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Cross countries: international comparisons of intergenerational trends

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Executive Summary

In this report – the fifteenth for the Intergenerational Commission – we explore the extent to which the UK's generational living standards challenge is replicated in other high-income economies, focusing on trends in household income and experiences in the labour and housing markets.

Public concern about the living standards of young adults compared to those of their parents' generation is evident across high-income countries, and our findings indeed point to **many areas in which the generational challenge appears shared**. These range from **ageing populations driving fiscal pressures; to a financial crisis affecting younger workers in particular; to housing cost pressures shifting increasingly towards households in working age**.

Overall, **the pace of generation-on-generation growth in household income – a common benchmark of day-to-day living standards – has slowed across high-income countries**. It is common for millennials (born 1981-2000) who've already reached their early 30s to have experienced little or no income improvement on generation X (born 1966-80).

However, our findings also mark the UK out in terms of the degree of *reversal* in young adults' fortunes. With the partial exception of Spain, **the UK is the only advanced economy in which large generation-on-generation progress on both household income and home ownership rates was a feature of the 20th century but has failed to materialise for younger generations so far in the 21st.** While young adults in other high-income countries face many challenges that are not seen in the UK, not least those in southern Europe where youth unemployment has rocketed, this generational boom and bust is arguably what has driven the recent salience of UK intergenerational debates.

Many of the contextual factors underpinning the UK's intergenerational debate are observed across advanced economies

Pessimism about the living standards prospects of younger generations is common across high-income countries, with the UK more downbeat than most. Both long-run trends and more recent developments provide the backdrop to this public concern.

In all high-income economies, the post-war baby boom and increases in life expectancy have acted together to bring about population ageing in the coming decades in particular. It's not just UK politicians who have to face up to the fiscal implications of this shift.

Those in their late teens and early 20s are less likely to vote than older people across advanced economies, with the turnout gap larger in the UK than elsewhere. The evidence suggests that this difference remained sizeable in the UK's 2017 general election, although turnout increased markedly for a slightly older group in their 30s and early 40s. While age is by no means the only determinant of whether

policies appeal to people, turnout patterns combined with fluctuating cohort size suggest some commonalities in the relative political sway of different generations across high-income countries.

It's not just long-term issues that are shared. **The most acute challenge in recent years – perhaps particularly for those at the beginning of careers and so more exposed to shocks – has been the experience and aftermath of the financial crisis**. Falling GDP per capita is a common feature (Australia excepted) across the countries featured in this report.

Generation-on-generation income gains have declined everywhere, but the UK is one of a small number of countries to have had then lost them

In common with the UK experience, **millennials and members of generation X have real incomes little or no higher than their predecessors at the same age in almost all of the countries covered by this analysis.**

Variation emerges, however, when we look at the shape of generational progress over the past half-century. **The UK stands out as one of a small number of countries in which large generational income gains for today's older generations when they were younger have been replaced by a lack of progress for today's younger generations.** It is this reversal in the fortunes of generations alive today that perhaps drives the pessimism with regards young people's prospects that we have identified in the UK.

In the US and Germany (albeit measured over a shorter time-period), generation-on-generation income gains have been minimal, or non-existent, for a long time. **Median income for older members of generation X in the US (those born in the late 1960s) is currently no higher than median income for the youngest members of the greatest generation (those born in the early 1920s) when this group was also aged 45-49.** Of course, the level of median income is higher in the US than in all other large advanced economies, but nonetheless this long-standing lack of generational progress stands out, reflecting economic weaknesses that pre-dated the financial crisis and rising inequality.

In southern European economies, the financial crisis has clearly had a large detrimental effect on the prospects of younger generations. It's not just that the millennials and generation X in these countries haven't enjoyed as rapid income growth in recent years as their predecessors did, but rather that their income growth has been all but non-existent.

As such, **in Spain, Italy and Greece those millennials who have so far reached their 30s have significantly lower incomes than generation X had at the same age.** In Greece, this fall isn't confined to the young – the baby boomers are also currently worse off than the generation that preceded them. The story is Spain is similar to that in the UK, in so far as today's weakness follows a period in which strong generational income progress was the norm.

Labour market responses to the crisis were far from uniform – younger cohorts in the UK have experienced among the worst pay performance

Household income is shaped by a number of factors, none more important than the labour market. Since the financial crisis, the UK labour market has outperformed expectations in terms of employment but underperformed, particularly for the young, in terms of real earnings growth.

We find that between 2006 and 2014 cohort-on-cohort progress in real earnings went into reverse for all working-age cohorts in the UK and Greece. In 2014, the UK cohort born in the years around 1980 earned 13 per cent less than the cohort born around 1970 did in 2006. In Greece this decline was 25 per cent.

In Spain and Italy cohort-on-cohort falls in real earnings between 2006 and 2014 were smaller than in the UK, some of which is likely to reflect falling labour market participation rates changing the composition particularly of younger cohorts. In the US and France cohorts were earning similar amounts in 2014 to their predecessors in 2006. Meanwhile in Nordic economies, real earnings progress for younger cohorts has continued over the years since the financial crisis.

The other side of the UK's weakness on earnings is relatively healthy employment performance. **The increase in the youth unemployment rate – though significant in the UK – has not been anywhere near as large or persistent as in a number of southern European economies**. In these countries youth unemployment is still a very long way from pre-crisis lows, a very different experience to that in the UK where youth unemployment has now returned to similar levels as last experienced in the 2000s.

Looking across advanced economies and comparing changes in youth unemployment rates and youth earnings between 2006 and 2014, we find that experiences were not uniform even among countries with similarly-sized economic shocks. Real earnings for adults aged under 30 fell much further in the UK than in the US or Denmark, despite a similar economic backdrop and similar youth unemployment experiences. The large post-crisis depreciation in Sterling is part of why the UK underperformed on earnings, but it can't explain why younger cohorts fared worse than older ones. **Real earnings fell twice as fast between 2006 and 2014 for the under 30s in the UK than for those in their 50s – a bigger age divide than recorded in any other country with pronounced earnings declines overall.**

Structural labour market trends that have borne down on younger cohorts' pay in the UK are seen in certain other advanced economies

It's not just post-crisis effects that have held back generation-on-generation earnings progress in the UK. Longer-term trends have also shaped the extent to which our labour market has delivered for young people.

Job-to-job moves – a key mechanism by which workers secure big pay rises, particularly when young – have followed a similar path in the US and the UK over the past two decades. In both countries there is clear evidence of pre-crisis structural declines in mobility, and job moves also fell sharply during the crisis for all age groups in both countries.

However, **the job mobility rate for young people is still substantially lower than it was in the early 2000s in the UK, whereas in the US it has recovered**. This will be acting as a continued drag on pay growth for younger workers in the UK.

The sort of work that young people do has also been changing since long before the crisis. **In the UK and some other northern European countries there is evidence of a structural rise in part-time working particularly among young men.** The proportion of young men (aged 15-29) working part time increased by 7 percentage points between 1996 and 2016 in the UK, with over half of this increase taking place between 1996 and 2007. Elsewhere, the same trends have been more of a cyclical phenomenon – 80 per cent of the increase in young men working part time in Spain since 1996 has taken place since 2007.

Though some young men might be actively choosing to work part-time and these trends may reflect a more equal sharing of working and family responsibilities across the sexes, UK evidence shows that much of the increase is involuntary and associated with low pay.

A final long-run consideration is the timing of increases in educational attainment. **Cohort-on-cohort educational gains, measured in terms of the percentage increase in the proportion of each cohort with a tertiary-level qualification, have slowed in almost all advanced economies.** The increase in the share of people with tertiary-level qualifications between the 1960s and 1970s birth cohorts was larger in the UK than anywhere else. The rate of increase between later cohorts is significantly smaller, implying that the boost that educational improvements provide to earnings growth will have shrunk more here than in many other economies.

Older generations in the UK have experienced the greatest historical gains in home ownership, while younger generations are experiencing the largest falls

Since the crisis home ownership rates have declined in a number of high-income countries. But, in the UK and Australia home ownership declines have been longer--standing. This has resulted in a reversal of generational progress starting with generation X in the UK and the baby boomers (born 1946-65) in Australia.

In recent years, generational falls in home ownership rates have been larger in the UK than in other countries where housing was cited as a top concern for young people's living standards prospects. In the UK, home ownership rates for millennials at ages 25-29 are 27 percentage points lower than they were for the baby boomers when they were the same age. This is compared to a 5 percentage point fall at the same age in Australia.

These large falls have occurred against a backdrop of large generation-on-generation improvements in home ownership for older generations in the UK. The increase in home ownership rates from the greatest generation (born 1911-1925) to the baby boomers, at 29 percentage points, was far larger in the UK than elsewhere. As was the case with incomes, the reversal of progress for generations alive today perhaps underpins perceptions that we face an acute intergenerational challenge here.

Since housing is a major determinant of wealth, **falling home ownership has contributed to declines in cohort-on-cohort wealth progress in both the UK and the US.** Reflecting the UK's longer-standing housing problems, these declines started earlier and run deeper in the UK, whereas in the US they appear largely crisis-related.

Underpinning declining home ownership has been **large historical increases in house prices relative to people's incomes – a trend that has occurred across high-income countries.** The UK is among the worst performing countries with an average increase in its house price to income ratio of 1.4 per cent a year between 1987 and 2016. A key driver of this outcome has been **low levels of housing stock relative to population size and sluggish levels of house-building since at least the 1990s compared to other high-income countries.**

As well as affecting longer-term asset accumulation, the key implication of these housing trends in the UK has been increases in the share of income spent on housing at every age for all generations alive today. **The UK certainly ranks highly among advanced economies in terms of its housing costs challenge, but is by no means unique**. It has the third-highest working age housing cost to income ratio of the countries studied here (behind Greece and Denmark), and is one of a number of countries where housing costs as a share of incomes have increased faster for working age households than retired households since 2005.

Ultimately, this report shows that although generational progress on incomes and housing is lacking in the UK for younger generations, it is something that existed (to varying degrees) in the recent past here and overseas.

Large variations in generational outcomes were evident before the financial crisis, suggesting that, with the right focus and informed policy decisions, generational progress can be achieved. It is to this challenge that forthcoming policy options papers for the Intergenerational Commission will turn.

Section 1

Introduction

This introductory section explores the extent to which certain elements of the generational living standards challenge that the Intergenerational Commission has focused on are specific to the UK. It examines the state of debate in other high-income countries and draws comparisons between the specific country contexts in which these debates have emerged. We find that pessimism about generational living standards progress is shared across high-income countries, and that the UK's demographic challenges are far from unique. Similarly, low electoral turnout among younger cohorts and the fact that these cohorts began careers in the midst of a global financial crisis are common experiences, although in both cases there is wide cross-country variation.

There is a consensus across high-income countries that generational living standards progress has gone into reverse

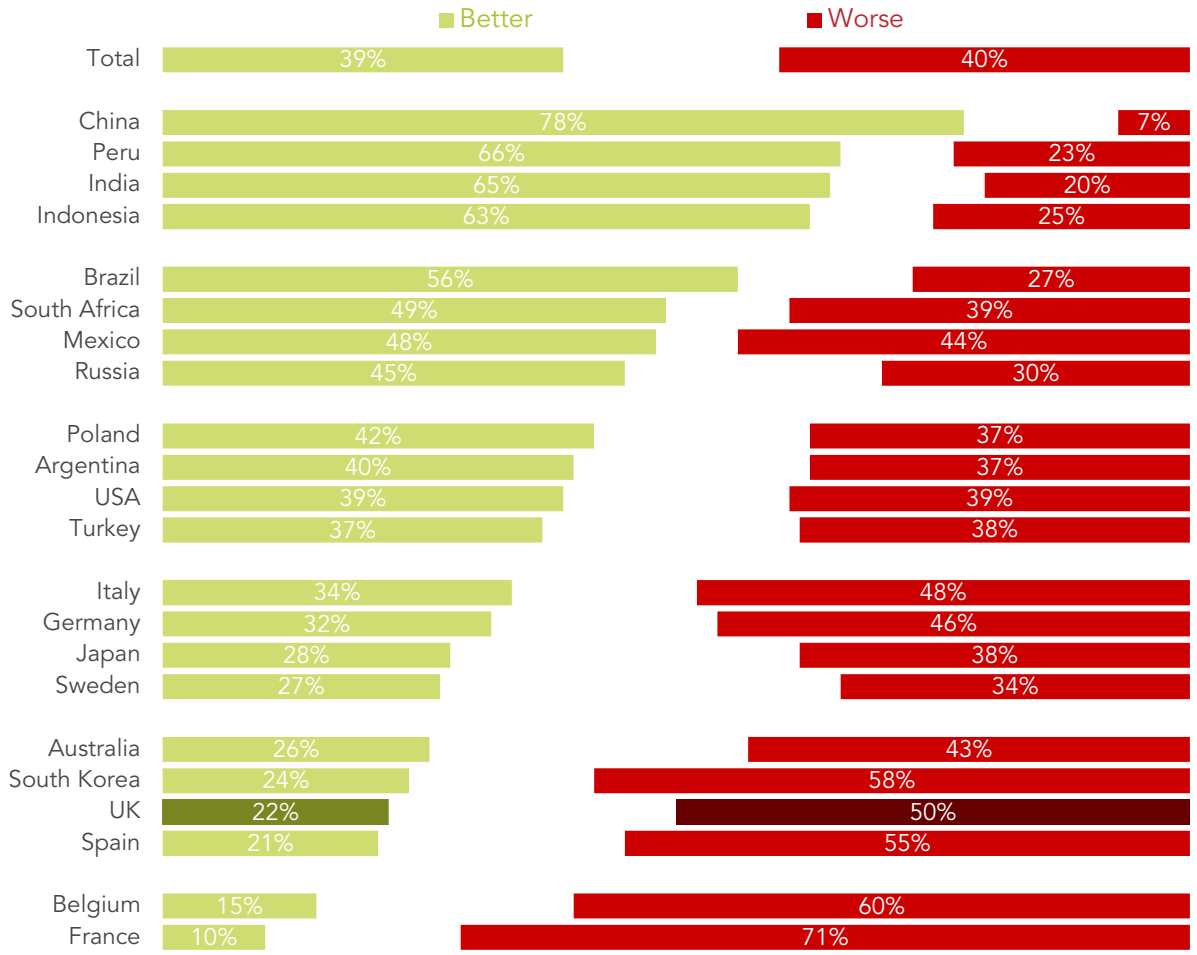
Previous research for the Intergenerational Commission has established that adults in the UK are pessimistic about the living standards prospects of today's young people. As Figure 1 shows, in 2016 only 22 per cent of adults in the UK believed that young people (aged 17-36) would have a better life than their parents. This is compared to 50 per cent who thought that young people would have a worse life than their parents.[1]

This pessimism is reported in many other high-income countries, but in many low to middle-income countries the optimists significantly outnumber the pessimists. As Figure 1 shows, a majority of people in fast-developing countries like China, Peru and India believe that younger generations will have a better life than their parents did.

1 H Shrimpton et al., *The Millennial Bug: Public attitudes on the living standards of different generations*, Resolution Foundation, September 2017

Figure 1: **Whether young people will have a better or worse life than their parents, by country: 2016**

Q: To what extent, if at all, do you feel that today's youth will have a better or worse life than their parents, or will it be about the same?



Notes: Base of 18,810 adults aged 16+ in 22 countries, fieldwork conducted September-October 2016.

Source: *Ipsos Global Trends Survey 2017*

It is likely that adults in high-income countries feel less positive about young people's future prospects than those in low to middle-income countries because of differing generational experiences of economic growth. In advanced economies like the UK, sustained economic growth and prosperity, albeit interspersed with a number of economic shocks, have underpinned historical expectations of generation-on-generation progress which are now being disrupted. In contrast, the optimism of late-developing countries is likely to reflect a transition from low growth rates and prosperity to fast growth and emerging middle classes. For the purpose of comparability, the remainder of this report will focus on the experiences of generational progress in the UK and other advanced economies or high-income countries.

While pessimism regarding young people's prospects appears to be prevalent across high-income countries, Figure 1 also shows that Britain is among the most pessimistic.

Only adults in France, Belgium and Spain were less positive about the future of younger generations. However, until the recent surge in interest in the topic, the UK had found itself behind the curve on the intergenerational debate.

Although intergenerational inequality had been building in the UK since long before the onset of the financial crisis, it was only until after the crisis that the intergenerational debate began to gain traction. *The Pinch* by David Willetts, published in 2010, was the first book to assess inequality in Britain through a generational lens.[2] Since then, a shared understanding that today's younger generation are facing unique challenges has emerged. More recently, the issue has risen rapidly up the agenda due to an increased focus on young people in the 2017 general election.

The issue gained traction far earlier in the US due to concerns about the increasing debt levels of young people,[3] as well as an increasing 'dependency ratio' – the share of children and those in old age to the working age population – placing significant pressures on the future of social security.[4] In Germany, the debate also became prominent in the 2000s as a result of worries about high dependency ratios driven by low birth rates.[5] In Southern European countries, such as Greece, Spain and Italy, high levels of youth unemployment had sparked the debate there prior to its emergence in the UK.[6]

As with any wide-reaching issue, there are variations in the specific challenges faced within each context. This is reflected in the differing perceptions of which issues facing younger generations are the most pressing from country to country. Polling by Ipsos MORI found that adults in the UK were most pessimistic about today's younger generation's chances of being able to own their own homes.[7] This was also a key area of concern in Australia and to a lesser extent in the US, Spain and Sweden. However, concerns about housing were not replicated across other high-income countries. In comparison, job security was a particular area of concern across Europe and concerns about retirement living standards featured highly for all but one of the countries studied.[8]

The baby boom and life expectancy surprises have created big fiscal challenges everywhere

Concerns about ageing populations drove early adoption of the debate on intergenerational fairness in a number of countries. In the US, these concerns were centred on the future of the social security system which, while already operating on a cash flow deficit, faces questions about how it will finance the retirement of the large baby boomer cohort, as the relative size of the working age population paying into the system declines.[9]

2 D Willetts, *The Pinch: How the Baby Boomers Took Their Children's Future – And Why They Should Give It Back*, September 2010

3 A Kamenetz, *Generation Debt: Why Now is a Terrible Time to be Young*, February 2006

4 L Kotlikoff & S Burns, *The Coming Generational Storm: What You Need to Know about America's Economic Future*, February 2004

5 W Scholz, *The Social Budget of Germany: Keeping the Welfare State in Perspective*, January 2009

6 S Danziger & C Rouse, *The Price of Independence: The Economics of Early Adulthood*, January 2008

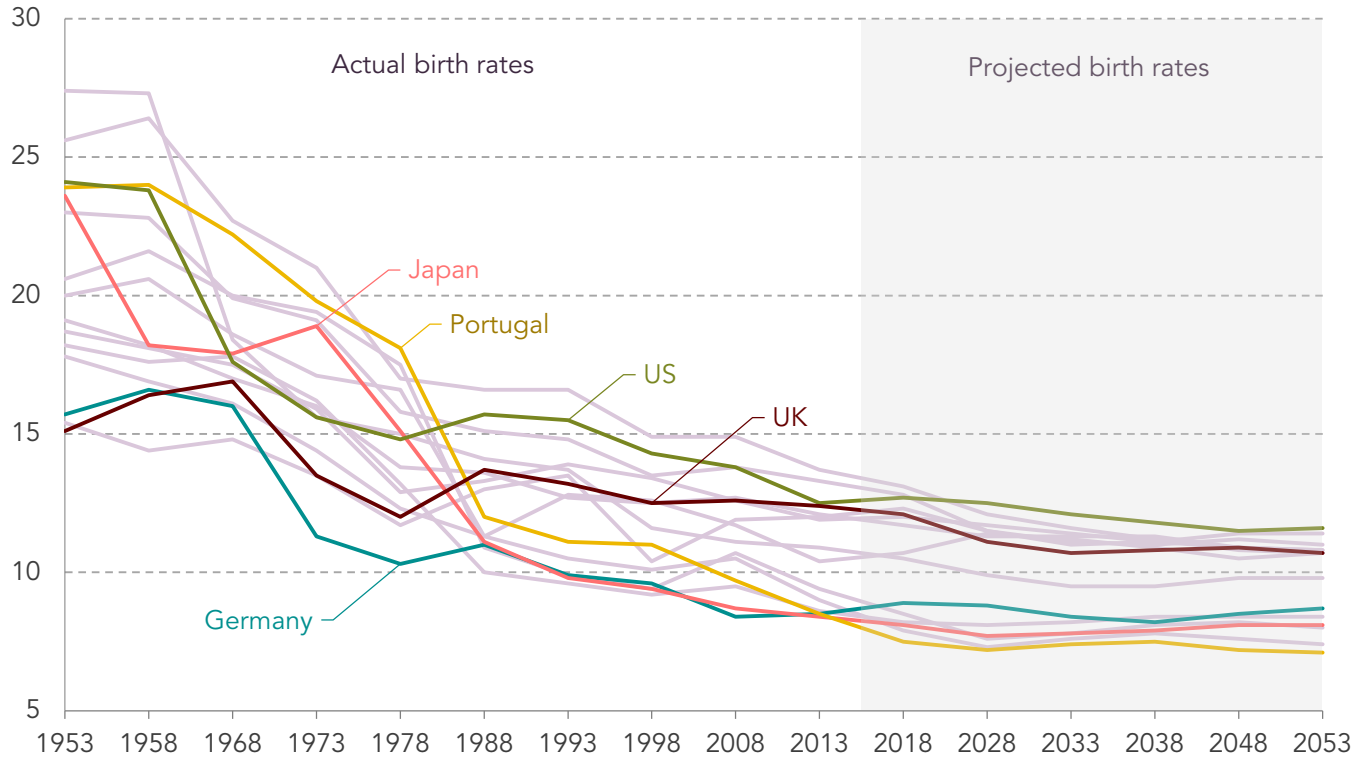
7 Just one-in-nine adults (11 per cent) in the UK thought that young adults had a better chance of owning their own homes than their parents compared with one third globally (33 per cent).

8 Ipsos MORI, *Global Trends: Fragmentation, cohesion and uncertainty*, 2017

9 L Kotlikoff & S Burns, *The Coming Generational Storm: What You Need to Know about America's Economic Future*, February 2004

Although the challenges facing the US social security system have been driven by a much broader range of factors than just demographic shifts, this situation illustrates how such shifts can contribute to fiscal pressures that affect living standards both now and in the future. Research for the Intergenerational Commission has previously detailed how similar demographic patterns to those experienced in the US are evident in the UK.[10] Figure 2 shows that one of the key drivers of these patterns – a declining birth rate – is also evident in high-income countries across the globe. All of the countries shown below experienced a baby boom in the post war era and have since experienced large birth-rate declines, although some far steeper than others. And interestingly, forecasts for the US and the UK are less concerning than those for many other countries. Amongst those with the greatest declines to-date are Japan and Portugal, in which the number of births per 1,000 population halved between 1953 and 1988.

Figure 2: **Births per 1,000 population: 1953-2053**



Notes: Countries included are Japan, Denmark, Norway, Sweden, Greece, Italy, Portugal, Spain, France, Germany, Canada, US, Australia, New Zealand & UK.

