

Realising a Basic Income

Iain B Middleton

Basic Income Earth Network (BIEN) 2022 Congress
University of Queensland, St Lucia,
Queensland, Australia

26-28 September 2022

Revised, 12 May 2023

Contents

Abstract	2
Introduction	3
The New Zealand welfare system	3
The distribution of money and tax cuts	3
New Zealand Superannuation	5
Funding New Zealand Superannuation	6
Introducing a new Basic Income	10
Creation of new money	11
The Current Welfare System and Jobseeker Support	11
Basic Income, a better alternative	12
The cost of a Basic Income	13
Starting a new Basic Income	13
The size of a Basic Income	14
Minimising the cost of a Basic Income	14
Voluntary Basic Income and phasing in a Basic Income	15
Taxation	15
Three stage tax and the Transfer Limit or Ulm Model	18
Modified Transfer Limit or Ulm Model	19
Examples of a Basic Income	19
Comparing the examples	22
Sources of Money for a Basic Income	24
Conclusion	24
End notes and references	25

Abstract

"Is a Basic Income of reasonable value, paid to all eligible adults, affordable? A close look at Basic Income schemes reveals means of reducing both the initial and ongoing costs. Rather than thinking of the need to raise taxes from other sources to meet the annual payments of a scheme, it is more meaningful to look at both the method and initial cost of introducing a scheme, and then at the cost of maintaining the scheme.

Modelling shows that initial costs are limited to the introductory period and may be no more than several years payments but spread over a longer period, and that once introduced the cost of maintaining a Basic Income scheme is minimal. Increased or new taxes may not be necessary. This counters the simplistic contention that Basic Income proposals have high annual costs that must be funded by increased taxes on other sources equivalent in value to the annual payments.

For several reasons, New Zealand is ideally suited for a Basic Income scheme. A Basic Income scheme for those over 65, known as New Zealand Superannuation, has existed with little change and minimal ongoing costs since 1938. A similar Basic Income for the 18 to 64 age group is feasible and affordable.

This paper looks at: means of minimising real costs, the progressive introduction of a Basic Income scheme, and at initial and ongoing funding."

I B Middleton

September 2022

Revised and updated to use benefit rates from 1 April 2023.

Basic Income Earth Network (BIEN) 21st congress, 2022, jointly hosted by BIEN Australia, The Faculty of Humanities and Social Sciences at The University of Queensland, the Australian Basic Income Lab, and Queensland University of Technology.

Realising a Basic Income

Introduction

Governments exist to ensure the collective wellbeing of all citizens of a country and not some at the expense of others. Achieving collective wellbeing requires a fair and just or equitable distribution of wealth. A Basic Income¹ is a key factor in achieving this.²

The Universal Declaration of Human Rights (UDHR)³ and the International Covenant on Economic, Social and Cultural Rights (ICESCR)⁴ require governments to maintain adequate, albeit basic, living standards for all their citizens.

Articles 22 to 25 of the UDHR outline the right of all citizens to Social Security, work, rest and leisure, and an adequate standard of living. The ICESCR, which is binding on countries that have ratified it and forms part of international law, develops these themes further. New Zealand signed the ICESCR on 12 November 1968 and ratified it on 28 December 1978. Australia signed it on 18 December 1972 and ratified it on 10 December 1975. Article 9 of the ICESCR requires states to recognize the right of everyone to social security while Article 11 requires countries to recognise the right of everyone to an adequate standard of living for themselves and their families, including adequate food, clothing, and housing, and to the continuous improvement of living conditions.

Governments attempt to meet their ICESCR Article 9 and 11 obligations with welfare programmes, but most also attempt to minimise the expenditure on such programmes by attempting to target payments to those most in need. To do this, they have subjected welfare recipients to means testing, rigid monitoring, and other restrictions. Severe targeting and restrictions are, however, often counterproductive and may work against the intent of Articles 9 and 11.

There is a better alternative. A Basic Income paid to everyone equally will achieve sufficient or effective targeting when the payments are combined with an appropriate tax regime – a tax regime designed to ensure that those with the greatest need receive the greatest benefit from the payments.

This paper begins by considering New Zealand Superannuation (NZ Super), a long-standing example of a working Basic Income scheme. The funding of NZ Super is examined in some detail to see if similar funding might be applied to an adult Basic Income for those age 18 to 64.⁵

The problems with the existing Jobseeker Support system in New Zealand are outlined briefly and Basic Income presented as a viable alternative. Ways to introduce a Basic Income are considered together with the cost of such a programme and how it might be financed.

The New Zealand welfare system

New Zealand has a comprehensive system of benefits designed to target payments to those most in need. However, qualifying criteria often apply and there are standdown periods before payments begin, and payments are abated as other income increases. While this is intended to target the payments to those in need, there are many problems and benefits sometimes do not reach those most in need. The system is unduly paternalistic, intrusive, and punitive with sanctions often applied. It is complicated, lacks transparency, and has high administration costs. Means testing and standdown periods restrict eligibility. Very high abatement rates create poverty traps and disincentives to work or induce those in need to avoid the system completely. Often, both those applying the system and those receiving benefits do not understand the rules. The system is open to fraud and is often a political football.

In contrast, New Zealand Superannuation operates with low administration costs and very few real issues.

The distribution of money and tax cuts

Ensuring that people with little resources receive sufficient money to survive by providing them with the money directly is a better way of distributing money than spending the money on other activities, such as public works, and hoping that those in need will receive some money indirectly.

Money naturally accrues toward those who have plenty. An initial imbalance of wealth means that people with few resources must borrow money for activities such as higher education or to provide suitable accommodation and sustenance for themselves and their families. Years of indebtedness may result.

Money borrowed is repaid with interest adding to the flow of money from those who have little to those who have plenty, or to institutions able to create money to lend to others.

Those with money accumulate more with time, while those with little see their debts increase.

Banks and companies must make profits to stay in business, but this adds to the upward flow of money, from those who have little to those who have more. Governments attempt to counter this by taxing those who have or receive more and redistributing the money. But, providing money to subsidise marginal companies can exacerbate the problem. The best way to redistribute the money is to all people equally as this ensures that it reaches those most in need. People spending the money will support business.

Governments attempt to counter the inevitable accrual of money by the wealthy with various mechanisms or taxes. These include progressive income tax systems that increase marginal income tax rates progressively as income increases. While this appears to be the correct thing to do, lower tax rates or tax reductions on low-income tax brackets, provide larger absolute tax reductions for those with high incomes than for those with low incomes, adding to the accrual of wealth by those who have plenty. Better targeting is achieved by paying the money out as a Basic Income with an appropriate tax system as this achieves targeting of the money to those most in need with lower administration costs.⁶

Tax cuts are often portrayed as a means of boosting an economy when there is an economic downturn but there is little real evidence that this works in practice. In 2012, L. Hungerford in a US Congressional Research paper looking at tax rates from 1945 concluded that:

The results of the analysis suggest that changes over the past 65 years in the top marginal tax rate and the top capital gains tax rate do not appear correlated with economic growth. The reduction in the top tax rates appears to be uncorrelated with saving, investment, and productivity growth. The top tax rates appear to have little or no relation to the size of the economic pie. However, the top tax rate reductions appear to be associated with the increasing concentration of income at the top of the income distribution.^{7, 8}

In 2022, Cloyne, Martinez, Mumtaz, and Surico, in a National Bureau of Economic Research working paper reported that:

Personal income tax cuts trigger a short-lived boost to GDP, productivity and hours worked but have no long-term effects.⁹

Rather than boost the economy, tax cuts may achieve the opposite. Economic downturns often follow tax cuts. Reductions in government tax revenue resulting from the tax cuts often lead to cuts in government spending to match the fall in revenue. The spending cuts further reduce economic activity which reduces government revenue further, leading to further tax cuts, and so on. Cuts in government spending accentuate economic downturns.

The reduction in economic activity during an economic downturn impacts on the poor but also reduces company profits and the incomes of those who have plenty. When the poor have little money to spend, companies suffer, profits reduce, and there is pressure on those with higher incomes.

During economic downturns, governments often target money toward public works and other activities to boost government spending and the economy. This works to a limited extent by creating some employment but many people receive little or no benefit from these initiatives. However, profits made by the firms boosted will lead to more money flowing toward those who have plenty or to foreign company owners, so again, the accrual of money toward the wealthy is likely to exceed the benefits that those on lower incomes receive.

When an economic downturn is the result of a pandemic and layoffs are expected or occur, paying firms to maintain wages is likely to be less effective at sustaining the economy than paying all people an equal amount of money in the form of a Basic Income. It is always better to ensure that money is received directly by those who need it the most and a Basic Income is the most effective way of achieving this. Without money, people cannot pay for goods and services and all sections of society suffer.

When there are natural disasters such as earthquakes, floods, or pandemics, a pre-existing Basic Income is the best way of ensuring that those most in need have some income available immediately.

Governments need to ensure that money continues to circulate at a reasonable rate. During economic downturns and times of uncertainty, people who are likely to hold on to or accumulate money. But government income depends on people spending money. Governments only collect taxes such as GST, income tax, profit tax and other taxes when money moves. If the circulation of money slows, government income falls. A government that reduces expenditure to match reduced income will exacerbate an economic downturn.

People with little money tend to spend any money they have on the necessities of life.^{10, 11} They do not accumulate money, so money moves more rapidly than money held by those who have plenty, enhancing the number of money cycles per annum and government tax revenues which require money to move. Those with plenty of money tend to accumulate money to spend later or to spend overseas. Accumulating money and spending money overseas both result in a slowing of the flow of money, falling or lower government revenues, increases in wealth disparity, and increased poverty.

An equitable distribution of wealth ensures that all people have sufficient money for the necessities of life while ensuring that money moves at such a rate that government tax revenues are maximised.

A Basic Income is an effective way of supporting an equitable distribution of wealth so that all individuals have sufficient money for basic needs, while ensuring that money circulates at a reasonable rate in order to enhance the wellbeing of all, and to ensure that governments continue to receive the tax revenues that they need to ensure the wellbeing of their citizens.

New Zealand Superannuation

New Zealand has run what may be the world's longest running Basic Income trial. Introduced with an Act in 1938, 84 years ago, New Zealand Superannuation (NZ Super)¹² is a non-means tested and non-contributory Basic Income paid from government general funds to all eligible legal residents who apply for it. Because it is only paid to those who apply for it, it is a voluntary scheme.

On-going operating costs of NZ Super are minimal. Once registered, a recipient's payments will only cease when they have been out of New Zealand for more than three months or are deceased. With the introduction and full implementation of NZ Super, poverty amongst the elderly fell significantly.¹³

In 1898, New Zealand became a world leader with the introduction of a non-contributory pension for those "with few assets and of good moral character" over the age of 65.¹⁴ Paying £18 a year, about a third of a working man's wages, with both income and assets means tested, the pension was intended to exclude criminals, drunkards, and wife-deserters.¹⁵

Thirty years later, the Social Security Act 1938, introduced NZ Super for all those over 65. It paid £10 per year from 1940 with the signalled intention to increase the payment over time to match the pension. This was achieved in 1960, twenty years later.¹⁶ From 1960, people eligible for the pension at 60 could change to New Zealand Superannuation at 65.

With the introduction of the universal payment in 1938, the pension, now known as the Age Benefit, was increased to £78 a year, about 72% of the average wage, and the age of eligibility lowered to 60. It was restricted to those forced to retire early due to infirmity or otherwise unable to work, and remained means tested. As wages and living standards rose after the second world war, the Age Benefit was allowed to decline in relative value. During the 1950s and 1960s, the Age Benefit for a couple varied between 50% and 60% of the average wage. The asset test for the Age Benefit was abolished in 1960 but incomes remained means tested.

A 5% Social Security tax, one shilling in the pound, introduced in 1938 paid part of the cost of the enhanced Age Benefit, the universal payment for those over age 65, other benefits, and the health system. The Social Security tax later ceased to be an independent tax. The universal payment was made taxable to help reduce the cost of the scheme as those earning higher incomes would pay tax on their superannuation payments at their highest marginal tax rate.

