

Article

# Overview of human capital estimates in the UK: 2004 to 2020

National estimates of human capital stock in the UK for years between 2004 and 2020. Includes full and employed human capital estimates for each year.

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## Table of contents

1. [Main points](#)
2. [National trends](#)
3. [Human capital estimates in the UK data](#)
4. [Measuring the data](#)
5. [Strengths and limitations](#)
6. [Related links](#)

# 1 . Main points

- In 2020, the UK's full human capital stock, as measured by the projected lifetime earnings of working age people, was worth £23.8 trillion.
- Annual growth of the UK's total lifetime earnings was 1.2% in 2020, the strongest growth seen since 2011.
- In 2020, the UK's lifetime earnings per head also grew annually by 1.2% to £566,000.
- Total lifetime earnings grew in 2020 mainly because of an increase in educational attainment – 1.2 million more people had a PhD, master's or undergraduate degree (or equivalent) as their highest qualification level when compared with 2019.
- Women's total lifetime earnings increased by 8.6% in 2020 when compared with 2010 (now accounting for £9.2 trillion), while men's total lifetime earnings increased by 6.5% over the same period.

## 2 . National trends

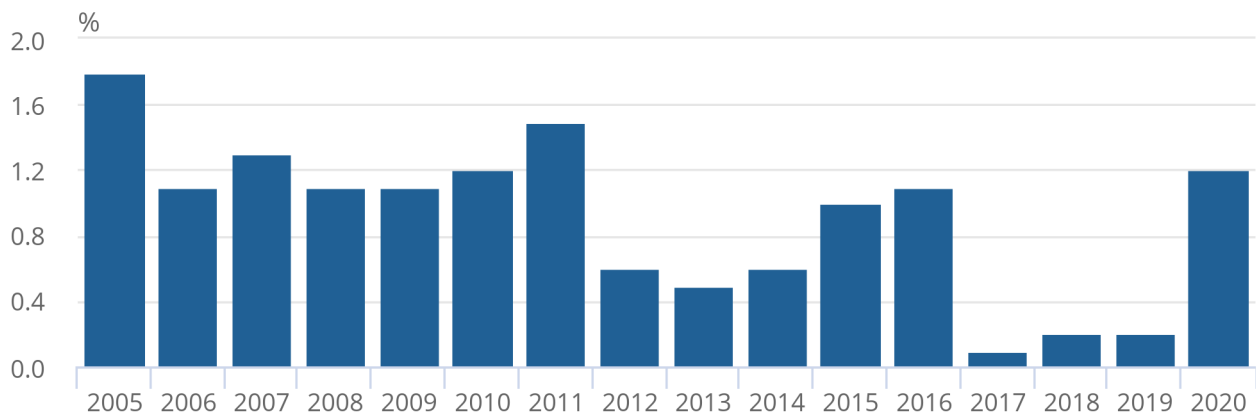
In this analysis, human capital is measured through people's projected lifetime earnings. More generally, human capital is a measure of the "knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being" – read more in [the OECD Executive Summary, The Well-being of Nations: The Role of Human and Social Capital \(PDF, 292KB\)](#). The value of the UK's full human capital stock, accounting for the human capital of people who are either employed or unemployed, was £23.8 trillion in 2020. This was a 1.2% increase in real terms when compared with 2019, and is the strongest annual growth since 2011.

**Figure 1: Total lifetime earnings grew strongly in 2020, ending a period of slow growth**

Growth rates of real full human capital stock, UK, 2004 to 2020

Figure 1: Total lifetime earnings grew strongly in 2020, ending a period of slow growth

Growth rates of real full human capital stock, UK, 2004 to 2020



Source: Office for National Statistics – Annual Population Survey and Labour Force Survey

**Notes:**

1. Real figures are in 2020 value.
2. The core methodology has been updated whereby the number of qualification levels has increased from six to seven. Please see the [measuring the data](#) section for more information.

