stock has been linked to poor health outcomes, particularly our unprecedented high levels of rheumatic fever. It is a tragedy that such outcomes are seen most prevalently amongst Māori and Pacific peoples.

New Zealand's housing market is in a state of disarray. If we are to return to the days where everyone who wants to purchase their own home, can afford to (and there's no reason why this shouldn't be possible), then existing privileges, regulations, and land banking will all need to be ended, replaced instead by a more equitable – and efficient – policy framework for housing.

3.4. Productivity

There is only one way to continually and sustainably increase the living standards of all New Zealanders over time and that is to lift productivity in New Zealand.

Productivity is a measure of certain outputs to inputs. When we make more or better goods and services for the same or fewer inputs (i.e., the time and/or resources we put in to producing a good or service), our productivity

improves. It is not about working longer hours, or even working harder, productivity is about getting more from the effort or resources we put in.

Unfortunately, there is something baked deep within the structure of New Zealand's policy environment that has seen long-term, low, and declining productivity growth rates, across labour, capital, and multi-factor productivity measures. From 1960 to 1984, New Zealand had the slowest rate of productivity growth in the OECD, and not much has changed since. By international comparison, our labour productivity remains 40% below the top half of the OECD, the net result of which is below average incomes in New Zealand.

In a recent comparison of OECD countries, New Zealand economist Michael Reddell notes that New Zealand ranks 4th last for labour productivity growth and "simply last" for multi-factor productivity growth. Moreover, for the most recent 5 year period measured, New Zealand averages about 65% of the GDP per hour worked of the median country for which the OECD has data.

Given that GDP per hour is a fairly reliable indicator of the prospects of a country in the long term, we are quite clearly running a long way behind our competitors, and losing ground fast.

Whilst there are a number of reasons for this, including the high off-the-shelf costs of capital goods in New Zealand, the small size of our domestic market, and our low investment in knowledge-based capital, productivity within government sectors is also to blame. These services, which include education and health, amount to close to a fifth of the economy and their abysmal productivity levels contribute to our poor performance. For example, between 1996 and 2018, labour productivity for New Zealand averaged 1.4% per year (the OECD average was over 2%), compared to labour productivity for the health sector, which averaged 0.8%, and the education sector, which averaged negative 1.4%.

An increase in the rate of productivity growth per year will deliver New Zealanders the real increase in wages they so desperately need. We should not lose hope that this is possible. If we are willing to bring this issue out into the open, keep a laser focus on improving outcomes and put in place quality policies (including the reforms supported by the authors in their upcoming paper), we can transform New Zealand into a high wage, wealthy economy.

3.5. Debt

Recent New Zealand Prime Ministers, and their Finance Ministers, have made much of our debt levels, trumpeting them not only as historically low, but also as positioning us for a rosy economic future. Putting aside the fact that much of this debt reduction happened as a result of policies instigated in the 1980s and 1990s, and that our true debt levels are scandalously under-represented (more on this later), this rhetoric is about to change.

Covid-19, and the economic devastation it has wrought, has not simply shifted the goalposts, it has set everything up on an entirely new playing

R. Douglas, R. MacCulloch, & H. McCaffrey, JESDGR, March 2025, 1(1), p.1-12.

Journal of Economics and SDGs Review

field. In its wake, the costs of keeping the New Zealand economy on its feet, let alone managing a recovery, will run into tens of billions, perhaps even hundreds of billions, of dollars. Already, Finance Minister Grant Robertson has warned that New Zealand will be running deficits for an extended period of time and that debt levels will reach an “all-time high”. Whilst details about what this means in concrete terms are sorely lacking, one can’t help but imagine that the news isn’t good for the young generation of Kiwis who will be saddled with the costs of repaying this debt.

When we add to this the tens of billions of dollars we lose every year, as a result of the government’s studied reluctance to tackle the twin problems of privilege and waste, it is clear that the issue of national debt will soon become part of our day to day lives.

Unfortunately, it is not simply our Covid-related debt that we must seek to manage in the medium to long term. We also face an additional debt burden that may dwarf even the costs of our post-Covid recovery, and which threatens to cripple us. That problem – as mentioned earlier in the paper – relates to our ageing population and the strain it is about to place on superannuation and on our health system.

