

Earnings: A Long-run Perspective

Summary

Between 2009 and 2018 real earnings fell by an average of 1.4% per year for men and 1.1% per year for women. In contrast, between 1938 and 2009, real earnings rose by an average of 1.9% per year for men and 2.6% per year for women. Had the average growth rate between 1938 and 2009 been sustained, real earnings would have been 35% higher for men and 39% higher for women in 2018 than they actually were. An even longer-term series of average earnings, going back to 1800, suggests that the falls after 2009 are unusual but may not be unprecedented. Despite the stronger performance of women's earnings over the period 1938 to 2018, they had still only reached 80% of men's average earnings in 2018, having increased from approximately 50% in 1938.

Introduction

The briefing considers changes in earnings in real terms, ie adjusted for inflation.¹ This is a measure of the quantity of goods and services which a person on average earnings can buy with their earned income.² The briefing does not consider other factors which affect total income, such as taxes, benefits and unearned income (eg from investments), and therefore does not address changes in the overall standard of living.³ The briefing also does not address the possible explanations for movements in real earnings since the financial crisis, although it does provide some suggestions for further reading in this area. It also touches briefly on official forecasts for real earnings up to 2023.

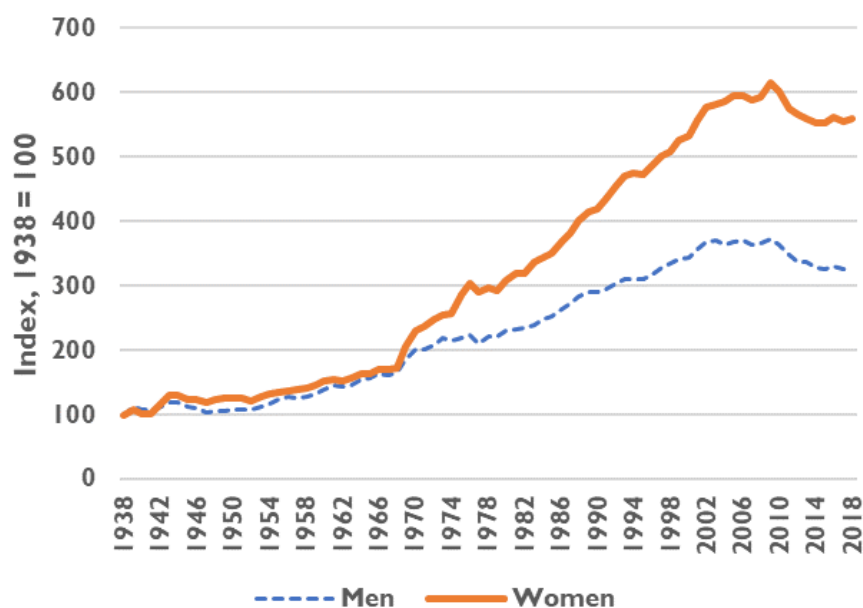
The briefing mainly relies on a long-run dataset produced in 2018 by the Office for National Statistics (ONS), relating to Great Britain, which was created by linking together several series from different sources covering different periods.⁴ The ONS described the final dataset as not fully consistent through time, and therefore warned that comparisons over time should not be taken as exact. However, the ONS stated that it “feels that the differences [in methodology] are tolerable and that the resulting series will be of benefit to those interested in changes in earnings statistics over a long period”.⁵ The main features of the dataset are summarised in the final section below.

Real Earnings Since 1938

The long-run series of earnings produced by the ONS starts in 1938. The full series, adjusted by inflation to produce real earnings, is shown in figure 1 below. Data for men and women is presented separately, as for the earlier years in the series there is no figure for overall earnings.

