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Bart Capéau
André Decoster
Bram De Rock
Jonas Vanderkelen
Toon Vanheukelom

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Inequality in Belgium: 1985–2020*

Bart Capéau[1,2], André Decoster[2], Bram De Rock[1,2], Jonas Vanderkelen[2], Toon Vanheukelom[2]

[1] ULB, ECARES

[2] KU Leuven Department of Economics

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1. Executive summary

Employment, wages, hours and individual earnings

The era of the end of the last century and the beginning of this century is mainly characterised by an increase in the employment rate, especially among older persons (60+) and women of prime working-age (25–60). This is partly due to the rising education level, especially among females. Since the early 2000s, there have been relatively more highly educated females than males in the prime working-age population. But the gradual equalisation of the legal pension age of females to that of males from 60 to 65 years, , between 1997 and 2009, and the restriction of early leavers' schemes (see Section 2.2) for older unemployed people, have also contributed to the rise in employment rates. Employment among younger persons (16–24) is declining, however, most probably because they are spending longer at school. Neither the Great Recession nor the first year of the COVID crisis seem to have had a substantial impact on employment. This may be due to the massive use of temporary unemployment schemes, which allowed employees to keep their job after the lockdown, or allowed them to look for a job in another, less vulnerable sector.

Real hourly wages rose considerably during the 1980s and 1990s. While they declined somewhat during the first decade of the twenty-first century, they rose again in the period 2008-2015, be it less strongly than in the previous century. From 2015 to 2018 real wages stagnated. Until today, there remains to be a gender gap in real wages. There is no indication, however, that, overall, wages have become more unequal. If anything, wage inequality seems to have decreased between 2005 and 2017. The mean number of hours worked has remained quite stable during the last two decades, around 36–37 hours per week. This is somewhat lower than during the 1990s, when it was 38–39 hours a week.

Gross earnings rose substantially during the 1990s, but stagnated in the 2000s. The average impact of the Great Recession on gross earnings was small. During the first year of the COVID crisis earnings fell considerably, due to the lockdowns. There is, however, no indication that gross earnings inequality has risen significantly during the twenty-first century. On the contrary, there is a slight tendency of declining earnings inequality.

The number of self-employed persons is lower in the current century than at the end of previous century, but it has been slightly rising again during the last decade. The self-employed are predominantly found in the lower earnings deciles.

Labour market institutions

Collective wage bargaining is a structural component of the Belgian economic system. A collective agreement between employers and employees on maximal real wage growth is concluded biannually. There is a system of sectoral committees of employees and employees, represented by unions, where, among other things, sector- and profession-specific minimum wages are negotiated.

In Belgium, most social benefits are taxable. The ratio of gross benefit to gross income (earnings, other income plus benefits) of the lowest quartile of the equivalised household disposable income distribution has been between 40% and 50% during the first two decades of the twenty-first century. This is higher than it was at the end of the 1990s (between 20% and 35%). The ratio of taxes to gross household income of the bottom quartile of the equivalised disposable household income distribution has approached that of the second quartile during the last decade and is about 25%.

Household incomes

Real equivalised disposable income rose substantially throughout the whole period 1995–2020. The gap between education levels has, however, been increasing during the last two decades, as equivalised disposable household income of the lowly educated is stagnating, and even fell between 2008 and 2015, but seems to have recovered since then. Overall, the dip caused by the financial crisis was small and short. Inequality of equivalised disposable household incomes exhibits a slightly decreasing tendency during the first two decades of the twenty-first century. The incidence of poverty increased at the same time, in accordance with the widening of the education gap of equivalised disposable household income, which mainly affects the bottom 10%. This might explain the common opinion that income inequality has also risen in Belgium, which is at odds with the statistics, but may be due to a confusion between inequality and poverty.

There is redistribution from gross earnings towards households in which nobody is working. Nevertheless, the gap between equivalised disposable household income of persons living in households in which nobody works and those living in household with at least one person working is increasing over time.

Another persistent inequality is that between natives and migrants. Despite being quite well represented among the highly educated, the employment rate of migrants remains lower than that of natives. This is also reflected in lower earnings and equivalised disposable incomes. Despite the increase in the employment rate of migrants during recent years, their incomes relative to those of natives are still decreasing.

There is a positive correlation between earnings of partners, and this correlation seems to be increasing slightly over time. This, in combination an increasing education gap in earnings, might exert an upward pressure on inequality of household incomes in the longer term, though we have not found any empirical evidence so far in this sense.

2. Institutional background

Belgium is a federal state consisting of three regions (Brussels, Flanders, and Wallonia) and three communities (Dutch, French, and German speaking). Regions have autonomy over some elements of tax legislation, including part of the personal income tax. Furthermore, regions and communities are financed through a system of grants from the federal budget, linked to the domains over which the they have jurisdictional authority (their competences). The bulk of the social security system remains under federal authority. Since 2016, the communities have, however, gained authority over child allowances. They are also responsible for education and large parts of the healthcare system (e.g., elderly, mental, and home care). The regions are responsible, among other things, for public employment services and policies to encourage the unemployed to return to work.

2.1 The consultative economy

In the aftermath of World War II, a system of consultation between employer and employee representatives was established. Wages and labour legislation are negotiated between employers and employee representatives at the national, regional, sectoral and firm level. The National Labour Council (*Conseil National du Travail*), composed of 13 members of employer organisations, 13 trade-union members representing the employees, and a president, negotiates intersectoral collective labour agreements which are binding for the whole private sector. At the sectoral level there exist about 100 so-called joint committees (*commissions paritaires*), some of them divided into subcommittees, also with equal representation of employers and trade union. They can, within the bounds of the intersectoral agreements, conclude more specific labour and wage arrangements binding for the sector. Additional agreements can then be concluded at the firm level. An important element of these negotiations is the determination of (sectoral) minimum wages and (sectoral) real wage increases.

Since 1996, the social partners (representatives of employer organisations, trade unions and the organisation representing the self-employed) have to negotiate biannually on the maximum real wage increase (on top of the normal indexation with the CPI, see below). These negotiations are constrained by parameters set by the Central Economic Council (Conseil Central de l'Économie, mainly composed of representatives designated by the social partners) to safeguard the international competitiveness of the Belgian economy. The resulting agreement, if any, holds for all employees in the private sector, and also in the public sector since 2015. If there is no agreement, the federal government takes a decision.

Wages and social benefits are automatically indexed to inflation. To this end, a special price index, the so-called health index, is used (not including expenditures on alcohol, tobacco and petrol). Whenever prices have increased by 2% according to this index, wages and social benefits are revised. The timing of the wage revision may differ depending on the sector of the employees.

In the framework of the Generation Pact, concluded in 2005, it was decided that a budget must be fixed biannually to increase social benefits in order to tie them more closely to real wage growth. Once the budget is fixed, the exact allocation of that money is negotiated in the framework of the biannual negations on an inter-professional agreement that also contains the negotiated maximum real wage increase. Again, if there is no agreement, the federal government will take the decisions instead. The first envelope was fixed in 2007.

2.2 Social insurance

There are three coexisting systems of social security: one for employees, one for the self-employed and one for civil servants.

Currently the social security system covers the following domains: unemployment insurance, illness and disability insurance, public pensions, and three specific domains. These are insurance for accidents at work, occupational disease insurance, and annual holidays. Before 2016, child allowances were also part of the federal social security system. Since then, the competence for child allowances has been transferred to the communities. The rest of the social security system remains entirely federal. Contributions rates, eligibility rules and benefit levels apply across the whole country.

The social security system is partly financed by social security contributions paid by employees, employers, the self-employed and pensioners, and partly by the federal government. Some of the latter financing is structural. For example, part of VAT revenues is allocated to financing the social security system in the framework of a shift from direct to indirect taxation.

Employer contributions are typically flat-rate. This rate has been reduced gradually the last decades, and is currently around 25%. There are, however, many deductions for several categories of workers, with the aim of stimulating the creation of new jobs. Similarly, employee social security contributions are a flat-rate of 13.07%, but many reductions and exceptions exist. Since 2000, governments have introduced and modified a system of reductions for low wage earners, in order to incentivise labour market participation. To avoid such a system promoting part-time labour, the eligibility criteria for this so-called work bonus have since 2005 been made dependent not on actual earnings, but on full-time equivalent wages.

Unemployment insurance

Conditional on having worked a sufficient number of days before becoming unemployed, employees are eligible for unemployment benefits, subject to the requirement of actively looking for a new job. In order to obtain unemployment benefits, registration with a regional public unemployment service is mandatory. These public services actively guide the job search efforts of the unemployed.

Unemployment benefits depend on previous wages, with a cap and minimum level. The minima depend on the social status of the unemployed (single, cohabitant, cohabitant with dependent family). Unemployment benefits are decreasing over time and reach their minimum level after 4 years at the latest. During the first 3 months the replacement rate is 65% of the previous wage (subject to a cap). During the following 3 months the replacement rate is 60%, and for the last 6 months of the first year the replacement rate remains at 60% but the cap is tightened. From the second year onwards, the decay runs over five phases, and depends on the length of time spent working before becoming unemployed, age and social status. After at most 4 years, unemployed persons receive a fixed amount, no longer dependent on the previous wage, but still differentiated with respect to social status. In Belgium there is no time limit on unemployment benefits. However, the eligibility for unemployment benefits can (temporarily) be suspended if the public employment service or the social security authority of the unemployment benefits assesses the efforts of the unemployed to look for a job to be insufficient.

Another Belgian peculiarity is that, for trade union members, unemployment benefits are paid out by the union. Union representatives might intermediate when the unemployed person has conflicts with the authority concerning their eligibility and/or the amount.

There exists a system of unemployment benefits augmented with a company bonus for older employees of firms that shut down or fire these employees. Originally, the unemployed persons who benefited from this scheme were exempt from the requirement to be available on the labour market, and the system was considered to be a *conventional early leavers' scheme*. The age and career conditions to be admitted to the system, which differ according to sector and profession, have been gradually restricted during the last two decades. Since 2015, new entrants in the system should remain available on the labour market and

they receive special coaching to search for a new job. Until 2015, there also existed a scheme of augmented unemployment benefits for older persons who had worked for a sufficiently long time. This system was abandoned in 2015. Under certain conditions the unemployment benefits of persons aged over 55 years or who have worked for a sufficiently long time will not decrease after the first year.

In principle, self-employed and civil servants (who have job security) are not eligible to receive unemployment benefits. Youngsters leaving school are entitled to a payment if they don't find work within a year, known as an insertion premium, also conditional on actively looking for a job. Since 2015, this premium has been time-limited (3 years) and only persons aged under 25 years and who have finished secondary education are eligible.

Pensions

The pension system consists of three pillars: the public pension, additional company pension schemes and private pension saving schemes. The latter two are usually paid out as capital because of the favourable tax treatment compared to payment as an annuity.

Only the first pillar belongs to the social security system. This first pillar consists of three systems: one for employees, one for the self-employed and one for civil servants. The rules for determining the pension are different for each of the three systems. All three pension schemes are defined-benefit pay-as-you-go systems. The amount of benefit depends on previous wages and, for employees and the self-employed, on social status (single or being married with a partner who does not work or has a low income or pension). For employees and the self-employed, 45 years of work are required in order to receive a full pension entitlement, and the replacement rate is 60% for singles and 75% for persons being married with a partner who does not work or has a low income or pension. Before 2021, there was an additional correction coefficient of 69% in the system for the self-employed because they paid less social contributions. For employees and the self-employed there is no mandatory retirement age. Employers have the right, however, to end the contract of their employees at the legal retirement age, which is currently 65 years. It was 60 years for females until 1996, after which it was gradually increased to 65 years in 2009. The legal retirement age will be increased to 66 years in 2025, and to 67 years in 2030. Early retirement is possible from the age of 60, dependent on having worked a sufficiently long time. The earliest possible retirement age will rise to 61 in 2025, and to 62 in 2030.

Health insurance

Subscription to a basic health insurance scheme is compulsory, but free of charge. It covers part of expenditures on general practitioners and specialists, eye and dental care, hospitalisation, physiotherapy, and drugs. The coverage rate is higher for some categories of people with special medical needs or low income.

Additional insurance can be bought for non-covered costs and out-of-pocket expenditures. Some employers provide free hospitalisation insurance for (part of) their workers as part of in-kind benefits.

There is a cap on yearly out-of-pocket expenditures on healthcare covered by the mandatory health insurance, the amount of which depends on income. All medical expenses covered by the mandatory insurance that exceed this cap are reimbursed.

A special feature of the organisation of the reimbursement of the mandatory health insurance is that it is managed by private non-profit organisations (mutualities). The government strives for cost efficiency by making the subsidisation of these organisations dependent on the risk profile of their clients and letting these organisations compete on additional coverage and services.

Primary healthcare is private and there are both public and private hospitals. Communities organise and/or regulate the system of healthcare provision for elderly, disabled persons and persons with mental diseases. Since this is a competence of the communities, interventions, additional compulsory insurance and premiums vary across the country.

Child allowances

Since 2016, childe allowances no longer belong to the social security system and are a competence of the communities. Therefore, the child allowance regulations are not identical across the country. However, the current systems all share the same principles. The child is the rightholder of the basic allowance and the amount of that benefit is therefore independent of the income of any household member or parent. The amount differs across communities. There are social bonuses in case of low household income, though the specific conditions are again community-specific.

Social assistance

Social assistance is not part of the social security system. In principle, people who have insufficient means of existence are eligible for social assistance. Such assistance is subject to the condition of willingness to work. Some exceptions to this condition exist (persons not able to work due to certain circumstances). Special regulations are in place for those elderly who are not eligible for the public pension scheme. People who have no legal permission to stay in the country are not eligible. Social assistance is not automatically granted. There is a considerable amount of non-take-up.

2.3 Income taxes

Every person receiving monetary income (earnings, benefits, capital income, allowances, etc.) is supposed to file an income tax form. Social assistance, child allowances and education scholarships are not taxable. Earnings, profits and social benefits are taxed jointly. Most incomes are subject to a withholding tax when they are paid out. The final settlement, which usually occurs in the year after the incomes have been received, takes such withheld moneys into account.

Married couples and persons officially cohabiting have to file jointly, but most of the tax rules are applied on an individual basis. The tax code allows certain joint incomes to be allocated to one or to both of the partners, and if one of the partners has low or no taxable income, part of the taxable income of the partner with the higher income can be transmitted to the other partner.

Most capital income, including real estate income, is taxed separately through a withholding tax. In most of these cases, the taxpayer then does no longer need to declare this income in the tax return. As a consequence, administrative tax files are not representative of capital income, even in the absence of any problem of tax compliance and one can consider the personal income tax as a tax on earnings and replacement incomes.

On top of two major reforms of the personal income tax system in 1988 and 2001–04, which both substantially reduced the average personal income tax rate, several additional measures have been taken to increase the income after tax for employees with low wages or for persons actively participating in the labour market.

2.4 Education

Except for some general overarching regulations, education policy is a competence of the communities. The school system consists of three cycles: primary school (age 5–11, ISCED 1), secondary schooling (12–18, ISCED 2–3), and higher education (ISCED 4–8). Within the secondary cycle there are options for general, technical, art and vocational training. Since 1983, education is compulsory until 18 years (previously it was 15 years); part-time education is possible from the age of 15. Grade retention and early school dropout are considerable (De Groote and Declercq, 2021).

There are both private and public education institutions, but they are all subject to the same standards (fixed at the community level), and the certificates they are entitled to award are equivalent.

In principle, the choice of school is free. In primary and secondary education, there are no registration fees. There is a system of study scholarship for parents with low income in order to cover (part of) other school expenses for their kids. The scholarship system is governed by the communities. Participation in higher education is subject to a fee, the amount of which is fixed by the community authorities and may depend on the level of education (bachelor's degree, master's degree, etc.). Reduced tariffs are available for students whose parents have low income or who receive a scholarship. Scholarships are usually insufficient to cover all study costs.

3. Measurement issues and definitions

Data:

- We use three sets of surveys on income and living conditions: the Socio-Economic Panel (SEP, 1985, 1988, 1992, 1997), European Community Household Panel (ECHP, 1994–2001) and EU Statistics on Income and Living Conditions (EU-SILC, 2004–21). Details are provided in the data appendix.

Unit of analysis:

- Unless otherwise specified, the unit of analysis is the individual.
- For most of the analysis we restrict to persons aged 25–60. We replicate a small set of figures for the 25–74 age group in the appendix. All calculations use sample weights to attain estimates of the corresponding population level statistics.
- Nominal amounts are converted into 2019 real terms using the CPI.

Definitions:

- **Employment rate**: the fraction of the population that is employed according to self-declared employment status (rather than having non-zero earnings).
- **Gross earnings**: gross annual real individual earnings (includes self-employed).
    - If an employee has multiple jobs, earnings from all jobs are summed together.
    - Employee earnings include all cash benefits such as paid overtime, regular holiday payments, irregular payments (end-of-year premium, additional holiday payments), but not in-kind benefits (including company cars).
    - Earnings include taxes and employee social security benefits, but *not* employer social security contributions, employer contributions to collective pension funds (second pension pillar), or other employer contributions (e.g., collective hospital insurance).
    - The self-employed are asked for their yearly profits (defined as revenues from their business or activities minus costs).
- **Hours of work**: usual/ typical paid hours worked per week, including paid overtime. Excludes self-employed workers. Concerns the week preceding the interview.
- **Wages**:
    - Wages are not a basic variable in our data. They are only calculated for employees, not for self-employed. In Belgium white-collar workers are paid monthly (and thus have a variable hourly wage rate) while blue-collar workers have a fixed hourly wage (and variable monthly income).
    - For the SEP (1985–97) and ECHP (1998–2001) hourly wages are calculated by dividing adjusted gross labour income in the month preceding the survey by the reported number of hours worked during the week preceding the survey multiplied with 4.33 (the number of weeks in a month). Adjusted gross labour income includes employee social security contributions but not those of the employer. This income is then adjusted by a factor of

13.85/12 in order to include the additional holiday payments and end-of-year premium in the hourly wage remuneration.

- For the EU-SILC (2003–20) we do not have income information corresponding to the moment to which the information on hours applies (the week preceding the interview). We use yearly gross labour income of the previous year, including additional holiday payments and end-of-year premium when applicable. To obtain an hourly wage, we divide this yearly income by the reported number of months worked the previous year multiplied by 4.33 (the number of weeks in a month) times the reported hours worked in the week preceding the interview.

- **Disposable household income (household equivalised income after deducting taxes and adding benefits and tax credits**)

  - Disposable income includes: usual earnings from employment, profit or loss from self-employment, state support (social benefits, including state pensions, and social assistance), income from occupational and private pensions, investment income, maintenance payments received, and income from scholarships. It includes for the SILC years a value for income from company cars, but not other fringe benefits.

  - Disposable income does not include imputed rents for home-owners. For all years, except the last one (income 2020, SILC survey year 2021), the withholding tax on imputed rents from real estate property is not deducted.

  - Disposable income is net of: income tax payment, social security contributions and local taxes.

  - Incomes are equivalised using the modified OECD equivalence scale, normalised to a single individual: 1 for the reference person of the household plus 0.5 for each additional household member aged 14 and over, plus 0.3 for each household member under 14 years of age.

Splits:

- **Sex**: female, male

- **Education**: We distinguish three levels based on the International Standard Classification of Education (ISCED) classification: ISCED 0–2 (lower than secondary school), ISCED 3–4 (at least secondary school completed, including persons who completed a post-secondary non-tertiary education, but no tertiary education) and ISCED 5–8 (tertiary education completed, including short-cycle tertiary education).

- **Position in household**: Single without dependent children; single with children; couples without dependent children; couples with children; adult child; other. A child is a household member aged 0–18 or a household member who is either a child of the reference person, or for whom a parent is member of the household (for the SILC survey only). For ECHP only persons under 18 years of age can be identified as child.

Growth incidence curves (GICs): These are defined as the growth in quantile values as in Ravallion and Chen (2003), not as the growth in mean income of quantile groups (as in Lakner and Milanovic, 2012).

4. Individual employment and earnings

This section looks at trends in individual employment and earnings. With respect to earnings, we first look separately at hourly wages and hours worked, before bringing them together in a set of charts on earnings inequality. Due to a lack of reliable data on hours worked for the self-employed, we restrict the analysis of wages and hours to employees, but include both employees and the self-employed in the analyses of total earnings.

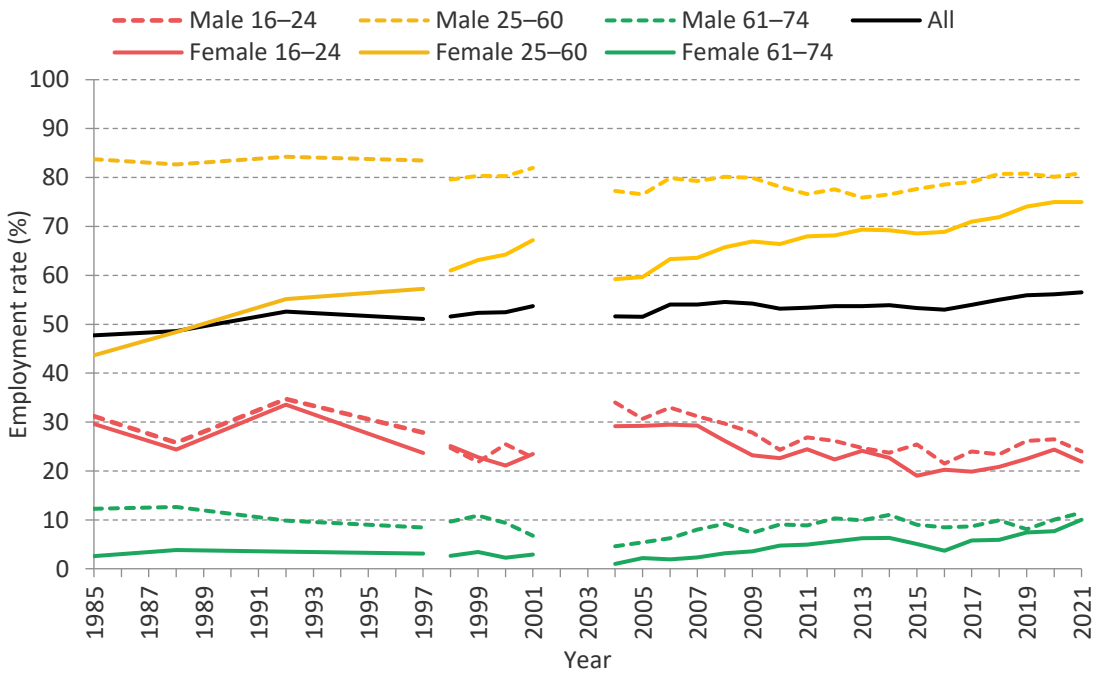
4.1 Trends in employment

Figure 1 shows employment rates for young people (16–24), prime working-age persons (25–60) and older people (61–74). The employment rate of young people started to decline from 2004 onwards, both for men and women. The picture is less clear for the subperiods 1985–97 and 1998–2001. The volatility of the figures during the entire period (1985–2001) indicates that our data may be less reliable for that period. The declining participation rates of young people are most probably due to increases in levels of education. It is strange, then, that we only see the decline starting in 2004 in our figures.

