Failure Demand

Counting the true costs of an unjust and unsustainable economic system

WELLBEING ECONOMY ALLIANCE

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Glossary

Anglo Saxon capitalism: A form of capitalism most widely adopted in Anglo Saxon countries that prioritises low taxes and regulation, low barriers to trade, minimal government support and strong enforcement of private property rights.

Down-stream interventions: Activities designed to improve outcomes after the event, the event being activities that caused negative outcomes in the first place. This is as opposed to up-stream changes that look to preemptively stop negative outcomes occurring in the first place.

Failure demand[1]: Spending by governments in response to negative externalities generated by the current economic system e.g. income support due to in-work poverty.

Investment expenditure: Expenditure designed to improve the infrastructure (environmental, social, physical) of the economy.

Societal costs: The sum of costs to individuals, households and the state. This might be applied to any number of economic problems: for example, the societal cost of poverty can include individual health and wellbeing costs, costs to communities and to the state.

Executive Summary

What should be the purpose of the economy, and the goal of public spending: promoting the wellbeing of people and the planet, or reacting to immediate, avoidable problems? Put this way, the answer seems obvious, yet the prevailing economic model forces governments towards the latter.

In pursuit of economic growth - a stated goal of almost all governments - harm is caused to people and the planet, including widening economic inequalities; high levels of insecurity, despair and loneliness; and the prospect of catastrophic climate breakdown and biodiversity loss. Governments then need to spend money to respond to these harms - which then becomes a justification for growth. In other words, we are caught in a cycle of paying to fix what we continue to break. This is known as 'failure demand'.

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Of course, governments will always need to be reactive to immediate needs. There will always be unavoidable demands on public spending. That is not in dispute. This report is concerned with demands that are avoidable: damages incurred through economic choices - the purpose and structure of the economy. These are damages that necessitate deployment of a government's financial resources, but which could have been avoided in a Wellbeing Economy scenario.

This report asks the questions: is this the best we can hope for? Is it good enough just to help people survive and cope with the current system? And what about value from our taxes? Are payments that allow us to survive all that we should be using our taxes for, rather than investments and configurations that help us to thrive?

The research here focuses on three key interlinked sectors that illustrate the impact on the financial resources of a state, directly and indirectly. Those sectors are: paid work, the housing sector, and the environment, with Scotland, a devolved part of the UK and the province of Alberta, Canada used as the two territories to articulate the story of failure demand. Even within just these sectors, this report considers just a small subset of the true picture and makes conservative estimates.

Key findings

Paid work can be a key driver of people's wellbeing, but the pay and conditions of a job are important if this is to be the case. Many high-GDP economies have witnessed a profound change in the dynamics of their labour markets in recent decades. Many mid-skilled jobs - often pathways out of lower paid positions - have disappeared. At the same time, there has been an increase in low-paid precarious service sector work which resulted in a growing problem of in-work poverty and insecure work. Necessary remedial actions - and spending - then follow.

In Scotland:

- During 2017-2020, 61% of working-age adults (400,000 each year) in relative poverty were living in a household with at least one person in paid work.
- Over 500,000 people annually in Scotland are estimated to have been in precarious work since 2003
- Due to the existence of low pay in Scotland, the state provided over **£596 million** in 2014/15, over **£635 million** in 2015/16, over **£890 million** in 2016/17, over **£840 million** in 2017/18 and over **£774 million** in 2018/19 in welfare payments, free-school meals and work-related ill health. These are the high, and growing, costs of failure demand.

Whilst in Alberta:

- In 2016, an estimated 560,000 Alberta households (36.6%) were living below a living wage.
- In 2019 an estimated 310,363 Albertans lived in poverty (or 7.1% of the population) with an **estimated societal cost of poverty of $9.1 billion**
- According to estimates, 242,910 Alberta families (15.1% of all Alberta households) received a total of **$1.71 billion** in social assistance (including income supports) from the Alberta Government or an average **$7,022 per family**.

Decent **housing** has multiple benefits related to health, education, community cohesion, and environmental quality. Conversely, homelessness, housing insecurity, and poor housing conditions have been associated with adverse effects and create significant human and economic burdens borne by individuals, their families, and the state.

A key driver of these negative outcomes is the affordability of housing and this has declined in many rich industrialised countries in recent decades. When the housing market does not operate in a way that enables people to access accommodation, the state has to step in with a suite of actions.

In Scotland:

- The total number of households in temporary accommodation has been increasing since 2002, and despite some fluctuations, it has remained over 10,000 for the last decade.
- The total cost of temporary accommodation provision in Scotland is estimated to be over **£111 million annually**.
- The total excess cost (failure demand) of health care for people who have ever experienced homelessness is over **£900 million** based on calculations for 2015.

Whilst in Alberta:

- In 2019 there were 500,000 Albertans (11.4% of Alberta's population) in need of affordable housing.
- There have been no estimates of the failure demand generated homelessness for the Alberta government. However, a 2005 national study of four major Canadian cities (Vancouver, Toronto, Montreal and Halifax) estimated the **average cost of homelessness at $142,500 per homeless person per annum**. This suggests the societal cost of homeless in Alberta was **$1.05 billion** in public programmes and other supports (failure demand).

The **environment** has traditionally been thought of as simply a free input into the production process of the economy, but the climate and biodiversity crises are rapidly showing this view to be wrong. The ways in which the current economic system is impacting people via impacts on the environment are becoming difficult to ignore and for governments to afford.

In Scotland:

- The total post-tax fossil fuel subsidies that include expenditures borne by the Scottish state related to global warming, local air pollution, congestion, accidents, road damage are estimated to be over **£1.9 billion a year**.
- The failure demand expenditure imposed on various levels of government due to the effects of global warming in Scotland can be estimated at **£771 million and £956 million** due to air pollution per year.

Whist in Alberta:

- Current estimates of Alberta's wellsite, pipeline and oils and reclamation costs are **$260 billion.**
- The societal costs of health outcomes associated with air pollution is approximately **$114 billion per year** for Canada of which $108 billion reflects premature mortalities or $9 billion for Alberta.
- In a 2020 report by Alberta's Auditor General, weather related disaster costs increased by over 2,500% to approximately $9 billion with the Alberta government incurring an **estimated $2.3 billion** from 2010 to 2016.

Of course, the primary driver for changing towards a better way of doing things is the reduction of harm to people and the planet - no reader should be in any doubt about that. Fiscal implications are secondary, but this report seeks to demonstrate that taking a Wellbeing Economy approach - focusing on upstream prevention and addressing the root causes of challenges facing communities - also saves money by reducing failure demand on government. It may not be the point, but it demonstrates the fiscal possibility of change and tackles head on the claim that more growth is needed to pay for government services by asking: are some of those services driven by the model of growth itself?

Introduction

The prevailing economic model creates a lot of what might be termed damage: it causes harm to people and to the planet and creates demands on governments which are avoidable. This is known as **'failure demand'** - the need for governments to respond to the damage, with its inevitable costs, created by the current economic system. This damage includes widening economic inequalities; high levels of insecurity, despair and loneliness; and the prospect of catastrophic climate breakdown and biodiversity loss.

Governments have responded to these social and environmental crises with a suite of (often inadequate) remedial measures. These range from top up payments for those whose work wages do not lift them out of poverty to medical expenses for children whose asthma is exacerbated by pollution on our streets to (literally) downstream flood prevention practices. Despite these measures being vital responses to help people and the planet cope with harm being caused today, focusing on such reactive action creates vicious cycles which are highly inefficient. They are hardly proactive investments in the economy.
The current system requires substantial resources to clean up and heal the damage done, damage that could have been avoided in a more socially just, sustainable economic model - an economy many are describing as a Wellbeing Economy.

Box 1: A Wellbeing Economy
Delivering social justice on a healthy planet

At its core, a Wellbeing Economy starts with the idea that the economy should serve people and communities, first and foremost. It asks what sort of economic activity is needed and for whom, and looks at enabling contexts that allow flourishing for all and harmony with nature. By reorienting goals and expectations for business, politics and society, a Wellbeing Economy will deliver collective wellbeing, recognising that the economy is embedded in society and nature. Instead of responding with expensive downstream interventions to fix the damage caused by a growth-focused economy, a Wellbeing Economy would employ upstream strategies that are expressly designed to deliver on people's core needs and priorities.

Those calling for a Wellbeing Economy highlight the urgency, as well as the feasibility, of an economic system that supports prosperity and environmental protection. Its feasibility can be seen in economic activities and initiatives that embrace a new way of thinking and practice that facilitates thriving communities.

This report examines the fiscal impact of the current economic model in Scotland and the Canadian province of Alberta:

- How much is currently spent by various arms of government to counteract the harms to people, communities and the environment created by the current economic system?
- What does the spending try to repair?
- How long has this type of spending been ameliorating these harms?
- How much less need for fixing and healing might we reasonably expect to spend under a different system?

In examining the fiscal impacts, this report forces us to confront the reality that governments require growth in the economy (to support its spending) in order to address the harm generated by an economic system that does not sufficiently deliver human and ecological wellbeing.

"In the depressingly circular logic of failure demand, growth is required to pay for fixing the harm done in the creation of growth."
The Economics of Arrival - Trebeck and Williams

A key implication of this contribution is the merit of upstream prevention and addressing the root causes of challenges facing communities. This stems not just from the obvious benefit of avoiding harm being done to people and planet, but also from the potential to reduce failure demand on government. That there are fiscal implications is not the point, but it does constitute one of the reasons that change towards a better way of doing things is entirely possible.

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Whilst differing significantly in terms of land mass, Scotland has a population around 25% higher than that of Alberta and a GDP per capita around 75% of Alberta's. Both territories share a heritage of fossil fuel based industries and both are also closer to the free market 'neoliberal' model than, for example, many countries in mainland Europe. These factors prompted their selection as it was felt the similarities would help tell a coherent story, while still offering interesting nuances and differences.

There are many ways the failure demand created by the current economic system impacts on how a government deploys its financial resources. The causal pathways between the different sectors are many and varied. This report focuses on three key interlinked sectors that impact the financial resources of a state, directly and indirectly. Those sectors are: paid work, the housing sector, and the environment.

An illustration of the causal pathways that link these sectors and their combined effect on human and ecological wellbeing are as follows.

Box 2: Causal pathways of a dysfunctional economic system

Paid work affects various areas of an individual's life and, consequently, that of their families, and the state. Although jobs should provide economic security, for many households having a member in work is not necessarily a guarantee of not being in poverty[2]. **Low-paid work and precarious working** conditions impact individuals' earnings. These individuals therefore require direct government financial support (either as top-up payments or tax credits) or indirect support (such as free-school meals) in order to survive, let alone to thrive. In addition, work is a significant determinant of wellbeing[3] and can play a key role in the state of a person's health[4]. Low-paid and insecure work have been associated with poor physical and mental health[5], in turn creating additional health costs on the state that could be potentially avoided in the case of better designed work.

Low-income and poverty have been associated with people's ability to access housing options.[6] Decent housing has been linked to various benefits such as education and health. Conversely, **homelessness and poor housing conditions** relate to adverse effects on an individual's life. According to evidence, people who live in substandard accommodation or who have experienced homelessness, are more likely to develop poor health conditions[7]. Housing can affect health either directly[8] [9] through the exposure to certain hazards like dampness, cold or noise, or indirectly through high housing costs that can affect a household's access to other health-related factors such as nutritious food[10]. Apart from the significant human cost that poor housing conditions have to individuals and their families, they also create a considerable economic burden borne by the state either through the healthcare system or through the provision of other services such as emergency shelters, supportive and transitional housing, and affordable housing support.

In addition to the negative impacts of poorly paid work and sub-optimal housing arrangements on an individual's wellbeing, the prevailing economic system's fossil fuelled extractive and consumer driven nature has driven a concentration of greenhouse gases. This has led to **climate change and environmental degradation**[11] [12], which manifest in extreme weather events[13] and increased air pollution[14], both of which are associated with profound financial costs[15] [16] to the individual and to the state.

These three sectors were selected because they are fundamental to human and ecological wellbeing and thus important to analyse as to the extent of the costs to the state associated with their dysfunctionality within the current system. The other reason for their selection was that the interconnectedness between them helps to demonstrate the systemic nature of the costs and the need for tackling the costs at the systems level. Further research could usefully explore other areas such as health, safety, education, and so on.

Methods and limitations of this report

This report draws on existing data from publicly available sources and presents it through the lens of economic systems in four ways:

1. Magnitude of expenditures
2. Distribution of expenditures as they relate to different outcomes
3. Spending levels over recent years
4. Net spending levels when compared with an economic system that prioritises well remunerated work for all, an affordable housing sector and operates within environmental limits.

This report explores only a small number of fiscal impacts on the state to illuminate the costs of paying for failure demand. No attempt has been made to quantitatively forecast the longer-term impacts on individuals, communities and wider society of the negative externalities identified and discussed here, despite recognising their vital importance. As such, the figures presented are not meant to reflect the total cost of responding to challenges facing people and the planet arising from a flawed economic model. The picture set out is a very small and conservative picture of the wider dynamics at play. The intention is to illustrate the inherent inefficiencies of an economic system that creates harm then requires resources to ameliorate damage that could have been avoided, and in doing so prompt a more ambitious conversation about the design of our economies.

Initially, the focus of the analysis was to be exclusively on budgetary impacts experienced by the Scottish Government and the Government of Alberta, a province of Canada. However, during the research it became clear that certain budgetary impacts (related to the sectors examined in the report) that were borne at the Canadadian federal level or pertained to the reserved powers of the United Kingdom Government were material to the story and could not be excluded. As such, where appropriate, budget expenditures beyond the Scottish and Albertan levels were considered. The economic costs were assembled from across government departments and public services, highlighting the complexity of the issues presented and the fact that their consequences are inherent in the economic system. Inevitably, this has meant it is less simple to make direct comparisons between the Scottish and Albertan case studies in the work.

The approach for the work was:

1. Define parameters and approach for the report and understand what each case study would encompass in their respective failure demand calculations.
2. To discuss among the subject-area experts (in Scotland and Canada) what sectors should be focused on (taking into account data availability, evidence of causal pathways, and pertinence to people's fundamental human needs).
3. For the Scottish context, reflections and guidance from an advisory group on the selected areas, budget expenditures and relevant data and studies.
4. Data collection and analysis from pre-identified data sources.
5. Identification of additional data sources and studies that helped quantify the scale of failure demand.
6. Review of the data analysis by the advisory group and discussion to articulate the counterfactual[17] scenario- an indicative comparison between different groups of population that could showcase the extent to which government resources could be redeployed to cover unavoidable demands.

The most challenging part of the exercise is that it is impossible to be precise as to the extent to which the avoidable expenditures would change under an economic system that has a different set of priorities and was configured differently. For this report, indicative figures have been used (from existing data) in lieu of a detailed analysis of, for example, other countries' efforts that have attempted to tackle the featured avoidable expenditures more effectively than the featured territories. This is an area where further research is strongly recommended.

Paid Work

Overview

Many high-GDP economies have witnessed a profound change in the dynamics of their labour markets in recent decades. A number of industry and manufacturing sectors that were once significant providers of employment for many communities are in long-term decline. Many jobs that previously gave people a vocation and level of economic security have been replaced by jobs with significantly less security and sense of purpose.

One way to conceptualise this change is the phenomenon of the 'hourglass economy'. The hourglass[18] shape for the labour market arose in the face of the disappearance of many mid-skilled jobs, such as skilled administrative, manufacturing and trade jobs, undermining pathways out of lower paid positions that hitherto would have been available to more workers. This has been coupled with an increase in low-paid precarious service sector work which has resulted in a growing problem in high-income economies of in-work poverty and insecure work

In response to this fundamental shift in the labour market, how can a locality be rejuvenated? The traditional mantra has simply been that job creation leads to increased prosperity of an area and that jobs are an automatic route out of poverty. The metric of success has often been simply a reduction in the unemployment rate - without considering the adequacy of pay or hours and often not taking into account who it is who is accessing any jobs that have been generated and who is missing out on them. This creates a significant blindspot for policy makers as quantity is valued over quality and no consideration is given to the wider outcomes that may not be generated because of the low quality of the employment opportunities.