During the 2007-2008 global financial crisis, New Zealand elected to continue New Zealand Superannuation at full value as continued payments would help stimulate economic recovery, despite suggestions that payments be cut. This largely shielded those over 65 from the economic downturn and the country from the impact of the global financial crisis. Consequently, the recovery was faster.¹⁷

New Zealand Super is a taxable non-contributory superannuation scheme paid fortnightly by the government from general funds without income or asset testing to all residents over the age of 65 who have been in New Zealand for at least ten years since the age of 20. Once registered, payments will only cease when a person has been out of the country for 30 weeks or on death.¹⁸

Of particular interest is that New Zealand Superannuation is a voluntary scheme. It is only paid to those who register to receive it. While people do not need to retire before requesting it, most cannot resist free money so sign up as soon as they turn 65. Only a few people who continue to work after 65 wait until they retire before signing up.

New Zealand Super is paid as taxable income in conjunction with a progressive tax system. This helps to target the benefit to those on the lowest incomes. In practice, the government deducts tax before the payment is made and an annual reconciliation occurs. With the annual reconciliation, those with no other income will pay tax on their superannuation payments at an effective rate of 14% with any additional income taxed at the marginal tax rate of 17.5%. Those with gross incomes over \$180,000, the highest tax bracket, will have their superannuation payments taxed at the highest marginal rate of 39%.

However, if New Zealand Superannuation was to be paid as a tax-free amount with all recipients taxed with a uniform tax (also known as a proportional or flat tax) the targeting of the payments to those on the lowest incomes would improve and the overall cost would reduce.^{19, 20, 21, 22} There are also other tax regimes that would improve targeting such as a two stage tax that retains the highest marginal tax rate of 39% or the Transfer Limit or Ulm Model to be discussed later.

While New Zealand Superannuation meets most requirements of a Basic Income, it differs from the usual requirement that all Basic Income payments are identical for all. New Zealand Super is paid at three different rates.²³ The lowest rate, which is nominally 65% of the net annual average wage, is for those living with their partners. The second rate is for single people who are sharing accommodation, and the third rate for those who are single and living alone.

In 2023, couples receive a gross payment of \$439.79 per week each, singles sharing accommodation \$532.43 per week, while singles living alone receive \$578.64. The corresponding net values are: \$381.82, \$458.18 (20% above the base rate), \$496.37 (30% above the base rate). The relative rates remain the subject of debate. They are determined by government and based on the perceived extra costs that people sharing accommodation or living alone face. For example, some see the lower rates for couples as penalising and discouraging relationships and it is often difficult to determine if those sharing accommodation are in a relationship or not.

Since 1938, New Zealand Superannuation has remained virtually unchanged. In 1977 the payment rate was increased to the current levels based on a percent of the average wage, the age of eligibility lowered to 60, and the pension abolished. Between 1985 and 1998, in response to a perception that New Zealand Superannuation was an expensive luxury a surcharge was applied to other income, and between 1992 and 2001 the age of eligibility was progressively raised to the original age of 65. Those forced to retire before 65 due to poor health must now apply for appropriate working age benefits if they are eligible.²⁴

In April 2023, New Zealand Retirement Commissioner, Jane Wrightson, said that there is no need to raise the age of eligibility above 65. At just 4% of GDP per capita, New Zealand Superannuation payments, not the real cost, are acceptable by international standards and unlikely to exceed 6.4% by 2061.²⁵

Funding New Zealand Superannuation

When first introduced in 1938, some said that New Zealand Superannuation was unaffordable and likely to bankrupt the government. This did not happen and it is worth looking at why it did not.

A closer look at the funding of New Zealand Superannuation shows that when recipients spend the superannuation payments, or a portion of the payments, the expenditure generates Goods and Services Tax (GST) so the government receives an immediate tax return. The remainder of the money spent after GST is deducted becomes income for others. Spending the money generates employment. Salaries and wages are paid and income taxes deducted. Businesses make profits, generating company taxes. Profits distributed as dividends create income for others which is taxed. Consequently, the government collects an additional 12% to 15% in additional tax revenues from the expenditure of the New Zealand Superannuation payments bringing the total for the first cycle up to 27% to 30%.^{26, 27, 28, 29}

The remainder of the money from an initial payment, not collected by taxation in the first cycle, continues to circulate, and may be spent in the following cycle resulting in more money collected as tax. With each cycle, tax is collected and the remainder of the money from a single payment is available to spend in subsequent cycles. With each cycle some 27% to 30% of the money is collected as tax. The remaining money available to spend declines with each cycle, so the tax collected in absolute dollars also declines with each cycle. Eventually, the total money returned to the government from a single payment will approach 100% of the initial payment.

The circulation of money and the reuse of money generates further economic activity. This is known as the multiplier effect.

Figure 1. illustrates how the tax returned per period from a single payment declines over time. For the purposes of illustration only, it is assumed that there are 12 payments per annum, and that money circulates 7 times per annum. Tax collection, the sum of GST and other taxes, is assumed to be 27% per expenditure cycle. The number of payment periods per annum and the number of expenditure cycles per annum are not the same. The faster money circulates, the greater the number of expenditure cycles per annum. The more expenditure cycles per annum there are, the greater the money collected in taxes for each payment period will be.

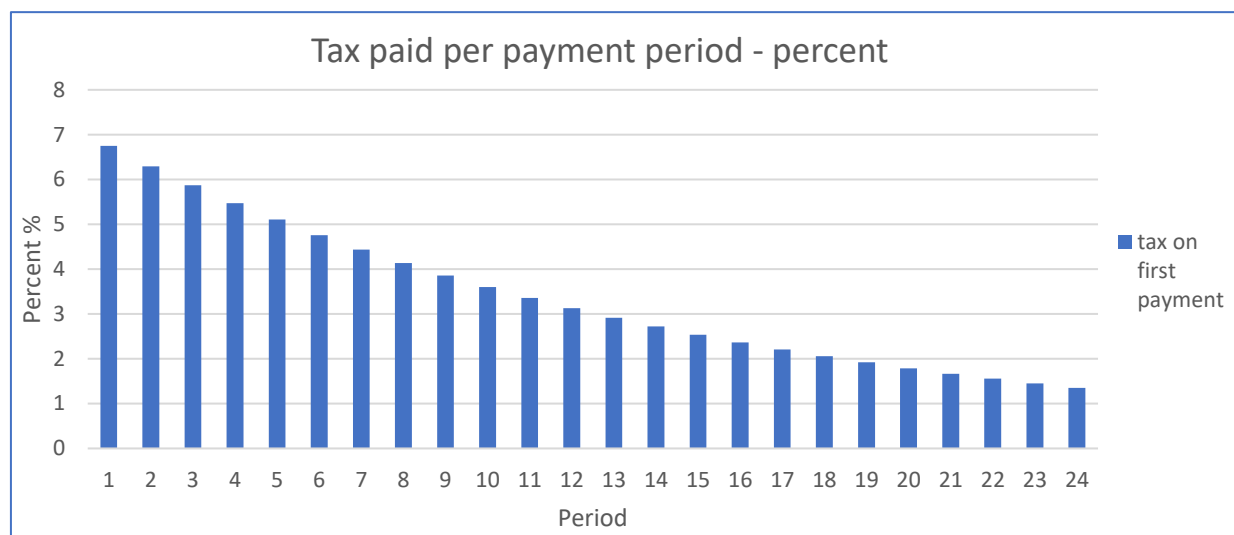


Figure 1. Tax returned on a single payment over successive periods. 12 periods pa, 7 cycles pa, t = 27%.

If the tax generated in the first period is represented by t_1 , and n is the number of periods, the total tax collected by the government over a number of periods is:

$$T_n = t_1 + t_2 + \dots + t_n$$

Tax collected over an infinite number of periods is the sum of $t_1 + t_2$ to infinity. When added to infinity this will equal 100% of the initial payment.

$$T = \sum_{n=1}^{n=\infty} (t_n) = 100\%$$

This shows that the money from the first period payment of New Zealand Superannuation continues to circulate until the government has received virtually all of it back as taxes. The time that it takes for the money to return to the government depends on the tax rates and the rate that the money is circulating.

However, the government continues to pay New Zealand Superannuation each period. This means that in the second period the total money collected as taxes is $t_1 + t_2$, and after n periods it will be the sum of $t_1 + t_2 + \dots + t_n$. After an infinite number of periods the total tax returned each period is:

$$T = \sum_{n=1}^{n=\infty} (t_n) = 100\% = P$$

Realising a Basic Income

This is exactly the same equation as that for the total tax returned from a single payment over an infinite number of periods. This shows that for a mature scheme, the money returned as tax each payment period will equal the total payments for the same period. This is illustrated in Table 1.

Period	1	2	3	4	5	6	7	8	9
1	t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t ₇	t ₈	t ₉
2		t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t ₇	t ₈
3			t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t ₇
4				t ₁	t ₂	t ₃	t ₄	t ₅	t ₆
5					t ₁	t ₂	t ₃	t ₄	t ₅
6						t ₁	t ₂	t ₃	t ₄
7							t ₁	t ₂	t ₃
8								t ₁	t ₂
9									t ₁

Table 1. Shows the similarity between rows: the tax returned per period on each single payment and columns: the total tax received for each period.

In Table 1, the first horizontal row in the table shows the tax returned over nine periods from the first payment made at the beginning of period 1. The second horizontal row shows the tax returned from the second payment made at the beginning of period 2, and so on for each period. The vertical columns show the total tax returned for each period. Thus, for period 2 the total tax collected will be:

$$T_2 = t_1 + t_2$$

If P_1 is the total amount paid out for the first payment period and p_1 the amount paid with new funding from the government, then for the first payment made at the beginning of the first period:

$$P_1 = p_1$$

If the tax received back at the end of the first period is used to pay some of the second period payment, the new money required for the second period is $p_2 = P_2 - T_1$ where P_2 is the total second payment and T_1 is the total tax returned for the first period. Consequently, the new money payment for any period can be represented by:

$$p_n = P_n - T_{n-1}$$

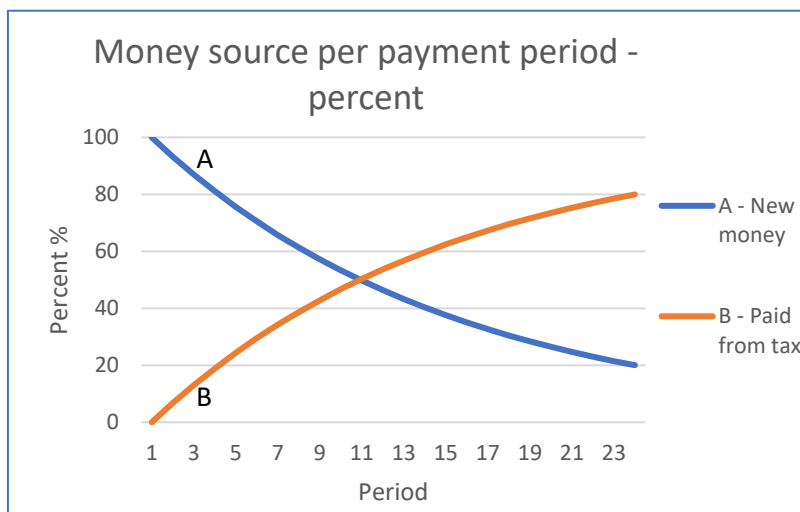


Figure 2 shows that as the total tax received by the government increases for each successive period the amount of new money required declines for the same period until the total tax received per period is almost equal to the total payments for the period.

Consequently, the total amount of new or external money required to establish the scheme is limited, and is not just the simple product of the total annual payments times the number of years.

Figure 2. Basic Income payments by money source over two years with 1.5 cycles per annum.

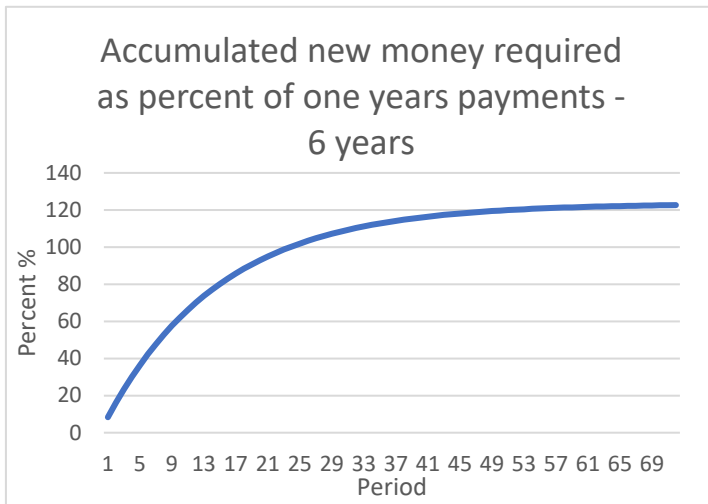


Figure 3 shows how the total accumulated money required to establish a Basic Income increases with time but becomes asymptotic at a proportion of the total annual payments. The asymptotic value depends on the tax rates and the rate that money is circulating. For illustrative purposes, a tax rate of 27% per cycle and a circulation rate of 3 cycles per annum is used. The higher the tax rate or the greater the number of cycles per year, the smaller the total amount of money required to start the Basic Income. In Figure 3 it is 120% of the first year’s payments.

