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Inequality in Ireland: 1987- 2019



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1. Executive summary

This report provides an in-depth analysis of wage, earnings and income trends and inequalities in Ireland over a three-decade period, spanning from 1987 to 2019. One of the significant findings of this research is the reduction in the gender employment gap. Specifically, the employment rates for women aged 25–64 have seen substantial growth, contributing to a narrowing of the gap between men and women. Furthermore, during the Great Recession, median hourly wages declined more for men than for women, resulting in a notable decrease in the raw gender wage gap from an average of 16.4% prior to 2010 to just 3.3% by 2019. Nevertheless, a gender pay gap in earnings endures at 17.7%, primarily driven by differences in working hours.

Education has played a pivotal role in this evolution. The data reveal a substantial increase in educational attainment, particularly in tertiary education. Notably, a sharp rise in tertiary education has been observed in both men and women. Gender differences in educational levels persist, with men having lower rates of tertiary education but narrowing disparities in upper-secondary education. Employment rates have fluctuated, particularly for those with tertiary education, with women's employment rates on the rise, while men, especially those without tertiary education, have faced more volatility and challenges, notably since the Great Recession.

Median hourly wages of employees increased between 1987 and 1994, remained stagnant during the 1990s, peaked in 2010, and then declined sharply during the Great Recession. Notably, the gender wage gap narrowed during this period, primarily due to a greater fall in male wages. Additionally, the analysis demonstrates that while, conditional on education, wages are still below 2010 levels, the gender wage gap has decreased across all education groups, although it remains most significant in the lowest education category. Income inequality, as measured by the Gini coefficient and 50:10 wage ratio, has increased over the entire period, with differing trends for men and women. Overall, wage growth was stronger for women in the bottom three-quarters of the wage distribution, while for the top percentile men's wage growth was more pronounced.

We also consider inequality in the individual earnings of employees: the product of hourly wages and hours worked. Earnings patterns reveal initial growth, followed by stagnation in the mid- to late 1990s, a resurgence throughout the 2000s until the financial crisis, and a subsequent recovery. While men and women both experienced these trends, women encountered more stable and robust earnings growth. However, despite these gains, the gender earnings gap remains substantial, surpassing the gap in hourly wages, largely due to differences in hours worked, particularly pronounced among those without tertiary education. The earnings stagnation of less-educated workers contributed to persistent earnings inequality, with measures such as the Gini coefficient and percentile ratios showing a sustained rise in earnings inequality during the 2000s. Following the financial crisis, these inequality measures stabilised and even declined from 2015 as the labour market recovered.

Examining the impact of labour market institutions, this report delves into coverage of the minimum wage in Ireland which was introduced in 2000. The minimum wage has consistently remained at around half of gross median hourly earnings since its inception. However, the proportion of employees covered by this wage has fluctuated significantly, reaching its peak at 15.7% in 2007 after several incremental increases. Subsequently, the minimum wage experienced freezes, cuts and reversals, leading to coverage dropping to 10.5% in 2011. With the post-2012 labour market recovery, particularly for lower-paid workers, coverage rebounded to 17.3% by 2019. Additionally, there has been a decline in trade union membership and collective bargaining coverage, which aligns with broader international trends.

Ireland's tax, transfer and social welfare system has achieved significant redistribution at the household level. Cash benefits are most significant for the lowest net-income quartile, comprising 60% of gross household income on average. These benefits have fluctuated over time and increased for all quartiles after the Great Recession before falling with economic recovery. Tax payments, as a share of gross income, increased for higher income quartiles post-recession, offsetting earlier declines. The rise in average tax rates for the highest income quartile contributed to a drop in the disposable-to-gross income ratio.

Ireland, like many other countries, has experienced significant changes in family structures with implications for inequality. The percentage of the working-age population who are married or cohabiting has decreased. Education plays a substantial role, with a clear divide in marriage rates between different education groups. Higher-earning men are more likely to have working partners and higher-earning women have seen increased assortative matching. Household compositions have also shifted, with a notable increase in lone-parent households and couples without children. The rise in lone-parent households is concentrated among women, with the largest increase being among those with tertiary education. For men, the most striking change is the rise in the share of single adults, particularly among men without tertiary education.

The data reveal a strong association between education and the likelihood of being in a working household, with over 90% of those with tertiary education consistently in working households, while the share for those with lower-secondary or less education remains below 80%. Income levels are closely linked to household work status. However, the gap has narrowed over time, with the median disposable income for working households falling from twice that of non-working households to 1.6 times. The gap between gross earnings and net disposable income has decreased over time, with disposable income growth outpacing gross earnings growth, particularly at the bottom of the distribution. This was influenced by changes in government transfers and personal taxation.

Finally, the report examines income inequality across all households, accounting for working and non-working individuals. The findings reveal that income inequality has generally decreased over the years, particularly in the Gini coefficient, 90:10 and 50:10 percentile ratios. These trends suggest positive developments in reducing income disparities in Ireland, although further research may be necessary to understand the dynamics at the very top of the income distribution.

Our data do not cover the period of the COVID-19 pandemic due to data limitations and availability. However, work by Beirne et al. (2020) and Whelan et al. (2023) suggests that although the pandemic had a greater impact on lower-paid employees and employment in more disadvantaged areas, the scale of the policy response was sufficient to largely offset the initial effects of this on household income inequality. Roantree and Doorley (2023) point to more recent sluggish household income growth despite a strong labour market recovery which has contributed to a rise in household income inequality, raising questions whether the progressive and inclusive growth seen over the past few decades in Ireland will be sustained.

2. Notes on measurement, definitions and institutions

We draw on data from three household surveys covering the period 1987–2019. These have been the subject of extensive previous research, most recently by Roantree, Barrett and Redmond (2022), who use the data to explore household income growth, inequality and poverty over a three-decade span.

The Survey of Income Distribution, Poverty and Usage of State Services was carried out by the Survey Unit of the Economic and Social Research Institute (ESRI) in 1987, with the support of the European Commission and the Combat Poverty Agency (Callan et al., 1989). The Living in Ireland Survey was also carried out by the Survey Unit of the ESRI beginning in 1994, again with the support of the European Commission. In keeping with the European Community Household Panel, of which it was part, the survey adopted a longitudinal design, with household members followed up in subsequent waves of the survey. By Wave 7 (2000), attrition was deemed to be a cause of concern and the original sample of individuals still in scope of the survey (i.e., who had not died or moved to an institution or outside of the EU) were supplemented with a booster sample. To avoid any potential concerns about the representativeness of these later waves (Roantree et al., 2021), we use only Waves 1–6 of the Living in Ireland Survey spanning the years 1994–99. We use versions of this data held on a secure server at the ESRI, used previously by Nolan and Maître (2000) and Nolan (2003) among others.

We also use the Survey of Income and Living Conditions (SILC), an annual survey of households carried out by the Central Statistics Office since 2003 as part of the EU-SILC initiative aimed at collecting harmonised information on households for all countries in the EU. While similar in this respect to the Living in Ireland Survey, it is not primarily a longitudinal survey with most respondents sampled anew each year. We use the anonymised User Database version of the data provided by Eurostat covering the years 2003–19.

Unit of analysis and sample:

- For most of the analysis we restrict to those individuals aged 25–60, though for select charts we expand the age range to 16–74.
- All statistics are weighted using the survey-derived cross-sectional weights.

Definitions:

- **Employment rate:** the share of the population that report positive earnings from employment or self-employment in the prior 12 months, in addition to reporting being in paid work.
- **Earnings:** our measure of earnings includes employee cash or near cash income for employees, broadened to consider earnings from self-employment when we look at self-employment in Section 3.5 and household income in Section 5.
 - All nominal values are converted into real terms using the Consumer Price Index with 2019 the base year.
 - In some calculations, noted, we exclude workers in the top and bottom percentiles of the distribution to minimise the influence of outliers.
- **Hours of work:** self-reported usual hours worked per week, including paid overtime. Excludes self-employed workers.
- **Hourly Wages:** weekly equivalent of earnings from employment divided by usual hours worked per week. Excludes self-employed workers.
- **Disposable household income (household equivalised income after deducting taxes and adding benefits and tax credits)**
 - Income includes earnings from employment, profit from self-employment, income from private pensions, investment income, income from educational grants and scholarships, cash welfare payments, and cash social insurance payments, net of taxes.
 - Incomes are equivalised using the modified OECD equivalence scale, normalised to a single individual.

-
- This definition broadly corresponds to that used by Eurostat for the purposes of SILC (Eurostat, 2018), with the primary differences being the exclusion of the imputed value of a company car (which is available only in SILC data from 2007 onwards) and net contributions to individual private pension plans, which represent deferred income and should be treated in a manner consistent with those to (predominantly public sector) defined benefit pension schemes.

Splits:

- **Sex:** female, male
- **Education:** Education is split into three groups based on International Standard Classification of Education (ISCED) classifications (ISCED 0–2, ISCED 3–5 and ISCED 6–8) which correspond to primary or lower; primary to upper-secondary; and post-upper-secondary education (including college degrees).
- **Household type:** Single without dependent children; single with dependent children; couples without dependent children; couples with dependent children; adult child; other. Parents of adult children go in the 'other' category. A dependent child is a child aged 0–17 or 18–24 and in full-time education, living with parents. The year 1987 is excluded as it is not possible to tell if the person aged 18–24 is living with a parent.
- **Immigrant:** we are unable to consistently categorise individuals according to their migration status so as a result do not include figures relating to this that are found in the other country reports.

3. Institutional background

In this subsection we briefly summarise some of the key institutional features of the Irish tax and welfare system.

Social insurance and Pay Related Social Insurance (PRSI)

Ireland operates a system of social insurance similar to that of Britain, with the payment of compulsory Pay Related Social Insurance (PRSI) contributions by most working-age individuals giving rise to an entitlement to certain 'contributory' social insurance payments, including (time-limited) jobseekers benefit and the State Pension (contributory).¹ However, as in Britain, the generosity of these payments is very weakly related to earnings, with most paid at a flat rate.² PRSI is paid at a main rate of 4% on income from employment and self-employment as well as (since 2014) on income from rents, investments, interest and dividends, with reduced rates payable at very low levels of income. PRSI is also paid (statutorily at least) by employers on the earnings of their employees, currently at a main rate of 11.05% with lower rates on the earnings of low-paid employees. Some public and civil servants hired before 1995 are also subject to reduced rates of PRSI and do not accrue entitlement to the State Pension (contributory).

Social assistance (means-tested transfers)

In addition to this system of social insurance, Ireland operates a system of means-tested social assistance payments. This includes jobseekers allowance for those out of work, Working Families Payment for parents in low-paid employment, and a State Pension (non-contributory) for retirees deemed to have an inadequate private or contributory State Pension.³ Most payments comprise a personal payment – for the claimant – and additional payments for any adult or child dependents, with the precise rates varying across payments. Similarly, although all these payments are means-tested (including an assessed value for capital assets, excluding principal private residences), the details of the means-test differ across payments with different disregards and taper rates.

Income tax

Income from most sources is subject to two taxes: income tax and the Universal Social Charge (USC).⁴ Both these are levied on an annual basis, with deduction at source for employees by employers – called Pay As You Earn (PAYE) – and only a small share of taxpayers required to submit a self-assessed tax return compared countries such as the United States or France. Both taxes are levied at (marginal) rates that rise with income, giving rise to a progressive schedule. A key difference between the taxes is that while employee pension contributions are exempt from income tax when made and instead taxed when funds are drawn down, these are subject to the USC both when paid into and when taken out of a pension (Kakoulidou and Roantree, 2021, pp. 32–4). In addition, unlike income tax, rates of USC are reduced for those above age 70 (or in receipt of a means-tested medical card), and while the USC is levied on an individual basis, income tax is jointly assessed for married couples (unless they elect to be independently assessed).

Labour-market institutions

Ireland has had a national minimum wage applying to the hourly wages of most employees since April 2000, with reduced rates (called subminimum wage rates) applying to those aged 20 or below, employed by a close relative or in a statutory apprenticeship.⁵ In addition, workers in some

¹ For an overview of this system see <https://www.citizensinformation.ie/en/social-welfare/irish-social-welfare-system/social-insurance-prsi/social-insurance>

² Kakoulidou, Doolan and Roantree (2022) provide a short overview of the background to this system in their analysis of recent proposals to introduce a more earnings-related social insurance payment for those who become unemployed.

³ See <https://www.citizensinformation.ie/en/social-welfare/irish-social-welfare-system/social-assistance-payments/social-assistance-in-ireland/> for an overview of these and other social assistance payments.

⁴ Notable exceptions are capital gains (which are instead subject to Capital Gains Tax) and inheritances, gifts or bequests (which are instead subject to Capital Acquisitions Tax). For more on these see Kakoulidou and Roantree (2021).

⁵ For details on these rates, see <https://www.citizensinformation.ie/en/employment/employment-rights-and-conditions/pay-and-employment/minimum-wage/#b55e96>

sectors are subject to higher minimum rates of pay set through an Employment Regulation Order (e.g., those in the early learning and childcare sector) or a Sectoral Employment Order (e.g., those in the mechanical engineering building services contracting sector).⁶ Between 1987 and 2009, a broader form of collective pay negotiations was in operation termed Social Partnership. This involved negotiations on pay and conditions in addition to policy on taxation, welfare and public services between the government, major employer groups and trade unions. These were extended to include representatives of voluntary and community organisations from 1997, with McGuinness, Kelly and O'Connell (2010) and Lane (1998) – among others – arguing that Social Partnership played an important role in underpinning growth in the Irish economy over this time by enhancing competitiveness through the wage restraint engendered.

⁶ For further details on these employment orders, see <https://www.citizensinformation.ie/en/employment/employment-rights-and-conditions/industrial-relations-and-trade-unions/employment-agreements-and-orders/>

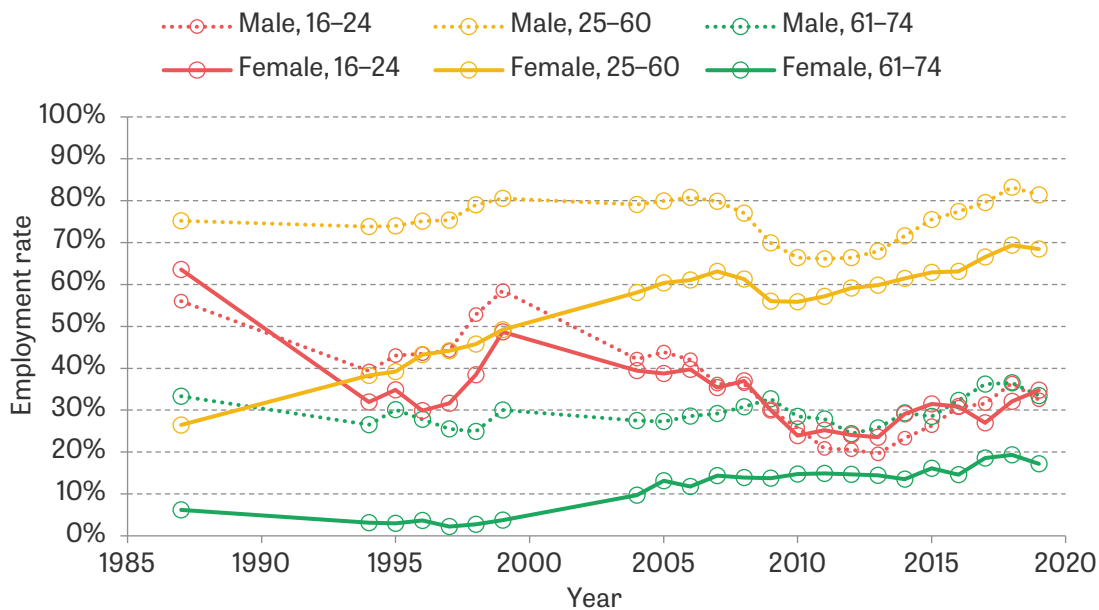
4. Individual employment and earnings

This section looks at trends in individual employment, education, wages and earnings. Due to a lack of reliable data on hours worked for the self-employed, we restrict the analysis of earnings, wages and hours to employees, but include both employees and the self-employed in our initial analysis of trends in employment.

4.1 Trends in employment

Figure 1 shows employment rates by gender and age from 1987 to 2019, using the definition based on positive reported earnings described above. The most striking development is the substantial narrowing of the gap in employment rates between men and women aged 25–60, which has fallen from 49 to 13 percentage points over the horizon. This has been driven by an almost continuous rise in the employment rates of women aged 25–60, with the brief exception of the period from 2007 to 2010 following the financial crisis when employment rates for this group fell, though by less than they did for men. Employment rates for younger adults (aged 16–24) have also risen over the horizon covered by our data (particularly for men), while those for older adults (aged 61–74) fell between 1987 and 2013, with a small rise subsequently for both men and women.