As of December 2019 (for all working New Zealanders over the age of 18, and those already in retirement), New Zealand had accrued a liability (undiscounted) of roughly \$695 billion in relation to future NZS payments; more than 2.2 times New Zealand’s nominal GDP in 2019. Even if we offset the assets of the Cullen Fund (roughly \$42 billion), we are still left with an undiscounted current liability of roughly \$650 billion. Assuming no population growth, which is highly unlikely, this liability will continue to increase by some \$30-40 billion a year.

This figure is calamitous in itself, but there remains the matter of health costs, for those aged 65 and over, to add to it. With around 45% of core Crown expenditure on healthcare going to those aged over 65, we can see that, *in 2019, the government spent, on average, \$10,500 per person for those over 65 in health-care*. If we index the rise in health-care to 4% (lower than Treasury’s long-term forecast), that means the total cost for someone with 20 years retirement is approximately \$313,000 (in 2019 dollars).

These are startling figures, frightening even, and yet they remain unfunded. If we consider such healthcare costs on an accrual basis, like superannuation, we can see an accrued liability in relation to retirement healthcare costs of over \$500 billion. Taking both New Zealand Superannuation and healthcare costs together, we had an undiscounted accrued liability in 2019 of over \$1.2 trillion.

Unfortunately for New Zealanders, we are not able to see the true costs of our current policies because the Government deems that such liability does not ‘accrue’ until you apply for such an entitlement. While it is certainly arguable as to when we should deem a policy to accrue for accounting purposes, this misses the point. Just because you can pretend it is not a liability for the purposes of accounting, does not alter reality. New Zealand’s current scheme is racking up significant unfunded liabilities with no thought

R. Douglas, R. MacCulloch, & H. McCaffrey, JESDGR, March 2025, 1(1), p.1-12.

Journal of Economics and SDGs Review

as to how they will be met in the future. If the Government were more straightforward about its future liabilities, we could have a serious discussion as a nation about how we are going to meet them.

If we did account for such liabilities, we believe it would show a simple truth: without change, we are on a path that will see us struggle to meet our future debt obligations, something made all the more apparent, and urgent, by the additional debt we are about to incur as we deal with the economic fall-out from Covid-19.

How, then, are future governments going to care for citizens aged over 65, who have been brought up to believe that the government will look after them upon their retirement, and who have every right to expect they will live comfortably once they have stopped work? Under the current system, the simple – and tragic – answer is this: ‘they’re not’.

As the authors noted at the start of this paper, you can’t begin to fix something until you admit that it is broken. Scandalously, a string of New Zealand governments have refused to acknowledge our looming debt crisis. Instead, they have maintained the fiction that they are running surpluses, refusing to take into account future liabilities that have already accrued.

If a company kept its books in the same manner as the Government in relation to its employees’ retirement savings scheme, it would rightly be brought before the courts on fraud charges.

The Government needs to find the courage to face this crisis (which begins by admitting it exists), instead of indulging in the empty politicking that comes with pretending that everything is okay, leaving it to future governments, and our younger generations, to deal with the mess.

4. Conclusion

For too long, we have lived with the fiction that we are doing well, lulled by successive governments into believing we truly do have a ‘rock-star’ economy. Nothing could be further from the truth. Starting with Grant Robertson’s post-Covid budget, we must admit to the problems facing our economy and begin to deal with them. Otherwise, current inequalities will remain entrenched, we will continue to fall further behind our OECD partners, and the prosperity of our younger generations will be placed at peril.

Journal of Economics and SDGs Review

Author statements

Acknowledgements: Not applicable.

Author contributions: The contribution of the authors is equal.

Funding: No funding was received for this study.

Availability of data and materials: Not applicable.

Ethics declarations

Ethics approval and consent to participate: Not applicable.

Consent for publication: Not applicable.

Consent to participate: Not applicable.

Competing interests: The authors declare that they have no competing interests.

Informed consent: Not applicable.

Consent for publication: All authors agreed with the content and gave explicit consent to submit the manuscript to *Journal of Economic and SDGs Review*

Data Availability Statement: Not applicable.



Open Access This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit: <http://creativecommons.org/licenses/by-nc-nd/4.0/>



R. Douglas, R. MacCulloch, & H. McCaffrey, JESDGR, March 2025, 1(1), p.1-12.