Figure 3. Accumulated external money required as a percent of one year’s payments, $r = 27\%$, $v = 3$.

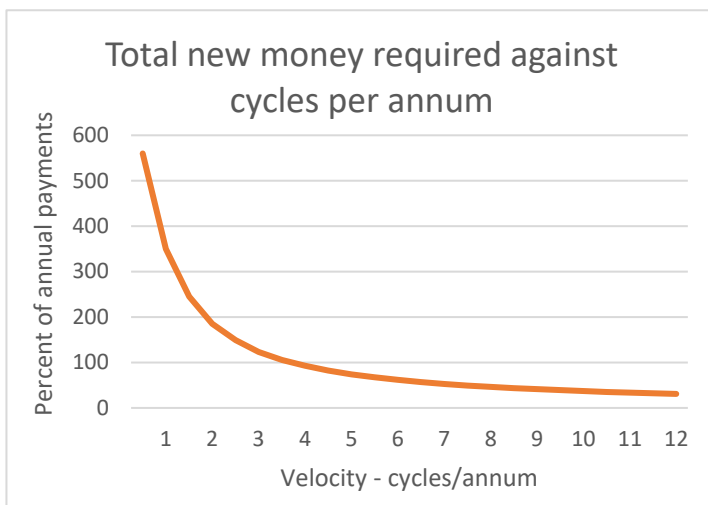
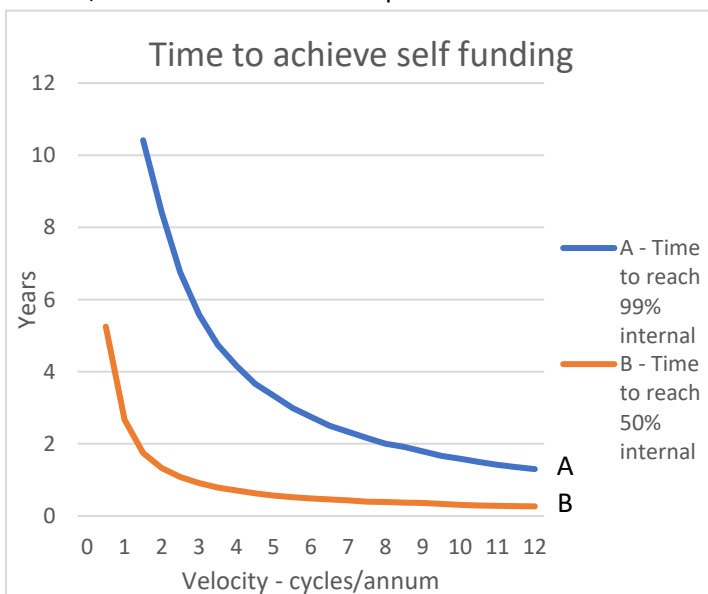


Figure 4 shows how the total new money required, expressed as a percentage of total annual payments, declines as the number of money cycles per annum increases.

Figure 4. Total new money required measured against money cycles per annum, $r = 27\%$.

Figure 5 illustrates the relationship between the time required for a Basic Income to become either 50% or 99% self-funding and the number of money cycles per annum. The greater the number of cycles per annum, the shorter the time required for a Basic Income to become self-funding.



This shows that the money required to start a new Basic Income scheme, such as New Zealand Superannuation, is finite, but that once established a mature scheme becomes largely self-funding. After some time, the money returned as tax each payment period will almost equal the money paid out to the Basic Income recipients. The total initial new funding required to start the system is spread over several years. The first year’s new funding is less than the total payments for that year and the new funding required for each subsequent year declines progressively.

Figure 5. The time required to achieve self-funding.

As a new Basic Income is established, the money received and spent by recipients generates economic activity in the areas where the money is spent, either geographic areas or specific sections of the economy, boosting regional economies and the economies of low-income areas. The increased economic activity results in additional tax revenue from these areas.

If additional recipients are added over time, additional funding is only required if the total number of recipients increases. However, the total additional funding required for each individual increase in recipients is finite and the annual amount required will decline over successive years.

The total amount of funding required to start a new scheme depends on tax rates and the number of monetary cycles per annum. While the number of cycles per annum may vary with time and economic conditions, projections can be made based on current expectations.

In 2001, the New Zealand government, concerned that an aging population would result in higher payment requirements for New Zealand Superannuation at a future date, established the New Zealand Super Fund to partially meet future NZ Superannuation payments.³⁰ This fund invests money internationally to generate revenue. However, as New Zealand Superannuation is a mature scheme and largely self-funding, when the Super Fund begins to contribute to New Zealand Superannuation payments, it will free money for other purposes such as education, health, and other universal services.

As the payments on a mature Basic Income scheme, such as New Zealand Superannuation, generate tax returns of similar or equal value to the payments, reducing New Zealand Superannuation payments or those of a future Basic Income will soon result in a corresponding fall in tax revenue. Consequently, such action will achieve little other than increasing poverty in the sections of the economy which benefit directly from the payments. In the longer-term, reducing total government expenditure is likely to result in economic contraction and possible recession harming all sectors of the economy.

It is important to note that while New Zealand Superannuation generates annual tax returns to the government of equivalent value to the annual payments, because of the circulation of money, not all of that taxation is direct taxation on New Zealand Superannuation expenditure. It may be taxation on the money as it continues to circulate. Consequently, it may appear that other sectors of the economy are being taxed to fund New Zealand Superannuation but the money originates with the New Zealand superannuation payments.

Introducing a new Basic Income

It is desirable that a new Basic Income achieves the maximum benefit at the lowest possible overall cost to the government. Lowering the cost of a scheme coupled with improving targeting makes it easier to introduce a new Basic Income. Lower overall cost is achieved when a Basic Income replaces all benefits of equivalent or lower value and partially replace larger benefits. Uniform tax schemes and some progressive tax schemes automatically result in a degree of targeting of Basic Income payments toward those on lower incomes. Appropriate tax schemes will target money toward those on lower incomes and increase tax revenues. The greater the targeting that is achieved, the greater the value of the Basic Income that can be paid for a given amount of government expenditure. However, just as a Basic Income is paid to all people equally, an appropriate tax regime must apply the same rules to all.

Depending on the value of the Basic Income paid, it may or may not be possible or desirable to fully fund a Basic Income by replacing benefits and using an appropriate tax. During the introductory period of a Basic Income, additional money may be required, but after the introductory period it will become largely self-funding as tax receipts rise to match the additional payments. As shown above, the amount of new money required is finite and is not the simple product of the funding shortfall times the number of years.

Redirecting money from other areas of expenditure or increasing tax rates could provide the initial funding but is likely to be unpopular. Redirecting money from other areas of expenditure or increasing tax on other areas will have a negative impact on those areas of expenditure and reduce tax revenues received from those areas by the same amount as the increase in tax resulting from Basic Income expenditure. While the total initial impact is zero, over time the economy will expand in those areas receiving benefit from the Basic Income and contract in those areas receiving less income.

Overall, it is probably a better idea to create new debt free money in order to fund the introduction of a Basic Income as this will create new economic activity in those areas where it is most needed.

Creation of new money

As population or economic activity increase, the economy expands, creating a need for additional money in circulation. People need money to pay for goods and services. With insufficient money to purchase goods and services, demand, living standards and profits will all fall. If new money is created by borrowing, debt increases, and the debt to GDP ratio increases. A larger debt to GDP ratio destabilises the economy and increases the accrual of wealth by those who already have plenty. Increased automation compounds the problem resulting in a falling wage component in the production of goods and services. To counter this, limited amounts of debt free money could be created and distributed as a Basic Income.

If welfare savings and tax changes with a Basic Income are insufficient to fully fund a Basic Income, some new debt free money may be used. As the Basic Income becomes established, the need for new money declines. New money created to start a Basic Income may result in an increase in total money in circulation. This is not a problem and will not cause inflation if the Basic Income results in increased economic activity and supply increases to meet demand. A Basic Income will boost economies in regional and low-income areas where increased economic activity is feasible. Creating debt free money will reduce the demand for and replace some money created with debt. However, inflation may result if more money is created than the economy can absorb, or if money is created for other purposes. Consequently, excess money creation needs to be avoided or appropriate means used to limit money supply.

The need for additional money may be met with the creation of debt free or sovereign money at a suitable rate, which is paid in equal amounts to all members of society as a Basic Income.³¹ This may be sufficient to meet any shortfall in funding of the Basic Income. Distributing the money created as a Basic Income remains the most equitable and fair means of distributing new money. If the money created continues to be used to pay the Basic Income as the Basic Income moves toward becoming self-sustaining, some of the tax received back by government may be diverted to other areas of need such as universal services.

The current welfare system and Jobseeker Support

Before considering a new Basic Income scheme, the current Jobseeker Support system, but not the full New Zealand welfare system, is considered.

Jobseeker Support is paid to those who do not have full time employment but are looking for work. It is means tested and not available to those who have partners in employment and those who do not want to work. There is a stand down period before payments begin.

The 2023 net payment rates are: single adults 25 to 64, \$337.74 per week; youth 18 to 19 living away from home and youth 20 to 24 living at home or away, \$294.18 per week, or 87% of the adult rate.

In addition to Jobseeker Support, recipients are eligible for living allowances at four different levels depending on region. The living allowance rates are: \$70, \$80, \$105, and \$165. This brings the total received by those over 25 to \$407.74, \$417.74, \$442.77, and \$502.74

From 1 April 2022, the highest adult rate of \$480 per week (\$315 Jobseeker Support plus \$165 living allowance), exceeded the highest New Zealand Super rate of \$462.94 for single people living alone, and in 2023 the highest Jobseeker support net payment of \$502.74 exceeds the highest NZ Super rate of \$496.37. This has upset the long-standing principle that those on New Zealand Superannuation should receive more than those on Jobseeker Support.

Job Seeker support recipients are required to attend regular interviews to prove that they are actively looking for work. For some people living in remote locations this may entail bus journeys of two or three hours each way to reach a main centre. Often, there is a very limited bus schedule. If they arrive a few minutes late, which may be due to the bus being delayed for mechanical reasons or road works, they may be required to return the following day. If they do not satisfy their interviewer that they are actively seeking work they are subject to sanctions that can result in the termination of their payments.

If they find part time work, their payments are subject to abatement. Living allowances are reported to be abated from the first dollar. Recipients may earn \$160 before Jobseeker Support payments are abated at 70 cents for each dollar earned. Consequently, a person with part time employment on the minimum wage of \$22.70 per hour can work for 7 hours before abatement begins. Abatement is completed with 21.3 hours work or a total of 28.3 hours from the start of work. This is just 70% of a 40-hour week.

The system generates very high Effective Marginal Tax Rates (EMTRs). With a 70 cent per dollar earned abatement and tax rates of 10.5% and 17.5% in the first two income bands the EMTRs are 80.5% and 87.5%. The abatement of the living allowance must be added to this to determine the total EMTR. In addition, those who do obtain work face additional transport and clothing and other costs. These very high EMTRs are a disincentive to work and may create poverty traps so that the more a person works, the lower their net income.

There are reports of people who borrow money having the loan treated as income and having their support payments reduced^{32, 33}. One man reported that after working two casual jobs in one week he had his Jobseeker Support payments stopped for three weeks, despite having no other employment and no other income during that period.

The system lacks transparency and accountability. For example, information regarding the abatement of living allowances is not accessible on the internet.

Overall, the system is paternalistic and punitive. High EMTRs discourage work rather than encourage it. Consequently, the primary focus of people on Jobseeker Support is likely to be trying to retain their Jobseeker Support payments and not on seeking employment.

