

Decarbonising the welfare state
Version 5
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Over the course of the twentieth century the welfare state emerged as one of the most conspicuous features of the modern polity. Together with a market mediated economy with concentrated private ownership of the principal productive assets, and political systems with multi-party elections and fairly extensive individual rights, the welfare state helps define the basic character of contemporary developed societies. The implications of human induced climate change now pose significant challenges for each of these institutional pillars – raising profound questions about current economic practices, processes of political decision-making and welfare arrangements.

In this chapter we focus on linkages between climate change and the welfare state. Since welfare states are almost uniquely a feature of developed societies, we ignore all international aspects of climate change, unless these impinge directly or indirectly on the welfare states of the West. Unlike most other chapters in this Handbook, there is no systematic academic research, literature or scholarly network on this particular topic, so we must gather material and build our arguments from what is available (but see Gough et al. 2008). In the absence of reliable comparative data, we have mainly used research findings on the UK.

The argument will proceed in three steps: first, a brief characterization of contemporary welfare states; second, a discussion of the challenges to the welfare state from climate change; and third, rethinking the welfare state in light of the decarbonisation imperative.

1. Contemporary welfare arrangements

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Social policy is often defined as the public management of social risks, usually idiosyncratic risks: individually unpredictable but collectively predictable, such as ill-health or unemployment. In order to meet those risks, welfare states transfer the allocation of goods and services from market determination to political determination. They substitute transfer payments and public services as “social rights of citizenship” for income and services allocated by the market. Thus all rich OECD countries have extensive social security systems covering old age, disability, sickness, unemployment and other contingencies, plus comprehensive public education systems. Most, excepting notably the US, also have universal health care entitlements and child allowances and other family programmes (though the Obama health care bill of 2010 will bring the US closer to the mainstream). Today, in the long-standing OECD member states, average social expenditure, excluding education, accounts for around 23 per cent of GDP. This expansion began in the first three decades after the Second World War, but it has continued since. Total social spending in the OECD has increased by five percentage points of GDP in the quarter century since 1980. However, much of this was driven by big expansions in southern European countries (Spain, Portugal and Greece) that were catching up after democratisation in the 1970s; the rate of growth in the Anglophone countries was around three percentage points. This indicates substantial retrenchment in some countries over the past three decades. (This whole section draws on (Castles Francis G. et al. 2010)).

The three decades from the end of World War II to the mid-1970s was exceptionally favourable for welfare states for several reasons. Capital was relatively immobile in the initial period of the post-war settlement, so there was considerable room for redistribution and this was exploited by governments of all partisan complexions. The experience of war and depression paved the way for the emergence of a Keynesian consensus promoting high levels of employment, high tax and expenditures levels and a dominant ideology favouring government management of demand and the business cycle in capitalist economies. Distributional conflicts were mitigated by a comparatively symmetric balance of power between the interest organisations of labour and capital and by relatively high rates of economic growth. Partisan competition as well as system competition in a world now divided by an Iron Curtain further fuelled welfare state expansion. Under these circumstances, social benefits were everywhere significantly raised, existing programmes were extended to cover new groups of beneficiaries and entirely new schemes were adopted. As a consequence, welfare state coverage as well as spending levels rose dramatically with important impacts on policy outcomes including a decrease in inequality and poverty, the limited ‘de-commodification’ of labour, the guarantee of social rights and improved macro-economic performance.

Despite this massive expansion, however, the institutional differences laid down in the era of welfare state consolidation persisted or were transformed in path-dependent ways. Esping-Andersen in his classic *Three Worlds of Welfare Capitalism* identified three quite distinct 'welfare state regimes: (1) a social democratic or Nordic model manifesting high levels of decommodification, with cross-class solidarity resulting in a system of generous universal benefits and a strong state role; (2) a liberal or Anglophone model, with typically low levels of decommodification, more targeted welfare benefits and a strong preference for private welfare spending; and, (3) a conservative/continental model manifesting a moderate-high degree of decommodification, a narrower sphere of solidarity related to occupational status and a commitment to subsidiarity and the preservation of traditional family structures typical of the countries of continental Europe (Esping-Andersen 1990). There has been considerable empirical support for this regime model since then. In analysing the impact of climate change, we must therefore distinguish impacts common to all welfare states from those which differ according to type of welfare regime.