"According to the World Health Organisation, unsatisfactory or insecure work can be as harmful as unemployment in terms of physical and mental health impacts."

Jobs can and should be a key driver of people's wellbeing, but the pay and conditions of the job are important if this is to be the case. In the year before the pandemic struck, many rich industrialised countries recorded unemployment rates at historic lows, yet this was a time when there was an explosion in the use of food banks, whose users included people in work. Insecure work is often associated with no sick pay, fewer rights, little investment in professional development, and low pay. According to the World Health Organisation, unsatisfactory or insecure work can be as harmful as unemployment in terms of physical and mental health impacts.[19]

The following case studies consider the support provided by the state arising from this configuration of the labour market and the damage this does to people in Scotland and the Canadian province of Alberta.

Scotland

In Scotland, as in other countries, employment is considered a lever to improve quality of life and the most effective way to reduce the risk of poverty. Yet, a growing body of research demonstrates that having a job is not a guaranteed route to economic security,[20] especially in the case of precarious and low-paid work.

Precarious work is a concept that does not have a widely accepted definition across countries. However, the International Labour Organisation has identified some of the characteristics of precarious work as: limited duration of a contract, ambiguous employment relationships (such as through bogus self-employment, subcontracting), and low wages.[21]

In Scotland, the majority of working-age adults in poverty live in households where at least one person is in paid employment, a situation described as 'working' or 'in-work' poverty.[22] The terms 'working' and 'in- work' poverty refer to households where at least one person is in paid employment or self-employment, but the household income is below the relative poverty threshold.[23] The terms do not include any form of unpaid work such as volunteering or caring for children and other family members.[24]

"In Scotland, the majority of working-age adults in poverty live in households where at least one person is in paid employment, a situation described as 'working' or 'in-work' poverty"

In Scotland, in-work poverty remains a persistent issue:[25] [26]

- During 2017-2020, 61% of working-age adults (400,000 each year) in relative poverty[27] were living in a household with at least one person in paid work. [28]
- The number of working-age adults in working poverty has been continuously increasing since the period of the early 2010s.
- The most recent figures have been the highest since reporting began (in 1996-1999 48% of working-age adults in poverty were in work).

A combination of factors coalesce to create in-work poverty. According to the Scottish government, three interrelated factors affect the household income:[29] the hourly rate of pay, the number of hours worked ('work intensity'), and the income gained and lost through the welfare and tax systems.[30]

Evidence shows that:[31]

- In terms of hourly pay, around two thirds of working adults living in poverty were paid below the 'real living wage'.[32]
- In terms of hours worked, almost three quarters of people in working poverty in Scotland live in a 'low work intensity'[33] household, which means they work, on average, fewer hours per week than the average for households with any working adult. Low-pay workers are more likely to work part-time and not to have a permanent contract than higher paid workers.

Working poverty and precarious work affect individuals and society, as they can impact various areas of a person's life:

- In-work poverty can affect access to services, right to participation in society, educational attainment and overall life chances. Especially in the case of children, it can cause exclusion due to lack of material resources, and it is also associated with interconnected issues like stress and poor health.[34]
- Employment is an important social determinant of health, and, therefore, an association between in-work poverty and health can be inferred.[35]
- Low pay and precarious work result in limited job security, which impacts on workers' motivation, satisfaction, and potentially their productivity.[36]
- Precarious work is associated with low job quality, which affects workforce innovation, employee engagement, absence levels and employee turnover.[37]
- Precarious work has been linked with poor working conditions, workplace injuries, poor general health, and particularly poor mental health.[38]
- In terms of health, precarious workers are more at risk of poor physical and mental health. The worry of having no work or irregular work triggers physical symptoms of stress, including chest pain, headaches and muscle tension. Also, the financial stress or the stress associated with having a precarious job increases the risk of poor mental health.[39]
- The adverse effects of precarious work on individuals extend to other workers and the wider society.[40] For example, a spillover effect of subcontracting (a form of precarious work) has been linked to catastrophic incidents involving oil rigs, chemical factories, and road and air transport where passengers or other members of the community were adversely impacted. Also, it poses problems for disease recognition and compensation as it is harder to link a disease to a particular work-related hazard exposure due to workers' frequent job changes.

The failure demand to the state

In-work poverty and precarious work create profound direct and indirect costs to individuals, their families, and the state.[41]

In terms of the direct costs, welfare payments are used to address in-work poverty and precarious work.[42] Households struggle to attain an income that allows them to meaningfully participate in society due to their low-paid work, and, therefore, are eligible to claim in-work tax credits and other benefits to supplement their employment income[43]. As most social security payments remain reserved to the UK government, and only certain benefits have been devolved to the Scottish government, for the purpose of this report, several payments related to low-paid and precarious work have been taken into account, regardless of their governmental source. These payments are vital to maintain the living standards of households, yet, they do not address the root causes of in-work poverty and precarious work. Instead, they are a form of government spending that reacts to the current structure of the economic system - they are not an attempt to deal with the root causes of low pay and precarious work.

In addition, the state is compelled to cover various indirect costs which occur as a result of low-paid and precarious work. As with other indirect costs, there is the challenge of attribution: what proportion of the indirect cost is associated with the issue, in this case low and precarious income? For the purpose of this report, and as an indication of indirect costs rather than a definitive list, free school meals[44] and work-related health costs are considered. Despite these being only a subset of the actual costs borne by the state, the literature suggests a clear association with low-paid and precarious work.

"Annual government spending on welfare payments, as well as indirect financial support such as free-school meals or work-related health spending by the NHS, is significant and has increased over the last years."

The cost of failure demand to the state

Annual government spending on welfare payments, as well as indirect financial support such as free-school meals or work-related health spending by the NHS, is significant and has increased over the last years. As shown in Figure 1, the state provided to **working households on low pay or precarious work in Scotland** over **£596 million** in 2014/15, over **£635 million** in 2015/16, over **£890 million** in 2016/17, over **£840 million** in 2017/18 and over **£774 million in 2018/19 in efforts to ameliorate their low income.** The increased government spending across this 5-year period mainly reflects the rise of the number of households in in-work poverty and precarious work, rather than a consistent increase in resources allocated to each recipient by the government (Figures 3 and 4). Yet, despite this support being vital and necessary to top up households' income, it is still inadequate to ensure poverty alleviation and allow individuals and their families to thrive.

As Figures 1 and 2 illustrate:

- The most significant payment received by in-work households in Scotland with low income (i.e. households with income below 40% of the median income[45]) is tax credits which was estimated to be over £327 million on average per annum between 2014/15-2018/19.[46]
- The second highest expenditure was housing benefits which were on average over £214 million annually in the same period.

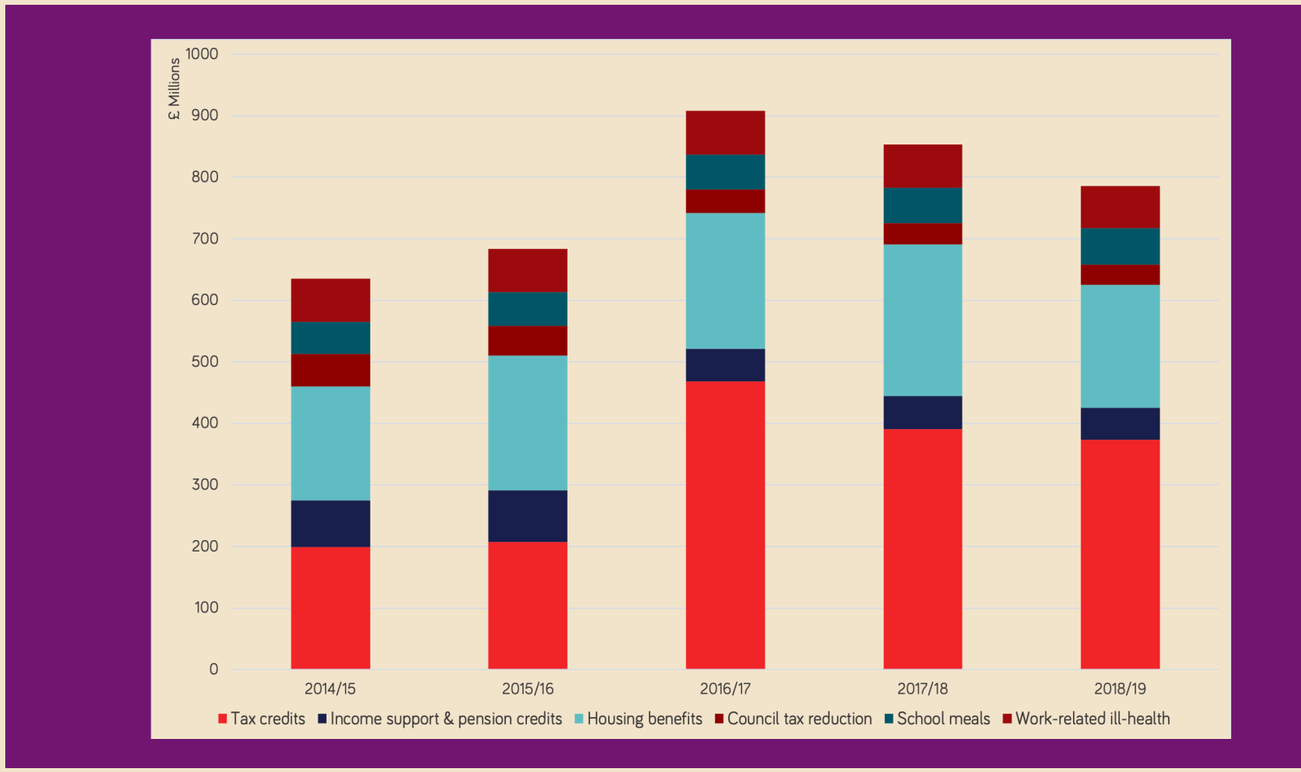
Other direct expenses for the five-year period included:

- Income support (£37 million annually)
- Council tax reduction (£41 million annually)

In terms of indirect expenditures, the state was compelled to cover over:

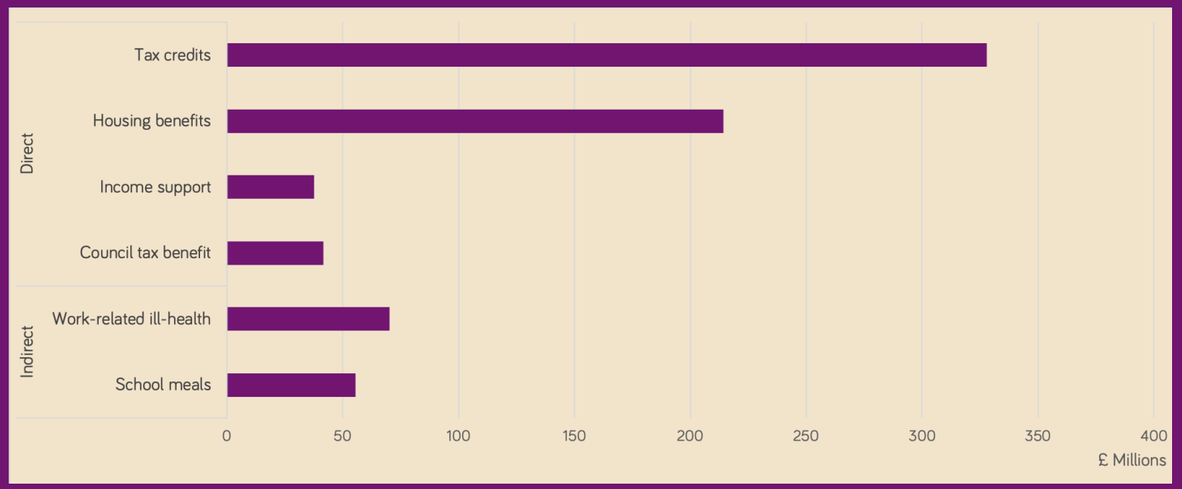
- £55 million per year in free-school meals[47]
- £70 million per year in costs due to workplace injuries and work-related ill-health

Figure 1: Direct and Indirect Government Expenditure for low-income/ precarious households in work in Scotland



Source: Authors' calculations based on data from the Office of National Statistics[48], the Family Resource Survey[49], the Labour Force Survey and Annual Population Survey, the Households Below Average Income dataset[50], the Health Living Survey[51], the Education Scotland[52] dataset and the Health and Safety Executive dataset.[53]

Figure 2: Direct and Indirect Expenditure for low-income in-work households in Scotland



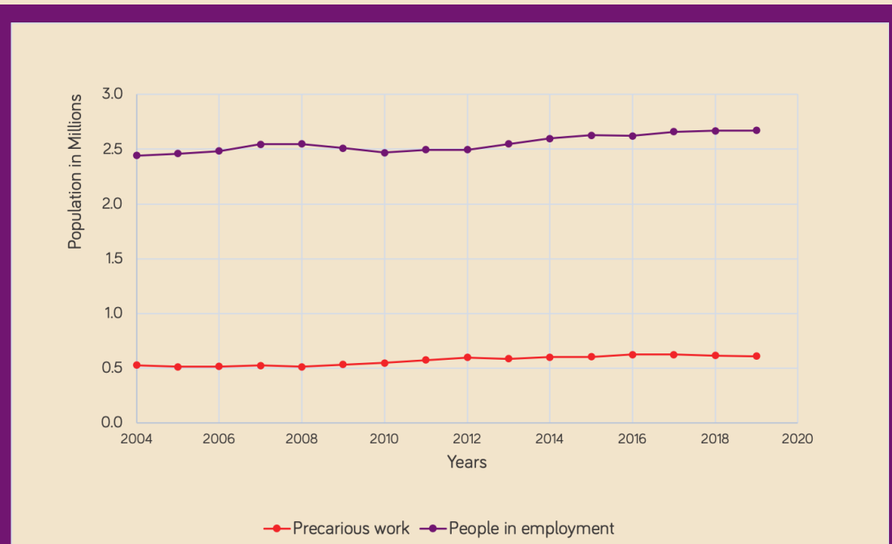
Source: Authors' calculations based on data from the Office of National Statistics, the Family Resource Survey, the Labour Force Survey and Annual Population Survey, the Households Below Average Income dataset, the Health Living Survey, the Education Scotland dataset, and the Health and Safety Executive dataset.

The intractability of in-work poverty and precarious work

In-work poverty has been a persistent problem in Scotland. The associated direct payments from the government therefore remain high. This highlights the existence of a systemic problem arising from the structure of the current economic system rather than the failure of a single policy that has created in-work poverty.

Figure 3 shows that **over 500,000 people annually in Scotland are estimated to have been in precarious work** since 2003.[54] The rise of precarious work can be partly explained by the fact that after 2013 people on zero-hours contracts[55] have been included in the calculations. In addition, before 2013 public awareness in terms of zero-hour contracts was low. Hence, while zero-hour contracts would have existed prior to 2013, they were not sufficiently captured and reported. Yet, individuals using this particular term for this type of working arrangement does not change the fact that this practice has increased over the last years.

Figure 3: Adults in employment and precarious work in Scotland[56]



Source: Authors' calculations based on the Annual Population Survey and the Labour Force Survey.

