DOI: 10.1111/1475-5890.12391

Fiscal Studies
The Journal of Applied Public Economics
IFS Institute for Fiscal Studies

SPECIAL ISSUE PAPER

Income and wage inequality in democratic Portugal, 1974–2020

Carlos Oliveira[1,2]

[1]Paris School of Economics

[2]Nova School of Business and Economics

Correspondence
Carlos Oliveira, Paris School of Economics, 48 Bd Jourdan, 75014 Paris, France.
Email: carlos.oliveira@psemail.eu

Submitted: March 2024

[Correction added on 29 November 2024, after first online publication: The copyright line was changed.]

Funding information
Fundação para a Ciência e a Tecnologia, Grant/Award Numbers: PTDC/EGE-ECO/7493/2020, UIDB/00124/2020, UIDP/00124/2020, Social Sciences DataLab – PINFRA/22209/2016;
POR Lisboa and POR Norte, Grant/Award Number: Social Sciences DataLab - PINFRA/22209/2016

Abstract

This paper investigates the evolution of income and wage inequality in Portugal from the 1974 democratic revolution up to 2020, drawing on a series of administrative records, survey data and aggregate statistics. Over this period, Portugal consistently ranked among the most unequal nations in the developed world. The transition from a deeply unequal dictatorial regime, in the wake of the 1974 revolution, brought about substantial redistribution. However, since the 1980s, income and wage inequality followed an arc-shaped trajectory. There was a sharp rise in inequality from the early 1980s to the mid-1990s, which, in just eight years, outpaced the infamous US growth in wage inequality of the last five decades. Then, there was stability at high levels until the mid-2000s. Finally, there was a sharp decline in inequality until 2020, which halved both the gender wage gap and the college wage premium. Changes related to the supply and demand for education/skills emerged as key drivers of inequality dynamics. Institutional and political forces were especially relevant in reducing inequality during the transition to democracy and, more recently, with the rising importance of the minimum wage and collective bargaining.

KEYWORDS
inequality, income, wage, redistribution, Portugal

JEL CLASSIFICATION
D31, I24, J31, J50, N34, P16

1 | INTRODUCTION

Portugal's story of inequality has been a turbulent one. It was the most unequal country in Western Europe and one of the most unequal in the West for most of the 1990s and 2000s, in both income and wages. It was extremely unequal during the dictatorship, and experienced significant redistribution in the wake of the 1974 democratic revolution, a sharp rise in inequality in the mid-1980s to mid-1990s, stability at high levels until the mid-2000s, and a subsequent sharp decline until today. These amount to some of the greatest fluctuations in income and wage inequality ever seen: the rise and the fall in wage inequality, in particular, were each quantitatively greater than the infamous US rise in inequality of the last five decades.

The purpose of this paper is to investigate this evolution of income and wage inequality in Portugal since 1974. It derives from the wider Deaton Review Country Studies initiative, a collaborative effort involving 17 countries from Europe and North America aiming to harmonise data and measurement methods in order to gain a comprehensive understanding of the drivers of economic inequalities across high-income nations. In that context, this study draws upon a diverse set of data sources that were exhaustively analysed in Oliveira et al. (2023) – including administrative records, survey data and aggregate statistics – and critically integrates insights from the existing literature to shed light on the key structural and institutional trends and transformations that have shaped income and wage inequality in Portugal since the revolution.

After an abrupt redistribution triggered by the 1974 democratic revolution, inequality has followed a very pronounced inverted U-shaped trajectory since the 1980s. At the core of these fluctuations have been the scarcity and then expansion of education in the Portuguese workforce, as well as institutional and political forces, which played a crucial role in reducing inequality during the transition to democracy and, more recently, with the rising importance of the minimum wage and collective bargaining. Overall, the Portuguese case is a ground-breaking illustration of how inequality is not an immovable force of nature: reforms that expanded access to education and elevated wages at the bottom of the distribution were able to reduce inequality in the country with remarkable success.

The paper goes through four distinct periods – the transition to democracy, a rise in inequality, a moderation period and a decline in inequality – elaborating on the most important trends and expanding on other potential drivers of inequality dynamics. Unfortunately, there is no single figure or data source that can cover the entire period, so the analysis is often split between different datasets and methodologies.[1]

The analysis begins with an examination of the early years following the 1974 revolution. The transition to democracy brought about an abrupt redistribution of income and wealth with the nationalisation of large corporations, expropriation of private lands, and the introduction of several pro-labour policies such as the minimum wage. As Krugman and de Macedo (1981) suggested, this pronounced income redistribution, from capital to labour, and from high-wage to low-wage workers, seems to have been mainly driven by policy and the political environment itself rather than market forces. This period will be analysed in Section 3.

Starting in the early 1980s, income inequality in Portugal saw a sharp rise, mainly driven by top labour incomes. This increase in inequality has been attributed to technical changes that favoured high-skilled workers over unskilled ones, coupled with a decades-long lag in the education levels of the Portuguese workforce relative to other advanced economies. As a result, wage inequality in Portugal increased more in just eight years (1986–94) than the entire US increase of 1975–2022. By the late 1990s, Portugal had become the most unequal country in Western Europe in terms of income (Blanchet, Chancel and Gethin, 2022) and wages (Martins and Pereira, 2004). Section 4 will delve into this rise in inequality.

In the late 1990s and early 2000s, Portugal entered a period of moderation in income and wage dispersion. Inequality remained very high, but it stopped increasing so fast. The expansion and democratisation of education likely played a crucial role in this moderation. As more individuals

[1] Section 2 briefly describes the main datasets used in this paper, although the detailed methodology can be found in Oliveira et al. (2023).

obtained higher levels of education, the education wage premium decreased significantly, leading the wage distribution to stop expanding. The increasing participation of women in the labour force, partnered with the reduction of the gender wage gap, further promoted income and wage equality. However, this too seems to have been driven by the catching up of women's skills relative to men. The moderation will be addressed in Section 5.

The most recent period, since the mid-2000s, saw a significant decline in income and wage inequality in Portugal. Over this period, Portugal went through the strongest disruption to its employment rate in recorded history – the Great Recession. While unemployment hit low-skilled, low-wage individuals the hardest, this time it had repercussions across the distribution. The unemployed had significant income losses but inequality still decreased during the crisis because, out of the whole workforce, low-skilled workers were the one group that managed to preserve their real wage level throughout the recession (and with the strongest recovery afterwards). A rising minimum wage and the influence of collective bargaining seemingly played a key role in this development. Section 6 will deal with this decline.

Finally, Section 7 provides some concluding thoughts about this investigation. It highlights the differential roles of structural and institutional factors during different historical periods, some potentially important factors that fell outside the scope of this analysis, and just how much we still do not know about the Portugal's story of inequality.

2 | DATA

All figures and statistics in this paper were produced resorting to one of the following four datasets, unless stated otherwise: *Quadros de Pessoal* (QP); the Labour Force Survey (LFS); the Household Budget Survey (HBS); and the European Union Statistics on Income and Living Conditions (EU-SILC). These were the datasets used to construct nearly all figures in the chapter on Portugal for the Deaton Review Country Studies (Oliveira et al., 2023), which is where more detailed information on methodological issues regarding sample selection and handling of the data can be found. Here is a brief description of each of the four datasets.

- The QP is an annual mandatory survey of all private establishments in Portugal with at least one wage earner, collected by the Ministry of Labour to monitor compliance with labour law provisions, ensuring its accuracy. This incredibly rich longitudinal matched employer–employee dataset of the full population of private employees in the country contains an extensive list of variables on firms, establishments and workers since 1986 (except for 1990 and 2001, when the data were not available). The sample used here contains all employees aged 25–60 between 1986 and 2019, and the variable of interest is usually the total hourly wage.
- The LFS is a household survey conducted quarterly by Statistics Portugal (INE), with the goal of characterising the Portuguese labour market. It surveys around 40,000 individuals every quarter, mainly following Eurostat instructions and definitions. The sample used here contains all individuals aged 25–60 surveyed in the first quarter of each year, between 1992 and 2020.
- The HBS is a household survey conducted roughly every five years by Statistics Portugal (INE) in order to provide information on households' budgets and expenditures. It was conducted in 1990, 1995, 2000, 2005, 2009 and 2014, and surveyed 25,000–50,000 individuals depending on the year. This paper mostly relies on the first three waves of the survey as, since 2004, we can rely on the annual EU-SILC to measure anything we would be measuring with the HBS. The sample used here contains all individuals aged 25–60 surveyed between 1995 and 2014, often focusing solely on working individuals.
- The EU-SILC is a household survey conducted by Eurostat with the aim of collecting comparable data on income, poverty, social exclusion and living conditions across EU countries. It surveyed around 10,000 individuals per year in earlier years, and closer to 30,000 individuals more recently. The sample used here contains all individuals aged 25–60 between 2004 and 2019, often focusing solely on working individuals.

Aside from these four main datasets, the analysis often relied on other data sources. The national aggregates of labour income, business and property income, public and private gross fixed capital, exports and GDP were obtained from BPstat, the Bank of Portugal's statistics database. Raw and adjusted labour share series, and inflation rates come from the European Commission's AMECO database. Income inequality statistics were additionally collected from the World Inequality Database. Union density and collective agreement coverage series in Figure 5 come from the OECD/AIAS ICTWSS database. Cross-country comparisons of education levels in Figure A.3 in the online Appendix come from the OECD Education Attainment database. Series estimating the wage skill premium, union density and collective agreement coverage were also collected from Lains, da Silva and Guilera (2013), Addison, Portugal and Vilares (2017) and Card and Cardoso (2022), respectively.[2]

3 | TRANSITION TO DEMOCRACY, 1974–82

The lack of good-quality data prior to the 1980s does not allow us to produce a detailed account of how economic inequalities evolved before then. As such, this section will try to grasp the dynamics of inequality during the democratic transition mostly by drawing on previous literature and observing the evolution of some macroeconomic aggregates. It starts in 1974, the year of the Carnation Revolution, and lasts until the early 1980s, as the country's political and economic environment stabilises.