In the 1970s and early 1980s, the 'golden age' of welfare capitalism began to falter, and the 'silver age' began to dawn. The shift to a predominantly service economy and economic globalisation entailed tighter constraints on public revenues, while societal modernisation and changes in the economic structure produced mounting social needs, new risk patterns and new priorities for social policy intervention, with education and social service provision on top of the list. This had to be managed by nation-states whose sovereignty, autonomy and tax revenues were compromised by globalisation. Nevertheless, the overall picture since the oil and stagflation crises of the 1970s has been one of resilience. This can be explained by recognising the way that welfare states shape political interests, institutions and forms of stratification, which then call forth political mobilisations that defend and extend these social programmes. In general terms, welfare states are too important to users and voters to cut back drastically. This can also explain the strong persistence of distinct welfare state regimes within the OECD: different coalitions of professions, welfare beneficiaries, taxpayers, public sector workers, trades unions and business interests can consolidate patterns of welfare provision along universal, selective or corporatist lines.

The overall picture today then is one of slowly rising public expenditure on the welfare state, with cross-national variations fitting the traditional league table notion of a Nordic and continental vanguard of big spenders and an English speaking rearguard of lower spending countries. If anything the gap has widened since spending in the latter group increased the least, and from a low base. The share of social spending in total government expenditure also increased from 39 per cent in 1980 to well over 52 per cent in 2005 - the welfare state has proved much more immune to expenditure retrenchment than other public policy areas such as education, defence, and economic affairs.

Yet, spending has not kept up with rising social needs, driven by demography, family change and socio-economic shifts. By comparing indicators of social rights in 1995 with peak years, it is evident that retrenchment is pervasive. Governments have substantially scaled back pension promises in Italy, Sweden and Germany, and sick pay and unemployment benefits in the Anglophone countries. Redistributive outcomes still vary widely: the Gini coefficient of inequality varies from 0.38 in the US to 0.23 in Denmark and Sweden – a difference of over 65 per cent, and the poverty rate in the US is over three times higher. What is more the gap between countries has widened over the last three decades since the pioneering of neo-liberal policies in the US and UK. But in all countries, welfare states effect some progressive redistribution of individual market incomes.

Coming issues

Before discussing climate change we should briefly note two other critical challenges to contemporary welfare states: demographic change and the aftermath of the 2008 financial crisis. In all countries life expectancy continues to rise faster than predicted resulting in a larger share of elderly in the population. Many European countries also exhibit fertility rates falling well below replacement rate and thus workforces shrinking in absolute size. *Ceteris paribus* the first trend engenders a growing demand for pensions and increasingly costly medical procedures, while the second reduces the size of the working population. Since public pension systems have been predominantly organized on the ‘pay as you go’ model, the next generation of workers will be required to support a much larger cohort of elderly. However *ceteris* is not necessarily *paribus*: social democratic and liberal regimes have higher birth rates than continental countries on average, and many countries have successfully experimented with adaptive changes, for example, raising the age of retirement in line with rising life expectancy and rewarding families with children.