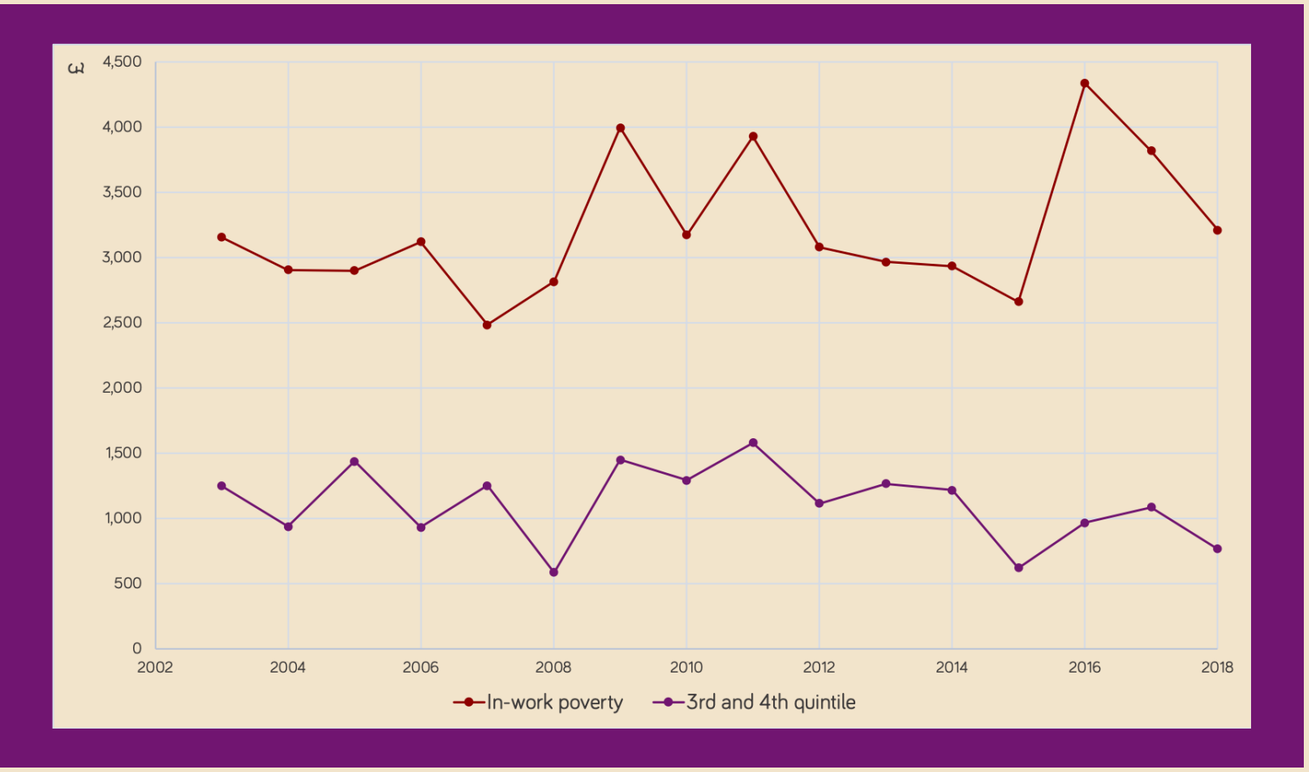
Figure 4 illustrates the average direct government expenditure per household from 2003/04 to 2018/19, based on the above-mentioned benefits.[57] As demonstrated below, the annual average government expenditure to households in working poverty has fluctuated over the years. However, it is almost consistently over £3,000 per recipient household per year (£3,157 in 2003/04 compared with £3,212 in 2018/19).

Failure demand in a redesigned economy

In a redesigned economic system that prioritises human and ecological wellbeing, not all households will earn the same level of income. However, the current levels of inequality would be designed out of the system. The reduction in the number of working households on low and precarious incomes could have significant financial implications for the government, leading to a decrease in government spending on welfare payments and the sort of other costs set out above.

For illustrative purposes, Figure 4 also presents the average direct government expenditure[58] to households with earnings above the median income (excluding those receiving the top 20% of all households income). This level of income is used as a proxy - a counterfactual - for incomes under an economic system that has eliminated in-work poverty (something that would be a defining feature of a Wellbeing Economy). The difference between the government expenditure for the two households groups (those in working poverty and those receiving an income above the UK median one) reveals the extent of the potential redeployment of government resources which would allow the government to support and invest more efficiently in other vital and unavoidable demands to the benefit of society as a whole. As the figure below demonstrates, government support would still be available to all households. Yet, it would be significantly reduced as households would require lower welfare payments to attain an adequate income in the first place.

Figure 4: Average direct expenditure per household per year in Scotland



Source: Authors' calculations based on data from the Office of National Statistics, the Family Resource Survey, the Labour Force Survey, the Annual Population Survey, and the Households Below Average Income dataset.

Alberta

"These are avoidable consequences and predicated on entrenched beliefs that labour markets can only exist in a certain form."

Alberta is one of the most economically prosperous provinces in Canada in terms of GDP, wages, household income and employment. However, as with other economies, Alberta suffers from unemployment, under-employment, precarious employment and rising income inequality. Moreover, not everyone enjoys a living wage or the equivalent of a living wage if they are either unable to work, retired or disabled.

The consequences of the failure of the labour market as currently conceived, to provide the means to secure adequate income for enough people, include poverty and related negative health and wellbeing impacts. Without a sufficient living wage or living income, low-income households are dependent on government transfer payments, welfare cheques, tax credits and other benefits (e.g. food banks) to supplement their income. These are avoidable consequences and predicated on entrenched beliefs that labour markets can only exist in a certain form. They generate the chronic, long term need for state intervention to attempt to correct the imbalances that result from systemic labour market flaws.

The costs of failure demand to the state

Loss of income, unemployment and precarious work conditions can lead to stress and undermine individual wellbeing. **Precarious work and under-employment also lead to food insecurity, the need for emergency food bank provisions and other mental, physical, and emotional anxiety.** Currently, an estimated 35% of Albertans are living below a living wage (roughly $30,000 per individual[59]), which contributes to stressors that diminish mental and emotional wellbeing.

The Alberta government, along with the Government of Canada, provides some support to those who experience sudden loss of employment, disability or other economic dislocations. This support includes employment insurance, social assistance, tax credits and most recently, emergency income to individuals and businesses during the global Covid-19 pandemic. Many Albertans and Canadians, for example, received upwards of $10,000 in 2020 in lieu of the sudden loss of income and many businesses had access to $60,000 in business loans (of which $20,000 would be forgiven in two years' time).

Looking beyond the emergency of the pandemic, many social assistance and welfare payments associated with poverty or low income represent down-stream interventions that do not address the root causes. These payments are also an implicit subsidy to firms paying below living wages and a top-up that reacts to the current structure of the economic system. They are hardly proactive investments in the economy.

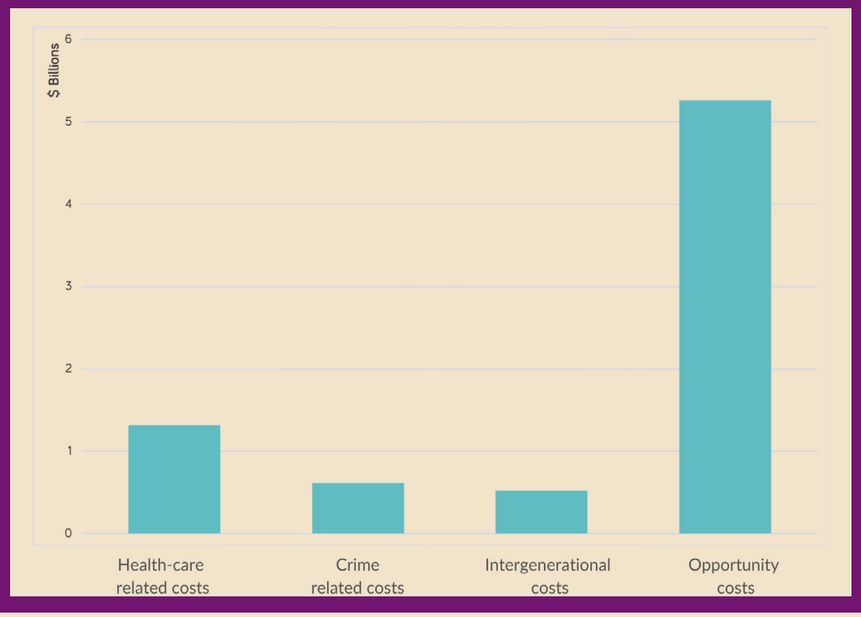
In 2016 (the most recent Canada Census[60]), an estimated 560,000 Alberta households (36.6%) were living below a living wage (estimated at roughly $71,000 for a household in 2016). Had these households earned a living wage in 2016 either from employment or other sources of non-employment income (including the Alberta Government's income support for people with injuries and disabilities who can't keep or find full-time work), the income they would have received would have totaled $39.3 billion (versus the $22.3 billion they earned from employment or received from other sources). **The $17 billion gap between actual income received by these below-living wage households and an ideal living household income could be considered as an example of societal economic costs of below-living wage life conditions.** Moreover, having less disposable income (below a living wage) means that low-income Albertans are less able to participate in society or to contribute to government tax revenues. **Another way of presenting this estimate is that $17 billion is the additional income a flourishing living-wage labour market might have generated for these Alberta households**.

Figure 5 shows the types of societal costs which fall into the categories of health care costs, crime-related costs, intergenerational costs and other opportunity costs (the costs associated with the loss of private revenue when individuals are un- or under-employed, as well as the lost tax revenue from those who are un- or under-employed). Deteriorating health and mental health, decreasing trust among citizens, and increased spending on health and justice systems are all measurable outcomes of poverty and greater inequality. For example, there is evidence from individual wellbeing research that unemployment and under-employment result in reduced mental and emotional wellbeing with associated costs to society that are ultimately found embedded in GDP figures.[61] [62] [63]

- In terms of attending to low income, the most current estimates of the societal costs associated with individuals living in poverty (below the low-income cut off defined by Statistics Canada) in Alberta range from between $7 and $9 billion, annually. [64]

Costs associated with poverty include the costs associated with the criminal justice system, policing, marginally higher healthcare costs, loss of labour productivity, underemployment, foregone earnings, and intangible costs such as pain and suffering. These poverty costs are estimated using methodologies that measure how much governments and other organisations that serve the poor are spending on poverty alleviation costs that could be averted by investing in poverty reduction.

Figure 5: Estimated Societal Cost of Poverty in Alberta by Cost Category in 2019 (based on the 2012 Poverty Costs study estimates inflated to 2019 dollars using GDP implicit price index for inflation)



Source of 2012 estimates: Briggs, A. & Lee, C.R. (2012). Poverty Costs, An Economic Case for a Preventative Poverty Reduction Strategy in Alberta. Calgary: Vibrant Communities Calgary and Action to End Poverty in Alberta.

In 2019 there were an estimated 310,363 Albertans living in poverty (or 7.1% of the population) with an **estimated societal cost of poverty of $9.1 billion[65]** (total of cost categories depicted in figure 5). The reactive government spending that arises from this level of poverty equates to 2.72% of Alberta's GDP (of $334.2 billion) and 16% of the Alberta government's 2019 total programme expenditures of $56.4 billion.

The intractability of poverty and unemployment

According to Revenue Canada data, the number of Alberta households who received social assistance benefits (i.e. income supports) as a percentage of all Alberta households has remained very stable, averaging 14.4% of all households between 2000 and 2017[66]. At the same time, the average financial value of social assistance payments to Alberta families in greatest need has been steadily increasing (see Figure 6) averaging a 2.12% increase per year (in inflation-adjusted dollars), matching the rate of increase in cost of living/inflation.

This type of spending has been rising in terms of both the number of recipients and the total financial support per family or household who are in need of these income supports. 2018 Statistics Canada provides the latest update including some government expenditure data; **242,910 Alberta families (15.1% of all Alberta households) received a total of $1.71 billion in social assistance (including income supports) from the Alberta Government or an average $7,022 per family.**[68] This is one example of the type of avoidable spending the government of Alberta incurs as a result of a failure to address root causes of poverty related to un- or under-employment.

Figure 6: Average social assistance payments to Alberta households most in need, based on the Market Basket Measure (MBM) of poverty.

Source: Derived by author based on Statistics Canada data Table: 11-10-0014-01

Alberta has endured dramatic economic shocks due to fluctuations in the price of oil which has led to unemployment rates rising and precarious employment for many Albertans, given the dependence of the economy on the oil and gas sector. The impact of the global pandemic then exacerbated already precarious employment conditions, bringing commensurate negative health and wellbeing impacts.

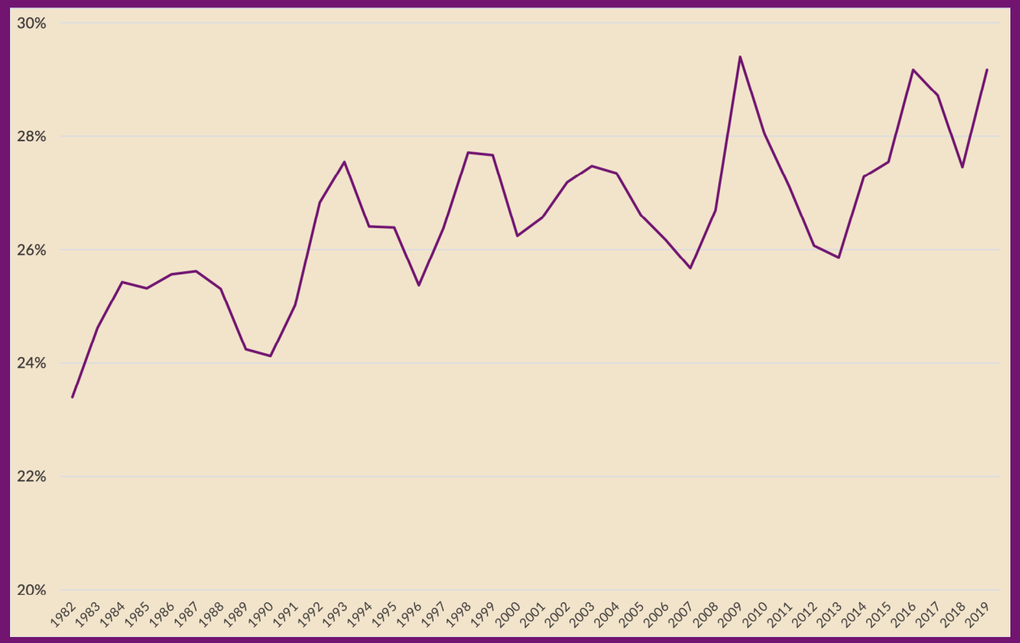
With the ongoing impact of depressed world oil markets, Alberta's unemployment rate has grown from below 4% in 2008 (when oil prices were high), to 11% in 2020 with 270,000 Albertans unemployed. With an increasingly precarious Alberta labour market, the percentage of workers who were employed part-time has risen sharply from 5% of the total employed labour force in 2012 to 13% in 2020.[67]

Alberta's labour market is characterised by both under-employment and over-work (long work weeks). According to Statistics Canada, "invisible" under-employment occurs when workers' skills are underutilized or when wages, productivity or other job qualities are sub-standard. The second kind of under-employment is referred to as "visible" underemployment. This occurs when a worker feels that his or her work hours are insufficient. The latter type of underemployment is also referred to as involuntary part-time employment; workers who are working part-time but would prefer to be working full-time.

Statistics Canada does not provide statistics on under-employment or precarious employment. However, the number of Alberta workers who worked less than 30 hours per week could serve as a proxy for those in the Alberta labour force who would prefer to work a full-time 40-hour work week.[69] Figure 7 shows that there has been a very slight increase in under-employment between 1982 and 2019; in 2019 an estimated 29.2% of Alberta's employed labour force worked less than a desirable 30 hours per week, compared to 23.4% in 1982.

A wellbeing focused economic framework would likely introduce a measure of labour market stability to Alberta, enabling a lifting of the floor under which many workers currently find themselves and beneath which the government is obligated to support. It would especially be a significant contributor to disrupting the boom-and-bust cycles of an extraction dependent economy. Fiscal flows currently directed to providing what amounts to subsistence level support, could be redirected to advancing collective quality of life.

Figure 7: Underemployed in Alberta: Percentage of Workers Who Worked Less Than 30 Hours per Week, 1982-2019



Source: Statistics Canada Table: 14-10-0327-01

Housing

Overview

"Those high-income countries that have been the greatest adherents of the Anglo-Saxon model of capitalism are those which have seen the greatest decline in the affordability of their housing stock."

Adequate housing is recognised as a human right[70] and a substantial element of a fair economic system. As highlighted by the (Scottish) Commission on Housing and Wellbeing, decent housing has multiple benefits related to health, education, community cohesion, and environmental quality.[71] Conversely, homelessness, housing insecurity, and poor housing conditions create significant human and economic burdens borne by individuals, their families, and the state.