The increase in total lifetime earnings can be mainly explained by the rise in the number of working age people (those aged 16 to 65 years) with at least an undergraduate degree or equivalent as their highest level of qualification. It is worth noting that an individual with a higher educational attainment will have higher lifetime earnings, on average, than if that same individual had a lower educational attainment. In 2020, the number of working age people with a master's or PhD qualification grew by 10.9% to 5.1 million when compared with 2019. Similarly, the number of people whose highest qualification was an undergraduate degree or equivalent grew by 7.5% to 9.4 million over the same period.

Further data on human capital stocks, including contributions to total lifetime earnings split by age, sex and highest qualification level, can be found in the [associated data tables](#). Fuller analysis of trends, including regional information, will be provided later in 2022.

## 3 . Human capital estimates in the UK data

[Human capital estimates: supplementary tables](#)

Dataset | Last updated 25 April 2022

Human capital stock and per head values, equating to lifetime labour earnings, supplementary to human capital stock publications.

## 4 . Measuring the data

### Updates to methodology

Our previous core methodology can be found in [our Measuring the UK's Human Capital Stock methodology guidance \(PDF, 208KB\)](#). This involved calculating earnings by age, sex and highest qualification level, where highest qualification level was grouped into six levels including "Degree or equivalent". We have now adjusted the core methodology so that "Degree or equivalent" is separated out into "Undergraduate degree or equivalent" and "Master's degree or PhD". This followed on from experimental work in our last release that derived this for the first time. This adjustment allows us to see the lifetime earnings premiums for those with undergraduate degrees and master's/PhD level qualifications separately and will also improve the measurement of our human capital stock value.

We have additionally moved to using the Törnqvist index to more accurately measure how real human capital changes over time. For further recent updates to our methodology, see [the Methodology developments section of our Human capital estimates in the UK: 2004 to 2018 article](#).

### Full and employed human capital

Full and employed human capital estimates are provided in this bulletin. Full human capital estimates assume that unemployed people have the same lifetime earnings as those who are employed with the same age, sex, and highest qualification, whether they are currently employed or not. Under employed human capital methodology, those who are unemployed are assumed to have zero human capital. In both full and employed human capital estimates, inactive individuals (those not seeking work) are assumed to have no human capital. We refer to full human capital estimates in this release, unless stated otherwise.

## 5 . Strengths and limitations

As outlined in [our Measuring the UK's Human Capital Stock methodology guidance \(PDF, 208KB\)](#), there are several assumptions that go into deriving human capital stocks through projected lifetime earnings.

One assumption of the current human capital methodology is that future trends are projected from current-year trends. This could be seen as a limitation in 2020, because of the coronavirus (COVID-19) pandemic's effect on earnings and mortality rates. We therefore adjusted individuals' earnings and the mortality rates that are projected forward so that they better reflected the levels seen before the coronavirus pandemic. These adjusted earnings and mortality rates were used to calculate projected lifetime earnings, which were then compared with the estimates that used the original methodology. This analysis showed little difference between the estimates derived from the original and adjusted methods, and as a result we have not changed the methodology in 2020. Data tables showing this analysis can be found in our [supplementary tables](#).

## 6 . Related links

### [Human capital estimates in the UK: 2004 to 2018](#)

Article | Released 28 October 2019

National estimates of human capital and lifetime earnings for the economically active population in the UK.

### [Indicator Based approach to measuring Human Capital](#)

Web page | Released 9 November 2020

An overview of the feedback received from an Office for National Statistics (ONS) public consultation on taking an indicator approach to measuring human capital.

### [Characteristics and benefits of training at work, UK 2017](#)

Article | Released 9 May 2019

The first analysis looking at the characteristics of those who take part in training at work and the benefits they receive from it, in the UK.

### [An overview of workers who were furloughed in the UK: October 2021](#)

Article | Released 1 October 2021

Characteristics of those who have been furloughed in the UK and how the furlough scheme has affected labour market outcomes and skills: data from the Labour Force Survey (LFS) for April to June 2021 and Opinions and Lifestyle Survey (OPN) for July to August 2021. Experimental Statistics.

### [Unemployment scarring: What affects a person's chances of finding a job following a period out of work?](#)

Web page | Released 30 March 2021

This analysis examines the impacts on a person's chances of finding a job following a stint out of work, using quarterly data from the Labour Force Survey and annual data from Understanding Society.