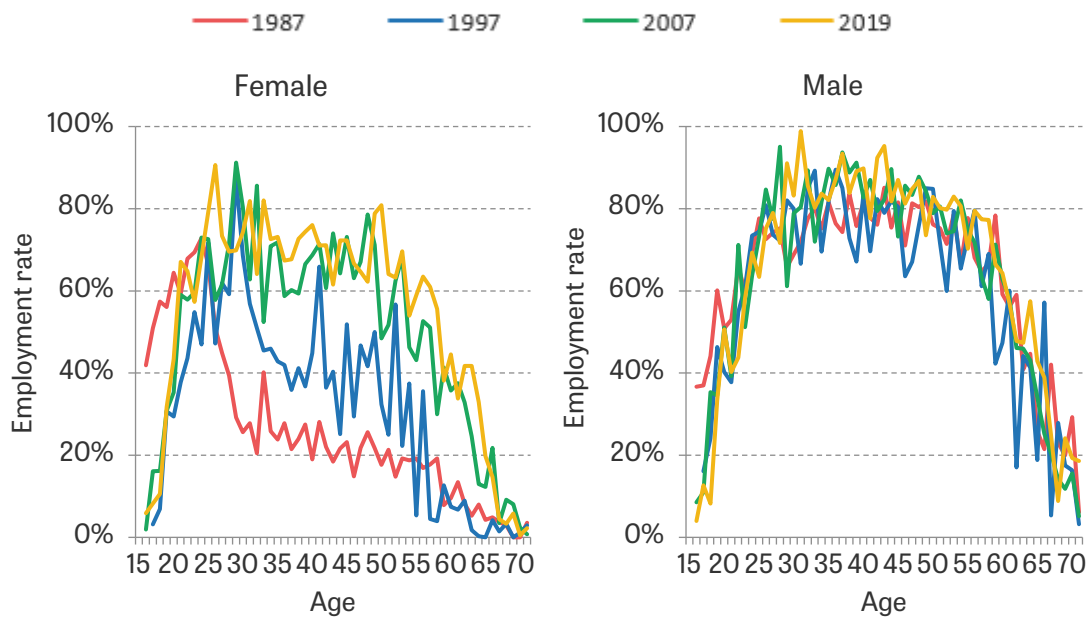
Figure 1. Employment rates by age and sex, over time



Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 2 summarises patterns of employment over the life cycle in selected years: 1987, 1997, 2007 and 2019. For men, employment rates are similar across the selected years, reaching their peak around age 40 with a gradual decline thereafter. For women, the life-cycle pattern is different and has changed dramatically over time. While women in Ireland have – and have had – similar employment rates at young ages, these reached a peak at age 24 in 1987 and declined sharply over women's later 20s and 30s. By 1997, employment rates for women were instead peaking around age 30 with a far less precipitous fall thereafter, and one that has become even more gradual since. This is in part related to the late lifting of the marriage bar in Ireland, on accession to the (then) European Community in 1973. Mosca and Wright (2020) show the practice was very widespread and led to much shorter working lives among those women affected. Nevertheless, it remains the case that employment rates are lower for women than for men across the life cycle in 2019, with the gap greatest at ages 30–40.

Figure 2. Employment rates over life cycle by sex, selected years



Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

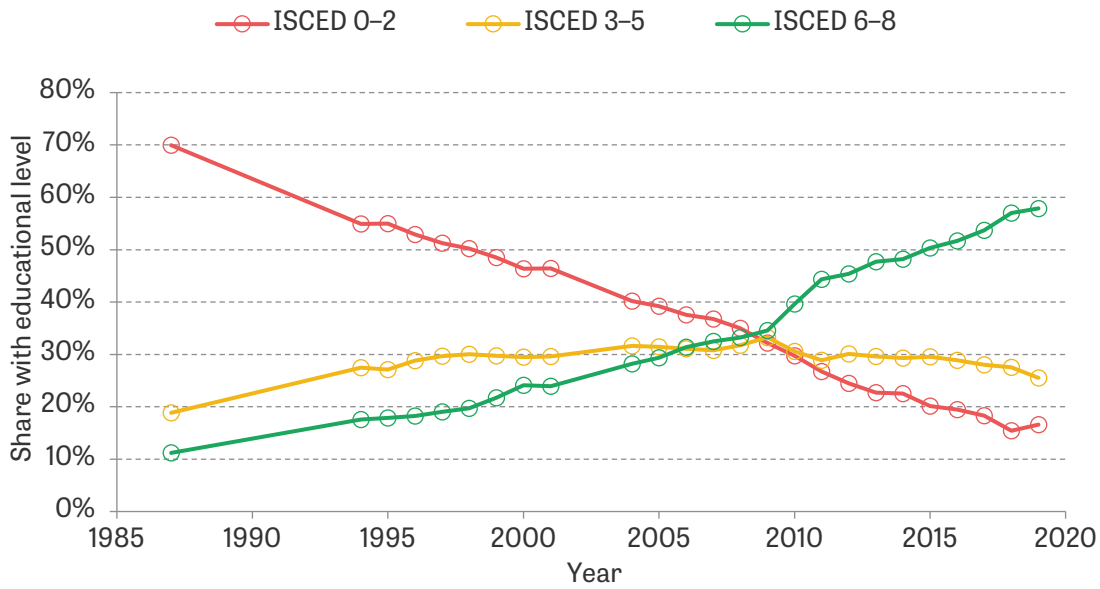
Another remarkable change in the Irish labour market and society over the past three decades is the rise in educational attainment. This is shown in Figure 3, which plots the share of those age 25–60 with lower-secondary or less (ISCED 0–2) and tertiary or more (ISCED 6–8) education, along with the group in between: those with upper-secondary or further education (ISCED 3–5). While just 11% of the working-age population had tertiary or higher education in 1987, this had reached 20% by 1998, doubling to 40% by 2010 and reaching almost 60% by 2019. At the same time, the share of the working-age population with lower-secondary or less education fell from 70% in 1987 to 17% in 2019.

Figure 4 shows that the rapid rise in tertiary education occurred among both men and women, with little difference in tertiary education rates evident in either 1987 or 2019. In contrast, lower-secondary or less education was and continues to be more prevalent among men, with a rate of 20% for men in 2019, down from 73% in 1987. This compares to rates of 14% and 67% for women in 2019 and 1987, respectively. The biggest gap between men and women lies in rates of ISCED 3–5 education, which have historically been higher for women than for men, though this gap has narrowed recently.

Figures 5 and 6 display the employment rates for these education groups, split by sex in Figure 6. Figure 5 shows that employment rates have fluctuated around 80% for those with tertiary or more education, reflecting the economic cycle, with no clear trend evident over time. However, this masks substantial differences between women and men, with Figure 6 showing employment rates for tertiary-educated women have been rising from a lower level than for men since 1987, with those for men falling over the same period leaving the gap in employment rates at just 6 percentage points in 2019, down from 36 percentage points in 1987.

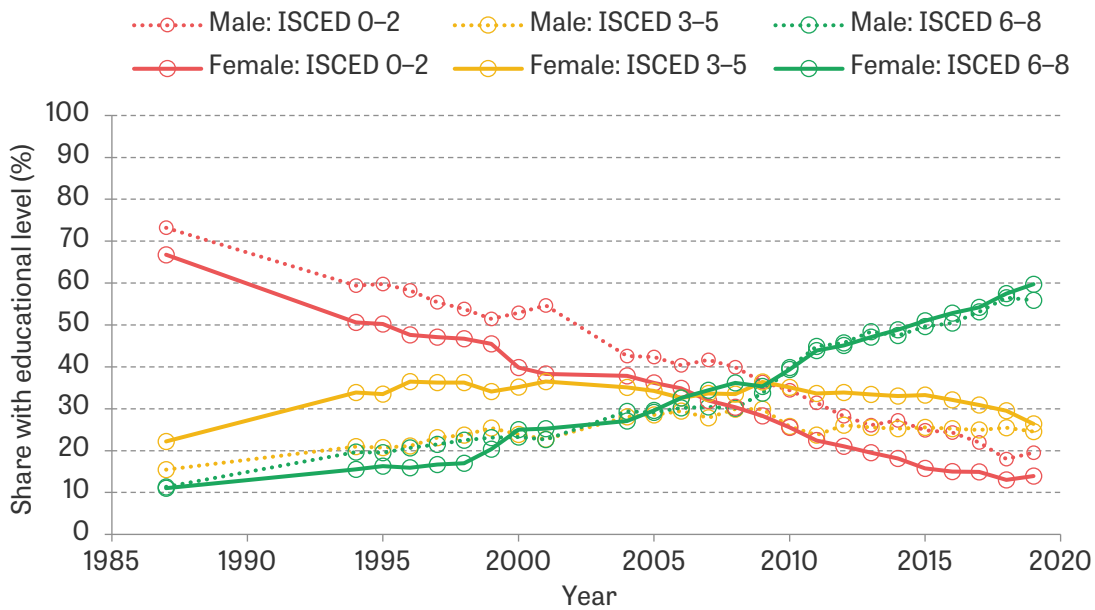
While an upward trend in employment rates – interrupted by the Great Recession and the slow recovery – is more evident for the other education groups, Figure 6 again shows that this is driven more by a rise in the employment rates of women from a low level. Employment rates for men – particularly men with non-tertiary education – appear more volatile than for women, with large declines seen in the aftermath of the Great Recession persisting even by 2019.

Figure 3. Educational attainment over time



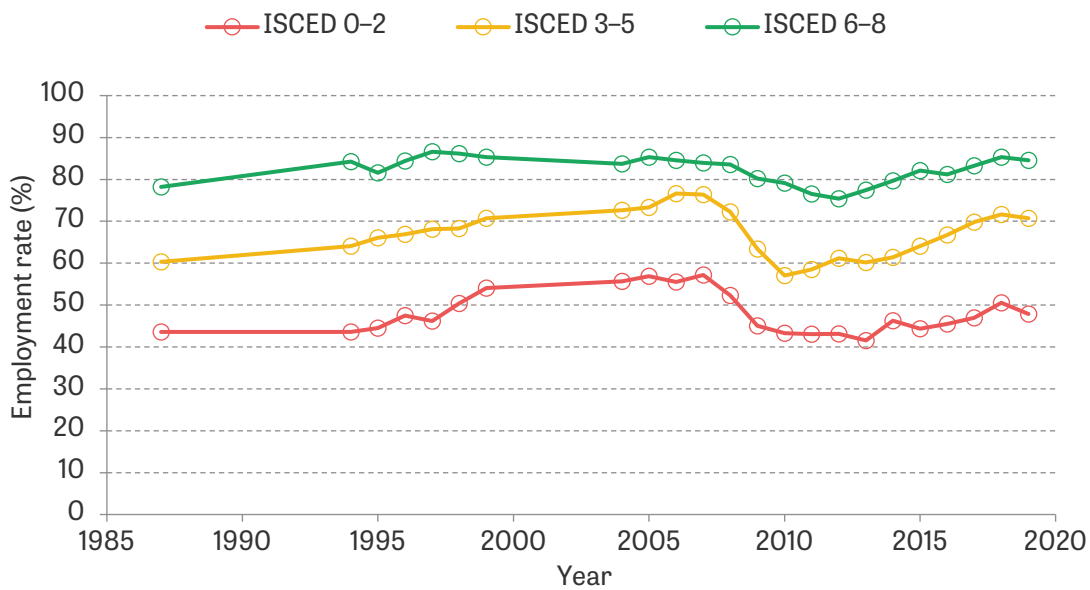
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 4. Educational attainment by sex, over time



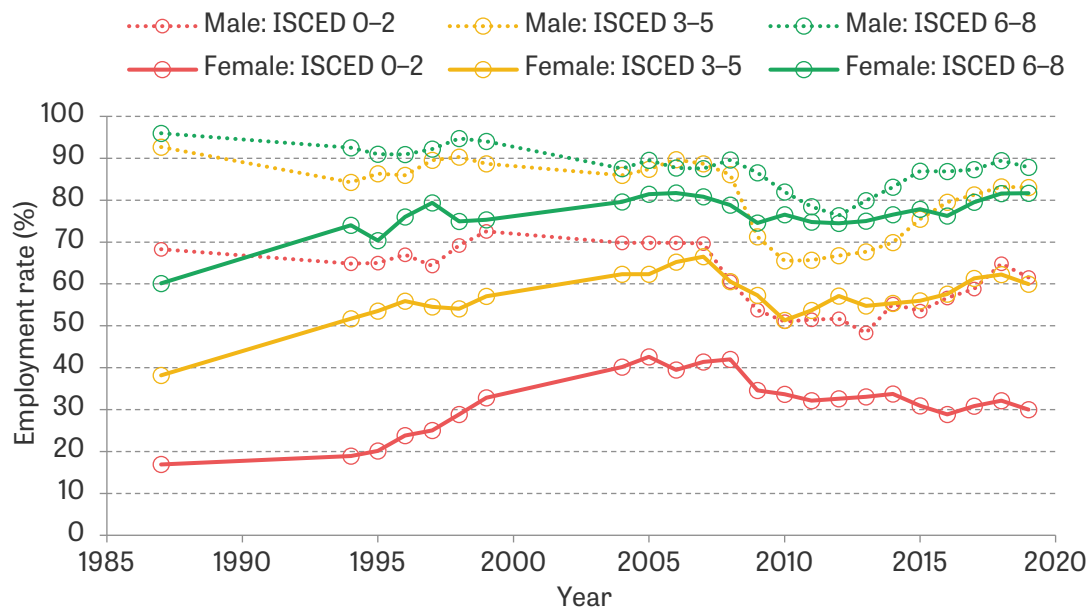
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 5. Employment rates by education, over time



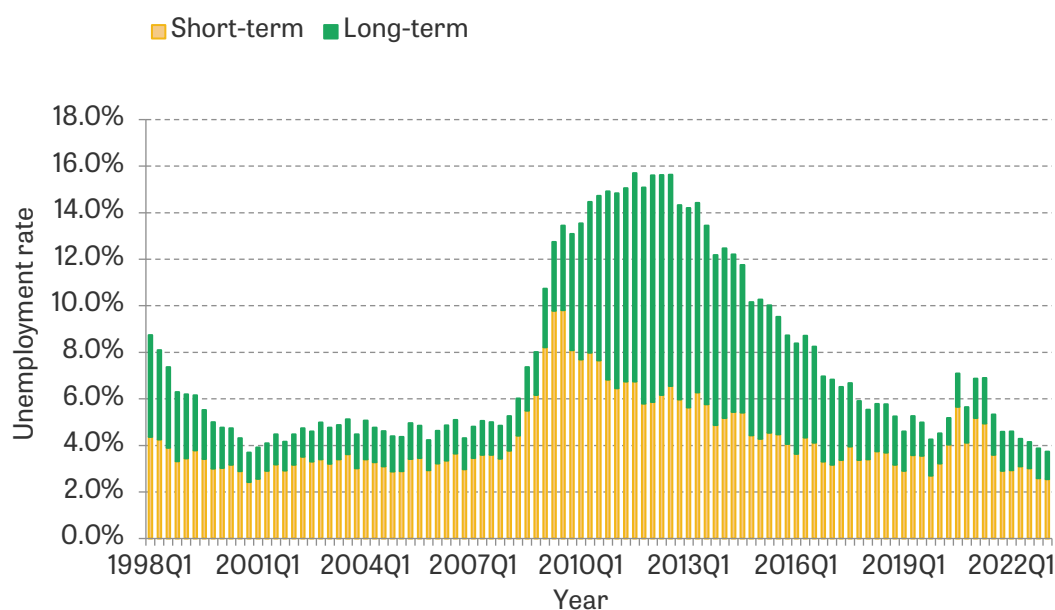
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 6. Employment rates by sex and education, over time



Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 7. Unemployment rate by duration of unemployment over time



Note: Sample is individuals aged 15+.

Source: Author's calculations using Labour Force Survey tables QFL22 and QFL01.

Figure 7 shows the adverse effects of the Great Recession on the labour market more clearly. It plots the unemployment rate for those aged 25–60 split by the duration of unemployment (whether an individual has been unemployed for less or more than a year), showing a sharp and sustained rise in the unemployment rate between 2008 and 2013. Particularly striking is the rise in long-term unemployment as a share of overall unemployment, making up almost half by 2012.

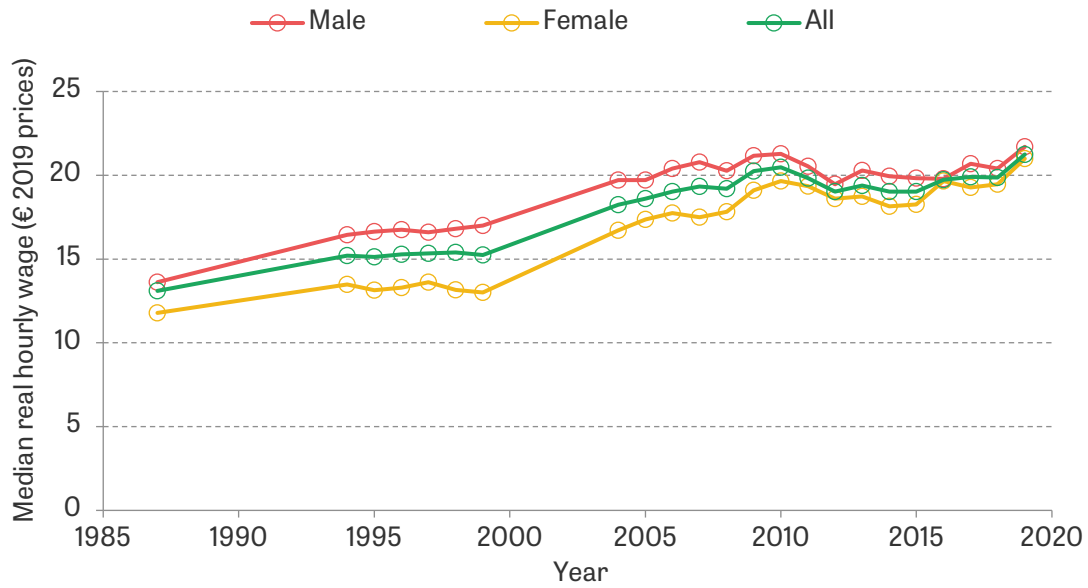
4.2 Trends in hourly wages (employees only)

Figure 8 plots inflation-adjusted median hourly wages for employees of working age from 1987 to 2019, split by sex. It excludes self-employed workers, given concerns about the measurement of hours for this group. This shows that while median hourly wages increased between 1987 and 1994 for both men and women, there was little growth in real terms over the 1990s. Growth resumed over the 2000s, with median wages peaking in 2010 before falling sharply over the course of the Great Recession. However, median wages fell by more for men than for women over the downturn, leading the raw gender gap in median wages to narrow from an average of 16.4% before 2010 to just 4.4% by 2012. This narrowing in the gender gap has persisted with the recovery in hourly wages since 2014, which finally surpassed their 2010 levels in 2019 for both men and for women.

Figure 9 further explores these trends, splitting median hourly wages by both education and sex. This shows that, conditional on education, real median wages are still below their 2010 level for both men and women, suggesting that much of the recovery in median wages overall in recent years has been compositional, in particular due to the rapid rise in educational attainment shown in the previous section. Nevertheless, the gender wage gap has narrowed within each education group but remains greatest at median wages for the lowest education group (ISCED 0–2).