A key driver of these negative outcomes is the affordability of housing, which has declined in many rich industrialised countries in recent decades. This is in part because of the trend towards greater use of housing as a financial investment. Those high-income countries that have been the greatest adherents of the Anglo-Saxon model[72] of capitalism are those which have seen the greatest decline in the affordability of their housing stock and thus have faced the subsequent knock-on impacts of this.

In such countries - including Scotland and Canada - house prices have decoupled from average earnings. The argument of many traditional economists has been that this is simply a failure to sufficiently add to the housing stock. However, that in and of itself is a failure of the prevailing economic model to generate outcomes that meet the needs of society. There has also been a shrinking of the proportion of social housing as governments have stepped back from house building.

However, to understand the changes that have taken place in housing, one needs to look further into the dysfunctional nature of housing in these countries.

Removal of rent caps and tenant protections made owning a house and letting out to others (thus as a vehicle for rent generation) an ever more attractive option to those with resources to deploy in this way. Low interest rates and the lack of investment opportunities in economically productive sectors[73] has resulted in private banks creating more money (in the form of new mortgages) that is chasing the existing (and only slowly increasing) housing stock.

The ability to obtain a mortgage against the future rent on a property is expanding the competition for properties which in turn drives up property prices.

The expansion in the private rental market is thus not necessarily an expansion in the desire for renting among the population, but in large part a captured market unable to move into secure, affordable, long-term shelter.[74]

All of this has contributed to a worsening of homelessness - in a way homelessness can be considered the most acute manifestation of a housing market that is not meeting enough people's needs. Many understand homelessness to be simply those that sleep rough (on the streets). Homelessness is in fact a far wider issue which also encompasses staying with friends, living in overcrowded and/or poor conditions, living in a hostel or bed and breakfast. Many of these forms of homelessness are driven by the lack of affordability - combined with the dysfunction of a labour market.

The direct and indirect impacts of homelessness are many and varied. In the following case studies we will feature the direct impacts of government expenditure on housing homeless individuals and families as well as the indirect health expenditure associated with no or low quality housing. This does not capture the other associated examples of failure demand such as the pricing out of home ownership of a generation nor the environmental impact of increased commuting associated with needing to live further from one's workplace, something that remains an issue regardless of whether pandemic-era restrictions lead to long term behaviour change around commuting.

Scotland

"At least 8% of the Scottish population has experienced homelessness at some point in their lives"

Homelessness persists across Scotland, representing the sharp end of a housing sector that also features widespread poor housing conditions. Access to secure, safe and affordable housing for all remains an enormous challenge. The government responds to this situation with reactive measures that are ultimately not cost effective - and which are not addressing the root causes of housing problems. The numbers - and the stories - of people in Scotland struggling against the realities of precarious housing, demonstrate the need for a preventative approach.

In Scotland:

- Every 17 minutes a household becomes homeless.[75]
- In 2019/2020 31,333 households were assessed as homeless (the equivalent of over 51,000 people, including more than 15,000 children).[76]
- At least 8% of the Scottish population has experienced homelessness at some point in their lives. [77] [78]
- In recent years, over 40% of the dwellings assessed were failing the Scottish Housing Quality Standard.[79] [80]

Interactions between housing and various aspects of an individual's life include:[81] [82]

- Bad housing and homelessness are associated with poor physical and mental health, and premature death.
- People living in substandard housing or who are homeless are more likely to develop conditions such as cardiorespiratory diseases, lung cancer, asthma, and mental disorders.
- Residing in a secure house is related to an individual being successful when seeking employment and staying in a job.
- Secure and stable housing increases an individual's productivity.
- Good and stable housing boosts school attainment and educational outcomes.
- Securing a home is related to an individual's higher self-esteem and confidence.

The failure demand to the state

Housing challenges have profound impacts and related human and financial costs on individuals and their families. However, this report focuses on some of the direct and indirect costs that the Scottish Government incurs in its efforts to respond to the impact of the dysfunctional housing sector. It is important to recognise that various other costs occur due to poor housing and homelessness, such as social work, ambulance call-outs, and foregone tax revenues due to loss of income. The section below is thus just a small subset of the layers of costs as it provides an estimate of the cost of temporary accommodation for those that are homeless and the health-related costs associated with homelessness and poor housing conditions.

In terms of the direct costs, local authorities are required to provide temporary accommodation to households while assessing their homeless application and to those already assessed to be eligible. Since the end of 2012, all unintentionally homeless households are entitled to temporary accommodation until local authorities can provide a permanent place to stay.[83] According to Shelter Scotland, in 2015-2016, local authorities provided around 3.8 million days of temporary accommodation for homeless households, out of which around 1 million were to host households with children. As highlighted by Audit Scotland, temporary accommodation accounts for the largest part of council expenditure on homeless spending, as it is more expensive to house people in any form of temporary accommodation than in a secure home. It was also estimated in the same report that temporary accommodation costs councils around £27 million more than it would have been required to provide people with a permanent home.[84]

"The total cost of temporary accommodation provision in Scotland is estimated to be over £111 million annually."

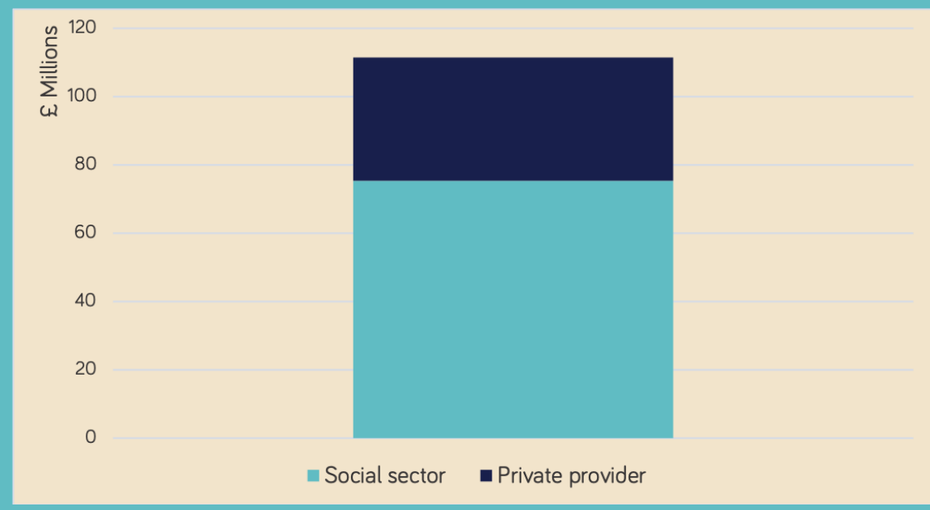
Apart from the direct cost of temporary accommodation, homelessness creates a profound financial cost to public health services. Homeless households are more likely to experience adverse physical and mental health outcomes. **The Hard Edges Scotland report estimated that the total excess cost of health for people who have ever experienced homeless is over £900 million based on calculations for 2015,** with the largest elements being in mental health prescriptions (£311 million) and acute in-patient and day cases (£306 million).

The cost of failure demand to the state

The provision of temporary accommodation is a vital social policy and critical to support the living standards of homeless households, or those threatened with homelessness. Temporary housing includes accommodation owned by local councils, housing associations, hotels, hostels, bed and breakfast, and flats owned by private landlords.

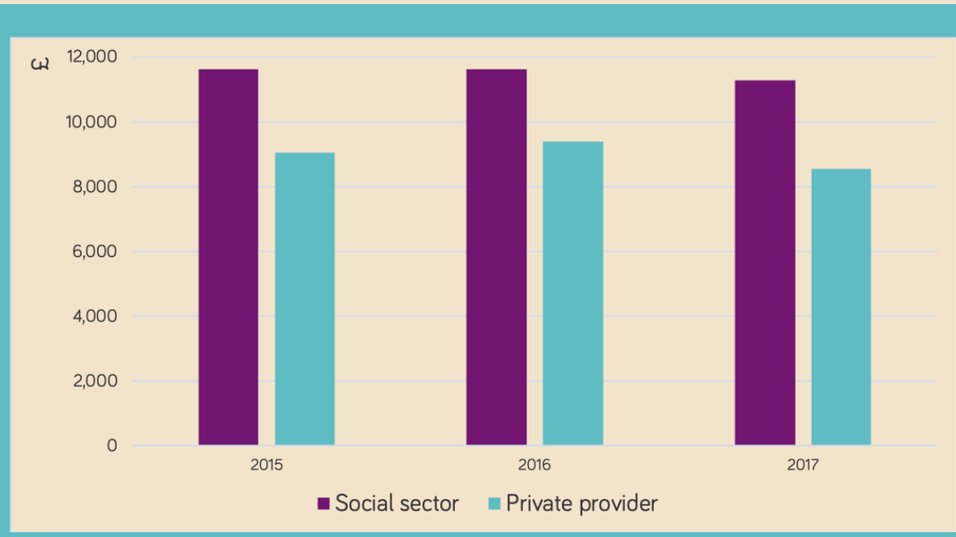
As Figure 8 shows, **the total cost of temporary accommodation provision in Scotland is estimated to be over £111 million annually.** Although the disaggregation of this cost might differ across local authorities, over £75 million is spent on average annually on temporary accommodation provided by the social sector and over £36 million by private providers. The equivalent average cost per household being accommodated per year was estimated at over £11,000 for the social sector and around £9,000 for accommodation through private providers.[85]

Figure 8. Annual total cost of temporary accommodation by local authorities in Scotland (2012-2017)



Source: Authors' calculations based on data obtained from the Ferret.[86]

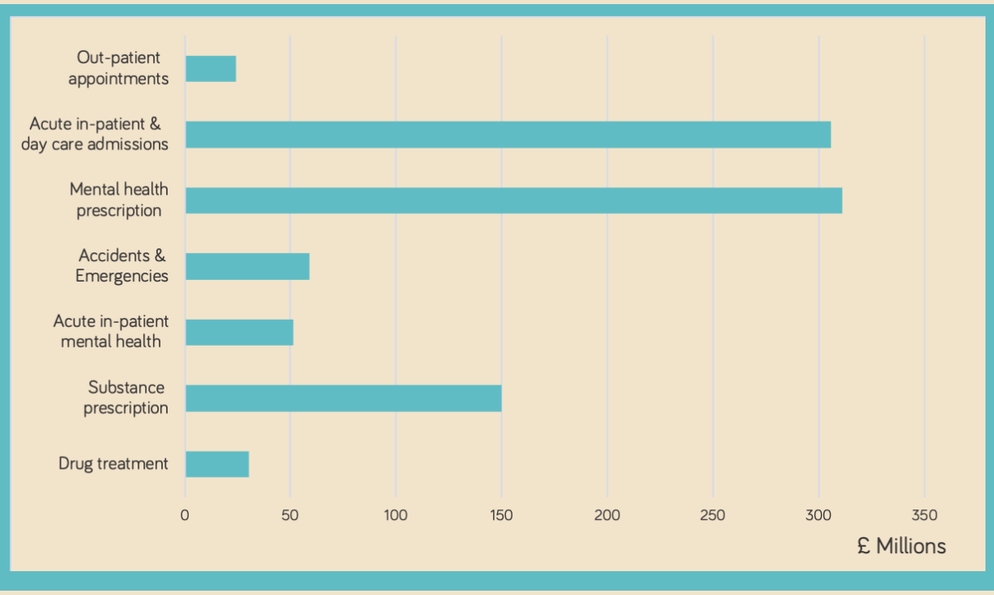
Figure 9. Average expenditure on temporary accommodation per household by local authorities in Scotland



Source: Authors' calculations based on the Scottish government homelessness statistics[87] and data obtained from the Ferret.

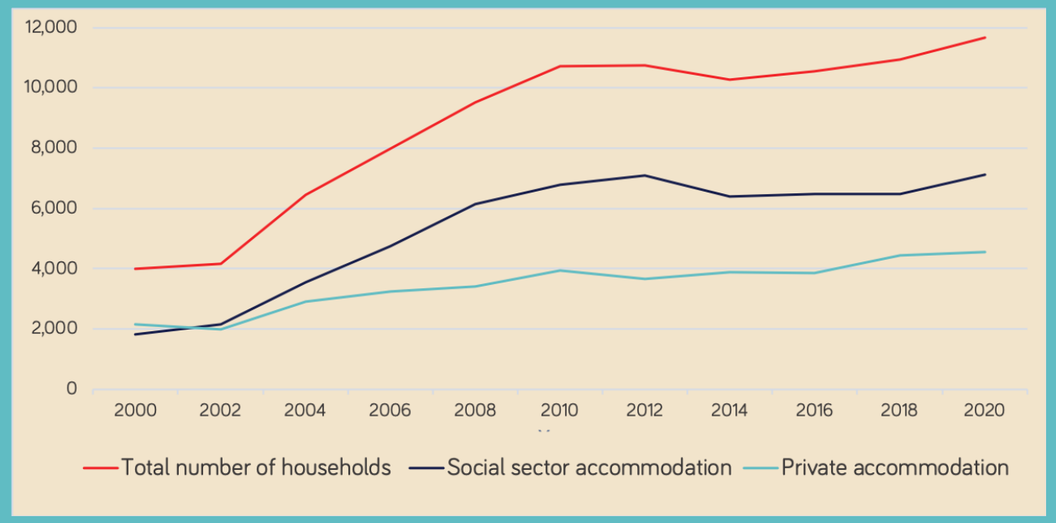
Apart from the direct cost of temporary accommodation, homelessness creates a profound financial cost to public health services. Homeless households are more likely to experience adverse physical and mental health outcomes. **The Hard Edges Scotland report estimated that the total excess cost of health for people who have ever experienced homeless is over £900 million,** with the largest elements being in mental health prescriptions (£311 million) and acute in-patient and day cases (£306 million).[88]

Figure 10: Excess cost of health effects of homelessness in Scotland



Source: Hard Edges Scotland technical report on integrated quantitative analysis and qualitative methodology, 2019.[89]

Figure 11: The number of households in temporary accommodation in Scotland



Source: Scottish government homelessness statistics

The persistently high levels of homelessness and housing-related health costs

Homelessness and poor housing conditions have been persistent and critical in Scotland for many years. Figure 11 illustrates the number of households that have been provided with temporary housing by local authorities either in social housing or in private rented accommodation during the last two decades. The total number of households in temporary accommodation has been increasing since 2002, and despite some fluctuations, it has remained over 10,000 for the last decade.

This increase highlights the fact that homelessness and the provision of temporary accommodation are longstanding issues which have not been adequately addressed.

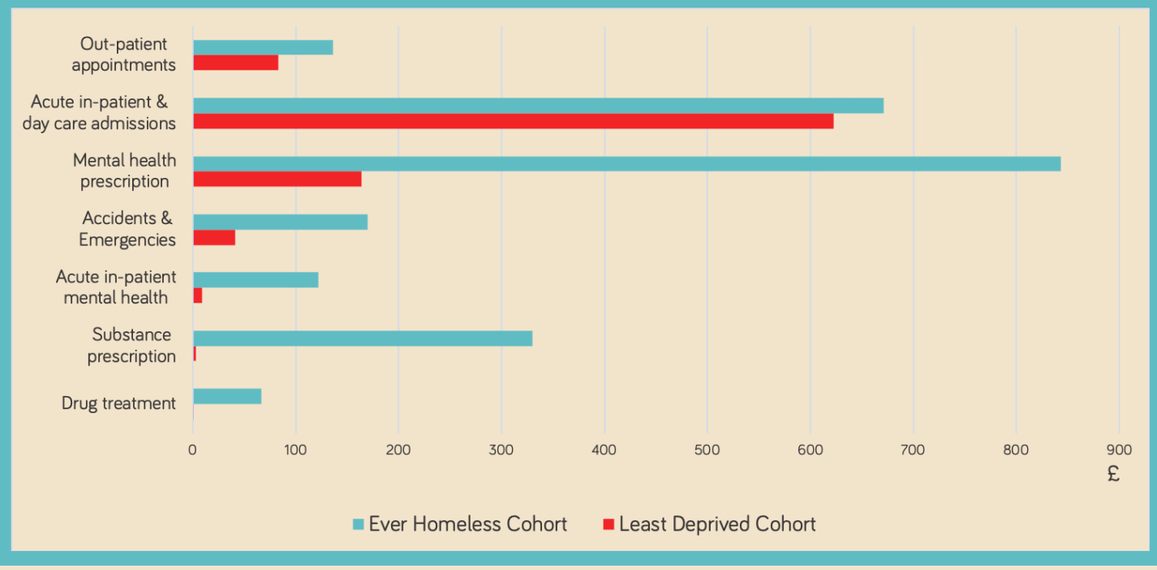
The various expenditures cited above show how the state responds with significant direct and indirect expenditures associated with homelessness, albeit often inadequately and downstream

Failure demand in a redesigned economy

A Wellbeing Economy is designed to provide secure and safe housing for all individuals and their families. Such an economy will not result in an elimination in the use of health services, but will see a vast reduction in avoidable (as opposed to unavoidable) demands on government expenditure as a result of investments related to housing and the decline in rent-seeking behaviour in the sector.[90]

For illustrative purposes, Figure 12 presents the levels of health-related costs per head for two cohorts: those who have ever been homeless and individuals from the least deprived areas of Scotland. These levels of health-related costs[91] are used as a proxy for an achievable level of use of health services and the associated costs under a different economic system that more adequately meets the housing needs of the population.

