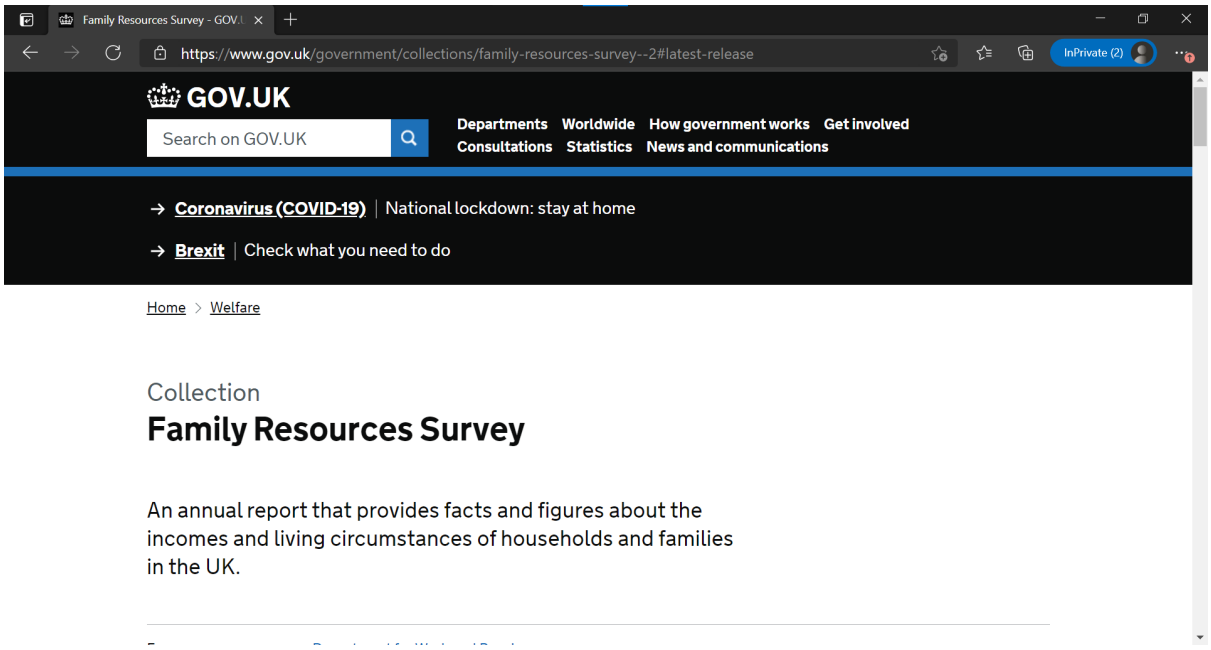
How to read a data spreadsheet

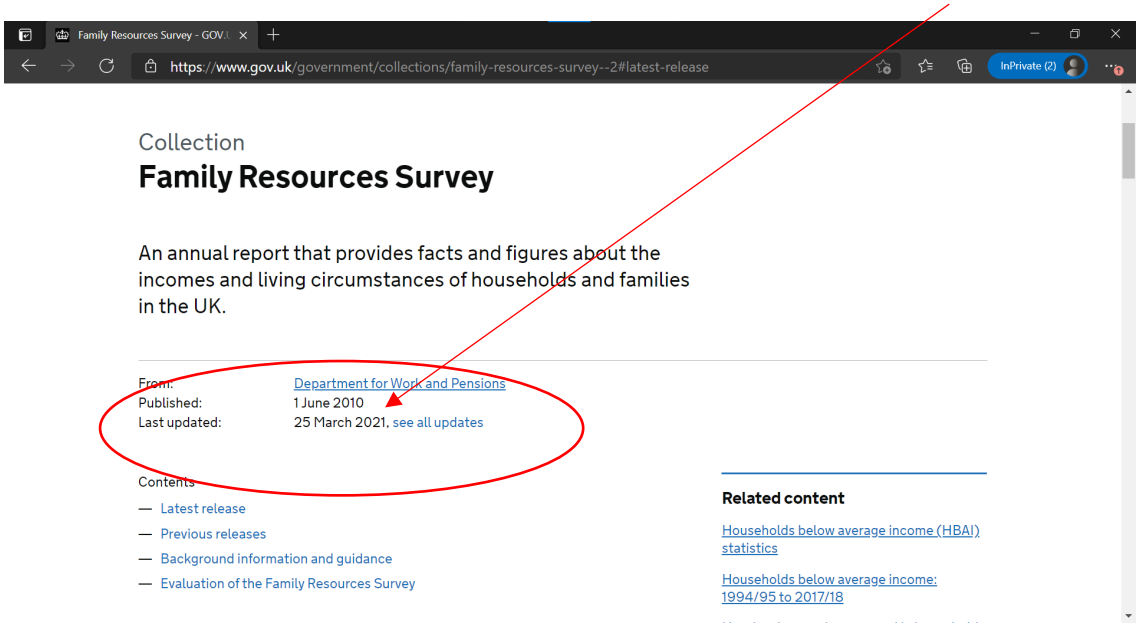
To find background information on self-employment, you need to look at the Family Resources Survey. This information comes from the **Department for Work and Pensions** but is published in the gov.uk website. [TIP: lots of public information is collected on the gov.uk website.]