In Figure 10, we explore how hourly wages evolve over the life cycle, and how this evolution varies by sex and education over three distinct periods: 1987, 1994–97 and 2016–19. While the data are noisy in some periods due to small sample sizes, it is clear that the age profiles of wages are much flatter for the lowest education group. Also striking is the relatively small gender wage gap for tertiary-educated workers at younger ages throughout, with the narrowing of this gap more evident at older ages, in part due to the stagnation of real wages for older men between the late 1990s and late 2010s.

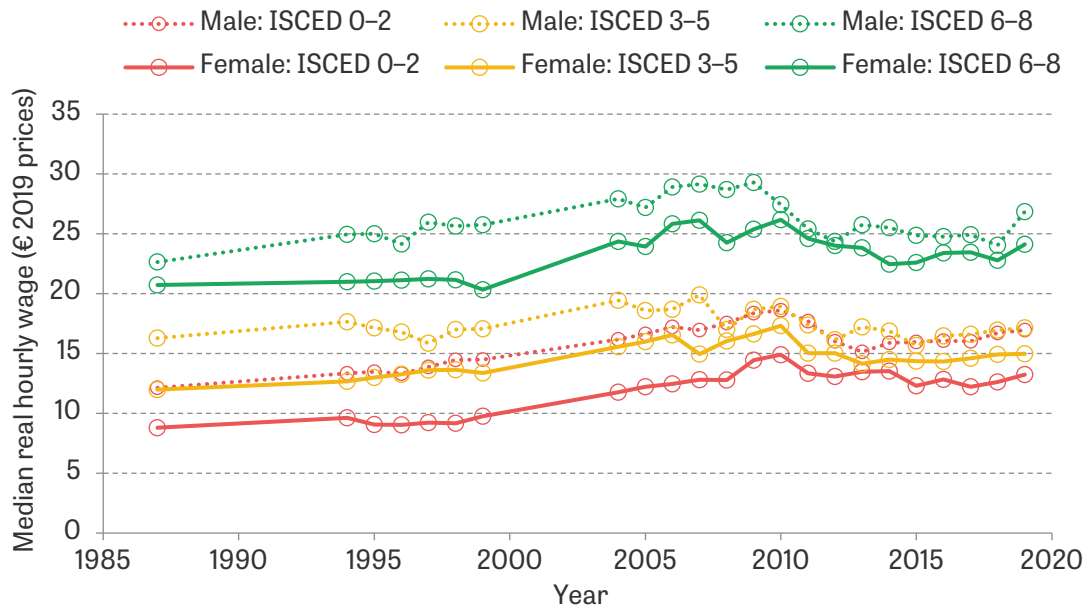
Figure 8. Median real hourly wage among employees, overall and by sex, over time



Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Note: Sample is employees aged 25–60. Wages are in 2019 prices.

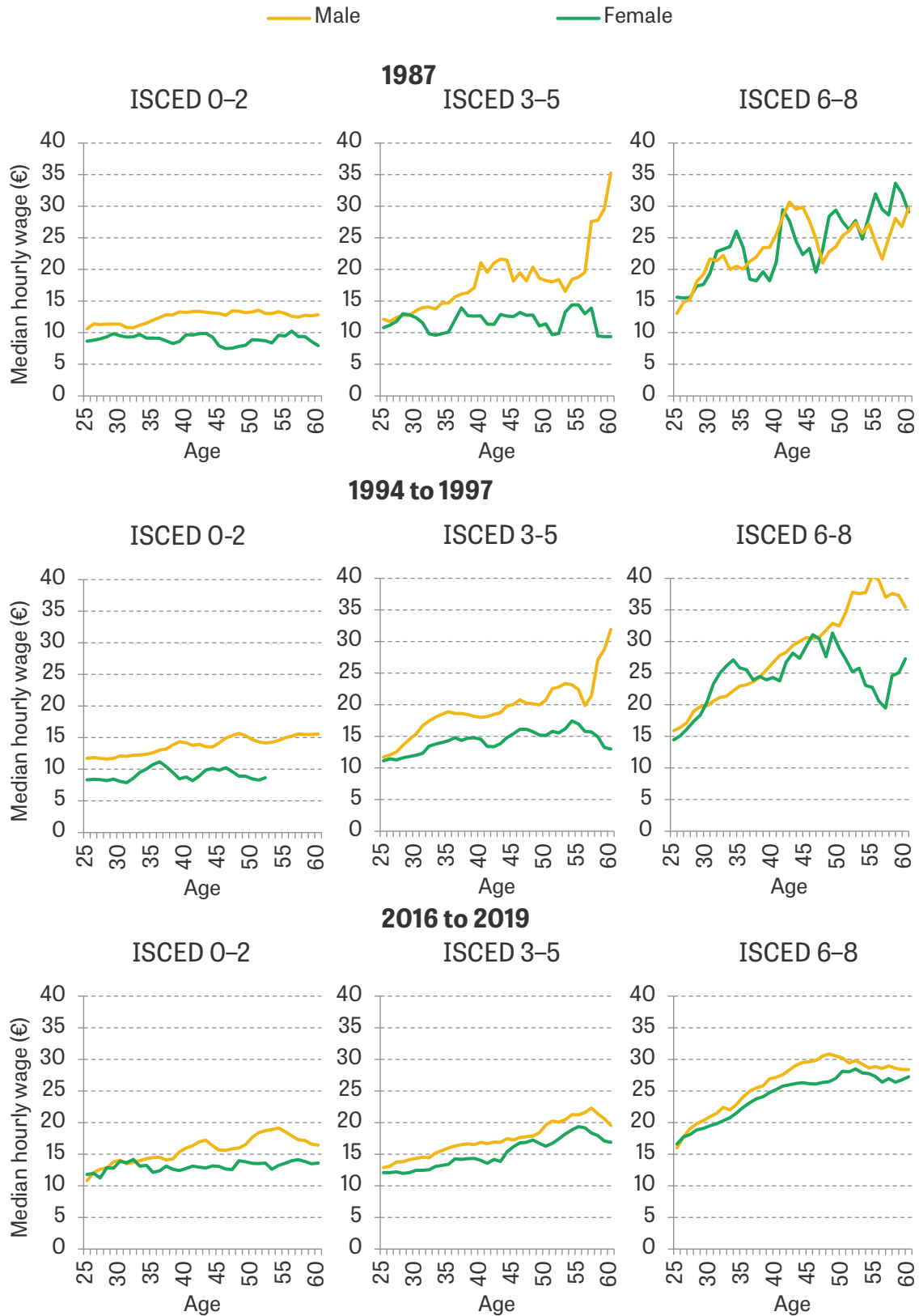
Figure 9. Median real hourly wage among employees, by sex and education, over time



Note: Sample is employees aged 25–60. Wages are in 2019 prices.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

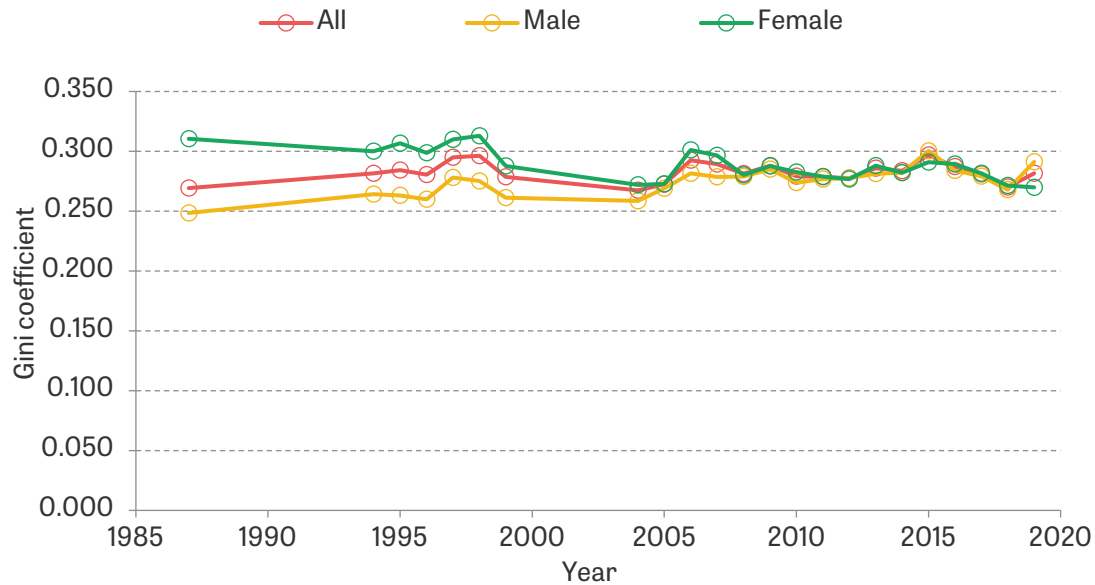
Figure 10. Median real hourly wage among employees over life cycle, by sex and education



Note: Wages are shown in 2019 constant-wage terms. Individuals in the bottom two and top one percentiles of the gender- and year-specific hourly wage distributions are excluded. Hourly wages are averaged over 5 years.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

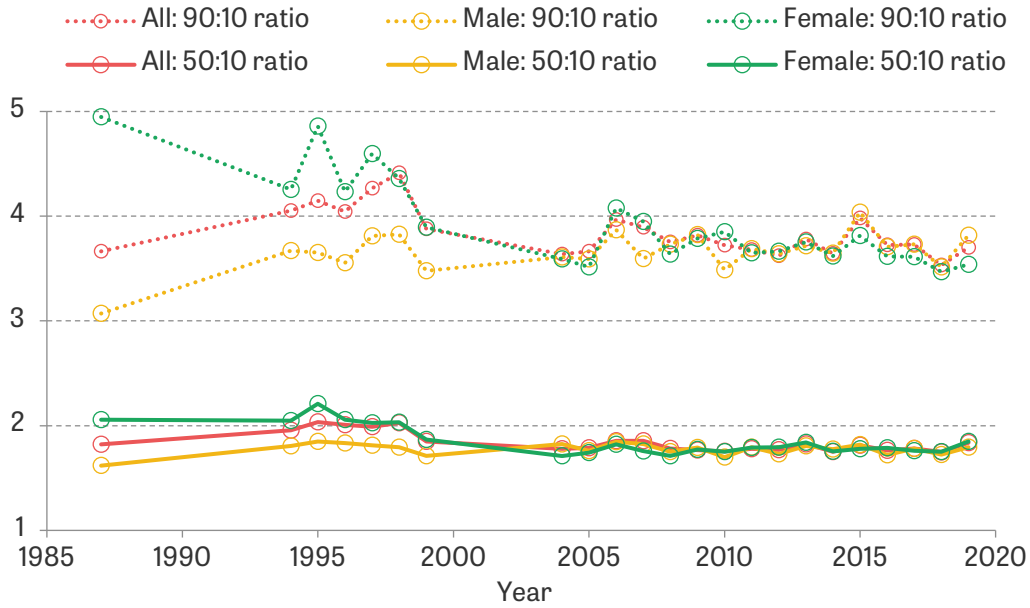
Figure 11. Gini coefficient of hourly wages among employees, overall and by sex, over time



Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.
 Note: Sample is employees aged 25–60. The top and bottom 1% of the gender-specific wage distribution are excluded.

Figure 11 plots inequality in overall and within-sex hourly wages as measured by the Gini coefficient, while Figure 12 presents some other summary measures of inequality – the 90:10 and 50:10 percentile ratios – for the same groups. These exclude self-employed workers and trim both the top and bottom percentile of gender-specific wages in each year. These charts show that while overall wage inequality has increased over the full horizon our data cover according to the Gini coefficient (rising from 0.269 in 1987 to 0.282 in 2019), the 90:10 and 50:10 ratios are more stable. However, as with previous figures, this rise in overall inequality masks very different developments within sex, with the Gini and the 90:10 ratio rising for men but falling – modestly – for women over the full horizon, with the bulk of this decline occurring over the 1990s. The 50:10 ratio exhibits a similar though somewhat less pronounced pattern, falling from 2.0 to 1.8 for women and rising from 1.6 to 1.8 for men over the period as a whole.

Figure 12. 90:10 and 50:10 ratios of hourly wages among employees, overall and by sex, over time

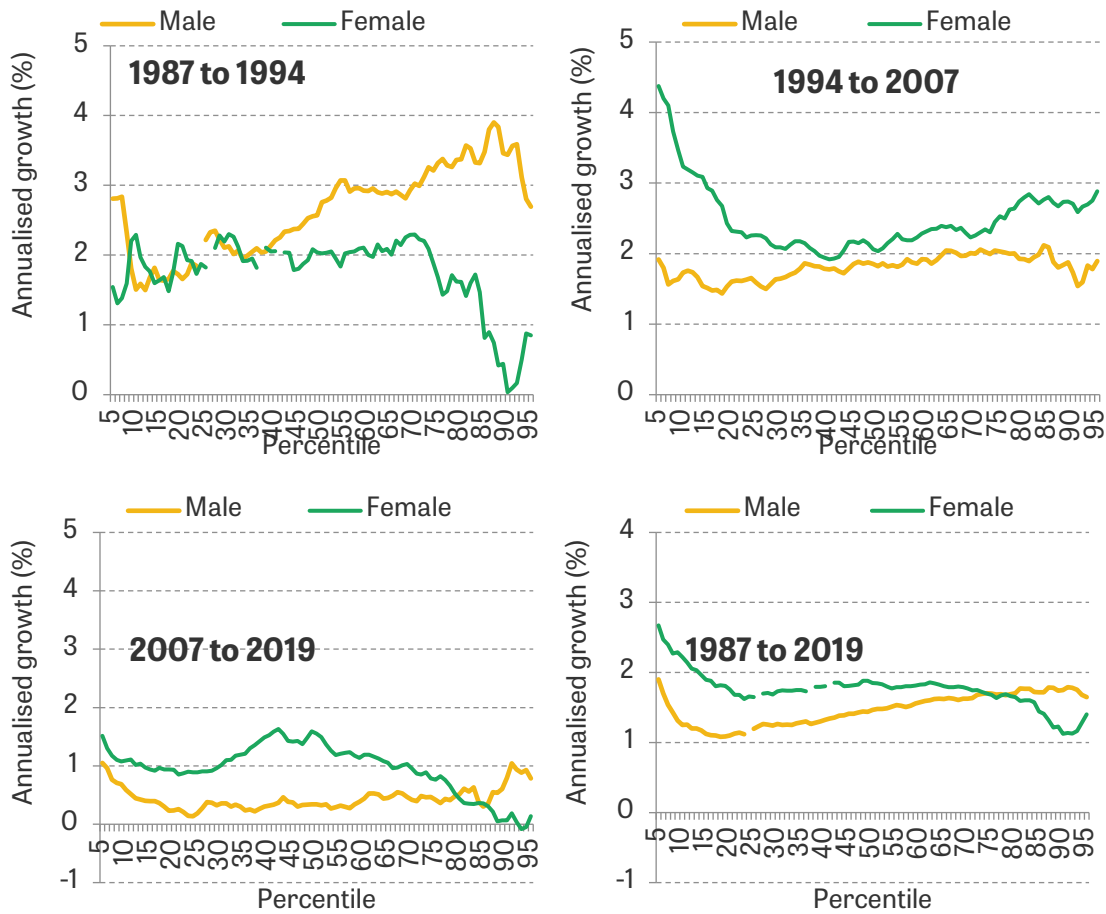


Note: Sample is employees aged 25–60. The top and bottom 1% of the gender-specific wage distribution are excluded.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 13 plots the annualised growth rate of hourly wages by percentile for selected periods. Overall, the panels show that from 1987 to 2019 wage growth was stronger for women across the bottom three-quarters of the distribution, with men's growth starting to outpace women's from the 74th percentile upwards. From 1987 to 1994 the growth rate for men and women below the median is similar, but as we move further up the distribution the growth in men's wages is far stronger. However, from 1994 to 2007 female wage growth is stronger at all points of the distribution. This trend continued from 2007 to 2019, again, with the exception of the top if the distribution where male wage growth was stronger.

Figure 13. Growth in hourly wages among employees by wage percentile, by sex, selected periods



Note: Sample is employees aged 25–60. The top and bottom 1% of the gender-specific wage distribution are excluded.

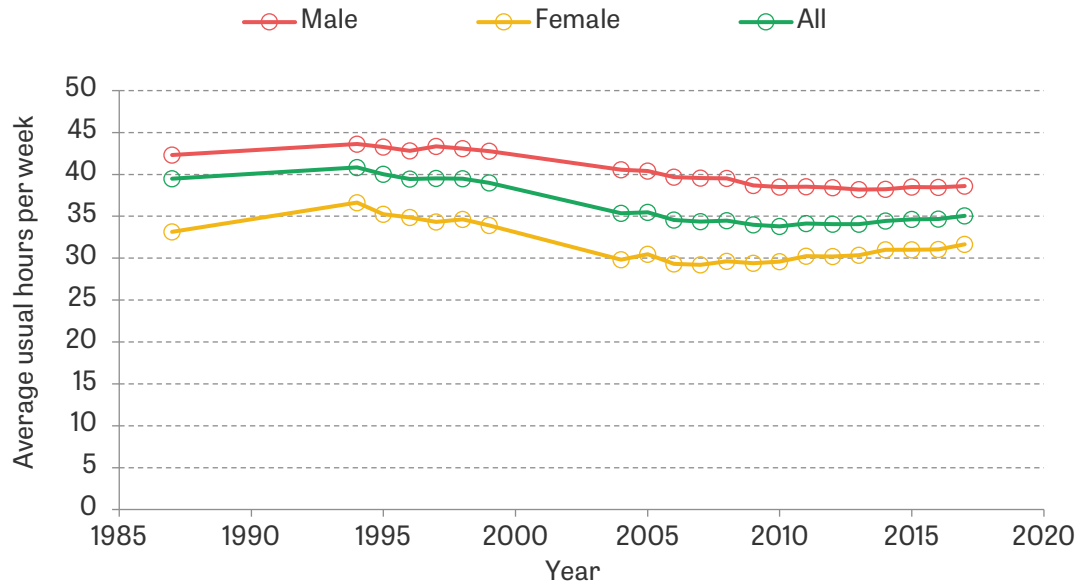
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

4.3 Trends in hours worked (employees only)

We now turn to examine weekly hours of work among non-self-employed workers. Figure 14 plots the usual weekly hours reported by men, by women, and overall. This shows that over the horizon our data cover (1987–2019), men in paid employment have – on average – worked 8 hours more per week than women. However, the average for both men and women declined over the 2000s, from 43 hours per week in the mid-1990s to 38 hours per week in the 2010s for men, and from 35 hours per week to 31 hours per week for women.