The employment rate of prime working-age men has been relatively stable over the last four decades, while that of women almost doubled (plus 72%). The gender gap has thus narrowed from 40 percentage points to about 6 percentage points.

While the employment rate of older men declined over the years 1985–2001, that of women fluctuated between 2.3% and 3.8% during that period. From the early 2000s onwards, the employment rate of both older men and women increased spectacularly: that of men more than doubled, and that of women even quintupled. This most probably has to do with continuous efforts to encourage older people to continue to work until the regular pension age. To that end conventional early leavers' schemes (see Section 2.2) were gradually discontinued (a few exceptions notwithstanding). Moreover, the pension age for women was gradually increased from 60 to 65 years over the period 1997–2009.

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

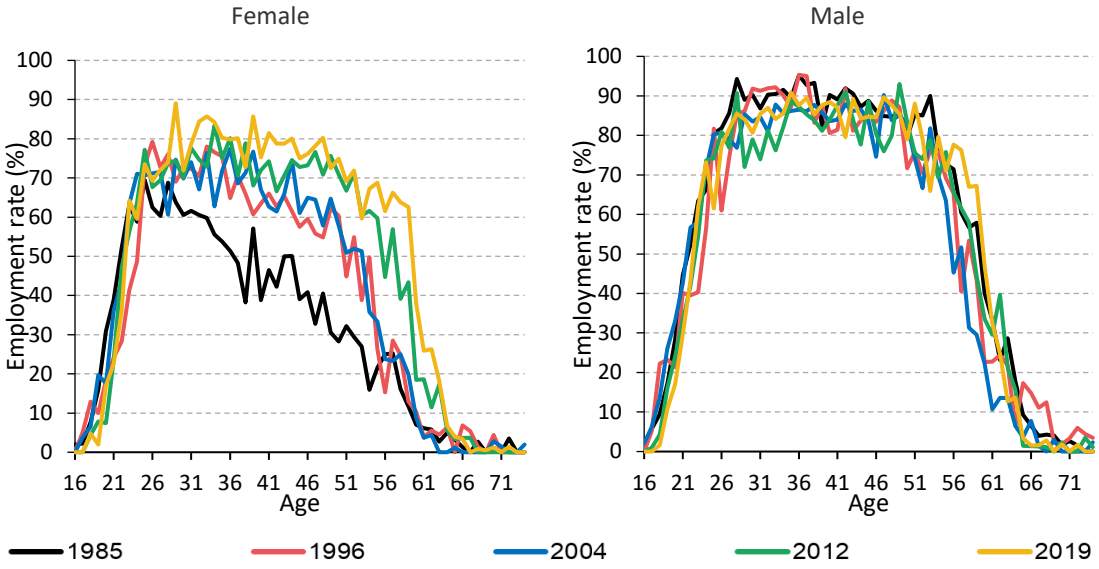


Note: Individuals aged 16–74. Employment based on self-reported status.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

The increased employment of women of prime age over the whole period 1985–2019 and of older women from 2004 to 2019 is confirmed by Figure 2. The employment rate of women in more recent years (2012 and 2019) dominates that of older years (1985, 1996, and 2004), for almost all ages. Between 1985 and 1996, employment rates for women aged 30 to 55 years increased by almost 20 percentage points. Female employment rates remained stable between 1996 and 2004, but saw another important increase for women aged 45-60 in the period 2004-2019. For males, such cohort effects are absent.

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

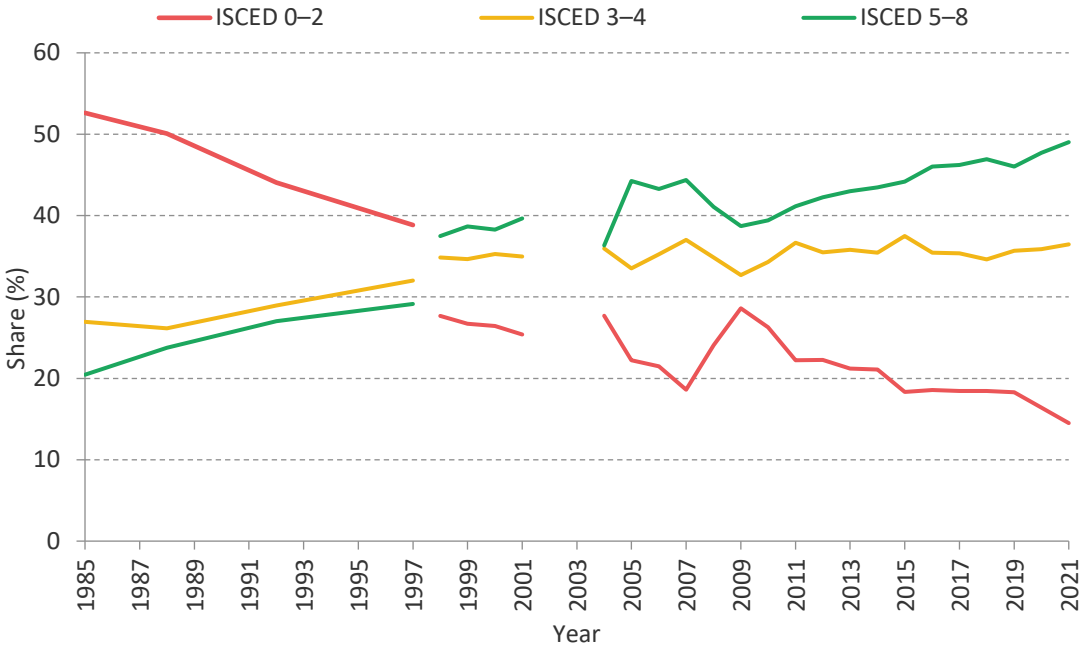


Note: Sample is individuals aged 16–74. Employment based on self-reported status.
Source: SEP 1985; ECHP 1996; EU-SILC 2004, 2012, and 2019.

In Belgium the school system consists of three cycles: primary school (ages 6–12), secondary school (12–18) and higher education. Higher education normally starts at 18, but there are many repeaters during primary and secondary school (De Groote and Declercq, 2021). In contrast to many other countries, we include persons having completed vocational training in the highly educated group. Since 1983, full-time education is compulsory until 15, and part-time education until 18, but there are many dropouts.

Figure 3 shows the percentage of low (less than secondary school finished, ISCED 0–2), middle (at least secondary school finished, but no tertiary education, ISCED 3–4) and highly educated (any form of completed tertiary education including short-cycle vocational training, ISCED 5–8) among people aged 25–60. The percentage of low educated declined steadily from about 53% in 1985 to 15% in 2021. This is compensated by an increased percentage of middle and highly educated people in the period 1985–97. From then on, the percentage of middle-educated people is more or less constant (34–36%) while the number of highly educated people continues to rise. The wiggles in the early 2000s are most probably due to data issues rather than reflecting real volatility. It is noteworthy that the number of highly educated persons overtakes that of middle-educated and low-educated from the end of the 1990s onwards, and the same holds true for the number of middle-educated compared to the number of low-educated people. All in all, the general level of education in Belgium has increased enormously in the last four decades, even though there are some concerns about the quality of education during that same period.

Figure 3. Educational attainment over time (%)

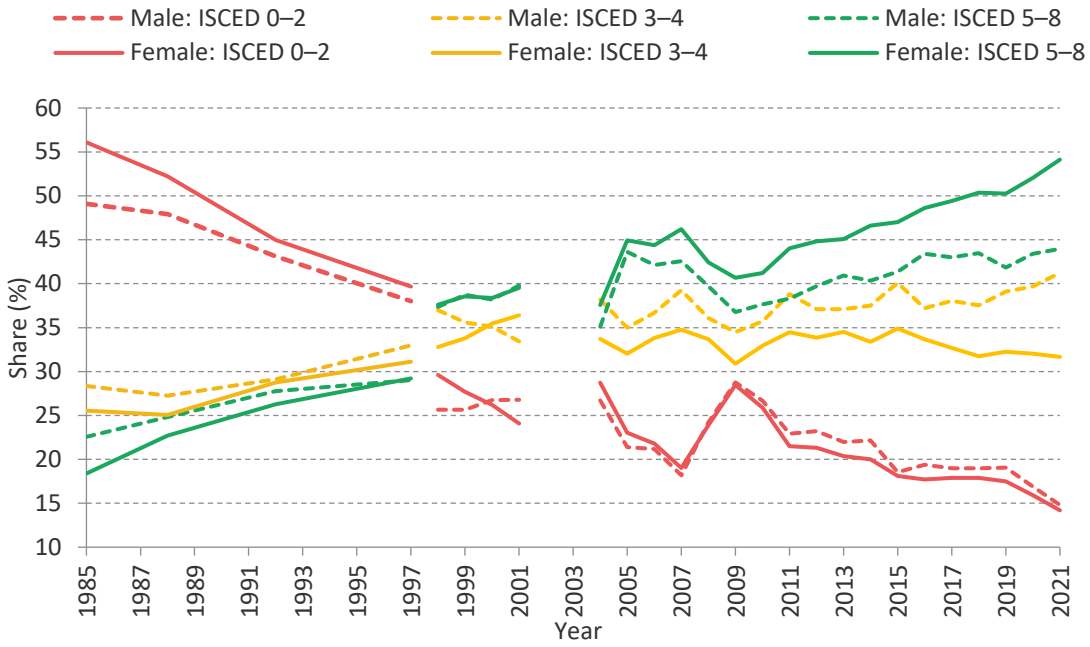


Note: Sample is individuals aged 25–60.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 4 breaks down the numbers of Figure 3 by sex. While during the period 1985–95 women are less educated than men, this imbalance was reversed during the second half of the 1990s. For women, the rise of higher education during that period is at the expense of a smaller number of persons who do not obtain a secondary school certificate (low-educated). For men, there seems to be rather a shift from the group of middle-educated towards higher-educated people. From the 2000s onwards the number of highly educated women surpasses that of men and gap between the share of highly educated women and men gradually increased. The share of middle educated 25-60-year old men is increasing during the 2000s to more than 40%, while that of females fluctuates between 32 and 35%. The share of lowly educated persons is roughly equal for both sexes and declines over the same period.

Figure 4. Educational attainment by sex, over time (%)

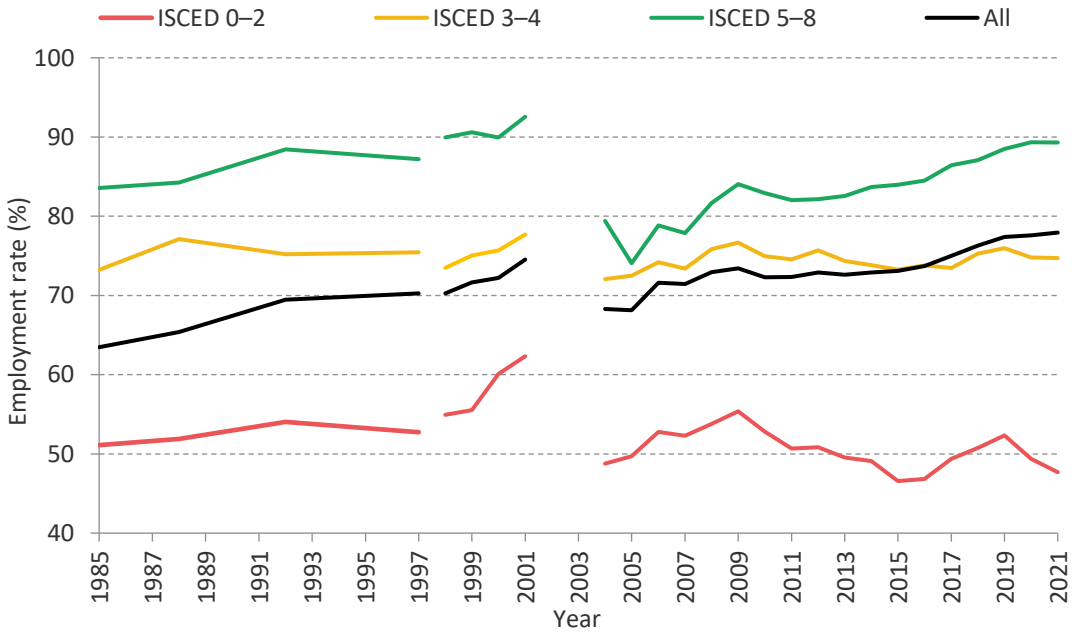


Note: Individuals aged 25–60.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 5 breaks down the employment rate of individuals aged 25-60 by education level and Figure 6 adds the sex dimension to the picture. Not surprisingly, the higher the level of education, the higher the level of employment. At the end of the past century, employment rates of different education levels move in parallel, while in the 2000s the increase in employment is mainly due to an increase in employment of the highly educated. The decline for all education levels in 2021 did not result in an overall decline in employment because of the shift in composition of the population from poorly to highly educated people.

Figure 5. Employment rates by education, over time (%)

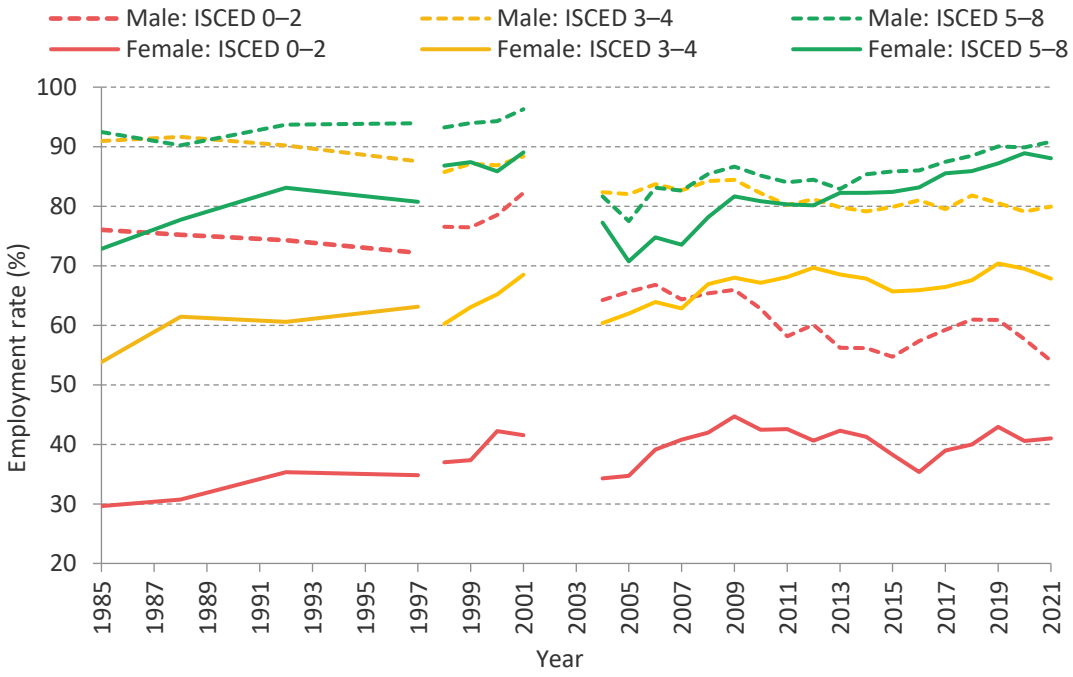


Note: Individuals aged 25–60. Employment based on self-reported status.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 6 shows that in the first two decades of the twenty-first century, the gender gap in employment rates has nearly been closed for highly educated persons. For low- and middle-educated persons the gap is slowly narrowing, but remains high. For low-educated persons the narrowing of the gender gap seems in recent years more a consequence of the lower employment rate of men than that it is due to a more rapid increase of the employment rate for women than for men. The growing group of females with high education (Figure 4) and their growing employment rate (Figure 6), may explain why prime working-age women's employment rate increased, both in absolute terms and relative to that of men (yellow lines of Figure 1).

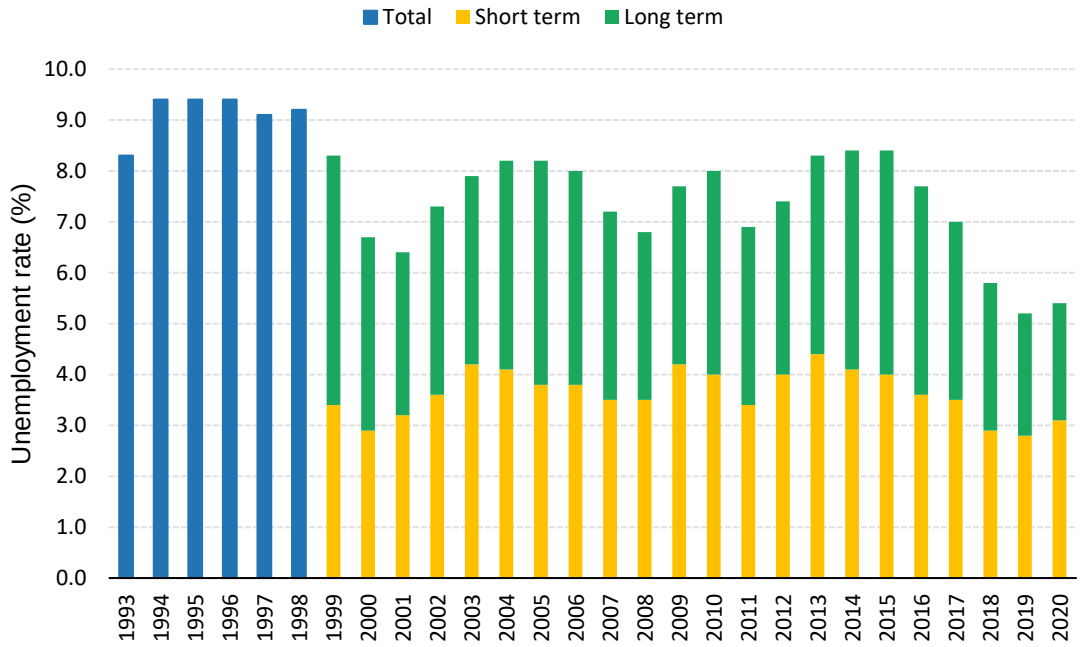
Figure 6. Employment rates by sex and education, over time (%)



Note: Individuals aged 25–60. Employment based on self-reported status.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 7 shows that unemployment decreases over time (1993–2020) from over 9% to about 5%, some upheavals in 2003–05, 2009–10 (aftermath of financial crisis, which in Belgium had only a small and short impact on unemployment) and 2013–15 notwithstanding. The latter might be due to the gradual abolition of the exemption of older unemployed persons from looking for work in order to be eligible for unemployment benefits. Before that abolition, these persons were not classified as unemployed. Furthermore, the share of long-term unemployed in overall unemployment tends to decline from roughly 60% in the early 2000s to less than 50% in the most recent years.

Figure 7. Unemployment rate by duration of unemployment, over time



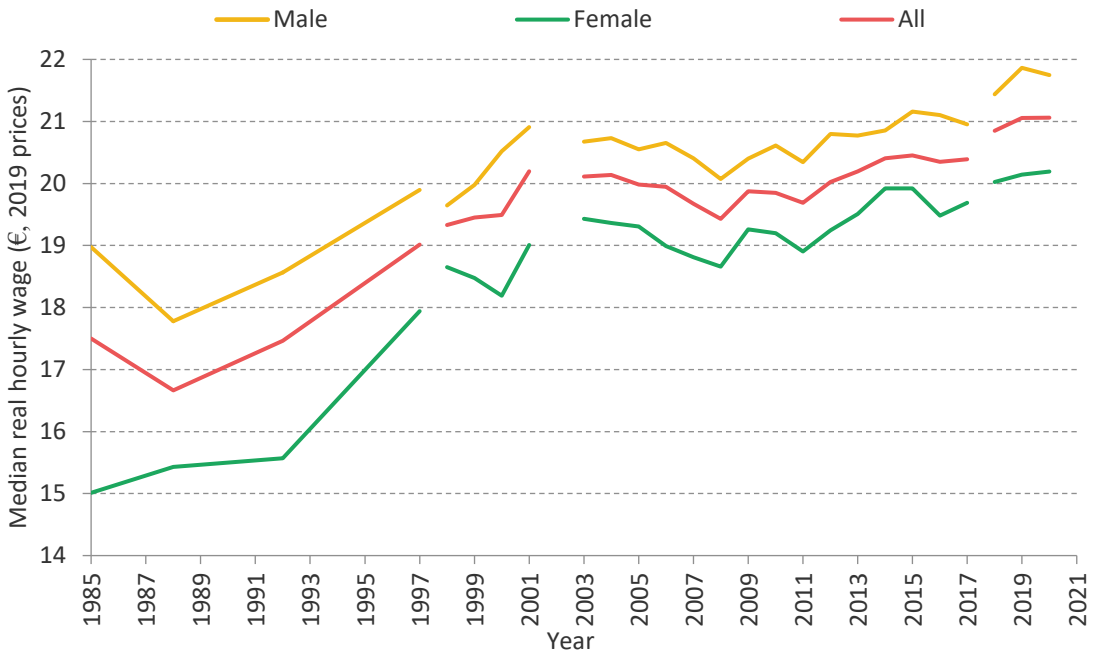
Note: Individuals aged 20–64. The unemployment rate is calculated as a fraction of the labour force, that is, persons working and those looking for work. Short-term unemployment is less than 1 year and long-term duration of unemployment is 1 year or more.
Source: Eurostat variables UNE_RT_A_H and UNE_LTU_A_H.