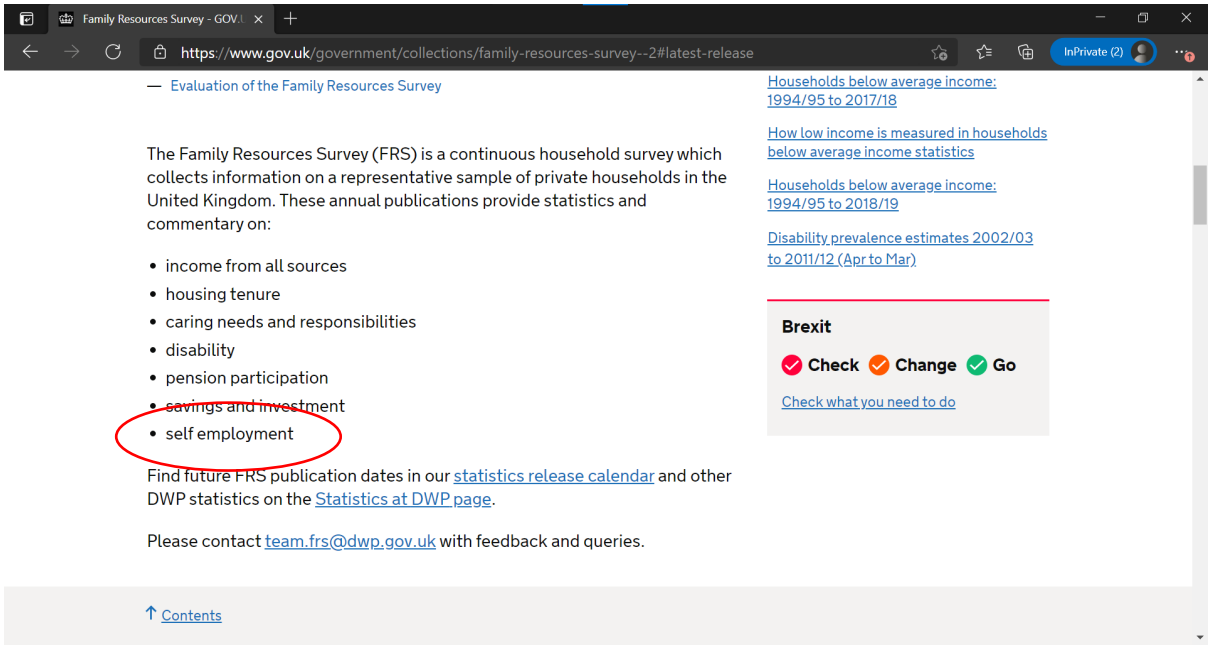
https://www.gov.uk/government/collections/family-resources-survey--2#latest-release

(Note: The numbers are based on a survey. That means that the information is generalised rather than exact. However, it gives us a good idea of what the real numbers are likely to be.)

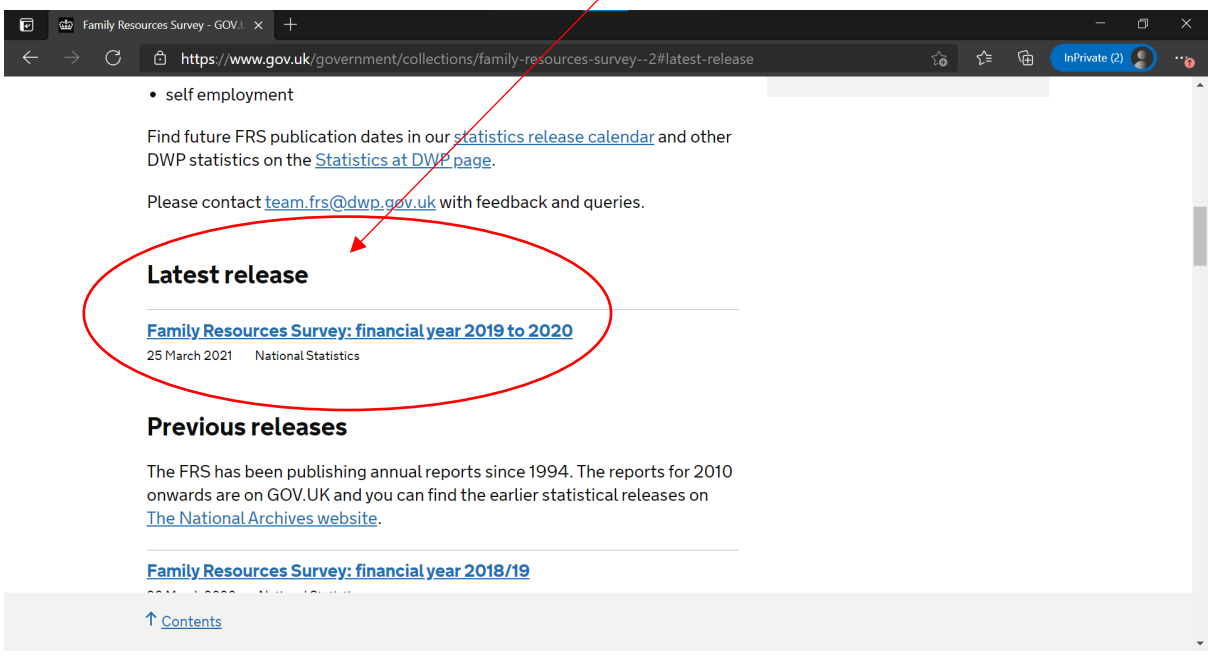
You can check that you are using the most up-to-date information by checking here:



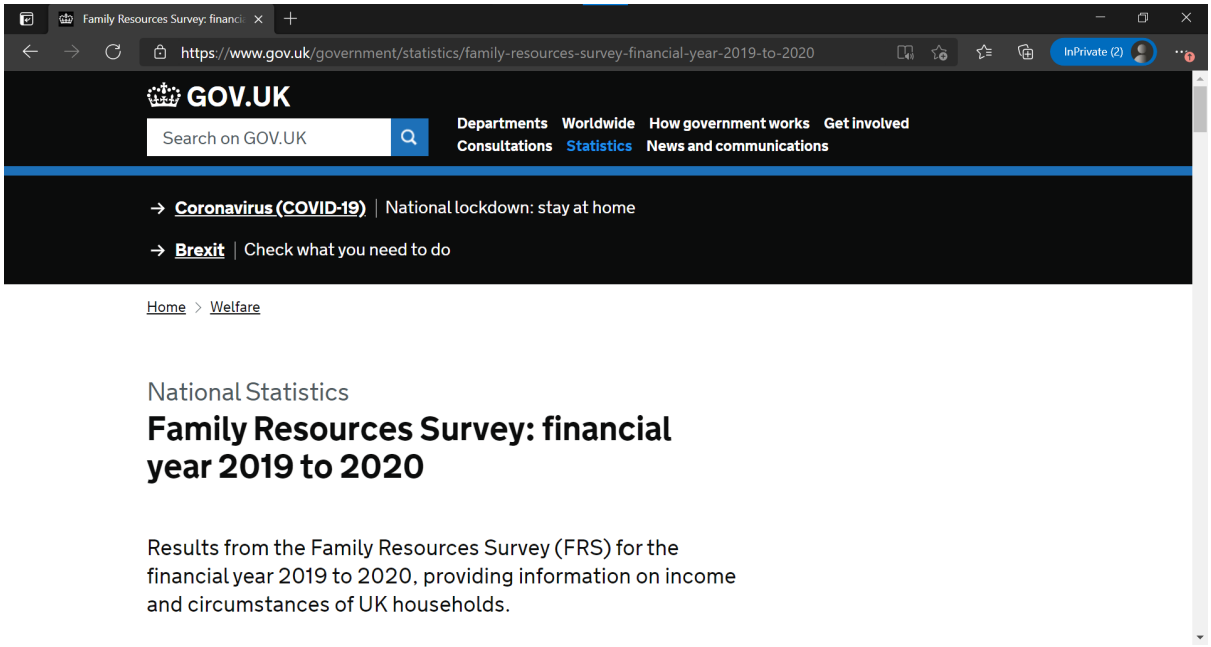
It has a lot of interesting information, but for this ‘how to’, we are just going to consider the self-employment figures. This links to our first briefing on Coronavirus government support.



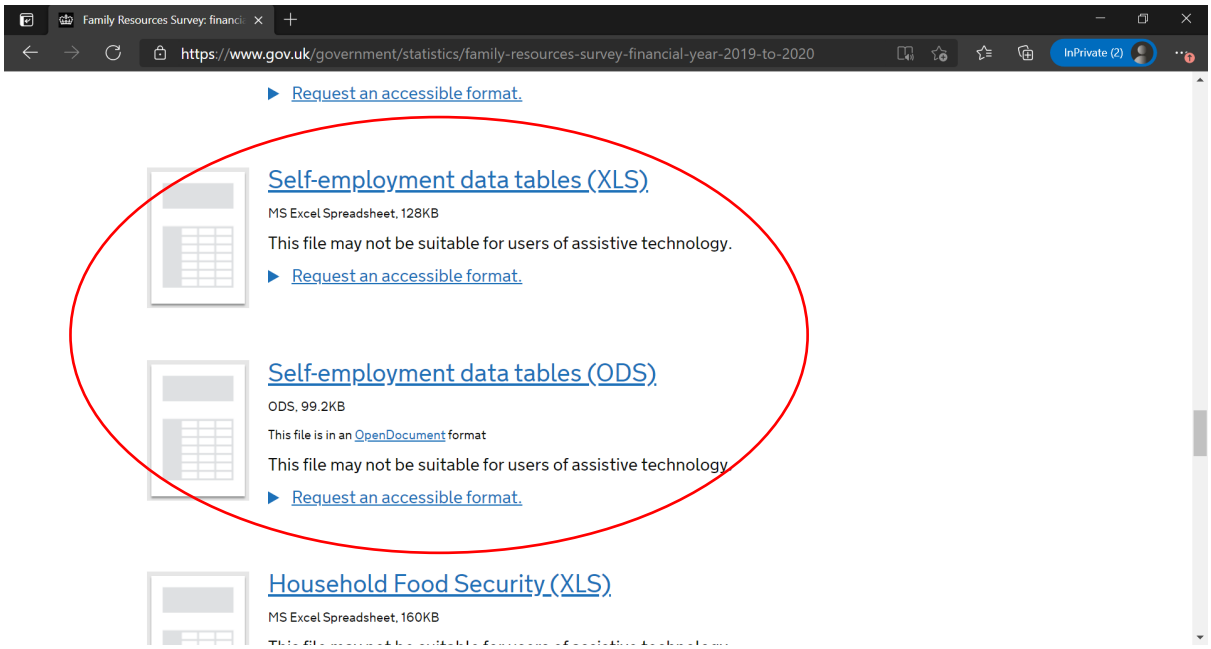
Keep scrolling down the page and you get to the link you need. Note that this is a yearly dataset, so the information may be about the previous year.