Figure 12. Health-related costs per head of homeless and least-deprived in Scotland



Source: Hard Edges Scotland technical report on integrated quantitative analysis and qualitative methodology, 2019

The difference between the public spending for the two cohorts illustrates the extent of the potential net failure demand to the state. For mental health as well as substance prescriptions, the difference is pronounced, indicating a significant saving to the state.

"Failures in the design, purpose and outcomes of the current labour market, as well as a deeply flawed housing market that too often prices people out, come together as a perfect storm requiring state intervention."

Alberta

In Alberta, as in Scotland and other Canadian provinces, demand for affordable, safe and secure housing has been a chronic issue for decades. However, municipal government efforts, particularly in Edmonton, to end poverty and homelessness appear to be working: with homeless counts declining over the past 10 years. This positive trend in housing the homeless, can both represent a success in implementing effective local housing policies aimed at the most vulnerable, while still demonstrating an overall avoidable burden on Alberta's public purse that existed previously and remains. Yet, demand for affordable housing still exists - around 10% of Alberta's household population are in need of affordable housing options given their insufficient levels of income.[92] There are two driving factors: insufficient wages for Alberta households and inadequate supply of affordable housing options. In other words, failures in the design, purpose and outcomes of the current labour market, as well as a deeply flawed housing market that too often prices people out, come together as a perfect storm requiring state intervention.

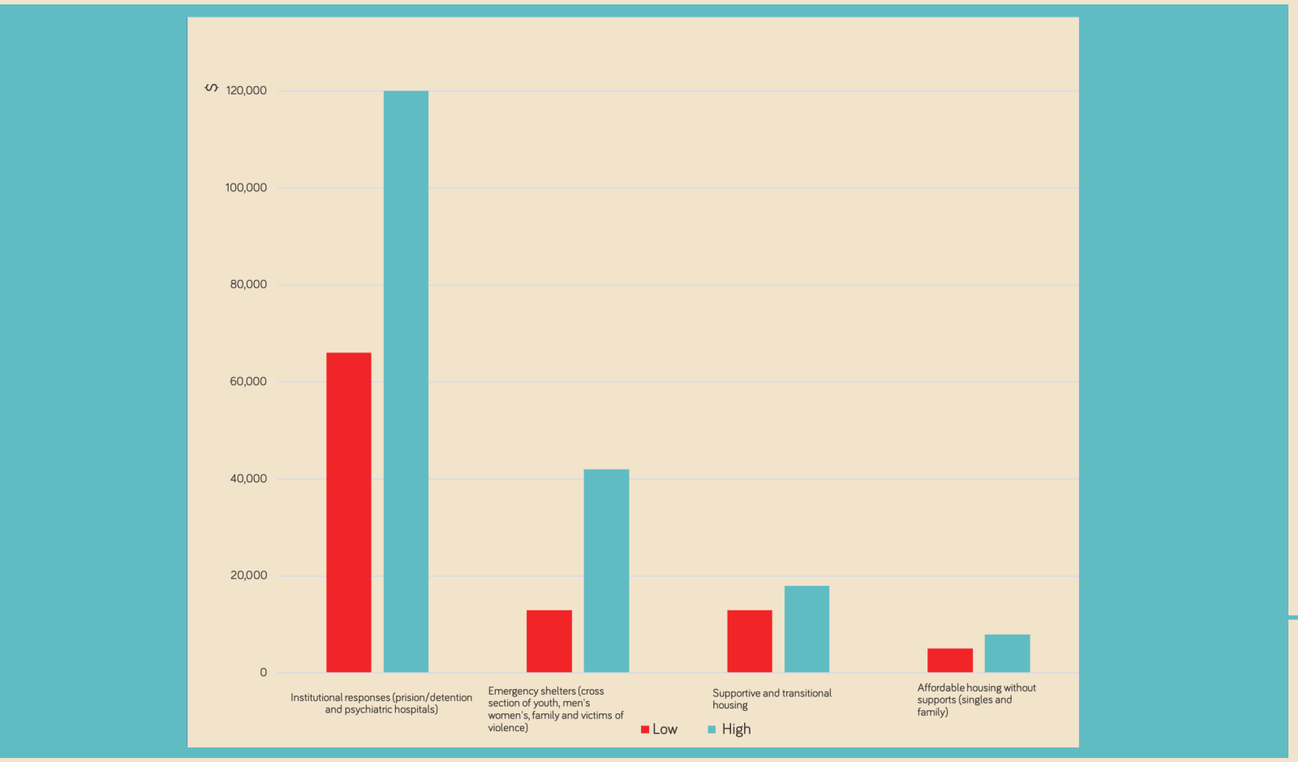
Between 2001 and 2011, Alberta households in need of affordable housing remained relatively unchanged; in 2011 an estimated 106,285 or 9.6% of all Alberta households were in need. In 2019, this increased to 164,275 of Alberta households (10% of Alberta households) being in need of affordable housing.[93] Approximately 43,500 Alberta households were housed in regulated social housing units and the Government of Alberta owned almost half of the subsidised housing stock in Alberta.

The structural imbalances in a housing market approach that preferentially favours privately captured financial returns, forces the government to address and pay for what the market was not designed to (but could) deliver. The combined burden of financially addressing housing issues like homelessness and the need for affordable housing reaches into the health, mental health and addiction treatment sectors which also depend on government funding.

The cost of failure demand to the state

There have been no costs of homelessness estimated for Alberta. However, a 2005 national study of four major Canadian cities (Vancouver, Toronto, Montreal and Halifax) estimated the average cost of homelessness at $142,500 per homeless person per annum (ranging from $97,000 and $188,000). Figure 13 shows the breakdown of these costs including the costs of prisons, detention centres, psychiatric hospitals, emergency shelters, supportive and transitional housing, and affordable housing supports from family and others.

Figure 13: Estimated Societal Costs of Homelessness for Four Major Canadian Cities (Vancouver, Toronto, Montreal and Halifax) from low to high estimates, 2005.



Source: Based on Focus Consulting Inc. The Cost of Homelessness: Analysis of Alternate Responses in Four Canadian Cities. Prepared for National Secretariat on Homelessness. March 2005.

In 2019 there were 500,000 Albertans (11.4% of Alberta's population) who were spending more than 30% of their household income on housing costs, which is the definition Statistics Canada uses for households in need of affordable housing.[94] In 2020, more than 110,000 Albertans lived in government-subsidized housing, and an additional 19,000 households are on a wait list for subsidised housing. More than half of those households in affordable housing and one-third of those on a waitlist are seniors.[95]

Between 2008 and 2012, the Alberta Government allocated $1.2 billion in the form of grants to support the provision of affordable housing (i.e. housing subsidies). The purpose of the grants was to provide funding to increase the supply of affordable units for low-income Albertans; this included the goal of providing low-rental housing at 10% market rental rates. This is a good example of the government working to shape market outcomes.

Using the national 2005 societal costs estimates for homelessness for four major Canadian cities (Figure 13) inflated to 2019 dollars (i.e. $182,614 per homeless person) and applied to Alberta's 2019 homeless count would suggest the **societal cost of homelessness in Alberta was $1.05 billion in public programmes and other supports. As with poverty, this undesirable situation actually contributes perversely to GDP and could be avoided if the conditions that lead to homeless were alleviated**.

A Calgary research study by Jadidzadeh, Falvo, and Dutton (2020)[96] estimated the benefits of providing affordable housing or shelter programme called Housing; for each dollar spent on a Housing First program, between $1.17 - $2.84 is saved via reduced hospital and emergency room visits and fewer interactions with the police, resulting in a government program savings of $105 million for the 2018-19 fiscal year. In addition, $12,240 is saved each year when an individual does not need to use a shelter.[97] Such research highlights the possible broad fiscal benefits to Alberta should failures of the housing market be systemically addressed.

"59% of the homeless population are indigenous, the ongoing impacts of colonization and residential schools on indigenous mental and emotional health."

The evolving situation of homelessness in Alberta

The Government of Alberta has had some success in addressing the issue of homelessness and access to affordable housing with its $1.2 billion affordable housing grant programme (from 2008-2012). This has in turn attenuated some aspects of the issue.

Despite the success of this programme, the continued lack of affordable housing units for both low-income and homeless Albertans highlights the limited impact of the affordable housing grant programme and represents a failure of the economic system to provide for these needs. The drivers of homelessness are complex including lack of available affordable housing, mental illness challenges, and the tendency that a majority of homeless are from indigenous communities; in Edmonton, for example, 59% of the homeless population are indigenous, indicating the ongoing impacts of colonization and residential schools on indigenous mental and emotional health.

The improvement in the overall situation and trends remains dependent on government funding and therefore continues to add to long term state expenditure that could have been avoided if Alberta's economy was purpose-designed to generate wellbeing for all residents. Ideally, by fully embracing and nesting Wellbeing Economy principles at the core of the government's economic framework, homelessness would no longer be an undesirable societal outcome requiring state intervention.

Environment

Overview

"As the global pandemic has shown, the economy cannot be viewed as separate to the health of society."

Due to our dependence on economic growth and the increased production and consumption of goods and services, the earth's natural resources have been depleting faster than they can replenish. Economic activities such as the extraction of fossil fuels for energy generation and transport, intensive agriculture, and forestry have been linked to the adverse effects of environmental degradation and climate change. The cost to society of environmental breakdown in the environment driven by the way transport, energy generation, materials use, agricultural production, and so on is undertaken.

Traditionally thought of as simply a free input into the production process of the economy, the climate and biodiversity crises are rapidly showing this view of the environment to be wrong. The ways in which the economic model is impacting people via impacts on the environment is becoming difficult to ignore. As the global pandemic has shown, the economy cannot be viewed as separate to the health of society.

Despite this, action being taken does not meet the size of the impact. Remedial work to attend to the consequences of climate change is driving government spending, in spite of demonstrable benefits[98] of investing to prevent the worst excesses of climate change. It is quite literally **the difference between investing upstream (to prevent flooding) rather than incurring the cost of bailing people out of their flooded homes downstream.**

In addition to climate specific effects, other environmental liabilities that come with a large fossil fuel sector include the costs of reclaiming and remediating areas that have been either explored and/or exploited are important factors.

The impacts of economic activity on the climate and in turn on society are many and varied. In this report we have focused on the macro to the local. We examine the impact on government spending on failure demand from the global perspective in terms of fossil fuel subsidies through to the local in terms of the health costs from air pollution. Fossil fuel subsidies represent a failure to capture the share of economic rents to governments or other forms of tax credits and other direct benefits such as public infrastructure that supports the fossil fuel industry. In addition, if the sector is not accounting for and paying for its environmental impacts and societal costs such as carbon footprint, or pollutants to air/water/land, then these also constitute a form of subsidy to industry as well as resulting in perverse pricing to consumers.

Scotland

The oil and gas industry has been of great significance to Scotland's economy in recent decades. Scotland's north-east has some of the most important oil and gas resources in the EU. Although the Scottish government does not provide fossil fuel subsidies directly,[99] since the UK government is responsible for the fiscal regime and regulation of the oil and gas industry,[100] Scotland is grappling with the need to cope with the environmental, social, and economic impacts of anthropogenic climate change, caused by decades of fossil fuel extraction and consumption.[101] [102]Effects such as air pollution and extreme weather events have been associated with significant human and financial costs borne by individuals, communities, and the state. [103] [104] [105] [106]

In terms of air pollution: air pollutants can negatively affect human health. For example:

- Air pollution in Scotland has a significant association with respiratory disease.[107]
- Air quality is associated with both short and long-term adverse effects on human health, as pollutants like nitrogen oxides (NOx), sulphur dioxide (S02), and ground-level ozone (O3) can cause irritation of the respiratory system and exacerbate existing health conditions of vulnerable individuals.[108]
- Health conditions like dementia, diabetes, and adverse pregnancy outcomes (low birth weight and premature birth) have also been associated with air pollution.[109]
- Air pollution reduces the life expectancy of every person by an average of 7-8 months. [110]
- The effects of PM2.5 concentrations (particles less than 2.5 micrometres in diameter) on annual mortality in 2010 in Scotland amounted to over 2,000 deaths and over 22,000 associated life-years lost. [111] [112] [113]
- The relationship between air pollution and deprivation is complex and can vary across regions and time. Yet, low access to economic opportunities is often associated with poor health and activity levels, low access to affordable mobility and likely exposure to air pollution.[114] [115]

Alongside air pollution, fossil fuels are linked with extreme weather events, which are expected to increase both in frequency and intensity.[116] Flooding, in particular, is of significant importance in Scotland, and affects houses, communities, and businesses, while causing disruption to vital services.

In relation to flooding:

- Approximately 79,000 homes and 29,000 non-residential properties are at risk of flooding in Scotland.[117]
- Around 400-600 properties would need to install property flood resilience measures each year to cope with the projected increased impact of flooding from climate change.[118]
- Disruption to infrastructure and services due to flooding can have adverse impacts related to health, such as loss of life and stress.[119]
- Disruptions to water supplies and/ or sewage systems can also cause health risks.[120]
- Flooding can have negative social impacts such as causing community disruption.[121]
- The environmental impact of flooding includes changes in conditions of protected nature sites, ecosystem services, and landscape.[122]

Failure demand to the state

Fossil fuels have been associated with increased levels of air pollution and extreme weather events, which are linked to substantial human and financial costs borne by individuals, communities, and the state. Outcomes such as premature deaths caused by air pollutants, increased insurance premiums, and stress and community disruption after a flooding event, can have crucial emotional, social, and economic impacts to individuals, their families, and the surrounding community.[123]

"The state bears a significant indirect economic burden, as both flooding and air pollution have been associated with premature deaths and physical and mental ill-health"

In terms of direct spending, local authorities and government bodies are compelled to cover multiple costs that occur following a storm and flooding event. Clean-up operations, repairs and upgrades of flood defences, costs of emergency actions during and after floods, such as the use of police, ambulance, and fire services, and in some cases, the armed forces, are examples of the costs borne by the state. In addition, local authorities are often required to address the demand for increased flood defence mechanisms, along with the cost related to disruption of road and rail networks.