4.2 Trends in hourly wages (employees only)

Between 1985 and 2001, wages of employees show an increasing trend for both males and females. From 2003 onwards, they start to decrease until 2008 and then increase again. Given the rise in the education of employed people, the decline of real wages between 2003 and 2008, might mean that remuneration of jobs with the same qualifications has actually gone down. This is, however, not confirmed by Figure 9 which breaks down Figure 8 by education.

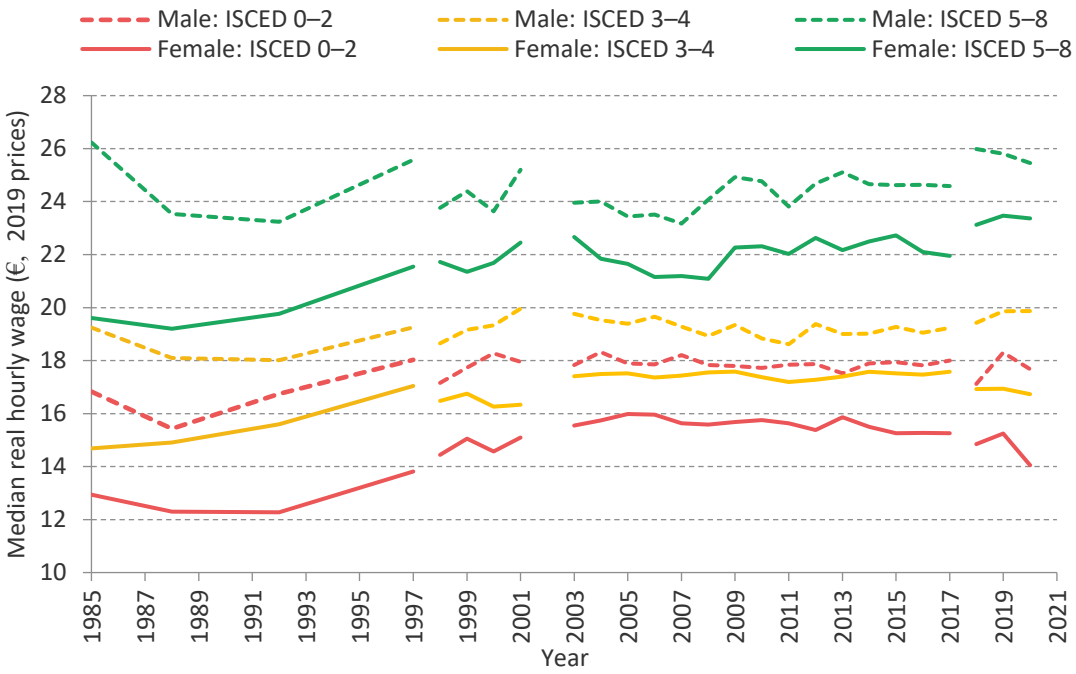
During the last twenty years, the difference between the median wage of males and females varied between 1 and 1.5 Euro, without showing a clear trend. In relative terms (the difference in median wages over the male median wage) is somewhat more volatile and ranges between 6 and 8% during that same period, but still does not exhibit a trend. This is somewhat surprising as similar figures produced by the OECD and Statbel (the Belgian statistical office) show a declining gender wage gap. These statistics are based on the relative measure (difference in median wages over male median wage) but for the whole full time working population in the private sector, without age limits. Similar observations hold for the evolution of the gender wage gap by education during the last two decades: it shows no clear trend. The gender wage gap tends to be somewhat lower for middle-educated individuals during that same period.

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



Note: Employees aged 25–60. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

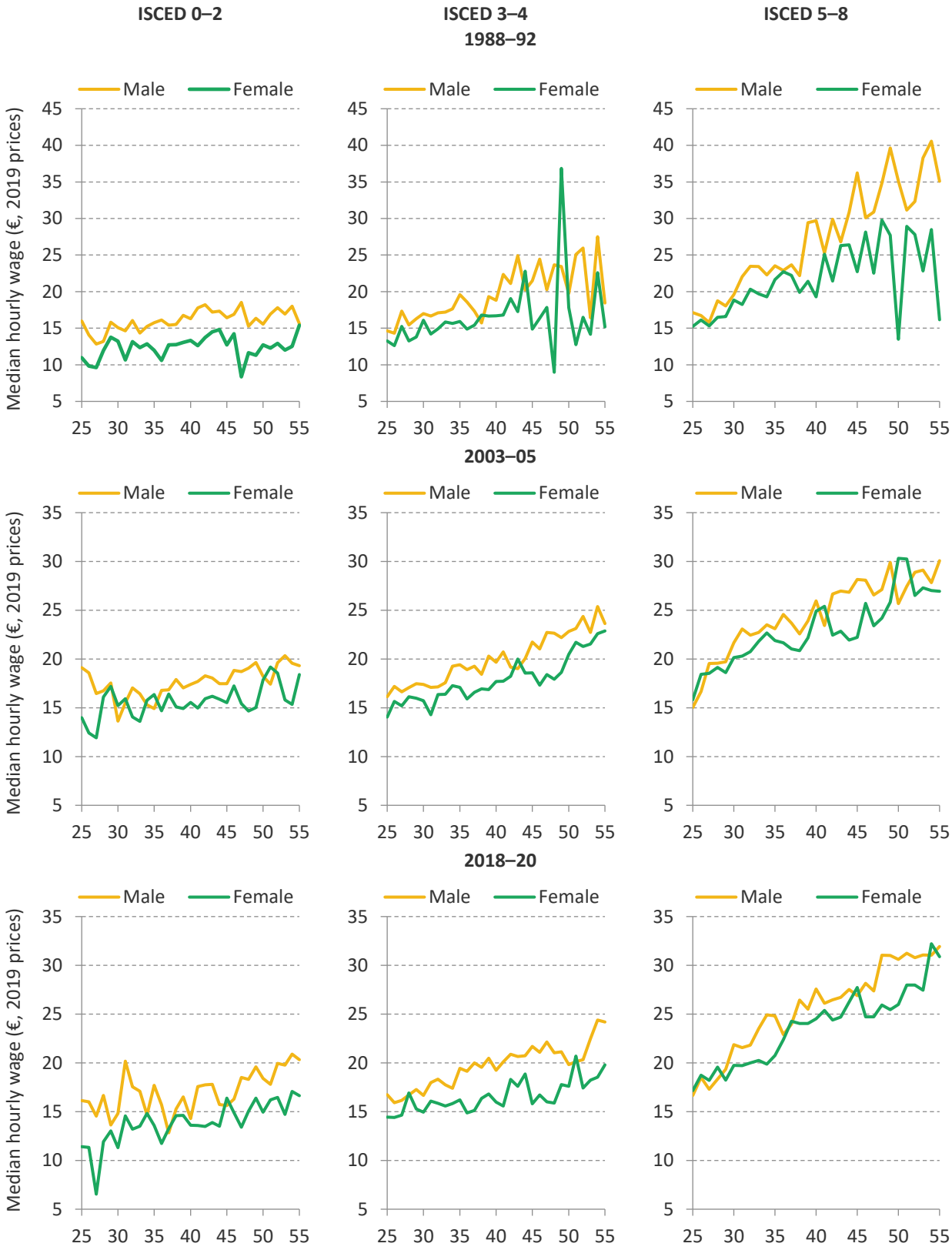
Figure 9. Median real hourly wage among employees, by sex and education, over time



Note: Employees aged 25–60. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 10 shows how wages evolve over the life cycle. We truncate the data at age 55 because of a lack of sufficient observations for older ages. Figures are broken down by sex and controlled for education level. Hourly wages were hardly increasing over the life cycle in earlier years (1988–92) for the low-educated, and the gender gap was relatively constant over the life cycle. The wage path of the middle- and highly educated is increasing for both males and females. In more recent years (2018–20) this also the case for the low-educated. Especially for highly educated people, the gender gap is increasing over the life cycle in early years. This continues to be the case in more recent years, though not quite to the same extent. This might indicate that the gender gap is partly explained by more interrupted working lives of females, which results in fewer seniority rights.

Figure 10. Median real hourly wage among employees over life cycle (ages 25–55), by sex and education, selected periods



Note: Employees aged 25–60. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices.

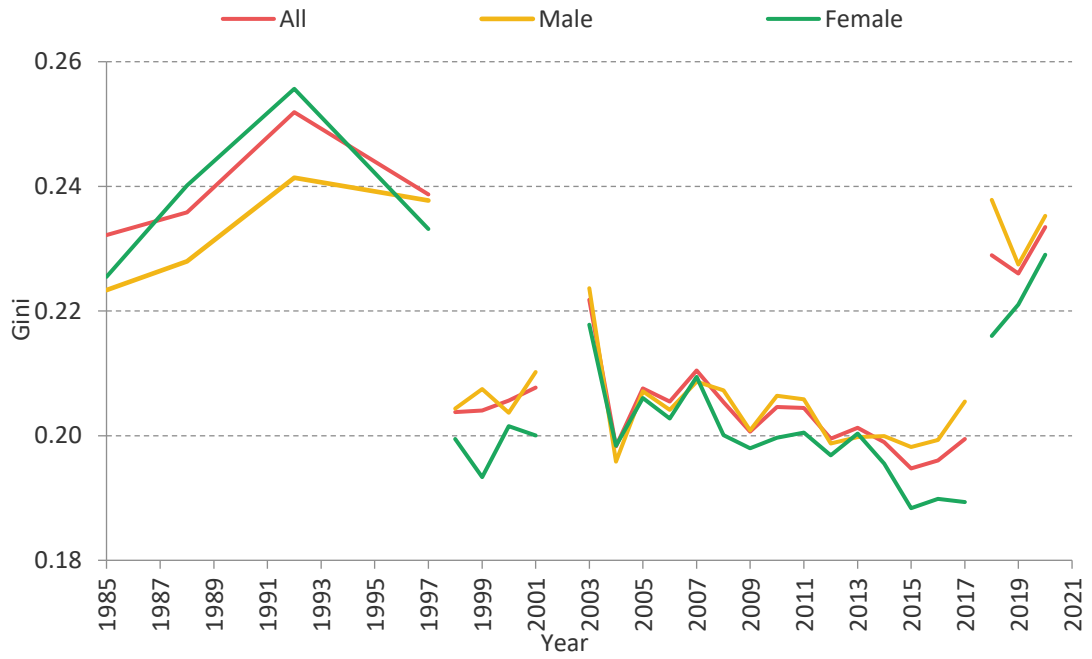
Source: SEP 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

Figures 11–13 provide information on wage inequality. Figure 11 shows the Gini index, Figure 12 shows the rougher, but nowadays popular 90:10 and 50:10 ratios, and Figure 13 shows growth incidence curves (GICs).

During the period 2003–17, the trend of the overall and gender-specific Gini indicates a decline in wage inequality over time. The large jump upwards during the last 3 years might be due to the switch to administrative data for gross earnings, which might result in greater inconsistencies between hours information (self-reported situation at moment of survey) and earnings (administrative data of the past year). During the period 1985–97, the Ginis exhibit an inverted U-shape, in line with the quantile ratios shown in Figure 12.

According to our data, there is no evidence of a persisting tendency of rising hourly wage inequality in Belgium, both in the longer term and during the last two decades.

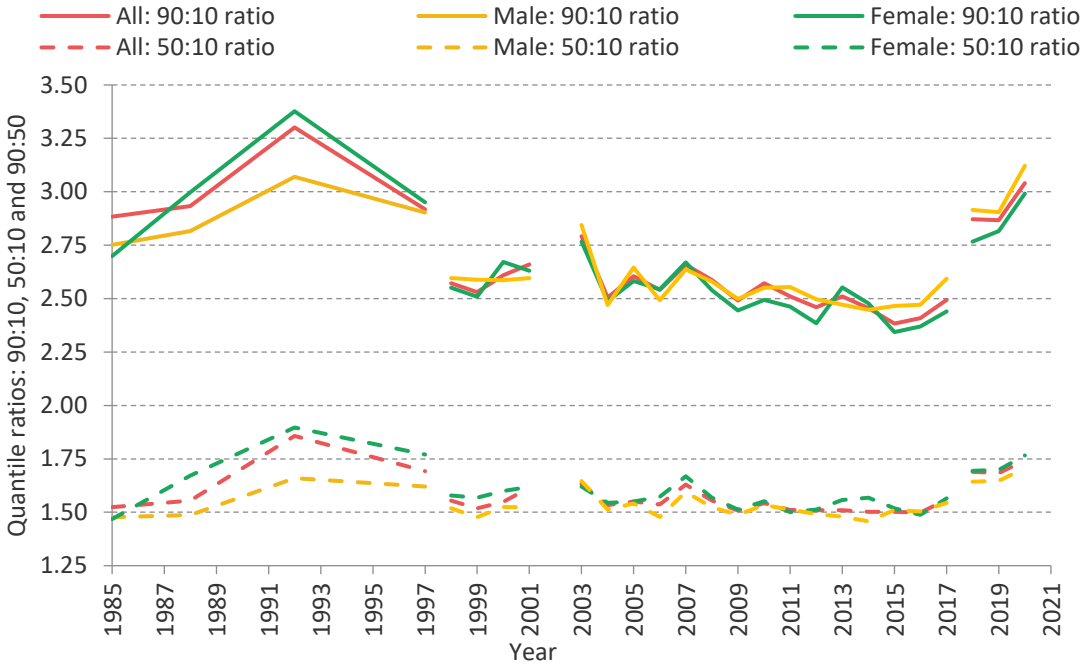
Figure 11. Gini coefficient of hourly wages among employees, overall and by sex, over time



Note: Employees aged 25–60. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices. The top and bottom 1% of the sex-specific distributions have been excluded.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

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



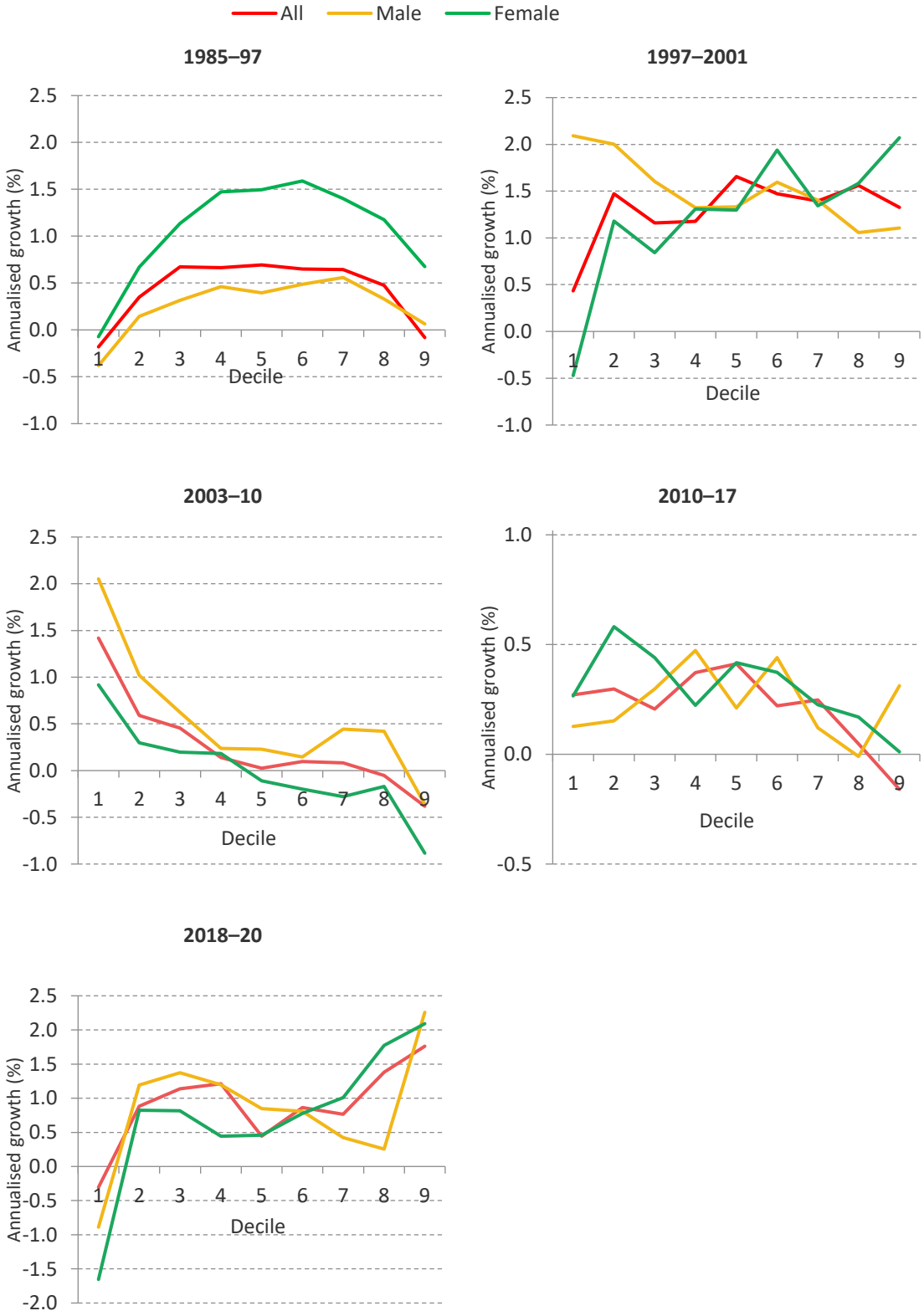
Note: Employees aged 25–60. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

The inverted U-shape of the GICs (Figure 13) for 1985–97 is in accordance with the 90:10 ratios being slightly higher and the 50:10 considerably higher in 1997 than in 1985. From 1997 to 2001 the GIC has a downward trend for males and an increasing one for females and overall, again in accordance with the evolution of the quantile ratios of those years. Comparing 2003 with 2010, the resulting GICs are downward sloping, in accordance with the fall of both the Gini and the quantile ratios between those years. Real wage growth is even negative for the higher deciles during that period. Though less outspoken, also the GICs for the period 2010-2017 exhibit a decreasing trend.

The picture changes substantially for the period 2018-2020. The overall GICs and those of females for that period are roughly increasing. This, again, corresponds with the rise in the inequality indicators. For males, the GIC is decreasing from the third to eighth decile. This might be in line with the observation that the Gini of male wages is slightly lower in 2020 than in 2018 despite the higher 90:10 and 50:10 quantile ratios. It also illustrates that summary measures such as quantile ratios might be in conflict with more traditional summary inequality measures such as the Gini, and it might be explaining the divergence in opinion on the course of inequality over time, even when there is agreement about the underlying distributions.

Figure 13. Annualised growth in hourly wages among employees aged 25–60 by wage decile, overall and by sex, selected periods



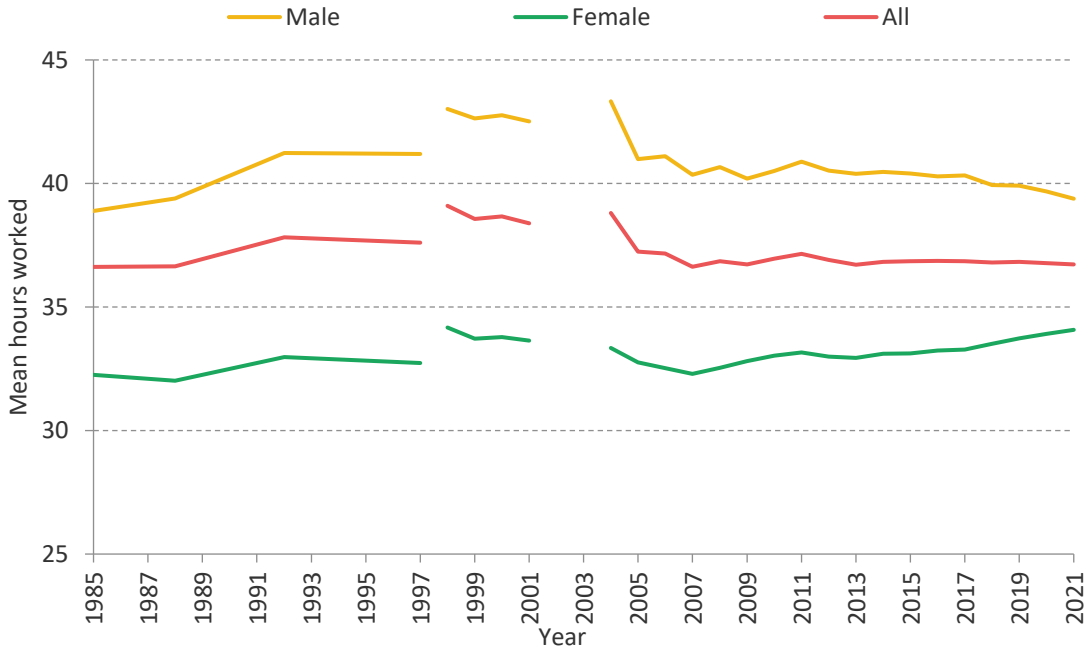
Note: Employees aged 25–60. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices.

Source: SEP 1985, 1997; ECHP 1997, 2001; EU-SILC 2004, 2011, 2018, 2019, and 2021.

4.3 Trends in hours worked (employees only)

While employment among prime working-age people has been on the rise over the last decades, the number of hours worked has remained rather stable and hovers around 36–37 hours (Figure 14). The observations for the ECHP survey (1998–2001) are somewhat higher, but we have no explanation for this. During that period (1998–2001) the number of hours worked seems to decline somewhat. Also, the number of hours worked according to the first SILC survey (2004) is exceptionally high. Men work more hours than women. Only during the last few years does the gender gap in hours seem to narrow a little.