Many who lose their employment do so through no fault of their own. However, some politicians, seeking tax reductions for themselves or their supporters, rather than trying to understand how the system works or might be improved, or why people are on Jobseeker Support, portray anyone receiving Jobseeker Support payments as bludgers and scroungers and seek further ways to reduce or deny payments.

In 2010, the New Zealand Treasury, investigating a Basic Income scheme for the Welfare Working group concluded that a Basic Income would result in a more equal distribution of income, remove disincentives for beneficiaries to undertake part-time work, reduce poverty, produce possible improvements in labour market outcomes in some areas, increase employee flexibility; encourage unpaid work; increase employee bargaining power; encourage entrepreneurial activity; and reduce the opportunity cost of full time training or education while lowering administrative, management and operating costs.³⁴

For further discussion on aspects of Jobseeker Support see I B Middleton, *Basic Income: a means to combat the marginalisation of vulnerable workers in precarious employment 2018/2022*.³⁵

Basic Income, a better alternative

A Basic Income, is an unconditional periodic payment, paid weekly or fortnightly, and paid at the same rate to everyone in the same age band regardless of their means. Basic Income is a vast improvement on Jobseeker support and other highly targeted welfare systems.

People receiving a Basic Income are free to seek further education, to seek employment, or to start a business. They may also take time away from work to care for young children, or elderly and sick relatives.

Basic Income trials have shown that people on a Basic Income are more likely to find employment than those on monitored Jobseeker support payments. They are also happier, have better mental and physical health, better educational outcomes, and lower crime rates.³⁶ The numerous benefits of a Basic Income,³⁷ when compared with targeted Jobseeker Support, are too numerous to list here.

Basic Income payments also boost and sustain local economies through the multiplier effect, and the extra economic activity will enhance government tax revenues.

Some studies indicate that the elimination of poverty resulting from the introduction of a Basic Income will achieve substantial savings. In 2015, three US economists estimated that a Basic Income scheme in the form of a negative income tax would cost just 1% of GDP. They found that eliminating poverty would cost US \$336 billion but would save some US \$500 billion in costs resulting from child poverty such as higher healthcare costs, crime, and poor school performance.^{38, 39, 40}

Trials have consistently shown a Basic Income produces much better outcomes than targeted Jobseeker support. However, the total annual payments, the number of people receiving a Basic Income multiplied by the value of the Basic Income, is often and incorrectly seen as the cost of scheme and perceived as a reason for not introducing a Basic Income. This is known to be a misleading calculation. The previous section on New Zealand Superannuation shows how a Basic Income, once introduced will after an introductory period become largely self-sustaining.

In many respects, New Zealand with a history of universal payments, including New Zealand Super, is an ideal country to introduce a Basic Income scheme.⁴¹

The cost of a Basic Income

Because a Basic Income is paid to everyone, including those who also pay tax, it is misleading to use the total annual payments as the cost of a Basic Income. The simple product of the annual amount paid to each recipient times the number of recipients gives the total annual payments and not the true cost of the scheme.⁴² Paying a Basic Income to everyone automatically increases tax revenues. The transfer cost of a Basic Income, the amount of money transferred from those who pay more in taxes than they receive from a Basic Income, to net receivers, those who receive more from a Basic Income than they pay in tax, is a better measure of the cost of a Basic Income than the total payments.⁴³ The transfer cost is always significantly lower than the total payments.^{44, 45, 46}

With a Basic Income, multiple and significant savings result from improved mental and physical health, improved educational outcomes, lower crime rates and other benefits not considered in this paper. The lower real cost is of relevance to governments when considering annual expenditure estimates.

Paying a Basic Income to everyone automatically increases tax revenues. Cutting payments, such as payments for a Basic Income like New Zealand Superannuation, will result in reductions in economic activity in areas where the money is spent and result in corresponding reductions in GDP and tax revenue, while poverty and demand for other support payments will increase.

Basic Income detractors, often philosophically rather than rationally opposed to Basic Income, may exaggerate the cost of a Basic Income using several known dubious and spurious arguments. These include using gross costs rather than net costs, or total payments rather than transfer cost, and representing a Basic Income as paid in addition to all existing welfare payments including Jobseeker Support and New Zealand Superannuation when a Basic Income will replace welfare payments of the same or less value and partially replace larger welfare payments.

Starting a new Basic Income

For a new Basic Income scheme, there are two primary ways the cost of the scheme may be reduced or government revenues increased.

1. Replace existing welfare payments of equivalent or lower value and partial replace payments of greater value.
2. Use a new tax regime, such as a uniform or two or three stage tax, in place of the current progressive tax system. Applied only to those who receive the Basic Income. this will raise additional taxes and improve the targeting of the Basic Income toward those with the lowest incomes.

However, these two sources are usually insufficient on their own to fully fund a Basic Income of a reasonable size during the introductory period. Governments may require additional money, money from other sources, to start a new Basic Income scheme. This money may come from diverting money from other expenditure, increasing taxes, instigating new taxes, or creating new money. Each alternative must be considered carefully and will not be considered in full in this paper.

In brief, the money required to start a scheme may be acquired by:

- Diverting money from other expenditure. This will impact on those sections of the economy that the money is diverted from. However, those parts of the economy that are funded from Basic Income expenditure will grow in proportion so there may be net zero impact on the total economy. Economic activity will shift from one area to another.
- Additional taxes will take money out of those sections of the economy that are taxed to pay the Basic Income. This will have a dampening effect on the sections of the economy where the new taxes apply while boosting the sections of the economy where the Basic Income is spent. Again, a shift in economic activity from the area taxed to the area where the Basic Income is spent will occur.
- Creating new money to finance a Basic Income is possible if the increase in demand is met, or alternatively money creation is limited and appropriate taxes or other means used to prevent unreasonable increases in money supply. Money paid out as a Basic Income may reduce the demand for money from other sources, reducing the need to create new money with debt.

The size of a Basic Income

Basic Income advocates usually suggest a modest Basic Income for adults near the subsistence level⁴⁷, either 25 percent of GDP per capita,⁴⁸ or between 20 to 30 percent of GDP per capita.⁴⁹

In their book, *Basic Income – A Radical Proposal for a Free and Sane Economy*, March 2017, van Parijs and Vanderborght suggest that a Basic Income be “both modest enough for us to dare to assume that it is sustainable and generous enough for it to be plausible that it will make a difference”.⁵⁰ They say that “picking an amount in the order of one fourth of the current GDP per capita” will meet these objectives, sitting on the border of modest and generous, and above the World Bank’s poverty line. They add that, while higher levels may be supported on ethical grounds and lower levels on political expediency grounds, a Basic Income, once introduced might be increased to 25% of GDP per capita over time. They stress that “It is important that basic income advocates do not waste too much time on the question of what they would regard as a fully adequate level of basic income, as trying to jump in one go to a “full” basic income, however precisely defined, would be irresponsible.”

For New Zealand in 2022, twenty five percent of GDP per capita gives \$17,500 per annum. Twenty to thirty percent of GDP per capita would give a Basic Income in the range of \$270 to \$400 per week. The current New Zealand adult Jobseeker Support rate of \$386.54 gross (29% of GDP per capita), \$337.74 net (25% of GDP per capita), lies within these margins making this rate suitable for the introduction of a Basic Income in New Zealand. Using the current established adult rate for Jobseeker Support simplifies the introduction of a Basic Income and avoids unnecessary debate on its value.

Basic Income advocates must be both realistic and practical. For pragmatic reasons, examples and comparisons used in this paper use the current net Jobseeker Support rate as the Basic Income rate without living allowances added. This allows quick comparisons with the existing welfare system. An alternative might be to use the Jobseeker Support rate with the lowest living allowance rate added. This would add to the overall cost of the Basic Income scheme but would further reduce administration costs with only those in the three higher cost areas having to apply for the living allowance should they become unemployed.

Welfare payment rates larger than the current Jobseeker Support rate could be used for a Basic Income but this will upset current relativities with other welfare payments and may result in those payments having to also be increased in order that they are larger than the Basic Income. This will further increase the cost of the Basic Income and add to the difficulties of implementing a scheme.

Too high a Basic Income rate will result in unsustainable increases in demand and otherwise unnecessary increases in taxes or interest rates may be required to counter inflationary pressures.

Minimising the cost of a Basic Income

To facilitate the introduction of a sustainable Basic Income scheme it is desirable that both the initial or upfront costs of a Basic Income and the ongoing costs are minimised.

A Basic Income, like New Zealand Superannuation, has minimal ongoing maintenance costs. Like New Zealand Superannuation, once registered for an adult Basic Income, people should continue to receive the Basic Income payments unless they leave the country for more than a few months or move on to a different Basic Income payment rate such as New Zealand Superannuation.

Principal ways to minimise upfront cost:

1. Keep the Basic Income basic, that is modest, at or just below the subsistence level. Trials indicate that most people receiving a Basic Income will seek to enhance their living standards by seeking work. Those who do not seek work are likely to be mothers of very young children or those undertaking further education.
2. Replace existing welfare payments of the same or less value with the Basic Income. Do not make the Basic Income an add on benefit paid in addition to other existing benefits.
3. Make the Basic Income voluntary so that it can coexist with the existing income and taxation system and the existing welfare system.
4. Couple the Basic Income with a suitable tax regime that will enhance the incomes of those most in need while minimising the impact on government funds.

5. Use methods, such as a three-stage tax scheme or the Transfer Limit Model (Ulm Model) to improve the targeting of a Basic Income toward lower incomes while retaining the advantages of a Basic Income.
6. Phase the Basic Income in over time by either starting with a lower payment rate and increasing the rate over time, or, alternatively, by making it available to some groups first and others later. For example, paying a Basic Income to those most in need first and to others later, or to certain age bands first. This might be called, flattening the curve – spreading the demand for new money over a longer period until the Basic Income becomes a largely self-sustaining or self-perpetuating system.

Voluntary Basic Income and phasing in a Basic Income

An adult Basic Income can be voluntary, just as New Zealand Superannuation is voluntary. Because New Zealand Superannuation offers free money, most people sign up for it at the first opportunity, but it is not compulsory. There are some people who do not sign up as they consider they do not need the money. Others wait until they retire before signing up.

A Basic Income designed to be voluntary facilitates the progressive phasing in of a Basic Income. There are various ways to phase in a Basic Income. For example, a Basic Income might be introduced for beneficiaries first and then later for a particular income band or age group such as those age 18 to 25, followed by age 25 to 40, and so on. Those age 55 to 65 could also be prioritised as some are likely to be seeking retirement or in some cases are no longer able to work for health reasons.

In all cases, Basic Income could be offered as something people could sign up for if they want it. The only condition would be that they also accept the appropriate tax regime when they receive the Basic Income.

Requiring people to sign up for a Basic Income is also a way of ensuring that the Basic Income payments only go to those living in New Zealand or those who want to receive the payments.

Progressive phasing in of a Basic Income will spread the costs associated with the introduction over a longer period. This is a way of flattening the curve. As shown with New Zealand Superannuation, there are higher initial requirements for money from other sources as the scheme is introduced, but over time money is returned as tax to the government and the scheme becomes largely self-sustaining.

Taxation

Basic Income and taxation must always be considered together. A primary objective of a Basic Income is to ensure that those with little or no other income sources have some income while those with higher incomes or wealth contribute proportionally. Coupling a Basic Income with a poorly designed tax system can undermine or reduce the benefits of a Basic Income.

With traditional welfare systems, the system attempts to minimise cost by targeting welfare to those most in need. But this is difficult to achieve or implement in a fair manner in practice for several reasons (see: **The New Zealand welfare system**, page 3 above). The alternative is to pay everyone a Basic Income of the same amount and use taxation or other means to improve the equitable distribution of incomes.

This is achieved by taxing or drawing back income from those who need it the least, those with higher incomes. Removing tax ex post, after the event, instead of ex ante, before the event. Tax systems are designed to do this. A proportional or uniform tax will do it automatically.⁵¹

Examples of uniform tax are local authority rates where rates are proportional to the value of properties, and Goods and Services Tax (GST) where the tax paid is proportional to expenditure. The wealthy are likely to own more expensive properties and spend more on goods and services so pay more rates and GST than the less wealthy.

Changing to a uniform income tax without a Basic Income is, however, problematic, see Figure 6. A suitable uniform tax rate must be chosen. If the total income tax revenue is to remain the same, tax rates for those at the bottom of the scale will increase while those on higher incomes will see a reduction in their effective and marginal tax rates.