By 1973, Portugal was a highly unequal and economically backward country (Barreto, 1995; Cantante, 2019). The country had been under Europe's longest-lasting dictatorship for four decades before the 1974 Carnation Revolution overthrew the conservative–authoritarian *Estado Novo* regime and restored democracy. Judt (2006) characterised Portuguese living standards under the dictatorship as closer to contemporary Africa than to continental Europe due to the low level of economic development, high illiteracy rate and extreme inequality.

Resorting to tax tabulations, Guilera (2010) estimated that, in 1970, the top 1 per cent income earners collected around 11 per cent of national income – the most unequal country among a large group including the France, Germany, Spain, the UK and the US. According to his estimates, the top 1 per cent held an extremely high share of national wealth too, around 40 per cent. Adding to the evidence, Alvaredo (2009) estimated top (fiscal) income shares in Portugal between 1976 and 2005, showing a rapid decrease in income concentration until 1980, with the share of income going to the top 10 per cent decreasing from 32 per cent to 19 per cent in just four years.[3] Pereirinha (1988) also shows a sharp reduction in inequality of household incomes, estimating a six-point reduction in the income Gini coefficient between 1973/74 and 1980/81.

Even with the scarcity of appropriate data for this period, one fact remains evident: the revolution imposed a very substantial and abrupt redistribution, both wealth redistribution, with the nationalisation of large corporations and forcible occupation and expropriation of private lands, and income redistribution, from capital to labour, and from higher-wage to lower-wage workers.

3.1 | Redistribution from capital to labour

The solid line in Figure 1 represents the evolution of the ratio of business/property income to labour income (the national accounts aggregates), between 1965 and 1985, with 1973 as the base year. It can be used as a proxy for the degree of distribution of national income between capital to labour. This ratio halved between 1973 and 1977, demonstrating an unprecedented redistribution of national income from capital to labour in the wake of the revolution.

[2] The links to each data source are as follows: BPstat, https://bpstat.bportugal.pt/; AMECO, https://ec.europa.eu/economy_finance/ameco_dashboard; World Inequality Database, https://wid.world/; OECD Data, https://data-explorer.oecd.org/.

[3] Fiscal income is defined as the sum of all income items reported on income tax returns, before any deduction. The author's series display a break between 1982 and 1989 due to the change from the old to the new income tax.

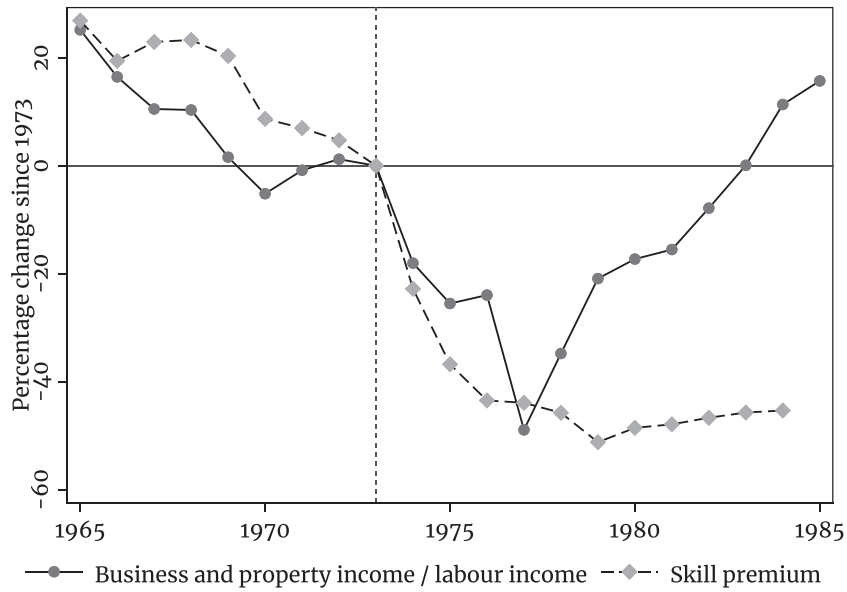

FIGURE 1 Redistribution during the democratic transition. *Note*: 'Business and property income/labour income' is the ratio between these two national accounts aggregates. It serves as a proxy for the distribution of national income between capital and labour, showing a very abrupt redistribution from capital to labour between 1973 and 1977. 'Skill premium' is the ratio of skilled to unskilled workers' wages across all industries. It serves as a proxy for wage inequality, showing substantial wage equalisation between 1973 and 1979. The values represent the percentage change in each ratio since the reference year, 1973, the year prior to the revolution. *Source*: 'Business and property income/labour income', Bank of Portugal and author's own calculations; 'skill premium', figure 3 of Lains et al. (2013) and author's own calculations.

Krugman and de Macedo (1981) explain that, during the transition to democracy, 'wages in Portugal [were] largely a political phenomenon', meaning that the redistribution from capital to labour was mainly driven by political forces rather than market forces. The revolution brought about a general appreciation of real wages through government policy (such as the introduction of a minimum wage, increases in public sector wages, the legalisation of strikes, firing restrictions, reductions of working time and price controls), but also due to a political climate that promoted workers' militancy and boosted worker bargaining power (Krugman and de Macedo, 1981; Amaral, 2019). This generalised increase in labour compensation resulted in a jump of 14 percentage points (pp) in the labour share of GDP in just two years, from 54 per cent in 1973 to 67 per cent in 1975 (see Figure A.1 in the online Appendix).

While the political environment in the wake of the revolution inflated the importance of labour compensation in the Portuguese economy for a few years, this situation was relatively short-lived. As Krugman and de Macedo (1981) write, many of the policies that had empowered labour over capital were reversed or toned down from 1976 onward. By 1978, the capital/labour income ratio had begun to rebound, and it had fully recovered to its pre-revolution level by 1983. Nevertheless, income inequality continued to decrease until 1980 (Alvaredo, 2009), likely also due to the parallel redistribution of capital itself.[4]

[4] During the Revolutionary Process (1974–75), there was the nationalisation of banking, insurance, the main industrial, transport and communications companies and the beginning of a land reform, with the occupation of private lands. Nationalisations and expropriations reallocated a large share of the wealthiest families' wealth and capital, especially towards the government – in the absence of more direct statistics, we can look at the government share of national gross fixed capital formation, which went from 6 per cent in 1974 to 16 per cent in 1981 (source: Bank of Portugal). This substantial redistribution of capital is bound to have provoked significant changes in the distribution of capital income and, thus, the national income distribution.

3.2 | Redistribution from high-wage to low-wage workers

Accompanying the income redistribution from capitalists to workers, there was also significant redistribution between workers. Lains et al. (2013) estimated the skill wage premium between 1944 and 1984 using survey data of all firms in Portugal with 10 or more employees, and observed a generalised decline in wage inequality between skill groups throughout the 1960s, 1970s and 1980s, across all industries. The dashed line in Figure 1 represents the evolution of this skill premium, with 1973 as the base year, as a proxy of wage inequality. It shows an overall decline in inequality between the 1960s and the 1980s, although most of it happened between 1973 and 1979.

Lains et al. (2013) posit that continuous structural transformation related to emigration and international trade explain the decline in wage inequality. The authors interpret the decline in the skill premium as a result of the 'impressive' emigration of unskilled labour, which increased the relative supply of skills, and the country's increasing openness to foreign trade, which increased the relative demand for unskilled workers due to the country's specialisation in manufacturing industries that are intensive in unskilled labour (such as textiles and clothing).

However, while it is true that the skilled/unskilled wage ratio was already decreasing before 1974, it is in the wake of the revolution that we see it brutally shrinking: 90 per cent of the decline in the skill premium between 1965 and 1984 occurs just between 1973 and 1979 (in eight years, the skilled/unskilled wage ratio goes from 2.5 to just 1.2). Moreover, this abrupt equalisation precisely coincides with a halt in emigration and a sharp deterioration of the trade balance (due to the 1973 Oil Crisis).[5]

The mechanisms through which the revolution led to such a strong compression of the wage (skill) distribution are not yet totally clear. Still, as Krugman and de Macedo (1981) suggest, political factors likely played the paramount role in this wage equalisation. The same political environment and policies that levelled bargaining power between workers and capitalists also levelled it between high-wage and low-wage workers.[6]

Meanwhile, we also start to see premonitions of the rising inequality that would follow. While the skill wage premium declined sharply and remained at this lower level during the early 1980s, the capital/labour income ratio was back to its pre-revolution level by 1983. It is not clear what happened during the early 1980s (around 1980–83) in inequality dynamics but, following the transitory politicisation of the Portuguese economy during 1974–80, the country seems to be more equal than a decade prior, because wages remained more equally distributed, but less equal than during the peak of the revolutionary period, as capital makes a quick comeback.

4 | RISING INEQUALITY, 1983–94

Income and wage inequality display a rising trend starting around the mid-1980s. It is not clear when this trend starts exactly, but the series available at the World Inequality Database (WID) show the Gini of national income and the top 10 per cent income share rising already in 1982/83 (see Figure A.2 in the online Appendix).[7] Cardoso (1998) also detects 'high and rising earnings inequality' starting in

[5] Regarding emigration, around 1.5 per cent of Portuguese nationals emigrated in 1973, compared to just 0.2 per cent in 1979, according to their own data (originally from Baganha (1994)). Regarding international trade, a contraction of foreign demand led exports as a share of GDP to decline by 34 per cent just between 1973 and 1976 (source: Bank of Portugal).

[6] Another presumably important factor was the massive return of half a million migrants from the former colonies following the end of the Colonial War. Half a million *retornados* arrived in Portugal between 1974 and 1976 (around 6 per cent of the 1973 population). These were mainly Portuguese-born people who migrated to the colonies during the dictatorship and were now returning, during decolonisation. Compared with natives, the repatriates were more educated, more likely to be male and more likely to be of working age, contributing to an increase in the relative and absolute supply of skills (Bohnet, Peralta and Pereira dos Santos, 2022). As such, the *retornados* may have contributed to the equalisation of the wage distribution by increasing the supply of skilled workers.