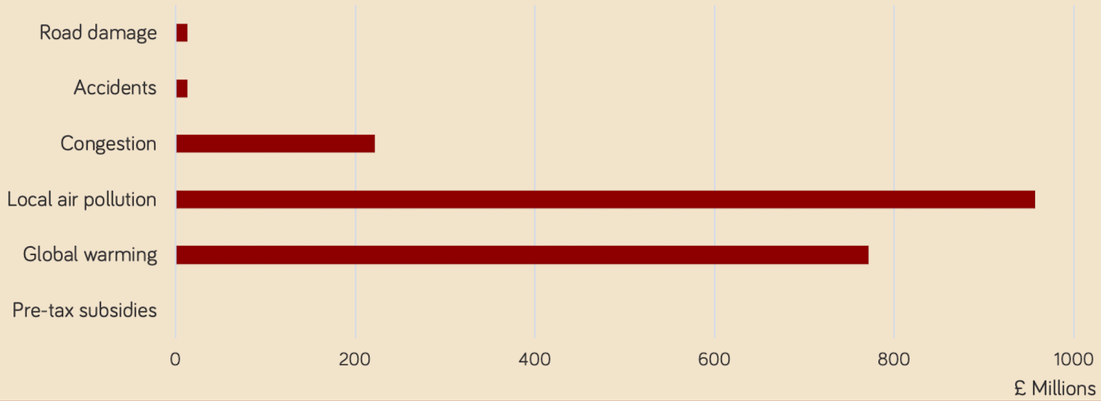
Apart from the direct expenditure, the state bears a significant indirect economic burden, as both flooding and air pollution have been associated with premature deaths and physical and mental ill-health, as laid out above. Disruption to infrastructure and services, along with disruptions to water supplies or sewage systems after a flooding event can cause health risks. Also, it has been reported that the long-term exposure to air pollution increases the mortality risk. [124]

The cost of failure demand to the state

According to a study conducted for the International Monetary Fund (IMF)[125], governments across the world spend $4.9 tn (£3.8 trillion) a year on fossil fuel subsidies, including expenditures related to global warming, local air pollution, congestion, accidents, and road damage[126]. In the case of the UK, the same report estimates that total post-tax subsidies were $30.93 billion (£24.11 billion) per year and the post-tax subsidies per capita around $467 (£364)[127]. Taking this down to Scotland, given its population size, the total post-tax subsidies are estimated to be over $2.5 billion (£1.9 billion) a year.

As Figure 14 illustrates, over half of the expenditure the state is compelled to bear is due to air pollution and extreme weather events, including the treatment of ill-health and the cost of income loss because of ill-health and premature deaths. **In Scotland, the expenditure imposed on the state due to the effects of global warming in the country can be estimated at $989 million (£771 million) and $1.2 billion (£956 million) due to air pollution.[128]**

Figure 14. Fossil fuel subsidies in Scotland



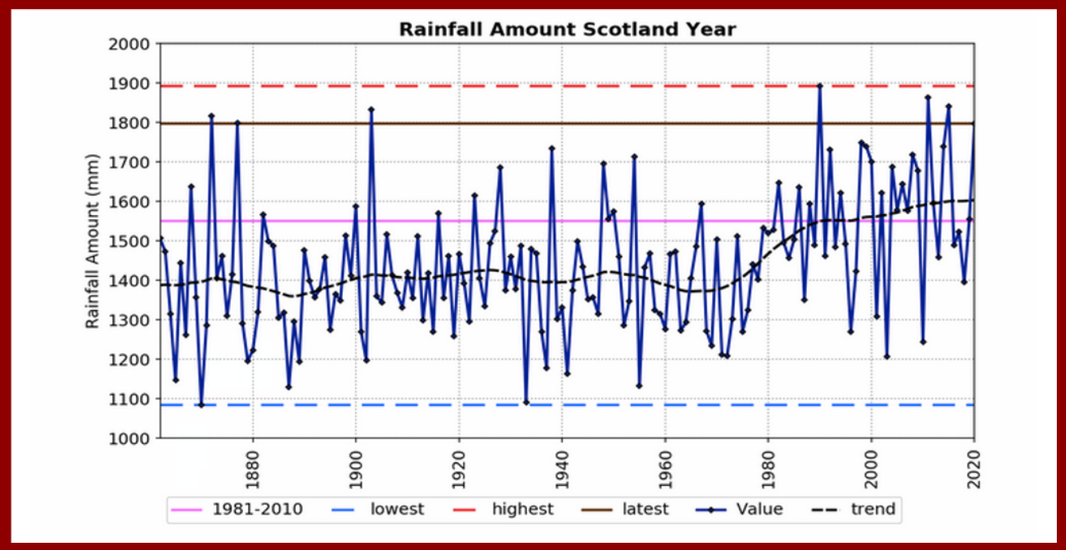
Source: Authors' calculations based on the 'Global fossil fuel subsidies remain large: an update based on country-level estimates' report, 2019.

The intractability of climate change impacts

Over the last decades, Scotland has experienced significant changes in terms of warming trends, rainfall patterns, and rising sea levels. According to a recent report by Adaptation Scotland, the country's 10 warmest years on record have all occurred since 1997 and the mean sea level around the UK has risen by around 1.4 mm/year from the beginning of the 20th century.[129] In terms of rainfall, the same report reveals that an increase has been reported across the country in the past few decades with an increasing proportion of rainfall coming from heavy rainfall events. During the last decade, the average year was 9% wetter than the 1961-1990 average, with winters being 19% wetter.[130]

Figure 15 demonstrates the levels of rainfall in Scotland across time. As highlighted in the graph, there has been an increase in the annual rainfall trend during the last four decades.

Figure 15. Annual variation in rainfall in Scotland



Source: Met Office, HadUK-Grid[131]

This increase highlights the fact that changes in the climate of Scotland are persistent and crucial issues with the related extreme weather events, especially flooding, can be expected to increase in frequency and severity even according to the most modest estimates. Thus, the associated government payments, such as clean-up operations after a flooding event, are anticipated to remain at a high level, revealing the inadequacy of the existing policies and the need for the root causes to be addressed.

Alberta

Alberta spans a vast 661,848 square-kilometer land mass with mountains, rivers, forests, wetlands and prairie landscapes. It is 8.5 times larger than Scotland in land area and has the world's third largest oil reserves after Venezuela and Saudi Arabia. The province is an extractive export-based resource economy with oil, gas, timber and agricultural products.

Resource development has also come at a cost with associated losses including air and water quality and loss of ecological services. These environmental costs also impact human health and wellbeing. Alberta's massive oilsands, with over 164 billion barrels of economic reserves, is a major contributor to Canada's carbon footprint or GHG emissions. The societal costs associated with these carbon and ecological liabilities go unaccounted for in both the market price of oil, gas, and forest products but also are unaccounted for on the balance sheets of governments as liabilities to future generations.

"The true cost of fuel for your car or energy for your home does not actually reflect the environmental costs and damages imposed on ecosystem health."

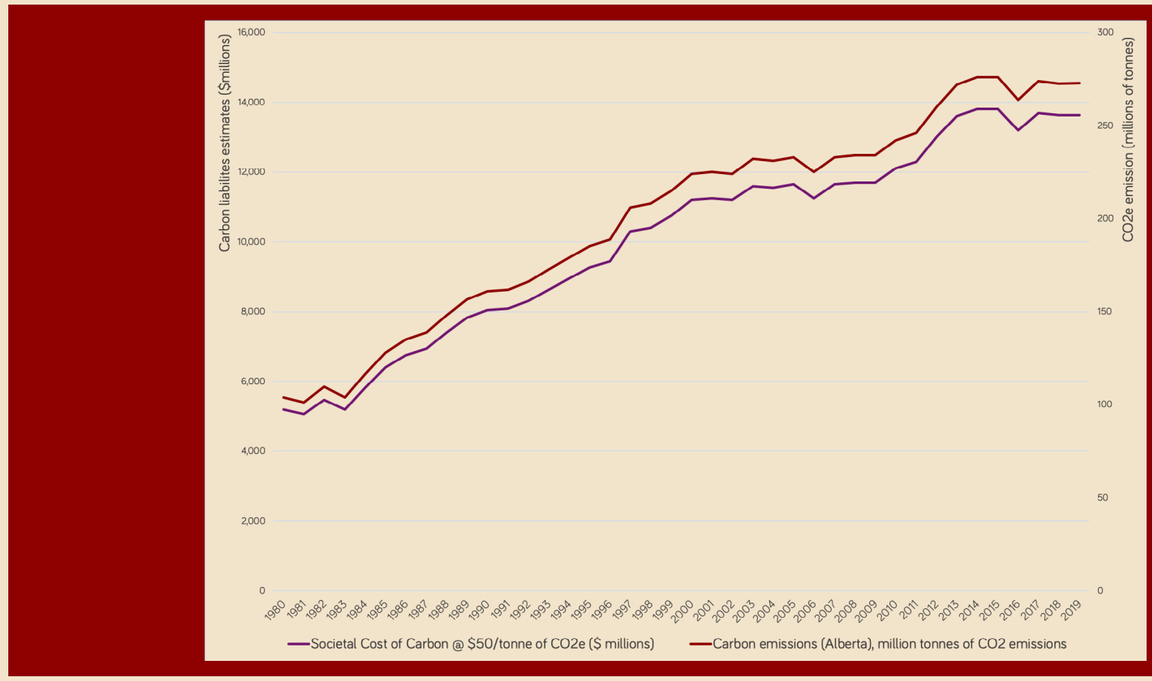
Failure to account for these environmental costs or ecological liabilities represents a serious flaw in both private and public sector accounting. In addition, failure to collect a fair and just share of the economic rents (using royalties and other tax instruments) derived from natural resource extraction from the private sector companies who extract oil, gas and timber, is government not exercising their sovereign rights of the natural wealth of the commons.

The cost of failure demands to the state

With Alberta's oil and gas natural wealth comes the environmental impacts of CO_2 emissions from both production and consumption. Alberta contributes over 272 Mt of CO_2e (37.4%) to Canada's total carbon emissions (see Figure 16). The CO_2e content in the form of emissions of each barrel of bitumen (oilsands) produced from Alberta is significant: in 2019 the total volume of 1,389 million barrels of bitumen oil produced equates to 241 million tonnes (Mt) of which a significant portion is exported to other markets where combustion occurs. If this production of bitumen were priced at $50/t CO_2e which is the current price of carbon in Canada, then the cost of the carbon from oil sand production would have been around $12 billion, equivalent to a negative 3.6% adjustment to provincial GDP. In summary, from a consumer perspective, **this demonstrates that the true cost of fuel for your car or energy for your home does not actually reflect the environmental costs and damages imposed on ecosystem health; if these costs were included in market prices for energy the price we pay would be much higher and make some energy sources non-economic while making other sources like renewables, the norm.**

The current central estimate of the social cost of carbon is over $50 per ton in today's dollars. This estimated price of carbon is based on various studies of the true cost of carbon emissions imposed on society that may come in the form of additional private and public sector costs of climate-change impacts associated with human-caused carbon emissions. Some of these societal cost estimates have been estimated by reinsurance companies like Munich Re and Swiss Re based on the climate-related insurance claims and damages that may be associated with carbon emissions. While this is the most robust and credible figure available, it does not include all of the widely recognised and accepted scientific and economic impacts of climate change. For that reason, many experts agree this is far lower than the true costs of carbon pollution.

Figure 16: Alberta Greenhouse Gas Emissions and Cost of Carbon Liabilities



Source: (GHG emissions data Environment and Climate Change Canada (2021) National Inventory Report 1990-2019: Greenhouse Gas Sources and Sinks in Canada; carbon liabilities calculated based on shadow pricing with carbon price set at $50/tC02e)

This societal cost of carbon is currently not included in the price of Alberta's bitumen oil being shipped to markets. If it were, the carbon liability would be roughly $8.70 per barrel of oil[132] which is significant given average world oil prices in 2020 were only roughly $39 per barrel. For example, world oil prices averaged about $39.00 per barrel in 2020; therefore adding the estimated costs of carbon liabilities would have increased the price of oil and gasoline at the pump by at least 22%.

A summation of the total carbon content of Alberta's bitumen production from 1970 to 2019 (15.4 billion barrels) results in roughly 2.7 billion tonnes of CO2e constituting a **carbon liability or societal cost of $132 billion using the societal cost of carbon estimates from governments and insurance industry estimates.** Again, these estimated carbon liabilities are not counted in Alberta's public accounts of the Province of Alberta nor in Canada's public accounts even though they represent real liabilities and risks to current and future generations of Canadians. Failure to account for these environmental liabilities is a fundamental failure in public sector accounting practices.

"A carbon liability or societal cost of $132 billion using the societal cost of carbon estimates from governments and insurance industry estimates."

Since CO2e emissions are directly linked to climate change and related costs associated with environmental damages from floods and other climate-change related events, these carbon liabilities should be embedded in both public and private sector accounting and in the market price of oil and gas. Failure to incorporate carbon liabilities into either accounting system on the books of oil companies and the province of Alberta is a failure of both public and private sectors to account for the full costs of resource development.

In addition to carbon emissions as an unfunded liability, Alberta, like Scotland, also experiences the negative impacts of air pollutants (PM2.5, annual O3, summer O3 and NO2) that are associated with the combustion of fossil fuels, including coal for electricity generation and oil and gas extraction and refining. According to a 2019 Health Canada study, Alberta has one of the highest levels of air pollutants in Canada.[133] The effects of PM2.5 concentrations (particles less than 2.5 µm in diameter) are associated with respiratory illnesses and mortality. Overall, the total mortality attributable to anthropogenic air pollution in Canada is estimated to be 14,600 deaths per year, based on population estimates for 2015. This equates to 41 premature deaths from all pollutants per 100,000 population in Canada; for Alberta that rate was lower at 29 deaths per 100,000.

According to the same study, **the total economic value or costs of health outcomes associated with air pollution is approximately $114 billion per year for Canada of which $108 billion reflects premature mortalities or $9 billion for Alberta.** The economic valuation estimates consider the potential social, economic and public welfare consequences of the health outcomes, including medical costs, reduced workplace productivity, pain and suffering, and the effects of increased mortality risk.

Alberta's unfunded oil and gas clean-up costs

In addition to the unaccounted cost of carbon emissions as environmental and human health liabilities, the unfunded liabilities associated with reclamation of pipeline right-of-ways, wellsites, oilsands mines, tailings ponds, and other landscapes are enormous. Current estimates of Albertans wellsite, pipeline and oilsand reclamation costs are a staggering $260 billion. These unfunded environmental clean up costs also represent a form of subsidy to highly profitable international oil and gas companies.[134]

The original clean up costs were estimated by the Alberta Energy Regulator (AER) at $60 million, but in 2018 an AER executive revealed that the costs could be as much as $200 billion higher. Some experts feel that the actual clean-up costs will exceed $260 billion. These figures are staggering as they would effectively render Alberta insolvent if these environmental debts were placed on to Alberta's balance sheet.

The breakdown for the higher estimate is as follows:

- Oilsand reclamation (mine site, tailings ponds): $130 billion.
- Wellsite reclamation (317,000 wellsites, 3,400 orphaned wells without an owner of a total 450,000 wells drilled in Alberta) $100 billion.
- Pipeline reclamation ($30 billion).[135]

Taking the oil sand reclamation clean-up costs alone, this liability if applied over the past 40 years (1980-2019) of bitumen mining and refining of heavy oil would amount to roughly $8.5 per barrel of Alberta bitumen produced for this time period. If this unfunded reclamation liability were added to the carbon cost estimates of $8.70 it would total $17.24 per barrel of bitumen oil produced or the equivalent of nearly 44% of the price of West Texas Intermediate (West Texas Intermediate, WTI, refers to the crude oil price standard used by the New York Mercantile exchange) oil in 2020.

By any account these are staggering numbers that represent a claim against future generations who will be left to clean up these industrial sites without the money that could have been secured from industry in the form of sufficient performance bonds. Over the entire period of oil and gas extraction, the Alberta government has only collected $1.6 billion in liability security from petroleum companies.

Rob Wadsworth, the former Vice President of Closure and Liability for the AER, noted that a "flawed system" of industrial oversight is to blame for this significant shortfall in necessary reclamation fund collections. As some oil companies have gone bankrupt during the downturn in world oil prices, a huge unfunded liability hole has emerged with the liabilities being passed on to governments. Thus far, the Alberta Government has not 'booked' any of the $260 billion as an environmental liability or obligation to reclaim these industrial sites.

Climate change amplified events and their costs

Over the past five decades, the costs (e.g. insurance loss payouts, government programmes) of weather-related disasters like floods, storms,and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. According to a new report by the Canadian Institute of Climate Choices,[136] the insured losses for catastrophic weather events totalled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s. The combined losses per weather-related disaster have also ballooned—rising from an average of $8.3 million per event in the 1970s to an average of $112 million between 2010–2019, including public and private costs representing a 1,250% increase.