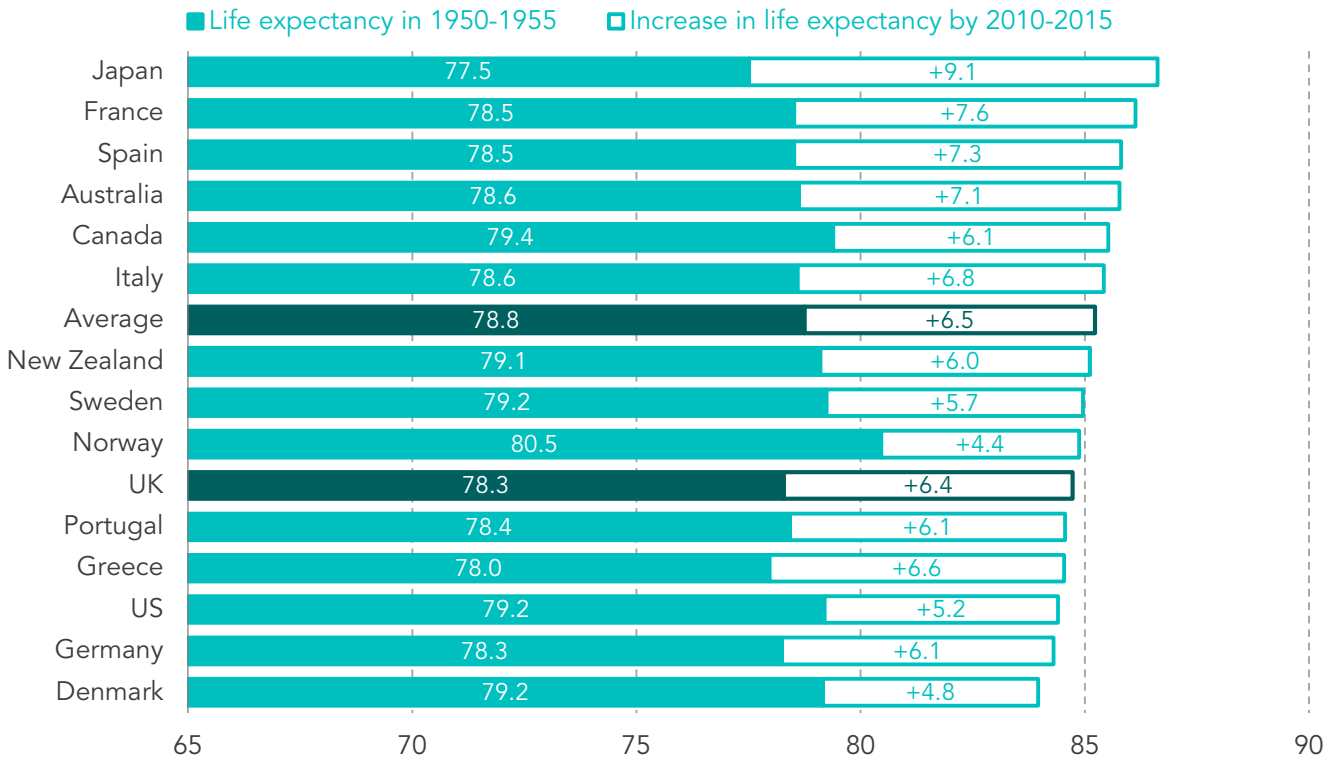
Source: UN, *World Population Prospects 2017*

In addition, improving life expectancies, as a result of generational health advances, mean that more people are surviving into old age and experiencing longer retirement periods. As illustrated in Figure 3, across high-income countries the overall life expectancy of those who make it to age 65 has increased by an average of 6.5 years since the 1950s. The greatest improvement to life expectancy at 65 – of 9.1 years – has

10 D Finch, *Live long and Prosper: Demographic trends and their implications for living standards*, Resolution Foundation, January 2017

occurred in Japan which, in its experience as a late-developer, has not only caught up, but exceeded the life expectancies of other advanced economies. In contrast, improvements in the US are amongst the lowest at only 5.2 years, and the equivalent figure in the UK is 6.4 years.[11]

Figure 3: **Period life expectancy at 65**



Notes: Average of countries shown

Source: UN, *World Population Prospects 2017*

11 These figures are calculated using a 'period' life expectancy approach which estimates the future life expectancies of 65 year olds based on life expectancy outcomes in the current year. In previous reports we have used a 'cohort' approach which accounts for expected improvements in the mortality rates of today's 65 year olds at older ages. The cohort approach is preferable as we can reasonably expect someone reaching the age of 80 in 15 years' time to have, on average, a greater chance of survival to age 81 than an 80 year old today. However, 'cohort' life expectancies are not available for international comparisons.

Moreover, life expectancy at birth has increased by an average of 14 years across the countries studied.[12] This reflects decrease in the difference between average life expectancy at birth and average life expectancy at 65 of 7 years. Since average life expectancy at birth is skewed downward by the proportion of people who die at younger ages, the decline in the difference between life expectancy at birth and life expectancy at 65 reflects a significant increase in the number of people surviving into old age.[13]

Of course, longer life expectancies indicate an improvement in living standards, with people remaining in better health for longer periods. But, having a greater share of older people in a country, while something to be celebrated, also poses challenges for society as a whole.

As in the US and many other economies, the UK's welfare system has largely been operating on a 'pay as you go' basis, meaning that the working population earns and pays taxes to fund benefits and state pensions as well as wider government spending on provision such as schools and healthcare, which are largely consumed by the old and young. As such, rather than setting aside resources during their working life which they then consume in retirement, younger generations support older generations during their working lives and expect that they too will be supported by the next generation of workers when they themselves retire.[14]

As the size of the working population declines, relative to the size of the dependant population, paying the taxes that fund such support becomes more burdensome per-head, placing a greater strain on individual working age living standards. As recent research for the Intergenerational Commission has highlighted, in the UK these demography-driven fiscal pressures imply that larger cohorts like those containing baby boomers may, on average, have much greater 'net withdrawals' from the welfare state (the amount of support received less taxes paid) than smaller cohorts do.[15]

12 UN, *Work Population Prospects 2017*, 2017

13 D Finch, *Live long and Prosper: Demographic trends and their implications for living standards*, Resolution Foundation, January 2017

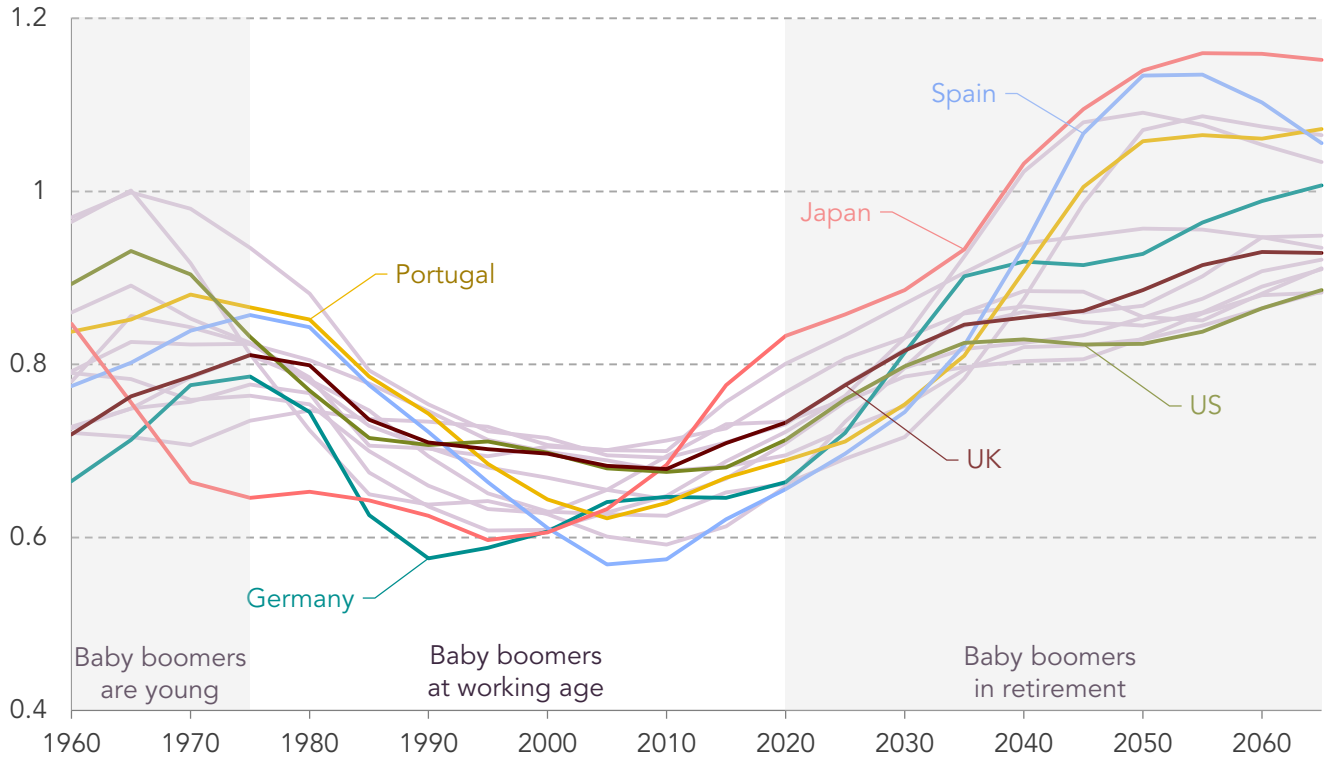
14 Although this is generally the case, the realities of how retirement is financed is more complex. Private asset accumulation, such as the accumulation of housing and savings, also plays a key role.

15 G Bangham, D Finch & T Phillips, *Welfare generation: Lifetime welfare transfers between generations*, Resolution Foundation, February 2018

In a previous report focused on the demographic challenges facing the UK, we identified that having fallen since the 1970s, the ratio of workers to non-workers ('dependants') is now rising. The previous decades of improving dependency was due to the relative size of the baby boomer generation (born 1946-1965) progressing through working age, and the increased labour market participation of both women and older people.[16] Here we illustrate this using a simple age dependency ratio which we define as the number of people aged 20 to 64 (working age) relative to those aged under 20 (the young) and 65+ (the old).

As with the demographic shifts mentioned above, actual and projected dependency ratios across the countries studied follow a similar pattern to the UK, with falls toward the second half of the last century followed by a significant rise in the first half of this century. This is shown in Figure 4. The peaks in dependency ratios around the late-1960s and 1970s represents the point at which members of the baby boomer cohort were just reaching working age. Higher dependency ratios in the years prior to this were caused by large numbers of dependent 'children' i.e. under 20s. In contrast, the increase in dependency ratios starting around the 2000s is caused by an increase in the proportion of over 65s.

Figure 4: **Population under 20 and over 64 as a proportion of the working age (20-64) population**



Notes: Countries included are Japan, Denmark, Norway, Sweden, Greece, Italy, Portugal, Spain, France, Germany, Canada, US, Australia, New Zealand & UK.

Source: UN, *World Population Prospects 2017*

16 D Finch, *Live long and Prosper: Demographic trends and their implications for living standards*, Resolution Foundation, January 2017

The dependency ratio in Japan, which has experienced the greatest demographic shifts, is expected to rise the most, reaching a peak of 1.16 (116 dependants for every 100 working age people) in 2055 from a low of 0.6 in 1995. In comparison, the UK's dependency ratio will peak at 0.93 in 2060 from a low of 0.68 in 2010.

Although dependency ratios are useful for providing a high-level overview of key demographic trends, we should be careful not to overstate the coming challenge based on what is essentially a simplistic approach. This approach fails to recognise a number of key factors that may alter the conclusions otherwise drawn: sensitivities in population projections and assumptions about the underpinning drivers; improvements in longevity against a fixed age-threshold for defining the older population; how labour market participation rates have changed and may change in future; and the breadth and age-profile of the tax base in terms of meeting the fiscal challenge that these demographic patterns can precipitate.[17]

A smaller cohort and low voter turnout mean that millennials are having less of a say in political decision-making

As well as contributing to fiscal pressures, unequal cohort sizes can affect the political sway of different generations. By definition smaller age cohorts collectively have lower levels of voter power. In the UK, this fact has been exacerbated by electoral turnout trends: the smaller size of the millennial generation (born 1981-2000), combined with a 'youth turnout gap' (lower turnout among the young than at older ages) that has become much larger over time, have meant that the baby boomer generation has benefitted from a four million person ballot box advantage.[18] While age is by no means the only determinant of whether certain policies appeal to certain people, a superficial correlation between generational voting blocs and the adoption of certain tax and benefit policies in the UK – for example recent cuts to working age welfare set against the protection of pensioner benefits – is evident.

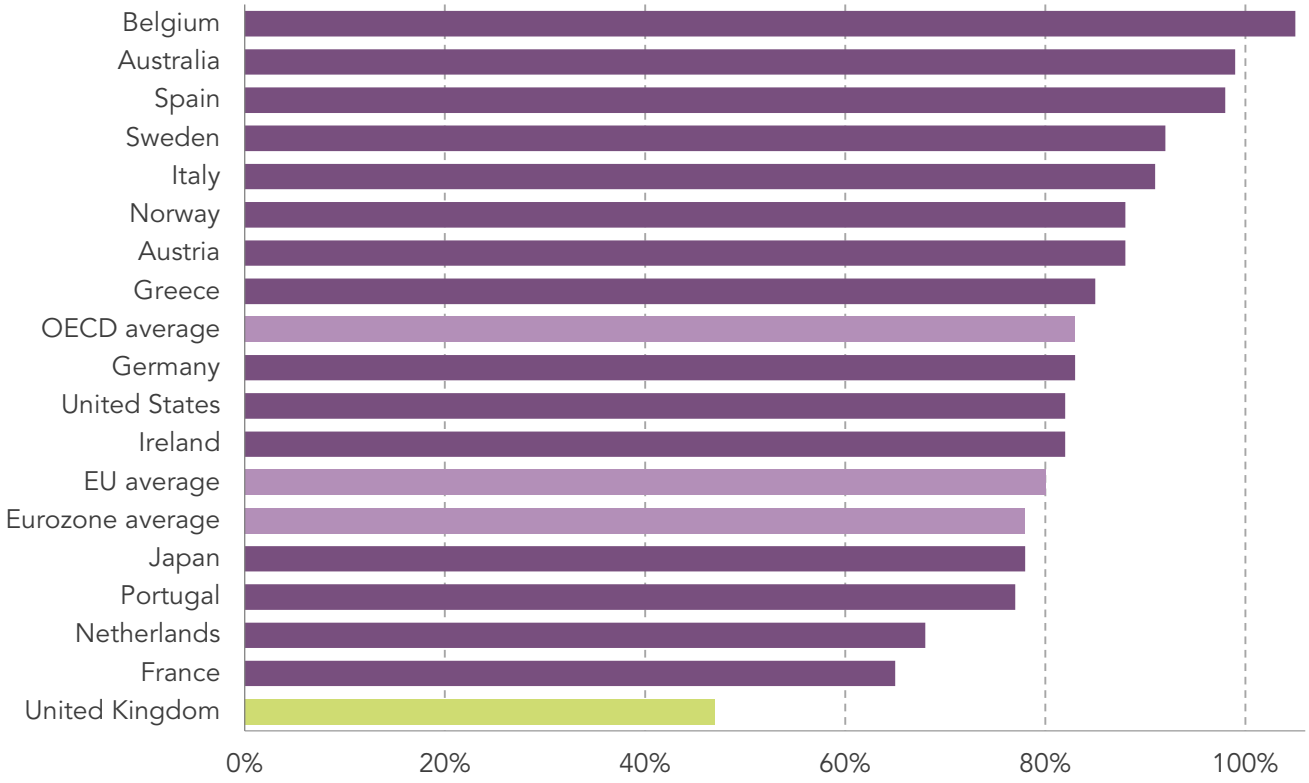
Figure 5 shows that in the latest national election up to 2014, young people (aged 18-24) were less likely to vote than people aged 25 to 50 across high-income countries. This was the case in all of the countries examined except Belgium in which voting is compulsory, as it is in Australia which ranks second-highest. In this dataset at least, youth turnout levels relative to the turnout levels of older age groups were lower in the UK than anywhere else.[19]

17 Specifically, recent analysis for the Intergenerational Commission has pointed to greater taxation of wealth – disproportionately concentrated in cohorts at or nearing retirement – as a partial solution to the UK's fiscal challenges. See: G Bangham, D Finch & T Phillips, *Welfare generation: Lifetime welfare transfers between generations*, Resolution Foundation, February 2018

18 L Gardiner, *Votey McVoteface: Understanding the growing turnout gap between the generations*, Resolution Foundation, September 2016

19 The data used here shows a large relative turnout gap for the UK, notably higher than in other countries. On other estimates the UK still performs badly but is less of an outlier. For example, previous Intergenerational Commission analysis found a smaller, but still sizeable, age turnout gap. See: L Gardiner, *Votey McVoteface: Understanding the growing turnout gap between the generations*, Resolution Foundation, September 2016

Figure 5: **Turnout of people aged 18-24 relative to turnout of people aged 25-50: 2014 or earlier**



Source: Module 4 of the *Comparative Study of Electoral Systems* (CSES 2011-2016) & *European Social Survey 2014*

More recent election data shows that in the 2017 General Election turnout grew among millennials in the UK. Although, youth turnout was largely unaffected, turnout of older millennials (aged 25-34) and younger members of generation X (aged 35-44) increased from 47 per cent to 56 per cent and 58 per cent to 69 per cent respectively.[20] As past research for the Intergenerational Commission has detailed, these groups have borne the brunt of worsening housing and labour market prospects, and the extent to which their greater turnout is reflected in the focus of UK political parties is a central question in current political debates.

Still though, the UK's youth turnout gap remains large relative to other countries studied. However while the UK may be an extreme case, the fact that such a gap is evident to some extent across nearly all the countries studied – combined with population trends discussed above – suggests some commonalities in the relative political sway of different generations.

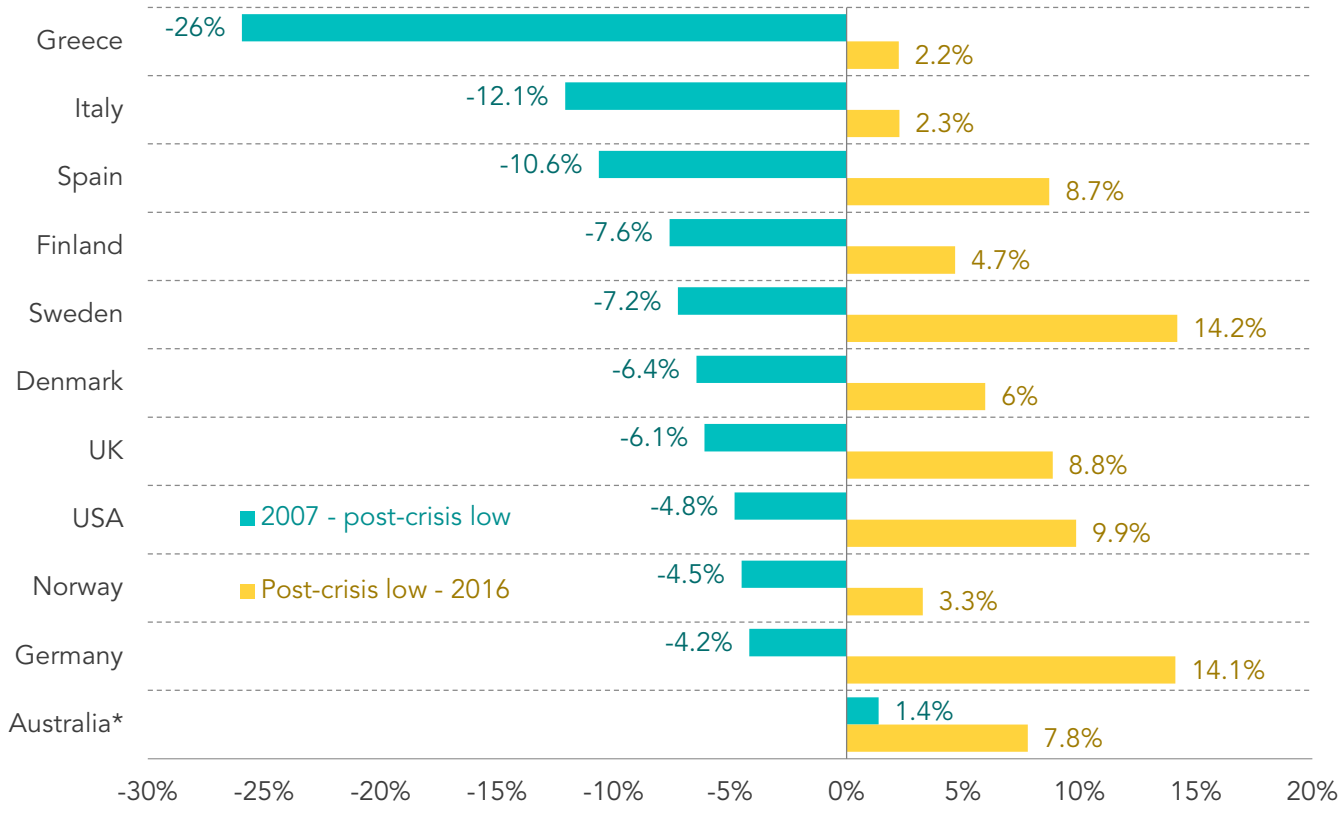
20 C Prosser et al, *Tremors but no Youthquake Measuring changes in the age and turnout gradients at the 2015 and 2017 British General Elections*, British Election Study, January 2018

Almost all high-income countries were hit by the financial crisis, however its effects were far from uniform

Across high-income countries and particularly in the UK, the financial crisis played a key part in bringing intergenerational issues to the forefront of debates about living standards. As previous analysis for the Intergenerational Commission has detailed, the financial crisis is not the sole driver of the living standards challenges faced by young people, however it has clearly played a central role particularly in terms of labour market outcomes.[21]

The impact of the Great Recession varied greatly across countries. In Figure 6, we can see that almost all countries were affected by the recession. However, while Australia remained largely unaffected, Greek GDP per capital fell by a quarter (26 per cent) and has only grown very slowly since.

Figure 6: **Percentage change in real GDP per capita: 2007-2016**



Notes: *2007 – post-crisis low refers to 2007 to 2009 for Australia as GDP did not decline following the crisis

Source: *World Bank World Development Indicators: GDP per capita (constant LCU)*

21 While the crisis certainly amplified the generational pay slowdown in the UK, declines in young people's earnings began long before its onset. Moreover, decreasing home ownership levels amongst young people had been building from decades before the crisis. See: L Gardiner; *Stagnation Generation: The case for re-newing the intergenerational contract*; Resolution Foundation; July 2016; A Corlett & L Judge; *Home Affront: Housing across the generations*; September 2017

In most countries GDP per capita had stopped falling by 2009, however, the recession lasted longer in certain countries, with falls continuing until long after the immediate crisis period. The falls continued until 2011 in Norway, 2013 in Spain and Greece, and 2014 in Italy – driving these countries' comparatively weak post-crisis growth.

It is clear that a severe economic slowdown has been a common experience across high-income countries, and it is reasonable to assume that young adults were particularly exposed to the effects of this given that they were beginning careers and starting to make their own way in the world at the time. Subsequent sections of this report explore the precise nature of these effects across generations.

Navigating this report

Having set out in broad terms some of the shared challenges faced by most high-income countries, the remainder of this report focuses on three key areas of generational living standards concern in UK, and explores the extent to which these outcomes are reflected elsewhere. Our issue focus is informed by previous papers from the Intergenerational Commission and by international debates about intergenerational fairness.

Subsequent sections of this report are set out as follows:

- **Section 2** looks in detail at the **generation-on-generation household income gains (and losses)** that have taken place in the UK and comparable countries.
- **Section 3** focuses on **labour market trends** and the extent to which they have weighed on the prospects for young people here and elsewhere. This section looks at both cyclical trends in employment and pay since the financial crisis and structural drivers of labour market outcomes in various countries.
- **Section 4** zooms in on **housing and wealth**. It provides international comparators to the rising housing costs and lower home ownership rates that have been experienced in the UK. This section also explores cohort trends in wealth accumulation in the UK and US.
- The final section provides **concluding remarks**.

Section 2

Generational income (gains and) losses

The previous section detailed widespread pessimism across high-income countries about the living standards of young adults in relation to those of their parents' generation. As such this section will explore the key economic measure on which day-to-day living standards progress tends to be judged: incomes.

We show that the UK is far from alone in experiencing a stalling of generation-on-generation progress in median incomes, but that its slowdown in income gains has been more marked than almost anywhere else. In the UK, the silent generation (born 1926-45) and the baby boomers (born 1946-1965) both enjoyed much higher incomes than predecessors at each age, but this progress has all but disappeared for generation X (born 1966-80) and the millennials (born 1981-2000). Arguably, this turnaround makes the lived experience of zero generational progress for the young more noticeable than in countries where older generations did not improve on predecessors either.