[7] It is possible that the early 1982/83 jump in inequality is by construction as the WID relies on personal income tax data to construct these estimates and there was a major reform of the personal income tax in this period. Earlier literature observed a slight decrease in household income

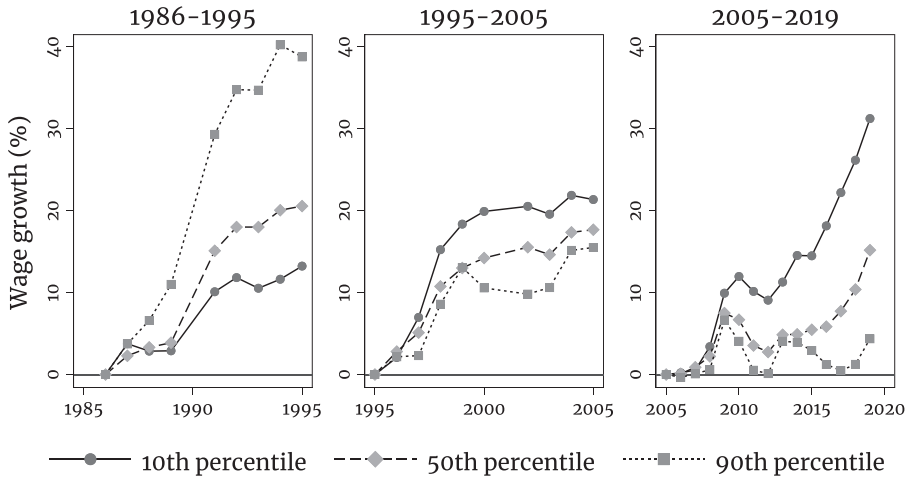

FIGURE 2 Wage growth across the distribution, 1986–95, 1995—2005 and 2005–19. *Note*: The three panels show the percentage change in the wage at the 10th, 50th and 90th percentile, since the first year of each period. In the first period, wages at the top of the distribution increased, by far, the sharpest. In the second period, wage growth was more uniform across the distribution, with wages at the bottom growing slightly faster. In the third period, it was wages at the bottom that grew the most. *Source*: QP; author's own calculations.

1983. This section will explore this period of time, mainly since 1986, when comprehensive microdata start to become available.

The period between the mid-1980s and the mid-1990s was one of strong economic and wage growth. Wages grew faster than they ever did since then – the median hourly wage among employees went from 3.6 euros per hour in 1986 to 4.8 euros in 1998 (2019 prices). But wages at the top of the distribution grew much more than the rest, such that the overall rise in income inequality was mainly driven by rising wage inequality. The left panel of Figure 2 (1986–95) shows the evolution of wages at the 10th, 50th and 90th percentiles of the distribution since 1986. By 1994, the wage at the 90th percentile had grown 40 per cent in real terms, while the wage at the 10th percentile had grown by 12 per cent only.

In just seven years, from 1986 to 1994, the wage at the 90th percentile went from 3.6 times to 4.6 times the wage at the 10th percentile, as shown in Figure 3, and the Gini of hourly wages went up six points. This is an unparalleled rise in wage inequality, in Portugal and internationally. For comparison, wage inequality in the US has been rising continuously since the 1970s, and this seven-year rise in Portugal was quantitatively larger than the full US rise of 1975–2022 (Hardy et al., 2023).[8] This was larger than what could be observed in any other country covered in the Deaton Review Country Studies initiative.

Meanwhile, the duality between capital and labour became relatively less important in explaining the dynamics of income inequality in Portugal after the transition to democracy – the labour share stabilised quite close to 46 per cent of GDP from 1984 onward.[9]

inequality during the 1980s (Gouveia and Tavares, 1995; Farinha Rodrigues, 2012). However, those studies relied on imperfect survey data that were not capturing the sharp growth of higher incomes – which is what drove rising inequality over this period. The WID series, on the contrary, apply corrections for top incomes based on national accounts and tax data (Piketty, Saez and Zucman, 2018).

[8] In the US, the 90:10 ratio of hourly wages went from around 4.3 to 5.2 (20 per cent growth) in the 47 years between 1975 and 2022, as per Hardy et al. (2023). In Portugal, the 90:10 ratio grew relatively more, from 3.6 to 4.6 (28 per cent growth), and that happened in just those eight years (1986–94). In both cases, the Gini index went from 0.29 to 0.35, but that took 47 years in the US and only 8 years in Portugal. The estimates by Autor, Katz and Kearney (2008) confirm this phenomenon.

[9] After a surge to 67 per cent in 1975, and an equally rapid fall right away, the labour share of GDP stabilised at around 46 per cent. It has fluctuated between 44 per cent and 48 per cent since 1984 (see Figure A.1 in the online Appendix). The adjusted labour share has fluctuated between 55 per cent and 60 per cent.

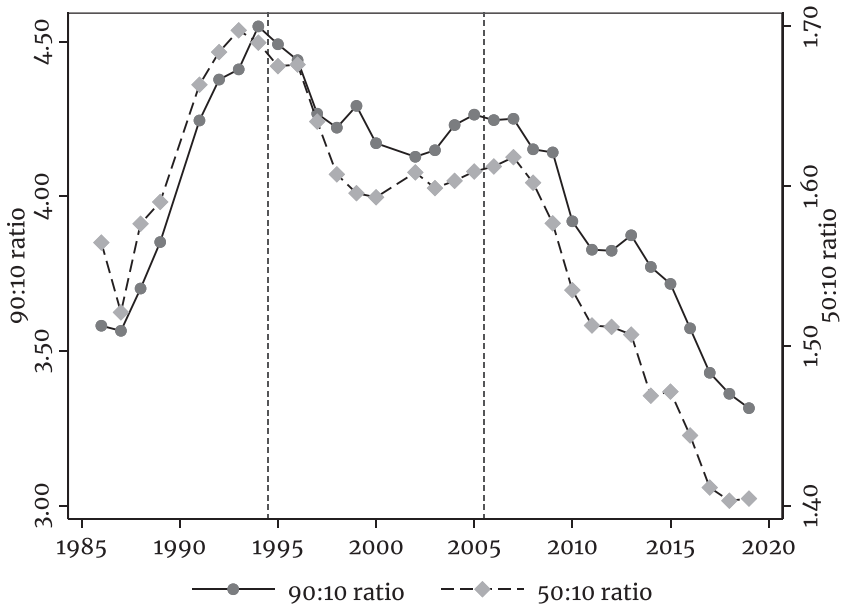

FIGURE 3 90:10 and 50:10 hourly wage ratios among employees. *Note*: The 90:10 is the ratio of the wage at the 90th percentile to the wage at the 10th percentile of the wage distribution, a measure of wage inequality across the whole distribution. The 50:10 ratio is the ratio of the wage at the 50th percentile to the wage at the 10th percentile, a measure of wage inequality at the bottom of the distribution. Wage inequality increased sharply between 1986 and 1994, moderated until 2005, and then decreased until 2019. The decline, in the last period, was stronger at the bottom of the distribution. *Source*: QP; Deaton Review Country Studies.

4.1 | Skill scarcity and skill-biased technical change

As will become clear throughout this paper, education/skill supply and demand mismatches have been at the core of the Portuguese inequality story. The surge in inequality of the 1980s and 1990s was, above all, the result of growing demand for skilled workers, coupled with an extremely uneducated workforce.

In one of the first studies exploiting the extremely rich administrative data from the QP to investigate wage inequality among Portuguese employees, Cardoso (1998) argues that 'changes taking place within economic activities, possibly technical progress, are the main forces driving these changes in the wage pattern' between 1983 and 1992.[10] The author relies on a simple supply–demand framework and finds that, within industries, there was a switch in relative demand in favour of very qualified workers, proposing skill-biased technical progress as the major explanation for rising inequality. On the contrary, the author dismisses factors such as demographic forces or increasing international trade. Centeno and Novo (2014) agree that skill-biased technological changes were central to the increase in wage inequality, although they underline the importance of the acute shortage of skills in the Portuguese labour market over this period.[11]

[10] The QP is an annual mandatory survey of all private establishments in Portugal with at least one wage earner, collected by the Ministry of Labour since 1982. It is an extremely rich source of information on firms, establishments and workers, which revolutionised our knowledge and research of the Portuguese labour market. See Section 2 for more information.

[11] While both studies agree on the major role of technological change in rising wage inequality, neither of them provides an account of what type of technological change was happening in Portugal at the time, or what caused that change. The adoption of new computer and information technologies, as occurred in other countries, is a strong candidate (Berman, Bound and Machin, 1998; Card and DiNardo, 2002; Goldin and Katz, 2008) – although a proper documentation of this process in Portugal is still missing. An explanation rooted on routine-biased technical change could also be plausible in the Portuguese context (Fonseca, Lima and Pereira, 2018).

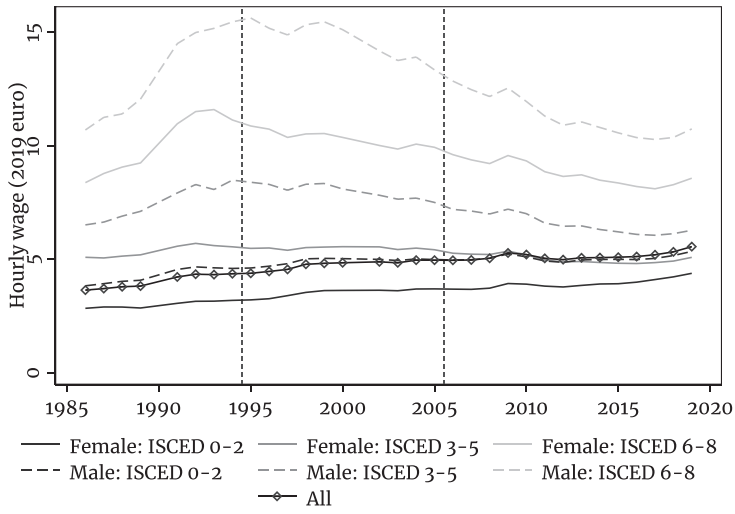

FIGURE 4 Median real hourly wage among employees, by education level and gender. *Note*: This figure shows the evolution of the median real hourly wage among different education–gender groups, as well as the overall median, between 1986 and 1995. There are very large differences in wage levels and growth across education levels. Most notably, the median wage of higher-educated workers skyrocketed between 1986 and 1995, and has been declining ever since, while the median wage of lower-educated workers has been increasing consistently since 1986. It is important to note that there have been significant changes in the education composition of the workforce over this period, which will invariably affect these wage dynamics. *Source*: QP; Deaton Review Country Studies.