These demographic pressures will be magnified by the continuing fallout from the 2008 financial crisis. Alongside the ‘automatic stabilizers’ (increased spending on unemployment and other social benefits plus reduced tax receipts), states have implemented large discretionary fiscal stimuli to prevent a major depression in the real economy and have spent unprecedented sums bailing out banks and other financial institutions. As a result of these three shifts, average government debt in the advanced G20 countries will increase by some 30 percentage points of GDP from 2008-2014, with higher rises in the UK and US. The implications for Western welfare states are sombre. Unless taxes can be raised substantially, there will be intense pressure to cut resources across much of the welfare state. Nor will this pressure ease quickly; the British Institute for Fiscal Studies speaks of ‘two parliaments of pain’. Thus a ‘fiscal crisis of the welfare state’, much discussed in the 1970s, has returned as a central political issue (Gough I 2010). The crisis may herald long-term stagnation in Western economies most exposed to the financial crisis including Britain, the US, Ireland, Greece, Spain, Portugal, and others. This is the potential scenario within which we must consider the impact of climate change.

2. The Challenge of Climate Change

Climate change poses direct and indirect threats to public welfare in developed states. Although poorer countries in the South are especially vulnerable, developed countries will also be exposed to impacts from rising sea levels, extreme weather events, altered temperature and rainfall

patterns, and the disruption of ecological systems (Intergovernmental 2007a). This will generate risks to life, settlements, infrastructure, industrial and agricultural productivity (hydro power output, crop yields), and so on. Direct risks are expected to affect particularly a) Australia and southern regions of Europe and the US, where heat and water stress will grow, and b) coastal regions vulnerable to rising sea-levels, such as the Netherlands. Over coming decades other parts of the developed world may experience more dramatic temperature changes – for example arctic areas of Canada and Europe. This will have significant impacts on local livelihoods and ways of life, but populations in these northern regions remain small.

Indirect risks include spill over from climate change impacts elsewhere: for example, the potential for distress migration from tropical regions. According to a report by Javier Solana and Benita Ferrero-Waldner, the EU should anticipate ‘a flood of climate change migrants’. Broader concerns include the possibility that climate change may lead to: 1) international conflicts (particularly over water); 2) a breakdown of the global trade regime (if agreement on mitigation proves elusive and conflicts generated by climate-related ‘border tax adjustments’ get out of control); and/or 3) significantly higher food prices. In such cases economic losses could affect overall levels of social welfare in developed states. These spillovers point to an inherent tension within welfare states, that in delivering entitlements to citizens they discriminate against non-citizens and ‘denizens’ and can become ‘fortress’ welfare systems. Climate change, an ineluctably international phenomenon, will test the ability of national welfare states to internationalise and recognise collective responsibility for victims elsewhere in the world.

Focusing more particularly on the operation of contemporary welfare states, climate change presents three basic challenges to the existing institutional configuration: first, it introduces an expanded set of risks and distributional problems which will require active management by social institutions; second, it opens the possibility for conflict between climate-oriented measures on the one hand and traditional social policy goals on the other; and third, it may imply that the economic model that has underpinned the current welfare state is unsustainable. Let us look at each of these in turn.

a) Expanded risks and distributional conflicts

Many of the risks associated with climate change are not new (societies have always had to cope with floods, droughts, violent storms and so on), but their incidence, severity and distribution will change, and welfare policies will have to be adjusted to cope. Moreover, the effects of climate change, of the measures taken to respond to a changing climate (adaptation), and of the policies put in place to slow further change (mitigation) could have profound distributional implications. Climate risks and burdens will press unevenly on different regions, economic sectors, communities and individuals. The same may be true for adaptation and mitigation costs. So measures will be required to ensure an equitable sharing of risks and costs. For example, what support will be given to farmers in regions where agricultural production comes under stress? How will the burden of adjusting settlement patterns in flood plains or vulnerable coastal areas be distributed? How will workers be assisted in industrial sectors that are declining as a direct result of climate policy (for instance coal extraction)? How will regional concerns be balanced when local economies are differentially related to the causes and impacts of climate change? Should

households with high carbon footprints unalterable in the short term be compensated for high carbon prices, and if so how? What will be the social entitlements of climate refugees?