The chart shows that real earnings for men have more than trebled across the full 80-year period, while real earnings for women have risen approximately five and a half times. This data series shows that real earnings peaked in 2009. Between 2009 and 2014, real earnings for men fell by 12% and for women by 10%. There was then a slight recovery between 2014 and 2018, of 1.1% growth for women and 0.2% for men.⁶ For women, the 10% fall between 2009 and 2014 was the largest in the history of the series. For men, the 12% fall was only eclipsed once, by a 13% fall around the time of the Second World War (1943 to 1947).⁷

Figure 1: Real Earnings Rose Fairly Consistently up to the Financial Crisis, and Faster for Women
Average Earnings in Real Terms, Great Britain, 1938 to 2018⁸



The average annual increase in real earnings across the whole series (on a cumulative basis) was 1.5% for men and 2.2% for women. However, the table below shows that there has been an average annual decrease in real earnings since 2009, in contrast to the average increase evident between 1938 and 2009.

Table 1: Average Annual Change in Real Earnings⁹

	Men	Women
1938 to 2018	1.5%	2.2%
1938 to 2009	1.9%	2.6%
2009 to 2018	-1.4%	-1.1%

Had the average growth rate of the 1938 to 2009 period been sustained in the later period, real earnings would have been 35% higher for men and 39% higher for women in 2018 than they actually were.¹⁰

However, there are alternative measures of both earnings and inflation, and the use of different measures can change the statistics above. For example, in October 2018, the Resolution Foundation suggested that the fall in real wages between 2009 and 2014 was 6.7%, somewhat lower than the figures quoted above.¹¹

Comparative Earnings of Men and Women

Figure 1 showed the pattern for both the men's and women's average earnings series when separately indexed to 100 in 1938. In reality, women's average pay was less than half of men's average pay at the date of indexing. While the faster rate of increase of women's pay has meant that it has been catching up with men's pay, the ratio of women's pay to men's had only reached around 80% in 2018. Figures 2

and 3 below demonstrate this change. In money terms, the gap between men's and women's earnings has remained roughly constant (figure 2). As pay has risen for both sexes, in percentage terms the gap has narrowed, but has not been eliminated (figure 3).

Figure 2: In Money Terms, the Gap Between Men's and Women's Earnings Has Stayed Roughly Constant

Average Weekly Earnings in Real Terms, Great Britain, 2018 Prices¹²

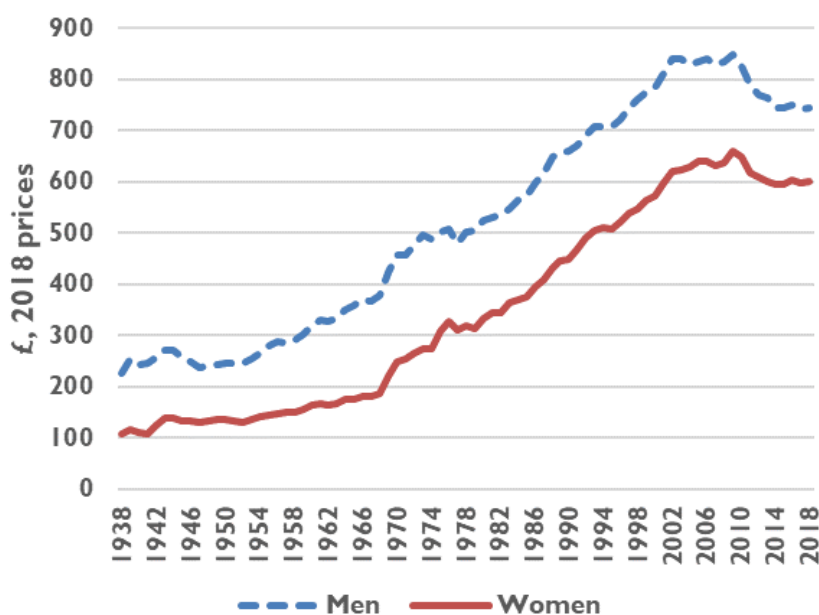
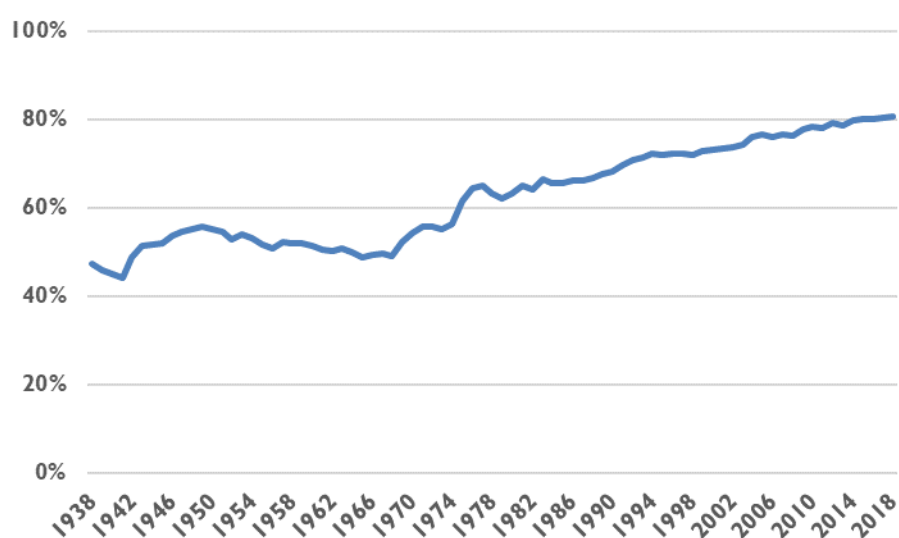