Income levels may be higher in the US, but generation-on-generation progress in median incomes has been all but non-existent there for decades, although some progress in mean incomes is evident, reflecting rising inequality. The story in Germany is similar, where millennials also experience lower incomes than preceding generations.

Worse still is the situation in southern Europe. Prolonged economic weakness coupled with high youth unemployment has stunted, or reversed, generational income progress for younger cohorts. In Greece, even baby boomers have significantly lower incomes than their predecessors did at the same age. Spain is the only country to have experienced a sharper turnaround in generation-on-generation income progress – that is, older generations having done better than predecessors at their age but younger ones now failing to – than the UK.

Generational income progress has slowed, or gone into reverse, across almost all high-income countries

Previous analysis for the Intergenerational Commission has shown that there has been a significant slowdown in generation-on-generation income progress in the UK for both generation X and the millennials.[22] That is, while throughout the second half of the 20th century each successive generation had significantly higher incomes than predecessors at the same age, these younger generations now have incomes little or no higher than predecessors. Using data from the *Luxembourg Income Study* (LIS) we explore the extent to which this slowdown has been replicated in eight other high-income countries.

Here, and throughout this paper, unless specified otherwise, we use the same definition of generations as we have in earlier Intergenerational Commission work. We do not vary birth years or generation names across countries. In part, this decision is based on the fact that almost all advanced economies have seen a steady decline in birth rates since the 1950s, implying that the relative size of generations in each country is broadly

22 A Corlett, *As time goes by: Shifting incomes and inequality between and within generations*; Resolution Foundation, February 2017

similar.[23] Adopting a consistent set of names and birth years also allows for easier comparison of trends across countries. As such, the following definitions of generations are used in the remainder of this paper:

- The greatest generation, born 1911-25
- The silent generation, born 1926-45
- The baby boomers, born 1946-65
- Generation X, born 1966-80
- The millennials, born 1981-2000.[24]

Before looking in detail at specific countries, it's worth zooming out to get a sense of the overall trend. To do this we compare the typical (median) real equivalised household income of different generations when they were of the same age across all nine countries.[25] These comparisons are set out in Figure 7.

For each country we compare typical income at three ages – 30-34, 45-49 and 65-69. And for each age band we compare the progress between two pairs of generations. The pink bars below show a recent snapshot of the income progress for the most recent generation to reach each age (e.g. millennials compared to generation X at age 30-34), and the green bars show an older snapshot of income progress for the next pairing of generations (e.g. generation X compared to the baby boomers at age 30-34) at the same age.

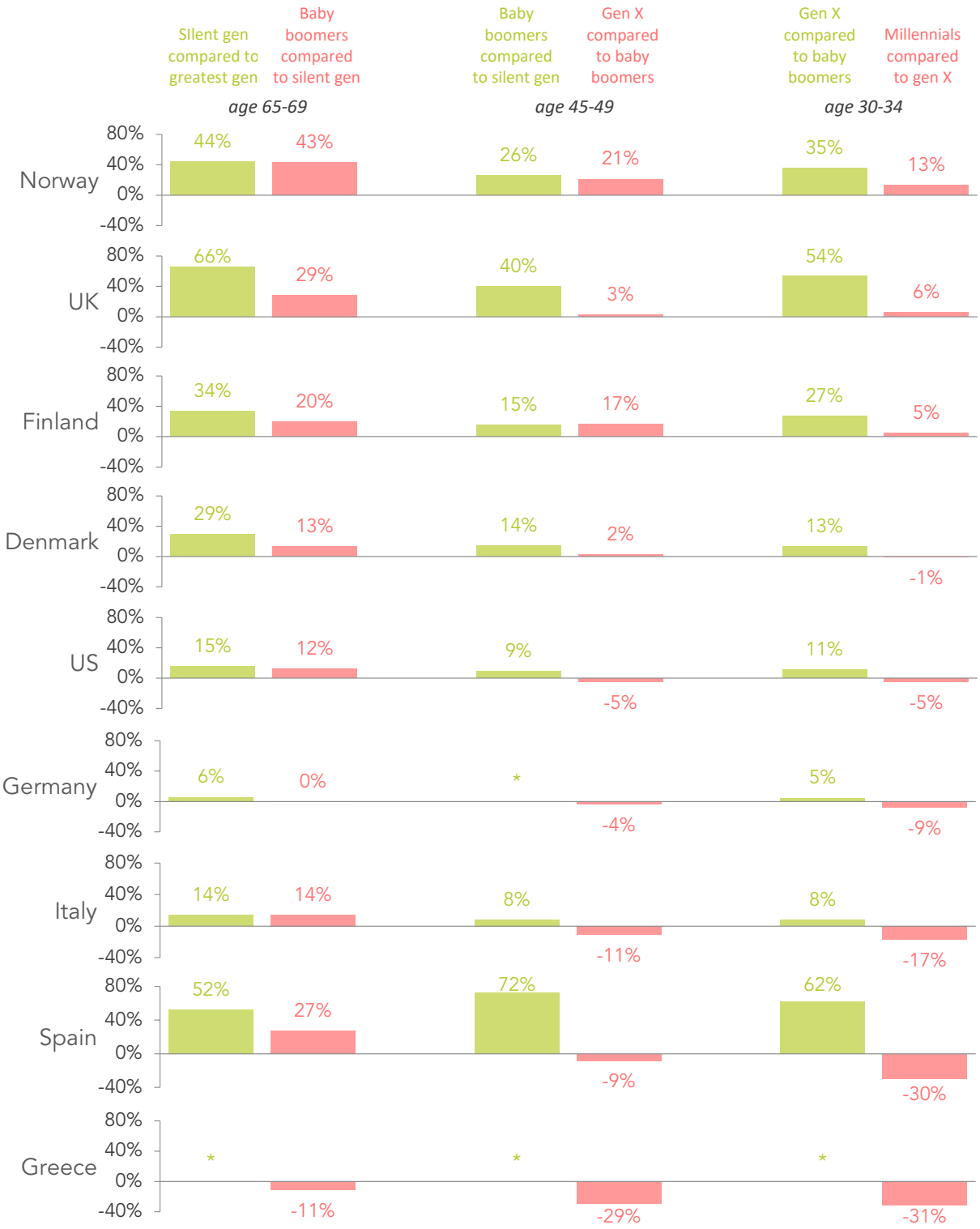
23 See Section 1.

24 The latest year of income data for any country in the set analysed here is from 2014, so in practice the youngest millennials captured by the analysis in this section are those born in 1994, 20 year olds in 2014.

25 All comparisons of income in this section are on a head of household basis. We assign the income of a household to its head (as designated by each countries' data-provider) and compare the assigned incomes of these individuals with one another. This means that we do not account for differential changes in household composition across countries. For example, if high unemployment in southern European countries has caused an increase in the number of young people living with their parents, this will have changed the composition of younger generations and thus will affect measured income levels when trends are compared internationally.

Figure 7: **Percentage change in typical (median) real equivalised disposable household income between generations at given ages: 1969-2014**

CPI-adjusted



Notes: Before housing costs income, deflated using CPI in each country. Asterisks signify a lack of data.

Source: *Luxembourg Income Study Database*

Because our generational definitions are broad, we measure progress at ages not all members of each generation have reached. Therefore it could be the case that the picture of generational income progress presented in the more recent snapshots (the pink bars above) will be revised upwards as more data becomes available. For example, if younger members of each generation fare better than their older counterparts then generation-on-generation income progress will improve.[26] More broadly, the size of these generations means that the averages presented here will mask potentially large differences in experience within each generation.

Nevertheless, Figure 7 provides a good summary of the story so far. It shows that the income progress (proportional increase in income levels on preceding generations at the same age) younger generations have experienced is smaller than that enjoyed by previous generations. This is a result broadly confirmed in recent OECD work, which finds a recent slowdown in the pace of cohort-on-cohort income gains across 24 advanced economies.[27]

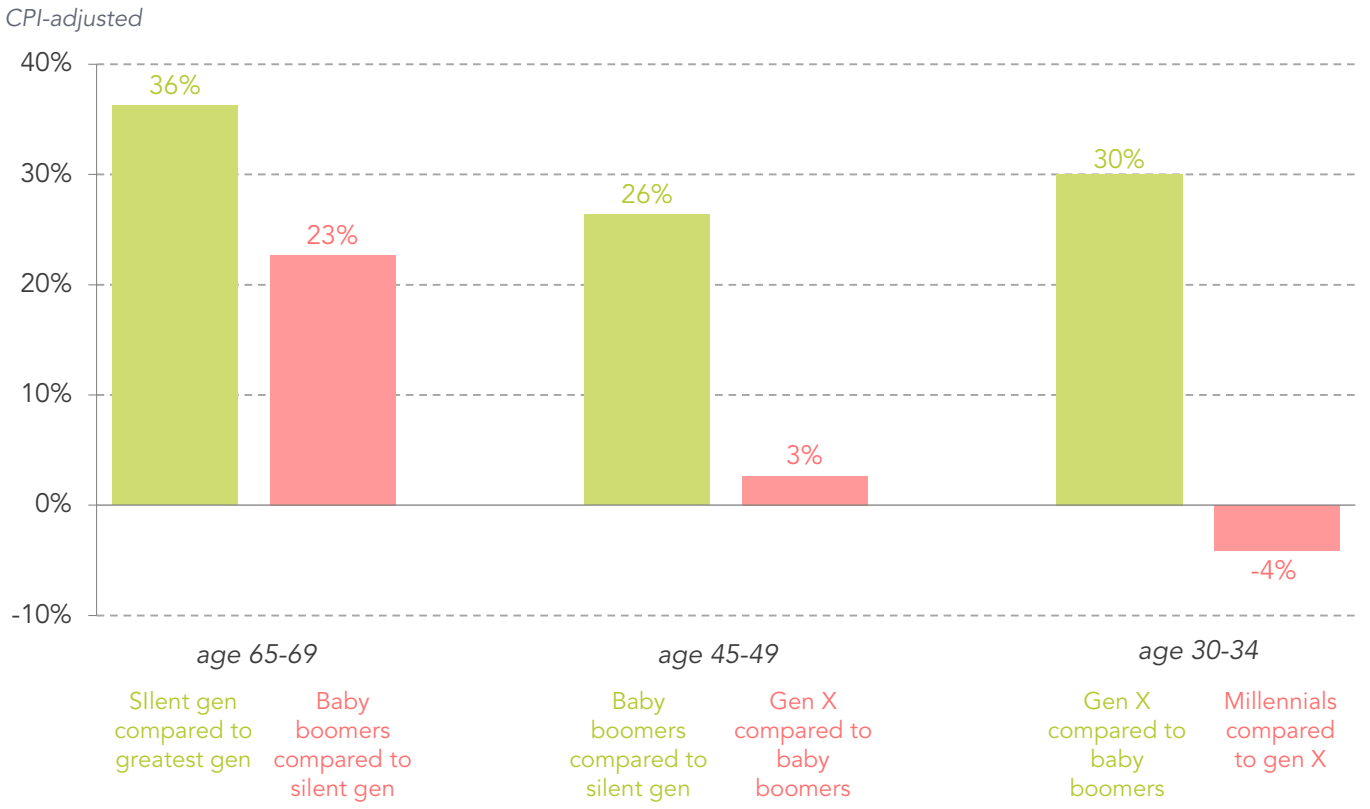
The overall trend can also be seen by averaging income progress across these countries.[28] This unweighted average is shown in Figure 8.

26 For example only those millennials born between 1981 and 1984 will have reached their 30s in this data – the vast majority of this generation are yet to reach this age.

27 OECD, *Preventing ageing unequally*, OECD Publishing, November 2017

28 Not including Greece and Germany, due to data limitations.

Figure 8: **Percentage change in typical (median) real equivalised disposable household income between generations, unweighted average across seven advanced economies: 1969-2014**



Notes: Before housing costs income, deflated using CPI in each country. Countries included are Norway, the UK, Finland, Denmark, the US, Italy and Spain; Germany and Greece are excluded due to insufficient data.

Source: *Luxembourg Income Study Database*

Figure 8 demonstrates that declines in generation-on-generation income progress have occurred at all ages (lower growth on the pink bars than the green bars), suggesting that it's not just the young that have lost out as a result of recent economic slowdowns across advanced economies.

At the same time, it is clear that progress has reduced further for younger generations. On average, those millennials who had reached their early 30s by the early 2010s (when the latest data was collected) had incomes 4 per cent lower than that enjoyed by generation X when they were the same age, compared to 30 per cent growth for generation X on the baby boomers. By contrast, the slowdown in generational income growth at age 65-69 has been far smaller, from 36 per cent to 23 per cent. Overall, there is evidence of slowing income progress overall across high-income countries, and a bias towards younger generations in terms of the severity of this slowdown.

However, the extent of this decline in progress for younger generations varies substantially across countries. In Norway, generational progress for young adults is still continuing apace, whereas in Spain the reversal of progress in the 30s has been

particularly severe. The nine countries analysed in this section can be split into four categories based on the shape of the income gains (or losses) that each generation has experienced relative to the preceding generation:

- **Generational income progress for older generations replaced by generational income stagnation for younger generations**: In the UK, Finland and Denmark, the silent generation and baby boomers have significantly higher incomes than their predecessors but millennials have experienced no, or very low, generational income gains compared to generation X.
- **Very little progress for any generation**: In the US and Germany there is little evidence of generation-on-generation income gains for any generation.
- **Sharp reversals in generational income progress for younger generations**: In Spain, Italy and Greece, younger generations (particularly the millennials) have significantly lower household incomes than preceding generations had at the same age, whereas older generations did experience at least some progress at those ages.
- **Continued generational income progress:** In Norway millennials and generation X have notably higher incomes than preceding generations did at the same age before them.

The remainder of this section will take a more detailed look at each of these country groupings in turn, starting with the UK.

The UK has experienced the one of the largest slowdowns in generational income gains of any country

Previous analysis for the Intergenerational Commission has shown that there has been a significant decline in generation-on-generation income progress in the UK for both generation X and millennials.[29] This finding is replicated here.

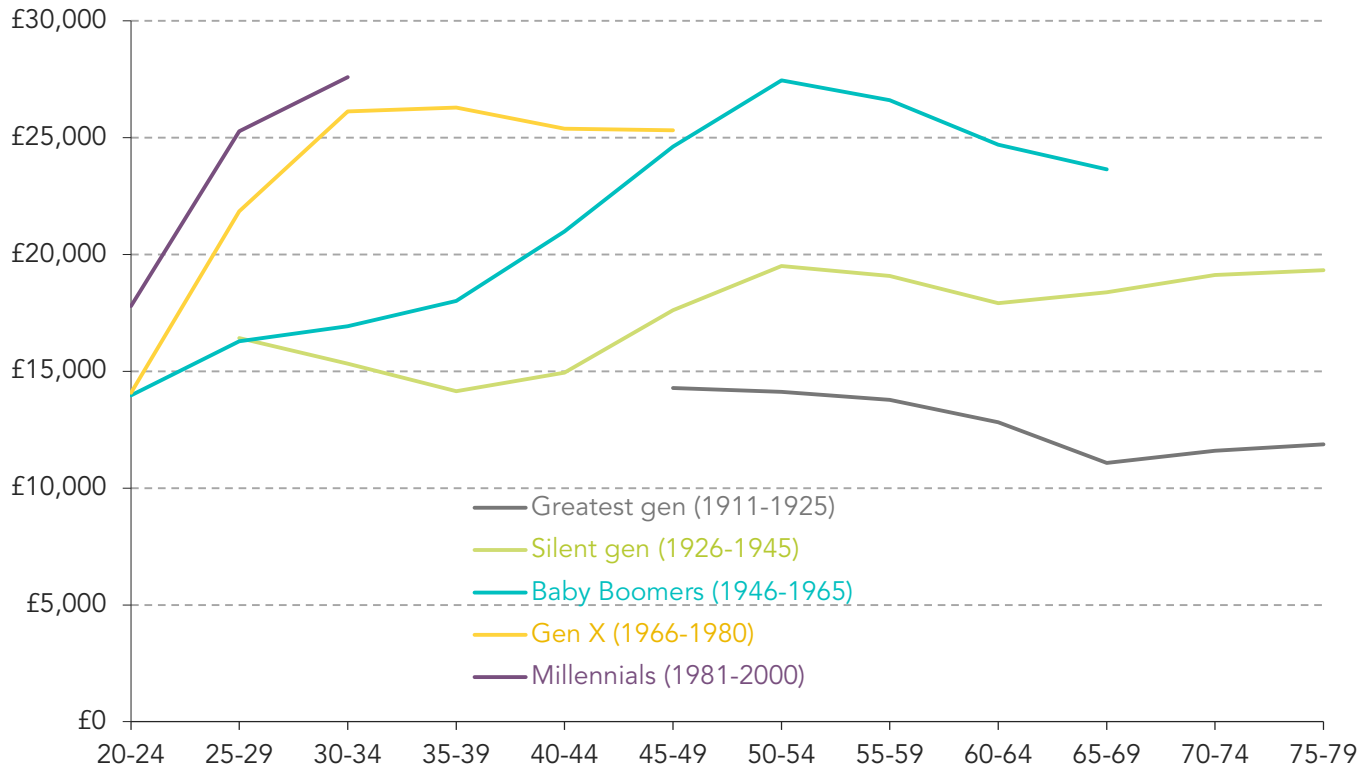
As Figure 9 shows, in the UK the baby boomers and the silent generation each had typical incomes substantially higher at each age than the generation that preceded them. In contrast, when in their early 30s the typical income of millennials (those old enough to reach this age by 2013) was only 6 per cent higher than for generation X.[30]

29 A Corlett, *As time goes by: shifting incomes and inequality between and within generations*, Resolution Foundation, February 2017

30 As more millennials reach this age it is likely that this figure will be revised. If younger millennials have higher incomes than their older counterparts then it will be revised up. Equally, it could be revised down if younger millennials reach their early 30s with lower real incomes than those already at this age.

Figure 9: **Typical real equivalised household disposable income for each generation, by age: UK, 1969-2013**

CPI-adjusted to 2011 prices



Notes: Before housing costs income.

Source: *Luxembourg Income Study Database*

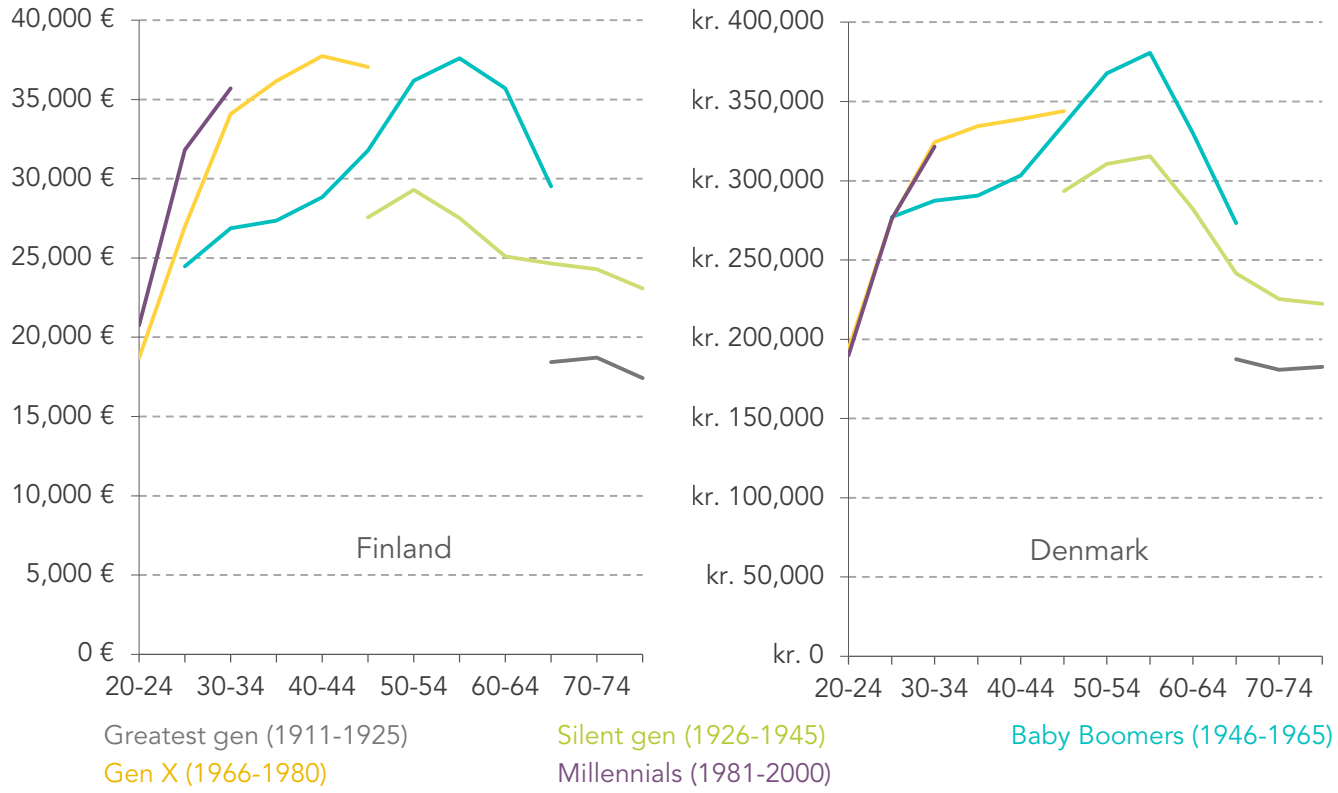
The findings from this analysis are, broadly, similar to those presented in earlier Intergenerational Commission work, but with some crucial differences. Most importantly, LIS data is collected on a before housing costs basis, and we have previously published income curves for the UK using an after housing costs measure of income.[31] To the extent that cross-country comparisons can be made, we explore the impact of housing costs on generational living standards in Section 4.

The UK experience is replicated, to some extent, in Finland and Demark – generational income curves for these countries are shown in Figure 10.

31 Other differences include: the latest year for which data is available (2013 here, 2014-15 in previous work), the price level to which incomes are deflated to (2011 prices here, 2014-15 prices in previous work), and the average used (median here, mean in previous work).

Figure 10: **Typical median real equivalised household disposable income for each generation, by age: Finland and Denmark, 1987-2013**

CPI-adjusted to 2011 prices



Notes: Before housing costs income, deflated using country-specific CPI indices.

Source: *Luxembourg Income Study Database*

One notable difference between the trends shown in Figure 10 and those identified for the UK is the income trajectory for older generations as they reach retirement. In the UK, older generations have maintained similar levels of income as they have moved into retirement. Whereas in Denmark and to a lesser extent in Finland, incomes have tended to fall as generations move into old age.[32] This suggests that pensioner incomes are lower relative to working-age incomes in these countries, something we know is no longer the case in the UK where the typical pensioner income is now higher than the typical working-age income.[33]

More broadly, it is clear that income trajectories (and the gaps between them at each age – that is, the level of relative generational progress summarised in Figure 7) in Finland and Denmark are similar to those identified for the UK. In both of these countries,

32 The OECD make a distinction between "hump" countries (including Denmark) in which incomes rise and then fall over the life cycle, and "plateau" countries (including the UK) in which incomes stop rising in retirement, and "still increasing" countries (including France and Greece) in which incomes continue to rise into retirement. See: OECD, *Preventing ageing unequally*, OECD Publishing, November 2017

33 A Corlett et al., *The Living Standards Audit 2017*, Resolution Foundation, July 2017

older generations did experience progress in incomes relative to their predecessors, something which is now lacking for the millennials in Finland and both the millennials and generation X in Denmark.

The key difference is that the size of earlier generation-on-generation income gains are much smaller in these countries than in the UK; in no other country bar Spain have both the millennials and generation X seen such minimal income gains relative to their predecessors, at ages at which older generations (the silent generation and the baby boomers) experienced large gains.

Of course, the extent of generational progress in the UK is preferable to the generation-on-generation living standards declines that younger generations in a number of southern European countries have experienced. This is particularly the case given that the level of living standards is higher in the UK than in these countries.