When you click the link, you should come to a page that looks like this:

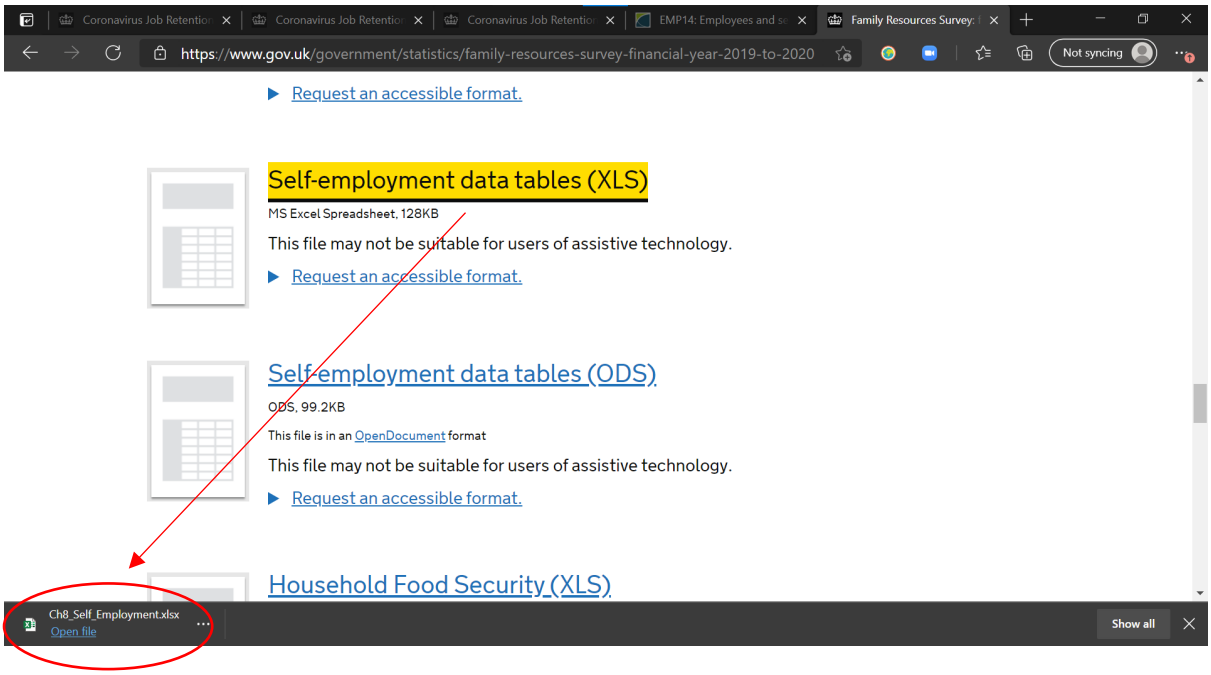


Again, we need to scroll a bit to find the right information.