The percentage increase in taxation will have the greatest impact on those on low incomes. Consequently, a uniform tax is not recommended without a Basic Income as those on low incomes will have a significant

percentage increase in taxation while those on high income will have a lower percentage increase or a decrease in taxation. However, when a uniform tax is combined with a Basic Income, the combination gives significant reductions in net tax paid and in Effective Tax Rates (ETRs) for those on low incomes.

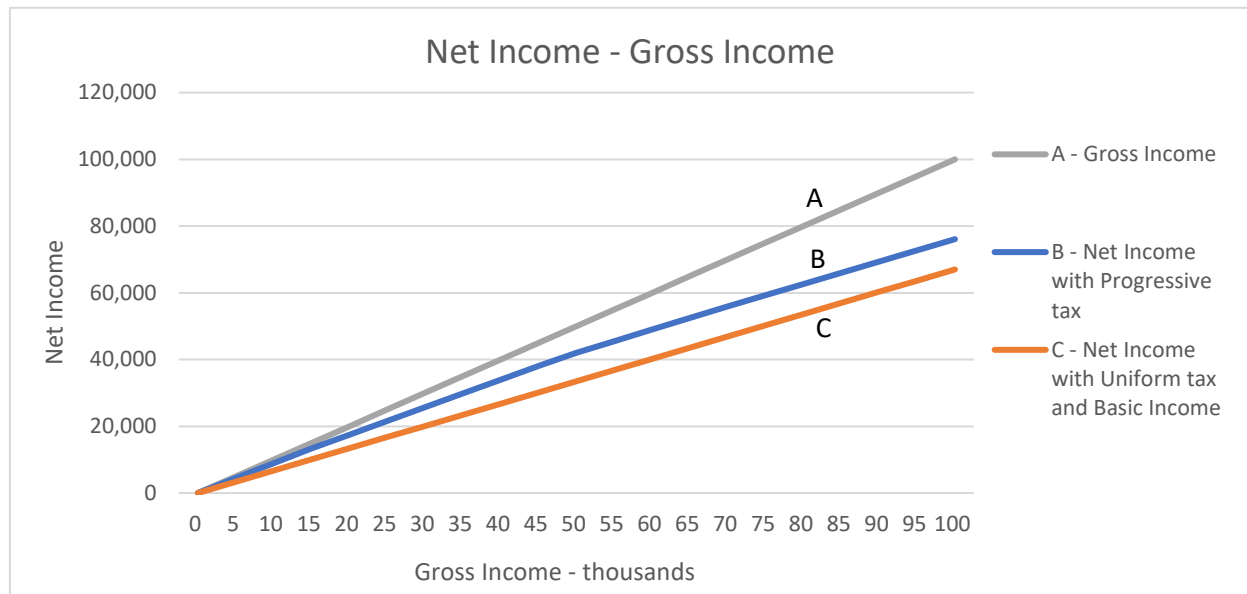


Figure 6. Net income with current progressive tax and 33% uniform tax.

The problem with a progressive taxation system is that while the tax rates for those on low incomes are low, those on high incomes pay the same low tax rate on the first part of their income and this reduces the overall tax they pay and government revenue. The benefit of the low tax on the first dollars earned is not targeted to those with low incomes and is available to everyone.

Consequently, higher marginal tax rates (MTR) on higher incomes are required to ensure that sufficient tax revenue is raised. But higher marginal tax rates for high income levels results in a greater incentive for tax avoidance and evasion. A Basic Income combined with a uniform or two stage tax produces a better result.

The present New Zealand progressive taxation system has five stages with no tax-free threshold. The rates are 10.5% on the first \$14,000, 17.5% from \$14,000 to \$48,000, 30% from \$48,000 to \$70,000, 33% from \$70,000 to \$180,000, and from 1 April 2022, 39% on income greater than \$180,000.

A common proposal with a Basic Income scheme is to require those receiving a Basic Income to pay tax on all other income at a uniform rate, perhaps 33%. The combination of a Basic Income with a 33% uniform tax will still give a negative Effective Marginal Tax Rate (EMTR) for those on low incomes. Using 2021 figures, if all tax payers in the 18 to 65 age group were to pay tax at a uniform 33% rate, government revenue will increase by \$16.9 billion dollars per annum. This additional tax revenue lowers the effective cost of a Basic Income scheme by the same amount. Government revenue is further enhanced by retaining the 39% rate for those earning over \$180,000 p.a.

As high-income earners now pay tax at 39% on income above \$180,000, a uniform tax of 33% will reduce their marginal tax rate by 6% giving them a tax cut and additional net income. If, as an alternative, the tax rate is set at 33% for those earning less than \$180,000 and the 39% marginal tax rate retained for income over \$180,000, this tax cut will not occur and additional tax revenue assessed will increase from \$16.9 billion to \$17.4 billion, an increase of \$0.5 billion.

Retaining the 39% tax for those earning over \$180,000 will make the alternative tax scheme for those receiving a Basic Income a two-stage tax.

Figure 7 shows how a Basic Income of \$175 per week combined with a uniform tax of 33% will benefit those on the lowest incomes while providing just under \$1 per week additional income to those with incomes over \$70,000 per annum. The objective of targeting the Basic Income to those on the lowest incomes is achieved. Those who have no other source of income receive the largest percentage increase in incomes with the percentage increase reducing to near zero for those earning over \$70,000 per annum.

Realising a Basic Income

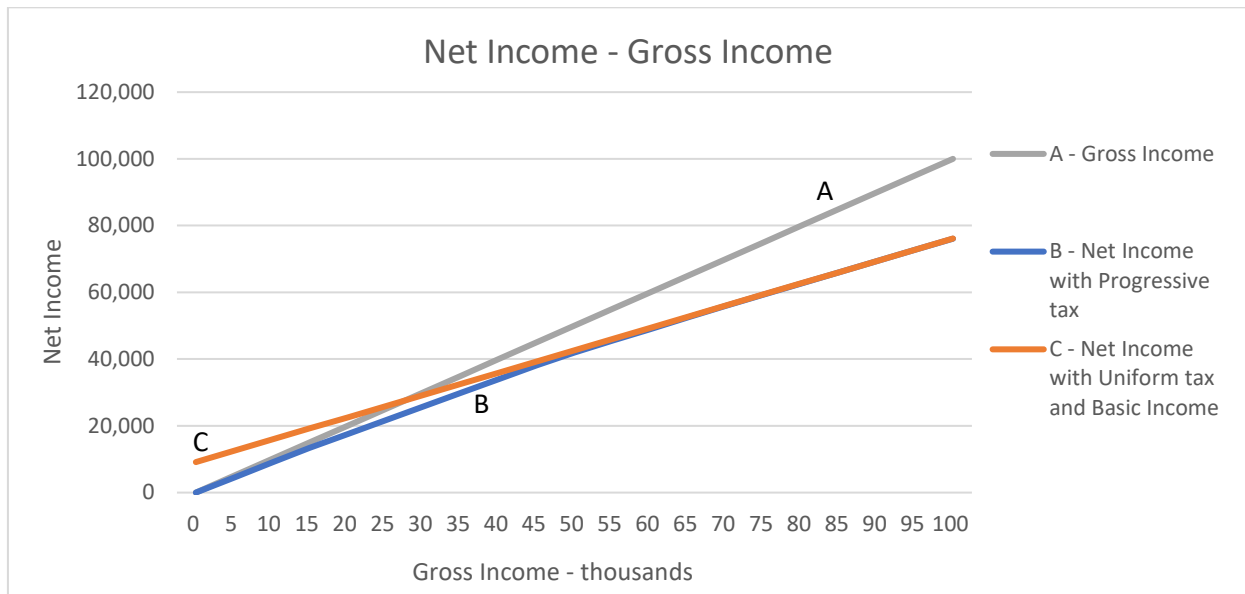


Figure 7. A Basic Income of \$175 per week with a 33% uniform tax.

In 2006, the adult Jobseeker Support was \$173.92 per week. A Basic income of \$175 per week would have replaced Jobseeker Support and various other welfare payments resulting in a significant simplification of the welfare system. With the adult single Jobseeker Support rate now at \$337.74 per week, \$175 per week Basic Income will only partially replace Jobseeker Support and other benefits so there would be little or no simplification of the welfare system. Nevertheless, a Basic Income of \$175 per week could be used as a low-cost introductory Basic Income that is then progressively increased over a period of years until it is large enough to replace most of the lower benefit rates. Starting with a low Basic Income at \$175 and increasing the value over time is a way of flattening the curve or peak cost associated with introducing a Basic Income.

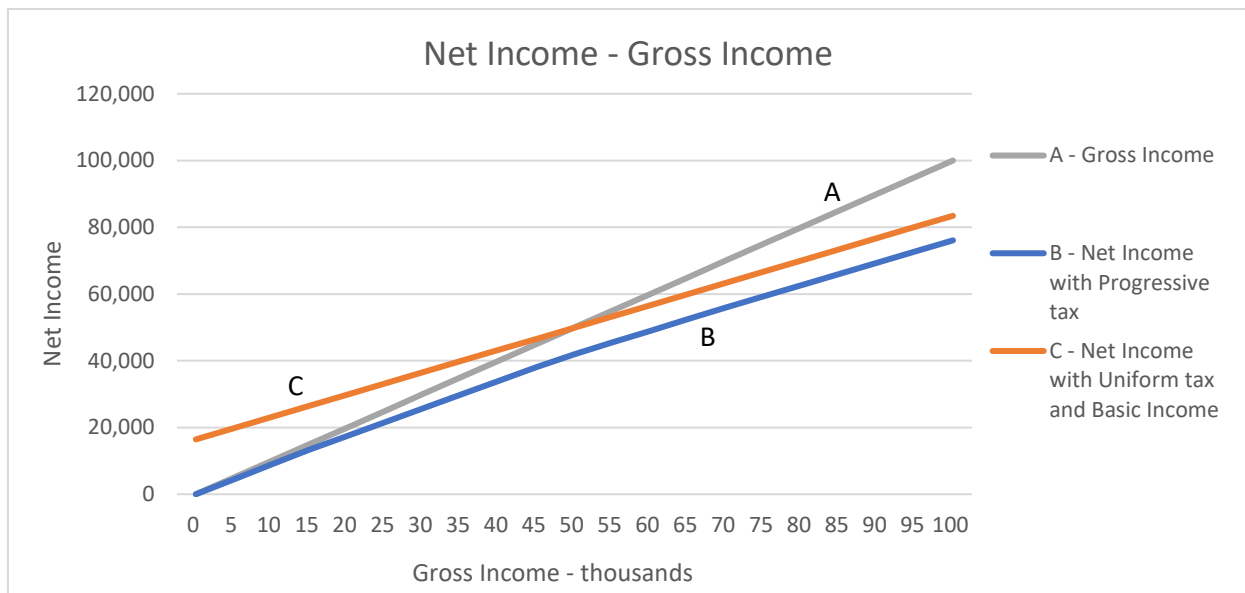


Figure 8. A Basic Income of \$337.74 per week with a 33% uniform tax.

Figure 8 shows a Basic income of \$337.74 per week, the current Jobseeker Support rate. Those with no other income will receive the full value of the Basic Income with the net benefit reducing progressively until other income reaches \$70,000. With this Basic Income, all those earning over \$70,000 but less than \$180,000 will have an increase in their net incomes of \$163.72 per week, \$8,542.43 per annum, although they do not need the additional income. This increases the cost of the scheme unnecessarily. Ways that this extra cost can be reduced are discussed below.