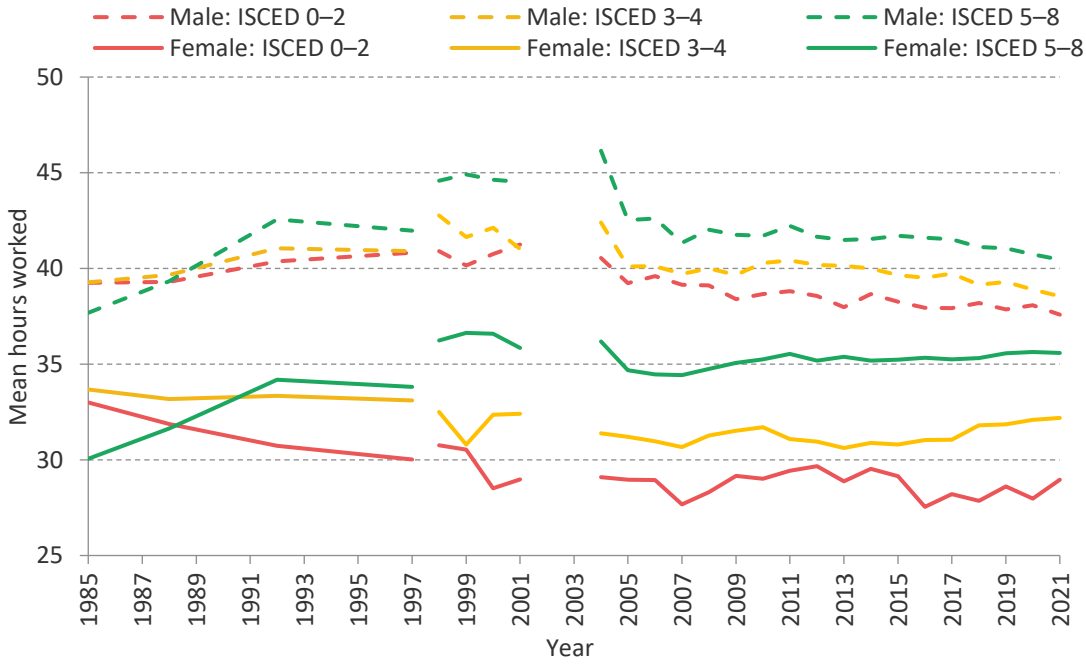
Figure 14. Mean weekly hours worked among employees, overall and by sex, over time



Note: Sample is employees aged 25–60. Employment based on self-reported status, conditional on positive number of hours work reported.
Source: SEP 1985–97; ECHP 1998–2001; EU-SILC 2004–21.

When we condition further on education level (Figure 15), we see that in the period 1985–97 the number of weekly hours worked by low- and middle-educated females is declining, while it is increasing for highly educated ones. For males, the number of hours worked is rising for all education levels during that period (1985–97), albeit more so for the highly educated.

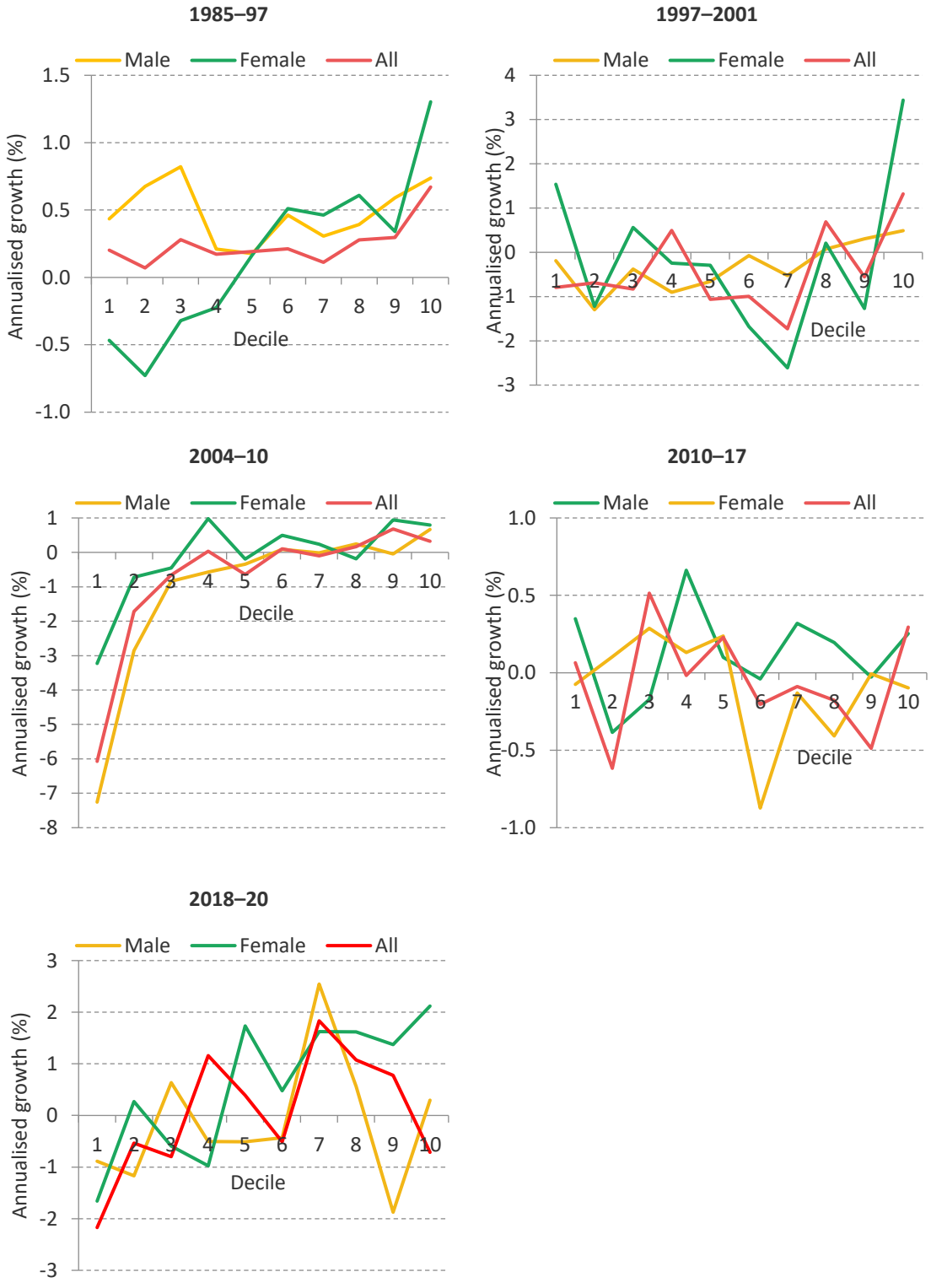
Figure 15. Mean hours worked among employees, by sex and education, over time



Note: Sample is employees aged 25–60. Employment based on self-reported status, conditional on positive number of hours work reported.
Source: SEP 1985–97; ECHP 1998–2001; EU-SILC 2004–21.

Figure 16 shows the distribution of the evolution of hours worked over the gender-specific wage deciles, for different time periods. From 1985 to 1997, average hours worked by females are declining for the lower deciles, while they are increasing for the higher deciles. This corresponds to the finding of Figure 15, where it was shown that average hours worked by highly educated females were higher in 1997 than in 1985, while they are (slightly) lower for low- (middle-)educated women. The decline in the weekly number of hours worked between 2004 and 2010 is to be attributed almost exclusively to the lower wage deciles.

Figure 16. Growth in mean hours worked among employees aged 25–60 by wage decile, overall and by sex, selected years



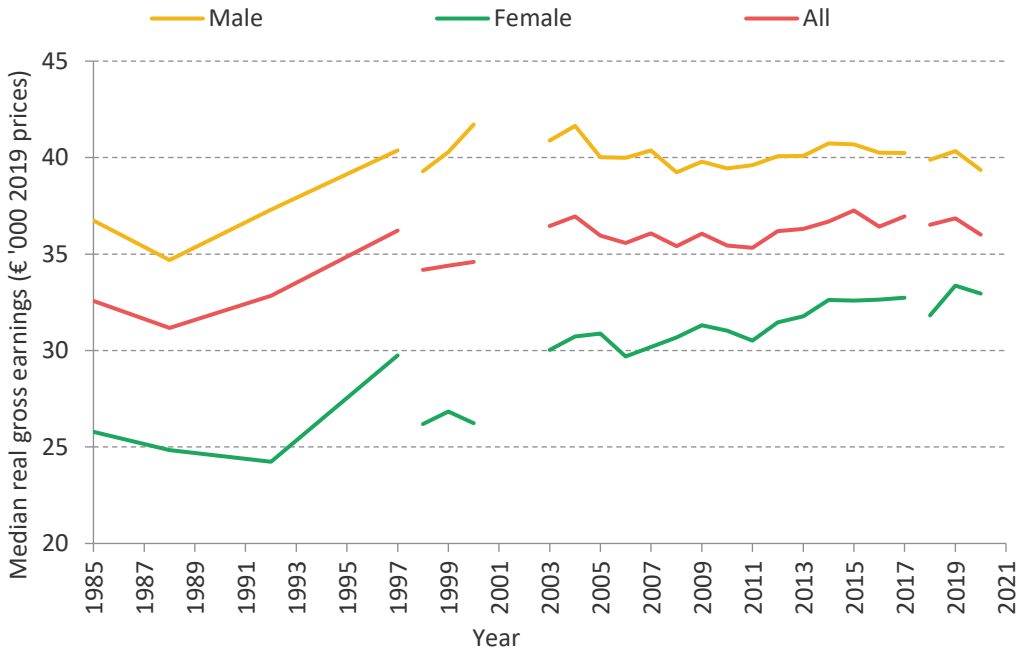
Note: Sample is employees aged 25–60. Employment based on self-reported status, conditional on positive hours work reported and positive wages. The annualised growth is calculated using the average hours worked per wage decile.
Source: SEP 1985, 1997; ECHP 1997, 2001; EU-SILC 2004, 2010, 2017, 2018, and 2020.

4.4 Inequality in individual earnings among those in work (employees and self-employed)

In this subsection we look at earnings, combining the information of the previous two subsections (hours and wages). However, we now add the self-employed into the picture. Gross earnings do not include non-monetary fringe benefits, such as company cars. They are expressed in yearly amounts at 2019 prices. The data from to the ECHP should be taken with caution, as the reconstruction of gross incomes from net incomes relies on a rough tax-benefit calculator.

Male median earnings were increasing in the period 1988–97 and 1998–2000 (Figure 17). The picture for females during these periods is less monotonic. Both male and female median earnings in 1985 were higher than in 1988. During the period 2005–17 earnings were relatively constant for both males and females. The still substantial gender gap in earnings is hardly narrowing during that same period. The dip in 2010–11 is remarkably small for a period called the 'Great Recession'.

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

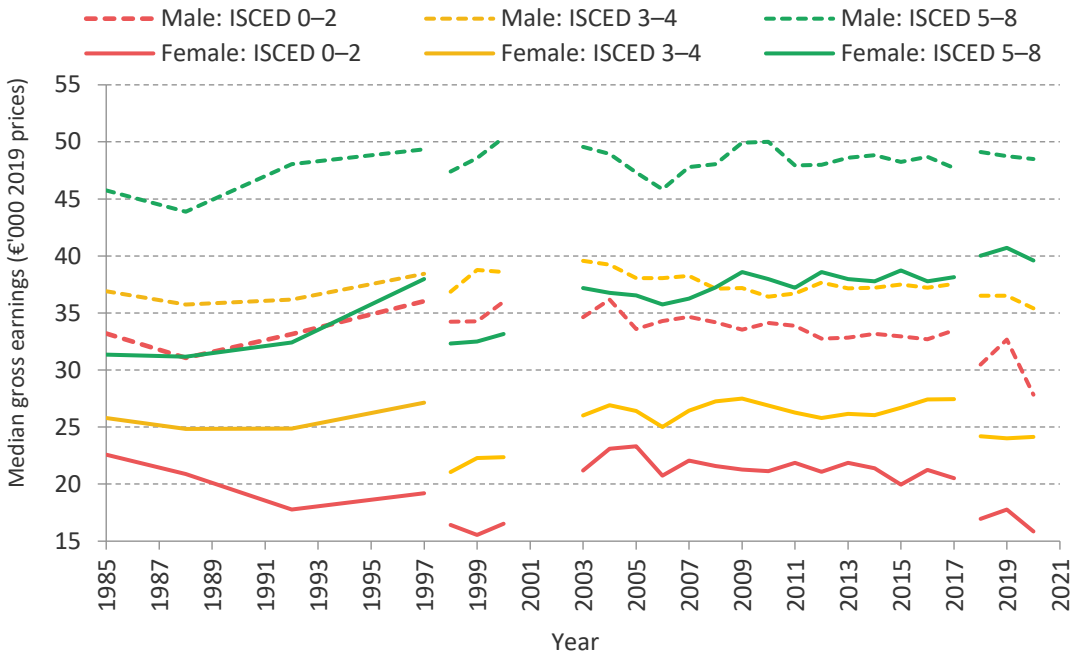


Note: Sample is individuals in work aged 25–60 with positive earnings. Gross earnings are in 2019 prices. The 2017 and 2018 observations are not connected as most of the employee incomes of 2018 and subsequent years were gathered using tax register data, rather than through survey questions as before. Self-employment income remains self-reported though. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques.
Source: SEP 1985–97; ECHP 1999–2001; EU-SILC 2004–21.

Figure 18 conditions the previous figures on education level. Over time, the median earnings of highly educated women overtake those of low- and middle-educated men. The slight narrowing of the gender gap in earnings between 2003 and 2017 is observed for all education levels.

The transition to administrative data in 2018 seems to suggest that the earnings education gap between the highly educated on the one hand, and middle- and low-educated on the other hand, was higher than what we learn from survey data.

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



Note: Sample is individuals in work aged 25–60 with positive earnings. Gross earnings are in 2019 prices. The 2017 and 2018 observations are not connected as most of the employee incomes of 2018 and subsequent years were gathered using tax register data, rather than through survey questions. Self-employment income remains self-reported though. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques.
Source: SEP 1985–97; ECHP 1999–2001; EU-SILC 2004–21.

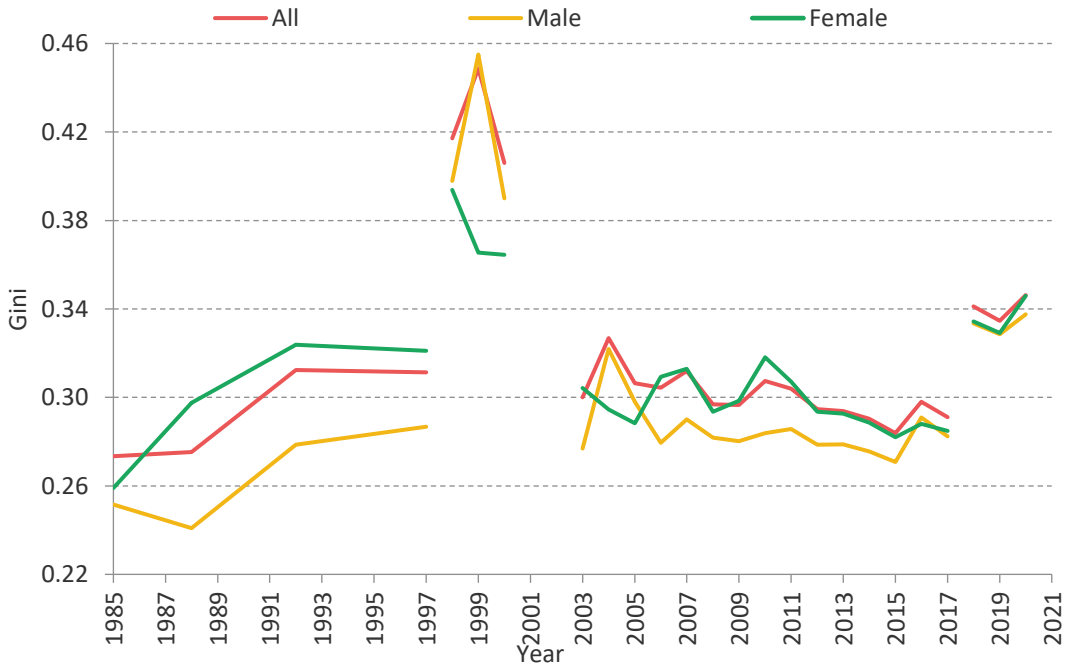
Figures 19–21 provide statistics on inequality in gross earnings: Gini coefficients, quantile ratios and GICs are shown.[2]

Both the Gini coefficients (Figure 19) and the quantile ratios (Figure 20) suggest that there is a big jump upwards in earnings inequality when using administrative data (EU-SILC data from 2018 onwards). Further investigation tells us that this is due to a concentration of small incomes in the administrative data which seem not to be reported in surveys. However, this upwards jump vanishes when the same statistics would be calculated including the zero earners.

Earnings inequality was on the rise between 1988 and 1997, while there is a slight decreasing tendency between 2003 and 2017. Throughout inequality among female earnings is much higher than that among males. This is most probably due to the more frequent occurrence of part-time jobs among females.

[2] Other countries have also produced charts on the Gini coefficient over time of total employer cost, that is, gross earnings including employer social security contributions, and on annualised growth in employer cost. That is not possible for Belgium as we do not have reliable data on employer cost. Employer social security contributions are imputed by the statistical agencies collecting and processing the data and the imputation quality is poor, and does not allow for diversification in effective contribution rates. For the same reason it has not been possible to include a chart on disposable income as a proportion of gross household income plus employer social security contributions, by net household income quartile, in Section 5.2.

Figure 19. Gini coefficient of gross individual earnings of workers aged 25–60, overall and by sex, over time

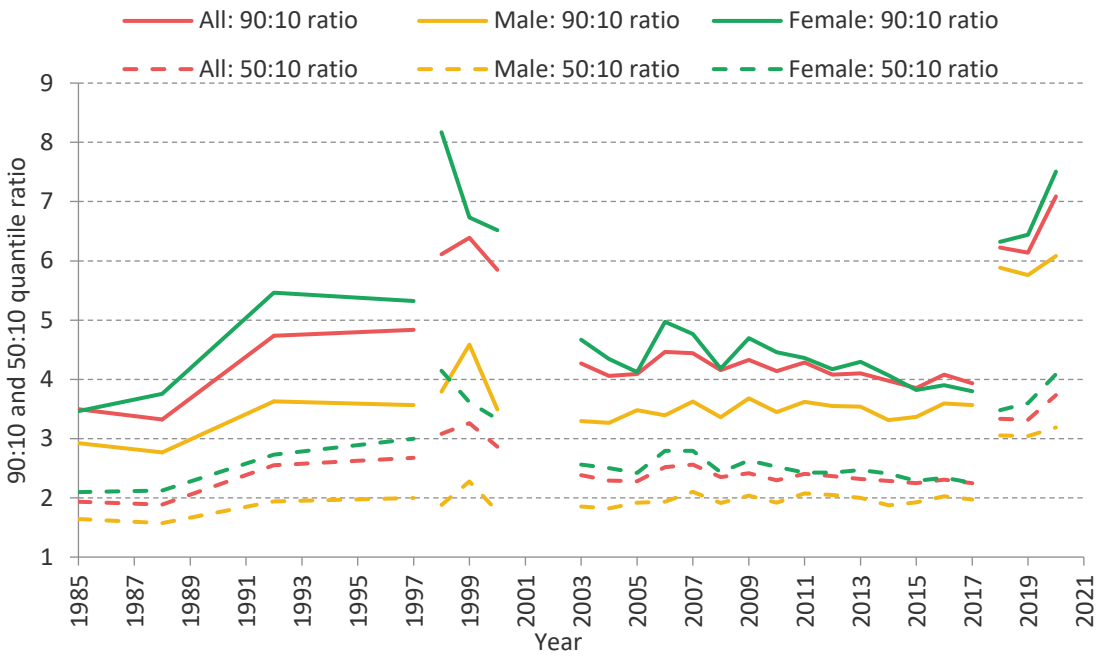


Note: Sample is individuals in work aged 25–60 with positive earnings. Gross earnings are in 2019 prices. The 2017 and 2018 observations are not connected as most of the employee's incomes of 2018 and subsequent years were gathered using tax register data, rather than through survey questions. Self-employment income remains self-reported though. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques.
Source: SEP 1985–97; ECHP 1998–2001; EU-SILC 2004–21.

The upward jump in the 90:10 and 50:10 quantile ratios from 2017 to 2018 (Figure 20) might be due to the transition to administrative data for part of the earnings from 2018 onward. As mentioned before, this change resulted in a considerable number of observations with small earnings, whereas in previous surveys similar individuals report zero earnings. If individuals with such small earnings cover the full first decile, this may explain the jump in the quantile ratios from 2017 to 2018. However, we will qualify this suggestion when discussing the share of self-employed per earnings decile (Figure 24).

The volatility of the Ginis (Figure 19) and the quantile ratios (Figure 20) for the ECHP period (1998-2000) may indicate that these data are plagued by outliers.

Figure 20. 90:10 and 50:10 ratios of gross individual earnings, overall and by sex, over time



Note: Sample is individuals in work aged 25–60 with positive earnings. Gross earnings are in 2019 prices. The 2017 and 2018 observations are not connected as most of the employee incomes of 2018 and subsequent years were gathered using tax register data, rather than through survey questions. Self-employment income remains self-reported though. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques.