b) Tension among policy objectives

Governments typically struggle to reconcile diverse policy goals and competing claims on the public purse. Climate change policies for adaptation and mitigation throw additional considerations into the mix, and there is ample opportunity for tensions with established social priorities. Traditionally, welfare policies have trumped environmental policies, because direct human impacts from social ills such as poverty and disease usually bite harder and/or more rapidly than do indirect effects of environmental deterioration, and because welfare systems have nurtured interest coalitions in their support. But as worries about climate change become more pronounced they will increasingly preoccupy decision makers. Climate policy measures (but also a failure to enact such measures) could undermine established social objectives. For example, carbon taxes will press more heavily on the poor, who spend a greater proportion of their income on energy. To date environmental protection absorbs a tiny proportion of state budgets (less than one percent according to OECD figures), and one influential economic analysis suggests that a relatively robust mitigation response could be organized for no more than 1-2 per cent of GDP (Stern Review 2007). This is small compared to the overall scale of transfers involved in the welfare system, but to the extent that it consumes new social resources it will cause difficulties for further expanding entitlements. The real worry is that a serious mitigation response will be delayed for one or more decades, and that 1) the *subsequent severity* of the climate impacts, 2) *the scale of the necessary adaptation* activities, and 3) *the cost of the delayed crash mitigation program* that would ultimately be introduced, will result in much more serious economic losses. At that point the urgency of addressing climate change might more significantly weaken state capacity to promote traditional welfare policy objectives.

c) Viability of the current economic model

Contemporary welfare states are predicated on an expansionary economic model, which assumes steadily rising material living standards, a gradually increasing population, and continuous economic growth. This provides jobs and business opportunities, generates tax revenues which finance welfare programs, and provides opportunities that discourage radical demands for wealth redistribution. But - at least up until this point - it also produces a growing environmental footprint of which greenhouse gas emissions are one manifestation. 'Decoupling' economic activity from environmental pressures - so that societies pollute less even as they grow more prosperous - provides one way out of this dilemma. By changing 'the quality of growth', so that it does not harm the environment, development could become sustainable (WCED 1987). But so far evidence for such decoupling is weak: it has been achieved for some problems, in some countries, over fairly limited periods of time. In principle it should be possible to increase resource efficiencies, introduce innovative technologies, and reduce pollutant releases so that imposed environmental burdens fall dramatically.

But to realize *absolute* reductions in environmental pressures while *population* increases, and *material consumption* per capita also rises, would demand high and continuous performance improvements year after year. And given the magnitude of the absolute greenhouse gas

emissions reductions required in coming decades to limit climate change to two degrees of temperature rise, achieving such decoupling represents an epochal challenge. Serious efforts to ‘decouple’ carbon emissions from economic activity have not yet been made, so it is too early for a conclusive assessment. But if room is to be made for peoples in developing countries to raise their living standards (requiring higher resource use and waste generation), some argue that developed countries will have to turn their backs on the expansionary economic model that has so far provided the economic foundation for the welfare state. This does not mean that ‘development’ will cease; industrialised societies will still be able to increase well being: the moral, social, cultural and material position of their citizens. But this cannot be predicated on continuously expanding appropriation from limited natural endowments (arable land, forests, fish stocks, water, the absorptive capacity of the atmosphere, and so on).

3. Rethinking welfare states: Decouple and decarbonise

Addressing climate change requires a transformation of production/consumption practices that produce green house gas emissions; but it will also require a rethink of social welfare institutions built up over the last century. The ultimate consequences for Western welfare states are not clear. But following on from the discussion of economic models above, we can identify two broad, and very different, scenarios:

- (a) using technological innovation to decouple economic growth from carbon emissions and at the same time decarbonise and re-orient the welfare state;
- (b) move from a growth to a steady state economy and radically transform the meaning of welfare and the institutions for achieving it.

We consider each in turn.