Figure 15 stratifies average usual hours worked by education as well as sex, and shows that the decline in average hours worked by both men and women is as a result of declines in hours worked by those without tertiary education. Indeed, whereas both male and female employees without tertiary education worked at least as many hours as those with tertiary education in 1987, this was no longer the case by 2007, with the period since seeing the gap widen further. Figure 16 – while quite noisy given relatively small sample sizes – shows that the decline in hours worked by men has been particularly pronounced at the bottom of the earnings distribution.

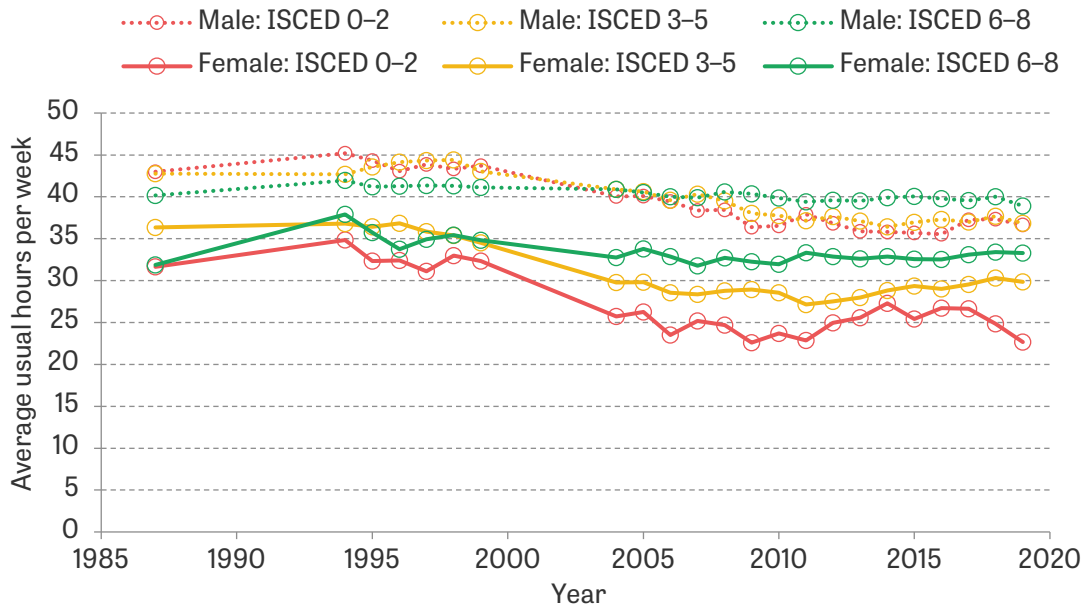
Figure 14. Mean weekly hours worked among employees, overall and by sex, over time



Note: Sample is employees aged 25–60.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

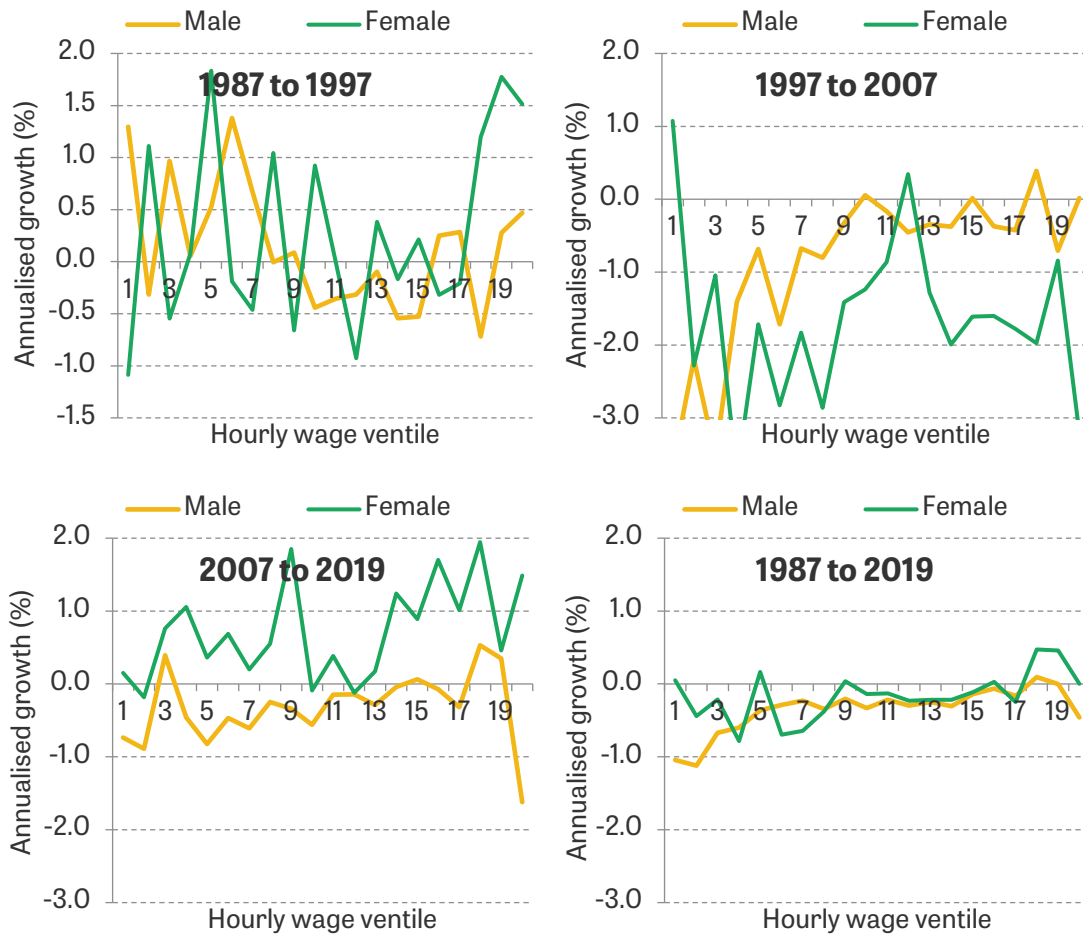
Figure 15. Mean weekly hours worked among employees, by sex and education, over time



Note: Sample is employees aged 25–60.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 16. Annualised growth in mean hours worked among employees by hourly wage ventile, overall and by sex, selected years



Note: Sample is employees aged 25–60.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

4.4 Inequality in individual earnings (employees only)

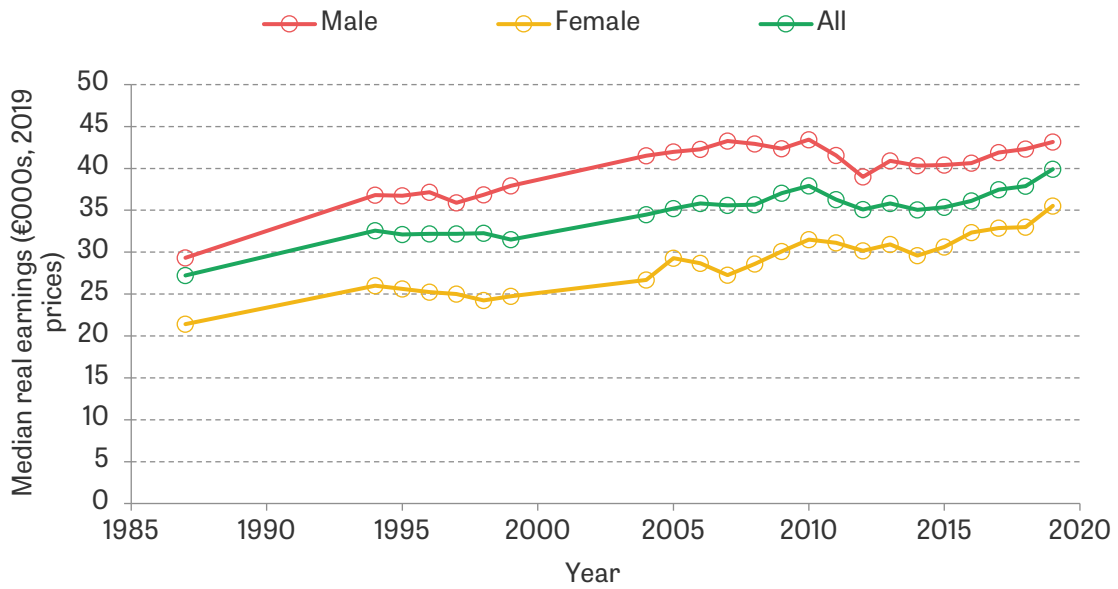
We now move on to consider inequality in individual earnings: the product of hourly wages and hours worked. Again, we restrict our sample to employees, with Figure 17 plotting the median of earnings for those age 25–60 overall and by sex from 1987 to 2019. Like hourly wages, the pattern is one initially of growth, followed by stagnation over the mid- to late 1990s. Growth resumed over the 2000s until the financial crisis, with median earnings falling sharply in the immediate aftermath for men and only regaining their pre-financial crisis peak in 2019 following a period of stagnation. While growth in median earnings has been stronger and less volatile for women, contributing to a reduction in the gender gap from about a third in the mid-2000s to a fifth in the most recent years of data, this gender earnings gap is substantially larger than that in hourly wages.

This in large part reflects the differences in hours worked shown in the previous section, which also help explain the substantial within-education group gender earnings gaps evident in Figure 18. These gaps are particularly striking for those without tertiary education. This is despite – as we saw in Section 3.2 – a reduction in the gender wage gap for those without tertiary education and reflects the decline in average hours worked by women without tertiary education documented above. As a result, median earnings for these less-educated women have been largely stagnant over the horizon our data cover, although as we have seen the size of this group has shrunk significantly.

This stagnation in earnings for lower-educated employees has contributed to patterns of earnings inequality experienced over the last three decades. This is shown in Figures 19–21, which plot the Gini coefficient and selected percentile ratios for the earnings of men, women and overall, along with – in Figure 20 – the Gini coefficient for a broader definition of employee compensation that adds employer social security contributions – called Pay Related Social Insurance (PRSI) – to earnings. After exhibiting a decline over the early 1990s, there was a sustained rise in all these measures of earnings inequality over the 2000s coinciding with the period when earnings rose for tertiary-educated workers but stagnated for less-educated workers, especially women. These measures of earnings inequality were relatively stable in the period following the financial crisis (when earnings fell sharply for both men and women with tertiary education), even falling from 2015 as the recovery in the labour market took hold.

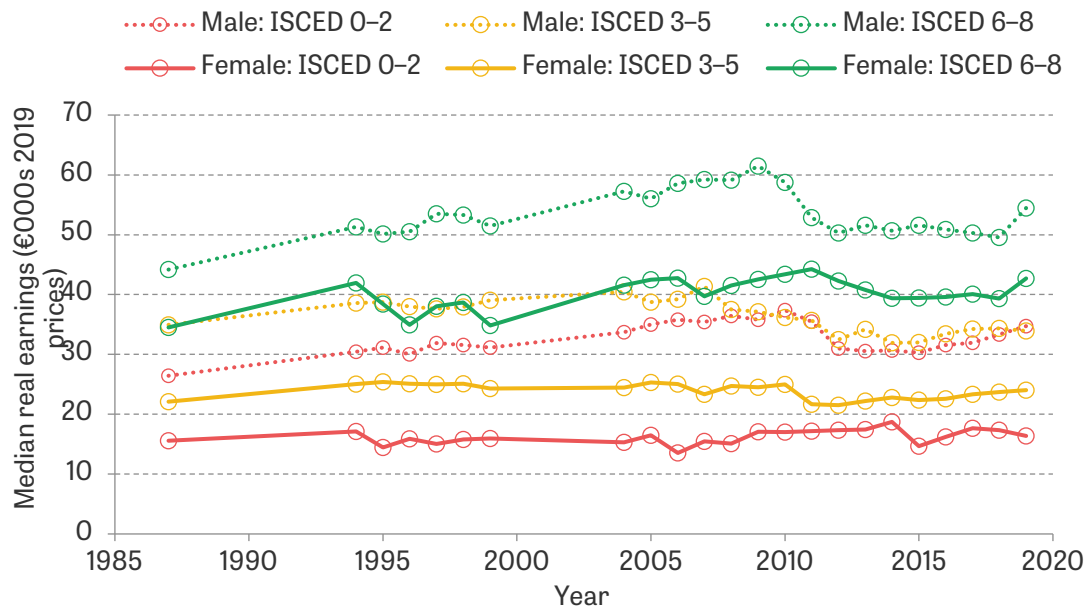
Figure 22 shows these developments in patterns of earnings growth and inequality in another way, plotting growth across the distribution of earnings for men and women separately over four selected periods. These show that while the earnings of women grew faster at the very bottom of the distribution than the top (or middle) over the early 1990s, the opposite was true between 1997 and 2007. Similar patterns are observed over these periods for men, although the rates of growth experienced are much lower. By contrast, while earnings growth for women was again positive and progressive over the period 2007–19 that encompassed the crash and recovery, there was no growth across most of the distribution for men with the exception of the very top. The bottom-right panel shows that putting these periods together, earnings growth was progressive for women but regressive for men. Finally, Figure 23 shows that using the broader definition of employee compensation including employer PRSI does not affect the patterns of growth observed over these periods, particularly in the period after 2000 when the cap on PRSI was removed, making employer cost effectively a linear transformation of earnings.

Figure 17. Median real gross individual earnings, overall and by sex, over time



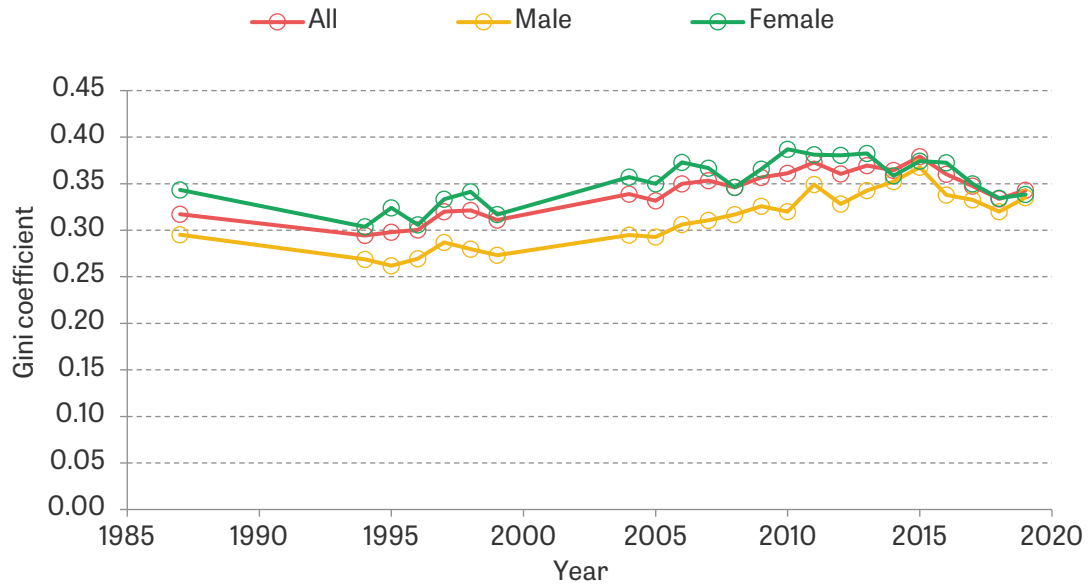
Note: Sample is employees aged 25–60. Earnings are in 2019 prices.
 Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 18. Median real gross individual earnings, by sex and education, over time



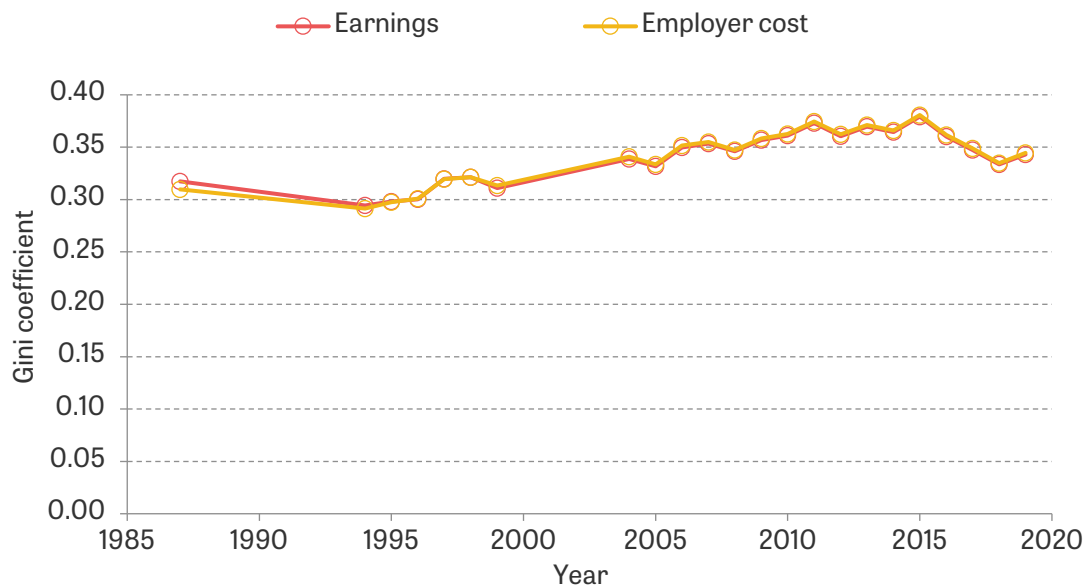
Note: Sample is employees aged 25–60. Earnings are in 2019 prices.
 Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 19. Gini coefficient of gross individual earnings, overall and by sex, over time