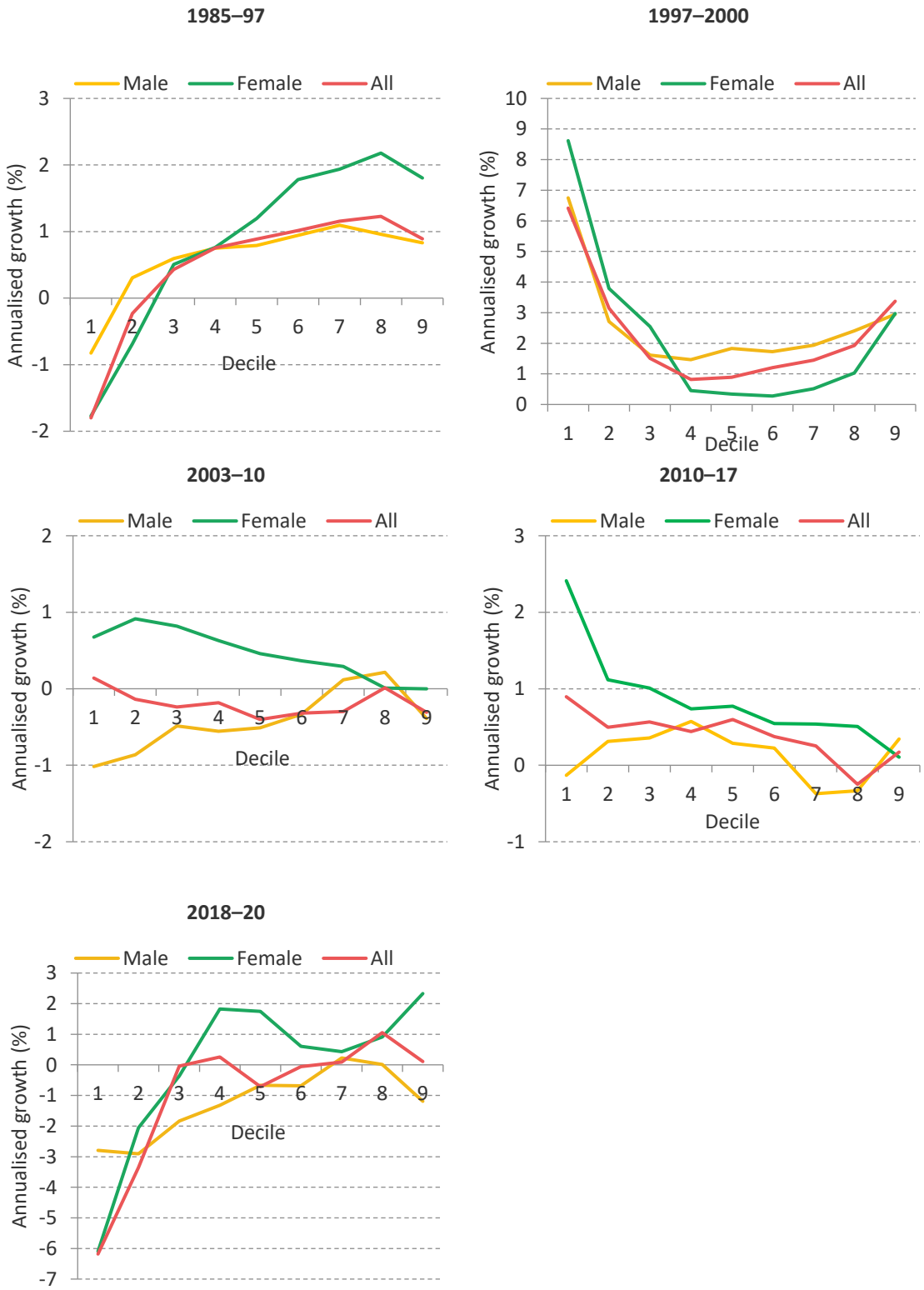
Source: SEP 1985–97; ECHP 1999–2001; EU-SILC 2004–21.

Figure 21 illustrates that the rise in inequality of gross earnings from 1985 to 1997 is reflected in increasing GICs. Only for the highest deciles is growth declining, but that is apparently not enough to make the Ginis decrease. Comparing inequality between 2003 and 2010, the picture is different for males and females. While the Gini is slightly higher in 2010 than in 2003 for both, the corresponding female GIC is predominantly decreasing (except for the first to second decile). The GIC for males between 2003 and 2010 is increasing (except for the eight to ninth decile).

Also when comparing 2010 with 2017, the picture differs across sexes. Again the female GIC is decreasing, in accordance with the decline in the Gini and the 90:10 and 50:10 quantile ratios. The male GIC is non-monotonic. Notice that when comparing these years, the Gini is slightly lower in 2010, while the 90:10 and 50:10 quantile ratios increased.

From 2018 to 2020, Gini coefficients increased. The GICs are not monotonically increasing, however. It seems that the rise in earnings growth for the first four (females and all) to five deciles (males) is responsible for the increase in the Ginis from 2018 to 2020. Overall, the slope of GICs for the period 2018–2020 and those for periods 2003–2010 and 2010–2017 have opposite sign.

Figure 21. Annualised growth in gross earnings of workers aged 25–60 by earnings decile, sex and overall, selected periods



Note: Sample is individuals in work aged 25–60 with positive earnings. Gross earnings are in 2019 prices. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques. GICs are constructed as annualised growth of the decile values.

Source: SEP 1985–97; ECHP 1998–2001; EU-SILC 2004–21.

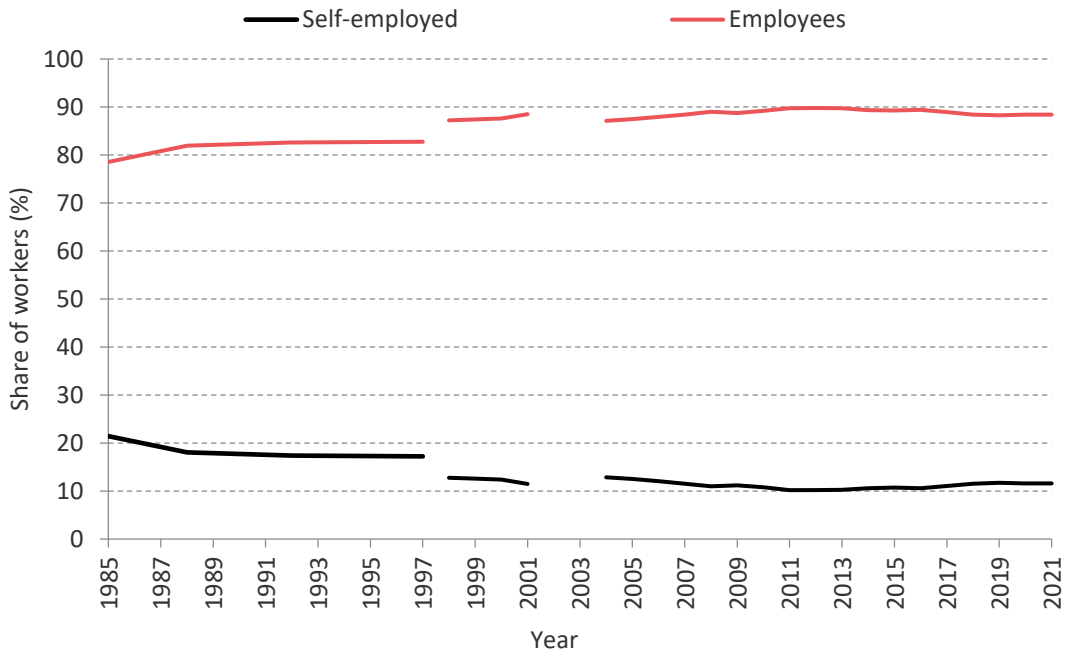
4.5 Self-employment

In this section we investigate the relative importance of self-employment. In contrast to the UK report, we have used the sum of employees and the self-employed as denominator instead of all persons aged 25–60. The figures 22–24 in this section represent the percentage of employees or self-employed among the group of self-employed plus employees. Belgian data do not always allow a distinction to be made between the self-employed with and without personnel, and in cases where it is possible, sample sizes are too small to make reliable distinctions.

Figure 22 shows that the relative number of self-employed among the group of employees and self-employed together is decreasing over time. Only the last four years there is again a small increase in the percentage of self-employed.

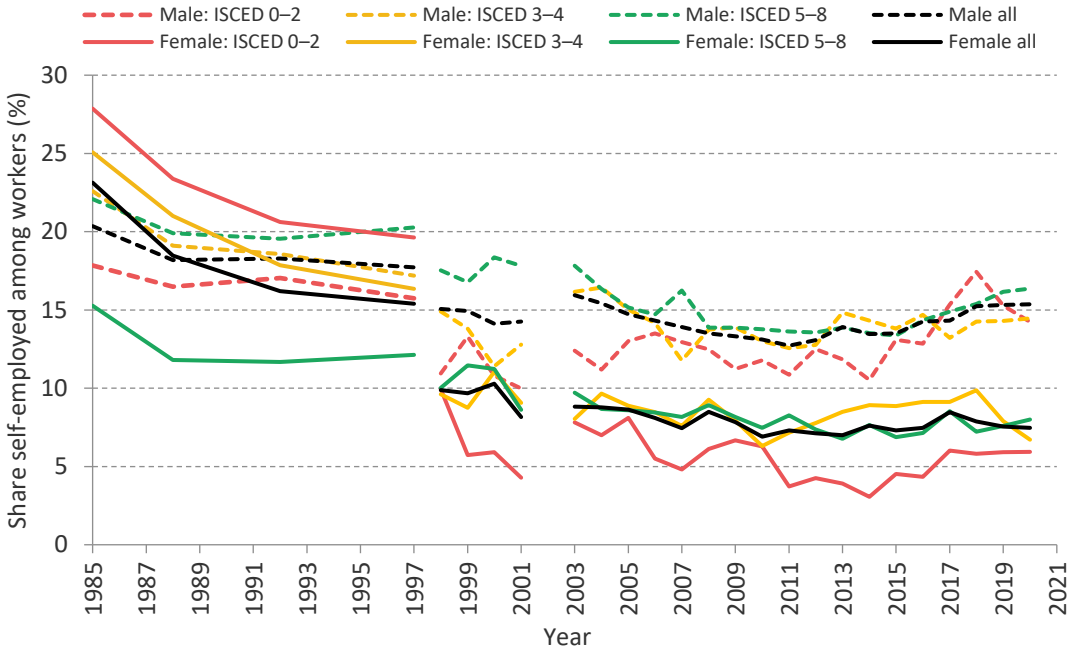
Figure 23 breaks down this figures further by education and sex groups. In the period 1985–97 more low-educated than middle-educated women were self-employed, and, in turn, there were more self-employed women within the middle-educated group than among the highly educated. Notwithstanding a few exceptions, the reverse picture holds for males over the entire observation period: there are more self-employed among middle- and highly educated than among the low-educated. From the end of the 1990s this also holds for women. While in 1985, there were still relatively more females self-employed than men, this picture reverses from the end of the 1980s onwards.

Figure 22. Share of employees and self-employed workers, over time



Note: Employed and self-employed individuals aged 25–60. Employment based on self-reported status. *Source*: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 23. Share of self-employed by sex and education, over time

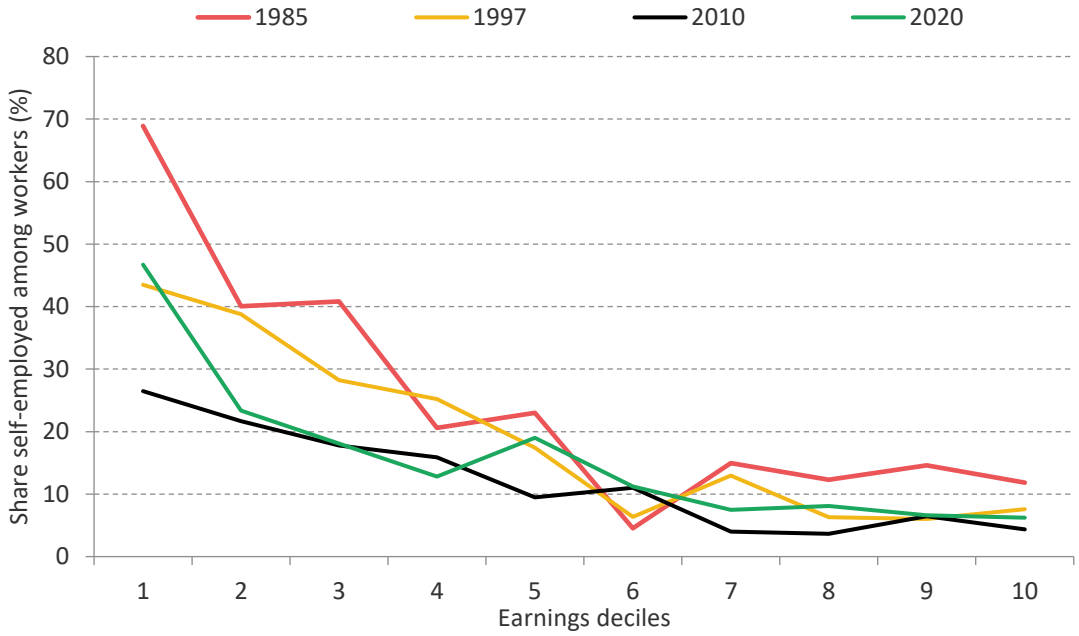


Note: Employed and self-employed individuals aged 25–60. Employment based on self-reported status.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 24 shows that the share of self-employed is predominantly decreasing across the earnings distribution, and this picture does not change over time. Whether the higher incidence of self-employed among the lower earnings deciles reflects a social reality or is a consequence of underestimating or underreporting of incomes by the self-employed cannot of course be answered on the basis of the data at our disposal.

Figure 24 contradicts our conclusions from Figure 20, that the lowest decile would be fully covered by low earnings stemming from administrative registers in 2020, as nearly half of the decile is accounted for by self-employed, whose earnings are self-reported.

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



Note: Employed and self-employed individuals aged 25–60. Employment based on self-reported status.
Source: SEP 1985, 1997; EU-SILC 2011 and 2021.

5. Labour market institutions

This section looks at labour market institutions that affect earnings and incomes: minimum wages and collective bargaining.

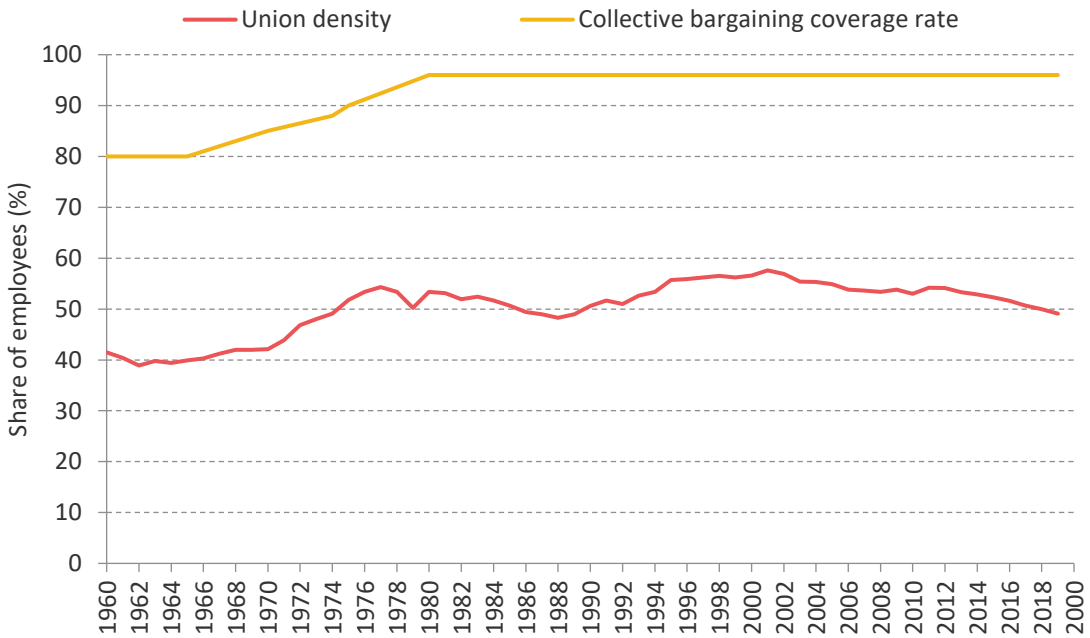
5.1 Minimum wage and unions

In Belgium, minimum wages are sector- and profession-specific (see Section 2.1). There is also a nationwide minimum wage, but we do not have historical data on this at our disposal. So, we cannot provide a chart on the bite of the minimum wage in Belgium.

Figure 25 illustrates that in 1960 collective bargaining in Belgium already covered 80% of the employees, and this gradually increased to almost full coverage (96%) from 1980 onwards. This persistent high coverage rate has to do with the Belgian consultative economy model that emerged in the aftermath of World War II (see Section 2.1).

Union density is also high, and increased from 40% in 1960 to well over 50% in the late 1970s and early 1980s of last century, to fall again under 50% in 1988. It then increased again in the 1990s to over 55%. In the last two decades, it declined again to about 50%. Belgian has a system of rather powerful national trade unions (their role in the collective bargaining committees is explained in Section 2.1). The high trade union density potentially has to do with the transition of these organisations to mainly offering help with administrative formalities and legal advice to their members, rather than organising strikes and other actions to protect or advance workers' rights. They also serve as the bodies paying unemployment benefits to their members.

Figure 25. Union density and proportion of workers covered by collective bargaining agreements, over time



Note: The sample is all employees.

Source: OECD.Stat: collective bargaining coverage and trade union density.

5.2 The tax and benefit system

All persons who have worked a sufficiently long period without interruption are covered by the Belgian unemployment insurance system. There are three categories of unemployment benefits: for single persons, for persons cohabiting and responsible for other household members (who not necessarily need to be children), and for persons cohabiting without dependent household members. Under the current legislation, benefits for the three categories are identical during the first 3 months. The replacement rate is fixed at 65% during that first period. There is, however, a maximum benefit (reducing the replacement rate for persons with higher income) and a minimum (increasing the replacement rate for persons with low income). Currently, unemployment benefits gradually decline over a maximum period of 4 years, after which they are fixed at a level independent of income. The rate at which they decline is higher for cohabiting persons than for singles and members cohabiting with persons in charge (see also Section 2.2).

In Figures 26–28 we study some properties of the tax and benefit system. More specifically, we calculate an approximation to the average benefit to gross income ratio (Figure 26), the average tax ratio (Figure 27), and the average disposable income to gross income ratio (Figure 28). The first is defined as the sum of all gross benefits (we include unemployment benefits, old age and survival pensions, sickness and disability benefits, social assistance and family allowances) over gross income which is defined as the sum of earnings, private pensions, income from real estate (not including imputed rents from owner-occupied houses), financial capital income, and income from private transfers, plus gross benefits. In Belgium most social benefits are taxable. Child allowances and social assistance are an exception. The denominator of the next two ratios is the same as the first (gross household income). The numerator of the disposable income to gross income ratio is disposable income. Taxes are implicitly defined as gross income (which includes benefits) minus disposable income, so that the tax ratios of Figure 27 are equal to 1 minus the disposable to gross income ratios of Figure 28. We study the properties of these ratios through the distribution of equivalised disposable incomes of the population aged 25–60. More specifically, the benefit, tax and disposable income ratios for each of the four quartiles of this income distribution are represented in Figures 26–28.

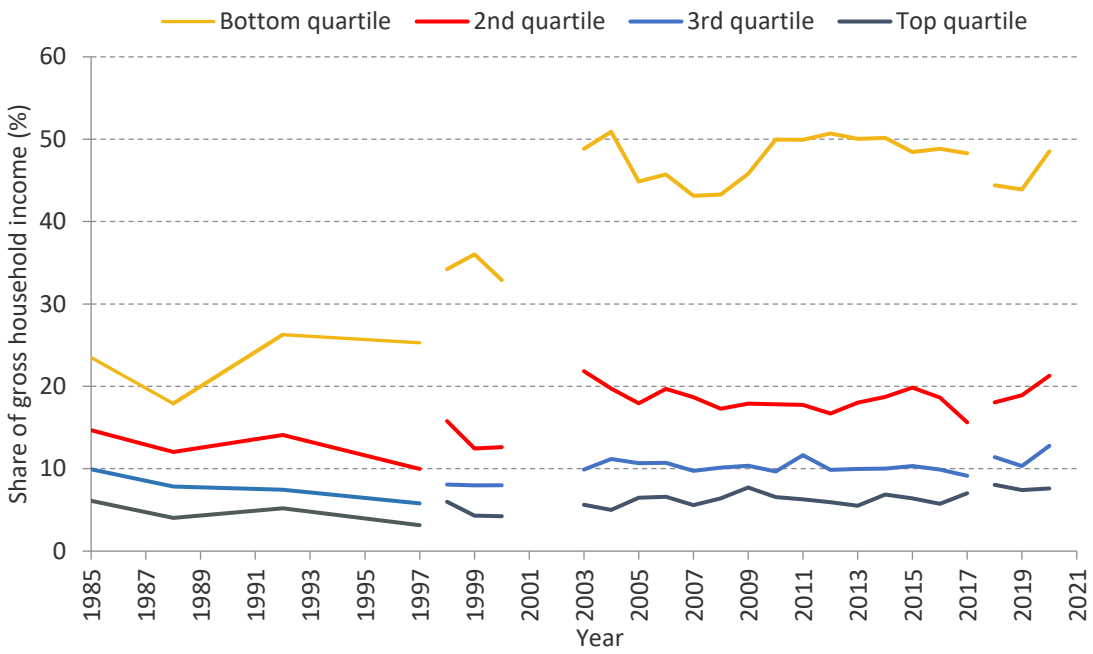
Unfortunately these figures do not reproduce some known facts about the evolution of the Belgian tax and benefit system. For example, a number of tax reforms caused a decrease in the average tax rate between 2014 and 2020, which we do not really uncover in Figure 27. On the other hand, the increase in the average tax rate from 1992 to 1997 does correspond to a period of pronounced austerity, with tax increases and reductions in government expenditures, in order to fulfil the access-conditions set by the European Union (Maastricht norm) for the euro zone. Also, the decrease of the tax rates after 2004 can potentially be ascribed to a personal income tax reform in 2001–04 that decreased the average tax rate.