Even within the more benign scenario (a) there remain severe implications for western welfare states. Proposals usually entail the idea of ‘policy integration’ – drawing together environment, economic and social decision making (Lenschow 2002, Nilsson and Eckerberg 2007, WCED 1987). Achieving it in practice is critical to addressing the challenges cited above. Over time, welfare institutions will need to be adjusted to address climate risks; and climate policy must be structured to take account of equity. Potentially important issues and avenues for welfare state reform include the following.

1. Green taxes plus adjustments to social security systems

Green taxes have been much discussed but little implemented. General carbon taxes exist in Sweden and Denmark, and more specific taxes, notably on transport fuels, are high in several European countries, such as the UK and Germany. However, the overall yield is small as a share of GDP and has fallen in the 00s. A recent UK fiscal commission studied the effect of raising green taxes to 20% of total tax revenues by 2020, to be offset by lower employer social security contributions, plus 10% spent on retrofitting houses and eco-innovation. The modelling suggested that this alone could achieve the UK’s commitment to reduce GHGs by 34% by 2020 (over 1990 levels). Macro-economic effects would be minimal, except that employment would actually rise substantially due to lower employment costs (Green Fiscal 2009).

However, the effects of the carbon taxation would be regressive, even with the tax offsets and the boost to employment, and policies to ensure fairness would be an essential corollary to ensure public support. Although lower income households spend less on energy on average, it accounts for a higher share of their income. And in the UK 30% of the poorest quintile of households actually use more energy than the national average, mainly because they live in very fuel-inefficient houses or are rural/suburban residents more reliant on cars. Thus carbon taxation requires complementary social policies, both to invest in low-emission housing, transport and communities, and to protect those with low incomes but high carbon consumption (Hills 2009).

2. Develop eco-social investment

By promoting eco-social investment governments can push down greenhouse gas emissions while simultaneously addressing social issues. *Housing*, a neglected part of welfare states, is an obvious area here. The IPCC Fourth Assessment Report shows that baseline carbon emissions could be reduced in the residential sector by 29% at little cost – the highest scope for reductions in any sector (Intergovernmental 2007b). Countries with very inefficient houses, such as the UK, could achieve a win-win outcome by improving quality and reducing emissions. Building standards are much more stringent in, for example, Norway, Sweden and Germany: houses meeting their building codes use around one quarter of the energy of houses meeting the required standards in England and Wales (Monbiot 2006). However, since new building constitutes a tiny fraction of the housing stock, such improvement requires retrofitting millions of properties to a high standard. This could be supported through grants and tax relief, but existing research suggests it requires coordinated local government and community action to achieve the severe carbon reduction targets. The recent UK Climate Change Committee called for street-by-street retrofitting, in essence a new form of social investment policy (Committee Climate Change 2009).

This would mark a shift towards an eco-social investment state. In some respects traditional welfare states have been reprioritising social investment over social protection in the last two decades, but this would mark a step-change. Other areas for such investment include the development of public transportation and the transformation of urban forms. In each case social policy goals (the improvement of the living conditions of citizens, disadvantaged groups, the elderly, and so on) can be combined with climate mitigation and adaptation efforts through public investment strategies. This strategy lies at the heart of recent ‘Green New Deal’ proposals which envisage a transformational programme to reduce the use of fossil fuels and in the process tackle the decline in demand caused by the credit crunch (Nef 2008).

3. Decarbonise existing social services

At the same time existing social services will need to decarbonise rapidly. The welfare state itself has a substantial carbon footprint. For example, the British National Health Service carbon footprint in 2004 was 18.6 mtCO₂, some 25% of English public sector emissions, and it is rising fast (SDC 2008). Transforming energy and transport systems, developing green public procurement, and altering modes of service delivery could make substantial inroads here. There is huge scope to reduce the emissions footprint of government service delivery.