Realising a Basic Income

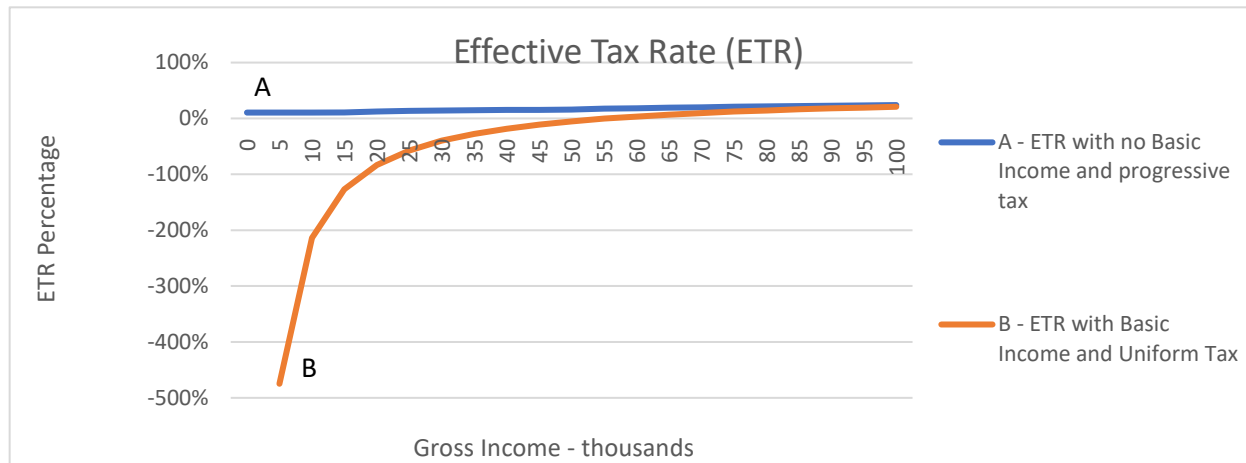


Figure 9. Effective tax rates.

Figure 9 shows how the effective tax rate varies when a \$337.74 Basic Income is paid with a 33% uniform tax. The objective of a negative income tax for those on low incomes and an automatic transition to a positive tax for those on higher incomes is achieved. Paying a Basic Income in conjunction with a uniform tax is a more efficient way to achieve a negative income tax than negative income tax schemes previously proposed which tended to be administratively expensive.

Three stage tax and the Transfer Limit or Ulm Model

A way to further reduce the overall cost of a Basic Income scheme is to use a higher initial tax rate than the second tax rate. While this appears to be a regressive tax, when the Basic Income is considered together with the tax paid, the effective tax rate (ETR) remains highly progressive as shown in figure 9.

A higher initial tax rate automatically abates the Basic Income so that those with other income will automatically receive progressively less income from the Basic Income as other income increases, lowering the overall cost of a Basic Income scheme while improving the targeting to those with need.

A higher final tax rate, or tax rates, also helps minimise the cost of a Basic Income scheme and avoids tax cuts for those on higher incomes.⁵² In New Zealand the 39% tax for those earning over \$180,000 per annum would be retained for this reason. The 39% tax rate might also be used for the first tax rate.

The Transfer Limit (TL) Model, also known as the Ulm Model, developed at Ulm University about 2004, improves targeting by increasing the initial tax rate before the first threshold point which is set at the transfer limit. The transfer limit is the gross income level where a person changes from a net recipient of government funds to a net payer. That is, from the point where the Basic Income exceeds tax paid, to the point where tax paid is greater than Basic Income received. After the transfer limit, the tax rate reduces to the standard rate used above, say 33%.

This enhances the savings achieved with a change of tax system. The TL point depends on two factors only, the size of the Basic Income and the tax rate, and is easily calculated.

$$TL = B/t$$

Where TL is the Transfer Limit in gross income dollars, B is the Basic Income, and t is the tax rate.

With a Basic Income set at \$337.74 per week, and with an initial tax of 47%, the transfer limit will occur at \$37,495 and the effective additional tax revenue will increase to \$27.86 billion or \$28.38 billion if the 39% tax over \$180,000 is retained. An increase from \$17.36 billion without the initial 47% tax to \$28.38 billion with the initial 47% tax is an additional \$11.02 billion.

Figure 10 shows that with this proposal, the primary objective of targeting the Basic Income to those with the greatest need, those on the lowest incomes, is improved. For those earning from \$70,000 to \$180,000 the fixed additional net income is reduced from \$163.72 to \$63.12 per week. This reduces total expenditure while improving the targeting of additional income to those most in need.

On the graph, figure 10, the Transfer Limit occurs where the net income with Basic Income line touches the Gross Income Line (the no tax income line).

The first tax rate might be lowered from 47% to say 45%, but the gross income level of the transfer limit will increase from \$37,495 to \$39,161 and the extra money received by those earning between \$70,000 and \$180,000 will increase from \$63.12 to \$73.65 reducing the savings gained. The total additional tax raised will reduce from \$27.86 billion to \$26.55 billion and from \$28.38 billion to \$27.08 billion with the 39% final tax rate retained, or about \$1.3 billion in each case.

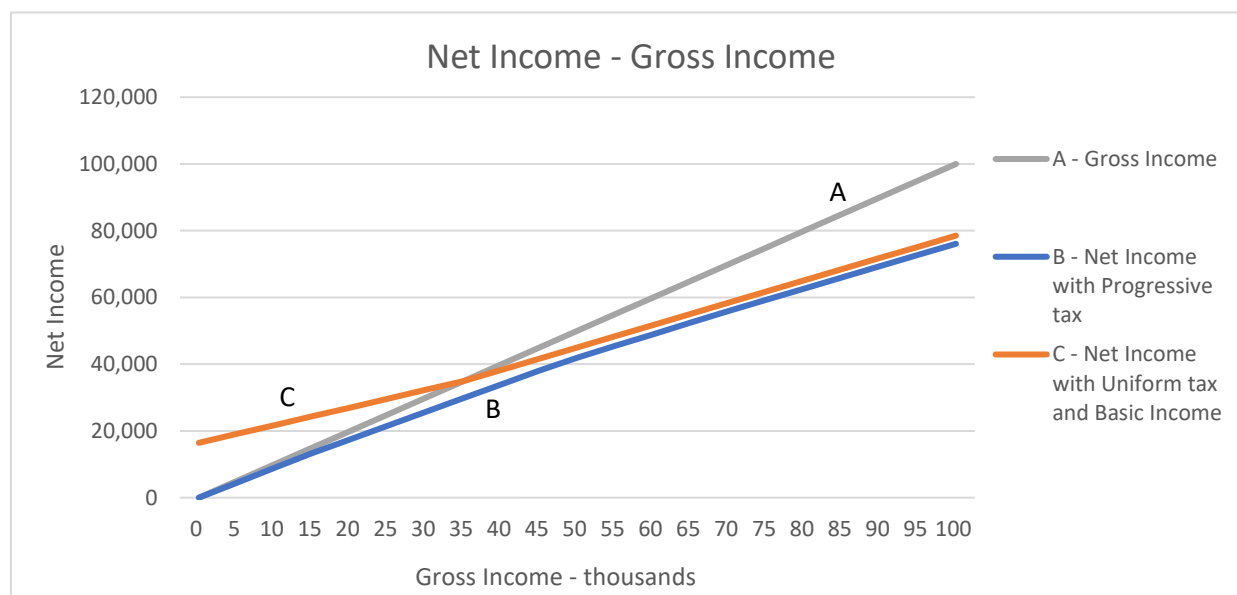


Figure 10. A Basic Income of \$337.74 per week using the Ulm model with a 47% initial tax rate, and 33% above the Transfer Limit.

A disadvantage of the Transfer Limit Model is the relatively high MTR for incomes less than the Transfer Limit. However, the value used is still significantly lower than the 80.5% and 97.5% or more than 100% EMTRs that occur in some cases with the present abatement of the jobseeker support. The combination of a Basic Income with the tax system still produces a highly progressive tax system.

The Transfer Limit Model, with a higher initial tax rate before the TL point and retaining the present higher tax rate for those earning more than \$180,000, produces a three-stage tax system.

Modified Transfer Limit or Ulm Model

Called the Modified Transfer Limit Model for want of a better name, this model continues the net income line with a Basic Income added with an initial higher tax rate until it strikes the net income line with the present progressive tax. This further reduces the total net cost of establishing a Basic Income.

This intersection point is more difficult to determine than the transfer limit. For a Basic Income of \$337.74 per week and an initial tax rate of 47% the Basic Income line will reach the progressive tax line at a gross income of about \$52,500. The additional tax raised will be \$30.5 billion without the 39% tax and \$31.0 billion with. With an initial tax rate of 45% the net income line with a Basic Income reaches the progressive tax line at about \$61,000. The additional tax raised will be \$29.5 billion without the 39% tax and \$30.0 billion with.

This gives an extra \$3 billion dollars savings in each case. This means that the same increase in tax could be achieved with a 45% initial tax rate with the Modified Ulm Model as might be achieved with a 50% initial tax rate with the Ulm Model.

Examples of a Basic Income

For these examples, the age range is restricted to 18 to 64 as those under 18 receive alternative benefits and those 65 and over receive New Zealand Superannuation. In 2022, there were about 3,142,400 people in New Zealand in the 18 to 64 age group.

Three different Basic Income rates, \$175, \$337.74, and \$500 per week are considered.

A Basic income of \$175 per week, \$9,131 per annum, paid in conjunction with a 33% uniform tax provides an introductory level Basic Income while providing little additional income for those earning over \$70,000.

Realising a Basic Income

Converting the adult net Jobseeker Support of \$337.74 per week, \$17,622 per annum, to a net Basic Income of the same amount provides a Basic Income near the subsistence level. At 27% of GDP per capita, the gross amount of the adult Jobseeker Support rate, \$386.54, will convert to a Basic Income within the normal target range of 20 to 30% of GDP per capita.

A higher net rate of \$500 per week, \$26,089 per annum, is used for comparison in the final example. At 42% of GDP per capita, the gross amount of \$569.79 per week exceeds the guideline of 20% to 30% of GDP per capita.

Jobseeker Support is currently paid with an accommodation supplement for those paying rent or mortgage payments at four different levels depending on the cost of living in each area. The rates are: \$70, \$80, \$105, and \$165. If the Jobseeker Support rate of \$337.74 became the Basic Income rate, those with little or no other income could still apply for the accommodation supplements and other benefits.

If the lowest rate of \$70 became part of the Basic Income payment the standard net Basic Income rate would be \$407.74 per week or \$21,274 per annum. Those with no other income living in the three more expensive areas, but not the lowest cost area, could still apply for additional accommodation supplement. At 35% of GDP per capita, the gross amount would now exceed the target range of 20% to 30% of GDP per capita for a Basic Income.

For simplicity, \$337.74 is used in example 2 as the Basic Income without an accommodation supplement added. Welfare savings are estimated on a proportional basis.

In recent years, the Jobseeker Support rates have increased at a higher rate than inflation while the accommodation supplement rates have not increased for five years.

The following tables show the total payments, savings from conversion to a 33% uniform tax, welfare savings, transfer cost and the resulting net annual cost for the three Basic Income examples: \$175, \$337.74, and \$500 per annum. Additional weekly income for those earning over \$70,000 per annum is also shown.

Example 1. Basic Income \$175 per week.

In example 1, the lowest cost scheme is achieved when the transition from the first to the second tax rate occurs at the transfer limit but this results in those earning over \$70,000 p.a. paying an additional \$51 p.w. in tax.

\$175 Basic Income	Standard Basic Income \$ billion	Transfer Limit (Ulm Model) \$ billion	Modified Ulm Model \$ billion
Tax rates	33%, 33%, 39%	47%, 33%, 39%	47%, 33%, 39%
Net Transfer	7.59	5.96	7.54
Threshold, tax rate 1 to tax rate 2 (gross dollars)		\$19,427.59	\$360
Total annual payments	25.67	25.67	25.67
Extra tax with two or three stage tax	17.36	24.09	17.52
Welfare Savings	3.21	3.21	3.21
Remainder to finance	5.11	1.63	4.95
Remainder as percent of total annual payments	19.9%	-6.4%	19.3%
Additional weekly income for over \$70,000 p.a.	\$0.98	-\$51.15	\$0.01

Table 2. Example 1. Basic Income \$175 per week.

Realising a Basic Income

With a \$175 per week Basic Income, using the Transfer Limit model significantly reduces the remainder to find but results in those above the Transfer Limit losing net income. Using the modified model to reduce this loss results in minimal cost savings when compared with the standard model.

Example 2. Basic Income \$337.74 per week.