To illustrate this deficit of skills, we can look at the cross-country analysis of Martins and Pereira (2004). By the early 1990s, the average years of education of workers in 16 developed countries was between 10 and 13 years in all countries, except in Spain, with 8.8 years, and in Portugal, with a staggeringly low 6.5 average years of education.[12] During the early 1990s, 80 per cent of workers had no more than lower secondary education, while only 6 per cent had higher education (source: LFS). According to OECD data, no other covered country had such a high share of the working-age population without upper secondary education during the 1990s, including not only Greece, Italy and Spain, but also Costa Rica, Mexico and Turkey (see Figure A.3).

This created a situation where skilled workers were in such high demand that the median wage of a higher-educated male worker increased almost 50 per cent in real terms just between 1986 and 1995. Figure 4 shows exactly that: the median wage of higher-educated workers skyrocketed during this period, while the median wage of lower-educated workers increased only slightly.[13]

By 1995, the education premium in Portugal was by far the highest among the group of developed countries studied by Martins and Pereira (2004). They estimate an average 13 per cent wage premium for each extra year of education in Portugal, while all other countries are between 4 per cent and 10 per cent. More, they find that the difference between the education premium in the 9th decile (16 per cent) and the 1st decile (7 per cent) of the wage distribution is also much greater in Portugal than in other countries (the average difference is 3 pp, compared to 9 pp in Portugal).

Indeed, Machado and Mata (2005) show not only that the returns to education were highly unequal along the wage distribution, but also that they increased and became even more unequal over time (1986–95). Thus, they argue, the slight increase in educational levels of workers over this period even contributed to rising inequality.

[12] This number was even lower in 1986 – only 5.3 years of education among Portuguese employees, on average (source: QP).

[13] These dynamics could be contaminated by compositional effects, as the share of higher-educated workers changed over this period. However, if we look at the wage growth by percentiles of the distribution, in Figure 2, we see that workers at the bottom saw their wages grow by little more than 1 per cent a year over that period, while workers at the top experienced growth rates of 5 per cent a year.

4.2 | Other potential factors

Skill-biased technical change and the acute scarcity of skills – leading to an extraordinarily high skill premium – remain more consensual in the literature as the main explanation for rising wage inequality during the 1980s and early 1990s. Still, other factors could have played a role.

One potential contributor to wage inequality dynamics over this period could have been the Portuguese accession to the European Community in 1986 (Centeno and Novo, 2014). Increasing trade openness could have changed the relative wages of different types of workers. Cardoso (1998), however, argues strongly against that idea, as international trade would have generated shifts in the demand for labour across economic activities, exactly contrary to what the data show. In fact, exports as a share of GDP remained almost constant after 1986 (they floated between 27 per cent and 29 per cent from 1984 to 1990, and then decreased), and the country's export specialisation in low-skill-intensive industries (textiles, manufacturing and equipment) did not change either – unlike Spain, for instance (Jimeno et al., 2000).[14]

Another contributing factor could be the recovery of bargaining power among white-collar workers at the upper end of the distribution. During the transition to democracy, bargaining power seems to have been reallocated towards low-wage, low-skilled, blue-collar workers, who significantly benefited from the post-revolution political climate. If that is the case, it is expected that when the political situation stabilised and several policies were reversed, skilled workers would experience wage increases relative to unskilled workers (which is what we observe).

There is no direct evidence of such a phenomenon, but we do see union density, a common proxy for worker power, falling brutally between the late 1970s and the mid-1990s, from 60 per cent in 1979 to 27 per cent in 1995 (see Figure 5). If the finding of Addison, Portugal and de Almeida Vilares (2023) that higher union density reduces wage inequality held also during this period then, *ceteris paribus*, this sharp decline in unionisation would have contributed to the rise in wage inequality.[15] Moreover, the structural estimates of bargaining power of de Almeida Vilares and Reis (2022) do show that, by the end of this period (1995), bargaining power was highly disparate across the skill distribution.

5 | MODERATION, 1995–2005

Between the mid-1980s and the mid-1990s, Portugal experienced an unprecedented surge in income inequality driven by top labour incomes but, around 1995, that surge moderated. According to WID data, the income Gini index among all adults rose 6.6 pp between 1983 and 1994, and then only 1.2 pp between 1995 and 2005 (see Figure A.2). Among working adults, HBS data show that the Gini index increased 2.4 points just between 1990 and 1995, but only 0.9 between 1995 and 2004.

The moderation of income inequality was, in the first place, a moderation of wage inequality. In fact, hourly wage inequality even decreased during the workweek reform of 1996, and then remained stable until the mid-2000s (see Figure 3).[16] At the core of this phenomenon were two major changes in the composition of labour supply: the growing levels of education across the population and the rising share of women entering the workforce.

[14] Jimeno et al. (2000) argue that EU regional policies and transfers over this initial period of integration did not appear to have had a significant impact on inequality in Portugal or Spain either.

[15] Addison, Portugal and de Almeida Vilares (2023) study the association between union density and wages using rich data for 2010–13. They find an average 16 pp union density wage premium, which was slightly decreasing across the wage distribution. They also find that only around 10 per cent of employees were unionised over that period.

[16] Even with this moderation in wage inequality, Portugal was still one of the most unequal developed countries by the mid-1990s (Martins and Pereira, 2004), and it remained that way until the mid-2000s (Bachmann, Bechara and Schaffner, 2016).

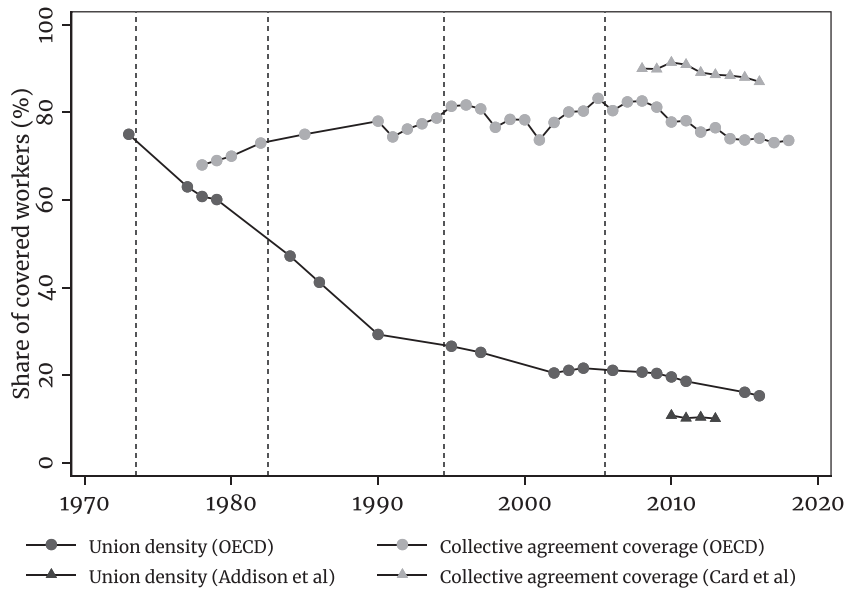

FIGURE 5 Union density and collective bargaining agreement coverage. *Note*: The figure shows the share of employees that are union members and that are covered by a collective bargaining agreement, between 1973 and 2019. The first two series (circles) are estimated by aggregating unions reported membership numbers. The other two series (triangles) are estimated directly using QP data. *Source*: circles – OECD/AIAS ICTWSS; triangles – union density (Addison et al., 2017) and collective agreement coverage (Card and Cardoso, 2022).

5.1 | Expansion and democratisation of education

Portugal has had an extremely under-educated population for most of contemporary history. As discussed, education levels were extremely low during the dictatorship but, by the late 1990s, Portugal was still far behind any of its European peers (see Figure A.3). Between 1974 and 1986, a series of transformations were implemented in the Portuguese education system, but it was only in 1986 that Portugal established a comprehensive framework for compulsory education with the passing of the Basic Law of the Education System (*Lei de Bases do Sistema Educativo*). The effects on the labour market, however, only started to be felt almost a decade later – 80 per cent of the workforce had no more than lower secondary education (ISCED 2) by 1995, as shown in Figure 6.

Starting in the late 1990s, this started to change. A series of important reforms implemented over time – such as the expansion of the pre-school system (1997), the integration of vocational education into the public system (2005), the Bologna process (2006), the increase in the compulsory schooling age (2009, 2012) and the continuous enlargement of the public school network – contributed to a remarkable 'massification' of educational access at all schooling levels (Cardoso, Portela, Sá and Alexandre, 2008; de Lurdes Rodrigues, 2015; Freitas, 2023; Justino, 2024).

These led to a strong decline in the share of prime-aged individuals with lower secondary education or less, from 81 per cent in 1992 to 44 per cent in 2020 (see Figure 6). While education used to be a luxury reserved for the elite (only 7 per cent of adults had higher education in 1992), upper secondary and tertiary education attainment rates increased threefold and fourfold, respectively, since then. The trends were similar for men and women, although the share of college-educated women has risen faster than the share of men – by 2020, there was a 10 pp gender gap in higher education attainment rates.