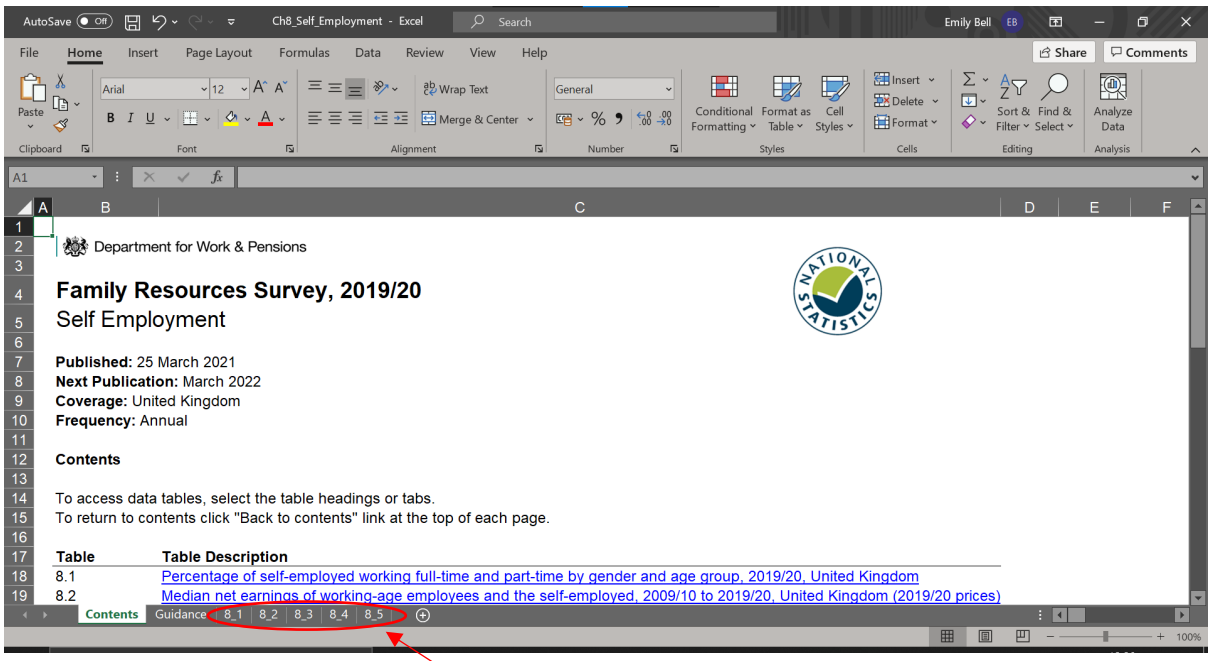


Don't worry too much about the format of the table. XLS is Microsoft Excel, ODS is just an open-source format for people who don't have Microsoft Excel on their computers.

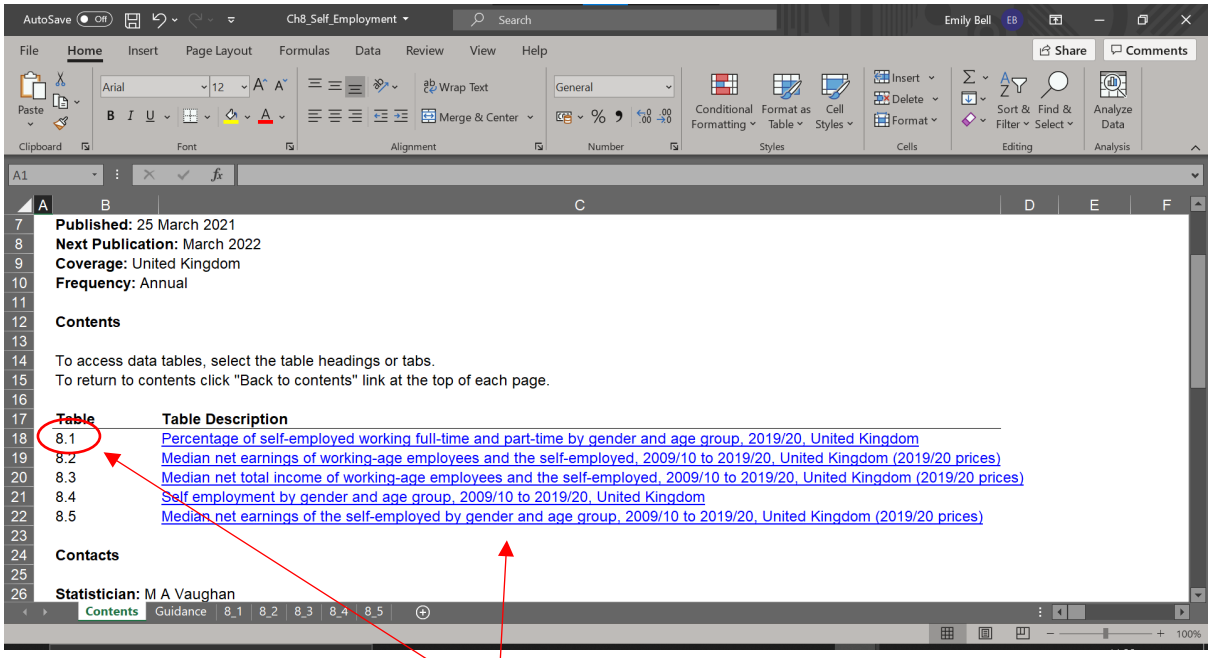
When you click the link, the spreadsheet will download (you may have to give permission, depending on your computer settings). The file will have a name that includes ‘self-employment’.



Note that all spreadsheets come with a contents page, so you can use this to know which tab you need.