Alberta has recently endured two major environmental disasters. The Calgary/Southern Alberta riverine flooding in 2013 is estimated to have cost governments, businesses, homeowners, and insurers billions[137]:

- $1.8 billion in catastrophic insurance losses
- $6 billion in direct costs such as uninsured losses.[138]

The 2013 flooding disaster was attributed to the combined result of above-average snowmelt that year and extreme rainfall made more likely because of the changing climate.[139]

"The costs to the Alberta Government of climate related events is growing."

The Fort McMurray wildfire disaster of 2016, which engulfed the oilsands-capital of Alberta is estimated to have been the largest single weather-related insurance loss event Canadian history, resulted in nearly $4 billion in insured losses, destroyed 2,400 buildings, and led to over 80,000 people being evacuated.[140] The Fort McMurray wildfire has similar links to amplification due to climate change.

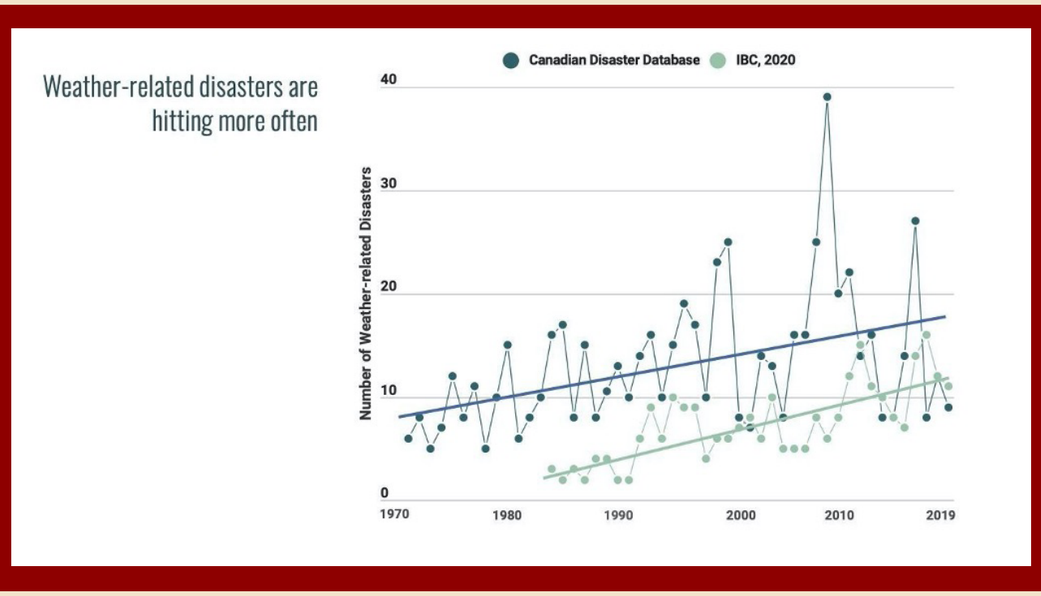
Ultimately, these extreme wealth events and environmental disasters can be linked, albeit indirectly, to Alberta's large carbon emissions footprint that have negative health and environmental impacts on not only Albertans and other Canadians but also other countries and citizens. Moreover, the costs of clean up, restoration and rebuilding of shattered economic livelihoods due to climate-change-related events are ultimately borne by Albertans in the form of higher insurance premiums and potentially taxes.

The costs to the Alberta Government of climate related events is growing. In a 2020 report by Alberta's Auditor General, disaster costs (i.e. the Fort McMurray wildfires and the Calgary floods) increased by over 2,500% to approximately $9 billion with the Alberta government incurring an estimated $2.3 billion from 2010 to 2016; of this total the Government of Canada will reimburse Alberta for about $1.4 billion of the $2.3 billion in disaster expenses. The 2020/23 Alberta budget includes a $2.6 billion contingency for the next three years for potential environmental disasters and emergency aid.[141]

The intractability of environmental impacts

Alberta, like the rest of Canada, has seen increasing variability in climate; warmer winters and significant and often catastrophic weather events (floods, fires). Figure 17 shows the trends in Canadian weather-related disasters since the 1970s showing an upward trend in the number of events, of which Alberta's Fort McMurray wildfire and the Calgary flood, were two of Canada's most significant disasters in terms of the economic damages sustained.
Similar to Scotland, this steady increase in weather related disasters (seemingly associated with rising GHG emissions in Alberta) highlights the fact that changes in the climate of Canada have led to rising financial costs through government payments, such as clean-up operations after a flooding event or wildfires. If these trends continue, there will be ongoing fiscal pressure on governments to compensate for these economic losses, address climate risk factors such as carbon liabilities, and come up with climate risk mitigation strategies that are effective.

Figure 17: Weather-related disasters for Canada, 1970-2019



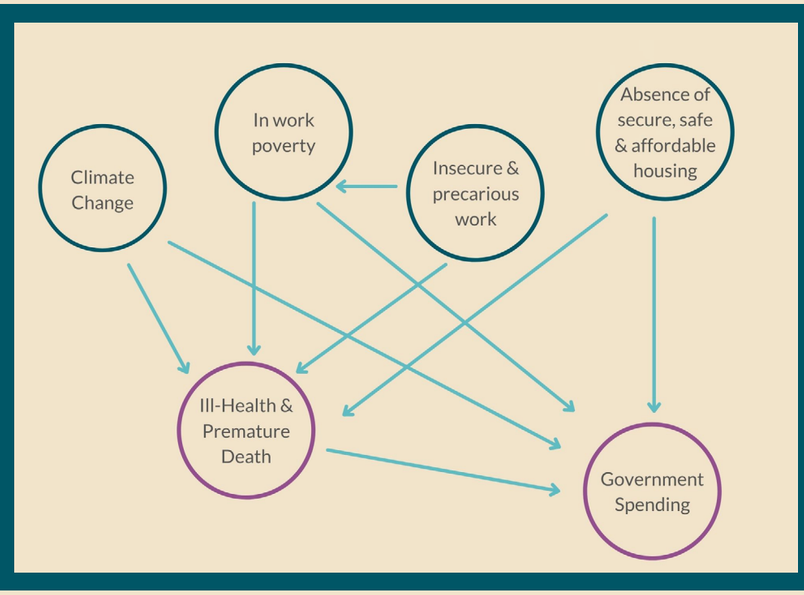
Source: Canadian Institute for Climate Choices. 2020. Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada. The graph depicts data from th Canadian Disaster Database and the from the Insurance Bureau of Canada (IBC) database.

Where next from here?

Governments - indeed, all of us - must look beyond incremental policy shifts and instead address chronic issues around work, housing and environment at their root causes. The story of the level and length of reactive spending by governments told in the above chapters clearly demonstrates this need. The failure demand highlighted in this report gives just a small indication of the enormous amount of spending that is spent addressing problems created by our current economic system, rather than proactively investing in the economy and society.

The issues highlighted in each of the above three chapters are all interlinked (see Figure 18). Without a system designed to maximise the wellbeing derived from work, the scourge of in-work poverty will remain. Without a housing sector that prioritises affordability, the efforts to create paid work that supports dignity of workers will be undermined. Without a housing sector that prioritises ecological sustainability, health costs will continue to rise undermining the health of the workforce to contribute to economic wellbeing. Without ecological sound housing, contributions to climate change will drive further remedial spending to address the higher number of extreme weather events and negative impacts they create.

Figure 18: Example of some of the interconnections between issues and outcomes



In short, we have an economy that needs to grow to generate the taxes to fix the problems the economy causes in the first place. This is unsatisfactory and unsustainable. The negative impacts of a poorly designed labour market, dysfunctional housing sector and worsening environment will increase the need for failure demand spending. This will in turn require more growth which will, in turn, exacerbate failure demand spending and so on and on. All of this is avoidable by creating an economy that gets it right from the beginning and is concertedly designed to deliver what people and the planet need.

Getting There

Achieving this level of systemic change requires identifying policies that are multi-dimensional in their impact. These can be identified by two means: modelling and practice.

Some of the modelling required to identify such policies is already taking place. For example, the systems dynamic low-growth models of Peter Victor and Tim Jackson[142] examine employment and environment policies that are compatible with achieving the income/poverty and environment goals within an economic system not set to continuously outgrow the planet upon which we depend. Canada is one of the countries where such modelling has happened, Germany is another. It has yet to happen in Scotland however. This type of modelling is still relatively young, but also far closer to the reality of the economy than many far more abstract but widely employed models.

Of course technical modelling can only go so far. In spite of having access to vast amounts of information, data and evidence that wellbeing focused economic models would provide far better collective and planetary outcomes, the paradigm of growth-driven economics remains stubbornly entrenched. Transforming the long held beliefs and assumptions that underpin existing economic narratives requires societal level participation. The realignment of economic purpose with the lived experiences and aspirations of people, and the reality of our shared interdependence with a healthy, thriving planet, will depend on a collective capacity to re-imagine together the tenets of our human economic system. Embracing a plurality of worldviews and cultural perspectives, entirely ignored in the foundation of the current system, will be a critical piece of any transformative process.

Hence the Wellbeing Economy Alliance has created a Policy Design Guide[143] to support policy making that is holistic, participatory and systems based. Multiple examples of policies designed to tackle systemic level issues also exist within the sustainable prosperity policy database of the ZOE Institute for future-fit economies[144]. These types of efforts need to be replicated and more widely shared.

Further efforts that would support a transition to systemic policy making include undertaking full cost analysis to examine alternative investment-type policies versus the reactive failure demand spending. This would bring further awareness and understanding of the need to radically overhaul policy making and view it through a systems lens.

To illustrate what this would mean in practice, we can apply Wellbeing Economy principles to each of the sectors featured in this report:

- In a Wellbeing Economy, the realignment of current minimum wage floors with real living wage levels is one of the policy approaches that can have multi-dimensional impacts in the arena of paid work. Box 2 below illustrates the net impact of such a policy in Alberta, Canada.
- In a Wellbeing Economy the economic and health costs related to the issue of affordability would be built into the design of the housing sector. This would happen through appropriate regard to the price of land, a balanced portfolio of housing stock provision (private, public and community-owned) and proper rights for renters.
- In a Wellbeing Economy, environmental costs would be fully incorporated into the pricing of natural resources and be counted as genuine liabilities to the wellbeing of future generations on the balance sheets of governments. Failure to do so would amount to a failure in basic public sector accounting protocols. Of course, valuing and ensuring wellbeing for nature must go far beyond counting it as an asset - but accounting for the true cost of environmental impacts is a necessary starting point for governments concerned with fiscal realities.

Box 3: The Benefits of Paying Living Wages

The societal costs associated with people living in poverty and with insufficient living wages or a living income can be compared with the actual costs to society as a whole for securing the necessary marginal increase in income to match a living wage threshold equivalent in Alberta. What would it cost Albertans to top up those low-income Albertans with a living wage equivalent?

As an example, the City of Edmonton, Alberta's capital city with roughly 972,000 citizens, has roughly 10% of its households living in poverty or low income conditions. If these low income households received a living wage top-up through incremental working wages the cost of paying those Edmontonians a living below a living wage of roughly $17.00 per hour would amount to $1.21 billion per annum. The result would be to immediately lift about 10% of Edmontonians living in low-income conditions out of their low-income conditions. The benefit would be a reduction in a significant portion of the estimated annual cost of poverty to the City of Edmonton which amounts to roughly $3 billion per annum. The net result would be a maximum possible net societal cost saving from avoided health, policing and other costs associated with poverty of upwards of $1.88 billion per annum. To put this estimate into a municipal budgeting context, consider that the City of Edmonton's total operating expenditures were $3.19 billion in 2019 of which $465 million went to policing, $225 million to fire rescue, and $58.1 million to community and family services which would be directly or indirectly associated with those Edmontonians living in poverty.[145]

Towards a Wellbeing Economy

This report has presented some of the costs incurred by the state in repairing the damage caused by the current economic system, and the bill runs into the hundreds of millions of pounds or dollars. What we have presented is but a fraction of the total "failure demand" bill. It has highlighted that taking a Wellbeing Economy approach - focusing on upstream prevention and addressing the root causes of challenges facing communities - can save money by reducing failure demand on government, as well as producing better outcomes for people and the planet.

Going beyond these fiscal implications, governments must ensure their populations are on board with the changes required if we are to confront the looming existential threat posed by climate change and biodiversity loss. Attempts to achieve net zero carbon within the existing economic system risk contributing to the vicious cycle of failure demand. Changes will continue to carry high social costs including job losses and squeezed public spending, unless a wholesale, systemic approach is taken as a matter of urgency.

A different way of designing the changes needed is possible, and how to do it has already been shown in different parts of the world. We must shift from the endless cycle of failure demand, fixated on new growth to pay for the damage of old growth, to a wellbeing economy approach that gets it right for people and the planet first time round.

Failure Demand

Counting the true costs of an unjust and unsustainable economic system

WELLBEING ECONOMY ALLIANCE

https://weall.org

Endnotes

1 The term ‘failure demand’ was coined by John Seddon in relation to manufacturing and corporate systems. He sought to critique the rise in demand for a service as often reflecting a problem, rather than constituting a sign of success. It was used in relation to public services in a 2011 report (the ‘Christie Review’) for the Scottish Government that warned that demand for public services will rise, driven by an ageing population, but also a failure to tackle the causes of disadvantage and vulnerability

2 https://www.jrf.org.uk/report/what-has-driven-rise-work-poverty

3 https://www.oecd.org/sdd/labour-stats/Job-quality-OECD.pdf

4 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/209782/hwwb-working-for-a-healthier-tomorrow.pdf

5 https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_443266.pdf

6 https://www.jrf.org.uk/report/links-between-housing-and-poverty

7 https://www.scotpho.org.uk/life-circumstances/housing/data/housing-quality-and-overcrowding/

8 https://bmjopen.bmj.com/content/5/4/e007298

9 https://www.bmj.com/content/371/bmj.m4571

10 https://www.scotphn.net/wp-content/uploads/2017/03/2017_03_08-HH-Main-Report-Final-1.pdf

11 https://climate.nasa.gov/causes/

12 https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf

13 https://climate.nasa.gov/effects/

14 https://www.unep.org/news-and-stories/story/air-pollution-and-climate-change-two-sides-same-coin

15 https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509

16 http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2019)54&docLanguage=En

17 https://dictionary.cambridge.org/dictionary/english/counterfactual

18 https://en.wikipedia.org/wiki/Hourglass_economy

19 https://apps.who.int/iris/bitstream/handle/10665/108082/e59555.pdf?sequence=1&isAllowed=y

20 https://data.gov.scot/poverty/

21 https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---actrav/documents/meetingdocument/wcms_179787.pdf

22 https://www.gov.scot/collections/working-poverty/

23 https://www.gov.scot/publications/poverty-income-inequality-scotland-2016-19/

24 https://data.gov.scot/poverty/

25 Ibid.

26 https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2020/03/working-poverty/documents/poverty-and-employment/poverty-and-employment/govscot%3Adocument/What%2Bdo%2Bwe%2Bknow%2Babout%2Bin-work%2Bpoverty%2Bin%2BScotland%2B2019%2Binterim%2Bfindings.pdf?forceDownload=true

27 The figure refers to working-age adults in relative poverty after housing costs.

28 It is acknowledged that the rise of in-work poverty after housing costs cannot be solely attributed to low-paid and precarious work. Other factors, such as changes in welfare payments and housing costs might affect the number of working-age adults in relative poverty.

29 The term refers to disposable income and does not reflect the ability of households to adequately cover their expenses such as housing and fuel costs.

30 https://www.gov.scot/publications/know-work-poverty-summary-evidence/pages/2/

31 https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2020/03/working-poverty/documents/poverty-and-employment/poverty-and-employment/govscot%3Adocument/What%2Bdo%2Bwe%2Bknow%2Babout%2Bin-work%2Bpoverty%2Bin%2BScotland%2B2019%2Binterim%2Bfindings.pdf?forceDownload=true

32 Real living wage is a UK wage rate based on living costs. It is paid voluntarily by employers and is independently-calculated based on what people need to get by. Real living wage differs from the National Living Wage and the National Minimum Wage, which are imposed by the UK government. Currently, in Scotland, the real living wage is £9.50, whereas the National Living Wage is £8.91 and the National Minimum Wage is £8.36. Further information on the real living wage can be found on https://www.livingwage.org.uk/what-real-living-wage and on the National Living Wage and National Minimum Wage on https://www.gov.uk/national-minimum-wage-rates.