Figure A.4 illustrates how this educational expansion affected the labour market. The previous section discussed how a relatively modest increase in education levels until the mid-1990s served to increase wage inequality. As Figure A.4 shows, there was an increase in the share of workers joining

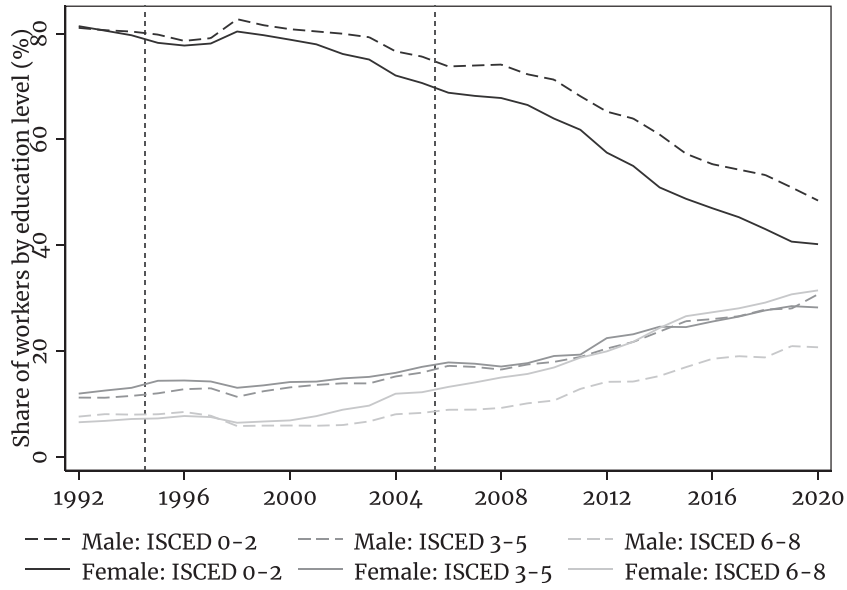

FIGURE 6 Educational attainment of working individuals, by gender. *Note*: The figure shows the share of working individuals by the highest level of education attained, by gender. The share of individuals with lower secondary education or less was extremely high until the late 1990s, when it finally started to decrease. This was accompanied by the rising share of individuals with both upper secondary and higher education. *Source*: LFS; Deaton Review Country Studies.

the labour market with more than six years of education (primary education), but they were mostly entering directly into higher-wage jobs. With a very high and rising education premium, this mainly led to a few qualified workers decoupling from the rest of the workforce, increasing wage inequality.

Since the mid-1990s, however, the education level of new workers started increasing substantially, especially at the lower half of the wage distribution. Between 1995 and 2005, the share of entry-level workers with more than primary education grew by 41 pp among lower-wage workers, compared to just 12 pp between 1986 and 1995. Within higher-wage entering workers, there was also a big expansion of education levels, although not as strong as among lower-wage workers (33 pp).[17] What we observe is not only a strong expansion of education levels, but also a democratisation of education, as workers in lower parts of the wage distribution benefited relatively more from it.

This development was central to the strong reduction of the education wage premium that we start to observe around this time. As discussed before, wage differences between education levels were much higher in Portugal than in other advanced economies (Martins and Pereira, 2004). Since the late 1990s, however, with the great expansion of education levels of the Portuguese workforce, the education wage premium started to sharply decline. Figure 7 shows how the (raw) wage premium for one additional year of education decreased 27 per cent between 1993 and 2019, and the premium from attaining higher education decreased 51 per cent.[18]

These changes have been unique to Portugal, as wage differences by education level have been generally increasing in most other Western countries over the same period – at least in the countries covered by the Deaton Review Country Studies. The reduction of the education premium, in turn, was central for the moderation and then fall of wage inequality in the country.

[17] This is also the time when the *first* higher-educated workers started joining the labour market (to higher-wage jobs, evidently). In 1995, only 3 per cent of new workers had higher education, while by 2005 this was 16 per cent.

[18] In Figure 4 we saw that the median wage of a higher-educated man increased 50 per cent just between 1986 and 1995. The figure also shows that this increase had fully eroded by the late 2010s.

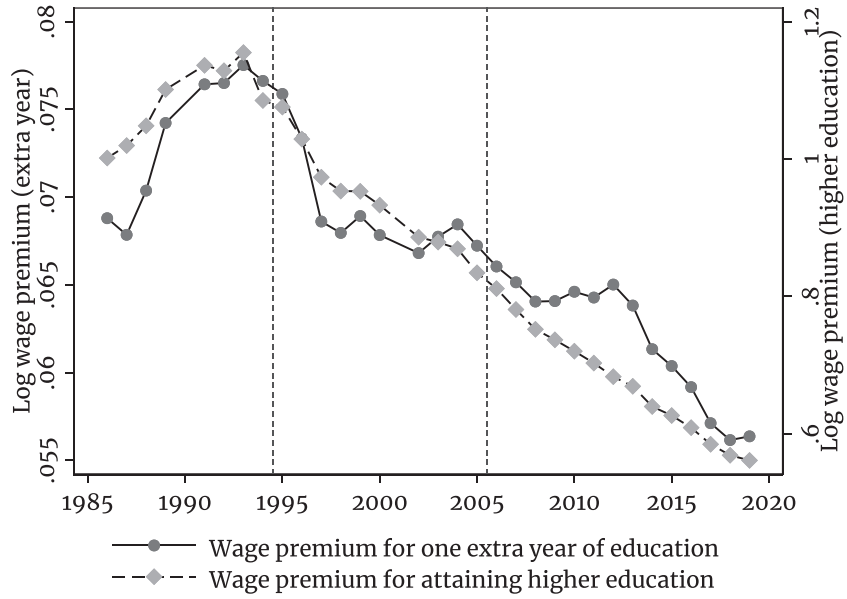

FIGURE 7 Evolution of education wage premiums in Portugal. *Note*: The two series represent the raw log hourly wage differential for each additional year of education and for attaining higher education, over time. After a fast increase until the mid-1990s, the education wage premium has been decreasing sharply since then. Education wage premiums in Portugal are still notoriously high when compared with other developed countries. *Source*: QP.

5.2 | Women's labour force participation

Like most countries, Portugal has experienced a secular increase in the share of women in the labour force. The sustained growth of female employment, from 66 per cent in 1992 to 82 per cent in 2020 among prime-aged women, which was especially salient in the 1990s, led to a visible long-term reduction of the employment gender gap (see Figure 8). By 2013, the employment rate gender gap was just 5 pp, compared to 25 pp in 1992 (remaining at 5 pp until 2020).

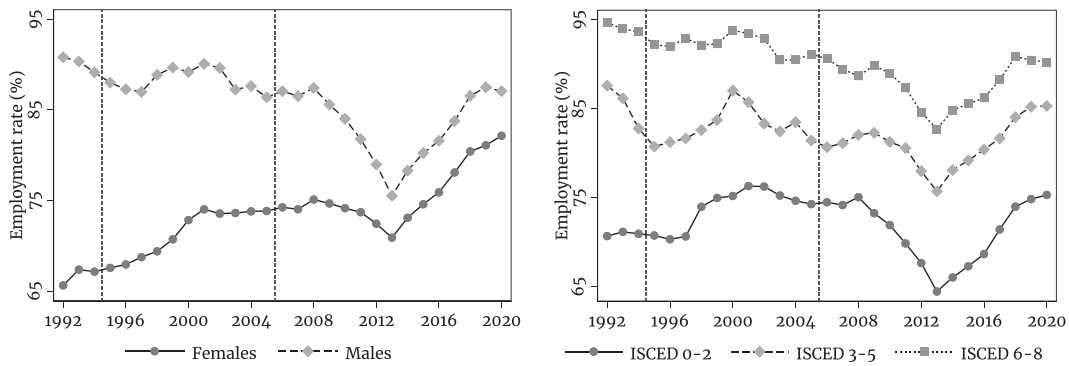

FIGURE 8 Employment rate of prime-aged individuals by gender and education level. *Note*: The left plot shows the evolution of the employment rate of prime-aged individuals (25–60 years old) by gender, while the right plot shows the evolution of the employment rate by education level. The gender employment gap has been strongly decreasing since the 1990s, with an especially strong reduction convergence during the Great Recession. The education employment gaps, in contrast, have not reduced as much over time. *Source*: LFS; Deaton Review Country Studies.

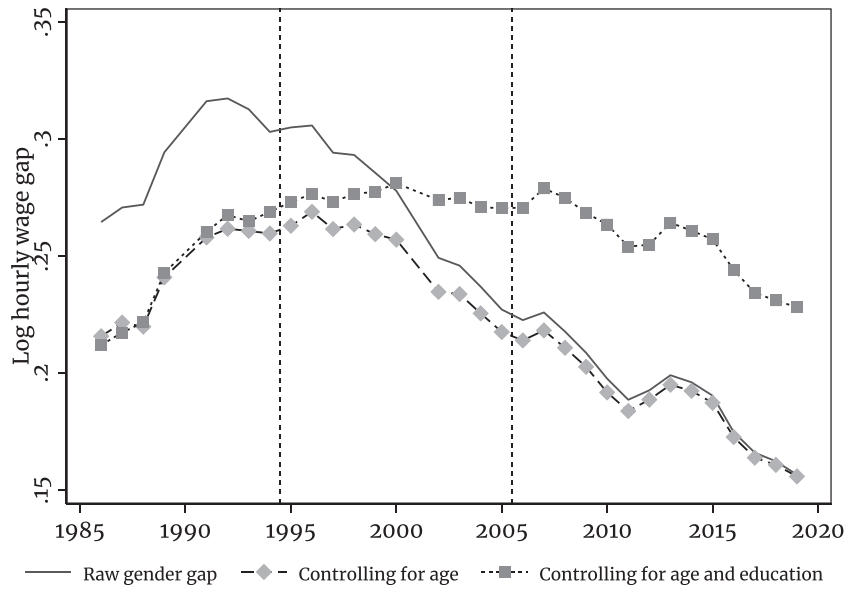

FIGURE 9 Evolution of the gender wage gap, raw and adjusted for age and education. *Note*: The solid line represents the raw gender wage gap, which is the log difference between male and female wages among employees. The two connected lines represent the adjusted gender wage gap, controlling for age, and age and education, respectively. While the raw wage gap between males and females has been decreasing consistently since the 1990s, once we control for experience and education, the gap remains relatively constant until the late 2000s. This suggests that the reduction was mainly a result of changes in the composition of the workforce. *Source*: QP.

Parallel to this increase in female labour force participation, there was a sharp reduction in the income and wage gender gap. While the median (working) woman used to earn nearly half the annual income of the median man in 1990, in 2019 they made 85 cents for each euro a man made, according to EU-SILC data. In hourly wages, the reduction was less pronounced but still impressive: from 67 per cent in 1991 to 83 per cent in 2019 (source: QP).