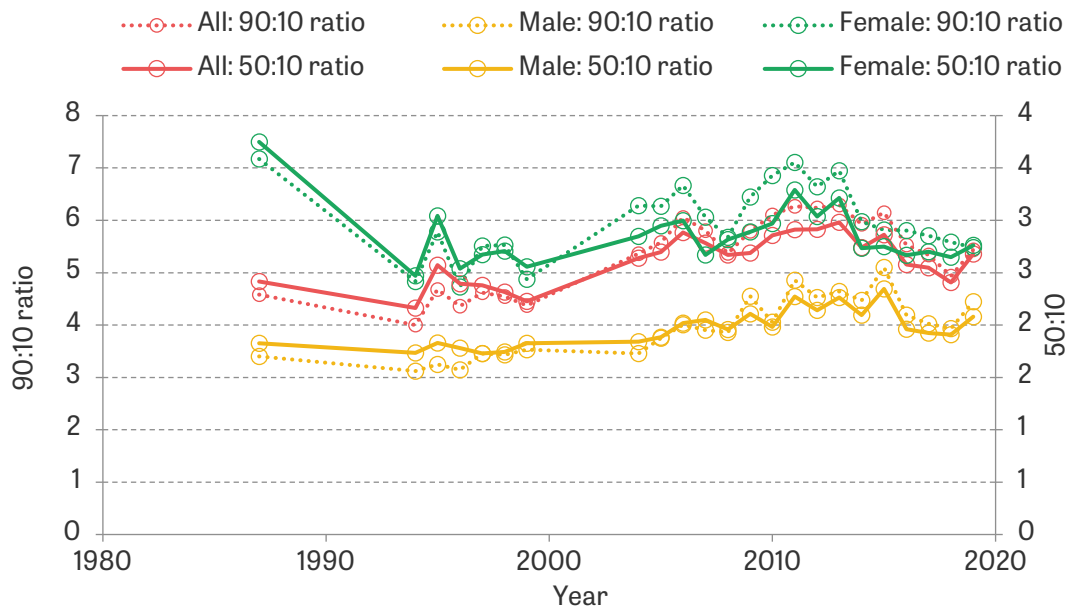
Note: Sample is employees aged 25–60. Earnings are in 2019 prices.
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 20. Gini coefficient of gross individual earnings and total employer cost, over time



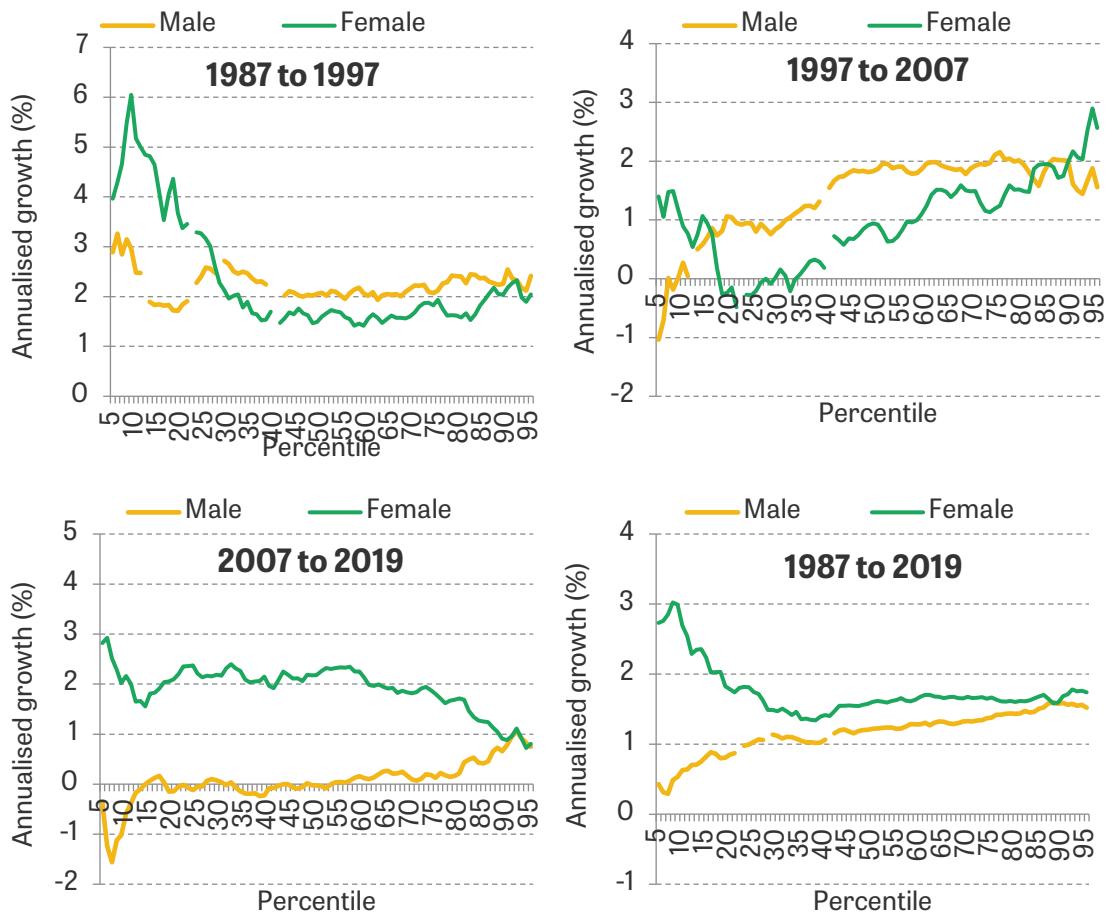
Note: Sample is employees aged 25–60. Earnings are in 2019 prices.
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 21. 90:10 and 50:10 ratios of gross individual earnings, overall and by sex, over time



Note: Sample is employees aged 25–60. Earnings are in 2019 prices.
 Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

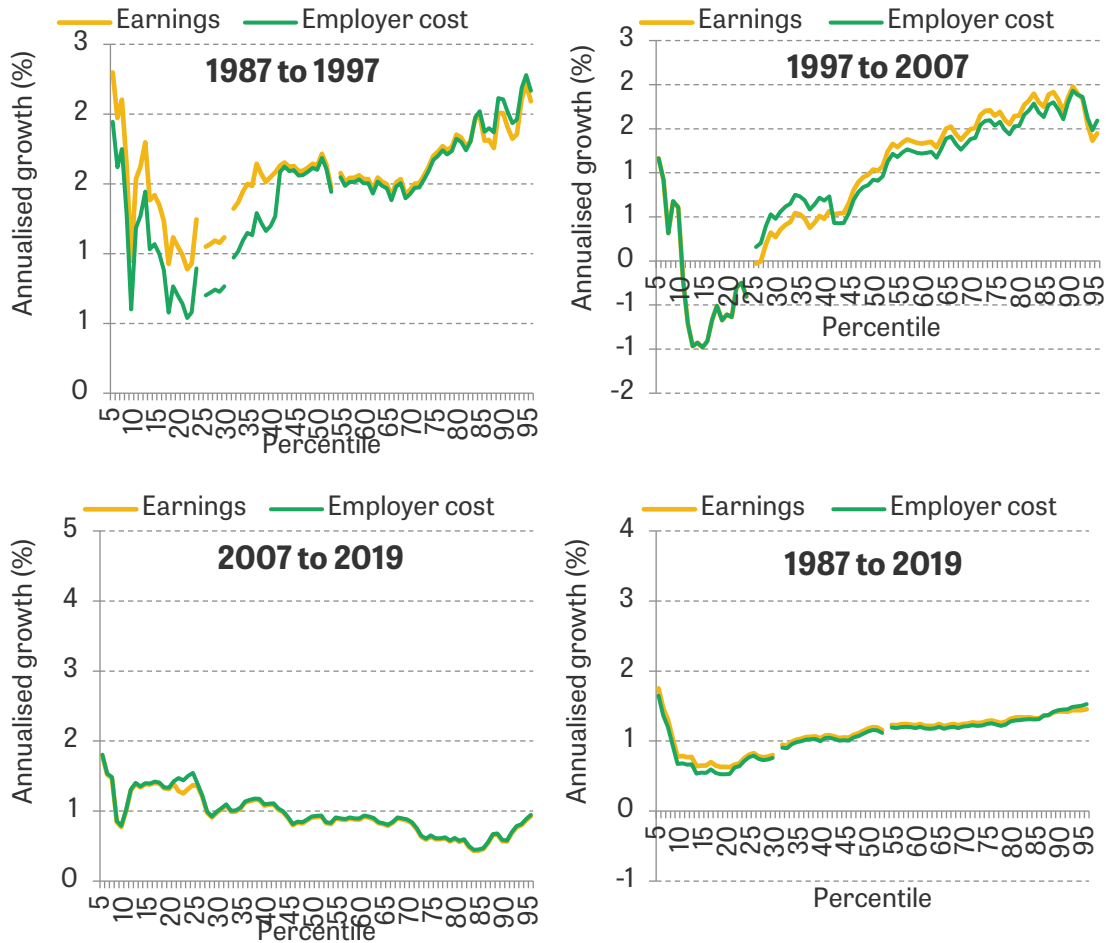
Figure 22. Growth in gross earnings by earnings percentile, overall and sex, selected periods



Note: Sample is employees aged 25–60. The top and bottom 5% of the gender-specific wage distribution are excluded.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 23. Growth in gross earnings and employer cost by earnings percentile, selected periods



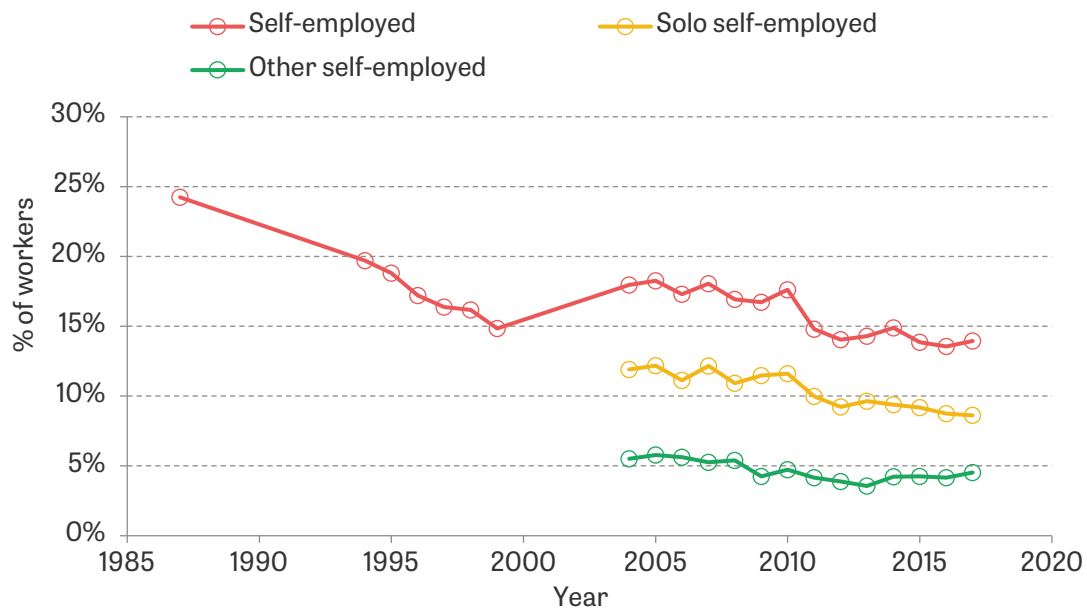
Note: Sample is employees aged 25–60. The top and bottom 5% of the distributions are excluded. Employer cost estimated using main class A rates.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

4.5 Self-employment

Figure 24 plots the share of workers aged 25–60 who are self-employed over time. This has almost halved since 1987, falling from 21.2% to 12.9% in 2019, in part reflecting a sustained decline in agricultural employment which largely – though not exclusively – comprises self-employed workers. The chart also shows from 2004 how these self-employed workers are split between solo self-employment and other types of self-employment (e.g., self-employed with employees and/or family workers). Solo self-employment comprises the majority of those in self-employment, though this category has declined slightly since 2004, as have other types of self-employment, falling from just over to just under 5% over the (short) period for which we have data.

Figure 24. Share of employees and self-employed workers, over time

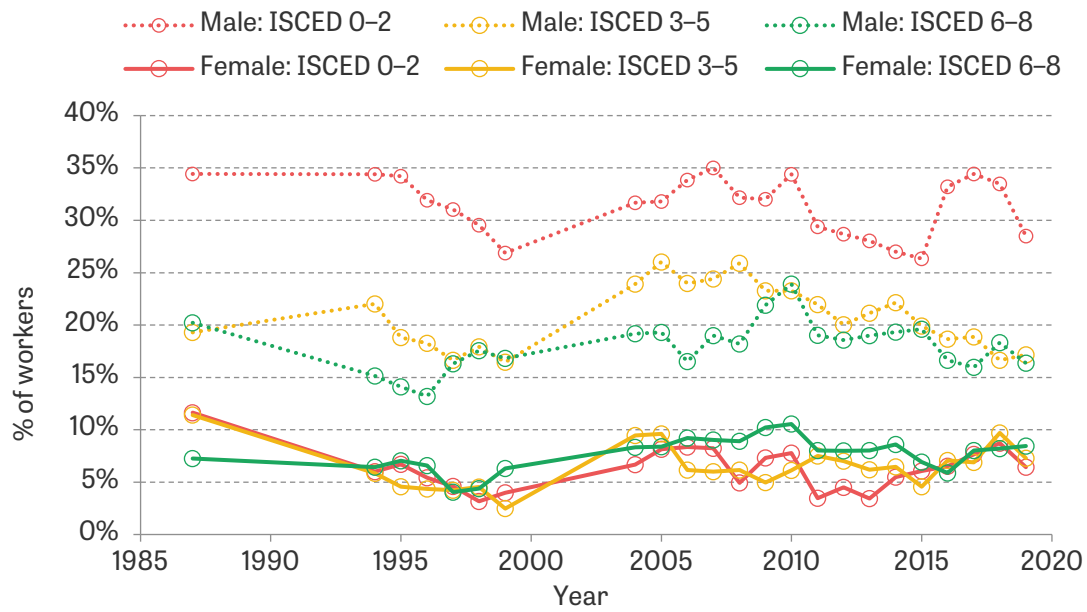


Note: Individuals age 25–60 years of age. 'Solo self-employed' are self-employed without employees, 'other self-employed' include self-employed with employees and family workers.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions..

Figure 25 shows that the share of workers who are self-employed differs substantially by sex and education. Men – particularly those with lower-secondary or less education – are far more likely to be self-employed than women. Similarly, Figure 26 shows that lower-earning workers are much more likely to be self-employed than higher-earning workers, though there is a U-shaped pattern with the share rising at the very top of the distribution.

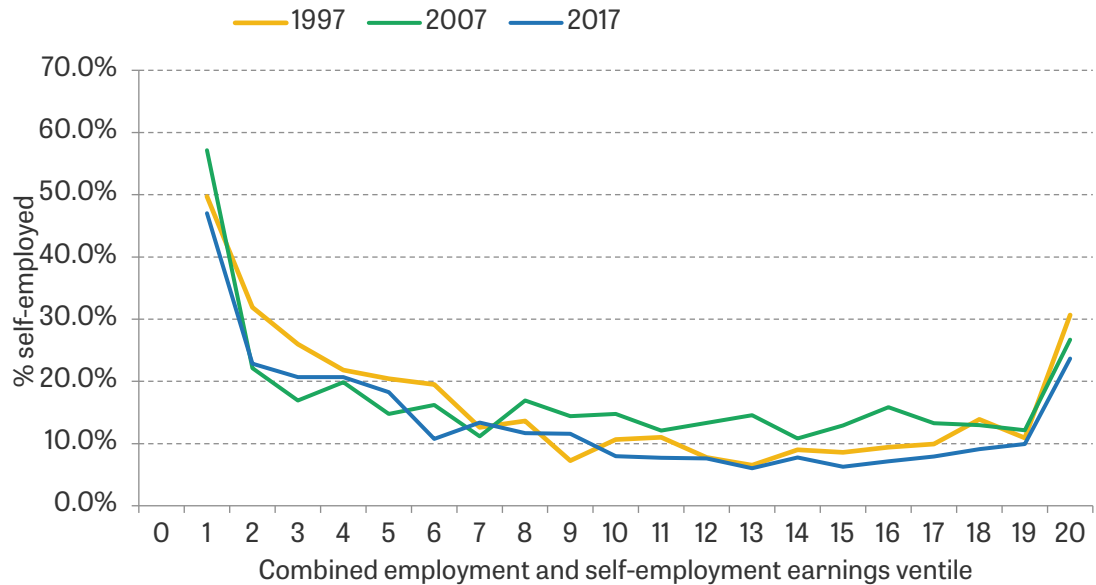
Figure 25. Share self-employed by sex and education, over time



Note: Sample is employees aged 25-60.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 24. Share self-employed by ventile of individual earnings, selected years



Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Note: Sample is employees aged 25-60. Earnings are in 2019 prices. Earnings here includes both those from employment and self-employment.