4. Change consumer behaviour

Welfare states all affect some domains of consumer behaviour, either explicitly (alcohol, drugs, parental care, job search, etc) or implicitly. Social policy affords valuable lessons here, for example in the successful reduction of smoking. Most countries have used all three basic means available to governments to shift behaviour: education and persuasion; taxation, subsidies and other monetary incentives; and regulation (including prohibition). But there is critical experience in social policy of their limits. Incentives that appeal solely to self-interest may fail when they degrade intrinsic motivations such as altruism and solidarity. Others recognize the limits of top-down approaches and stress the need to engage people and communities in changing behaviour. Thus social policy can provide valuable lessons and templates in bringing about the much more epochal changes required to mitigate climate change. Yet, anti-smoking policies took 30 years to achieve their present impact, and even now about 30% of adults continue to smoke.

The three areas of individual consumption that most directly effect carbon emissions are housing, transport, and food: housing primarily relates to space heating/cooling, water heating, and household appliances; transport relates to automobile usage and air travel; and food to meat consumption and 'food miles'. In each case there is a complex relation between the potential for collective and individual action: changing consumer attitudes can result in different consumption choices that can have a substantial impact on aggregate emissions; but shifts in regulatory policy (for example building codes, product energy consumption standards, automobile emission standards, and so on) are also important.

5. Utilise synergies

On the bright side, there are considerable potential synergies between climate and, for example, health policies. One UK study concludes that a shift in transport from driving to walking and cycling could bring about significant reductions in heart disease/stroke (10-20%), breast cancer (12-13%), dementia (8%) and depression (5%). Similarly, a 30% reduction in livestock production and consumption would reduce heart disease by 15% (excluding effects on all other obesity-related diseases) (Woodcock J. et al 2009b) (Woodcock J., et al 2009a). These improvements would, *ceteris paribus*, reduce demands on health services and save money. In 2009 overweight and obesity cost the NHS £4.8 billion. If the incidence of obesity in all social classes had been the same as for the most affluent social class 1, the cost would have been £2.2 billion, a reduction of 54 per cent. By 2025 the estimated total cost to the NHS of £8.9 billion would be reduced by £4.8 billion or 46 per cent if the effects of class inequalities were eliminated. This amounts to c10% of the current NHS budget (McPherson et al 2009).

Managing the five issues discussed above will tax the administrative capacities of democratic political systems. It may well be that different welfare states will prove more or less capable of arriving at effective and equitable solutions, returning us to the distinction between different welfare regimes noted earlier on. There is growing evidence within the developed world that welfare regimes map on to environmental regimes. Dryzek concludes: 'social democratic welfare states and what Hall and Soskice call coordinated market economies ... are better placed to handle the intersection of social policy and climate change than the more liberal market economies with more rudimentary welfare states' (in (Gough Ian et al. 2008)). This follows

because their institutions and political culture enable an interventionist state acting to promote the public good, often using the discourse of ‘ecological modernisation’. This is supported in a recent cross-national analysis of environmental governance regimes which identifies six ‘thick eco-states’ combining high levels of government involvement with high scores for civic involvement: Denmark, Norway, Sweden, Finland, Germany and Austria (Duit 2008). The first four are social democratic welfare states and the latter two are paradigm coordinated market economies. Theory and history suggest that different types of welfare state and welfare regime will vary in their abilities to transform into ‘eco-states’ (Meadowcroft 2005).

4. Rethinking welfare states: zero growth and radical transformation

Others profoundly doubt that decoupling of the sweep and speed necessary can be achieved, and especially question whether we can move to a sustainable low carbon world whilst still maintaining growth *in the rich countries* (Jackson 2009). The case rests on arithmetic and ethics. To stabilise climate change on relatively optimistic assumptions may require global carbon emissions of below 4 billion tonnes per annum by 2050. To achieve this with continued global population growth (0.7 per cent a year) and income growth (1.4 per cent a year) would require a *twenty-fold* improvement on the current global average carbon intensity (grams of carbon dioxide per dollar of GDP). But even if this were achieved, it would allow for no greater catch-up by the developing world. The world in 2050 would be one of similarly egregious inequalities and suffering to the present; indeed absolute inequalities would be greater. And it would be a world of continuing cumulative income growth in the affluent West, with average incomes more than doubling again. To achieve a world where the entire population enjoyed an income comparable with EU citizens today, the world economy would need to grow 6 times between now and 2050, implying a technical shift of still higher orders of magnitude if climatic disaster is to be avoided. Jackson concludes: ‘There is as yet no credible, socially just, ecologically sustainable scenario of continually growing incomes for a world of nine billion people’ (Jackson 2009).