That said, our experience could offer an explanation as to why intergenerational issues have risen up the political agenda in the UK of late. It seems reasonable to suggest that the *relative* experience of different generations is likely to contribute to the salience of these matters. Parents and grandparents of today's young people came to experience, and expect, generational progress and then have seen it fail to materialise for their children and grandchildren – this may be more of a cause for discontent than if progress had never happened at all.

At the median, generational income progress is non-existent in the US

In contrast to the UK, there has been little median income growth in the US for much of the past four decades. According to the US Census Bureau, real median household income had risen by less than 4 per cent in total between 1973 and 2013.[34] Our research confirms and extends these striking findings, putting the evidence on flat-lining real median incomes over the past four decades in generational terms.

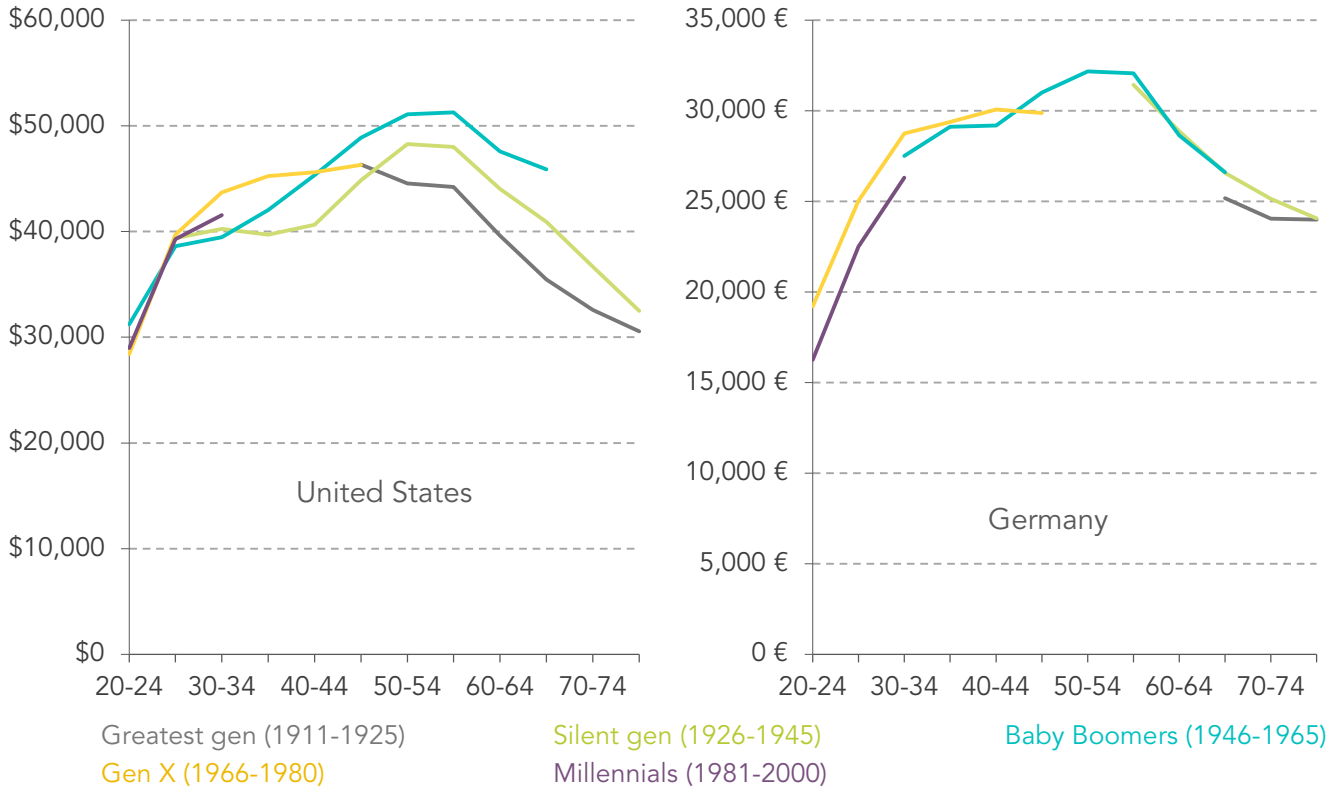
Figure 11 shows that millennials in the US have lower typical incomes than generation X, and that their incomes are only slightly (5 per cent) higher than typical baby boomer incomes at the same age.[35] In addition, we also find – by using data LIS data from as far back as 1974 – that the typical income of those in generation X in their late 40s is the same as the typical income of those in the greatest generation when they were of the same age.

34 C DeNavas-Walt & B Proctor, *Income and Poverty in the United States: 2013*, United States Census Bureau, September 2014

35 Pew Research Centre also finds that millennial incomes (at age 18 to 33) were lower than those enjoyed by generation X and just 1.6 per cent higher than baby boomer incomes. See: E Patten & R Fry, *How Millennials today compare with their grandparents 50 years ago*, Pew Research Centre, March 2015.

Figure 11: **Typical median real equivalised household disposable income for each generation, by age: US, 1974-2013 & Germany, 1994-2013**

CPI-adjusted to 2011 prices



Notes: Before housing costs income, deflated using country-specific CPI indices.

Source: *Luxembourg Income Study Database*

In part this finding – that those born in the late 1960s in the US have typical household incomes that are no higher than those born in the late 1920s – is a product of rising inequality. We can see this by analysing mean (average) rather than median (typical) incomes.

Mean incomes are affected by what happens across the distribution so will increase faster than median incomes in situations where those at the top are doing better those in the middle – something we know has happened in the US.[36] If incomes are calculated using the mean, average incomes for those in generation X who have reached their late 40s are over $7,000 (or 15 per cent) higher than average incomes for the greatest generation.[37]

Similarly, inequality has played a part in accentuating generation-on-generation income falls for millennials in Germany. When measured using median incomes, as

36 L Michel et al., *The state of working America*, 12th edition, Economic Policy Institute, November 2012

37 This finding is corroborated in Figure 3.6 (Panel C) of: OECD, *Preventing ageing unequally*, OECD Publishing, November 2017

in Figure11, typical millennial incomes are 4 per cent lower than typical baby boomer incomes were when they were of the same age. If a mean measure is used instead, this gap shrinks to 1 per cent.

Increases in inequality have taken place much more recently in Germany than in the US or the UK – with sharp rises in the early 2000s.[38] This increase occurred at the same time as significant increases in unemployment in Germany, in only in two years (2000 and 2001) between 1993 and 2007 did the German unemployment rate fall below 8 per cent.[39] Both of these trends are likely to have driven the lower median incomes for millennials than generation X when they were the same age in Germany.

We should be careful, however, not to draw too strong a conclusion on the long-run shape of generational income trajectories and progress in Germany, because reunification means that we only have income data from 1994 onwards. Income growth, which would have presented itself as generational income progress in this analysis, that took place prior to reunification in either West or East Germany is not captured here. It could very well be the case that Germany would look more like the UK and the Nordic countries analysed above if consistent measurement were possible over a longer time horizon.

In Southern European countries, typical millennial incomes have grown slowly and are lower than generation X's incomes at the same age

Italy, Spain and Greece all experienced a deep and prolonged economic slowdown in the wake of the global financial crisis, as shown in Section 1. This economic backdrop has had a marked effect on generational income progress in each of these countries.

In all three nations, the income trajectory for millennials has been relatively weak as this generation has moved from its early 20s to its early 30s.[40] In the UK, typical millennial incomes are 55 per cent higher for those millennials that have reached their early 30s than for those who have reached their early 20s. In sharp contrast, the same increases in Greece, Spain and Italy were much smaller – just 4 per cent in Greece, 8 per cent in Spain and 20 per cent in Italy. This relatively poor outcome can be seen in Figure 12 below.

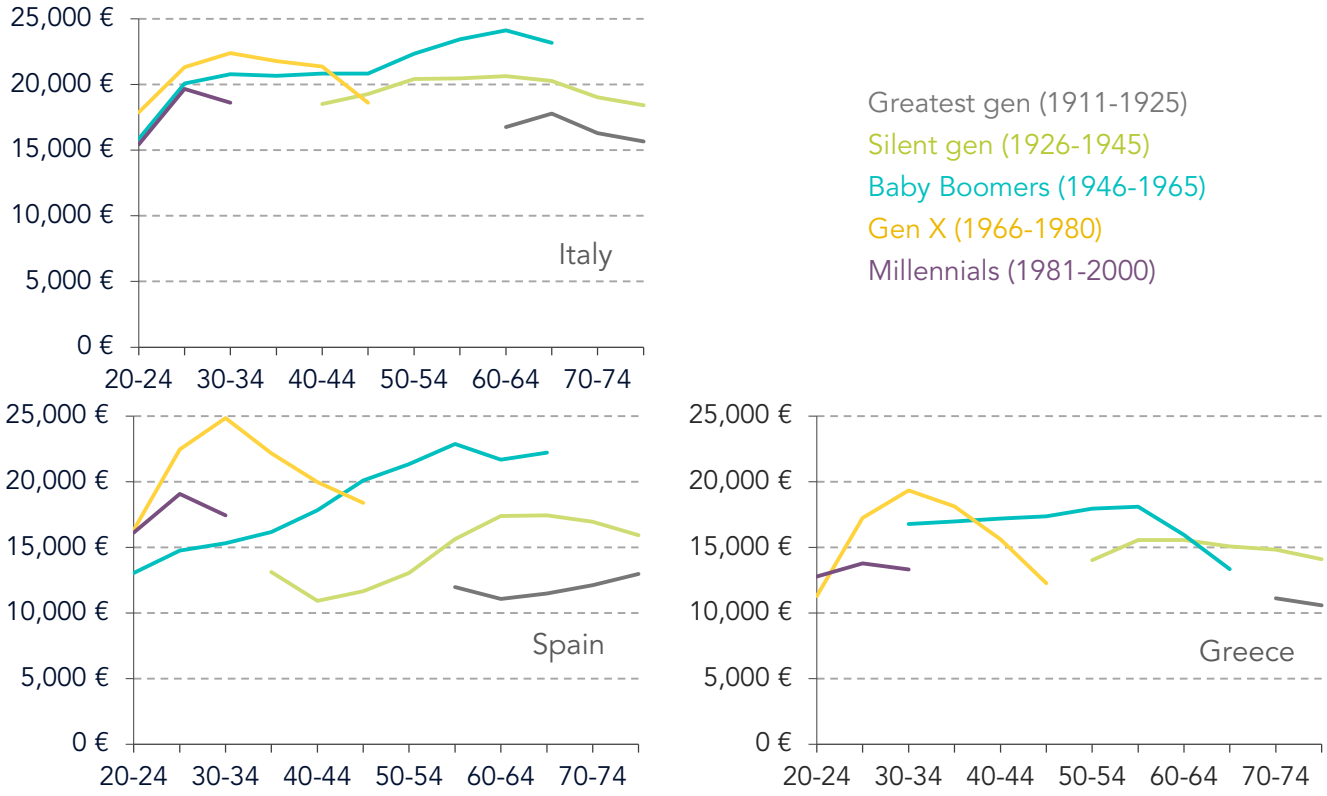
38 See Figure 8 in, M Grabka & J Goebel, *Real incomes have risen on average from 1991 to 2014 – The first signs of increasing income inequality*, DIW Berlin, April 2017

39 OECD: Labour market statistics

40 As mentioned above, compositional factors, including cross-country variations in participation in higher education and differences in propensity to live with parents, will have a particularly large effect on the income trajectory for young workers.

Figure 12: **Typical median real equivalised household disposable income for each generation, by age: Italy, 1986-2014; Spain, 1980-2013 & and Greece, 1995-2013**

CPI-adjusted to 2011 prices



Notes: Before housing costs income, deflated using country-specific CPI indices.

Source: *Luxembourg Income Study Database*

As well as having a shallow income trajectory when compared to the UK, millennials in Italy, Spain and Greece have also fared relatively badly when compared to predecessors. In each country millennials have substantially lower incomes than generation X did at the same age. In Spain, for example, typical income for millennials in their early 30s are – so far – a sizeable 30 per cent (7,000 €) lower than they were for generation X.

This is not to say that generation X escaped the effects of the financial crisis – far from it. Rather, the crisis did have a large effect on this group, but when they were already in their 30s. In all of the countries depicted in Figure 12 typical generation X incomes for those already in their late 40s are lower than typical baby boomer incomes when they were of the same age.

This, coupled with the fact that older generations in Spain have – similarly to the UK – experienced large generation-on-generation income gains, could explain why Spanish adults are even more pessimistic about the outlook for younger generations than those surveyed in the UK, as discussed in Section 1.

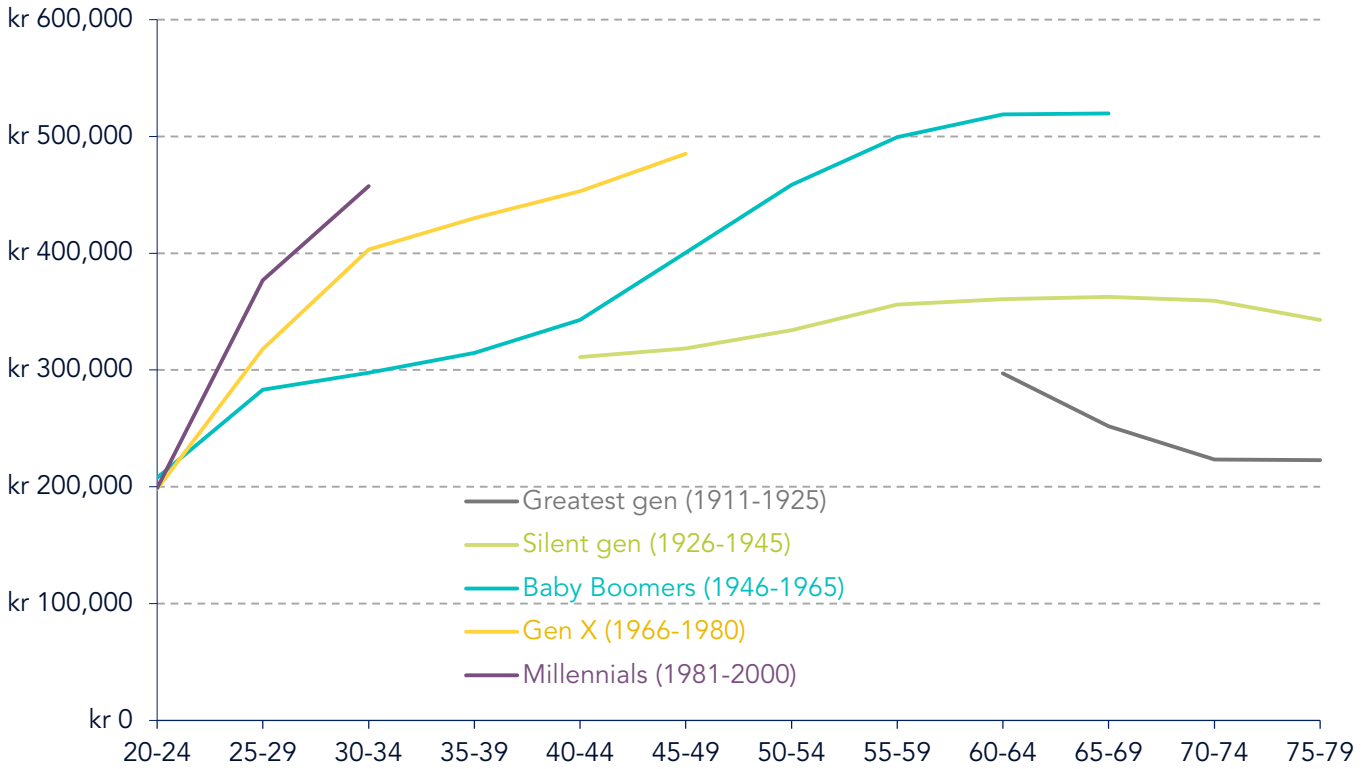
Greece also stands out among the nine countries analysed in this section. It's not just younger generations of Greeks that have suffered from falling real incomes over recent years. Instead, all generations have seen falls in their real income of late such that, unlike in any other nation, the baby boomers in Greece are also worse off than the generation that came before.

Only in Norway has generation-on-generation progress continued in the post-crisis years

Norway stands out among the countries analysed in this section, as it is the only country in which the typical millennial in their early 30s is still demonstrably better off (by 13 per cent) than a typical member of generation X was when they were of the same age. It is also the only nation analysed here in which millennials enjoyed a steeper income trajectory during their 20s than generation X. These positive findings reflect the fact that Norway experienced the strongest growth in median income between 1980 and 2013 of any large high-income economy.[41] Trends in typical household income for each generation in Norway are depicted in Figure 13.

Figure 13: **Typical median real equivalised household disposable income for each generation, by age: Norway, 1986-2013**

CPI-adjusted to 2011 prices



Notes: Before housing costs income.

Source: *Luxembourg Income Study Database*

41 M Roser, S Thewissen & B Nolan, *Incomes across the Distribution*, OurWorldInData.org, 2018

That said, the story so far is still worthy of our attention. Although continued generational income progress is welcome there is still – even here – a clear story of a declining rate of progress. The 13 per cent living standards improvement for millennials is smaller than the gain for generation X (35 per cent) at the same age.

Household income data for France has also been published by LIS, but the most recent year for which data is available is 2010. This limits the extent to which we can draw firm conclusions as to whether or not generational progress has continued post-crisis here – and as such our findings for France are not published in detail in this paper. The limited data we have suggests that, before the worst of the Eurozone crisis fed through to the French economy, the millennials did enjoy generation-on-generation income gains relative to generation X.

However, unemployment rates rose in France in the years after 2010, at the same time as earnings growth slowed.[42] It seems likely – given what we have seen in other countries – that the post-2010 weakness in the French economy will have acted to shrink, or possibly even reverse, this tentative evidence of continued progress.

The labour market, and how it absorbed the shock of the financial crisis, is the most important determinant of the income trends shown in this section. Understanding these cyclical responses, and putting them in the context of structural changes that have occurred in the labour markets of advanced economies over the past few decades is the subject of the following section.

42 OECD, *Average Annual Wages Dataset*

Section 3

Labour markets

Labour market trends are the crucial determinant of trends in household income. As such, this section begins by setting out the way in which cyclical trends in pay and employment have evolved across high-income countries in the post-crisis years, comparing these trends to those experienced in the UK. On youth unemployment, the UK has fared relatively well in the years since 2008 given the size of the recession that took place here. At the same time, sharp (and sustained) rises in youth unemployment have taken place in a number of southern European countries with 'insider-outsider' labour markets.

In contrast to relatively strong post-crisis employment performance, the UK is one of the worst-performing high-income countries in terms of real earnings growth in recent years. Real earnings fell further in the UK than in every advanced economy other than Greece between 2006 and 2014. This poor outcome will have been partly driven by the large depreciation in Sterling in late 2008. But currency movements can't explain why real earnings falls were larger for younger cohorts than older ones in the UK – in no other country with falling real earnings was the age divide in post-crisis earnings growth as large.

In addition, some of the structural drivers that shape labour market outcomes – including a slowing rate of increase in educational attainment levels, declining job-to-job mobility and increased part-time working – have been bearing down on the earnings growth of young people in the UK over recent years. These trends aren't confined to the UK, and nor are they just a product of the financial crisis. In fact, in the UK they are more 'structural' in nature than in other economies, suggesting deeper rooted challenges for young people's pay prospects.

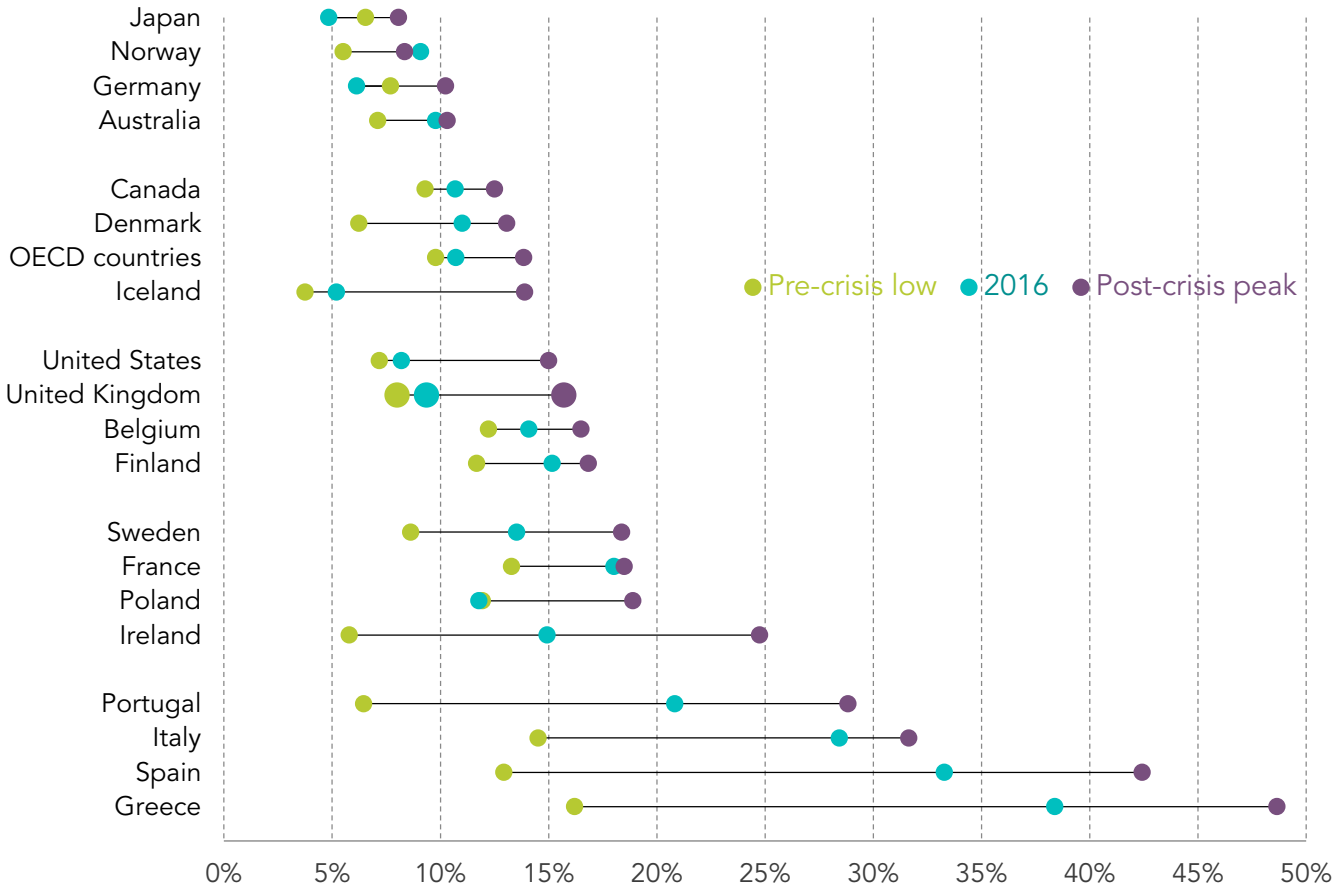
The post-crisis rise in youth unemployment was widespread, with most countries experiencing sharper, and longer lasting, increases than the UK

Economic downturns invariably have short-term effects on labour markets. The financial crisis was no exception; businesses and governments across advanced economies had to adjust to bleaker economic outlooks in the months and years following 2007-08. This often involved choosing between reducing headcount, slowing the pace of wage growth, or a mixture of these two responses. In aggregate, the nature of these responses differed substantially between countries – one of the clearest differences being the extent of the increase in youth unemployment, and the speed at which youth unemployment rates returned to pre-crisis levels.

The youth unemployment rate more than doubled in five European countries between the early 2000s and the years following the financial crisis. As Figure 14 shows, in

Ireland, Portugal, Italy, Spain and Greece the proportion of young people (aged 15 to 30) who were unemployed reached eye-wateringly high levels – in Spain and Greece youth unemployment peaked at 42.4 per cent and 48.7 per cent respectively in 2013.[43]

Figure 14: **Youth (15-30) unemployment rate: 2000-2016**



Notes: The pre-crisis low is the lowest youth unemployment rate recorded between 2000 and 2008; the post-crisis peak is the highest youth unemployment rate recorded between 2009 and 2015.