Figure 3: While as a Ratio, the Gap Between Female and Male Average Earnings Has Narrowed, But Still Exists

Women's Average Earnings as a Percentage of Men's, Great Britain, 1938 to 2018¹³



Real Earnings Since 1800: Indicative Series

In 1971, economic historians BR Mitchell and Phyllis Deane published a number of series that allow construction of a time series of wages going as far back as 1790.¹⁴ This earlier data is much more

uncertain and inconsistent over time than more recent data and therefore should be treated with increased caution.¹⁵ With that caveat in mind, figure 3 shows this data (starting from 1800), alongside the data from 1938 presented above.

Although only indicative, the chart suggests that the recent falls of 12% in real wages, while notable, are not unique. The following periods also saw falls of more than 10%:

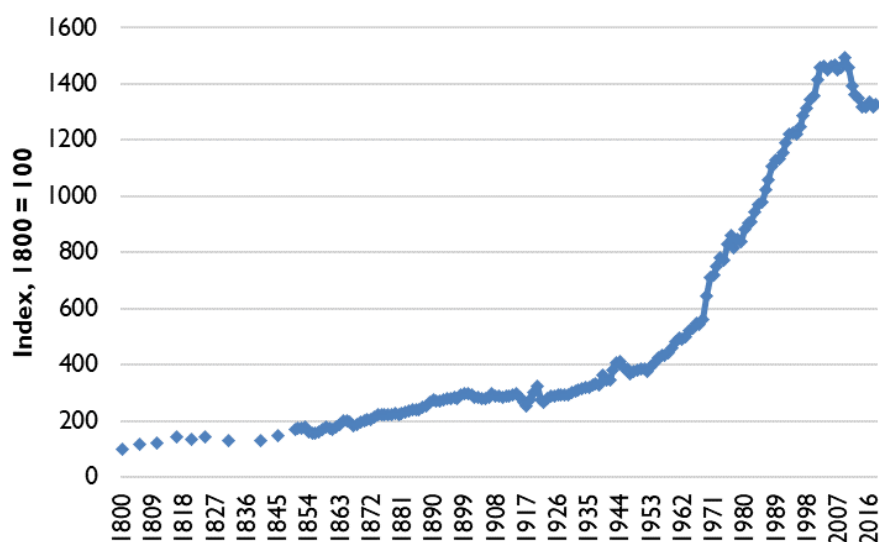
- 1824 to 1840 (-12%);
- 1853 to 1855 (-11%);
- 1914 to 1917 (-15%);
- 1920 to 1922 (-18%); and
- 1944 to 1947 (-10%).