5. Labour market institutions

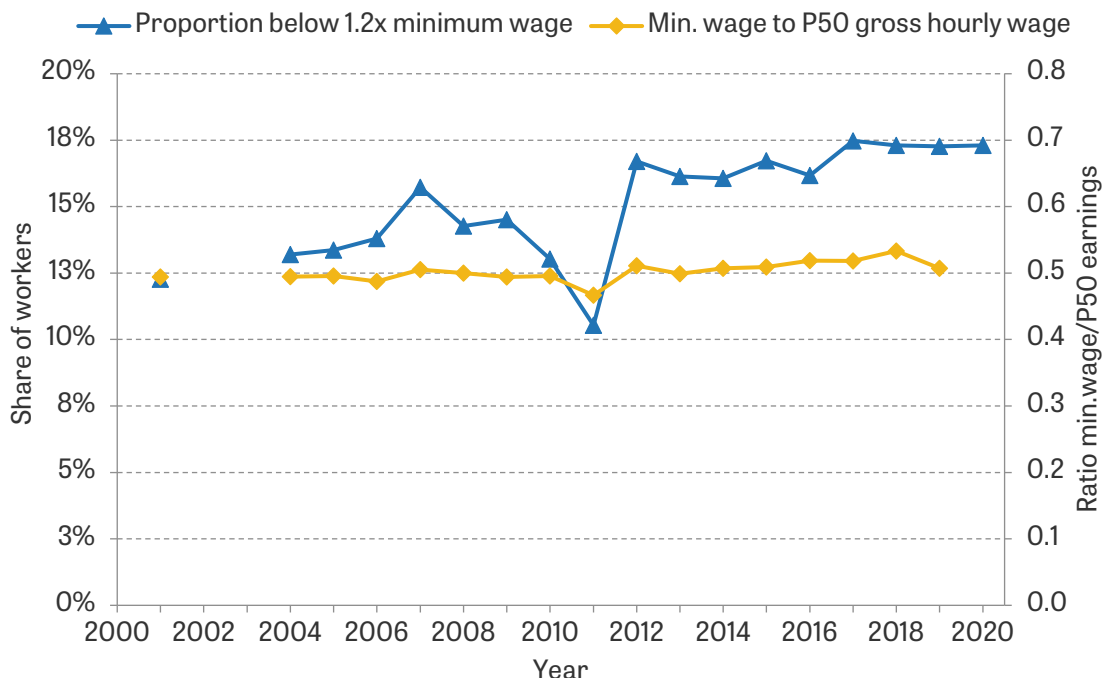
This section looks at some labour market institutions that affect earnings and incomes: minimum wages, collective bargaining, and benefits from the state.

5.1 Minimum wage and unions

Ireland introduced a minimum wage of €5.58 (£4.40) in April 2000. Figure 27 shows how the 'bite' of this minimum wage has changed over time using two different measures. The first plots the share of employees aged 25–64 with an hourly wage of less than 1.2 times the minimum wage, while the second plots the ratio of the minimum wage to gross median hourly earnings. The chart shows that while the minimum wage has stood at around half gross median hourly earnings since it was introduced, the share of employees covered has varied substantially. The minimum wage initially covered 12.2% of employees with subsequent increases (2001, 2002, 2004, 2005, and 2007) lifting this share to a peak of 15.7% in 2007. The minimum wage was frozen at its 2007 level until 2011 when it was (briefly) cut by €1 in January before that cut was reversed in July following a general election, contributing alongside changes in the composition of the workforce to coverage falling to 10.5% in 2011. With the recovery in the labour market – particularly for lower-paid employees – since 2012, coverage has increased again and stood at 17.3% in 2019.

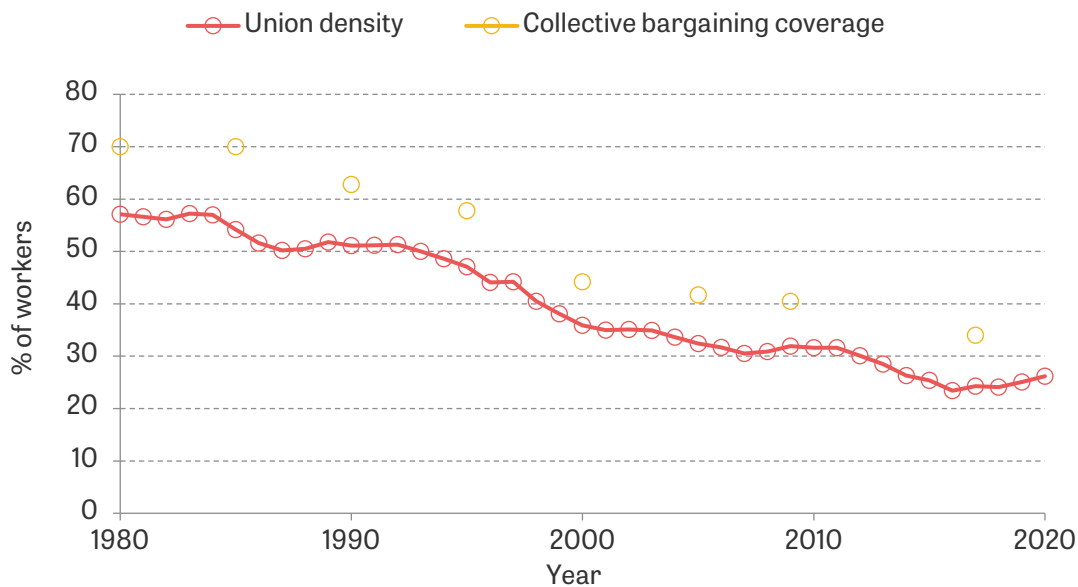
Another important factor affecting earnings is the prevalence. Figure 28 plots estimates of the trade union density rate and collective bargaining coverage taken from the OECD OECD/AIAS database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (ICTWSS). Unlike earlier figures, these are estimates for all employees rather than just those aged 25–60, and show that, like many other countries over the same period, Ireland has seen a decline in the share of workers who are a member of a trade union and are covered by a collective bargaining agreement, falling from a peak of 57% and 70% respectively in 1980 to 24% and 34% in 2017.

Figure 27. Bite of the minimum wage, over time



Note: Individuals aged 25–64. Minimum wage applying at the point surveyed.

Figure 28. Union density and fraction of workers covered by collective bargaining agreements, over time



Source: OECD/AIAS database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (ICTWSS). Available at <https://stats.oecd.org/Index.aspx?DataSetCode=CBC#>

5.2 Benefits from the state

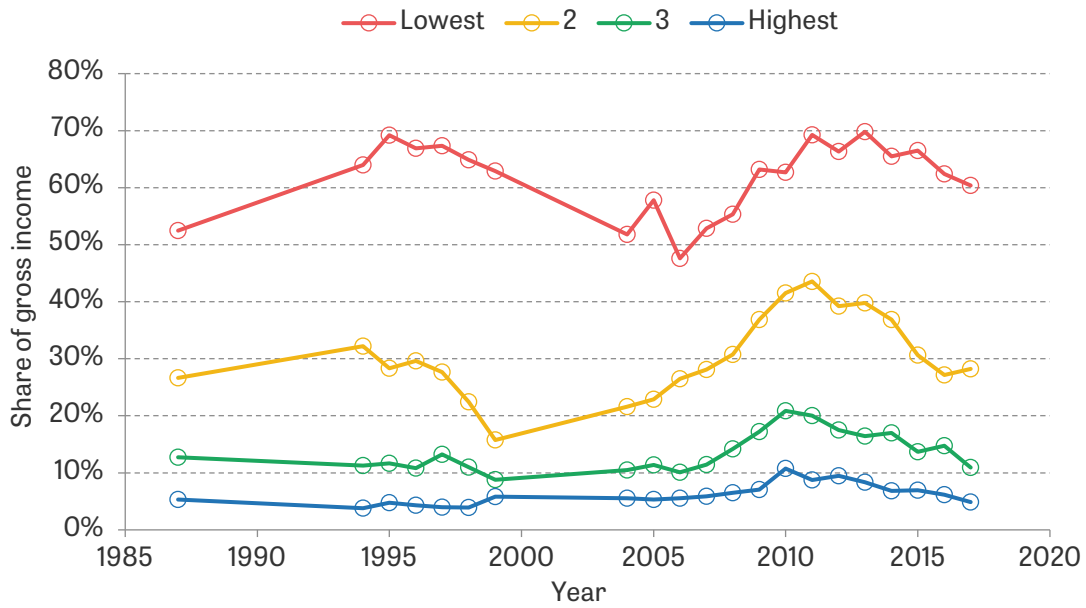
The next series of figures illustrate the redistribution achieved by the tax, transfer and social insurance system and how this has changed over time. To examine this, we move from looking at exclusively individual earnings and aggregate income and tax payments to the household level. Each individual is assigned the household value, with the following figures splitting the sample based on the quartile of the equivalised disposable (net of direct taxes and transfers) income distribution in each year.

Figure 29 shows that cash benefits are highest as a share of gross household income for the lowest net-income quartile of individuals at 60% on average over the period: double the share of the second quartile. While the share of gross income comprising benefits is much lower for the highest two quartiles, this has also fluctuated over time, rising notably for all quartiles in the aftermath of the Great Recession before falling with the economic recovery.

Figure 30 shows that tax payments as a share of gross income also increased for higher income quartiles in the aftermath of the Great Recession, reflecting the introduction of a new graduated tax (the Universal Social Charge) and the uncapping of social security contributions (PRSI). This rise in average tax rates offset – and for the top quartile even reversed – much of the decline seen over the 1990s and 2000s, which was a period when real increases to tax thresholds took many out of the income tax net at the same time as rates of taxation – especially income tax – were reduced (Callan, Bercholz and Walsh, 2018).

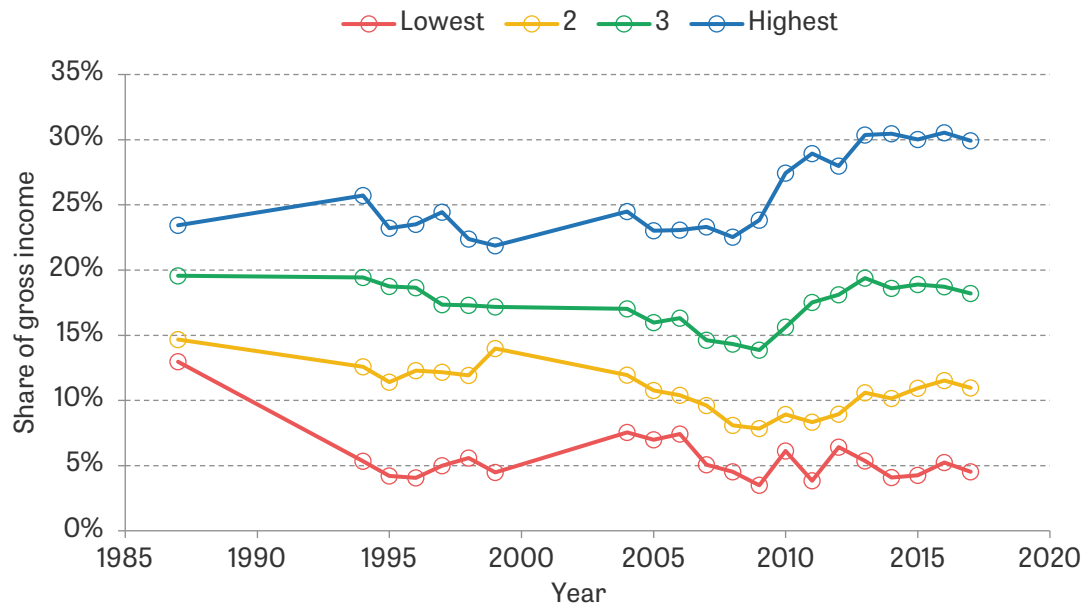
The rise in average tax rates for the highest income quartile has also contributed to a decline in the ratio of disposable to gross income. This is shown in Figures 31 and 32, excluding and including employer social security contributions, respectively. This affects the level but not the trend, reducing the ratio by an average of 5 percentage points, less for the lowest income quartile.

Figure 29. Benefits as a proportion of gross income, by net household income quartile



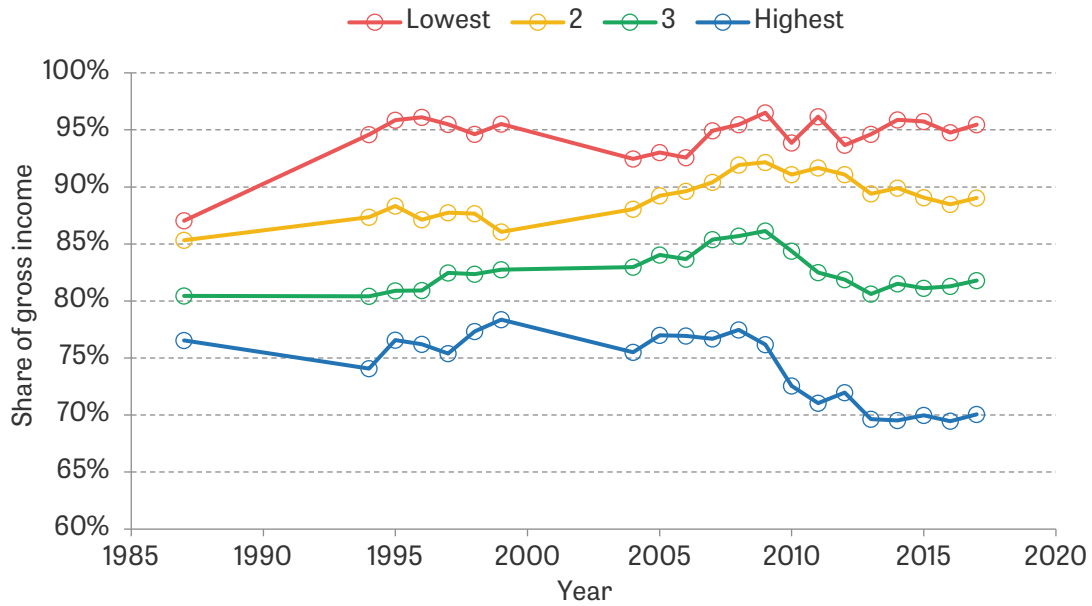
Note: Quartile averages calculated across individuals 25–60 years of age, though assigned to quartiles of net household income constructed for the entire population.

Figure 30. Tax payments as a proportion of gross income, by net household income quartile



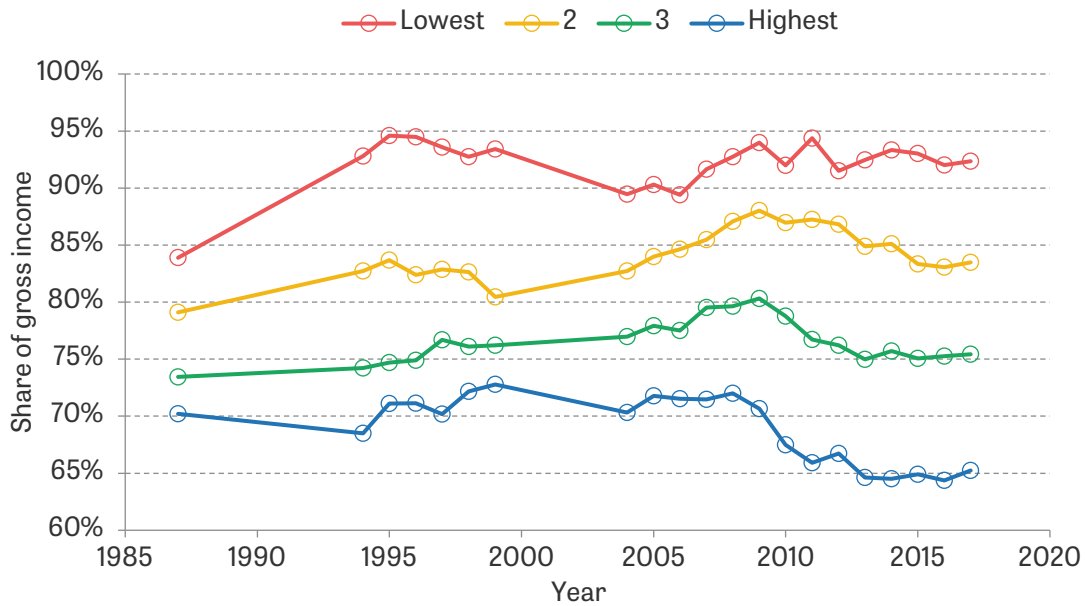
Note: Quartile averages calculated across individuals 25–60 years of age, though assigned to quartiles of net household income constructed for the entire population.

Figure 31. Disposable income as a proportion of gross income, by net household income quartile



Note: Quartile averages calculated across individuals 25–60 years of age, though assigned to quartiles of net household income constructed for the entire population.

Figure 32. Disposable income as a proportion of gross income plus employer payroll cost, by net household income quartile



Note: Quartile averages calculated across individuals 25–60 years of age, though assigned to quartiles of net household income constructed for the entire population.

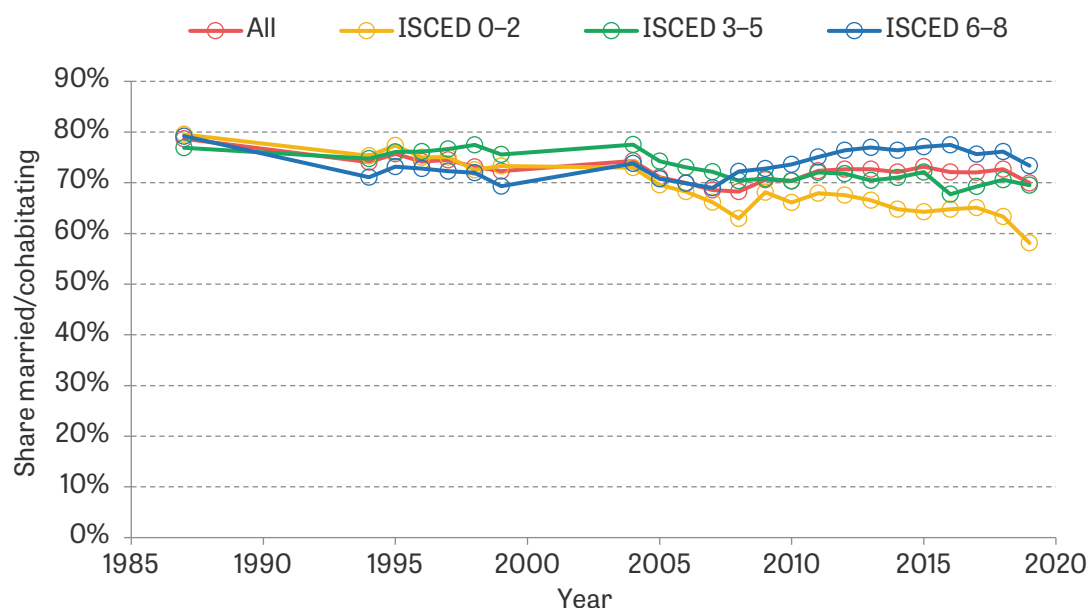
6. Household incomes

This section examines how household composition and incomes have changed over time. We start by looking at trends in household composition and the degree of assortative matching, which partly determine household earnings. We then compare trends in household earnings and household disposable income for working households, drawing out the role of the tax and transfer system over time. Finally, we show a set of charts on trends in household income inequality across all households including those where no one is in work.