If then the ‘growth state’ on which the welfare state was built is unsustainable in the West, the welfare state would have to transform. This would raise the following issues among others.

1. Redistributing carbon

As well as green taxes and regulation there would need to be a more explicit distribution and redistribution of carbon. One way to do this could be through some form of Personal Carbon Allowances and Trading (PCAT) (Committee Environmental Audit 2008). There is a wide variety of such proposals, but all entail a cap on a country’s total GHG emissions (decreasing year by year) and a division of this amount into equal annual allowances for each adult resident (often with a lower allowance for each child). In effect a dual accounting standard and currency is developed – energy has both a money price and a carbon ‘price’. Those who use less than the average could sell their surplus and gain, while higher users would pay a market price for their excess. Advocates claim many benefits: a PCAT scheme covering domestic energy, road fuel and air travel would be on average quite progressive; it would make real the carbon rationing required and could bring about behavioural change more directly and quickly. It could be implemented using personal carbon cards and smart metering, though the administrative

difficulties should not be underestimated. In effect it would constitute a carbon form of the Basic Income idea.

Though PCAT would be inherently progressive, it raises similar issues of fairness to carbon taxation, concerning those living in inefficient or underutilised housing, or dependent on car travel, or with special needs. Too many exceptions to the standard allowance could undermine the scheme, but too few would result in 'rough justice', which could undermine public support. For these and other reasons the UK government is now winding down its support for testing the idea.

2. Redistributing work and time

Employment policy has always been at the core of the welfare state. The post-WW2 assumption was that adult men would work full-time and adult married women would undertake full-time unpaid housework perhaps with intermittent part-time labour. Since the 1960s, women have entered the paid labour force in growing numbers and policies have (slowly and variably) adapted to encourage this. In the 1990s there was a further policy shift notably in the Anglophone states to force or encourage benefit recipients to enter paid wage labour. In all this the official recognition of housework and care work has been absent or sporadic until recently.

However, it is clear that moving towards a steady state economy must entail a significant cut in the share of time spent in paid work. This is so for several reasons, including: to break the habit of working to earn to consume, to distribute working time more evenly across the population, to reduce the ill-being associated with unemployment, and to enable a better balance between paid work and the variety of unpaid activities, such as child care, personal care, engagement in local activities etc. (This goes well beyond the typical economists' trade-off between work and 'leisure'). In the simulations of the Canadian economy undertaken by Victor, a reduced working week emerges as a crucial necessary condition for a high-quality, no-growth economy (Victor 2008). However, it is unquestionable that this policy shift too would raise serious distributional problems, including the risk of increasing poverty among the low paid and trade union opposition to its impact on earnings in all income brackets. The welfare state could play a role in radically redistributing work and time opportunities among individuals, but redistribution of incomes and wealth would also be necessary.

3. Redistributing income and wealth

Welfare states have always been compatible with substantial inequalities of wealth and income; but the more comprehensive social democratic welfare states are also those where economic inequalities are more restrained. To the extent that a low carbon economy slows traditional economic growth it may spark calls for more redistributive policies. Why might this be so? In the first place, resources to deal with climate change adaptation and mitigation will have to come from somewhere, and the argument can be made that the affluent can afford to contribute more. Second, if everyone is being asked to watch their carbon footprint, then the luxury consumption of the rich may fall under the spotlight. Third, since the conspicuous consumption of the affluent is about positional goods and helps drive fashion, it would be disproportionately important to curb excesses. Fourth, there is evidence that large income inequalities erode the social solidarity required for an active public policy oriented to deal with common problems such as climate

change. The traditional redistributive case for welfare states is enhanced in a future of radical climate change mitigation.