Cardoso et al. (2016) explain that the reduction in the earnings gap during a female labour supply boom happened due to the catching up of women's skills in comparison to men. After decades of human capital investments, they show 'by 2013 women already [possessed] observable characteristics that enhance productivity identical to their male counterparts'. This also meant, they argue, that gender discrimination remained roughly constant.

The convergence of women's and men's wages explains some of the moderation in hourly wage inequality since the 1990s, but that is mainly through changes in the composition and returns to education/skills. Figure 9 shows that, while the raw gender wage gap has been declining sharply since the mid-1990s, when you account for experience (age) and education, it actually remained constant until the late 2000s.

Still, the tremendous increase in female employment together with the rise in women's relative earnings was quite important for the reduction of income inequality. HBS data show that the median annual income of working women went from around 5,000 to 8,000 euros between 1990 and 2005, while men's remained practically constant at around 10,000 euros (2019 prices).

5.3 | Other potential factors

In 1996, there was an important workweek reform that reduced maximum working hours from 44 to 40 hours per week. The reform likely explains the sudden drop in hourly wage inequality during 1996/97,

which is very noticeable in Figure 3. It has been shown that the reform led to a significant drop in working hours, without a reduction in monthly wages, resulting in higher wages per hour (Raposo and van Ours, 2010; Asai, Lopes and Tondini, 2024). The reduction in working hours, however, was concentrated in lower-wage, less-educated workers (who were working longer hours before, on average), explaining this sudden contraction of the bottom of the wage distribution. Figure A.5 in the online Appendix demonstrates how the reduction in hours and the increase in hourly wages during 1996–98 was inversely proportional to a worker's position in the wage distribution – at the bottom quartile, hours decreased 7–8 per cent and hourly wages increased 12–16 per cent in just two years.

Portugal, Raposo and Reis (2018) argue that worker sorting, the association between higher-paying firms and higher-wage workers, weakened significantly over this period, contributing to the moderation of wage dispersion – this can potentially be explained by the strong decline in average firm size (Torres et al., 2018). This phenomenon is surprising, as it goes in the opposite direction to what had been observed in other developed countries such as Germany (Card, Heining and Kline, 2013) and the US (Song et al., 2019).

Centeno and Novo (2014) and Fonseca et al. (2018) mention the role of growing job polarisation over this period, driven by technological change and 'routinisation'. Both studies uncover a phenomenon of increasing demand for lower- and higher-skilled workers relative to intermediate-skilled workers between 1995 and the late 2000s. This phenomenon was coupled with a strong expansion of the relative supply of skills so, unlike many other developed countries, polarisation likely contributed to the moderation of wage inequality (Centeno and Novo, 2014).

Finally, de Almeida Vilares and Reis (2022) observe a decline in worker bargaining power among managers and skilled workers over this period, while the bargaining power of unskilled workers remained constant, also contributing to lower wage inequality.

6 | FALLING INEQUALITY, 2006–20

The decade leading to the mid-2000s was a period of more modest changes in the income and wage distributions. By the early 2000s, Portugal was the most unequal country in Western Europe in terms of income (Blanchet et al., 2022) and wages (Bachmann et al., 2016). Beginning around 2006, however, income and wage inequality started declining sharply.

There was a significant compression of the income distribution, with (working) individuals at the bottom quintile of the distribution having real income growth of 4–5 per cent a year, while those at the top of the distribution actually saw their incomes decrease 1–2 per cent (2004–19; source: EU-SILC). Income inequality at the top – as measured by the 90:50 income ratio – went from 2.5 in 2004 to 2.1 in 2019 (16 per cent decrease), but the decrease was even stronger at the bottom (50:10), from 2.1 to 1.6 (24 per cent decrease) – see Figure A.6. Focusing on wages, the 90:10 ratio declined 22 per cent, from 4.2 to 3.3, and this was mainly through a contraction of the lower half of the wage distribution (50:10 decreased 13 per cent) – see Figure 3.[19]

During the last 15 years, Portugal experienced deep structural and institutional transformations – including a catastrophic financial crisis – and this section will try to understand how those changes led to such a sharp reduction of income and wage inequality.

[19] This decline in wage inequality is practically equivalent to the rising inequality of the 1980s and 1990s described in Section 4. Thus, this 13-year drop in inequality was also quantitatively larger than the full US rise in wage inequality of the last five decades (see footnote for more information).

6.1 | Financial crisis

Portugal was one of the countries hardest hit by the global financial crisis and the subsequent sovereign debt crisis – between 2008 and 2013, real GDP declined 8 per cent and government debt went from 76 per cent to 131 per cent of GDP (source: AMECO). While it has historically been seen as a relatively high-employment (low-unemployment) country, starting in 2008 the country went through the strongest disruption to its employment and unemployment rates in recorded history (at least since 1960, according to AMECO data).[20] The global financial crisis brought about a decline in employment of 12 pp for prime-aged males and 5 pp for women between 2008 and 2013, which took as long as a decade to recover from (see Figure 8). The unemployment rate surged to an unprecedented 17 per cent at the height of the sovereign debt crisis, in 2013, as shown in Figure 10.[21]

The surge in unemployment had higher magnitudes for the less educated: there was a sharp increase of 11 pp in the unemployment rate of adults with no more than lower secondary education (ISCED 0–2), which topped at 19 per cent in 2013 – as well as a 11 pp decline in the employment rate (see Figure 8). Carneiro, Portugal and Varejão (2014) explain that 'for decades, the Portuguese labor market operated in a fragile equilibrium characterised by a very large portion of low-qualified, low-wage,

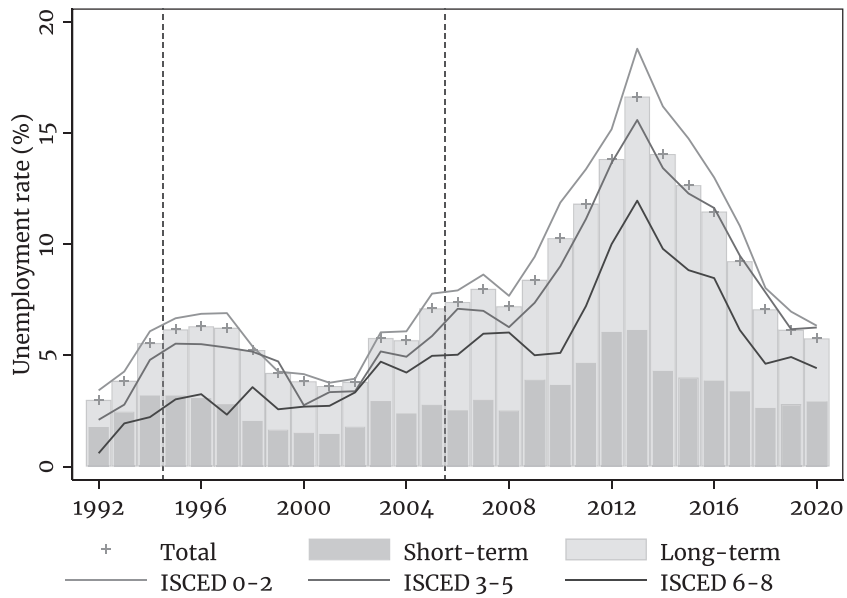

FIGURE 10 Unemployment rate by duration and by education. *Note*: The figure shows the evolution of the unemployment rate among prime-aged individuals by duration and by education level since 1992. The bars represent the unemployment rate decomposed into short-term (less than one year) and long-term (more than one year) unemployment. The lines represent the employment rate among different levels of education attainment. The unemployment rate surged during the financial crisis, with notably high rates of long-term unemployment. Unemployment rates were also higher among lower-educated individuals, although the increase was almost as salient among higher-educated individuals, who were less sensitive to business cycles in previous crises. *Source*: LFS; Deaton Review Country Studies.

[20] The Portuguese employment rate remained relatively high for most of the last three decades, when compared with other southern European countries such as Greece, Italy and Spain, and experienced long-term growth due to the rising participation of women in the labour force (from 74 per cent in 1992 to 82 per cent in 2020 among prime-aged individuals; source: LFS). The financial crisis caused a strong disruption that was especially strong during the Economic Adjustment Programme of 2011–14, negotiated between the Portuguese government and the *Troika* (Eurogroup, ECB and IMF). The bailout programme entailed, among many other measures, reforms to address the 'over-rigidity' of the Portuguese labour market including easing firing restrictions, reducing unemployment benefits and their duration, reducing the influence of collective bargaining, freezing the minimum wage and cutting public sector pay.

[21] Moreover, a very significant share of those were unemployed for more than one year – while unemployment duration is generally long in Portugal (Blanchard and Portugal, 2001), the long-term unemployed represented an extremely high 70 per cent of total unemployment at the peak.

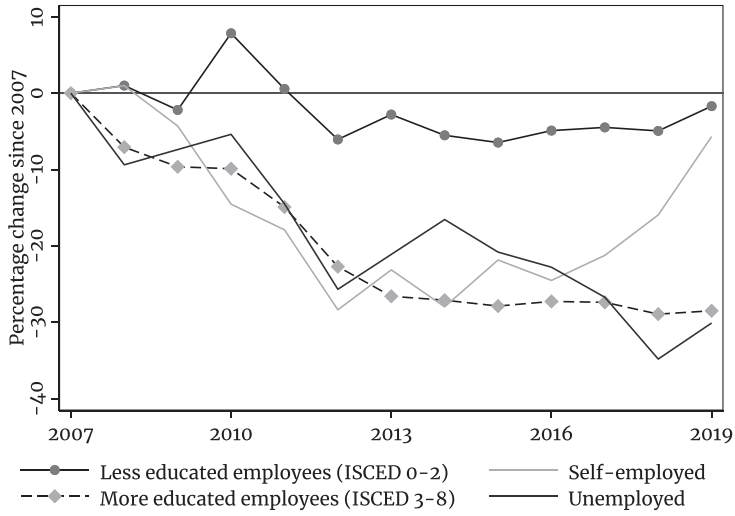

FIGURE 11 Income growth of different labour market segments in the wake of the financial crisis. *Note*: The figure shows the evolution of real income of less-educated employees (ISCED 0–2), more-educated employees (ISCED 3–8), the self-employed and the unemployed in the wake of the financial crisis. Each series portrays the percentage change in the average annual income of each group since 2007, over the course of the financial crisis and the economic recovery. The interpretation of these series can become severely complicated by compositional changes (see footnote). The average income of all groups severely decreased since 2007, except for less-educated employees, who managed to maintain their incomes relatively close to the pre-crisis level. *Source*: EU-SILC.

low-productivity jobs' so, with the advent of the financial crisis and the subsequent adjustment programme, many of those jobs were destroyed.