Since 2007 there has been a structural mechanism to adapt social benefits to real wage growth. Decisions are taken every 2 years on how to spend the money allocated in the budget for that purpose. These decisions will determine how the affected persons are spread over the income distribution. Besides that, there were a series of welfare adjustments of social benefits, including a rise in the minimum amounts of those benefits, between 2000 and 2008 (Fasquelle, Festjens and Scholtus, 2008). Because of that, the trough of the benefit ratio for the lowest quartile between 2004 and 2011 comes as a surprise. Admittedly, the budget for adapting social benefits to real wage growth has been used predominantly to adapt the minimum pensions, which have little effect on the population aged 25–60. The declining trend of the benefit ratios in the 1990s is in line with the budgetary austerity policies during that period.

It is most remarkable that the tax and disposable income ratios of the first and second quartile of the equivalised disposable income distribution are close to each other during the last decade.

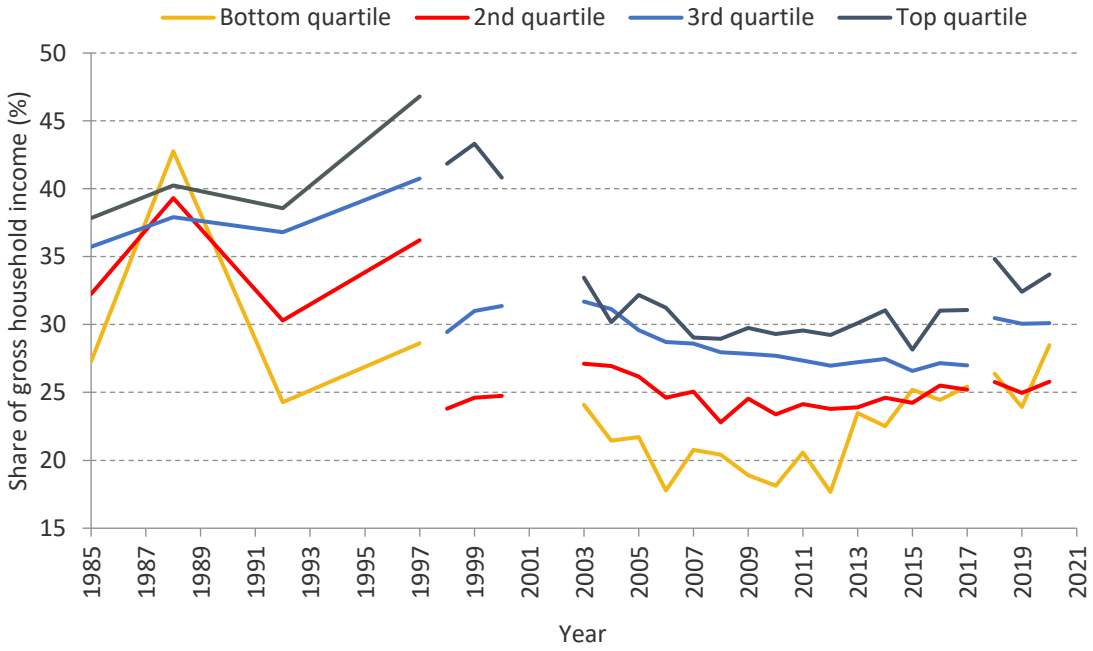
The data for 1988 seem to be unreliable.

Figure 26. Benefits as a proportion of gross household income, by net household income quartile



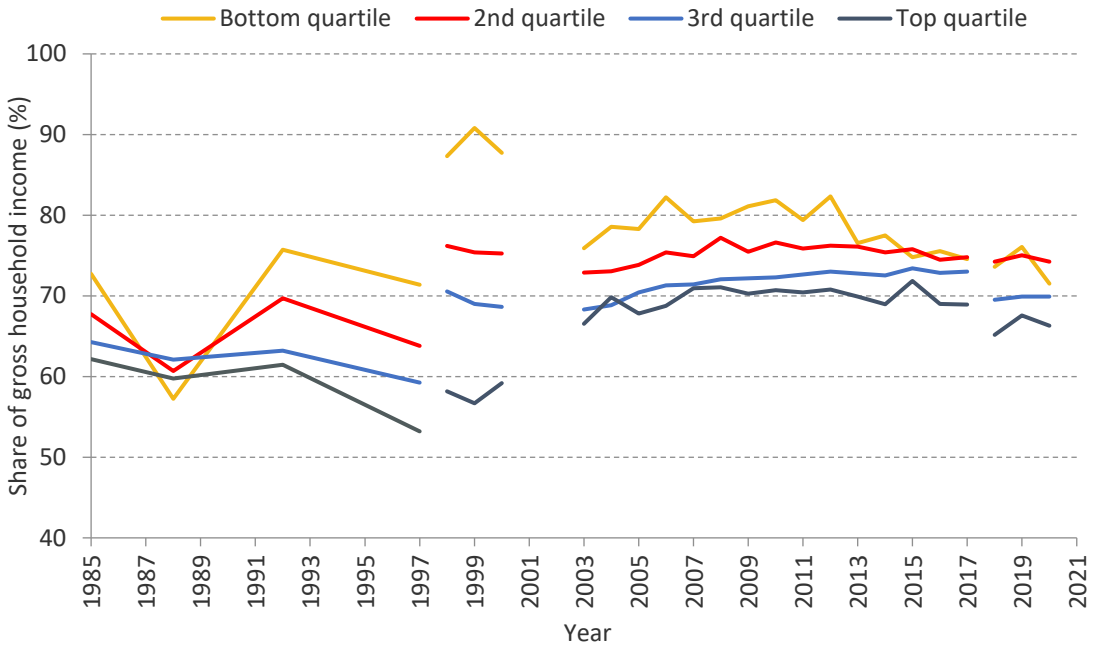
Note: Quartiles are constructed on the basis of equivalised disposable income of the household, and each quartile contains 25% of the individuals aged 25–60. The figures in the graph represent the ratio of total gross benefits of the households to which the individuals of a particular quartile belong, to total gross income of those households.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

Figure 27. Taxes as a proportion of gross household income, by net household income quartile



Note: Quartiles are constructed on the basis of equivalised disposable income of the household, and each quartile contains 25% of the individuals aged 25–60. The figures in the graph represent the ratio of total taxes paid by the households to which the individuals of a particular quartile belong, to total gross income of those households.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

Figure 28. Disposable income as a proportion of gross household income, by net household income quartile



Note: Quartiles are constructed on the basis of equivalised disposable income of the household, and each quartile contains 25% of the individuals aged 25–60. The figures in the graph represent the ratio of total disposable of the households to which the individuals of a particular quartile belong, to total gross income of those households.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

6. Household incomes

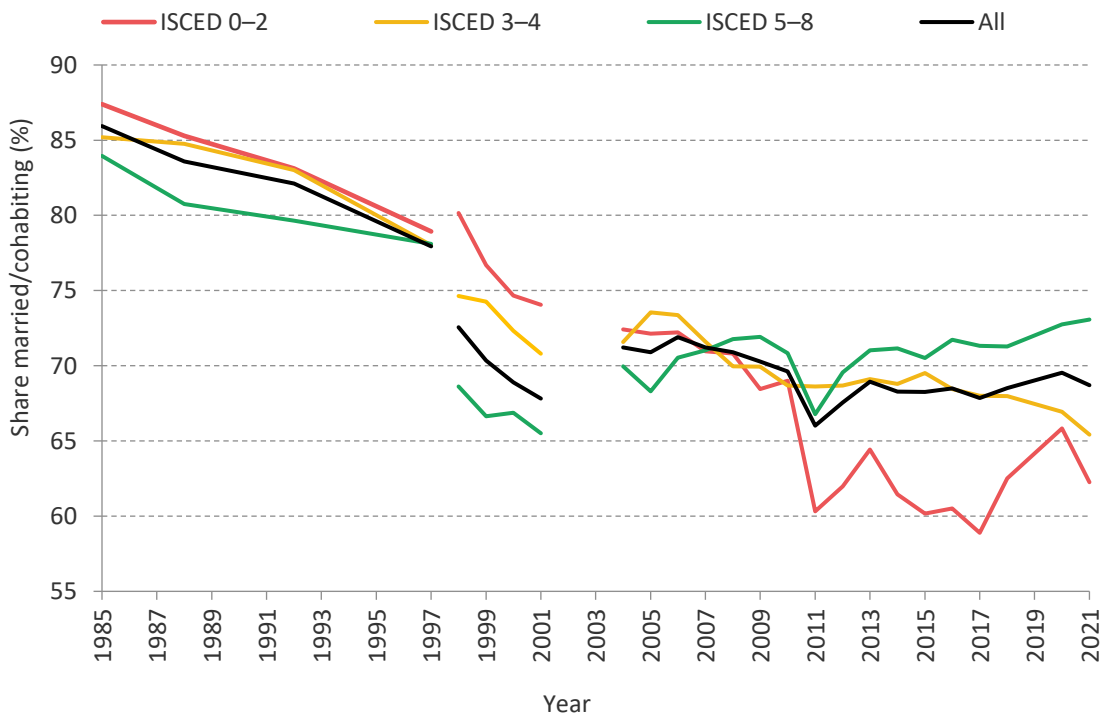
This section looks at trends in household incomes. We start by looking at trends in household composition and the degree of assortative matching, which partly determine household earnings. We then compare trends in household earnings and household disposable income for working households, drawing out 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

In Figures 29, 32, and 33, we do not use SILC 2019 data, as there is a problem with the identification of the partner in the raw data.

Figure 29 shows the number of persons who are cohabiting as a couple over time. This number has been declining considerably over time, from over 85% to less than 70% today. However, the declining trend seems to have been stopped in the last decade. While at the end of the previous and the beginning of the present century cohabiting with a spouse or partner was more predominant among lower-educated people, this picture reverses during the last decade and a half. Cohabitation continues to decline among the middle-educated, but is on the rise again among the highly educated.

Figure 29. Share married/cohabiting, overall and by education, over time



Note: Sample is individuals aged 25–60. SILC 2019 data are not used because there is a problem with the identification of partners in the raw data.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–18, 2020–21.

Figure 30 investigates the relation between employment and living in a couple, across the earnings distribution. The yellow lines show the respective percentage of females (left panel) and males (right panel) who are married or cohabitating, per earnings decile. For example, in 1985, 72% of the women aged 25–60 and belonging to the highest earnings decile among the females, are married or cohabitate with a partner (last point on the yellow line of the upper left panel). The yellow triangle represents the same share of cohabitating or married females who do not work (and thus have no earnings). The red lines and squares present the respective shares of the females (left panel) and male (right panel) partners whose partner is working, again across the income decile. For example, 82 percent of married or cohabitating males belonging to the highest earnings decile have a partner who works.

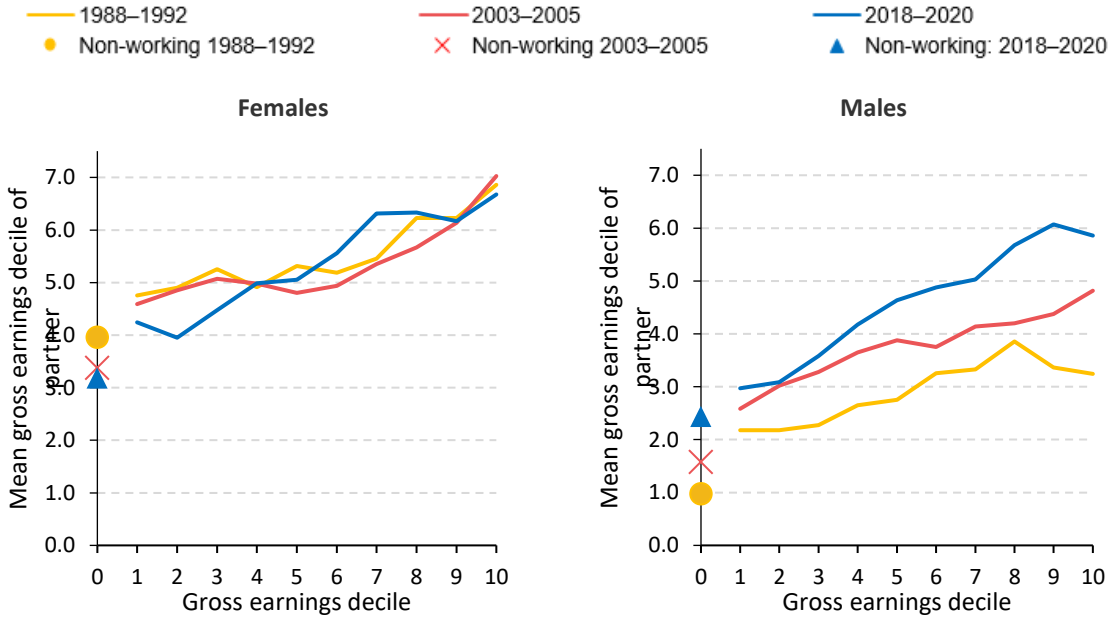
In 2020, both, the probability of cohabiting with a partner (yellow line) and, conditional on being married or cohabitating, the probability that the partner is working (red line), is increasing for males (bottom right panel). For females (bottom left panel) these figures are roughly increasing for the lower earnings deciles and exhibit a little bump between the sixth and tenth decile. The profile of these probabilities is flatter for males in 2004 and 1985 (middle and upper right panel); the conditional probability that the partner works even slightly decreases across deciles in 1985. For females these profiles are almost flat in 2004 and 1985, and the probability of cohabiting with a partner declines through the earnings distribution in 1985. So, over years, the probability to have a partner has become more positively correlated with the own employment status and the place in the earning distribution if working, and the same holds true for the probability that your partner is working, when you are cohabitating.

Figure 30. Share married/cohabiting and share with working partner, by sex and individual gross earnings decile, selected years

Note: Sample is individuals aged 25–60. The proportion with a working partner is conditional on being married/cohabiting.
Source: SEP 1985, EU-SILC 2004, 2020.

To investigate the evolution of assortative mating with respect to earnings, Figure 31 shows the average decile rank of the partner of, respectively, male and female decile groups. The slope of such a curve is a measure for the correlation between the earning deciles of the respective partners. The decile rank of non-working partners is coded as a zero. The line corresponding to the more recent years 2018–20 is somewhat steeper than those for the earlier periods (2003–05 and 1988–92). This means that the correlation between earnings deciles of partners has increased. The average decile rank of the males' partners is also increasing over time, meaning that in more recent years, males cohabit with relatively higher-ranked partners in their gender-specific earnings distribution, irrespective of the males' own rank in the male-specific earnings distribution.

Figure 31. Mean gross earnings decile of partner/spouse by individual's gross earnings decile, selected years

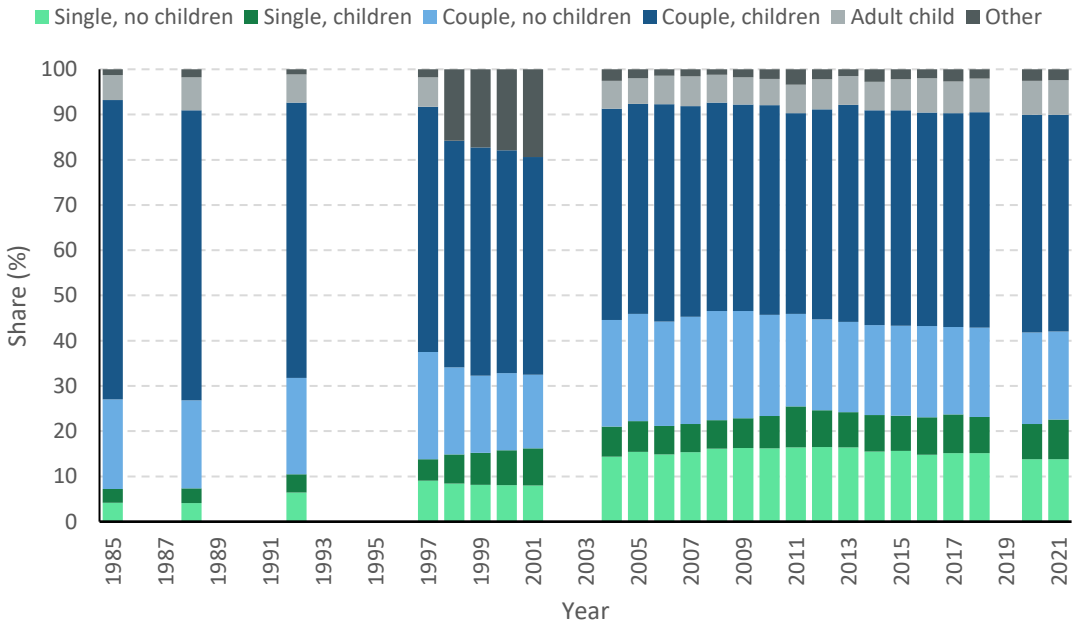


Note: Sample is individuals aged 25–60 who are married or cohabitate. The horizontal axis indicates the decile group to which a person belongs according to the gender-specific gross earnings distribution of the survey/year to which (s)he belongs; a non-working person belongs to decile group 0. The values on the vertical axes are the averages for each gender-specific earnings decile over a 3-year period. (For the SEP years only two years, 1988 and 1992, are available).
Source: SEP 1988, 1992; EU-SILC 2003–05 and 2018–20.

Figure 32 and 33 give an overview of the position the population aged 25–60 take in the households they belong to. For the ECHP surveys (1998–2001), we cannot isolate adult children from other household members. They are therefore pulled together in the category 'other'. We do not reproduce the results for SILC 2019 as there is a problem with the identification of the partner in the raw data.

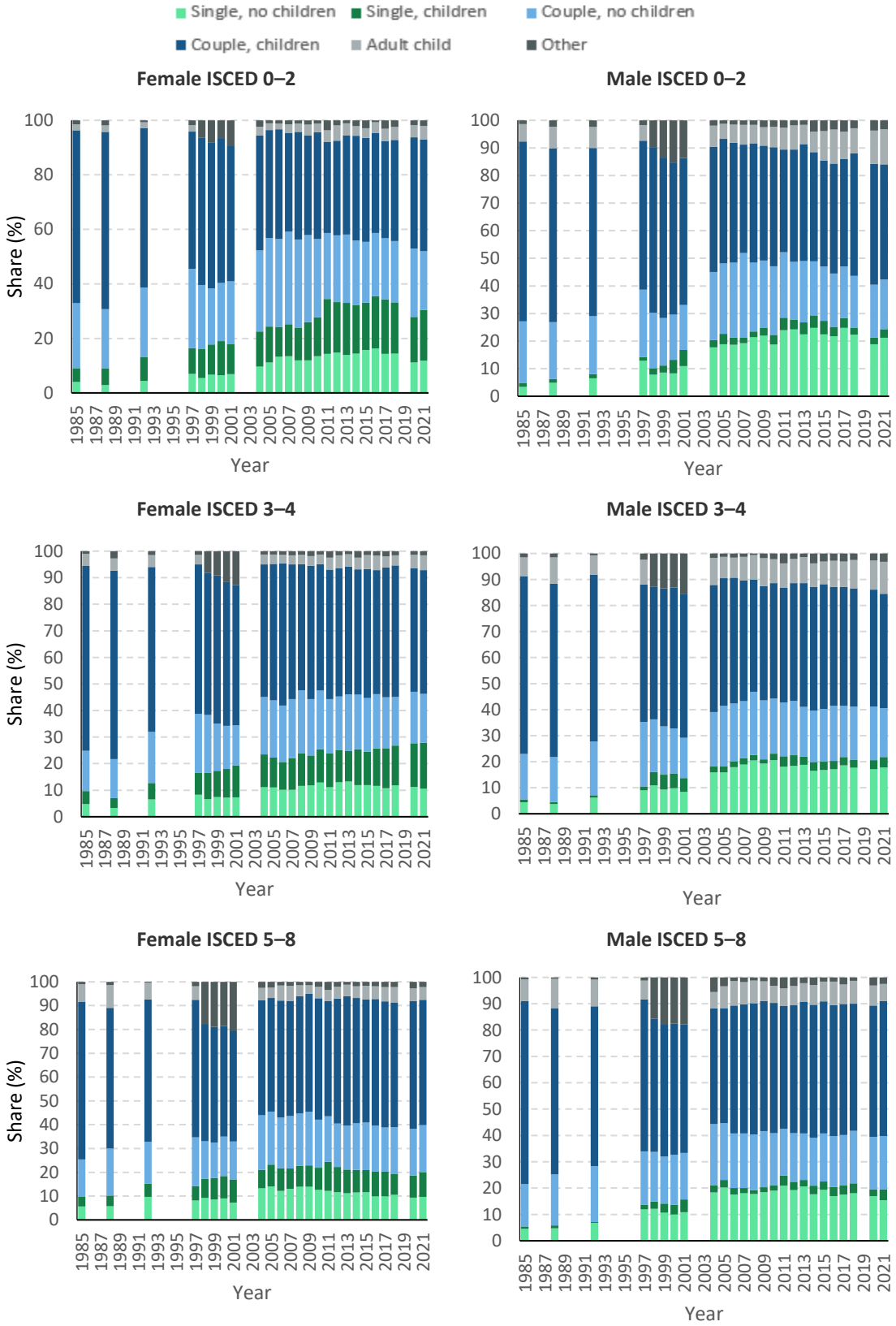
Figure 32 demonstrates the increase in the fraction of singles (with and without children) and also of the increasing importance of adult children in the household. The decomposition by education level in Figure 33 shows that this decline in 'standard' couples which is matched by an increase in singles with or without children, is most outspoken in the subpopulation of the low-and middle educated.

Figure 32. Share of individuals by position in the household, over time



Note: Sample is individuals aged 25–60. Children are persons in a 'child' relationship to the reference person of the household, or bear the relationship "child" to another person in the household (for SILC only).
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–18, 2020–21.