Source: OECD, *LFS by sex and age*

In recent years, the youth unemployment rate has fallen back in almost all of the countries depicted in Figure 14. However it still remains elevated in a number of Southern European countries, for example youth unemployment was just three percentage points lower in Italy in 2016 than when it topped out in 2014. These high, and sustained, increases in youth unemployment provide a large part of the explanation as to why the income growth for millennials in these countries (see Section 2) has been so weak.

But these countries are the exception rather than the rule. Youth unemployment trends have been more benign in large numbers of advanced economies – including the UK.

43 The relatively large size of the informal economy in these countries means that these strikingly high figures for youth unemployment are likely to be somewhat over-estimating levels of joblessness.

Though elevated in the post-crisis years, the rise in many countries was relatively small and short-lived. Across the OECD as a whole, youth unemployment rose by less than 4 percentage points compared with the pre-crisis lows recorded between 2000 and 2008, and this rise was all but reversed by 2016.

The UK is one of a small number of countries in which youth unemployment was at a similar level in 2016 than in the pre-crisis years. The speed of this reversal stands in sharp contrast to the UK experience in the 1980s. In 1986, seven years after youth unemployment had started rising, the rate was still over 16 per cent – almost nine percentage points higher than on the eve of the crisis. In contrast, youth unemployment was below its pre-crisis level seven years on from the 2008 crisis. This relatively quick recovery in youth unemployment rates also compares favourably to the ten years taken for youth unemployment to return to below pre-recession levels in the 1990s – a recession significantly smaller in magnitude than the one that took place in 2008-09.

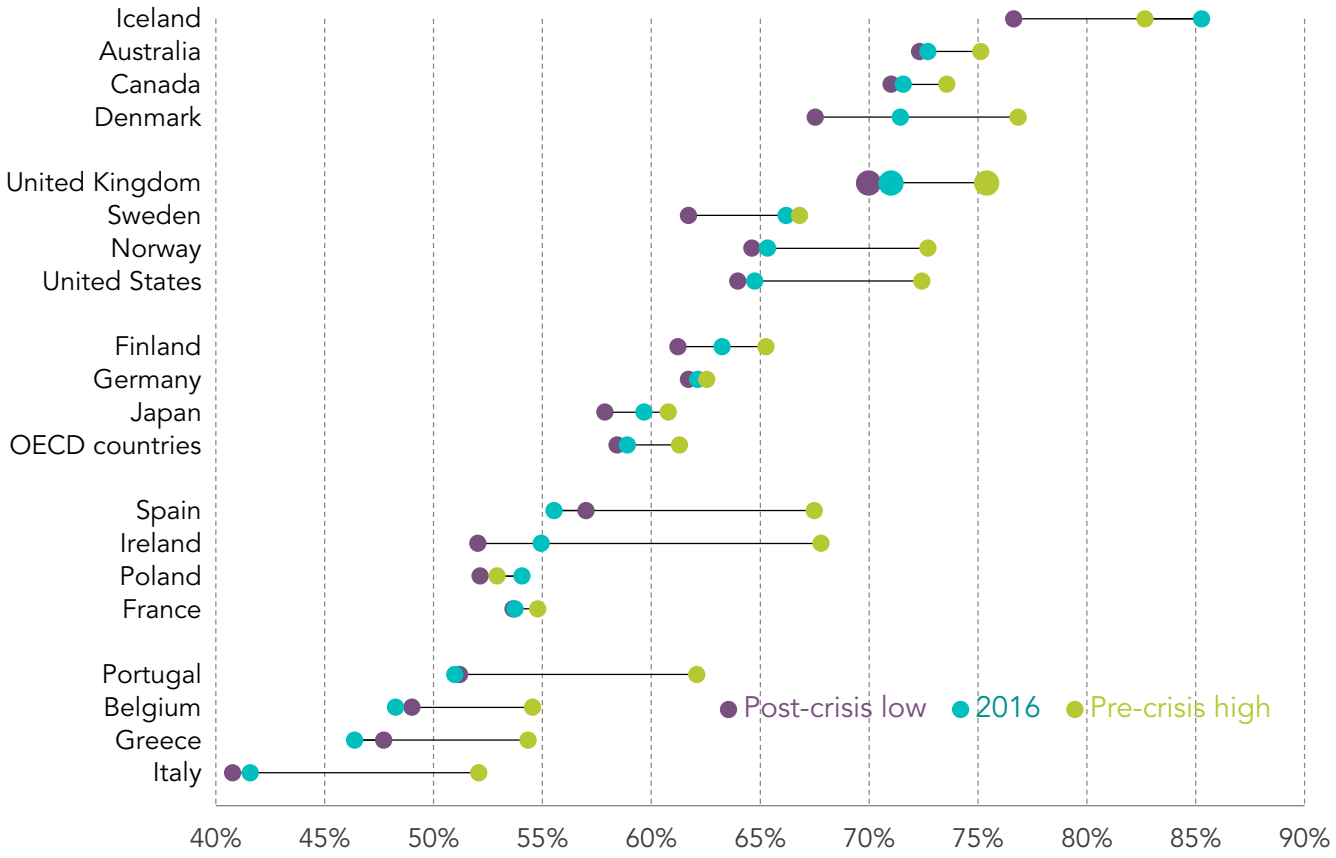
A low unemployment rate, however, doesn't necessarily imply a labour market in rude health; unemployment rates can also fall if individuals decide to leave the labour force rather than continue searching for a job. It's for this reason that trends in youth participation rates are also important.

Youth participation rates have fallen across developed economies

The labour market participation rate includes those classed as employed or unemployed (without a job but actively seeking work) and is a measure of the extent to which adults in an economy are 'active' in the labour market. Of course, there are good reasons why a young person might be 'inactive', the most important of which is education. If inactivity rises because more young people are continuing studies into their 20s then this is usually a positive sign – this investment will likely reap rewards in terms of higher earning power in later life.

But differences in *educational* participation rates alone are not the only factor underpinning differences in levels of *labour market* participation between countries. In fact, many of the countries with high labour market participation rates (which are summarised in Figure 15) have high educational participation rates as well (which are discussed in more detail later in this section), for example Canada and the UK. Rather, structural differences between the labour markets in different countries appear to underpin the participation patterns set out in Figure 15. There are striking differences, for example over four-fifths of 15 to 30 year olds in Iceland are economically active, compared to just two-fifths of young Italians.

Figure 15: **Youth (15-30) labour market participation rate: 2000-2016**



Notes: The pre-crisis high is the highest youth participation rate recorded between 2000 and 2008; the post-crisis low is the lowest youth participation rate recorded between 2009 and 2015.

Source: OECD, *LFS by sex and age*

In general, those countries in which youth unemployment rates have risen further have also seen larger falls in youth participation rates. For example, the proportion of economically active 15 to 30 year olds in Ireland fell from 68 per cent in 2007 to 52 per cent in 2015 – as the youth unemployment rate rose from 7 per cent to 17 per cent over the same time period.

In the US, however, despite youth unemployment returning to similar levels as before the crisis, youth participation rates were 8 percentage points lower in 2016 than before the financial crisis. This presentation therefore reveals less benign outcomes for young people in the US than a look only at unemployment shows. Despite low unemployment rates, it's clear that the relatively low level of labour market participation in the US (shown here for young people but existing across age groups) is one of the larger labour market challenges for US policy makers to grapple with.[44]

In contrast, labour market participation rates for young people (and across all age groups) are high in the UK. Alongside low unemployment, it follows that the UK's youth

44 For more detail on the US and UK labour market and living standards experiences see: D Tomlinson, *You're hired!: Lessons for President Trump from a comparison of living standards and inequality in the US and the UK*, Resolution Foundation, January 2017

employment rates are also high. For example, a higher proportion (almost 65 per cent) of 15-30 year olds were employed in the UK in 2016 than in almost any other advanced economy – only Australia and Iceland performed better. We know, too, that employment has continued to increase in the UK over the past two years, reaching a record high in 2017.

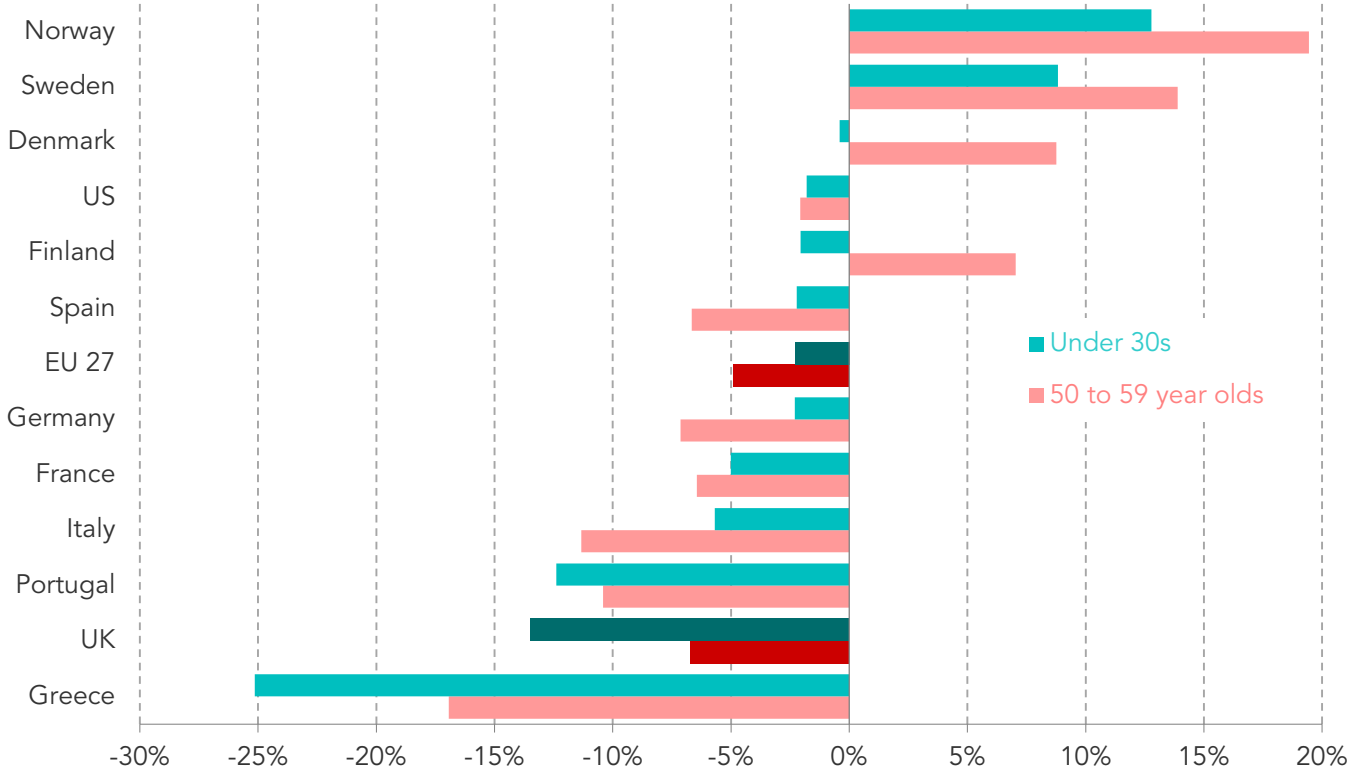
The falls in real earnings in the UK are larger than in almost all other high-income countries, with the young experiencing the deepest squeeze

A lack of pay growth – rather than a lack of jobs – has been the main weakness in the UK's post-crisis labour market. Although falling real pay has been a feature of the post-crisis economy in almost all high-income countries, the pay squeeze has been deeper in the UK than in most other places, and more focused on young people in particular.

The UK's position in comparison to other European countries, and the US, is shown in Figure 16, which depicts the change in real earnings for two age bands (under 30s and 50-59 year olds) between 2006 and 2014, as well as the average change across the EU 27.

Figure 16: **Change in average real hourly earnings, selected age bands: 2006-2014**

HICP-adjusted



Note: US data covers weekly pay. Data is deflated using the Harmonised Index of Consumer Prices (HICP) within each country. EU 27 earnings figures deflated using the EU 28 HICP.

Source: Eurostat & US Bureau of Labor Statistics

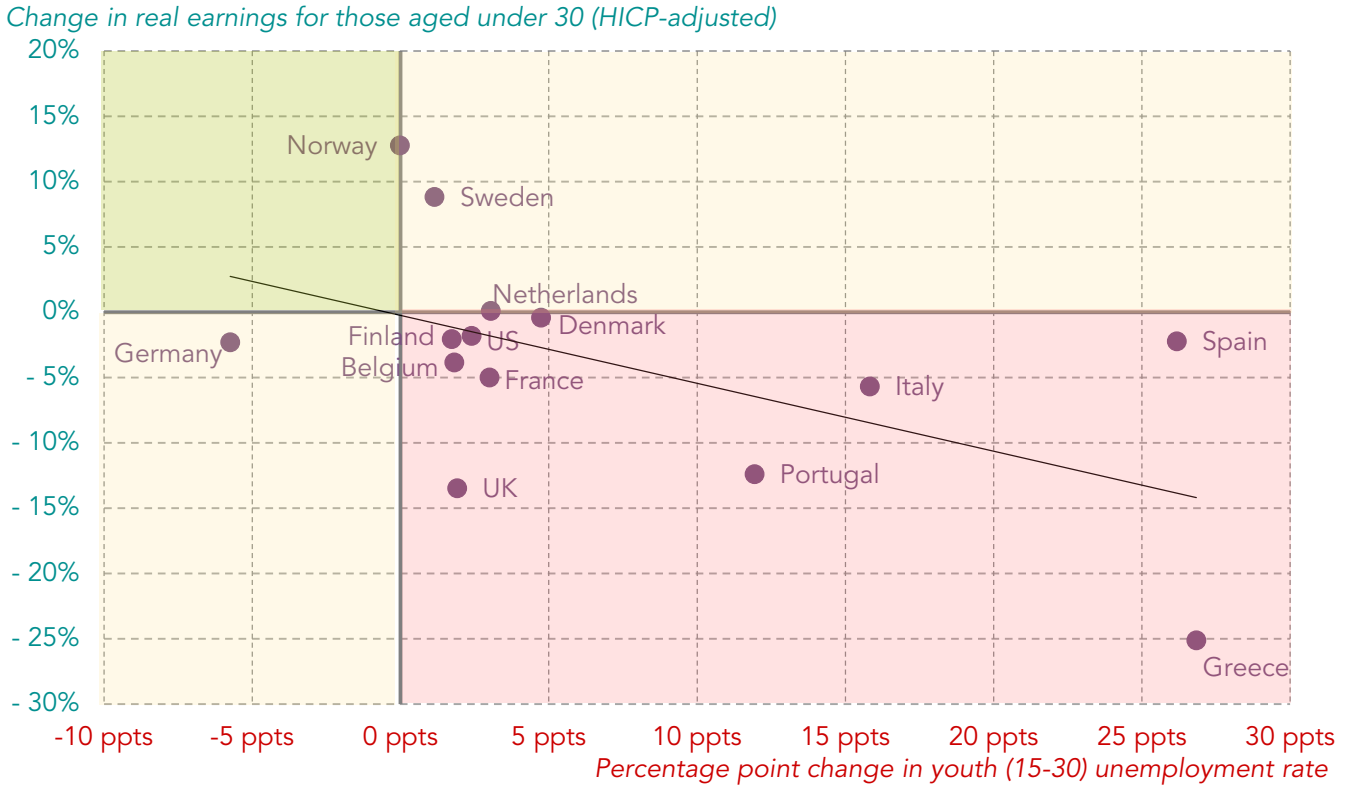
The UK stands out for its large earnings falls for adults aged under 30 – of over 13 per cent. Only Greece surpasses the UK, with falls in real earnings of over 25 per cent for the under 30s.

Figure 16 also shows that even though real earnings have fallen for the young and old alike in the UK, the fall for under 30s is twice as large as for the 50-59 age group. This generational divergence in real earnings performance is larger (in percentage terms) in the UK than in every other high-income economy. Older workers in Denmark and Finland have also fared significantly better than their younger counterparts – but in these two countries the fall in real earnings for the under 30s has been significantly smaller than in the UK.

Overall, in terms of post-crisis earnings performance, the UK finds itself on a par with countries such as Greece and Portugal, places that have experienced much deeper and longer-lasting periods of economic stagnation in the years since 2007.

The trade-off between employment levels and real earnings growth has been a central part of economic policy debates in recent years, in the UK at least. The international comparisons in this report make clear that the the UK has traded off more pay growth for younger workers than other countries with similar youth unemployment experiences. Youth unemployment and youth pay outcomes are summarised in Figure 17.

Figure 17: **Percentage change in real hourly earnings and percentage point change in unemployment rates for under-30s: 2006-2014**



Note: US data covers weekly pay. Data is deflated using the Harmonised Index of Consumer Prices (HICP) within each country.

Source: Eurostat, US Bureau of Labor Statistics & OECD

Of the ten countries in which unemployment rates for under 30s were between 0 and 5 percentage points higher in 2014 than 2006, the UK has recorded the largest falls in real earnings. And this is not explained simply by the size of the economic shock: even in countries that experienced a similar-sized economic downturn to the UK (see Section 1 for details on the scale of economic slowdown in different countries), for example the US and Denmark, youth unemployment rose by a similar amount to the UK and yet real pay for young peple fell nowhere near as far. Of course, one of the reasons for this stand-out performance is the large depreciation in the value of the pound in late 2008, but the findings here are nonetheless striking.

This section has, so far, focused entirely on snapshots of the labour market experiences of different age bands. But a richer picture can be gleaned by looking at the experiences of cohorts as they age. It is to this analysis that we now turn.

Analysis of cohort earnings trajectories across the crisis reveals three distinct groups among advanced economies

We use data compiled by Eurostat to construct pseudo-cohorts in order to track the earnings progress of individuals grouped by *birth year* rather than *age in the current year*. This allows us to analyse the earnings of (almost) the same group of people over time. This data provides a measure of earnings for the following age bands: less than 30, 30-39, 40-49, 50-59 and 60 and over at two points in time: 2006 and 2014. This is sufficient to allow for an evaluation of the real earnings progress over the crisis years for a number of pseudo-cohorts. For example, a comparison of the real earnings of the 40-49 year old age band in 2014 with the 30-39 year old age band in 2006 will allow us to draw approximate conclusions as to how the earnings of those born in the years around 1970 fared between 2006 and 2014.[45]

The country-specific outcomes for different cohorts can be split into three different categories:

- **Large reversals in cohort-on-cohort real earnings progress** and **falling real earnings trajectories for the majority of cohorts**, this has taken place in the UK and Greece.
- **Reversals in cohort-on-cohort real earnings progress** and **rising real earnings trajectories for the majority of cohorts**, as has happened in Spain, Italy, France and the US.
- **Large cohort-on-cohort real earnings progress** and **rising real earnings trajectories for the majority of cohorts**, as has occurred in Norway and Denmark.

We start by recounting the UK experience before moving on to compare this to the situation elsewhere.

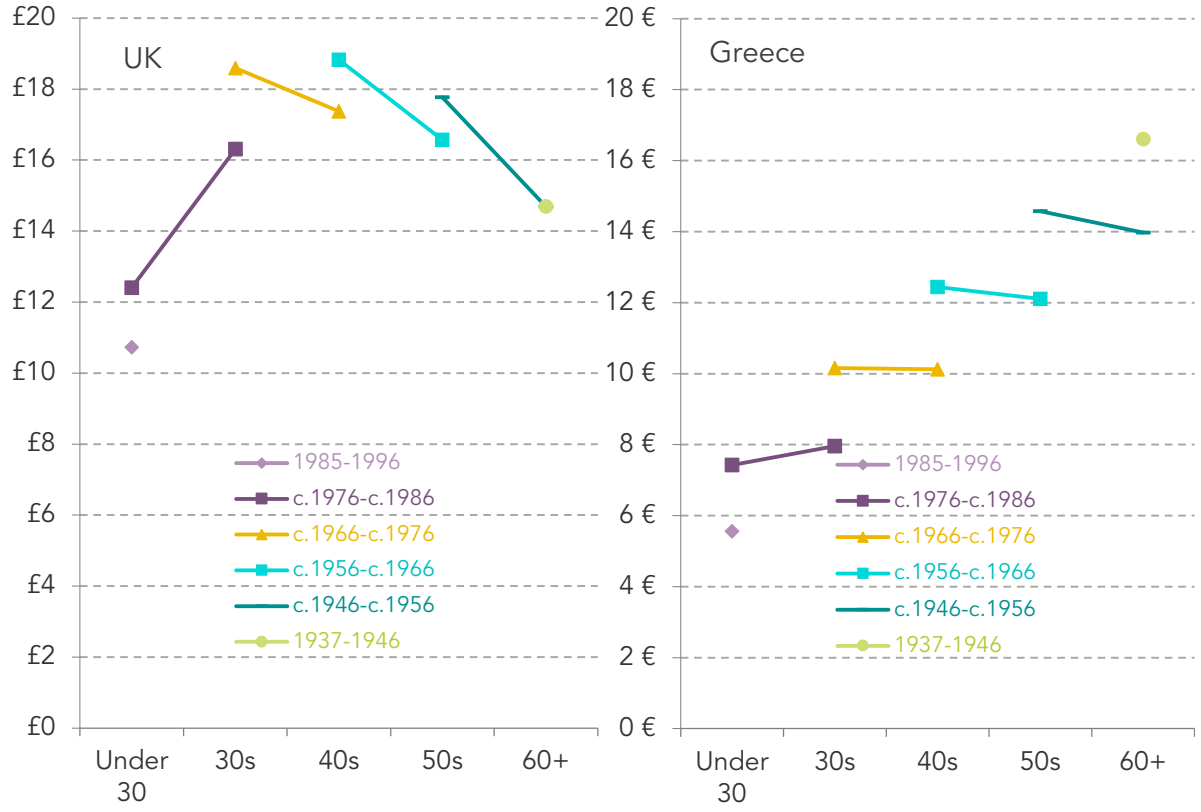
45 Specifically, in this example, we are comparing the earnings of those born between 1965 and 1974 (in their 30s in 2006) with the earnings of those born between 1967 and 1976 (in their 40s in 2014). These birth years are not identical because the survey interval (8 years) is smaller than each age band (10 years, or longer for comparisons including under 30s or over 60s). The main effect of this will be to exaggerate the earnings growth of each cohort between 2006 and 2014 – but this effect is unlikely to be large and will, crucially, have a similar impact across countries.

Despite experiencing rising earnings, younger cohorts in the UK are earning significantly less than those that came before them

The data presented in Figure 18 shows how real earnings have progressed for cohorts in the UK and Greece. These are the only two countries, of the eight analysed in detail in this section, to have experienced both real earnings declines for the majority of cohorts between 2006 and 2014 (downward sloping lines) and significant cohort-on-cohort falls in real earnings (the end of each line being significantly lower than the start of the line immediately to the right).[46]

Figure 18: **Mean real hourly earnings by birth cohort: UK and Greece, 2006-2014**

HICP-adjusted to 2015 prices



Source: Eurostat

The UK performs worse than Greece, and any other country analysed here, in terms of the trajectory of earnings between 2006 and 2014 for most cohorts. In no other country have real earnings fallen as far for the majority of cohorts as in the UK – an outcome that will have, in part, been driven by the large Sterling devaluation that took place in late 2008.

The exception to this rule is the real earnings trajectory for the cohort that reached its 30s by 2014 (shown by the dark purple line above). In the UK, real earnings rose by 31

46 Cohort-on-cohort earnings progress is also relatively poor in Germany. All cohorts in Germany are earning less than the one that preceded them although, for most cohorts, this decline is smaller than in the UK.

per cent for this cohort between 2006 and 2014 whereas the rise for the same cohort in Greece was just 7 per cent. This steeper trajectory in the UK is likely to reflect compositional changes in this group. Specifically, high rates of participation in higher education in the UK (discussed later in this section) for those in their late teens and early 20s bias down the measured earnings of those aged under 30 towards those often lower-earning young adults who enter the labour market earlier. The introduction of graduates, who have both higher earnings power and steeper lifetime earnings trajectories, then pushes up the average by the time cohorts reach their 30s.[47]

Previous Resolution Foundation work has looked in detail at the earnings growth commonly experienced by cohorts in the early years of their careers, and found that the (partly compositionally-driven) steep earnings increases commonly associated with this time of the working life have become shallower for younger cohorts.[48] It follows that if we had a longer time series of data here, we would see that the cohort born around 1970 enjoyed an even steeper rise in real earnings as they progressed into their early 30s than the one born around 1980.