6.1 Trends in household composition

As in many other countries, Ireland has seen a huge change in the structure of families, with important implications for inequality. Figure 33 shows that the share of the working-age population who are married or cohabiting has fallen from 79% in 1987 to 70% in 2019. Indeed, this somewhat understates the extent of the fall as we are not able to identify unmarried couples in the 1987 data, only those who are married. While there were only small differences in marriage rates across education groups in 1987, there is now a substantial one, with just 65% of those in the lowest education group married or cohabitating in 2019 compared to 75% of those in the highest education group.

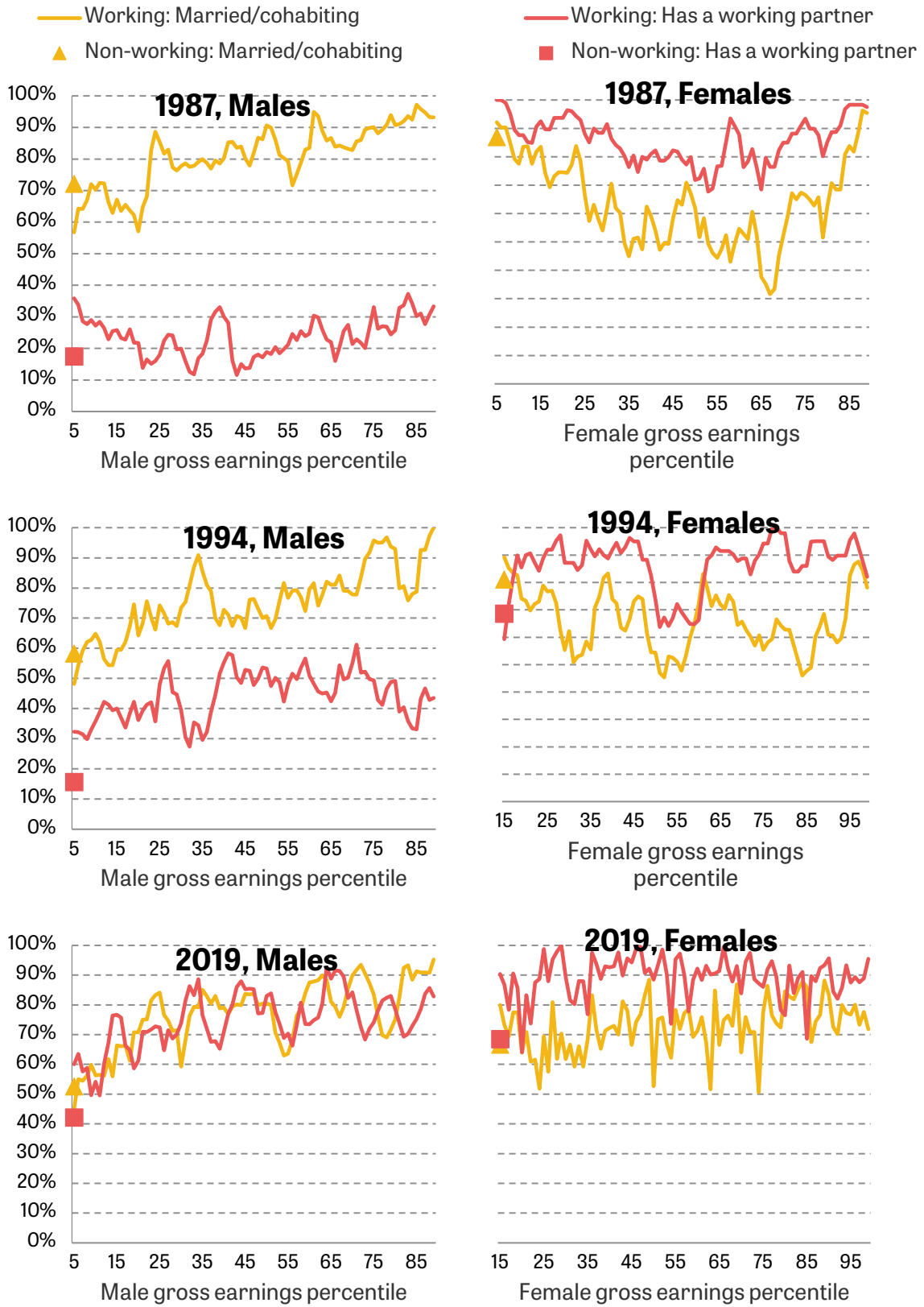
Figure 33. Share married/cohabiting, overall and by education, over time



Note: Sample is individuals aged 25–60 who have completed full-time education. 1987 data only includes share married. Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 34 shows that there are also gradients by earnings which have changed over time in both the likelihood of being married or cohabiting, and – for those who are – having a working partner. The left-hand-side panels of Figure 34 show that while higher-earning men have always been more likely than lower-earning men to have a partner, it is only recently that it has also become more likely that their partner would be in paid work. Similarly, the right-hand-side panels show that while it used to be the case that lower-earning women were more likely than middle-earning women to have a partner also in paid work, this gap has narrowed over time with the series sloping slightly upwards in 2019 rather than downwards as in 1987.

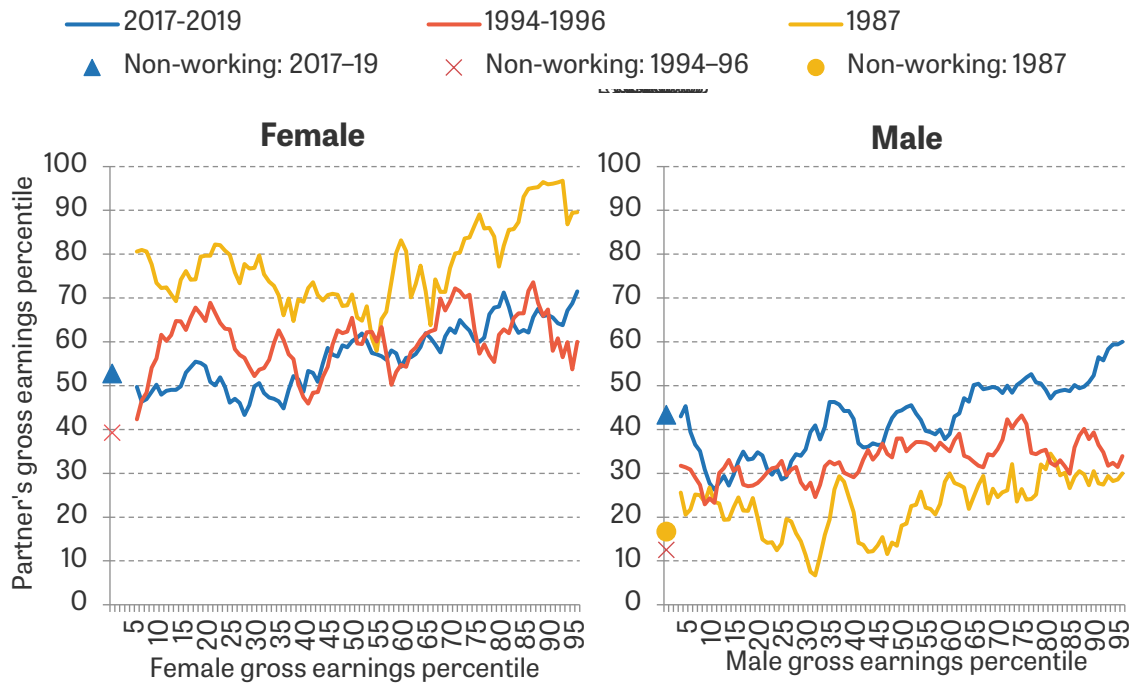
Figure 34. Share married and share with working partner, by sex and individual gross earnings percentile, selected years



Note: Sample is individuals aged 25–60. Shares are smoothed across percentiles of gender-specific earnings distribution using a bandwidth of ± 2 percentiles. The proportion with a working partner is conditional on being married.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 35. Mean gross earnings percentile of partner/spouse by individual's gross earnings percentile, selected years



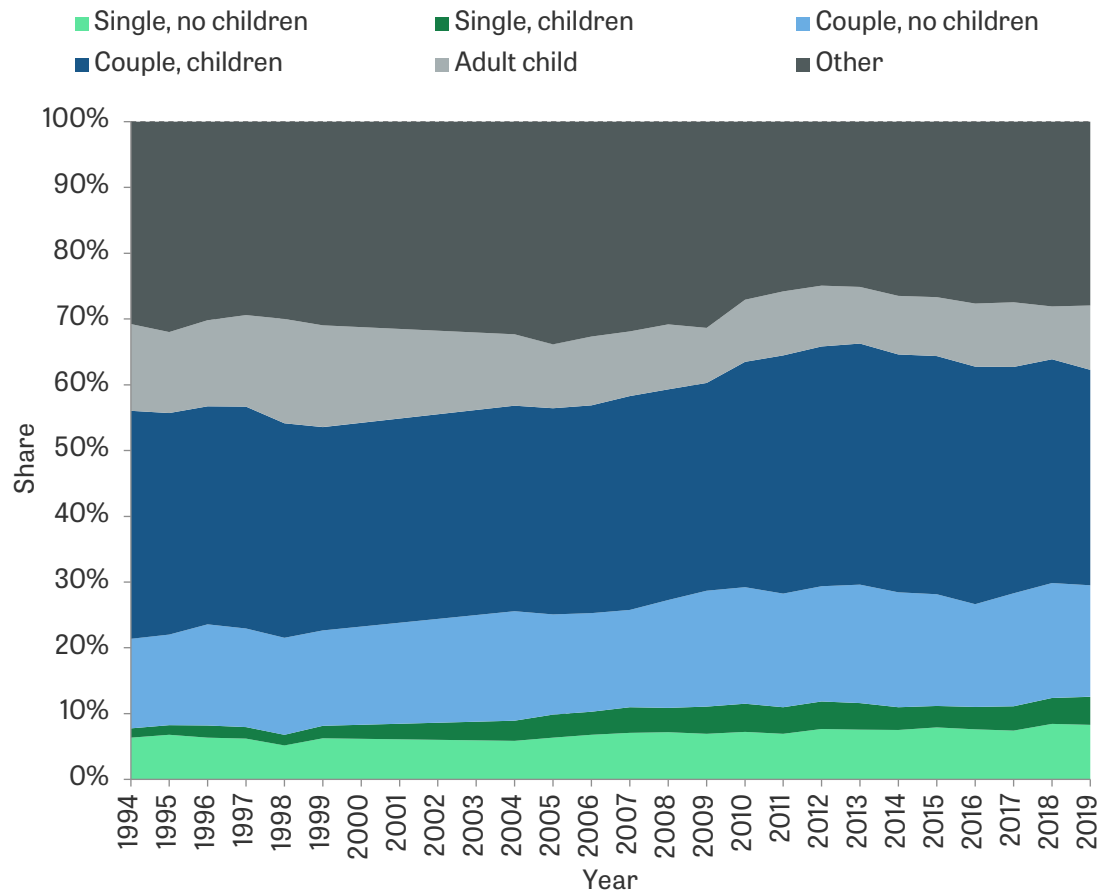
Note: Sample is individuals aged 25–60. We exclude the bottom and top 5% of the gender-specific earnings distribution. Mean earnings of partners are smoothed using a bandwidth of ± 2 percentiles across the earnings distribution.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions..

Figure 35 shows that in addition to being more likely to have a working partner, higher-earning men have also become more likely to have a higher-earning partner. This is shown in the right-hand side panel by the steeper gradient in the average (percentile) rank of men's working partners in 2019 (blue series) than 1987 (yellow), and reflects an increase in assortative matching: where higher earners partner with higher earners. However, while such assortative matching has become more pronounced for men, the left-hand-side panel shows this is not the case for women, with the gradient in 2019 (blue series) similar or perhaps slightly shallower than that in 1987 (yellow). Indeed, the average percentile rank of working women's partners has fallen slightly across the distribution of women's earnings.

The next two figures examine how the composition of households has changed over time, plotting the share of the working-age population by their household type since 1994. Figure 36 shows that the most prevalent household type over the period covered (1994–2019) was a married or cohabitating couple with children, at about a third. However, perhaps the most striking development has been the sharp increase in the share of individuals who are lone parents from 1.4% of working-age individuals in 1994 to 4.3% in 2019. There has also been a large increase in the share of the working-age population made up of couples without children, up from 13.6% in 1994 to 17% in 2019.

Figure 36. Share of individuals by position in the household, over time

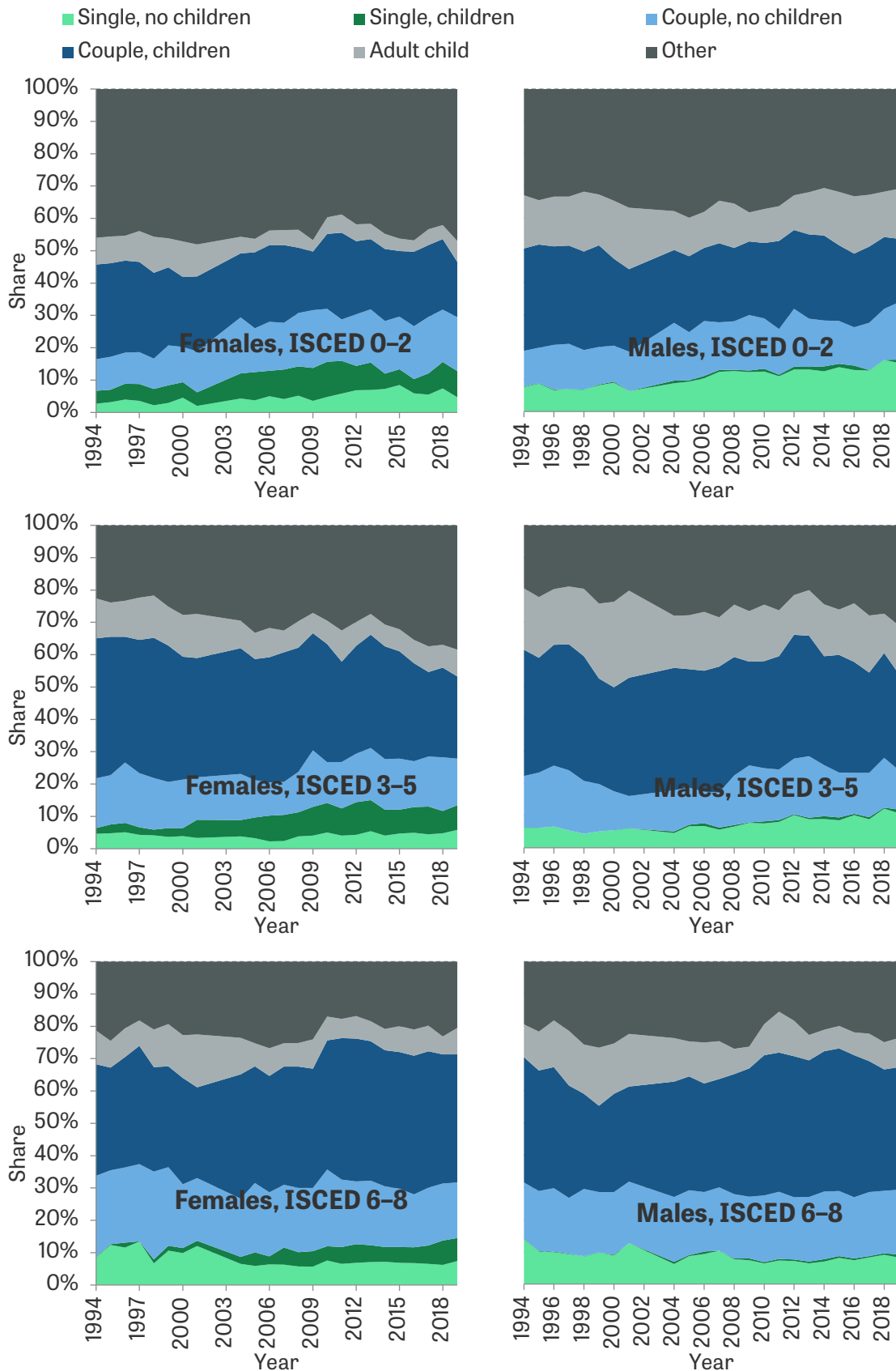


Note: Sample is individuals aged 25–60. 'Single, children' and 'couple, children' refer to dependent children only. Parents of adult children are categorised as 'other'.

Source: Authors' calculations using the Living in Ireland Survey and the EU Survey of Income and Living Conditions..

Figure 37 repeats this exercise, splitting the working-age population by sex and education level. It shows that the rise in the share of lone parents is concentrated among women, with the largest increase being among those with tertiary education, from less than 1% in 1994 to 7% in 2019: little different from the 8% of women without tertiary education. For men, the most striking change is the rise in the share of single adults, particularly among men without tertiary education: up from 7.5% in 1994 to 15% in 2019 for the lowest education group.