33 A ‘low work intensity household’ was defined as a household in which work intensity was less than 30 hours per working-age adult. The household work intensity was calculated as the total hours worked by household members, divided by the number of working-age adults living in the household.

34 https://www.gov.scot/publications/know-work-poverty-summary-evidence/pages/2/

35 https://www.gcph.co.uk/assets/0000/4018/In-work_poverty_FINAL_Oct.pdf

36 https://academic.oup.com/esr/article-abstract/28/4/443/428346?redirectedFrom=fulltext

37 https://theconversation.com/one-million-britons-will-be-on-zero-hour-contracts-by-end-of-2020-132338

38 https://journals.sagepub.com/doi/10.2190/HS.41.4.b

39 https://www.ucl.ac.uk/news/2017/jul/being-zero-hours-contract-bad-your-health

40 Quinlan, M and Bohle, PL, Job quality: the impact of work organisation on health, Job Quality in Australia, The Federation Press, A. Knox and C. Warhurst (ed), Alexandria, New South Whales, Australia ISBN 9781862879669 (2015) [Research Book Chapter]

41 As mentioned in the introduction, although acknowledging the vital importance of human and financial costs borne by individuals and their families, this report focuses on providing an estimate of the financial resources the state allocates in the form of direct and indirect expenditures as a result of in-work poverty and precarious work. It is recognised that the estimates presented below focus on certain budget lines only and do not encompass various other spending areas such as the administration of the social security system. Therefore, these expenditures represent a small part of the costs that are linked to the issues of working poverty and precarious work.

42 It is recognised that welfare payments are vital not only to those in working poverty and precarious work, but also to individuals and their families that are unable to work. This expenditure is considered crucial and ensures that all members of society have the necessary support from the state.

43 For the purpose of this report only direct payments are included in our calculations. Thus, estimating the foregone tax revenues is beyond the scope of this report.

44 It is acknowledged that in some countries, such as Finland, free-school meals are considered an investment, and, therefore, are provided to all students. In Scotland, eligibility criteria related to welfare payments need to be met for a student to receive a free-school meal (except those in primary 1,2 and 3). Hence, for the purpose of this report, they are included in our calculations as indirect government

45 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/530659/hbai-low-income-how-is-it-measured-infographic.pdf

46 For the purpose of this report, the latest available data on Average incomes, taxes and benefits by quintile groups for all households in Scotland, 2003/04-2015/16 and Average incomes, taxes and benefits and the number of people in households receiving more in benefits than they pay in tax, Scotland, financial year ending 2017 to financial year ending 2020, published by the Office for National Statistics were used.

47 In Scotland, until 2014, free school meals were only available to children residing in households receiving certain welfare payments, such as income support and child tax credit. After 2015, every child in Scotland at a local council school can get free school lunches during term-time in primary 1, 2 and 3. The calculation of £53 million includes only the registered pupils taking free school meals due to their household receiving welfare payments.

48 https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/adhocs/005662effectsoftaxesandbenefitsonhouseholdincomescotlandfinancialyearending2002tofinancialyearending2015

49 https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/headlinelabourforcesurveyindicatorsforscotlandhi11

50 https://www.gov.scot/publications/poverty-income-inequality-scotland-2015-16/pages/7

51 https://www.webarchive.org.uk/wayback/archive/20180702103308/http://www.gov.scot/Topics/Statistics/Browse/School-Education/MealsSD/mealspesd/mealspesd2018

52 https://education.gov.scot/parentzone/myschool/general-school-information/term-dates/

53 https://www.hse.gov.uk/statistics/tables/index.htm#cost-to-britain

54 Utilising the definition of the International Labour Organisation, when estimating the number of precarious workers, individuals in the following types of work have been included: temporary work (including those in fixed period contracts, agency temping, casual work, seasonal work, and other temporary work); part-time work; self-employment; zero-hours contracts.

55 The term and concept might differ across countries. According to the UK government, zero-hours contracts are usually for ‘piece work’ or ‘on call’ work. Further information can be found on https://www.gov.uk/contract-types-and-employer-responsibilities/zero-hour-contracts

56 The estimated number of precarious workers after 2013 includes individuals on zero-hours contracts. Data prior to 2013 are not available for Scotland.

57 Tax credits, income support and pension credits, housing benefits, and council tax reduction. Pension credits were included in this instance as they were counted along with income support on the data published by the Office of National Statistics.

58 Ibid. It is worth noting that, of course, people in these income deciles will receive government support in many other ways over the course of their life.
59 This annual per person living wage for Albertans is based on hourly living wages for Alberta communities estimated by http://www.livingwagecanada.ca/index.php/living-wage-communities/alberta/
60 https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm
61 https://www.iwh.on.ca/summaries/issue-briefing/unemployment-and-mental-health.
62 Mitchell, W. F. 1999. Estimating Hidden Unemployment in Australia and the United States. Working Paper No. 99-01. Maryland: Center for Full Employment and Equity, University Press of America.
63 Anielski, Mark. 1998. The 1998 US Genuine Progress Indicator: Methodological Handbook. Redefining Progress, San Francisco.
64 Poverty Costs, Vibrant Communities Calgary and Action to End Poverty in Alberta, 2012.
65 The figure is based on the 2012 Poverty Costs study estimates inflated to 2019 dollars using GDP implicit price index for inflation.
66 Statistics Canada data Table: 11-10-0014-01 Sources of income by census family type.
67 Statistics Canada Table: 14-10-0287-03
68 Statistics Canada Table: 11-10-0014-0169 Though it is recognised that for some demographics (new families, students etc.) the 30 hour threshold may be a desirable state of affairs.
70 https://assets.ctfassets.net/6sqqfrl11sfj/74GaTcpz6ENy2AYn8ouQuK/33b7c6c4540f9c3c19f0619199b71e76/Housing_is_a_human_right_FINAL_100119.pdf
71 http://housingandwellbeing.org/assets/documents/One-Year-On-Report-FINAL.pdf
72 https://en.wikipedia.org/wiki/Anglo-Saxon_model
73 Such as manufacturing.
74 Ryan-Collins, J. Lloyd, T., Macfarlane, L. (2017) Rethinking the Economics of Land and Housing. Zed Books
75 https://scotland.shelter.org.uk/housing_policy/key_statistics/homelessness_facts_and_research
76 https://www.gov.scot/publications/homelessness-scotland-2019-2020/
77 The study considered people in households assessed as homeless or threatened with homelessness between June 2001 and November 2016. The estimate was as at 30 June 2015.
78 https://www.gov.scot/publications/health-homelessness-scotland/pages/1/
79 The Scottish Housing Quality Standard (SHQS) is made up of 55 different elements grouped into 5 higher-level criteria: tolerable standard; serious disrepair; energy efficiency; modern facilities and services; and healthy, safe and secure.
80 https://www.gov.scot/publications/scottish-house-condition-survey-2019-key-findings/pages/8/
81 https://assets.ctfassets.net/6sqqfrl11sfj/2KZpuRpa2B413q85RFuRko/97bb7829e7d03150dc314abd1e297f4a/A_NEW_ECONOMIC_CASE_FOR_SOCIAL_HOUSING_final.pdf
82 It is acknowledged that the relationship between the housing market and the below-mentioned impacts is complex due to issues of reverse causality and the existence of other variables that can create spurious associations.
83 https://scotland.shelter.org.uk/__data/assets/pdf_file/0020/1325711/The_use_of_temporary_accommodation_in_Scotland.pdf/_nocache
84 Audit Scotland (2013) Housing in Scotland http://www.audit-scotland.gov.uk/docs/local/2013/nr_130711_housing_overview.pdf
85 A household can accept or refuse offers of temporary accommodation provided by local authorities. Therefore, not all households assessed as homeless enter temporary accommodation. For this reason, the total number of households assessed as homeless differs from the total number of households that are being accommodated at temporary housing. https://www.gov.scot/publications/homelessness-scotland-2019-2020/pages/3/
86 The Ferret submitted a freedom of information request to all of Scotland's councils. From the collected data, it was estimated that local councils spent over £660 million between 2012 and 2017. Further information can be found on https://theferret.scot/councils-half-billion-temporary-accommodation/
87 https://www.gov.scot/collections/homelessness-statistics/
88 https://lankellychase.org.uk/resources/publications/hard-edges-scotland/#:~:text=Hard%20Edges%20Scotland%20which%20has%20been%20commissioned%20by,charitable%20services%20and%20the%20public%20sector%20are%20facing
89 The calculations are based on numerous datasets and take average unit costs from various sources. The authors specify that the estimates remain crude and incomplete as they use a simple average unit cost for each category of episode. It is also highlighted that the excess costs of homelessness may not be directly, solely or even mainly attributable to homelessness, as other characteristics and experiences associated at the individual level may have a strong effect on ill-health. Further information can be found on the Hard Edges Scotland technical report: https://www.therobertsontrust.org.uk/publications/hard-edges-scotland
90 Methods to encourage this include making buy-to-let mortgages prohibitive and providing alternative investment vehicles e.g. state owned banks funding green infrastructure.
91 It is acknowledged that the least deprived cohort might be more inclined to access private health care compared to those in the ever homeless cohort, and, hence, a bias might occur. Yet, as stated in the Health and Homeless in Scotland research analysis, where the Hard Edges Scotland report is partly based on, "the use of private health care accounts for a very small proportion of health activity in Scotland. It is therefore assumed that the effect of this on the results is negligible".
92 Final Report of the Alberta Affordable Housing Review Panel. October 2020. Prepared by SHS Consulting.
93 Final Report of the Alberta Affordable Housing Review Panel. October 2020. Prepared by SHS Consulting.
94 Final Report of the Alberta Affordable Housing Review Panel. October 2020. Prepared by SHS Consulting
95 Ibid.
96 Canadian Public Policy Journal, Volume 46. No. 1.March 2020, pp 22-36 https://utpjournals.press/doi/abs/10.3138/cpp.2019-017?journalCode=cpp
97 https://www.calgaryhomeless.com/wp-content/uploads/2020_CHF_Annual_Report.pdf
98 https://www.lse.ac.uk/granthaminstitute/publication/the-economics-of-climate-change-the-stern-review/
99 It is acknowledged that other expenditures related to fossil fuel developments are borne by the Scottish government, such as the decommissioning in some cases of fossil fuel plants; spending in road transport infrastructure; the use of oil-burning generators, especially in rural areas, due to poor infrastructure developments.
100 https://www.gov.scot/policies/oil-and-gas/
101 http://marine.gov.scot/sma/assessment-theme/climate-change
102 https://www.nature.scot/climate-change/our-changing-climate
103 http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2019)54&docLanguage=En
104 https://www.euro.who.int/__data/assets/pdf_file/0004/276772/Economic-cost-health-impact-air-pollution-en.pdf
105 https://www.climatexchange.org.uk/research/indicators-and-trends/buildings-and-infrastructure-networks/flooding-and-infrastructure/
106 https://www.climatexchange.org.uk/media/1353/counting_the_cost_of_extreme_weather.pdf
107 https://www.sciencedirect.com/science/article/pii/S1877584518300716
108 https://hpspubsrepo.blob.core.windows.net/hps-website/nss/1745/documents/1_air-quality-and-mortality-2014-04.pdf
109 https://www.gov.scot/publications/cleaner-air-scotland-strategy-independent-review/pages/6/
110 http://www.scottishairquality.scot/air-quality/
111 https://www.gov.scot/publications/key-scottish-environment-statistics-2016-9781786525505/pages/6/
112 https://www.gov.scot/publications/cleaner-air-scotland-2-draft-air-quality-strategy-consultation/pages/6/
113 Associated life-years lost: the years of life lost to the population due to increased mortality risk attributable to long-term exposure to particulate air pollution.
114 https://www.gov.scot/publications/cleaner-air-scotland-2-draft-air-quality-strategy-consultation/pages/6/
115 Ibid.
116 https://www.sepa.org.uk/media/163560/sepa-natural-flood-management-handbook1.pdf
117 Ibid.
118 https://www.climatexchange.org.uk/research/projects/property-flood-resilience-scottish-baseline-study/
119 https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2012/02/flood-risk-management-scotland-act-2009-flood-protection-schemes-guidance/documents/00387696-pdf/00387696-pdf/govscot%3Adocument/00387696.pdf
120 Ibid.
121 Ibid.
122 Ibid.
123 As with the other cases we have considered, while recognising the importance and related costs of these profound impacts to individuals and communities, this report focuses on just some of the direct and indirect costs borne by the state in Scotland. It is acknowledged that various other costs occur due to environmental degradation of ecological systems which are not captured here. It is also recognised that not all impacts can be solely attributable to climate change. Yet, given the fact that the extraction of fossil fuels is linked to climate change which results in more intense weather events, like storms and flooding, and the exacerbation of the impacts of air pollution, this section provides an estimate of the related direct and indirect costs.
124 https://www.gov.uk/government/publications/health-matters-air-pollution/health-mat-

ters-air-pollution
125 https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509
126 The fossil fuel subsidies were calculated as fuel consumption times the gap between existing and efficient prices (ie process warranted by supply costs, environmental costs, and revenue considerations).
127 The report presented the fossil fuel subsidies in US dollars in 2017 prices. The equivalent UK values were calculated using the average 2017 exchange rate of 0.7796, according to Her Majesty's Revenue and Customs (HMRC) department. ttps://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671647/average-year-to-december-2017.csv/preview
128 It is acknowledged that the above-mentioned figures are approximations based on UK's post-tax subsidies per capita, as estimated in the study for the IMF, and Scotland's population size, and, therefore, may not be accurate as other geographical and socio-economic factors would also impact the figures.
129 https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections
130 Ibid.
131 https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-temperature-rainfall-and-sunshine-time-series
132 This is calculated based on an estimated 0.174 Mt of CO2e per bbl of bitumen produced or 174 kg CO2/bbl multiplied by $50/tCO2e that would equate to $8.07/bbl in carbon costs.
133 Health Impacts of Air Pollution in Canada Estimates of morbidity and premature mortality outcomes 2019 Report
134 https://www.thestar.com/news/investigations/2018/11/01/what-would-it-cost-to-clean-up-albertas-oilpatch-260-billion-a-top-official-warns.html
135 Source of these estimates is the Alberta Energy Regulator documents. The estimated liability figures are based on the regulator's internal assessments while the calculated liability is based on numbers reported by companies to the AER.
136 https://climatechoices.ca/wp-content/uploads/2020/12/Tip-of-the-Iceberg-_-CoCC_-Institute_-Full.pdf
137 MNP LLP. 2015. Review and Analysis of the Government of Alberta's Response to and Recovery from 2013 Floods. http:// www.aema.alberta.ca/documents/2013-flood-response-report.pdf
138 Commissioner of the Environment and Sustainable Development. 2016. Spring 2016 Reports of the Commissioner of the Environment and Sustainable Development, Report 2: Mitigating the impacts of Severe Weather Events. Office of the Auditor General Canada. Ottawa, ON. https://www.oag-bvg.gc.ca/internet/English/parl_cesd_201605_02_e_41381.html
139 Teufel, B., G.T. Diro, K. Whan et al. 2016. "Investigation of the 2013 Alberta flood from weather and climate perspectives". Clim Dyn 48, 2881–2899.
140 IBC (Insurance Bureau of Canada). 2020. Facts of the Property and Casualty Insurance Industry in Canada. http://assets.ibc.ca/Documents/Facts%20Book/Facts_Book/2020/IBC-2020-Facts.pdf
141 https://edmontonjournal.com/news/politics/auditor-general-says-albertas-hazard-assessment-system-needs-improvements-as-number-and-cost-of-disasters-rise
142 https://www.cusp.ac.uk/themes/s2/low-grow-sfc/
143 https://wellbeingeconomy.org/policyguide
144 https://sustainable-prosperity.eu/
145 https://www.edmonton.ca/city_government/documents/2019_Financial_Annual_Report.pdf