Earnings *trajectories* are only one part of the story, however. In terms of generation-on-generation earnings gains what matters is the vertical gap between each of the lines in the chart above – and here Greece performs worse than the UK. In 2014, the cohort born around 1990 in Greece had real earnings 25 per cent lower than the cohort born around 10 years earlier. In the UK this cohort on-cohort decline was smaller, at 13 per cent. The cohort born around 1980 is similarly worse-off than its predecessor in both countries. In almost all other advanced economies, cohort-on-cohort earnings progress over the crisis years has been better than in these two countries, and as such these outcomes represent a deep generational malaise in the labour market and a core explanation for the income performance discussed in the previous section.

In Spain, Italy, France and the US, real earnings have risen for all cohorts – but each cohort is earning less than its predecessor at the same age

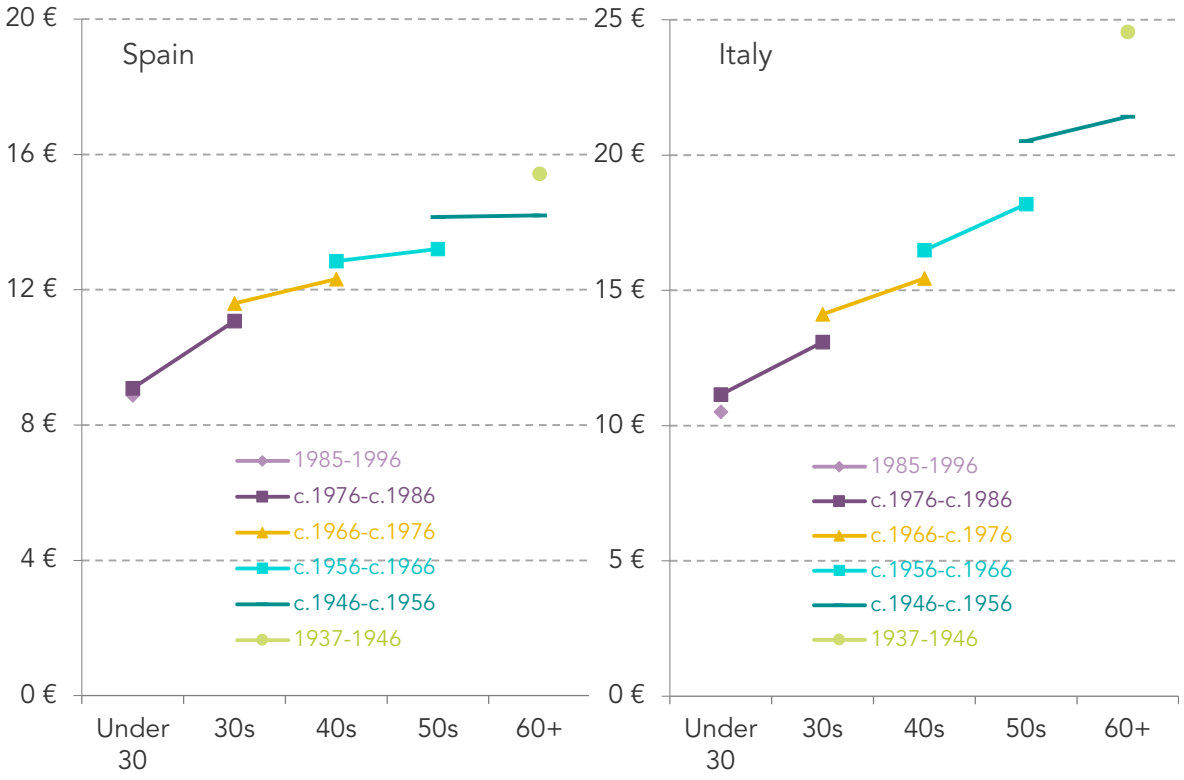
We saw in Figure 14 that large increases in youth unemployment were a central feature of the cyclical labour market response to the financial crisis in both Spain and Italy. Figure 19 demonstrates that this poor record on job quantity has been accompanied by a relatively positive (compared to the UK at least) record on real pay growth. In fact, all age cohorts in Spain and Italy experienced real pay growth (upward sloping pay trajectories) between 2006 and 2014.

47 C D'Arcy & D Finch, *Finding your routes: Non-graduate pathways in the UK's labour market*, Resolution Foundation, May 2016

48 L Gardiner & P Gregg, *Study, work, progress, repeat? How and why pay and progression outcomes have differed across cohorts*, Resolution Foundation, February 2017

Figure 19: **Mean real hourly earnings by birth cohort: Spain and Italy, 2006-2014**

HICP-adjusted to 2015 prices



Source: Eurostat

It seems that the 'insider-outsider' labour markets in these countries did deliver a relatively favourable outcome for those who remained employed. In these labour markets there is a clear division between the insiders (those with permanent contracts and high levels of job security) and the outsiders (the – often younger – temporary workforce), with the latter group much more likely to be at risk of unemployment.[49]

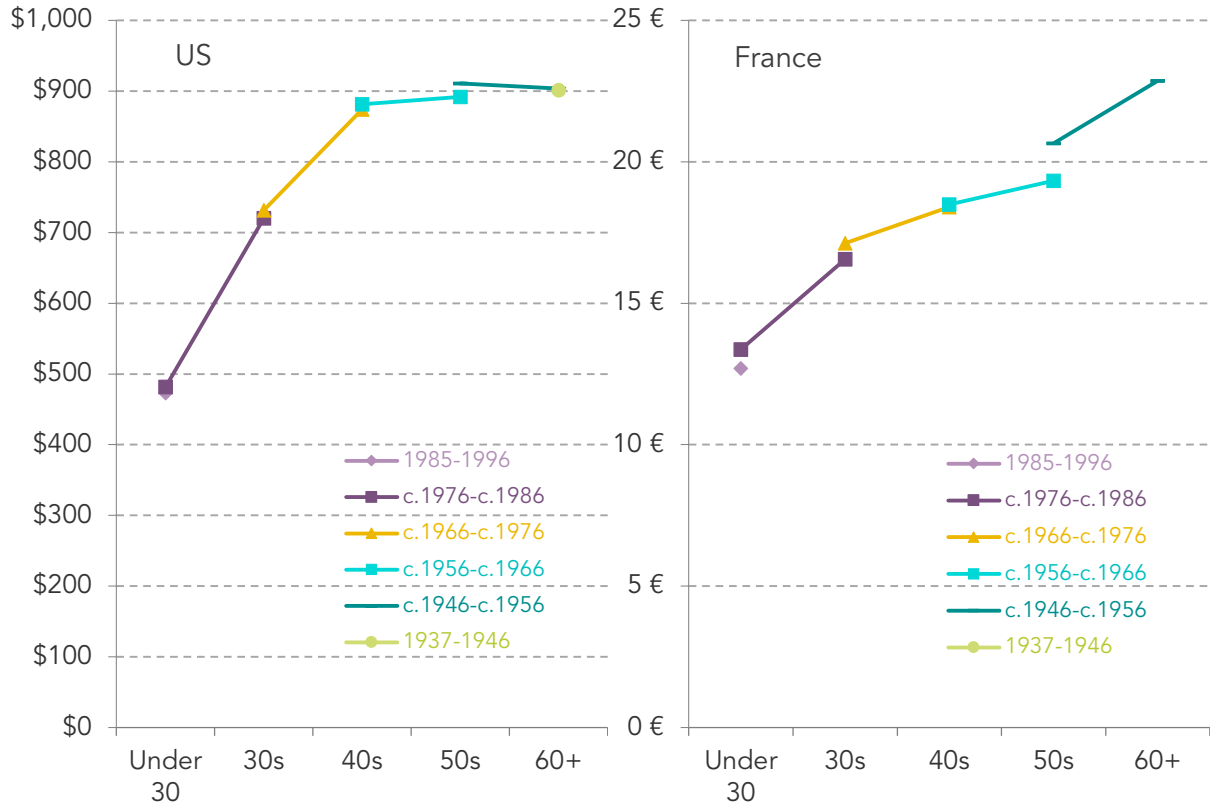
High levels of unemployment, and relatively low labour market participation rates, mean that by 2014 the size of these earnings cohorts will have shrunk significantly in Spain and Italy, particularly in terms of comparing those aged under 30 to the preceding cohort at that age. This compositional change is likely to have contributed to the positive trajectory for earnings in these countries, relatively well protected 'insiders' will have composed a higher share of each cohort in 2014 than in 2006. Despite this, as can be seen in Figure 19, in 2014 each earnings cohort in Spain and Italy still had a slightly lower level of real earnings than its predecessor at the same age, showing that cohort-on-cohort pay progress did not go unaffected.

Cohort earnings patterns took a similar path over the crisis years in US and France, as depicted in Figure 20. In both countries, small cohort-on-cohort declines (or at least no evidence of cohort earnings improvements on predecessors at the same age) are common across all age groups. Rising real earnings trajectories are also commonplace, though not a widespread experience, for individual cohorts.

49 S Bentolila, J Dolado, J Jimeno, *The Spanish labour market: A very costly insider-outsider divide*, VoxEU.org, January 2012

Figure 20: **Mean real earnings by birth cohort: US (weekly earnings) and France (hourly earnings), 2006-2014**

HICP-adjusted to 2015 prices



Source: Eurostat

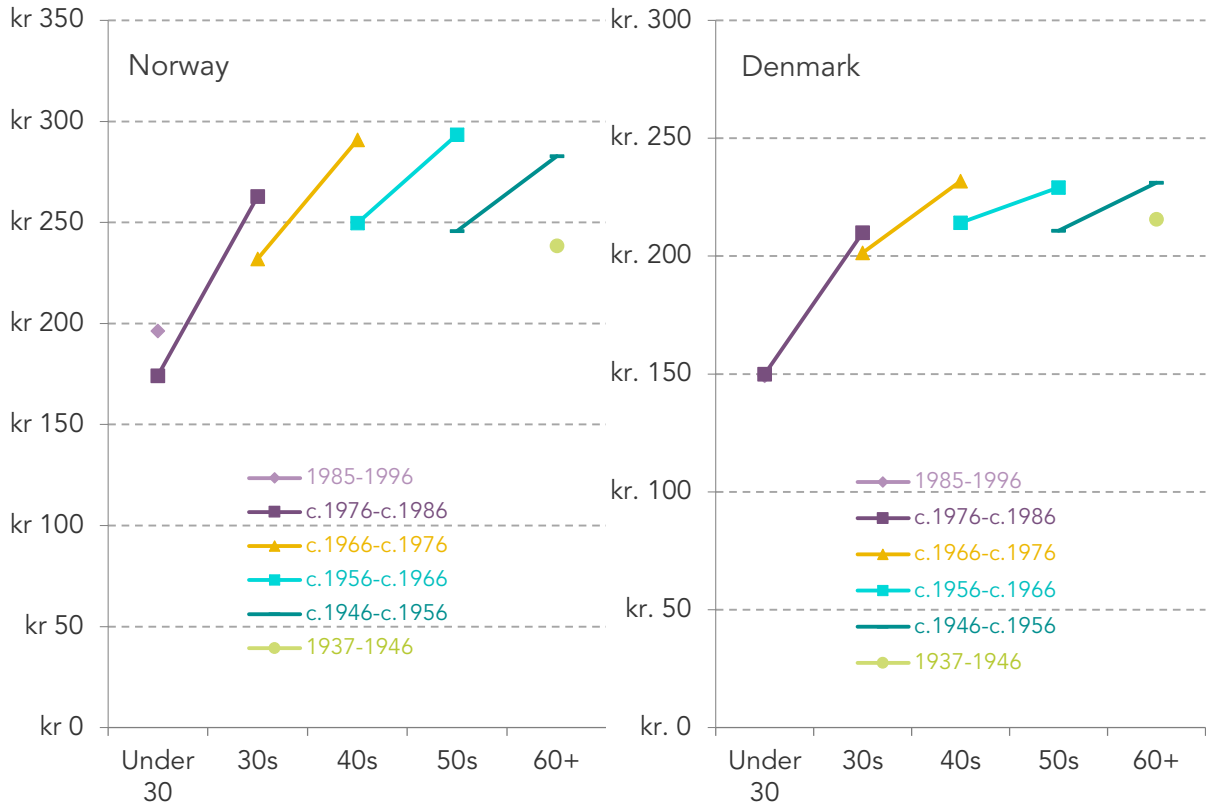
The large increases in earnings for the c.1980 cohort are likely to reflect, as in the UK, the impact of those with tertiary level qualifications composing a larger share of the cohort as it ages into its 30s.

Younger cohorts have higher real earnings than their predecessors in Nordic countries, bypassing the fallout from the financial crisis

In Norway and Denmark, cohort-on-cohort earnings progress has continued unabated throughout the crisis years. In both countries each pseudo-cohort has higher real earnings than its predecessor, with particularly strong real earnings advances for younger cohorts evident in Norway, as shown in Figure 21. As in the UK, the US and France, steep earnings trajectories (upward-sloping lines) for individual younger cohorts are likely to be partly driven by the compositional effects associated with young adults leaving education and beginning careers.

Figure 21: **Mean real hourly earnings by birth cohort: Norway and Denmark, 2006- 2014**

HICP-adjusted to 2015 prices



Source: Eurostat

The rapid cohort-on-cohort progress in Norway is, in part, a product of faster economic growth here than in many other countries. As, Figure 6 showed, real GDP per capita fell by a smaller amount in Norway than in most other high-income economies. But the fact that Norway avoided a deep recession can't explain everything, not least because cohort-on-cohort progress is still evident in Denmark, a country in which real GDP per capita fell further than in the UK between 2007 and 2009.

Labour market institutions in these countries are likely to be contributing to these positive outcomes. In 2013, trade union membership was 67 per cent in Denmark and 53 per cent in Norway – substantially higher than in any other economy discussed in this analysis.[50] Of course, the union membership rate isn't necessarily a good proxy for the extent to which trade unions can deliver better pay and conditions in workplaces; in France membership is around 10 per cent and yet large French unions are able to affect significant change through broad collective bargaining agreements. But nonetheless the high union membership rate in Norway and Denmark is revealing. Centralised wage-bargaining systems and close collaboration between trade unions, government and employers are likely to have played a role in improving outcomes for young people, and those of all ages, in the post-crisis years.

As our more extensive analysis of the UK labour market for the Intergenerational Commission has shown, while the crisis is a large driver of stalling generational pay

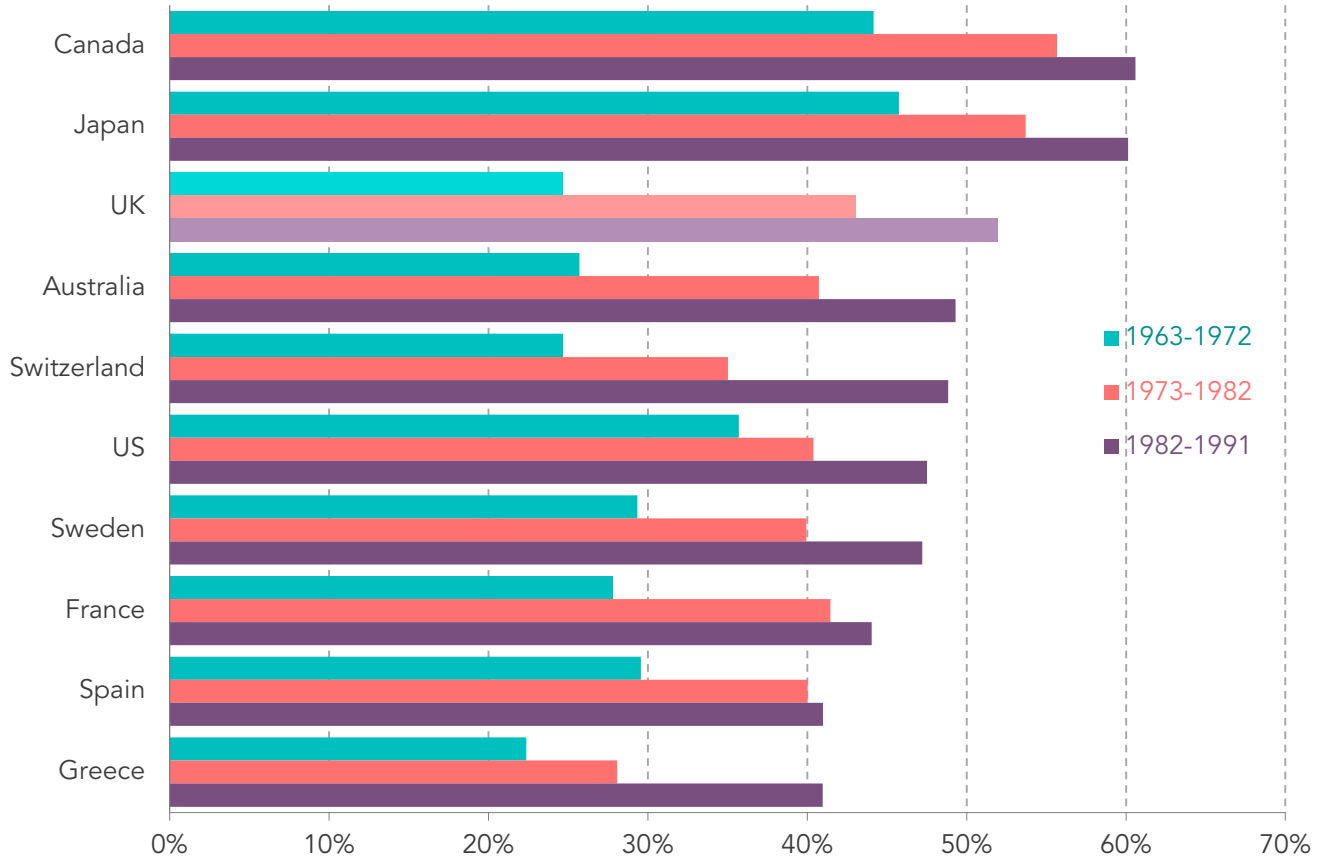
50 OECD, *OECD Employment Outlook*, June 2017

progress for young adults, many of its seeds were sown earlier or have shown few signs of waning since.[51] Long-run trends, often referred to as structural effects, are also likely to have also played a critical part in shaping labour market outcomes in other high-income countries. As such, in the remainder of this section we take a step back from the most recent changes in earnings that are principally explained by the impact of the financial crisis and instead look in more detail at some of these underpinning structural factors as they have evolved for young adults.

Progress in educational attainment has slowed faster in the UK than in many other advanced economies

The trend towards greater participation in higher education is common across advanced economies. In the UK, as previous Intergenerational Commission papers have analysed in more detail, the proportion of each generation with a degree has increased rapidly over the past few decades.[52]

Figure 22: **Proportion of 25-34 year olds with tertiary-level qualifications, by cohort: 1997-2016**



Source: OECD, *Educational attainment and labour-force status dataset*

51 L Gardiner & P Gregg, *Study, work, progress, repeat? How and why pay and progression outcomes have differed across cohorts*, Resolution Foundation, February 2017

52 Ibid

OECD data, shown in Figure 22, allows us to look more closely at this large increase and compare the trend here with that in other countries. The figure shows the proportion of each birth year cohort with a tertiary-level qualification when aged between 25 and 34.

Two aspects are worth focusing on. First, this increase in higher-level educational attainment has happened across advanced economies. All of the countries presented here will be reaping the benefits of a better-educated workforce. To some extent, the earnings growth recorded in advanced economies over recent decades will have been boosted by this influx of relatively highly-educated individuals into the labour market.

Second, the rate of increase in the proportion of people with tertiary-level qualifications has slowed in most countries (shown by the greater increase between the 1973-1982 cohort and those born 10 years before them than between the 1982-1991 cohort and the 1973-82 cohort). This implies that the largest relative improvements at this qualification level have already occurred in most advanced economies.

One country in which the slowing rate of improvement in qualification levels is particularly clear is the UK. The UK's 1973-1982 cohort were over 70 per cent more likely to have a tertiary level qualification than those born in 1963-1972. This rate of increase slowed dramatically (to 20 per cent) when we compare the qualification levels of the 1982-1991 cohort with the 1973-1982 cohort. France and Spain have also experienced particularly large slowdowns.

This trend may be less noticeable than the cyclical effects of the crisis on employment and particularly pay, but it will have certainly affected pay growth here in the UK and, to the extent that it has taken place overseas, in other economies. For now, its effect is to slow the pace of cohort-on-cohort earnings increases; the educational attainment of those in work is 'improving' more slowly than it has in the past, implying that the size of the boost to pay growth from greater education levels is falling for younger cohorts compared to their predecessors.[53]

Structural falls in job-to-job moves have taken place in the UK and the US since the turn of the century

The extent to which individuals move from one job to another is also an important factor that influences earnings growth in all economies, and previous analysis for the UK has shown that recent movements in this indicator have structural as well as cyclical roots.[54] Moving jobs is important for individuals because it is usually associated with promotions and often with substantial pay rises – in 2015 the typical pay rise for someone who remained in their job was just over 2 per cent, whereas job changers recieved a typical pay rise of over 7 per cent.[55] High rates of job mobility may also have wider pay effects across economies, for example by reallocating labour to fast-growing and high-productivity firms more quickly, or by prompting pay increases for those who remain in firms after a loss of staff to prevent further resignations.[56]

53 More detail on this finding and the other ways in which the changing characteristics of those in work affects pay growth can be found in Section 2 of: L Gardiner & P Gregg, *Study, work, progress, repeat? How and why pay and progression outcomes have differed across cohorts*, Resolution Foundation, February 2017

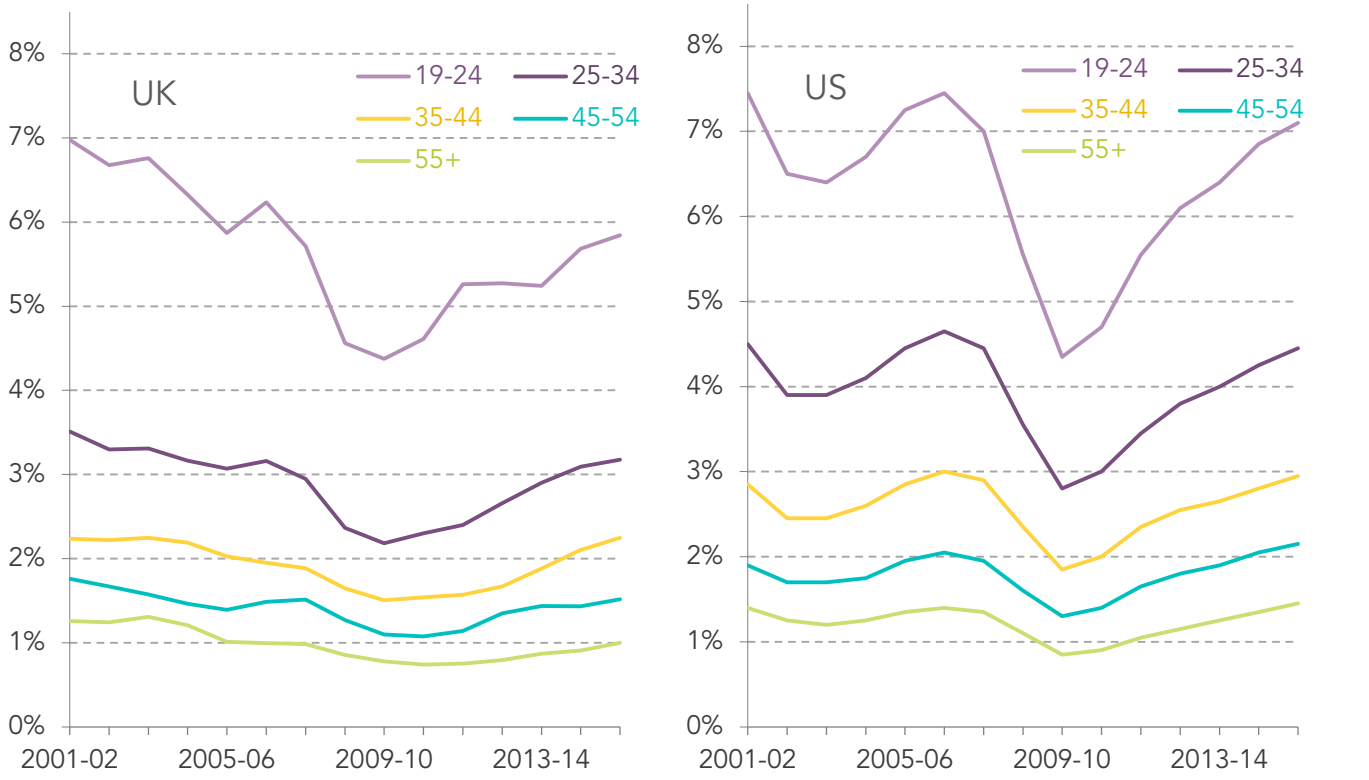
54 L Gardiner & P Gregg, *A steady job? The UK's record on labour market security and stability since the millennium*, Resolution Foundation, July 2015

55 L Gardiner, *The RF earnings outlook: Q1 2016*, Resolution Foundation, August 2016

56 Ibid

Rates of job-to-job mobility can be calculated in a variety of different ways, here we use the US Census Bureau's measure of the 'rate of hires following a separation' and construct a similar measure for the UK.[57] The trends in these measures since 2001-02 are shown in Figure 23.