Figure 33. Share of individuals by position in the household, by sex and education, over time

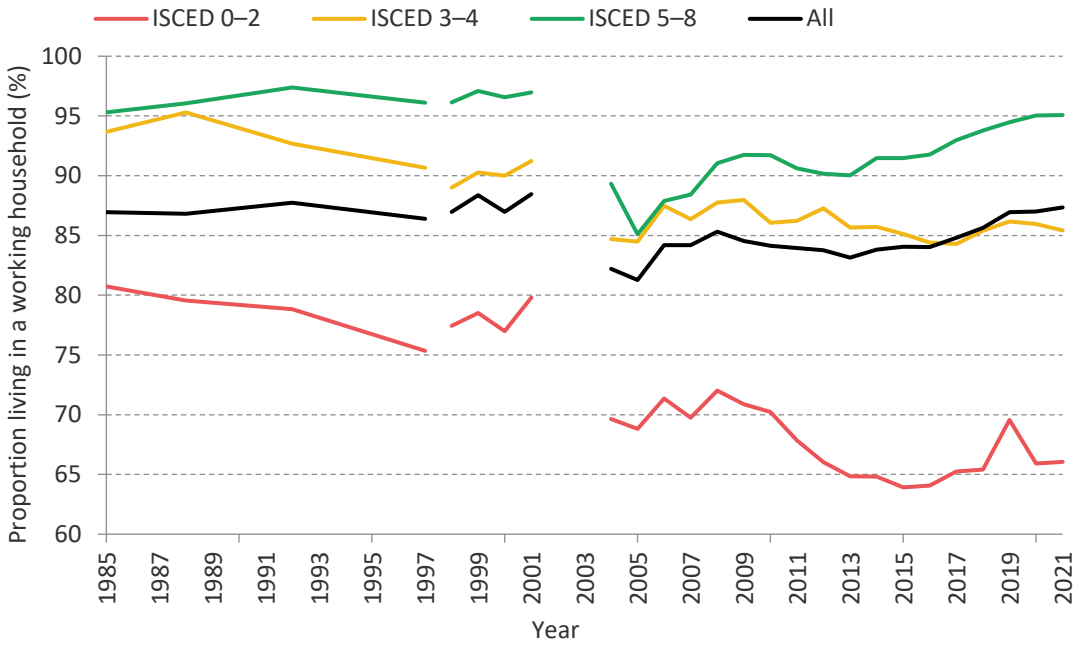


Note: Sample is individuals aged 25–60. Children are persons in a 'child' relationship to the reference person of the household, or bear the relationship "child" to another person in the household (for SILC only).
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–18, 2020–21.

6.2 Earnings and incomes among working households

Figure 34 shows the share of persons living in a household where at least one person works (defined as a 'working household'). Overall, the proportion of persons living in a working household has been rising in the last decade, while it was relatively constant at the end of the previous century. Most striking is the fact that the proportion of persons living in working households is consistently higher, the higher the level of education. Moreover, this gap has widened during the last decade.

Figure 34. Share of individuals in a working household, overall and by education, over time



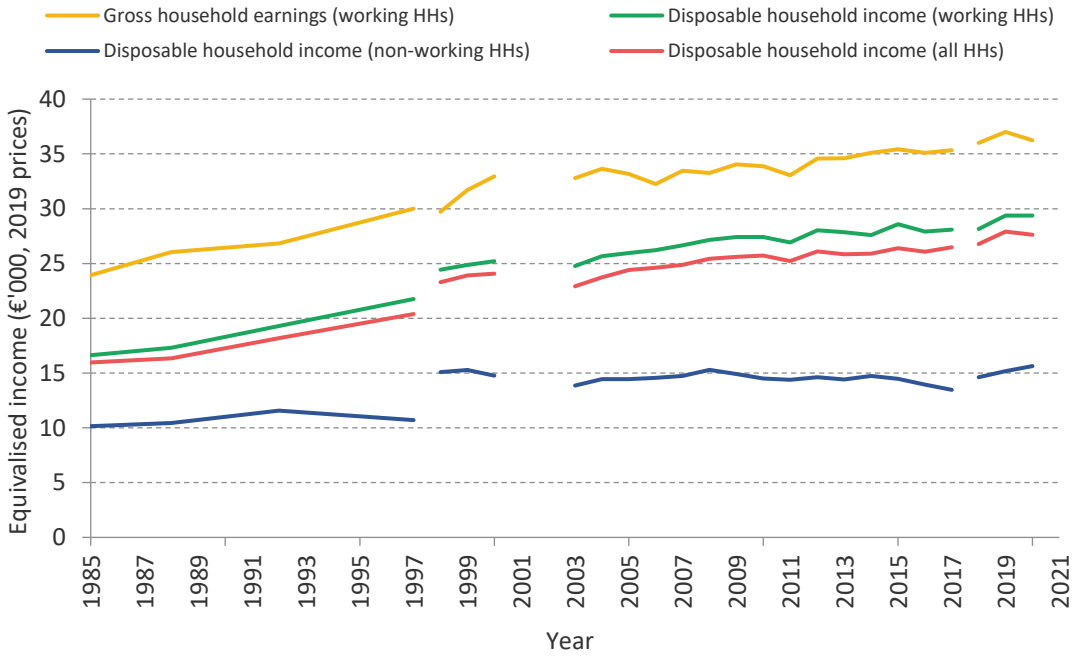
Note: Individuals aged 25–60. A working household is defined as a household in which at least one adult is in work, which in turn is based on self-reported status.

Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 35 shows the median equivalised gross household earnings (the sum of all earnings in the household) for working households, and the median equivalised disposable income for both working and non-working households. Medians are calculated with respect to the population of persons aged 25–60 belonging to working households, non-working households, or overall. Household earnings are the sum of all earnings of household members.

The figure illustrates that the tax and benefit system is redistributing income from working households to non-working households. Nevertheless, the gap between equivalised disposable income of individuals living in a household with working members and of those living in households in which nobody works, widens over time.

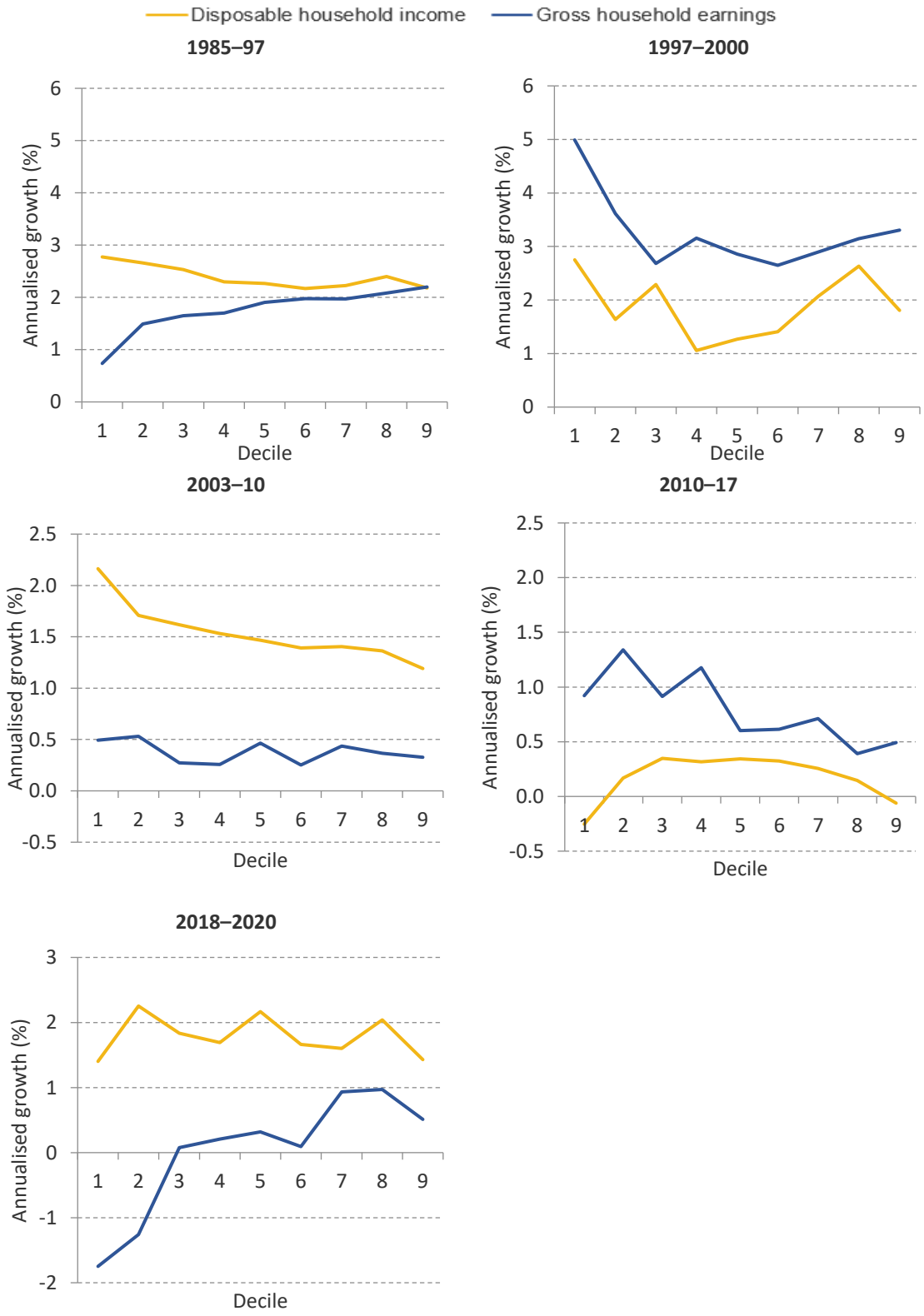
Figure 35. Median real gross household earnings and disposable household income among working households, over time



Note: Individuals aged 25–60 in working households (yellow and green lines), non-working households (blue lines), and all households (red line). A working household is defined as a household in which at least one adult is in work, which in turn is based on the self-declared activity status of the individuals. All incomes have been equivalised using the modified OECD equivalence scale, and are expressed in 2019 prices.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1998–2001; EU-SILC 2004–21.

Figure 36 shows GICs for equivalised gross household earnings and equivalised disposable income of the population of persons aged 25–60 who belong to working households. The deciles are calculated for this population. The growth of real equivalised disposable incomes between 1985 and 1997, 2003 and 2010, and 2018 and 2020 is higher than the corresponding growth of gross equivalised earnings. The reverse happens between 1997 and 2000 and between 2010 and 2017. The growth pattern of equivalised gross household earnings between 1985 and 1997 is unequalising, while that of equivalised disposable income is equalising. For other periods, there is no such an opposing pattern. The periods 1997–2000 and 2010–17 are characterised by an unequalising growth pattern of gross equivalised household earnings. The growth pattern of equivalised disposable income is equalising during the period 2003–10.

Figure 36. Annualised growth in real gross household earnings and household disposable income for working households, by deciles, selected years



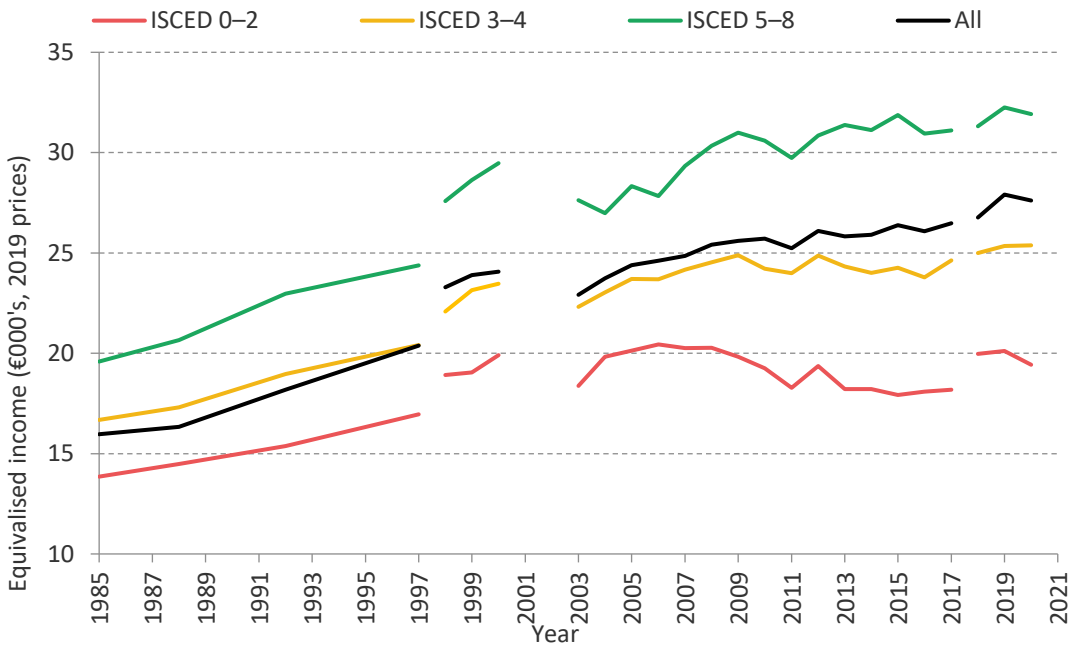
Note: Individuals aged 25–60 in working households. A working household is defined as a household in which at least one adult is in work. All incomes have been equivalised using the modified OECD equivalence scale. Deciles are for the population of persons aged 25–60 belonging to working households. Deciles are constructed separately for equivalised gross household earnings and equivalised disposable income.

Source: SEP 1988, 1992; ECHP 1998, 2001; EU-SILC 2004, 2011, 2018, 2019, 2021.

6.3 Inequality in incomes among all households

In the present subsection we concentrate on the evolution of inequality of equivalised disposable incomes within the population aged 25–60 years. There was a continuous real growth in equivalised disposable income over the entire period, with only four exceptions, 2011, 2013, 2016, and 2020. Figure 37 suggests further that the gap between equivalised disposable incomes of higher educated people and that of lower (middle and low) educated people widens over time.

Figure 37. Median real disposable household income for all households, by education, over time



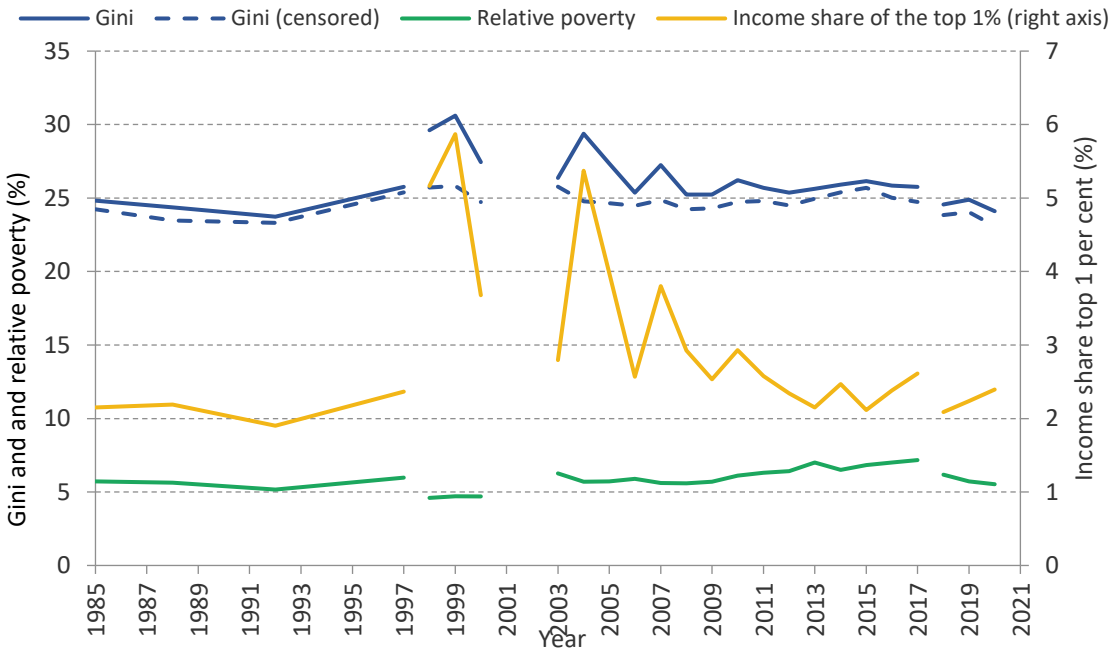
Note: Individuals aged 25–60. Yearly incomes are in 2019 prices. All incomes have been equivalised using the modified OECD equivalence scale.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

Figure 38 displays the Gini, the risk of poverty (head count ratio), the top 1% share, and quantile ratios for equivalised disposable income of the population aged 25–60. For the Gini (full blue line), negative values are not included. The dashed blue line displays the Gini calculated on the basis of a censored version of the equivalised disposable income distribution: negative values have been set to zero and incomes among the top 1% are replaced by the 99th percentile value.

First, we observe that the Gini coefficient is relatively constant over time. The upward jump in inequality of gross earnings when SILC began to collect part of the incomes through administrative data in 2019, incomes from 2018 (cf. Figures 19 and 20), does not turn up in the equivalised disposable income evolution of inequality.

The inequality (blue lines) and poverty (green lines) statistics do not move in parallel. This illustrates that poverty and inequality are quite different notions. The figures for the top 1% share are too volatile to draw reliable conclusions.

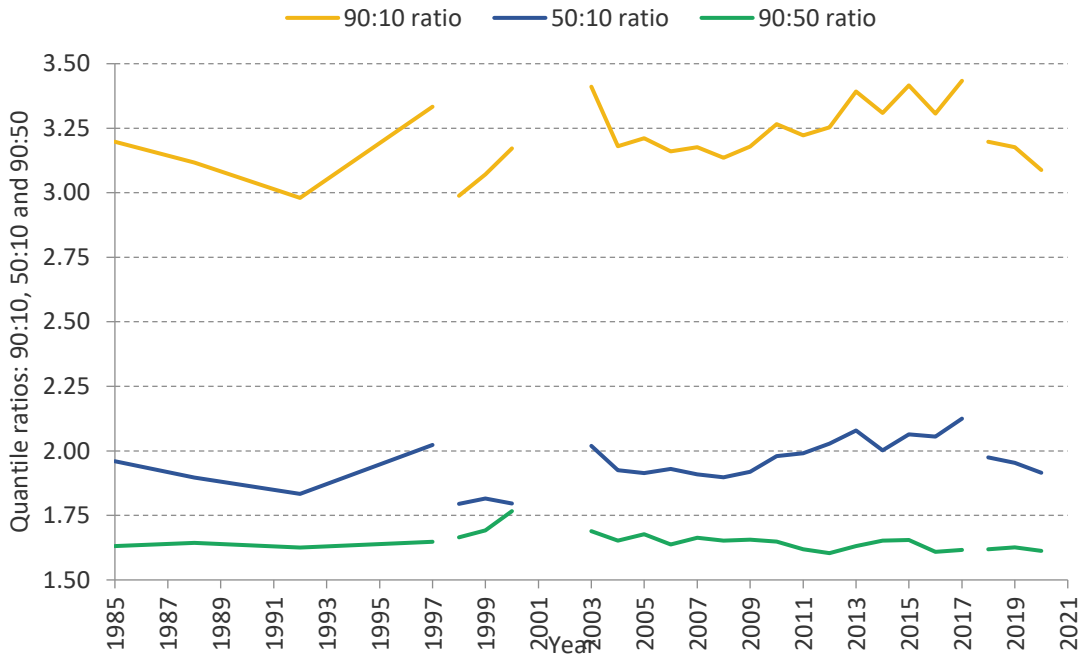
Figure 38. Gini, relative poverty and top 1% share of net household income for all households, over time



Note: Individuals aged 25–60. The calculation of the Gini does not include negative incomes but does include zeros. The winsorised Gini uses a censored equivalised disposable income distribution, with negative values set to zero and incomes above the 99th percentile set to the 99th percentile value. The relative poverty rate is defined as the proportion of people living in households with less than 60% of the median of the equivalised income distribution. All incomes have been equivalised using the modified OECD equivalence scale.
Source: SEP 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

Figure 39 shows the 90:10, 90:50, and 50:10 quantile ratios. Observe that the 50:10 ratio is systematically higher than the 90:50 ratio, indicating that inequality in the lower middle part of the distribution might be as important as inequality in the upper middle part, for the overall level of inequality. Between 1985 and 1997 it is the bottom decile that is causing the movements in the 90:10 and 50:10 ratio. For the period 1998–2000 the ratios indicate that incomes at the top increased faster than the median and the bottom decile. Between 2008 and 2017, the 90:10 and 50:10 ratios exhibit an increasing trend, while the 90:50 ratio is relatively constant. This indicates especially that equivalised disposable incomes at the bottom of the distribution are lagging behind those from the upper half of the distribution during that period.

Figure 39. Percentile ratios of equivalised disposable household incomes for all households, over time



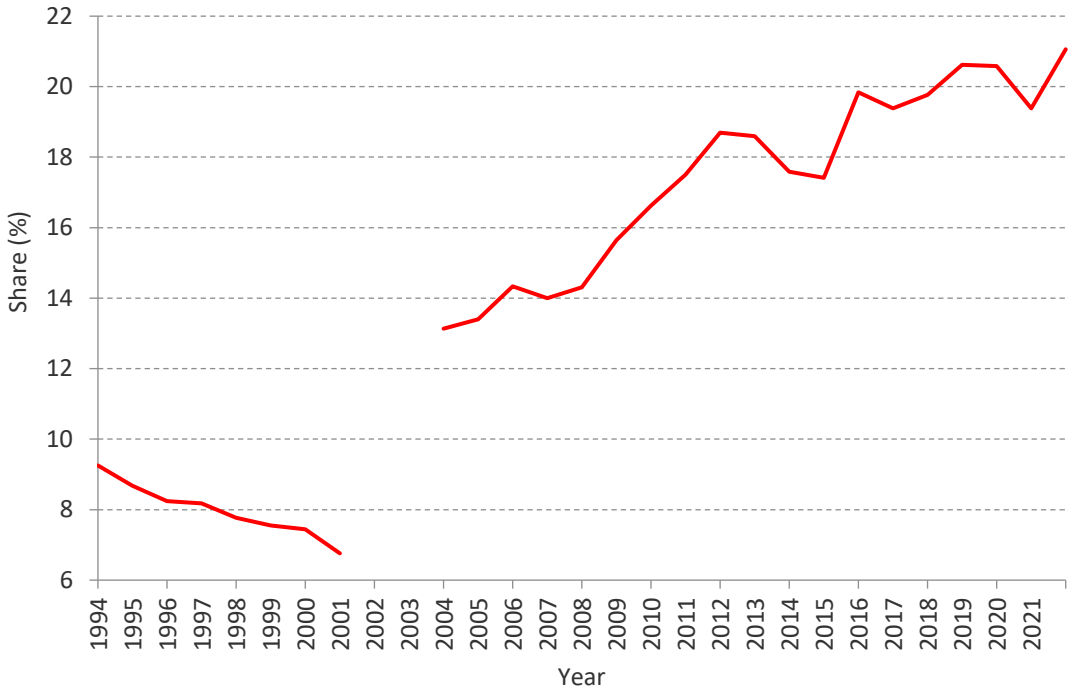
Note: Individuals aged 25–60.
Source: SEP : 1985, 1988, 1992, 1997; ECHP 1999–2001; EU-SILC 2004–21.