\$337.74 Basic Income	Standard Basic Income \$ billion	Ulm Model \$ billion	Modified Ulm Model \$ billion
Tax rates	33%, 33%, 39%	47%, 33%, 39%	47%, 33%, 39%
Net Transfer	22.91	18.17	18.17
Threshold, tax rate 1 to tax rate 2 (gross dollars)		\$37,495	\$61,000
Total annual payments	49.55	49.55	49.55
Extra tax with two or three stage tax	17.36	28.38	31.99
Welfare Savings	6.19	6.19	6.19
Remainder	26.00	14.97	11.36
Remainder as percent of total annual payments	52.5%	30.2%	22.9%
Additional weekly income for over \$70,000 p.a.	\$163.72	\$63.12	\$0.05

Table 3. Example 2. Basic Income \$337.74 per week

Example 2 shows that while a \$337.74 per week Basic Income will require annual payments of about \$50 billion the net cost will be significantly less at \$30 billion. People earning over \$70,000 per annum will receive additional payments of \$141 per week. Using the Transfer Limit model or the Modified Transfer Limit Model, the additional payments for those earning over \$70,000 per week are reduced to \$47 and \$0.11 respectively and the net cost of the scheme to \$19.5 billion and \$16.5 billion respectively.

Example 3. Basic Income \$500 per week.

\$500 basic Income	Standard Basic Income \$ billion	Ulm Model \$ billion	Modified Ulm Model \$ billion
Tax rates	33%, 33%, 39%	47%, 33%, 39%	47%, 33%, 39%
Net Transfer	43.43	34.79	34.79
Threshold, tax rate 1 to tax rate 2 (gross dollars)		\$55,508	\$121,400
Total annual payments	73.35	73.35	73.35
Extra tax revenue	17.36	31.32	35.28
Welfare Savings	9.17	9.17	9.17
Remainder	46.82	32.86	28.90
Remainder as percent of total annual payments	63.8%	44.8%	39.4%
Additional weekly income for over \$70,000 p.a.	\$325.98	\$177.04	\$1.32

Table 4. Example 3. Basic Income \$500 per week

Example 3 shows that while a \$500 per week Basic Income will require annual payments of about \$73 billion the net cost will be less at \$47 billion. People earning over \$70,000 per annum will receive

additional payments of \$326 per week. Using the Transfer Limit Model or the Modified Transfer Limit Model, the additional payments for those earning over \$70,000 per week are reduced to \$177 and \$1.32 respectively per week and the net cost of the scheme to \$32.86 billion and \$28.90 billion respectively.

The increase in Basic Income from \$337.74 to \$500 and in total payments from \$49.55 billion to \$73.35 billion are both 48%. However, the net increase in cost after savings is from \$26.00 billion to \$46.82 billion is 80%. With the Ulm Model, the net increase in cost is from \$14.97 billion to \$32.86 billion or 120% and with the modified Ulm Model the net increase is from \$11.36 billion to \$28.90 billion or 154%.

Comparing the examples

The tables show that when a Basic Income is paid with an appropriate tax and replaces benefits of equal or less value, the real annual cost will always be less than the net annual payments. Costs can be further reduced using the Transfer Limit or the modified Transfer Limit tax systems.

Basic Income	Total Annual payments \$ billion	Standard Basic Income \$ billion	Transfer Limit or Ulm Model \$ billion	Modified Ulm Model \$ billion
\$175 Basic Income	25.67	5.11	1.63	4.95
\$337.74 Basic Income	49.55	26.00	14.97	11.36
\$500 Basic Income	73.35	46.82	32.86	28.90
Percentage increase				
Increase \$175 – \$337.74	93.0%	408.8%	818.4%	129.5%
Increase \$337.74 – \$500	48.0%	80.1%	119.5%	154.4%

Table 5. Comparison of Basic Income costs showing remainder to find after tax and welfare savings.

Having established the net cost, the annual payments less the extra tax raised and the welfare savings, we can now look at the money required over several years. Figure 2 showed that the new or external money required to fund a Basic Income declines each year as the money paid out as Basic Income payments is returned as tax. Table 6 shows this for a Basic Income of \$337.74 per week for the three different tax schemes considered:

- A. Standard, 2 stage tax, an initial tax rate of 33% and 39% for gross incomes over \$180,000.
- B. Transfer limit model, with an initial rate of 47% up to the transfer limit of \$34,970 gross income, 33% from the transfer limit to \$180,000 and 39% for gross incomes above \$180,000.
- C. Modified Transfer limit model with the initial 47% rate continued to \$61,000 gross income, the former net income line, 33% from \$52,500 up to \$180,000 and 39% beyond \$180,000.

Table 6 assumes that a full Basic Income is introduced simultaneously for everyone in the 18 to 64 age group. However, a Basic Income introduced over a period of months or several years will reduce the peak requirement for money.

Table 6 shows that when the 3,130,720 people aged 18 to 64 are each paid \$337.74 per week net the total net annual payments will be \$49.55 billion per annum. With savings generated from a change to the tax regime and the elimination or partial replacement of some welfare payments the total net annual cost for the three schemes reduces to: A = \$26.00, B = \$14.97 and C = \$11.36 billion respectively. The net transfer costs, the money transferred from net payers to net recipients, are: A = \$22.91, B = \$18.17 and C = \$18.17 billion dollars respectively.

Table 6 also shows that when the money returned as tax is considered, during the first year 83% of the first year’s payments must be sourced from new or external money but by the tenth year this has fallen to 2% of the total payments. Thus, for tax scheme A, the new money required to meet the first year’s payments is 83% of \$26 billion dollars or \$22 billion and to meet the tenth year’s payments this has fallen to 2% of \$26 billion or \$0.5 billion. The Basic Income scheme is now largely self-sustaining. Costs for scheme B, the Transfer Limit Model, and for scheme C, the modified Transfer Limit Model are lower still.

Realising a Basic Income

Basic Income \$337.74/w.		A	B	C	c		A	B	C
Annual payments	\$b	49.55	49.55	49.55	c		49.55	49.55	49.55
Total net annual cost	\$b	26.00	14.97	11.36	c		26.00	14.97	11.36
Transfer cost	\$b	22.91	18.17	18.17	c		22.91	18.17	18.17
	New money required/year					Accumulated new money required – 10 yrs.			
Year	% of annual payments	A \$b	B \$b	C \$b		% of annual payments	A \$b	B \$b	C \$b
1	83.38	21.68	12.48	9.47		83.38	21.68	12.48	9.47
2	55.22	14.36	8.27	6.27		138.60	36.04	20.75	15.74
3	36.58	9.51	5.48	4.15		175.17	45.54	26.22	19.90
4	24.22	6.30	3.63	2.75		199.40	51.84	29.85	22.65
5	16.04	4.17	2.40	1.82		215.44	56.01	32.25	24.47
6	10.63	2.76	1.59	1.21		233.11	60.61	34.90	26.48
7	7.04	1.83	1.05	0.80		237.77	61.82	35.59	27.01
8	4.66	1.21	0.70	0.53		240.86	62.62	36.06	27.36
9	3.09	0.80	0.46	0.35		242.90	63.15	36.36	27.59
10	2.05	0.53	0.31	0.23		242.90	63.15	36.36	27.59
Total.	242.90	63.15	36.36	27.59					

Table 6. Basic Income \$337.74 per week showing new money required per annum and accumulated new money for: A, standard Basic Income; B, transfer limit model; and C, modified transfer limit model with money circulating at 1.5 cycles per annum.

In addition, Table 6 shows the accumulated new money required to fund a Basic Income scheme for each of the three tax schemes. It shows that by the tenth year the total money required for each of the three schemes in billions of dollars are: A = \$63, B = \$36, C = \$28 billion respectively. The averages over the 10 years are: A = \$6.3, B = \$3.6, C = \$2.8 billion per year respectively.

Source of money for a Basic Income scheme.

This paper has shown that the funding of a Basic Income scheme can be minimised by using an alternative tax regime for Basic Income recipients and by replacing welfare payments of equivalent or lower value, and partially replacing welfare payments of greater value.

Basic Income payments will generate extra economic activity in the areas where the money is spent, which promotes businesses and employment and generates extra tax returns for the government. Over time, the extra tax returned will increase to match the expenditure and a Basic Income scheme will become self-sustaining. Because tax returns rise to equal the payments, the cost of introducing a new scheme is finite and not the product of the payments times the years of operation of the scheme.

By spreading the introduction of a Basic Income over several years, the need for additional money in any one year is also spread over several years further reducing the annual requirement for additional expenditure.

In addition, there are other savings from improved health outcomes, reduced crime rates and other positive outcomes that occur with a Basic Income.

Although a Basic Income scheme will over time become largely self-sustaining, money is still required to start a new scheme. With the overall cost minimised as described above and the introduction spread over several years it may be possible to initially pay for a Basic Income through discretionary spending.

If, however, additional money is required it has been suggested that a limited amount of additional debt free money, known as Sovereign money, may be created.⁵³ As a Basic Income coupled with an appropriate tax will target the money toward those on lower incomes the money will circulate more rapidly and this will enhance government tax revenues. The additional demand created with new money will result in the economy expanding in low-income areas to absorb the additional money limiting inflationary pressures.

A Basic Income is the most efficient way of distributing new wealth equitably. Creating new debt free money and distributing it as a Basic Income is the most equitable means of increasing wealth. Doing so will also reduce debt and result in a more stable economy.

If, however, it is considered that money must be raised from other sources there are various alternatives. For instance, minor tax increases could be imposed bearing in mind that the Effective Tax Rate is still negative for all net recipients. Tax increases need not be restricted to income tax and might include such taxes as GST, land value, wealth taxes, or transaction taxes. Spreading tax increases over several different taxes will result in lower increases in each area and lower consequential impacts on the economy. As the Basic Income becomes self-sustaining with time these increased taxes might in time be reduced to their original levels or used to fund other areas of need.

Conclusion

A Basic Income scheme offers multiple advantages over the current rigidly targeted welfare system. Examination of the funding of a Basic Income scheme shows that the cost of establishing a new Basic Income scheme is finite and not the multiple of the value of payments by the number of payments over time as is often assumed, and less than the transfer cost multiplied by a number of years.

The costs of a Basic Income scheme can be reduced by replacing or partially replacing existing welfare payments and enhancing tax revenue with an appropriate tax scheme coupled to Basic Income payments, enabling larger Basic Incomes to be paid.

Phasing in a Basic Income over a number of years lowers the annual cost of introducing a Basic Income scheme. Over time, a Basic Income becomes self-sustaining and the amount of money required from outside the Basic Income scheme to maintain the scheme becomes minimal.

Limited debt free money creation distributed as a Basic Income is an option available for the introduction of a Basic Income scheme, particularly one designed to boost economic activity in low income and regional areas. Using debt free or sovereign money would eliminate the need to fund the introduction of a Basic Income entirely with money from other sources.

The present welfare system with an undue emphasis on rigid targeting and cost minimisation is flawed and creates many problems including extremely high Effective Marginal Tax Rates (EMTRs), poverty traps, and often uneven or inequitable implementation. Basic Income solves many of these problems and others and leads to a more humane society.

A Basic Income of \$337.74 per week, \$17,622 per annum, with 3,130,720 recipients aged between 18 and 64, and total annual payments of \$49.48 billion has a lower cost of \$26 billion when tax changes and welfare savings are considered.

The total transfer cost using a modified Transfer Limit Model to pay a Basic Income of this size is \$22.91 billion dollars per year. This is economically realisable and justifiable in a fair and just society.

Alternatively, if we take the \$49.48 billion and subtract the extra tax raised by converting to a 3-stage modified Transfer Limit Model, \$31.99 billion, and estimated welfare savings, \$6.19 billion, the annual payments less the extra tax and welfare payments are \$11.36 billion per annum or 23% of the total payments. This is of the same order as determined by the transfer cost.

Using the tax generated by the Basic Income payments to pay part of subsequent payments will give a total accumulated cost of \$27.59 billion over ten years or an average of \$2.76 billion per year. This is an average of just 5.6% of annual payments and will be lower in subsequent year.

In the tenth year, the annual amount of new or external money required has reduced to \$0.23 billion dollars per annum or 0.46% of the total annual payments. In the long term we might expect the cost of a Basic Income scheme to be less than 0.4% of total annual payments.

While the amount of new money required to fund a Basic Income will decline over time, new money might still be created at a constant rate and paid out as a Basic Income as this will result in taxation income that may then be used to support other expenditure such as expenditure on universal services.