The chart also suggests that the trend rate of increase in real earnings (shown by the steepness of the line on the chart) rose in the late 1940s and again in the late 1960s, before flattening off around the millennium.

Using this indicative series, the average annual increase in earnings (again on a cumulative basis) between 1800 and 2018 was 1.2%.

Figure 4: Recent Falls in Real Earnings May Not Be Unprecedented

Indicative Series of Average Earnings Since 1800



Where to Find Out More

Explanations for Falls in Real Wages Since 2009

This briefing does not consider the possible reasons for the decline and subsequent slow growth of real wages since the financial crisis. This has been extensively explored elsewhere; for example:

- Stephen Clarke and Paul Gregg, [Count the Pennies: Explaining a Decade of Lost Pay Growth](#), Resolution Foundation, October 2018, pp 6–9

- David Blanchflower and Stephen Machin, [Falling Real Wages](#), London School of Economics and Political Science, May 2014
- Ciaren Taylor et al, [An Examination of Falling Real Wages, 2010 to 2013](#), Office for National Statistics, 31 January 2014, pp 7–17

It should be noted that real earnings are, by definition, affected by both nominal earnings and the rate of inflation. For example, the Resolution Foundation described a recent “uptick” in real pay as resulting from a combination of falling nominal wage growth but faster falls in inflation.¹⁶

The *Economist* has noted that real wages have been weak in many countries since the financial crisis. However, it described the UK as one of the “worst performers” amongst the countries who are members of the Organisation for Economic Cooperation and Development.¹⁷ More recently, the same publication argued that real wages are “at last” increasing, by around 1.5% per year, but that this rate of growth is “about as high as it can go without pushing inflation above [the Bank of England’s] target [of 2% per annum]”.¹⁸

Forecasts of Real Earnings

The Office for Budget Responsibility publishes projections of both earnings and inflation as part of its wider forecasts for the UK economy.¹⁹ The forecasts suggest that nominal earnings will rise by 3.1% in 2019, rising slightly to reach 3.3% in 2023. Inflation is forecast to be close to 2% per annum throughout the period, based on the consumer prices index (CPI), and slightly higher based on the retail prices index (RPI).²⁰ On this basis, real wages would increase by approximately 1.0% to 1.5% over the forecast period.

Further Reading

- Office for National Statistics, [‘Employee Earnings in the UK: 2018’](#), 25 October 2018
- Full Fact, [‘How Have Wages Changed Over the Past Decade?’](#), 1 November 2018
- Jonathan Cribb and Paul Johnson, [‘10 Years On—Have We Recovered From the Financial Crisis?’](#), Institute for Fiscal Studies, 12 September 2018

Data Sources

As mentioned in the introduction, the graphs and figures in this briefing are drawn from a number of different sources covering different time periods and may not always be consistent. This section briefly describes the main features of these in chronological order. Note that there is a separate ONS dataset providing a measure of average wages and salaries which is used in the compilation of gross domestic product (GDP) and the national accounts.²¹ It includes data from 1949 to 2016. However, it does not provide data for the years since 2016 and is not included in the ONS’s long-run dataset; therefore it is not used in this briefing.

1800 to 1937

The data for this period is drawn from a number of sources using a variety of methodologies. These are described in detail in the source book from which this data was drawn:

- B Mitchell and Phyllis Deane, *Abstract of British Historical Statistics*, 1971, pp 338–45

1938 to 1969

The immediate source for all data from 1938 onwards is an ONS release from 2018:

- Office for National Statistics, '[Earnings Time Series of Gross Weekly From 1938 to 2018](#)', 25 October 2018

Again, this release brought together data from various historical and current sources. For the 1938 to 1969 period, the original source is Department of Employment labour statistics. The data is mean gross weekly earnings for full-time employees in Great Britain whose pay is not affected by absence and is for manual workers only. Data is only reported separately for men (aged 21 or over) and women (aged 18 or over). For the chart above (figure 4), the average annual change in earnings for men and women is used to estimate an overall figure for each year. The years 1939 and 1969 were not recorded; for the datasets in this briefing 1939 has been interpolated between 1938 and 1940, and 1969 has been interpolated between 1968 and 1970.