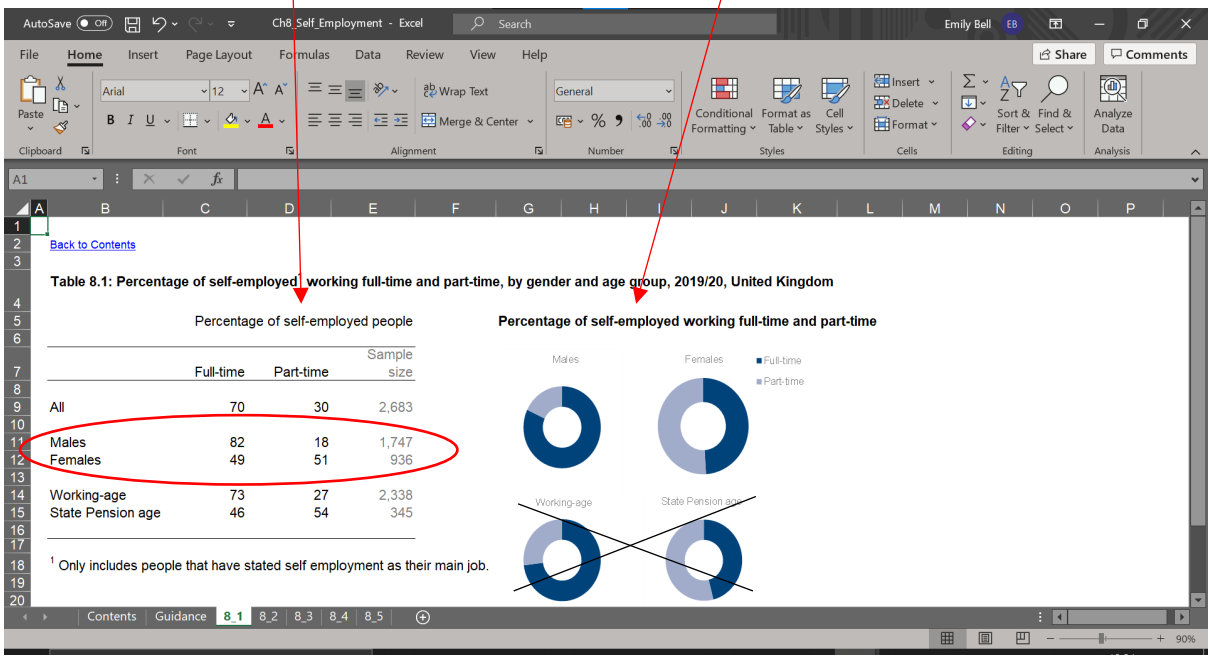
In this dataset, the tabs don’t have names, so you will really have to look at the contents page to know where to look.



If you click on the name you want, it will take you directly to that tab. In this dataset you can click anywhere on the link (it shows under column C).

In the data on self-employment, we'll start by considering the percentage of men and women in self-employment. That means we need tab 8.1.

We're starting with this spreadsheet because it's 'friendlier' than some other datasets! Each tab provides the numerical information, and they give charts to show the main points. (Note: we will only work with the information on gender, not age group.)



You can see clearly that there are a lot more men who are self-employed working full-time. For women, on the other hand, it is a relatively even split between full-time and part-time work for those who are self-employed.

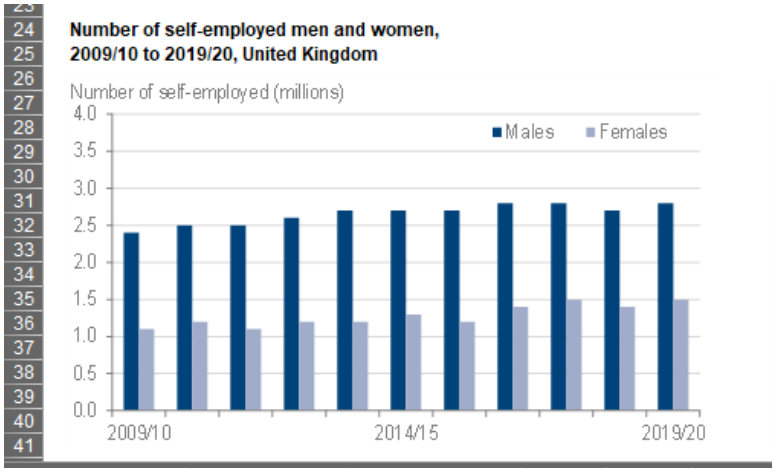
Now, let's look at the numbers of people who are self-employed. This time, we need to go to tab 8_4. (Again, we can ignore the information about age for now.)

The information in this table is given over a ten-year period. Can you spot any trends over this ten-year period? Look at the data, then check with the chart below.

Table 8.4: Self employment[1] by gender and age group, 2009/10 to 2019/20, United Kingdom