The upshot is that in a steady-state economy, a radically different welfare system would need to *integrate the redistribution* of carbon, work/ time, and income/ wealth. At present these are mainly studied, and policies developed, within separate silos, but that would need to change. More generally, this scenario would also require a new indicator system to monitor final well-being and sustainability, as distinct from throughput measures such as GDP (Stiglitz et al. 2009). There is now substantial evidence that excessive economic growth beyond some point (that has been exceeded in most OECD countries) can harm both objective wellbeing and subjective wellbeing as well as environmental sustainability (Kasser 2002). The idea and measurement of wellbeing would be progressively dissociated from that of income and commodity consumption.

4. Rethinking population policy

To the extent that welfare states in developed countries have engaged with population size and growth rates, the concern has mainly been to reward larger families (in countries where birth rates have fallen well below replacement levels), to address the problem of ageing, and to manage immigration. A steady state economy would ultimately be predicated on stable population levels. And since (other things being equal) more people imply more greenhouse gas emissions, climate change raises anew the question of appropriate population size. Jonathan Porritt, the recent Chair of the UK Sustainable Development Commission, for example, has warned that Britain must drastically reduce its population if it is to build a sustainable society. And the Optimum Population Trust advocates a goal of halving the UK's present size to 30 million people. Yet immigration is a sensitive political issue in most developed states and issues related to reproductive rights and family planning provoke serious controversy. How this is to be handled during the protracted period where population growth in developing countries remains high, and the economic inequalities between North and South remain pronounced, is unclear. Yet it is hard to imagine that this issue can be bracketed indefinitely, and sooner or later arguments about appropriate family size and population levels and growth rates will come to the fore.

Conclusion

Climate change will raise extra demands for 'traditional' social policy measures, add new demands to manage harmful consumption, generate additional fiscal requirements for environmental policies and expenditures, and pose novel distributional dilemmas for welfare states. This transformed landscape will impose major adaptations on existing welfare states. , even if decoupling is successful and continuing green growth can supply additional revenues to fund these new policy demands. In this case it is likely that universal redistributive welfare states and coordinated economic systems will be better able to adapt to a welfare-eco state model.

But if proponents of steady-state economics are right and continued economic growth in the rich world is incompatible with sustainability, then all forms of existing welfare state would need to radically transform. In which case we might see what would amount to a second de-commodification of capitalism. The first de-commodification, so memorably described by

Polanyi ultimately created welfare states – citizenship entitlements to common need satisfiers and social benefits mainly provided by public services paid for by taxes and social contributions. However, though entitlements were de-commodified, the services were produced in a commodified form. This second stage would entail a move towards de-commodified *production* – reducing working hours and commodity purchases, developing ‘co-production’ (comprising civic and household economies), and fostering preventive social behaviour (NEF 2009).

However, can either scenario evolve in resilient, path dependent, inertial institutions such as established welfare states? There are at present few signs of the collective agency such a radical shift will require. The current conjuncture of economic crisis and dangerous climate change presents us with an unprecedented problem of system (dis)integration but without a coherent social movement to advance what appears to be the only sustainable solution. This leaves elite self-interest as the main stimulus for reform – a not inconsiderable resource. But the lessons from the history of welfare states suggest that radical reforms are most successful and durable when elite self-interest is combined with mobilisation and pressure from below. This chapter has not considered the politics of climate change and the structure of interests and mobilisations around this issue, a critical gap which other chapters address.

Of course it is always possible that a third option will prevail: societal paralysis, ‘producer capture’, muddle along and hope for something to turn up....

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