Still, this 'catastrophic job destruction' had effects across the skill distribution. While a college degree granted near-immunity to job loss during previous recessions, higher-educated individuals were as exposed as other workers during the crisis – there was a 7 pp surge in unemployment for higher-educated individuals between 2009 and 2013.[22]

Everything else constant, we would expect a decline in employment that was more salient at the bottom of the distribution to cause a decrease in wage/income inequality among working individuals (as workers at the bottom 'leave the distribution'), but an increase in income inequality as a whole (as the newly unemployed are deprived of most of their income).[23] However, everything else was not constant and overall income inequality decreased significantly during this period (see Figure A.2).

Figure 11 shows that all segments of the labour market suffered real income losses – especially when there was relevant inflation (3.6 per cent in 2011 and 2.8 per cent in 2012; source: AMECO) – with the exception of less-educated employees (ISCED 0–2), who managed to maintain their incomes relatively close to the pre-crisis level.[24] The minimum wage (Oliveira, 2023) and collective bargaining (de Almeida Vilares and Reis, 2022; Barrela et al., 2024) likely played a major role in supporting these lower labour incomes, reducing inequality in both wages and income.

[22] Figure 8, like Figure 10, shows that the employment rate of higher-educated individuals remained relatively immune to business cycles up until the Great Recession, when they also experienced very large drop in employment (even if the lower-educated were the most affected).

[23] The overall effect of the Great Recession on income inequality is not straightforward. Data from the World Inequality Database show that income inequality indicators such as the Gini index, the top 10 per cent and the bottom 50 per cent income shares had very different evolutions across comparable countries after 2007 (in France, Greece, Ireland, Italy, Portugal and Spain).

[24] It is very important to understand that the evolution of average incomes of different education groups is strongly biased by compositional changes related to the expansion of education. Broadly, the share of less-educated employees (ISCED 0–2) went from around 50 per cent to 35 per cent between 2007 and 2019, and the share of more-educated (ISCED 3–8) went from 25 per cent to 45 per cent. If the higher-earning workers within the less-educated group were the ones moving to the more-educated group, that would decrease the average income of both groups, even if the overall average income was increasing. This is what happened during the economic recovery, starting in 2015 – real incomes went up across the distribution, even if the average of each group seems to have stagnated over that period.

6.2 | Minimum wage

We saw that the fall in income inequality of 2006–19 was driven in large part by a decline in wage inequality at the bottom of the distribution. This was also over a period where the minimum wage grew 55 per cent in nominal terms and 33 per cent in real terms. As shown in Figure 12, the minimum-to-median wage ratio increased 10 pp (from 52 per cent to 62 per cent) and the share of employees with wages below 1.2 times the minimum reached almost 20 per cent.[25]

Oliveira (2023) shows how the sustained rise of the minimum wage produced changes in the wage distribution that account for the full decline in wage inequality of 2006–19. Through the estimation of counterfactual wage densities, the paper shows that, had the minimum wage remained at its 2006 level, wage inequality would have remained as high as it was, instead of decreasing sharply. While upper-tail wage inequality would have still decreased, it would have been fully offset by an increase of the same proportion in lower-tail inequality, had the minimum wage not increased.

While wages did not grow much over this period (16 per cent between 2006 and 2016), the rising minimum wage was extremely important in protecting the level of wages at the bottom of the distribution, which was much less affected by the financial crisis than the higher wages. However, Oliveira (2023) argues that the rising minimum wage did not just raise wages at the very bottom, it generated strong spillover effects, which produced wage gains up to the 54th percentile of the wage distribution. The spillover effects alone explained more than half of the inequality-reducing effect of the minimum wage. In the end, the minimum wage effects accounted for 38 per cent of average wage growth of Portuguese workers over this period, according to Oliveira (2023).[26]

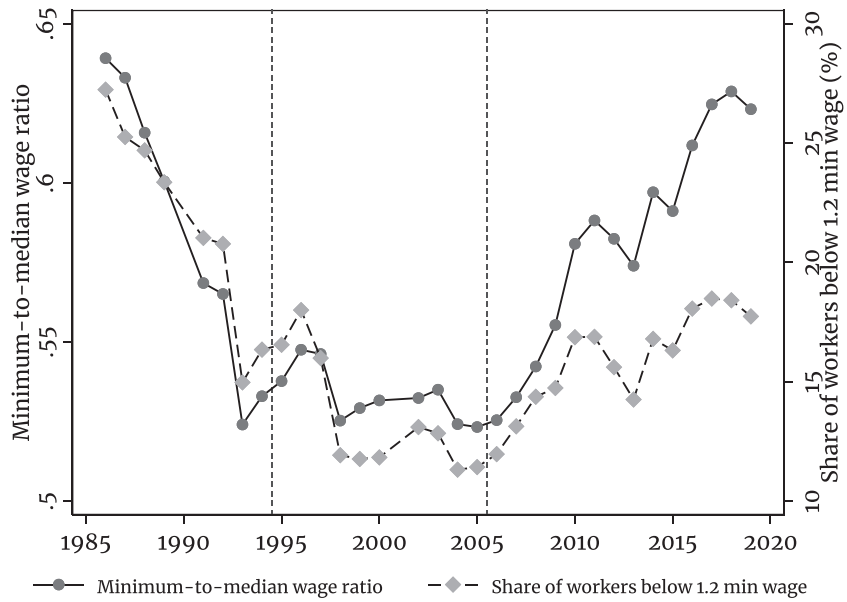

FIGURE 12 The bite of the minimum wage. *Note*: This figure shows the evolution of the minimum wage as a ratio of the median wage, and of the share of workers earning less than 1.2 times the minimum wage. The direct influence of the minimum wage on the Portuguese labour market decreased during the mid-1980s to mid-1990s, stagnated until the mid-2000s, and then started rising sharply since then. *Source*: QP; Deaton Review Country Studies.

[25] The real hourly value of the minimum wage grew steadily, but at a slow pace of just 0.6 per cent a year between 1986 and 2006. Since then, however, it has grown at a much faster pace of 2.4 per cent a year, even with its nominal rate being frozen between 2011 and 2014 in response to the financial crisis.

[26] Additionally, Alexandre et al. (2021) argue that the minimum wage 'may have had a supply-side effect by accelerating the exit of low profitability and low productivity firms and, thus, contributing to improving aggregate productivity through a cleansing effect'.

6.3 | Collective bargaining

Figure 5 has shown that unions saw their direct influence over workers' wages fall sharply since the 1970s, as membership rates declined from 70 per cent in the wake of the democratic revolution to just 15 per cent in 2016. However, unions still have an important say in wage setting – through collective bargaining. The Portuguese wage bargaining framework is largely aligned with the Continental European tradition of comprehensive sectoral collective bargaining, where firms or employers' associations negotiate with unions the signing of collective bargaining agreements (CBAs) that, among several other terms and conditions, set out a grid of wage floors by occupational category. These conditions are regularly extended to the entire workforce, meaning that around 80–90 per cent of employees have historically been covered by CBAs and their more than 30,000 occupation-specific minimum wages (Card and Cardoso, 2022).[27]

Card and Cardoso (2022) studied the interactions between wages and wage floors between 2008 and 2016 and found that, during the financial crisis, the decline in real wages of higher-educated workers largely reflected a decline in real wage floors, as well as the re-allocation of those workers to lower wage floors, while wage and wage-floor cuts for lower-paid workers were less significant. They also emphasise that the impact of the crisis on wages would have been even greater had there not been a strong expansion of education levels (addressed in Section 5).[28]

In their study, de Almeida Vilares and Reis (2022) estimate a dynamic search and matching model of the Portuguese labour market to try to understand the dynamics of wage bargaining since 1995, and especially during the Great Recession. They show that there has been a significant compression of the distribution of worker bargaining power. Worker power generally declined between 1995 and 2005. Since the mid-2000s, however, the bargaining power of unskilled workers saw an important increase, while the power of skilled workers and managers remained relatively constant. These changes only reinforced the influence of collectively bargained wage floors – the passthrough rate of wage floors to market wages has monotonically increased since the 1990s, across the skill distribution.

The minimum wage and collective bargaining help to explain why the wages of workers at the bottom half of the distribution did not decline with the rest of the workforce during the financial crisis, and increased much faster since then. What is less understood are the causes and mechanisms that led to such a strong decline of the wages higher up in the distribution during the crisis, and their relative stagnation during the economic recovery.

7 | CONCLUSION

Portugal was under an extremely unequal and economically backward dictatorial regime from 1933 to 1974. The 1974 democratic revolution brought about democracy and social freedoms, but also significant income and wealth redistribution. Yet, inequality rebounded quite quickly and for the most of the past four decades Portugal has borne the title of the most unequal country in Western Europe, and one of the most unequal among advanced economies, in both income and wages. Only since the mid-2000s did inequality start coming down again.

Structural changes related to the supply and demand for education/skills emerged as key drivers of inequality fluctuations. The remarkable expansion of workers' qualifications served both to increase and to decrease inequality at different points in time, especially when combined with other factors such as skill-biased technical change or women's rising labour force participation. Institutional and

[27] While the reforms agreed as part of the bailout programme were aimed at curbing the influence of collective bargaining, Addison et al. (2017) show that 'the notion that the pronounced reduction in the number of industry-wide agreements and extension ordinances of late is to be equated with a fall in coverage is a chimera', as CBA coverage remained largely unaffected by the crisis.

[28] Additionally, Barrela et al. (2024) show that, in Portugal, high wages have been much more sensitive to the business cycle than low wages, with collectively bargained wage floors contributing to this asymmetry.

political forces were especially relevant during the transition to democracy and, more recently, with the rising importance of the minimum wage and collective bargaining.