	Number of self-employed people (millions)					Index (2009/10 = 1)					
Year	All	Males	Female s	Working-age	Pension age	All	Males	Female s	Working-age	Pension age	Sample size
2009/10	3.5	2.4	1.1	3.1	0.4	1.00	1.00	1.00	1.00	1.00	3,080
2010/11	3.6	2.5	1.2	3.2	0.4	1.05	1.02	1.10	1.04	1.07	3,262
2011/12	3.6	2.5	1.1	3.2	0.4	1.05	1.05	1.05	1.05	1.04	2,652
2012/13	3.8	2.6	1.2	3.3	0.4	1.09	1.07	1.14	1.09	1.11	2,568
2013/14	3.9	2.7	1.2	3.5	0.4	1.13	1.12	1.15	1.13	1.13	2,672
2014/15	4.0	2.7	1.3	3.5	0.4	1.15	1.12	1.23	1.16	1.13	2,676
2015/16	3.9	2.7	1.2	3.5	0.4	1.13	1.11	1.18	1.14	1.07	2,524
2016/17	4.3	2.8	1.4	3.8	0.5	1.23	1.18	1.34	1.22	1.29	2,721
2017/18	4.3	2.8	1.5	3.9	0.5	1.25	1.18	1.42	1.26	1.23	2,755
2018/19	4.1	2.7	1.4	3.7	0.5	1.19	1.13	1.33	1.19	1.17	2,567
2019/20	4.3	2.8	1.5	3.9	0.4	1.24	1.16	1.42	1.26	1.06	2,683

[1] Only includes people that have stated self employment as their main job.



Now, check your answers over the page.

In real numbers, you can see that there are approximately twice as many men who work on a self-employed basis than women over the entire ten-year period. Some years it is more than double, and some years a bit less, but generally the trend is consistent.

However, you can also see the increase in the number of women is higher than the number of men. This information is calculated for us.

Table 8.4: Self employment[1] by gender and age group, 2009/10 to 2019/20, United Kingdom

	Number of self-employed people (millions)					Index (2009/10 = 1)					
Year	All	Males	Females	Working-age	Pension age	All	Males	Females	Working-age	Pension age	Sample size
2009/10	3.5	2.4	1.1	3.1	0.4	1.00	1.00	1.00	1.00	1.00	3,080
2010/11	3.6	2.5	1.2	3.2	0.4	1.05	1.02	1.10	1.04	1.07	3,262
2011/12	3.6	2.5	1.1	3.2	0.4	1.05	1.05	1.05	1.05	1.04	2,652
2012/13	3.8	2.6	1.2	3.3	0.4	1.09	1.07	1.14	1.09	1.11	2,568
2013/14	3.9	2.7	1.2	3.5	0.4	1.13	1.12	1.15	1.13	1.13	2,672
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[1] Only includes people that have stated self employment as their main job.

The number in the first year of the time series represents the base, and then you can find the percentage increase by looking at the numbers in each column for males and females underneath the initial base figure.

So, for example, the first increase, from 2009/10 – 2010/11 saw a 2% increase for males but a 10% increase for females. Although it was even the following year, every year after 2011/12 saw a bigger increase for females than males, often at twice the rate.

Now, let's examine earnings. This time, we need tab 8_5. (Again, we can ignore the information about age for the moment.)

What trends can you observe in this information?

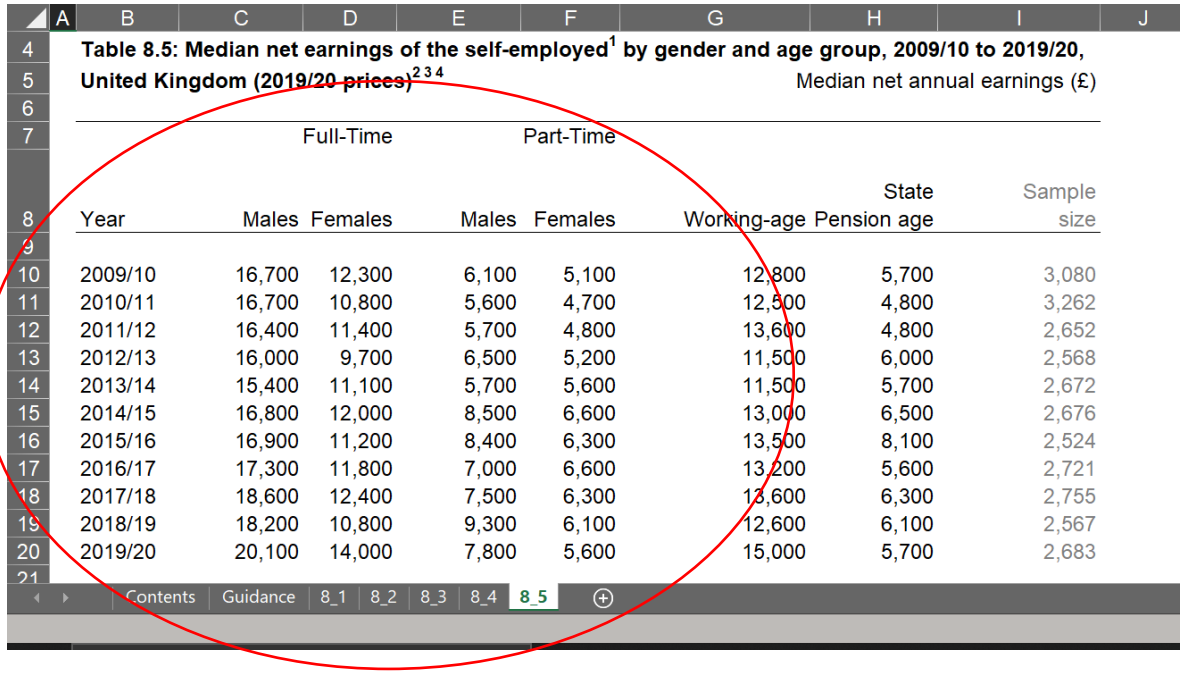

Table 8.5: Median net earnings of the self-employed[1] by gender and age group, 2009/10 to 2019/20, United Kingdom (2019/20 prices)[2 3 4]