Figure 37. Share of individuals by position in the household, by sex and education, over time

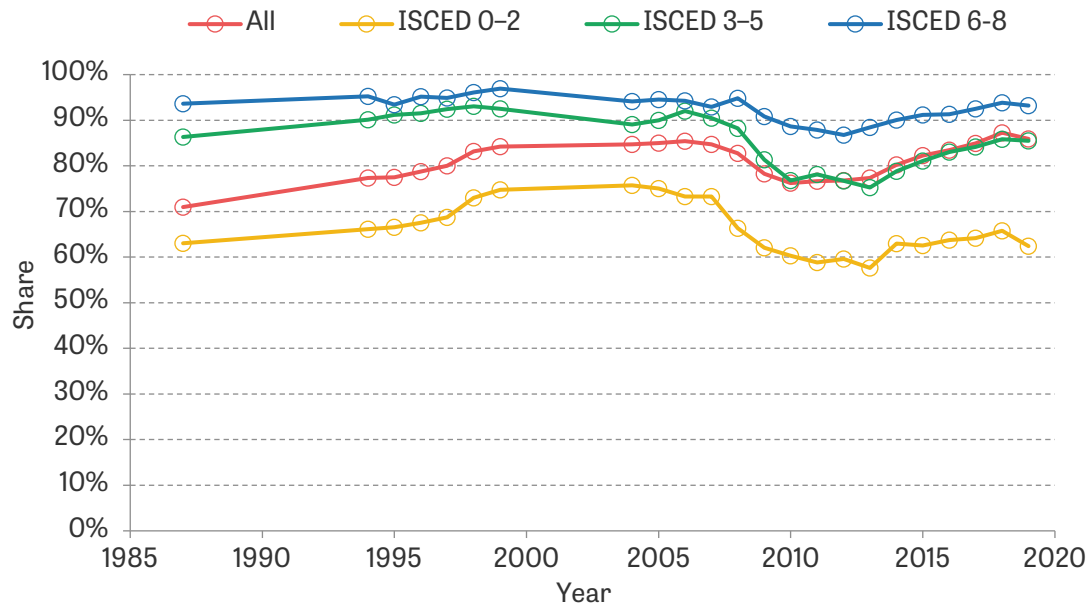


Note: Sample is individuals aged 25–60 who have completed full-time education.
 Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

6.2 Earnings and incomes among working households

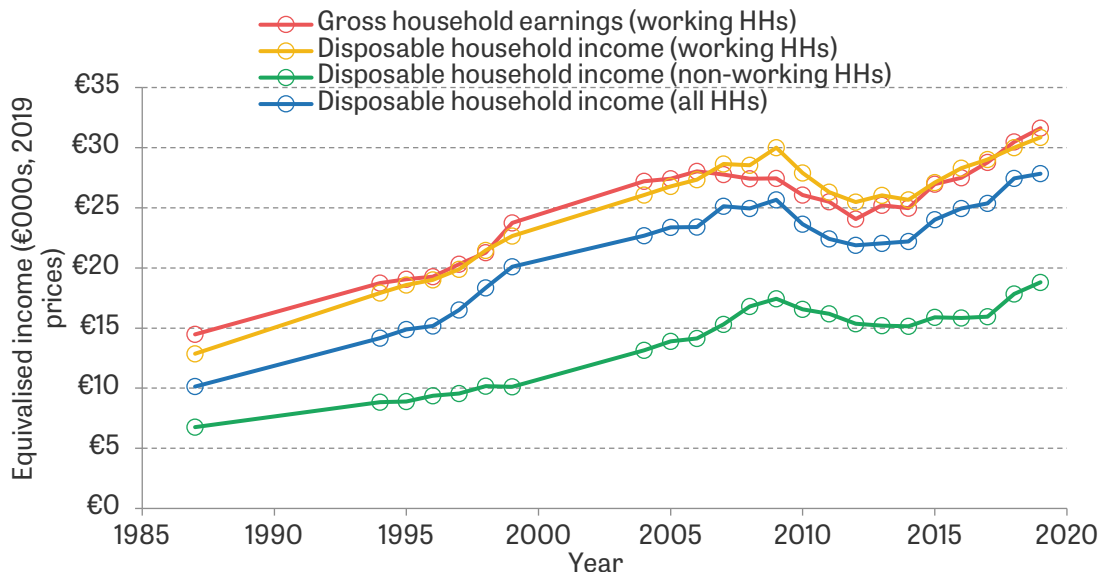
Figure 38 plots the share of working-age individuals who are in a working household (where someone is in paid work) by education over time. It shows there are large differences by education, with more than 90% of those with tertiary education in a working household throughout, with the exception of 2011–13 following the financial crisis. By contrast, the share of those with lower-secondary or less education (ISCED 0–2) in a working household has never exceeded 80%, falling sharply over the Great Recession, and stood at just 62% in 2019, well below its pre-financial crisis level of 73%.

Figure 38. Share of individuals in a working household, by education, over time



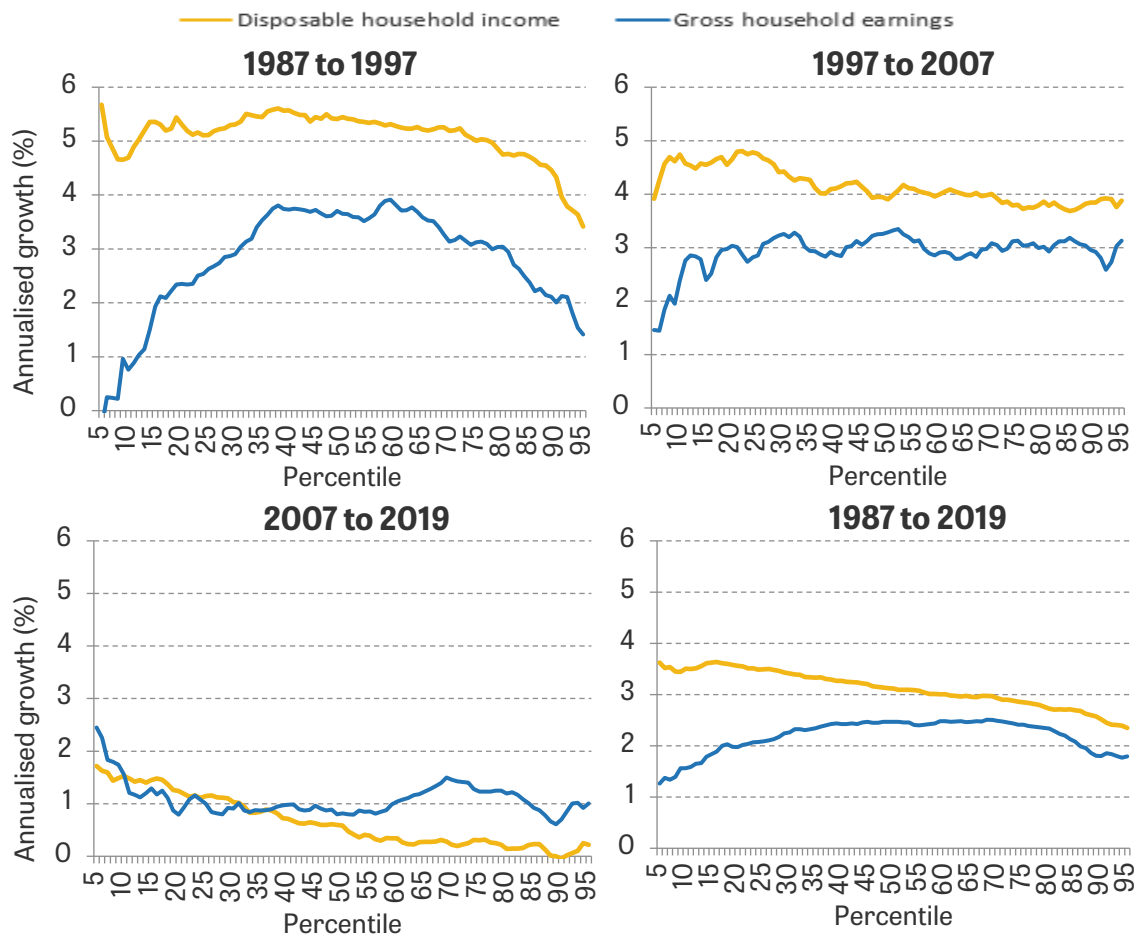
Note: Sample is individuals aged 25–60 who have completed full-time education. A working household is defined as a household in which at least one adult of working age is in paid work.
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 39. Median real gross household earnings and disposable household income, by household working status, over time



Note: Sample is individuals in working households. A working household is defined as a household in which at least one adult is in paid work. All incomes have been equivalised using the modified OECD equivalence scale.
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

Figure 40. Annualised growth in real equivalised gross household earnings and household disposable income for working households, by percentile, selected years



Note: Sample is individuals in working households. A working household is defined as a household in which at least one adult is in work. All incomes have been equivalised using the modified OECD equivalence scale.
Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions..

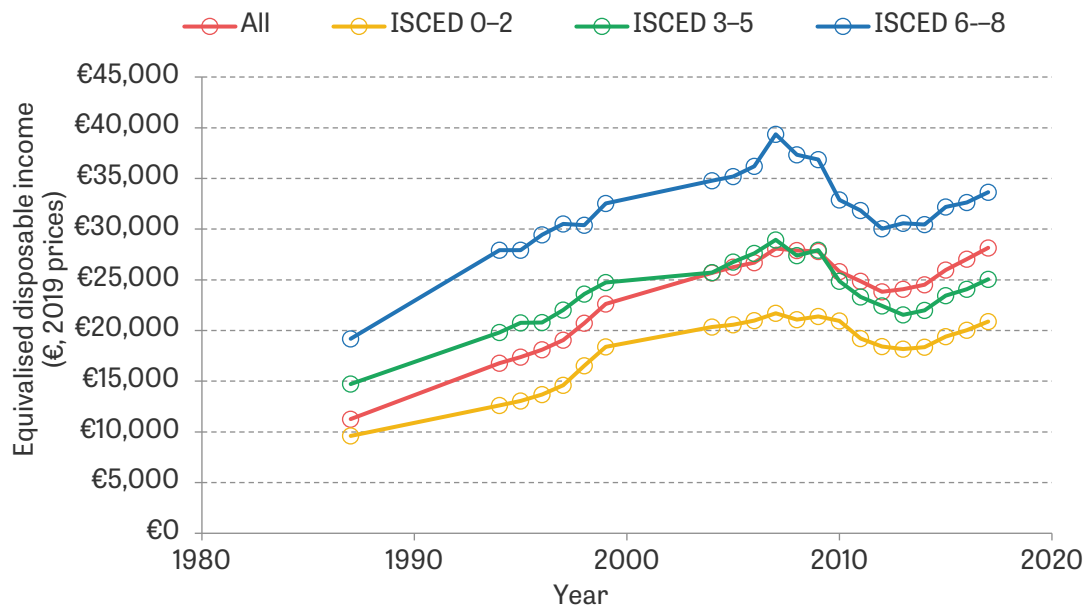
As in other countries, there is a close relationship between incomes and whether there is someone in paid work in a household. This is shown in Figure 39, which plots gross equivalised household earnings for working households alongside net (after tax and transfer) equivalised disposable income for working, non-working and all households over time. However, this gap has narrowed over time, with the median disposable income for those in working households falling from twice to 1.6 times that of those in non-working households.

Figure 40 plots the annualised average real growth rate in gross household earnings from employment or self-employment and net/disposable income across the distribution for those in working households. This shows that while disposable income grew faster than gross household earnings – particularly at the bottom of the distribution – between 1987 and 2007, disposable income growth was around the same as (or, for the top half of the distribution, less than) gross earnings growth between 2007 and 2019. This partly reflects an increase in the generosity of transfers and a reduction in personal taxation over the 1990s and 2000s, alongside the reverse during the years following the financial crisis (Callan, Bercholz and Walsh, 2018).

6.3 Inequality in incomes among all working-age households

We finally turn to consider inequality in household incomes across all individuals of working age, whether in a working or non-working household. Figure 41 plots median real equivalised disposable income for these individuals by education over time. This shows that individuals with tertiary or higher education have substantially higher incomes on average than those without, though the gap has narrowed proportionally as a larger share of the working-age population has obtained at least a tertiary degree. Figure 41 also shows that while median incomes grew rapidly over the 1990s and 2000s, they fell substantially following the financial crisis. While median incomes overall had by 2019 regained their pre-crisis level (just), this is not the case conditional on education, with the median for those with tertiary or higher education still 10% below its pre-crisis peak in 2019. Nevertheless, median incomes overall have continued to grow in part because of compositional changes, with – as we have seen in Section 3 – an ever larger share of the working-age population obtaining tertiary or higher education.

Figure 41. Median real equivalised disposable household income for all households, overall and by education, over time



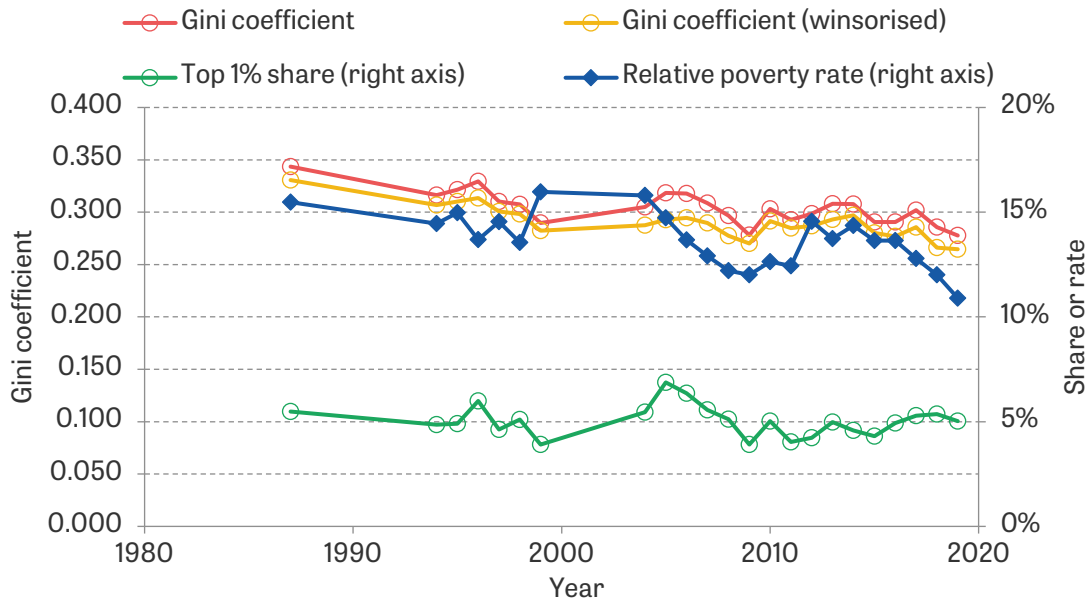
Note: Sample is individuals aged 25–60 who have completed full-time education.

Source: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the EU Survey of Income and Living Conditions.

To get a more complete picture of inequality in disposable income that is less affected by these compositional changes, we look at summary measures of disposable income inequality across the working-age population in Figures 42 and 43. Figure 42 plots the Gini coefficient (overall, and winsorised at the 99th percentile), the top 1% share and the relative poverty rate (the share in households with less than 60% of the contemporary median). While this estimate of the top 1% share is likely to substantially understate the level of top income inequality (as it is based on household survey data without any correction for underreporting or coverage), the trend in the three other measures is downwards, with particularly large reductions in the Gini coefficient whether winsorised or not: from 0.331 and 0.344 to 0.265 and 0.278, respectively.

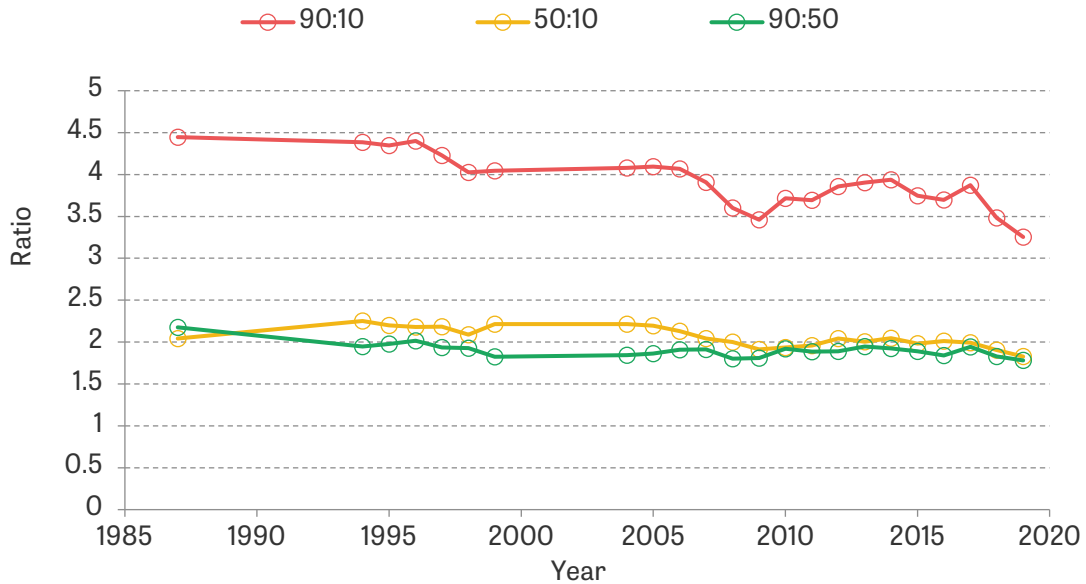
Figure 43 shows that other measures of income inequality – namely the 90:10, 50:10 and 90:50 percentile ratios – have also fallen over the horizon our data cover, with the decline in the top-half ratios particularly pronounced from 4.5 in 1987 to 3.3 by 2019. Taken together, the picture that emerges is one of falling income inequality with the exception of the very top, for which the available data are not well placed to provide an estimate.

Figure 42. Net income Gini, top 1% share a relative poverty for all households, over time



Note: Winsorised Gini computed excluding top 1%. The relative poverty rate is defined as the proportion of people living in households with less than 60% of contemporaneous disposable median income. All incomes have been equivalised using the modified OECD equivalence scale. Sample is individuals aged 25–60 who have completed full-time education.

Figure 43. Percentile ratios of disposable household incomes for all households, over time



Note: Sample is individuals aged 25–60. All incomes have been equivalised using the modified OECD equivalence scale.

7. References

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