Figure 23: **Job-to-job mobility rates, by age: UK and US, 2001-02 to 2015-16**



Notes: Two-year rolling averages. The UK measure captures the proportion of those in employment who have moved jobs between quarters. The US measure captures the rate of hires following a separation with no observed non-employment spell, as a proportion of total employment in each quarter.

Source: ONS, *Labour Force Survey*; US Census Bureau

The crisis, clearly, had a significant effect on mobility rates in both countries, and across all age groups – with sharp declines in job-to-job mobility taking place in the UK and the US in the late 2000s. As Figure 23 shows, although the effect of the crisis was widespread across age groups in both countries – its effect was most acutely felt by the young. Job-to-job mobility rates fell furthest for 19-24 year olds in both countries, and are yet to recover to the levels recorded immediately before the financial crisis – with mobility rates further below their 2006-07 levels in the UK than the US.

On top of this, there is clear evidence that the decline in mobility for young workers in the UK began before the onset of the economic slowdown. In fact, 40 per cent of the

57 In order to aid comparability, the measure presented here is slightly different from that published in the Resolution Foundation's regular Earnings Outlook in so far as it includes all those who have moved jobs – not just those who have done so 'voluntarily' (following a resignation).

fall in mobility for 19-24 year olds between the early 2000s and the post-crisis low in 2009-10 occurred before 2007. And mobility rates for this group are still one-fifth lower than they were at in 2001-02.

It is worth noting, too, that there is strong evidence that the US fall in job-to-job mobility is also a structural story – it's just that the decline in mobility started in the US in the 1990s, whereas the UK's peak in mobility rates occurred around the turn of the century.[58] Other datasets that extend further backwards than the one used here suggest that there was a sharp decline in job-to-job mobility rates in the US in the late 1990s – meaning that in both countries the rate of job moving is still far below its historic high-point.[59]

Given that a decline in the rate at which people move jobs will, all else equal, act as a drag on pay growth, we can be confident that one part of the story of weaker pay growth in the UK and the US – both before and after the crisis – is a lower rate of job-to-job mobility. A forthcoming paper from the Intergenerational Commission focusing on labour market policy options will look in more detail at these trends as they have evolved in the UK.

A structural rise in part-time employment among young men has taken place in a number of northern European countries, including the UK

While mobility has been declining in the UK, the types of jobs that we do have been changing too. The rise in self-employment since the turn of the century has been well-documented, with our previous analysis showing that younger cohorts (particularly non-graduates) have been at the forefront of this increase. Similar patterns are evident in relation to increases in insecure forms of employment – most notably zero-hours contracts and agency work.[60] Another trend worthy of attention is the increase in part-time working.

Part-time work has increased as a share of employment across a large share of advanced economies over the past 20 years. Only in Sweden and Norway has the proportion of working age adults in part-time work fallen between 1996 and 2016. This difference is driven by the fact that female labour market participation rates increased earlier in Sweden and Norway than in many other countries. The female labour market participation rate (15+) was already near 60 per cent in both countries in 1996, much higher than in places like Italy (34 per cent) and Belgium (41 per cent).[61]

Increasing part-time work isn't necessarily a bad thing. Many people, from those nearing retirement to those with young children, prefer to work part-time, so rising rates of part-time work can signify a labour market offering welcome flexibility to individuals and families. And, to the extent that it means more people remaining attached to the labour market rather than moving into unemployment, a cyclical rise in part-time work (even if it is often 'involuntary') can also be seen as a least-worst outcome.

58 L Gardiner & P Gregg, A steady job? The UK's record on labour market security and stability since the millennium, Resolution Foundation, July 2015

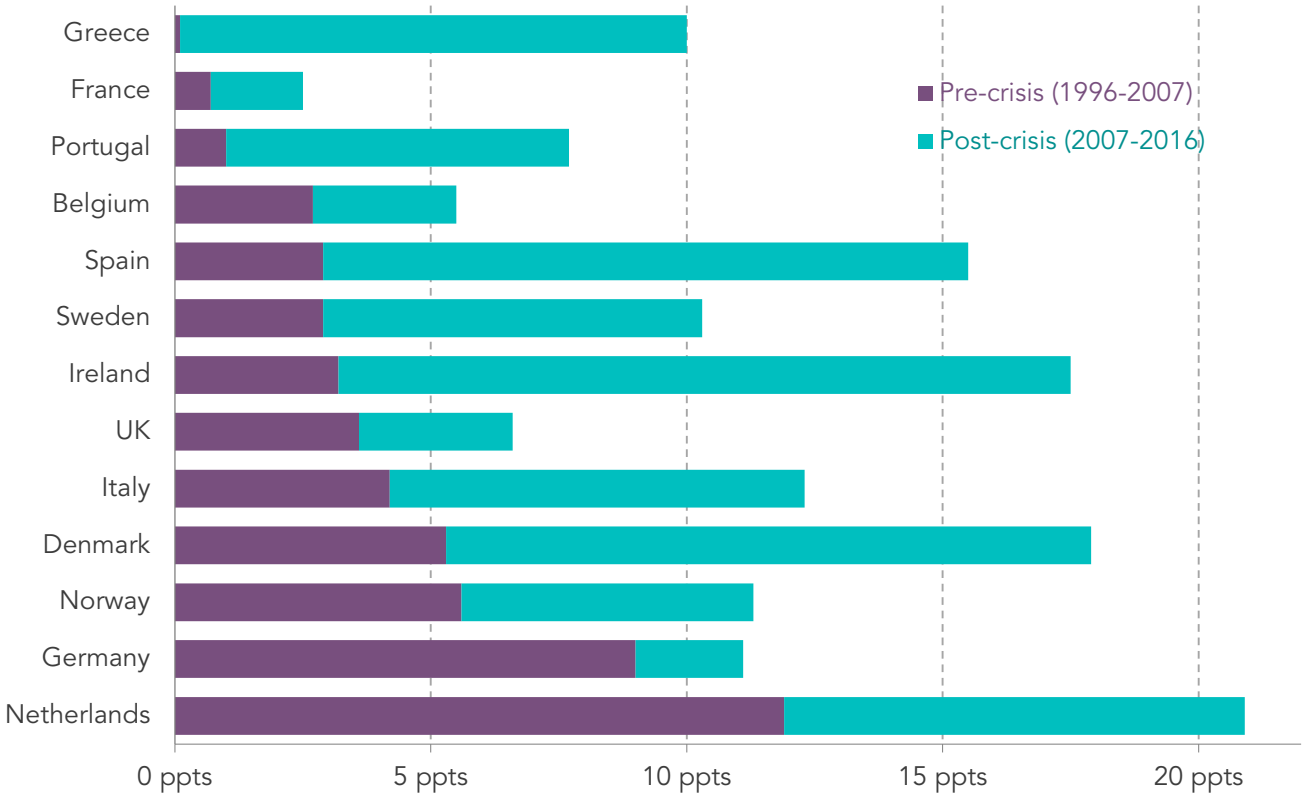
59 C Bosler & N Petrosky-Nadeau, Job-to-job transitions in an evolving labour market, FRBSF Economic Letter, Federal Reserve Bank of San Francisco, November 2016

60 L Gardiner & P Gregg, *Study, work, progress, repeat? How and why pay and progression outcomes have differed across cohorts*, Resolution Foundation, February 2017

61 World Bank Data, Labour force participation rate, female (% of female population aged 15+)

However, in a number of countries, including the UK, the increase in part-time working among young men largely below child-rearing age looks to reflect structural changes. In addition, previous Resolution Foundation analysis has shown that part-time working within this group is less likely to reflect a desire for flexibility rather than a degree of underemployment.[62] Figure 24 shows the percentage point increase in part-time employment among 15-29 year old men over the past 20 years.

Figure 24: **Percentage point increase in part-time employment share, men aged 15 to 29: 1996-2016**



Source: Eurostat

These increases are very large in some counties, with the largest increases taking place in an unusual mix of places – Nordic economies like Denmark and Norway, as well as southern European economies such as Italy and Spain. The majority of the increase in part-time work in places like Italy and Spain took place in the post-crisis years, for example 80 per cent of the 15.5 percentage point increase that occurred in Spain has taken place since 2007.

But in a number of northern European economies – the UK, Norway, the Netherlands, Belgium and Germany – it's clear that the rise in part-time work for young men largely pre-dated the crisis. In the UK for example, over 55 per cent of the rise in part-time working among young men occurred *before* 2008.

62 S Clarke & G Bangham, *Counting the hours: Two decades of changes in earnings and hours worked*, Resolution Foundation, January 2018

The reasons for increased part-time working among young men will vary across countries, but we know that sectors such as manufacturing that have traditionally provided young men with full-time work have been in decline, in terms of their employment share at least, across advanced economies. And, in the UK, at the same time as this has been happening part-time work among young men in low-paid service sectors has been rising.[63] Of course, while our previous analysis has shown that these trends have been associated with insecurity and underemployment for those affected, we should remember that for some young men, working part-time may reflect a welcome equalisation across the sexes. As women's education rates and position in the labour market has improved over the past two decades it seems likely that more men in couples might choose to work part-time to share childcare responsibilities, for example.

No matter the cause, the fact that part-time work accounts for a greater share of the work that young-men are doing will be holding back average earnings growth for men in younger cohorts in every country in which it has taken place. Like trends in the rate of growth in educational attainment and job mobility, worsening outcomes on this measure for younger cohorts compared to their predecessors appear to pre-date the crisis in the UK in particular but also elsewhere. These findings suggest that in many high-income countries the crisis-related effects on youth labour market prospects detailed earlier in this section have been layered on top of longer-term trends, and as such the youth labour market challenge is a multi-faceted one.

Labour market trends, in the short- and long-term, are important drivers of household living standards. So too are trends in the housing market, and these matter not just for living standards today – in terms of the amount of income that goes on housing – but also into the future in terms of the wealth accumulation role that houses play. The next section places the UK's generational housing picture in its international context.

63 D Tomlinson, *No country for young men?*, Resolution Foundation, February 2017

Section 4

Housing and Wealth

So far this report has focused on incomes and living standards before the cost of housing is accounted for, but housing came top of the UK's list of concerns about young people's prospects so it is to this important component of living standards that we now turn.

Our research has previously shown that housing costs have acted as a significant drag on young people's living standards over the past 15 years. The cost of housing has suppressed after housing cost income growth in the UK such that the incomes of young people, aged 25-34, are lower today than they were in 2001-02.

This section examines housing trends in high-income countries in order to determine how far the patterns identified in the UK have also been present around the world. We find that although the UK has had large historical gains in home ownership rates, it has also experienced some of the largest falls. This has meant that previous exceptional progress in generation-on-generation property ownership has been followed by lower ownership rates compared to predecessors for both generation X and the millennials.

While these challenges are shared across a number of high income countries, the UK has experienced a much longer-term problem. Of the countries that identified housing as a key area of concern for young people's living standards, only Australia rivals the UK in terms of the long-term nature of the challenges faced by younger cohorts in relation to housing.

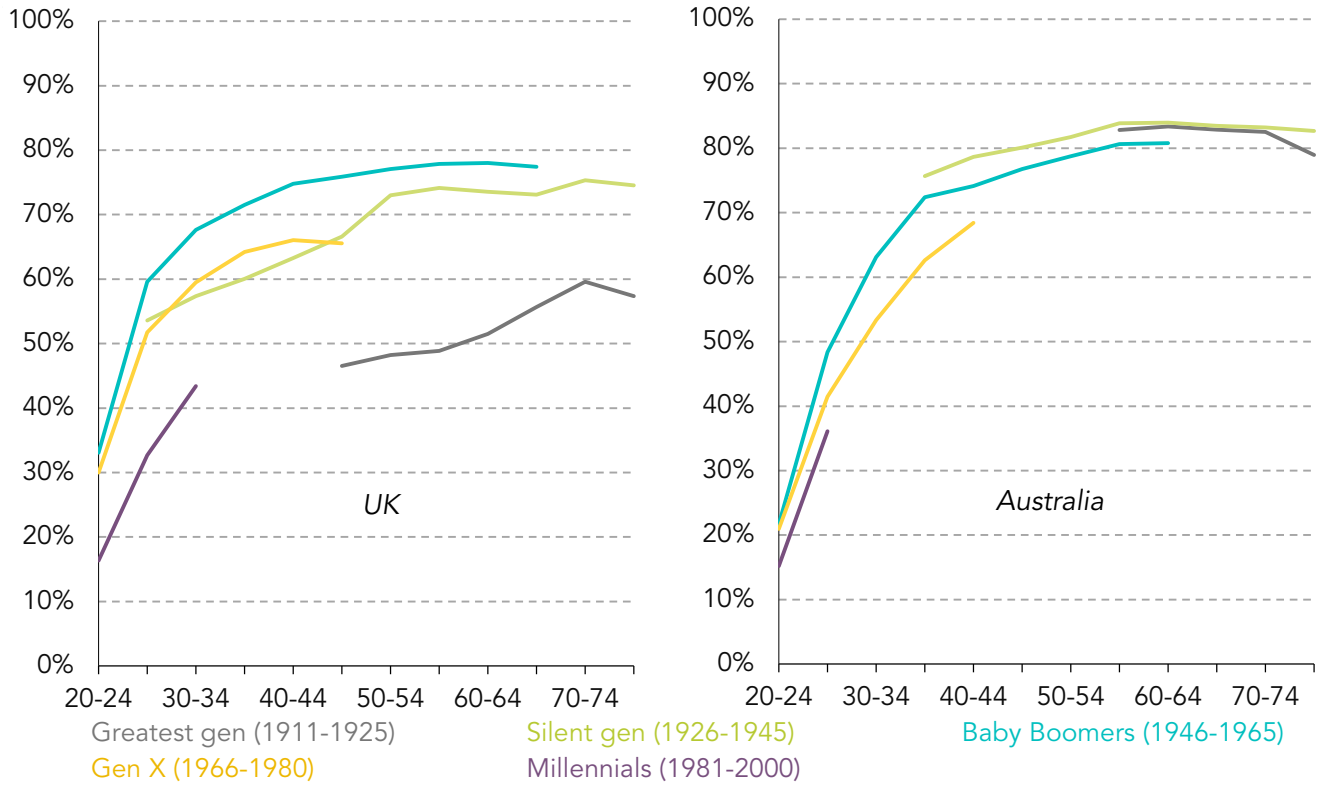
Housing costs in the UK take up a relatively high-share of working-age incomes, and a rising one in comparison to the burden of housing costs for older age groups. While these trends are also observed in some other high-income countries, in general the UK's housing challenge for younger generations stands out.

Home ownership rates have fallen in the UK, faster than in many other high-income countries

In only the UK and Australia was home ownership cited as the number one area of concern regarding the living standards prospects of younger generations.[64] And in both of these countries, home ownership declines have been a long-term problem which have resulted in a significant reversal of generational progress, starting with generation X in the UK and the baby boomers in Australia, as illustrated by Figure 25.

64 H Shrimpton et al., *The Millennial Bug: Public attitudes on the living standards of different generations*, Resolution Foundation, September 2017

Figure 25: Home ownership rates, by age and generation: UK, 1969-2013 & Australia, 1981-2010



Source: *Luxembourg Income Study Database*

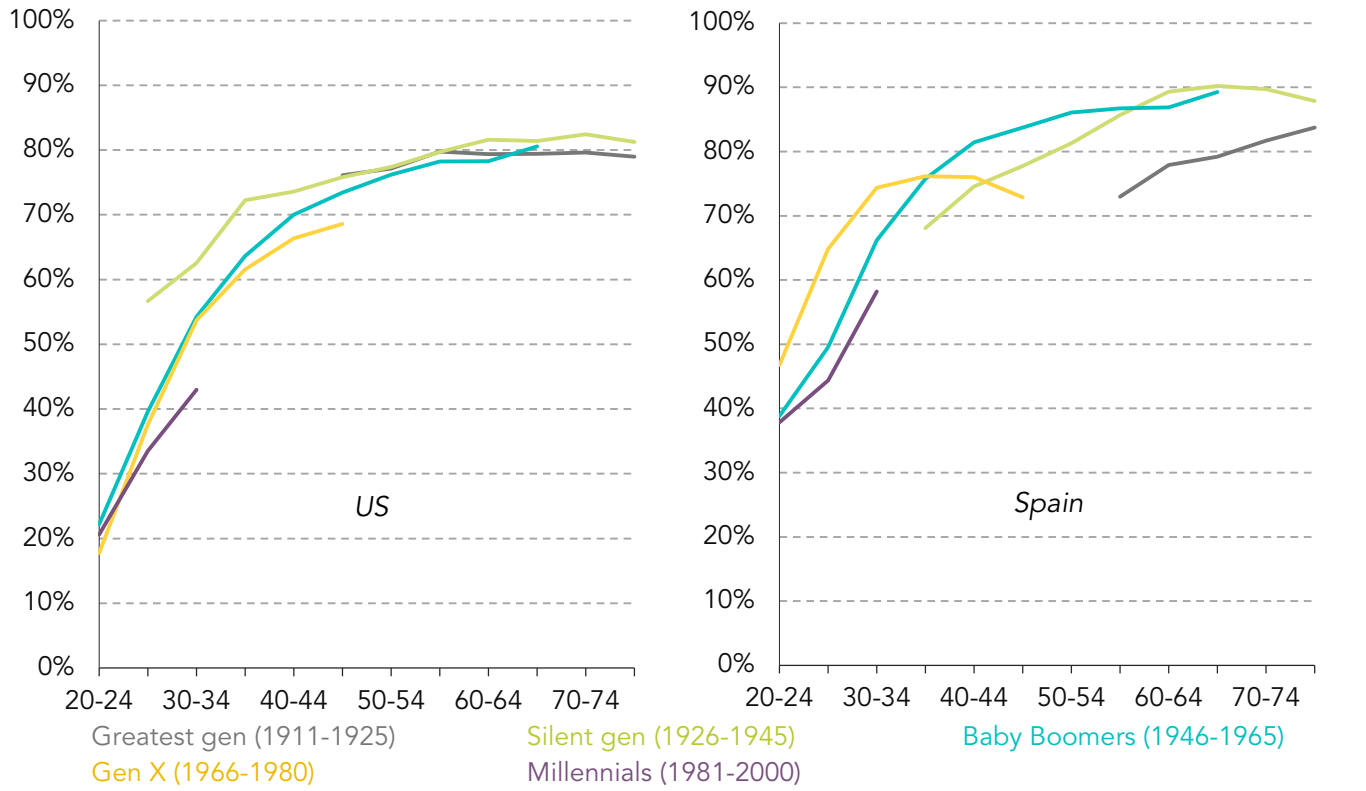
While long-term declines in home ownership are certainly a shared challenge in both the UK and Australia, historical trends in each country have differed greatly. In the UK, generational experiences of home ownership have generally been much more varied. The baby boomers enjoyed the highest home ownership rates, and experienced large generational gains on their predecessors such that by ages 45-49 their home ownership rate was 29 percentage points higher than greatest generation's at the same age. This progress went into reverse for younger generations. Home ownership rates at ages 25-29 are 27 percentage points lower for millennials than they were for the baby boomers at the same age. Moreover, declines were much greater between generation X and the millennials, at 19 percentage points, than they were between the baby boomers and generation X, at 8 percentage points.

In contrast, Australia has experienced much smaller and sustained declines between generations over a longer period of time, with the silent generation recording the highest home ownership rates. The generation-on-generation fall in home ownership at ages 25-29 was only 7 percentage points from the baby boomers to generation X, and was slightly smaller, at 5 percentage points, between generation X and the millennials. Furthermore, progress between the greatest generation and the silent generation was much smaller in Australia, at just 1 percentage point at ages 55-59, than it was in the UK at 25 percentage points.

Similar trends are presented in Figure 26 for two of the other countries that, as our previous attitudinal work has shown, rank housing as an intergenerational area of concern – the US and Spain. We find that the UK has also experienced far greater generational

variation in its home ownership trends than the US and Spain have. It is likely that the UK's comparatively large home ownership falls for today's younger generations, coupled with larger historical gains for previous generations that are still alive today, have driven much higher levels of pessimism about home ownership in the UK.

Figure 26: **Home ownership rates, by age and generation: US, 1974-2013 & Spain, 1980-2013**



Source: *Luxembourg Income Study Database*

In comparison to the UK and Australia, which have clearly experienced long-term structural issues in their housing markets, generational home ownership declines in the US and Spain appear to be more recent. This can be seen in Figure 26. It is likely that home ownership trends in both of these countries have been driven, to a far greater extent, by the cyclical effects of the crisis, which is represented by a slight downturn in most of the generational curves at older ages.

In Spain, generational progress in home ownership rates was a lived reality for all generations prior to the crisis, with each generation enjoying home ownership rates that were between 5 and 15 percentage points higher than that of the previous generation at comparable ages. This has come to an abrupt halt for generation X. For the oldest members of this generation, home ownership rates have started to fall recently – they are now less likely to be home owners than baby boomers or members of the silent

generation were when they were of the same age. Much like the UK, although to a lesser extent, progress in home ownership rates from one generation to the next has given way to generation-on-generation declines in home ownership.

In the US, the cyclical effects can also be seen at the point of the 1970s crisis. Home ownership was 17 percentage points lower for the baby boomers at ages 25-29 (in the mid-1970s) than it was for the silent generation at the same age. However, this gap narrowed to a 2 percentage point decline from the baby boomers to generation X at ages 25-29, before widening again for the millennials around the time of the more recent crisis.

In sum, even in comparison only to high-income countries in which the public registers housing as a generational problem, the UK's home ownership boom and bust stands out.