7. Immigrant outcomes

In this section we compare the situation of natives with those of immigrants. A person is defined to be an immigrant if (s)he is not born in Belgium. Note, however, that the reference population of the surveys are people listed in the national register. Undocumented persons and asylum seekers awaiting a decision on their request for refugee status are not included in these surveys. Years in Figures 40–42 refer to survey years, not income years.

We have no information on the migration status for respondents belonging to the SEP waves of our data (1985, 1988, 1992, 1992). We therefore use data from the earliest year of the ECHP onwards (1994) in this section. For the ECHP surveys (1994–2001), there is a non-negligible proportion of respondents (7–12%) whose migration status we do not know. They are counted as non-migrants.

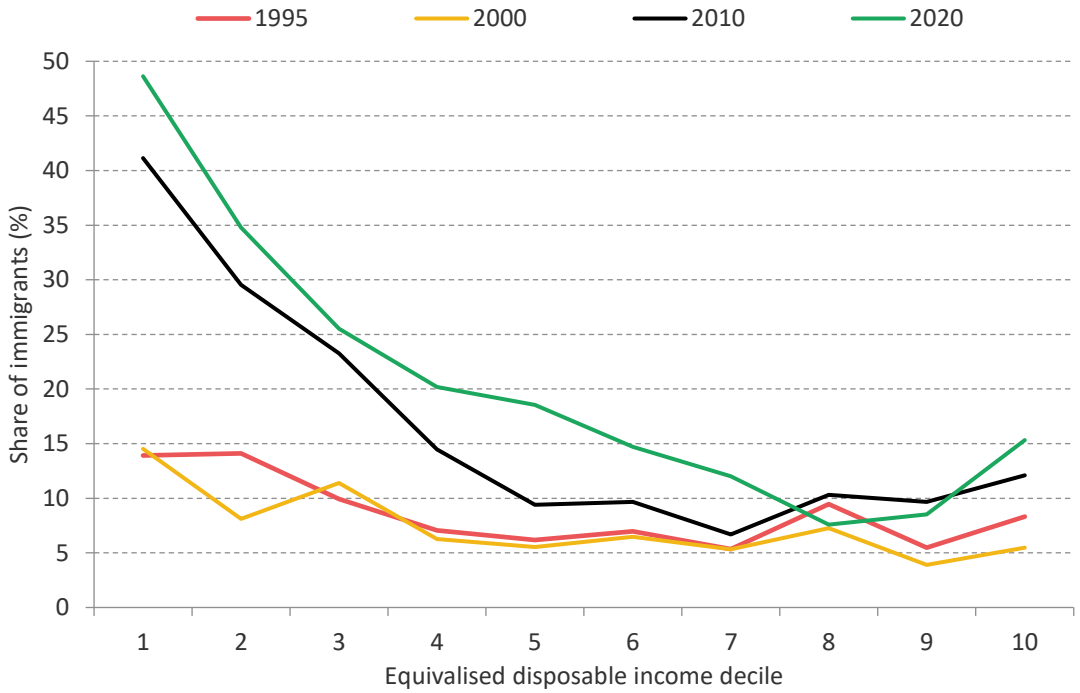
Figure 40. Share of immigrants in the population, over time



Note: Individuals aged 25–60. An immigrant is someone not born in Belgium.
Source: ECHP 1994–95, 1997–2001; EU-SILC 2004–21.

In Figure 41 we study the share of the migrant population across the distribution of equivalised disposable income. The more recent curves are steeper, indicating that migrants are more concentrated in the lower income deciles than before. With the exception of the eight decile point in 2020, the overall position of the curves for 2020 and 2010 is above the ones for 1995 and 2000 because the number of immigrants has continuously increased.

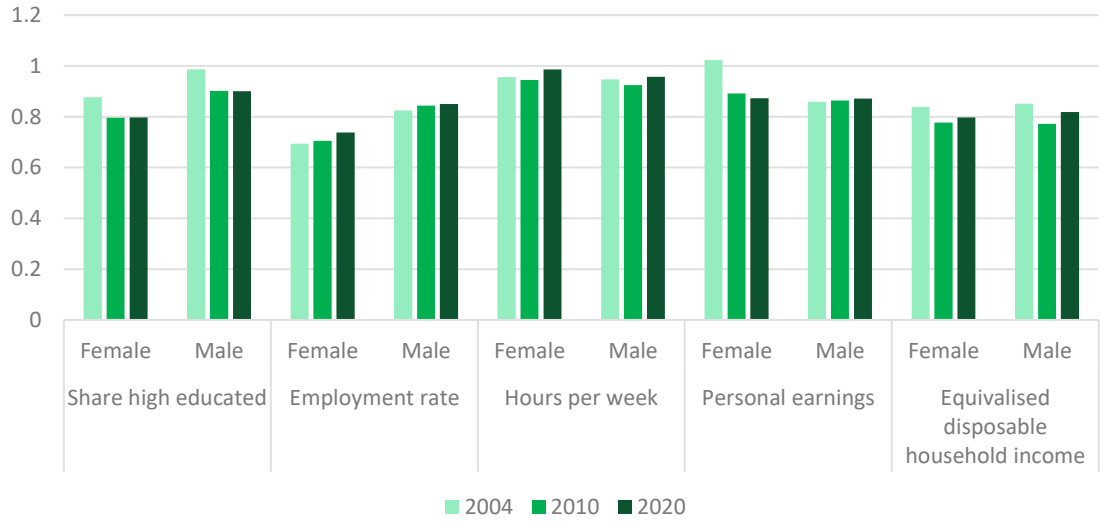
Figure 41. Share of immigrants in population, by equivalised disposable income distribution over time



Note: Individuals aged 25–60. An immigrant is someone not born in Belgium.
Source: ECHP 1995, 2000; EU-SILC 2010, 2020.

Not surprisingly, migrants are lagging behind natives in almost all outcomes (Figure 42). The only exception are the personal earnings of female migrants in 2004. In 2004 also, migrants scored lowest *vis-à-vis* natives in terms of employment. While increased from 0.69 to 0.74, the relative employment rate of migrant females continued to be the lowest outcome in 2010 and 2020. For males, however, the ratio of equivalised disposable income of migrants to that of natives became even lower than the corresponding employment rate ratio in 2010 and 2020. While the ratio of female migrants' to natives' employment rate has gone up from 0.69 in 2004 to 074 in 2020 and their number of hours worked (conditional on working) has become approximately equal to that of natives in 2020, the personal earnings (conditional on working) ratio deteriorated from 1.02 to 0.87. So, while relatively more female migrants have a job in 2020 than in 2004 and the labour time of their jobs also increased relatively to that of native females, they earn relatively less. This implies that migrant females have increasingly been sorted into relatively less paying jobs. The education gap between migrants and natives is now larger than in 2004.

Figure 42. Outcomes of immigrants relative to native-born population, by sex and over time



Note: Individuals aged 25–60. An immigrant is someone not born in Belgium. A bar higher (lower) than 1 indicates the outcome is higher (lower) among the immigrant population. Hours per week and personal earnings are conditional on working.
Source: EU-SILC 2004, 2010, and 2020.

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9. Data appendix

For Belgium most of the figures are based on three sets of microdata on living conditions: the Socio-Economic Panel (SEP) covers the years 1985, 1988 (telephone survey), 1992, and 1997; the European Community Household Panel (ECHP) covers the years 1994–2001; and the EU Statistics on Income and Living Conditions (EU-SILC) covers the period 2004–21.

The harmonisation and concatenation of these datasets is part of the BELSPO-BRAIN project BE-PARADIS (B2/191/P3/BE-PARADIS). Differences in methodologies between surveys and, possibly, imperfections in the construction of the sample weights for the ECHP result in quite large differences in results for the same statistic drawn from different surveys for overlapping years. We are therefore reluctant to draw time trends connecting results from different surveys. For the period 1985–97 we use the SEP. For 1998–2001 we use the ECHP, and 2004–21 is covered by EU-SILC.

For the ECHP and EU-SILC income information applies to the (full) year preceding the survey year. For the SEP it applies to the month preceding the moment the interview. For the SEP and ECHP, gross incomes are reconstructed from answers on net incomes in the questionnaire using microsimulation techniques. For EU-SILC, gross incomes result from questionnaires up to 2017 (EU-SILC 2018). From 2019 onwards (2018 for incomes) data on gross incomes from employment, pensions, and social security benefits are drawn from tax registers. Because of this methodological change in the SILC survey we do not connect the 2017 and 2018 points in the figures based on this information.

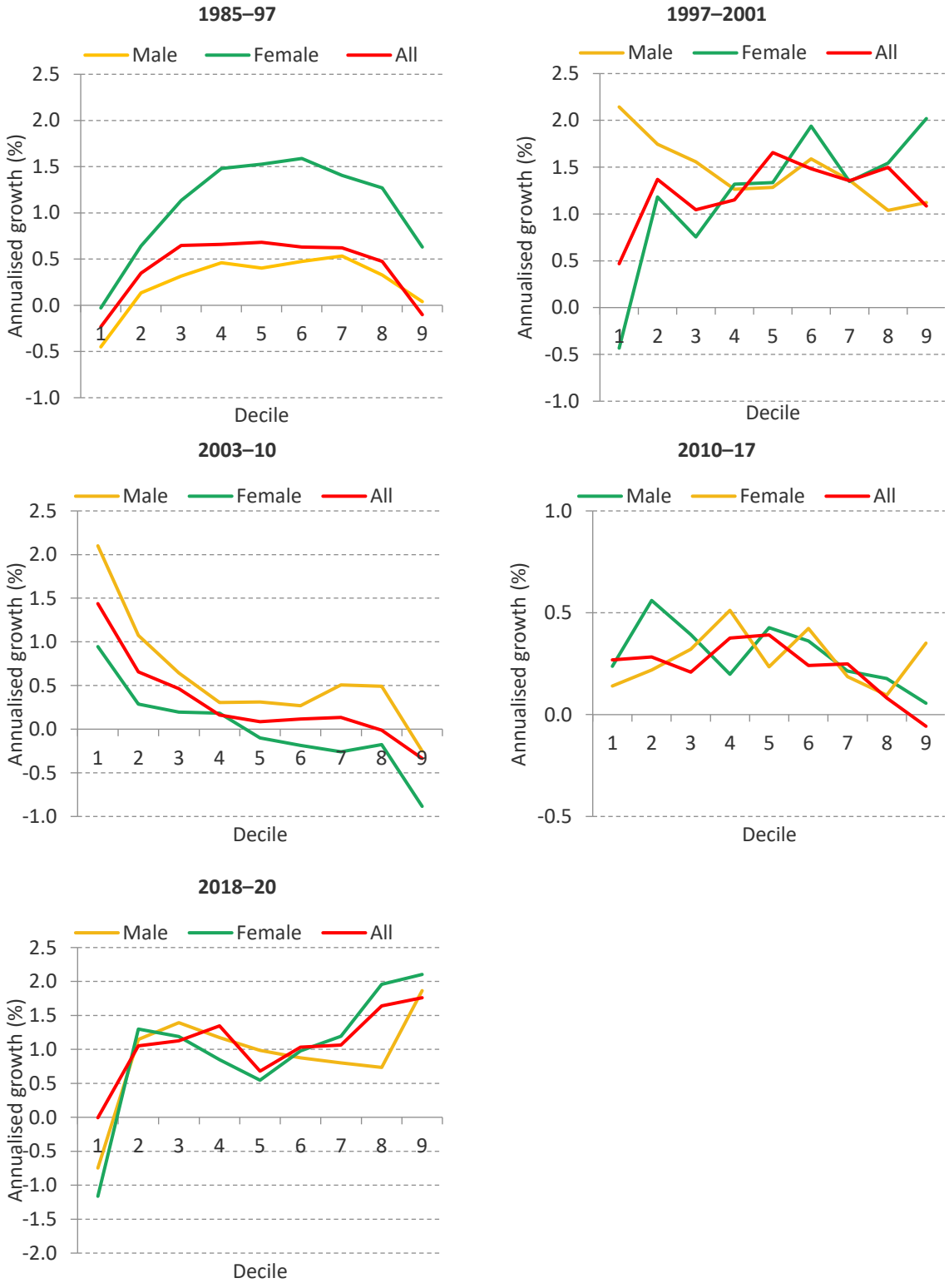
For the ECHP, we also have information on incomes in the month preceding the interview. We use these for the calculation of hourly wages, as this information is more closely related to the actual job status, we have available. While this information on actual earnings during the survey also exists for the SILC, it is not available to us. Consequently, we have to rely on income information from the previous year to calculate hourly wages of employees for their actual job.

10. Appendix: 25–74 age group

In this appendix a limited number of figures from the main text are reproduced for the population of persons aged 25–74.

Figure 43 presents growth incidence curves of hourly wages of employees and corresponds to Figure 13 in the main text. The overall image of this figure is barely distinguishable from that of Figure 13. Figure 44 shows the annualised growth in average number of hours worked by employees by wage decile. It corresponds to Figure 16. Again, both figures are very similar. Figure 45 presents the Gini coefficients of individual earnings and is once more similar to Figure 19. Figure 46 corresponds to Figure 21 and shows the growth incidence curves of individual earnings. In this case, there are some noticeable differences from the main text figures for people aged 25–60. For example, the drop in earnings among the first decile between 2018 and 2020, for women and overall, is much less steep when including 61–74-year-olds who are still working, and smaller than that of men.

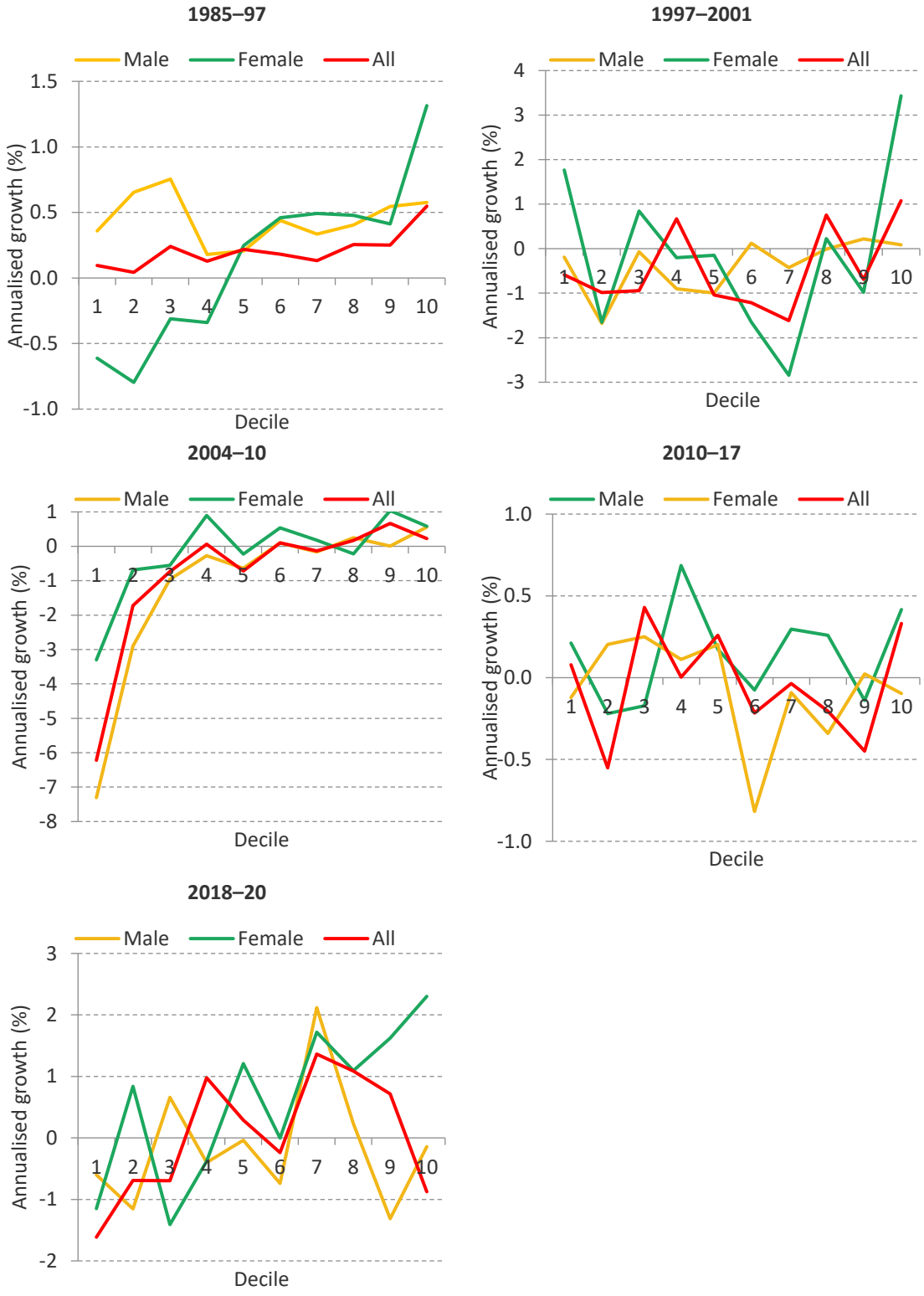
Figure 43. Growth in hourly wages among employees aged 25–74 by wage decile, overall and by sex, selected periods



Note: Employees aged 25–74. Employment based on self-reported status and conditional on reporting positive income from labour and positive number of hours worked. Wages are in 2019 prices.

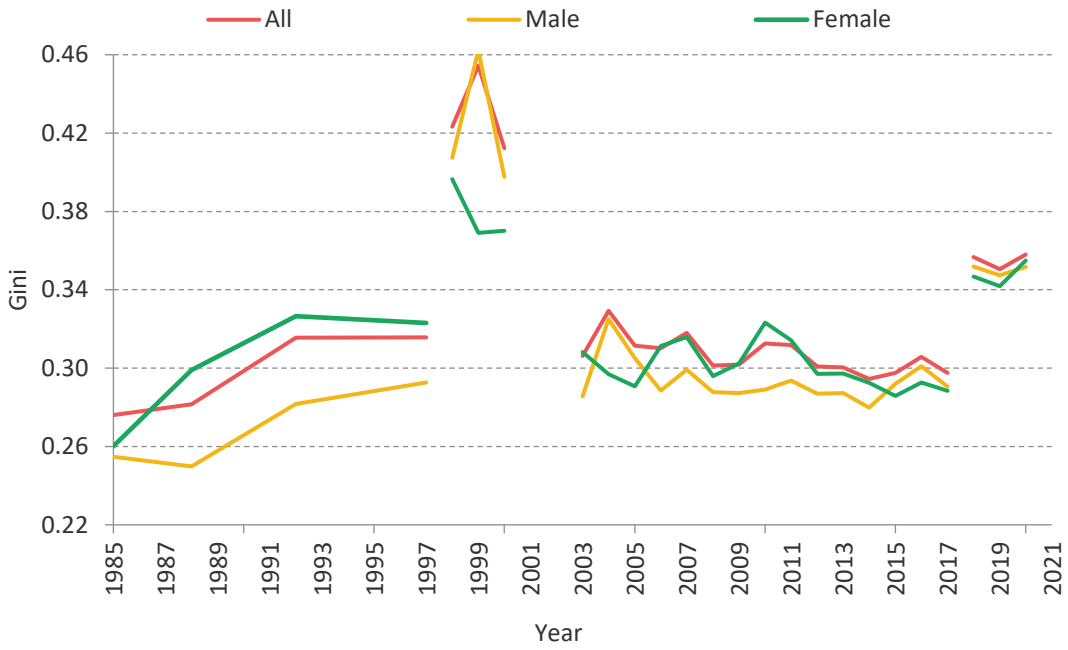
Source: SEP 1985, 1997; ECHP 1997, 2001; EU-SILC 2004, 2011, 2018, 2019, and 2021.

Figure 44. Growth in mean hours worked among employees aged 25–74 by wage decile, overall and by sex, selected years



Note: Sample is employees aged 25–74. Employment based on self-reported status, conditional on positive hours work reported and positive wages. The annualised growth is calculated using the average hours worked per wage decile.
Source: SEP 1985, 1997; ECHP 1997, 2001; EU-SILC 2004, 2010, 2017, 2018, and 2020.

Figure 45. Gini coefficient of gross individual earnings of workers aged 25–74, overall and by sex, over time



Note: Sample is individuals in work aged 25–74 with positive earnings. Gross earnings are in 2019 prices. The 2017 and 2018 observations are not connected as most of the employee's incomes of 2018 and subsequent years were gathered using tax register data, rather than through survey questions. Self-employment income remains self-reported though. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques.
Source: SEP 1985–97; ECHP 1999–2001; EU-SILC 2004–21.

Figure 46. Annualised growth in gross earnings of workers aged 25–74 by earnings decile, overall and sex, selected periods

Note: Sample is individuals in work aged 25–74 with positive earnings. Gross earnings are in 2019 prices. For the SEP and ECHP, gross incomes are reconstructed from net incomes using microsimulation techniques. GICs are constructed as annualised growth of the decile values.

Source: SEP 1985, 1997; ECHP 1998, 2001; EU-SILC 2004, 2011, 2018, 2019, and 2021.