Median net annual earnings (£)

	Full-Time		Part-Time				
Year	Males	Females	Males	Females	Working-age	State Pension age	Sample size
2009/10	16,700	12,300	6,100	5,100	12,800	5,700	3,080
2010/11	16,700	10,800	5,600	4,700	12,500	4,800	3,262
2011/12	16,400	11,400	5,700	4,800	13,600	4,800	2,652
2012/13	16,000	9,700	6,500	5,200	11,500	6,000	2,568
2013/14	15,400	11,100	5,700	5,600	11,500	5,700	2,672
2014/15	16,800	12,000	8,500	6,600	13,000	6,500	2,676
2015/16	16,900	11,200	8,400	6,300	13,500	8,100	2,524
2016/17	17,300	11,800	7,000	6,600	13,200	5,600	2,721
2017/18	18,600	12,400	7,500	6,300	13,600	6,300	2,755
2018/19	18,200	10,800	9,300	6,100	12,600	6,100	2,567
2019/20	20,100	14,000	7,800	5,600	15,000	5,700	2,683

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While you are comparing the numbers, why not try calculating the difference in earnings in percentage terms? To do a calculation on the difference, we can use the formula

$$x \div y \times 100$$

Let's do an example:

In 2009/10, men earned an average of £16,700 for full-time work, compared to women, who earned £12,300. What is the percentage difference?

$16700 \div 12300 \quad = \ (1.3577) \qquad \times 100 = 135.77$

That means that men earned more than 135% what women earned.

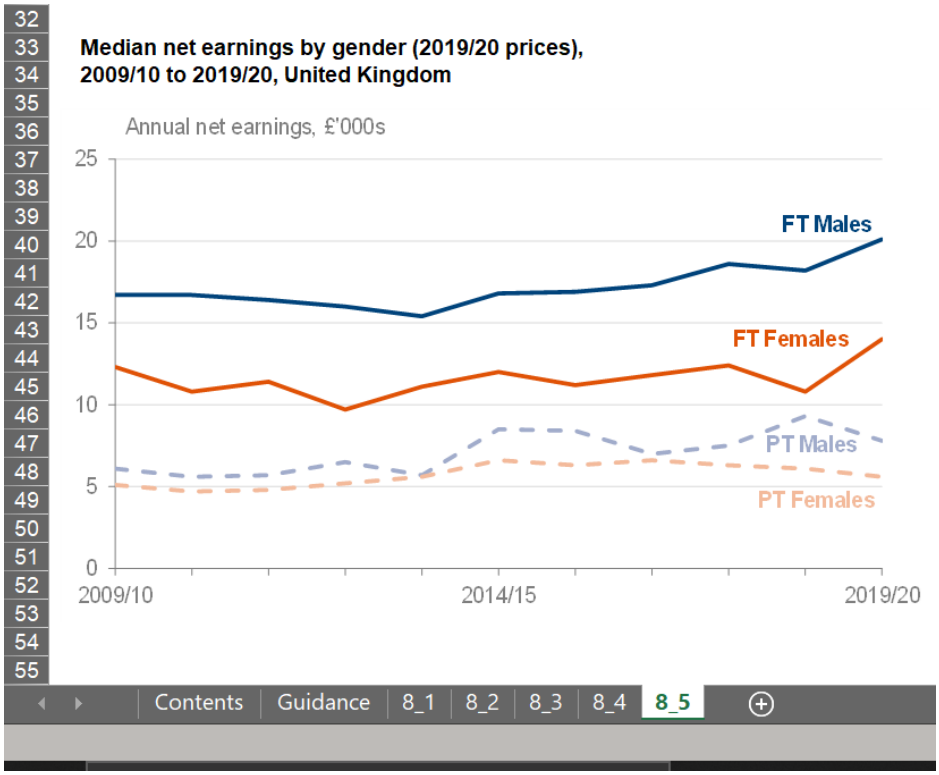
Or, we can do it the other way around, $12300 \div 16700 \times 100 = 73.65$

So, women earned just under 74% of what men earned.

You could check the other figures to analyse whether this trend is the same throughout the ten-year period. You could also check what the difference is for part-time workers.

Now check with the chart over the page.

Looking at the graph helps to confirm that there has been a consistent gap between male and female earnings for the entire ten years. The difference is fairly consistent, but there have been fluctuations at different times for full-time and part-time pay. Overall, though, female earnings are much lower for full-time work.



Join us for the Local Data Project to find out more about accessing data, reading datasets, and doing basic calculations.

Sign up for the newsletter to find out more: www.wbg.org.uk/ldp or email: emily.bell@wbg.org.uk

Information correct at April 2021

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