Bigger declines in home ownership in the UK have meant bigger declines in wealth

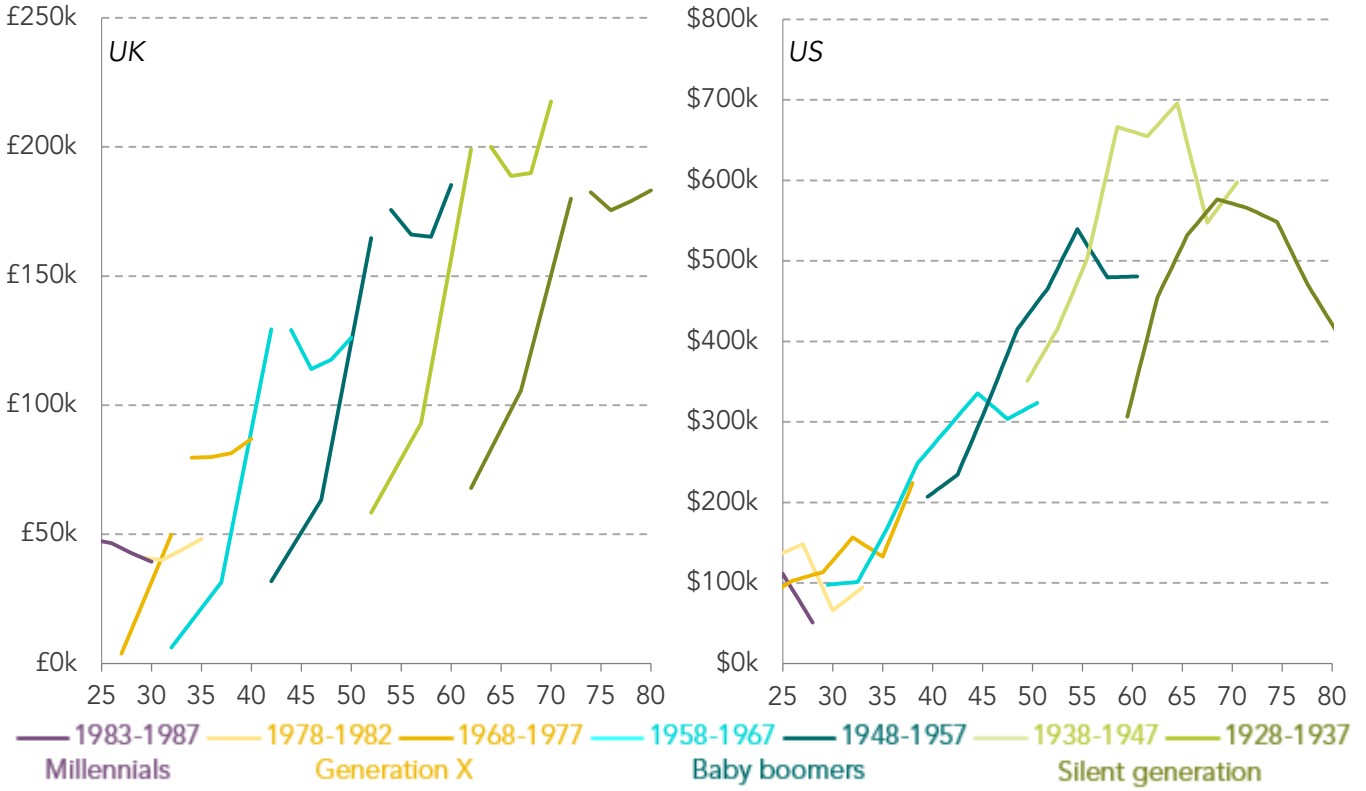
In the UK, Australia and the US, all of which have experienced large declines in generational wealth levels, housing has been cited as a major determinant of wealth trends.[65,66,67] In particular, house price booms, preceding the financial crisis, had delivered both generation-on-generation progress and declining within-generation inequalities in wealth. However, while the US had experienced sustained cohort-on-cohort wealth progress (each cohort having higher wealth in real terms than predecessors at the same age) up until the point of the financial crisis, cohort-on-cohort progress had been slowing in both the UK and Australia prior to the crisis. Figure 27 shows these trends in the US and the UK.

65 C D'Arcy & L Gardiner, *The Generation of Wealth: Asset accumulation across and within cohorts*, Resolution Foundation, June 2017

66 J Daley & D Wood, *The Wealth of Generations*, Grattan Institute, December 2014

67 A Shorrocks, J Davies & R Lluberas, *Global Wealth Report 2017*, Credit Suisse, November 2017

Figure 27: Total wealth per adult, by age and cohort: UK, 1995-2014 & US, 1992-2017



Notes: For the UK, data from the Wealth and Assets Survey are indexed backwards using data from the British Household Panel Survey, which covers a slightly different definition of wealth. UK data CPIH deflator-adjusted to 2017 prices. For more information see: C D'Arcy & L Gardiner, *The generation of wealth: Asset accumulation across and within cohorts*, Resolution Foundation, June 2017. For details on data used for the US see: A Shorrocks, J Davies & R Lluberas, *Global Wealth Report 2017*, Credit Suisse, November 2017

Source: RF analysis of ISER, *British Household Panel Survey*; ONS, *Wealth and Assets Survey*; Credit Suisse Research Institute, *Global Wealth Report 2017*

Although generation X did possess more wealth than the baby boomers, in the UK, prior to the financial crisis, cohort-on-cohort wealth progress between these two generations was far smaller than it had been between the baby boomers and the silent generation. In contrast, cohort-on-cohort progress has remained fairly consistent in the US since the first cohort of baby boomers. It is only after the financial crisis that cohort-on-cohort progress started to decline. These differences in generation-on-generation wealth progress can be in a large part attributed to the differing trends in home ownership discussed above.

Sharp declines towards the end of each curve in Figure 27 suggest that the crisis had a similarly deleterious effect on adult wealth in the UK and the US. But, in the UK, earlier cohorts had enjoyed very large generation-on-generation increases in wealth, far greater than those recorded in the US. Our previous analysis has shown that these increases were largely due to the house price boom of the mid-1990s to the mid-2000s.[68] Lower home ownership in younger cohorts – in part driven by these increases in the cost of homes – and the fact that they reached adulthood too late to benefit from the house price boom, has reversed these effects.

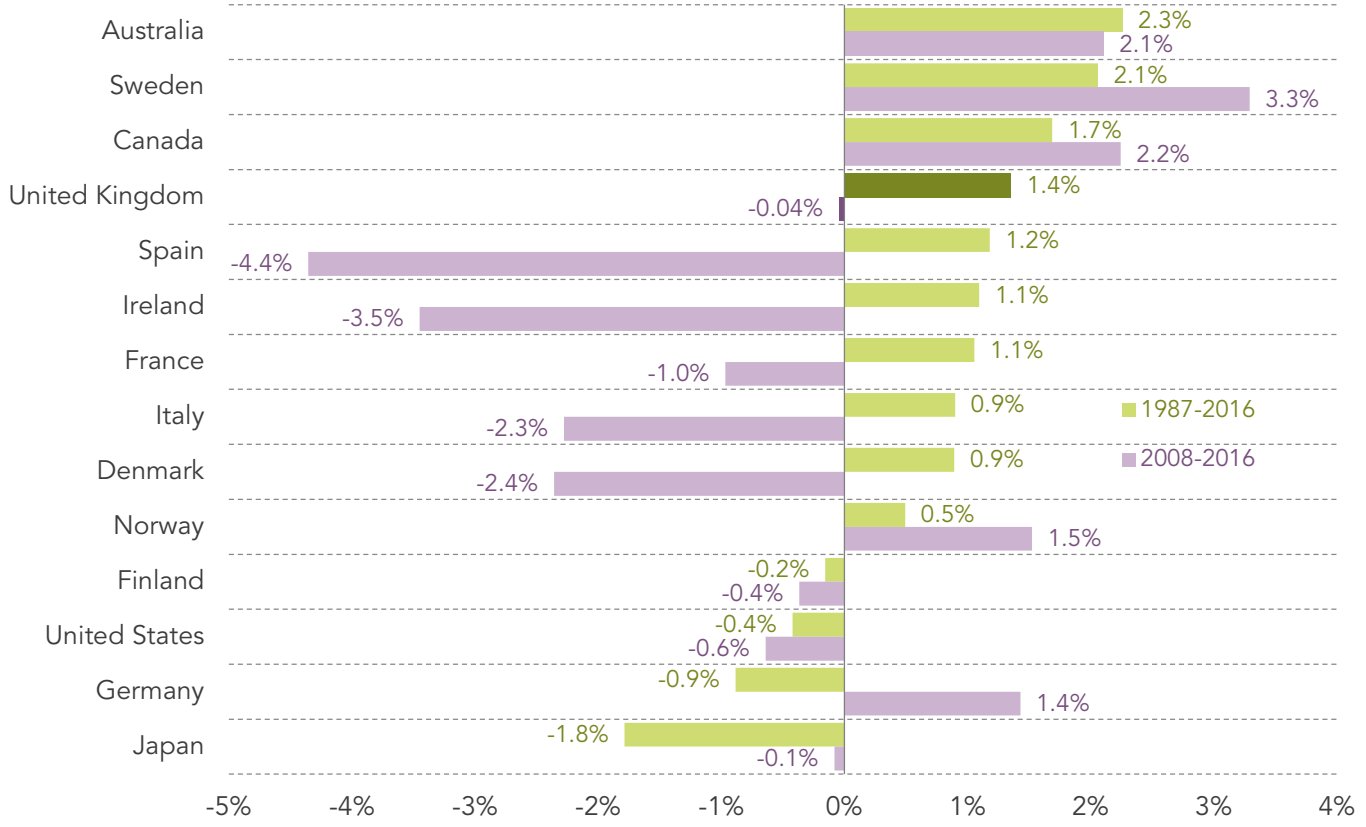
68 C D'Arcy & L Gardiner, *The Generation of Wealth: Asset accumulation across and within cohorts*, Resolution Foundation, June 2017

In the US, home ownership levels did not decline prior to the crisis, as they had done in the UK. For this reason, the house price boom was delivering generation-on generation wealth progress up until this point. However, in recent years, rising levels of student debt coupled with the effects of the crisis and subsequent declines in housing wealth, have meant that millennials in the US are now experiencing significant wealth declines at an age when their predecessors had experienced wealth gains.[69]

Low levels of housing stock combined with a lack of house building have put pressure on house prices relative to people's incomes

Home ownership rates have declined in a number of high-income countries, despite owning a home being a common aspiration among young people. In many of these countries, this has been driven by house price booms that have raised the barriers to entry into owning homes for young adults. Figure 28 shows that house price growth has been outpacing income growth across high-income countries for decades, and increases in house prices, relative to incomes, have not been confined only to those countries with generational housing anxieties, although those countries have performed the worst.

Figure 28: **Average annual percentage change in house price to income ratio: 1987-2016**



Notes: Nominal house prices divided by nominal disposable income per head. Net household disposable income is used.

Source: OECD, *Analytical house prices indicators: price to income ratio*

69 A Shorrocks, J Davies, & R Lluberas, *Global Wealth Report 2017*, Credit Suisse, November 2017

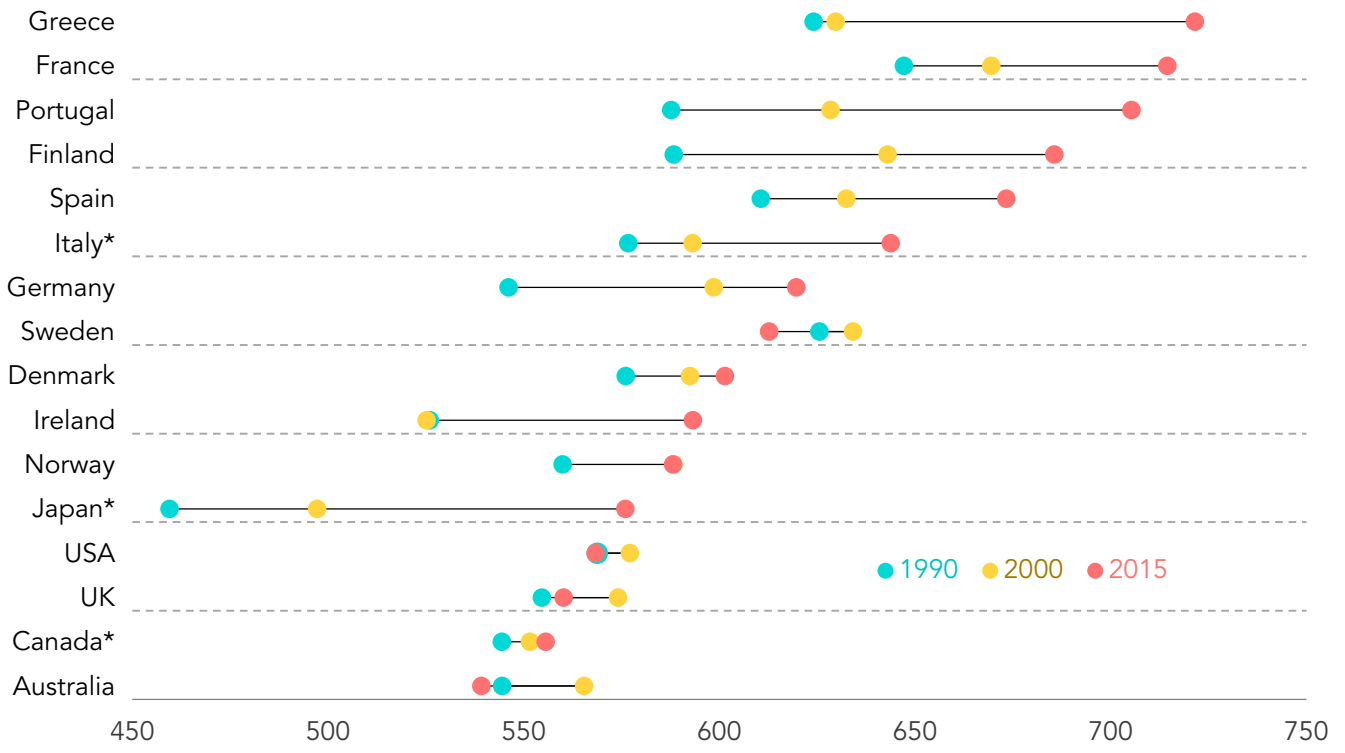
Australia has fared the worst in the long-term with an average increase in house price to income ratio (HPIR) of 2.3 per cent a year between 1987 and 2016. Although the UK remains one of the worst affected countries, the average yearly increase was smaller here at 1.4 per cent. While HPIRs in the UK have started to decline very slightly during the more recent post-crisis period, Australia has experienced sustained growth. As shown by Figure 6 (Section 1), Australia remained largely unscathed by the recession, whereas the UK didn't. Prior to the recession, average yearly growth in HPIR was 2.4 per cent in the UK and 2.6 per cent in Australia.

Interestingly, in Spain HPIRs have declined by an average of 4.4 per cent a year following the crisis. This suggests that, although homes may in theory have become more affordable, other crisis-related factors such as access to credit and high levels of unemployment are likely to have reduced the accessibility of home ownership post-crisis, contributing to the generational home ownership declines discussed above.

Compared to the UK, Australia and Spain, there has been a much faster increase in HPIRs during the post-crisis period in Sweden, where home ownership was also identified as a key area of concern for young adults' living standards prospects. The average yearly percentage change in HPIR was significantly higher, at 3.3 per cent, in the shorter period from 2008 to 2016 than it was in the period from 1987 to 2016, at 2.1 per cent per year. Again, this is likely due to differing experiences of the Great Recession. Although Sweden did have a large recession, it has also had the strongest recovery. House prices have continued to grow rapidly since the mid-1990s and, despite strong earnings growth, incomes have failed to keep up.

Figure 29 suggests that in comparison to other high-income countries, fast-rising house prices relative to incomes in the countries studied have in large part been caused by both low levels of housing stock and a lack of house building. In 1990, the UK, Australia, and the US all had comparatively low levels of housing stock relative to population size, and while this increased slightly between 1990 and 2000, these levels have since declined. As a result, the levels of housing stock per 1000 inhabitants aged over 20, in the whole period from 1990 and 2015, increased only marginally in the UK from 555 homes to 560, and decreased in Australia from 544 to 539. In the US, the figure in 1990 was roughly the same as the figure in 2015. Moreover, although starting from a higher level, Sweden has also seen a decline between 1990 and 2015. Comparatively, in Germany and Japan, which have had the largest long term declines in HPIR (as shown in Figure 29), housing stock per 1,000 inhabitants aged over 20 has risen rapidly from 546 to 616 and 459 to 576 respectively.

Figure 29: **Housing stock per 1,000 inhabitants aged 20+**



Notes: *Data for 2010 have been imputed where data for 2015 was unavailable

Source: OECD, *Questionnaire on Affordable and Social Housing; EMF, Hypostat 2017; UN Population Prospects*

While housing stock plays a key role in determining price, it is only one of many drivers that feeds into housing affordability. Other factors such as access to credit, earnings levels, interest rates, changing tenure preferences and multiple home ownership will also play a part. Nonetheless, this analysis of housing stock is illuminating in terms of the commonalities seen between those countries in which the public lists home ownership as a primary area of generational concern.

In most high-income countries housing costs as a share of incomes have increased faster for working age households than retired households

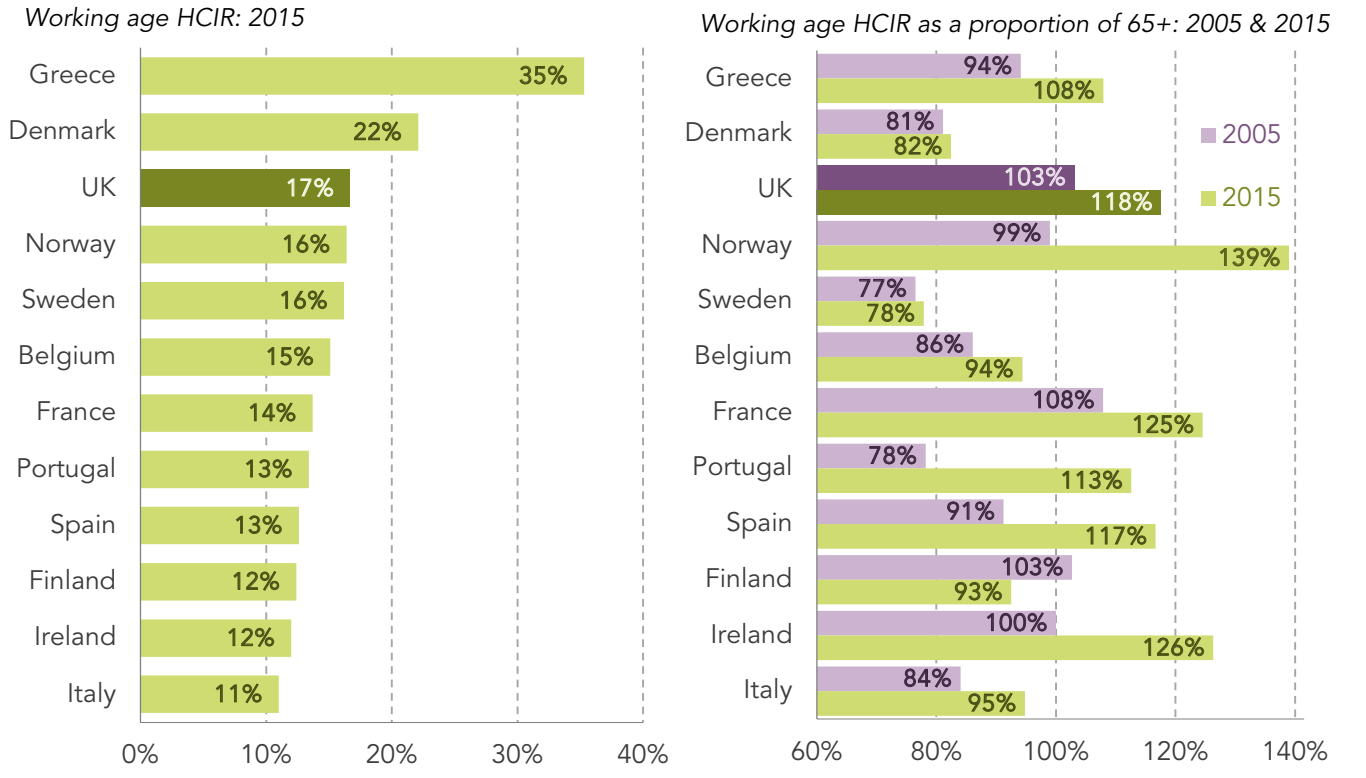
Previous Resolution Foundation analysis has highlighted that, in the UK, housing costs as a share of incomes have grown rapidly among private renters in comparison to outright owners and mortgagers.[70] Because young people are more likely to be private renters than they are to be owners, this has translated into a lack of progress in their incomes after housing costs. The combination of poor income growth and increasing housing costs has meant that at age 30 millennials in the UK spend an average of almost 25 per cent of their incomes on housing, compared to a rate of just 7 per cent for the

70 A Corlett et al., *The living standards audit 2017*, Resolution Foundation, July 2017

silent generation at that age.[71] This enormous increase in the pressure that housing puts on day-to-day living standards for all generations alive today is one of the sharpest depictions of the UK's intergenerational challenge.

The left-hand panel in Figure 30 reflects this central finding, showing that in 2015 working-age households in the UK experienced one of the highest housing cost to income ratios (HCIRs) among high-income countries across Europe. In addition, the right-hand panel in Figure 6 shows that the HCIR position of working age households in the UK has declined relative to that of older households over the past decades. While this increase in working age HCIRs relative to age 65+ HCIRs appears a common experience across countries, only in the UK and France were working age households already in a worse position in 2005 and have since been pegged back further.

Figure 30: **Median working age housing cost to income ratio (HCIR) and working age HCIR relative to retirement age HCIR**



Notes: Working age defined as all adults aged 18 to 64

Source: Eurostat, *Median of the housing cost burden distribution by age, sex and poverty status*

71 A Corlett & L Judge, *Home Affront: Housing across the generations*, Resolution Foundation, September 2017

While a detailed generational examination of housing costs such as that we have previously conducted for the UK is not possible across countries, this evidence appears to support the conclusions of earlier analysis in this section: suggesting that the UK generational housing challenge is among the most acute across high-income countries.

The combination of income, labour market and housing trends mean that young people in the UK are facing a unique living standards challenge. Historically large generational progress has been followed by significant losses in all of these areas. The concluding section provides comments on what this means for today's young generation.

Conclusion

This report has provided an international perspective on trends identified in the UK by previous research for the Intergenerational Commission. We have looked in detail at living standards outcomes for different generations in countries similar to the UK in order to understand how common the UK experience is.

This is an important task. If we had found that prospects for young people had deteriorated in a very similar way across advanced economies then we might be led to conclude that the only important drivers have been global trends in demography and economic growth.

But we have found that, despite a shared slowdown, there are significant differences in generational outcomes between countries. The UK stands out internationally in terms of the extent to which large generational progress was a feature of the 20th century, but is no longer being delivered for younger generations. This 'having it' then 'losing it' generational story has only taken place in a small number of other countries, and it is only the UK in which it is clearly evident in relation to both incomes and housing.

It is also clear that many of the intergenerational trends weighing down on the prospects of younger generations across high-income countries have been shaped by much more than the crisis. Unfavorable trends – in both the labour and housing markets – began in the years, or even decades, before the 2008 crash. This is particularly true in the UK, but applies to certain outcomes in other countries too.

These structural trends, coupled with the 'up then down' nature of generational progress in the UK are likely to have played a part in our comparatively high levels of pessimism about young people's prospects. This is not because Britain's young people have the lowest living standards – in Spain, Italy and Greece, growing up as a millennial (and entering the labour market around the time of the financial crisis) is clearly more challenging than here. Rather, our expectations about what it means to grow up in 21st century Britain have been shaped by the progress older generations experienced in the 20th century, and young adults lived experience is currently falling short in both their own and their parents' eyes.

Finally, this report has also shown that not only can we look to the past in order to see that better outcomes for young people in the UK are possible, but we can also look overseas. If other countries have a mix of labour market institutions that deliver better outcomes for young cohorts or have found ways to increase housing supply to support successive generations into home ownership, then such outcomes are within our grasp too.

Building on this understanding, subsequent Intergenerational Commission reports will look in more detail at policy options to address the intergenerational challenge here in the UK.

Resolution Foundation

Intergenerational Commission

Resolution Foundation is an independent research and policy organisation. Our goal is to improve the lives of people with low to middle incomes by delivering change in areas where they are currently disadvantaged. We do this by:

undertaking research and economic analysis to understand the challenges facing people on a low to middle income;

developing practical and effective policy proposals; and

engaging with policy makers and stakeholders to influence decision-making and bring about change.

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