Whichever way you look at it, the cost of establishing and sustaining a Basic Income is a much less than the total annual payments. A Basic Income in the twenty to thirty percent of GDP per capita range is feasible and would have significant benefits and enhance the wellbeing of New Zealand citizens without undue impacts on the economy. A Basic Income in this range is feasible with similar benefits in other countries. □

V. 230512

End notes and references

- ¹ A “Basic Income” is defined by the Basic Income Earth Network (BIEN) as: “a periodic cash payment unconditionally delivered to all on an individual basis, without means-test or work requirement”. <https://basicincome.org/about-basic-income/>
- ² Basic Income New Zealand (BINZ), <https://www.basicincomenz.net/services>
- ³ Universal Declaration of Human Rights (UDHR), https://www.ohchr.org/sites/default/files/UDHR/Documents/UDHR_Translations/eng.pdf .
- ⁴ International Covenant on Economic, Social and Cultural Rights (ICESCR), <https://www.ohchr.org/sites/default/files/cescr.pdf> .
- ⁵ Figures and estimates in this paper are based on data released by the New Zealand government wherever possible.
- ⁶ GUY STANDING, *Basic income: And How We Can Make It Happen*, Pelican, 2017, ISBN 978-0-141-98548-0. Chapter 7, The affordability issue, page 133.
- ⁷ L. Hungerford, *Taxes and the Economy: An Economic Analysis of the Top Tax Rates Since 1945*, Congressional Research Service, 7-5700, www.crs.gov R42729, <https://sgp.fas.org/crs/misc/R42729.pdf> <http://graphics8.nytimes.com/news/business/0915taxesandecconomy.pdf> .
- ⁸ Gerald Friedman, *The Great Tax-Cut Experiment – Has cutting tax rates for the rich helped the economy?* *Economy in Numbers, Dollars and Sense*, <https://www.dollarsandsense.org/archives/2013/0113friedman.pdf> .
- ⁹ Cloyne, Martinez, Mumtaz, and Surico, *Short Term Tax Cuts, Long Term Stimulus?* NBER working paper series, Working Paper 30246, National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w30246/w30246.pdf .
- ¹⁰ Sara Zaske, *Low-income parents receiving universal payments spent more on kids*, *Washington State University*, 28 October 2021. <https://news.wsu.edu/press-release/2021/10/28/poor-parents-receiving-universal-payments-increase-spending-on-kids/> .
- ¹¹ GUY STANDING, *Basic income: And How We Can Make It Happen*, Pelican, 2017, ISBN 978-0-141-98548-0. Chapter 5, The Economic arguments, page 97.
- ¹² A. H. McLintock, *Social Security – Scope of Legislation of 1938*, *An Encyclopaedia of New Zealand 1966*, <https://teara.govt.nz/en/1966/social-security/page-2> .
- ¹³ Jess Berentson Shaw, *Radio New Zealand – Afternoons with Jessie Mulligan*. 2:16 pm on 22 June 2017. <http://www.radionz.co.nz/national/programmes/afternoons/audio/201848485/dr-jess-berentson-shaw-the-pro-s-and-con-s-of-a-ubi>
- ¹⁴ *Old-age Pensions Act becomes law*, 1 November 1898, *New Zealand History*, <https://nzhistory.govt.nz/old-age-pensions-act-passes-into-law>
- ¹⁵ David Preston, *Retirement Income in New Zealand: the historical context*, 2008, Retirement Commission, <https://assets.retirement.govt.nz/public/Uploads/Retirement-Income-Policy-Review/Background-papers/History-and-trends/27b4c9b6d8/RI-Review-BP-Retirement-Income->

-
- [History-2008.pdf](#) . Summarised: Super history – NZ's super system unique, Good Returns, <https://www.goodreturns.co.nz/article/976486047/super-history-nz-s-super-system-unique.html> .
- ¹⁶ Ibid.
- ¹⁷ Jess Berentson Shaw, *Radio New Zealand* – Afternoons with Jessie Mulligan. 2:16 pm on 22 June 2017. <http://www.radionz.co.nz/national/programmes/afternoons/audio/201848485/dr-jess-berentson-shaw-the-pro-s-and-con-s-of-a-ubi>
- ¹⁸ New Zealand Superannuation (NZ Super) overview, Work and Income, <https://www.workandincome.govt.nz/eligibility/seniors/superannuation/superannuation-overview.html> .
- ¹⁹ Susan St John, [Taxing pensioners' other income at higher rate 'could be better way to make super affordable'](#), 2 September 2021, *Stuff*.
- ²⁰ Susan St John, [Rethinking retirement income doesn't require superpowers](#), *interest.co.nz*, 17 May 2016.
- ²¹ Susan St John, [Improving the affordability of New Zealand Superannuation](#), February 2015, Retirement Policy and Research Centre, Economics Department, Business School, The University of Auckland.
- ²² Te Utu Tika Hei Oranga I Aotearoa - Basic Income New Zealand, [New Zealand Superannuation](#) <https://www.basicincomenz.net/nz-superannuation> .
- ²³ Benefit Rates at 1 April 2023, Work and Income, <https://www.workandincome.govt.nz/products/benefit-rates/benefit-rates-april-2023.html> .
- ²⁴ For further discussion on NZ Super see Basic Income NZ: <https://www.basicincomenz.net/nz-superannuation>
- ²⁵ Sharon Brett Kelly, Why there's no comparison between pensions in France and NZ, 4 April 2023, *Radio New Zealand*. <https://www.rnz.co.nz/programmes/the-detail/story/2018884412/why-there-s-no-comparison-between-pensions-in-france-and-nz>
- ²⁶ Eduardo Abreu; Ellen Brown: “How to Fund a Universal Basic Income Without Increasing Taxes or Inflation”, *Basic Income Earth Network*, 5 November 2017. <https://basicincome.org/news/2017/11/ellen-brown-fund-universal-basic-income-without-increasing-taxes-inflation/> .
- ²⁷ Ellen Brown, How to Fund a Universal Basic Income Without Increasing Taxes or Inflation, *Common Dreams*, 4 October 2017. <https://www.commondreams.org/views/2017/10/04/how-fund-universal-basic-income-without-increasing-taxes-or-inflation> .
- ²⁸ Scott Santens, *Why We Need Modern Monetary Theory (MMT) and Why It Needs Universal Basic Income (UBI)*, The Swamp, 2021. https://vocal.media/theSwamp/why-we-need-modern-monetary-theory-mmt-and-why-it-needs-universal-basic-income-ubi?utm_campaign=Foreword%20to%20Civilization&utm_medium=email&utm_source=Revue%20newsletter .
- ²⁹ Scott Santens, *Let there be Money*, 4 March 2022, ISBN 979-8781516377.
- ³⁰ New Zealand Super Fund, <https://nzsuperfund.nz/> .
- ³¹ Geoff Crocker, *Basic Income and Sovereign Money, The Alternative to Economic Crisis and Austerity Policy*, Palgrave Macmillan, 2020. ISBN 978 3 930 36747 3.
- ³² Craig Hoyle, Solo mum faces court after borrowing money to keep her family afloat, *Stuff*, October 28, 2017, <https://www.stuff.co.nz/auckland/98287382/solo-mum-faces-court-after-borrowing-money-to-keep-her-family-afloat> .
- ³³ Zac Fleming, Solo mum's loans were not income - High Court ruling, *RNZ*, 3 July 2018, <https://www.rnz.co.nz/news/national/360960/solo-mum-s-loans-were-not-income-high-court-ruling> .
- ³⁴ Karl Widerquist, NEW ZEALAND: Treasury produces a report on “a Guaranteed Minimum Income”, BIEN 28 March 2012. <https://basicincome.org/topic/new-zealand/page/6/> .
- ³⁵ I B Middleton, [Basic Income: a means to combat the marginalisation of vulnerable workers in precarious employment](#), 2018/2022 .

-
- ³⁶ Sonya V. Troller-Renfreea , Molly A. Costanzob, Greg J. Duncanc, Katherine Magnusonb,d, Lisa A. Gennetiane, Hirokazu Yoshikawaf, Sarah Halpern-Meeking, Nathan A. Foxh, and Kimberly G. Noble, The impact of a poverty reduction intervention on infant brain activity, *Proceedings of the National Academy of Sciences*, 24 January 2022. <https://www.pnas.org/doi/10.1073/pnas.2115649119> , <https://sanford.duke.edu/story/study-shows-cash-payments-low-income-families-impact-infant-brain-development/> .
- ³⁷ Nurith Aisenman, Researchers Find A Remarkable Ripple Effect When You Give Cash To Poor Families, *Goats and Soda*, 2 December 2019. <https://www.npr.org/sections/goatsandsoda/2019/12/02/781152563/researchers-find-a-remarkable-ripple-effect-when-you-give-cash-to-poor-families> .
- ³⁸ Jessica Wiederspan, Elizabeth Rhodes & H. Luke Shaefer, “Expanding the Discourse on Antipoverty Policy: Reconsidering a Negative Income Tax”, *Journal of Poverty* Volume 19, 2015 - Issue 2, Pages 218-238 | Published online: 11 Feb 2015 <https://www.tandfonline.com/doi/abs/10.1080/10875549.2014.991889> .
- ³⁹ Karl Widerquist, Back-of-the-Envelope Calculations, *De Gruyter*, 2017. <https://www.degruyter.com/document/doi/10.1515/bis-2017-0016/html?lang=en> <https://usbig.net/papers/BackOfTheEnvelope--4Posting--2017Jun.pdf> .
- ⁴⁰ Rutger Bregman, FUTURE OF WORK, “Don't believe in a universal basic income? This is why it would work, and how we can pay for it”, *WORLD ECONOMIC FORUM*, 29 May 2018. <https://www.weforum.org/agenda/2018/05/how-we-make-basic-income-reality-Rutger-Bregman/>
- ⁴¹ Rankin, Keith (2016) "Prospects for a Universal Basic Income in New Zealand," *The Journal of Sociology & Social Welfare*: Vol. 43: Issue 3, Article 5. Available at: <https://scholarworks.wmich.edu/jssw/vol43/iss3/5/> .
- ⁴² Scott Santens, How to Calculate the Cost of Universal Basic Income (Hint: It's Not As Easy As You Might Think), 27 April 2022. <https://www.scottssantens.com/how-to-calculate-the-cost-of-universal-basic-income-ubi/> .
- ⁴³ Karl Widerquist, Back-of-the-Envelope Calculations, *USBIG*, 2017. 2017, <https://usbig.net/papers/BackOfTheEnvelope--4Posting--2017Jun.pdf> .
- ⁴⁴ Liz Fouksman, Why universal basic income costs far less than you think, *The Conversation*, 2018. <https://theconversation.com/why-universal-basic-income-costs-far-less-than-you-think-101134> .
- ⁴⁵ Scott Santens, The Cost of Universal Basic Income is the Net Transfer Amount, Not the Gross Price Tag, 7 Jul 2017. <https://www.scottssantens.com/the-cost-of-universal-basic-income-is-the-net-transfer-amount-not-the-gross-price-tag/>
- ⁴⁶ Scott Santens, The Cost of Universal Basic Income Is Less Than You Might Think, Not having a UBI costs us more money in the long run. *Futurism*, 24 July 2017. <https://futurism.com/cost-universal-basic-income-less-you-might-think>
- ⁴⁷ GUY STANDING, *Basic income: And How We Can Make It Happen*, Pelican, 2017, ISBN 978-0-141-98548-0.
- ⁴⁸ PHILIPPE VAN PARIJIS and YANNICK VANDERBORGHT, *Basic Income – A Radical Proposal for a Free and Sane Economy*, Harvard University Press, March 2017, ISBN 9780674052284.
- ⁴⁹ Further discussion, see: How big will a Basic Income be? *Basic Income NZ*. <https://www.basicincomenz.net/how-big>
- ⁵⁰ PHILIPPE VAN PARIJIS and YANNICK VANDERBORGHT, *Basic Income – A Radical Proposal for a Free and Sane Economy*, Harvard University Press, March 2017, ISBN 9780674052284, chapter 1, page 11.
- ⁵¹ Further discussion, Basic Income New Zealand. <https://www.basicincomenz.net/tax-and-basic-income>
- ⁵² PHILIPPE VAN PARIJIS and YANNICK VANDERBORGHT, *Basic Income – A Radical Proposal for a Free and Sane Economy*, Harvard University Press, March 2017, ISBN 9780674052284, Fig 6.3 page 164.
- ⁵³ Geoff Crocker, *Basic Income and Sovereign Money, The Alternative to Economic Crisis and Austerity Policy*, Palgrave Macmillan, 2020. ISBN 978 3 930 36747 3.
-