While this paper sheds light on critical aspects of Portugal's inequality dynamics, several knowledge gaps and unanswered questions persist. The lack of comprehensive income data prior to the 1990s and wage data prior to the 1980s limits our understanding of the historical evolution of their distributions. Additionally, the scarcity of inequality literature for the Portuguese context means that even the hypotheses put forward by earlier research or research relating to other countries do not get to be tested with newer data and methodological approaches. Still, this has visibly and positively evolved over time.

It is also the case that this paper puts a stronger emphasis on phenomena occurring in the labour market, as that is the line followed in the Deaton Review Country Studies project, and also due to the much greater availability of literature and data. Still, the distributional impacts of other factors, from taxes and transfers to inflation or the provision of public services, should be further explored to gain a comprehensive understanding of Portugal's inequality dynamics. Moreover, we know much more about wages and their distribution than we know about other sources of income, due to data availability. Namely, the distribution of wealth and capital income remain relatively obscure.

ACKNOWLEDGEMENTS

This paper derives from the wider IFS Deaton Review Country Studies project. I am immensely grateful to Pedro Portugal, Pedro Raposo and Hugo Reis, co-authors in the Portuguese chapter of the Review, for their continuous support. This work was funded by Fundação para a Ciência e Tecnologia, Portugal (PTDC/EGE-ECO/7493/2020, UIDB/00124/2020, UIDP/00124/2020 and Social Sciences DataLab - PINFRA/22209/2016), POR Lisboa and POR Norte (Social Sciences DataLab, PINFRA/22209/2016).

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are mostly available from the IFS at https://ifs.org.uk/inequality/country-studies-portugal/. The rest are available on request from the corresponding author. The original data are not publicly available due to privacy restrictions.

ORCID


Carlos Oliveira https://orcid.org/0000-0001-8258-9581

REFERENCES

Addison, J. T., Portugal, P., & de Almeida Vilares, H. (2023), Union membership density and wages: the role of worker, firm, and job-title heterogeneity. *Journal of Econometrics*, 233, 612–32.

Addison, J. T., Portugal, P., & Vilares, H. (2017), Unions and collective bargaining in the wake of the Great Recession: evidence from Portugal. *British Journal of Industrial Relations*, 55, 551–76.

Alexandre, F., Bação, P., Cerejeira, J., Costa, H., & Portela, M. (2021), Minimum wage and financially distressed firms: another one bites the dust. *Labour Economics*, 74, 102088.

Alvaredo, F. (2009), Top incomes and earnings in Portugal 1936–2005. *Explorations in Economic History*, 46, 404–17.

Amaral, L. (2019), *The Modern Portuguese Economy in the Twentieth and Twenty-first Centuries*. Cham: Palgrave Macmillan.

Asai, K., Lopes, M., & Tondini, A. (2024), Firm-level effects of reductions in working hours. Working paper, PSE.

Autor, D. H., Katz, L. F., & Kearney, M. S. (2008), Trends in U.S. wage inequality: revising the revisionists. *Review of Economics and Statistics*, 90, 300–23.

Bachmann, R., Bechara, P., & Schaffner, S. (2016), Wage inequality and wage mobility in Europe. *Review of Income and Wealth*, 62, 181–97.

Baganha, M. I. B. (1994), As correntes emigratórias portuguesas no século xx eo seu impacto na economia nacional. *Análise social*, 29, 959–80.

Barrela, R., Costa, E., & Portugal, P. (2024), On the asymmetrical sensitivity of the distribution of real wages to business cycle fluctuations. IZA Discussion Paper 16911.

Barreto, A. (1995), Portugal na periferia do centro: mudança social, 1960 a 1995. *Análise social*, 30, 841–55.

Berman, E., Bound, J., & Machin, S. (1998), Implications of skill-biased technological change: international evidence. *Quarterly Journal of Economics*, 113, 1245–79.

Blanchard, O., & Portugal, P. (2001), What hides behind an unemployment rate: comparing Portuguese and U.S. labor markets. *American Economic Review*, 91(1), 187–207.
Blanchet, T., Chancel, L., & Gethin, A. (2022), Why is Europe more equal than the United States? *American Economic Journal: Applied Economics*, 14, 480–518.
Bohnet, L., Peralta, S., & Pereira dos Santos, J. (2022), Cousins from overseas: the labour market impact of a major forced return migration shock. CESifo Working Paper 9971.
Cantante, F. (2019), *O risco da desigualdade*. Almedina.
Card, D., & Cardoso, A. R. (2022), Wage flexibility under sectoral bargaining. *Journal of the European Economic Association*, 20, 2013–61.
Card, D., & DiNardo, J. E. (2002), Skill-biased technological change and rising wage inequality: some problems and puzzles. *Journal of Labor Economics*, 20, 733–83.
Card, D., Heining, J., & Kline, P. (2013), Workplace heterogeneity and the rise of West German wage inequality. *Quarterly Journal of Economics*, 128, 967–1015.
Cardoso, A. R. (1998), Earnings inequality in Portugal: high and rising? *Review of Income and Wealth*, 44, 325–43.
Cardoso, A. R., Guimarães, P., Portugal, P., & Raposo, P. S. (2016), The sources of the gender wage gap. Banco de Portugal Economic Studies Working Paper, https://www.bportugal.pt/en/paper/sources-gender-wage-gap.
Cardoso, A. R., Portela, M., Sá, C., & Alexandre, F. (2008), Demand for higher education programs: the impact of the Bologna process. *CESifo Economic Studies*, 54, 229–47.
Carneiro, A., Portugal, P., & Varejão, J. (2014), Catastrophic job destruction during the Portuguese economic crisis. *Journal of Macroeconomics*, 39, 444–57.
Centeno, M., & Novo, A. A. (2014), When supply meets demand: wage inequality in Portugal. *IZA Journal of European Labor Studies*, 3, 1–20.
de Almeida Vilares, H., & Reis, H. (2022), Who's got the power? Wage determination and its resilience in the Great Recession. CEP Discussion Paper 1885, LSE, https://eprints.lse.ac.uk/118036/1/dp1885.pdf.
de Lurdes Rodrigues, M. (2015), *40 anos de políticas de educação em Portugal*. Almedina.
Farinha Rodrigues, C. (2012), *Desigualdade económica em Portugal*. Fundação Francisco Manuel dos Santos.
Fonseca, T., Lima, F., & Pereira, S. C. (2018), Job polarization, technological change and routinization: evidence for Portugal. *Labour Economics*, 51, 317–39.
Freitas, P. (2023), *Economia da Educação, Um Olhar sobre o Sistema de Ensino Português*. Fundação Francisco Manuel dos Santos.
Goldin, C., & Katz, L. F. (2008), *The Race between Education and Technology*. Cambridge, MA: Harvard University Press.
Gouveia, M., & Tavares, J. (1995), The distribution of household income and expenditure in Portugal: 1980 and 1990. *Review of Income and Wealth*, 41, 1–17.
Guilera, J. (2010), The evolution of top income and wealth shares in Portugal since 1936. *Journal of Iberian and Latin American Economic History*, 28, 139–71.
Hardy, B. L., Holla, S., Krause, E., & Ziliak, J. P. (2023), Inequality in the United States: 1975–2022. IFS Deaton Review Country Studies, https://ifs.org.uk/inequality/country-studies-us/.
Jimeno, J., Cantó, O., Cardoso, A. R., Izquierdo, M., & Rodrigues, C. F. (2000), Integration and inequality: lessons from the accessions of Portugal and Spain to the EU. FEDEA Working Paper 2000-10, https://documentos.fedea.net/pubs/dt/2000/dt-2000-10.pdf.
Judt, T. (2006), *Postwar: A History of Europe since 1945*. London: Penguin.
Justino, D. (2024), *O ensino em Portugal, antes e depois de Abril*. Fundação Belmiro de Azevedo.
Krugman, P., & de Macedo, J. B. (1981), The economic consequences of the April 25th revolution. In J. B. De Macedo and S. Serfaty (eds), *Portugal Since the Revolution*, London: Routledge, 53–87.
Lains, P., da Silva, E. G., & Guilera, J. (2013), Wage inequality in a developing open economy: Portugal, 1944–1984. *Scandinavian Economic History Review*, 61, 287–311.
Machado, J. A. F., & Mata, J. (2005), Counterfactual decomposition of changes in wage distributions using quantile regression. *Journal of Applied Econometrics*, 20, 445–65.
Martins, P. S., & Pereira, P. T. (2004), Does education reduce wage inequality? Quantile regression evidence from 16 countries. *Labour Economics*, 11, 355–71.
Oliveira, C. (2023), The minimum wage and the wage distribution in Portugal. *Labour Economics*, 85, 102459.
Oliveira, C., Portugal, P., Raposo, P., & Reis, H. (2023), Inequality in Portugal: 1986–2020. IFS Deaton Review Country Studies, https://ifs.org.uk/inequality/country-studies-portugal/.
Pereirinha, J. (1988), Inequalities, household income distribution and development in Portugal. PhD thesis, Institute of Social Studies, The Hague.
Piketty, T., Saez, E., & Zucman, G. (2018), Distributional national accounts: methods and estimates for the United States. *Quarterly Journal of Economics*, 133, 553–609.
Portugal, P., Raposo, P. S., & Reis, H. (2018), The distribution of wages and wage inequality. Economic Bulletin, Banco de Portugal Economics and Research Department, https://www.bportugal.pt/en/paper/distribution-wages-and-wage-inequality.
Raposo, P. S., & van Ours, J. C. (2010), How working time reduction affects jobs and wages. *Economics Letters*, 106, 61–63.

Song, J., Price, D. J., Guvenen, F., Bloom, N., & Von Wachter, T. (2019), Firming up inequality. *Quarterly Journal of Economics*, 134, 1–50.

Torres, S., Portugal, P., Addison, J. T., & Guimarães, P. (2018), The sources of wage variation and the direction of assortative matching: evidence from a three-way high-dimensional fixed effects regression model. *Labour Economics*, 54, 47–60.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Oliveira, C. (2024), Income and wage inequality in democratic Portugal, 1974–2020. *Fiscal Studies*, 45, 393–414. https://doi.org/10.1111/1475-5890.12391