1970 to 1996

Data is from the new earnings survey, reporting mean gross weekly earnings for full-time employees in Great Britain whose pay is not affected by absence. However, for this period it relates to all (ie both manual and non-manual) employees. Data is only recorded separately for men and women up to 1982, and again an average annual change is taken for the series in figure 4. From 1983 onwards, an overall figure is available. From 1983, the definition of adult for these purposes changed to “all those on adult rates”.

1997 to 2018

The source for this period is the annual survey of hours and earnings. The data is mean gross weekly earnings for all full-time adult employees whose pay is not affected by absence. It is available separately for men and women and as an overall figure. The ONS noted a number of detailed methodological changes during this period.

¹ The main analysis in the briefing deflates earnings using the retail prices index (RPI). The consumer prices index (CPI) is the Office for National Statistics' (ONS) preferred measure of inflation, but it only has data from 1989. The RPI has data back to the start of the earnings series and is therefore used throughout for consistency. This is the methodology adopted by the ONS for long-run comparisons (Ciaren Taylor et al, [An Examination of Falling Real Wages, 2010 to 2013](#), Office for National Statistics, 31 January 2014, p 4).

² Ciaren Taylor et al, [An Examination of Falling Real Wages, 2010 to 2013](#), Office for National Statistics, 31 January 2014, pp 1–2.

³ *ibid*, p 6.

⁴ Office for National Statistics, '[Earnings Time Series of Gross Weekly From 1938 to 2018](#)', 25 October 2018.

⁵ *ibid*.

⁶ *ibid*.

⁷ *ibid*.

⁸ Office for National Statistics, '[Earnings Time Series of Gross Weekly From 1938 to 2018](#)', 25 October 2018; Office for National Statistics, '[Retail Prices Index: Long Run Series: Annual Percentage Change](#)', 17 April 2019; and House of Lords Library calculations.

⁹ *ibid*.

¹⁰ *ibid*.

¹¹ Stephen Clarke and Paul Gregg, [Count the Pennies: Explaining a Decade of Lost Pay Growth](#), Resolution Foundation, October 2018, p 4.

¹² Office for National Statistics, '[Earnings Time Series of Gross Weekly From 1938 to 2018](#)', 25 October 2018; Office for National Statistics, '[Retail Prices Index: Long Run Series: Annual Percentage Change](#)', 17 April 2019; and House of Lords Library calculations.

¹³ *ibid*.

¹⁴ B Mitchell and Phyllis Deane, *Abstract of British Historical Statistics*, 1971, pp 338–45.

¹⁵ For example, the pre-1850 figures relate only to Great Britain (as with the series from 1938 to 2018), while the 1850 to 1937 figures relate to the UK. When compiling a complete series from the overlapping individual series provided in Mitchell and Deane, in each case precedent is given to the later series. For example, one series provides data for 1850 to 1902 and another provides data for 1880 to 1936. In this case, the first series is used for 1850 to 1880 and the second for 1880 onwards.

¹⁶ Charlie McCurdy, '[Real Wage Growth Has Finally Returned to Pre-referendum Levels](#)', Resolution Foundation, 16 April 2019.

¹⁷ *Economist* (£), '[Rich-world Wage Growth Continues to Disappoint](#)', 11 September 2018.

¹⁸ *Economist* (£), '[Why British Wage Growth is Picking Up at Last](#)', 17 April 2019.

¹⁹ Office for Budget Responsibility, [Economic and Fiscal Outlook](#), March 2019, CP 50, p 48.

²⁰ *ibid*, p 45.

²¹ Office for National Statistics, '[Households and Non-profit Institutions Serving Households \(Sector 14 and Sector 15\): Wages and Salaries \(DI I\): Resource: Year on Previous Year Growth %: Current Prices £ Million: Seasonally Adjusted](#)', 23 October 2017.

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