Article

The role of labour costs and profits in UK inflation: 2010 to 2023

Analysis of trends in unit labour costs and unit profits as contributions to domestic inflation using the national accounts and the income approach to GDP.

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1 . Main points

- The change in the implied price of UK gross domestic product (GDP) is a measure of domestic inflation, which includes capturing the contributions of labour costs and profit margins in explaining movements in domestic inflation.

- In the year to Quarter 2 (Apr to June) 2023, this measure of domestic inflation increased by 7.9%; higher unit labour costs contributed about two-fifths (3.3 percentage points) and higher unit profits contributed about one-fifth (1.6 percentage points) of that increase in domestic inflation over this period, which is broadly in line with previous inflation cycles.

- There has been no clear increase in the relative contributions in unit labour costs and unit profits in recent quarters; higher unit labour costs played a relatively larger role in the 1970s in their contribution to domestic inflation in the UK after the oil price shocks.

- There has not been a marked change in the labour and capital income shares in recent quarters for the G7 economies.

- Contributions to domestic inflation do not necessarily imply that inflation is high because labour costs and /or profits have increased, as any change in labour and capital income might be reflecting a response to higher inflation, especially in cases of external shocks.

2 . Background

There has been interest in whether higher labour costs or higher profits have played a role in underpinning domestic inflation in the UK and other advanced economies. The increase in energy and other commodity prices prices helps explain the initial pickup in inflation in the UK, which was reflected in a decline in the UK's terms of trade, where higher import prices led to higher consumer prices.

These terms-of-trade effects also explain why there must be a hit to real national income in the UK, which would be reflected in lower labour income for households and/or lower capital income for businesses. However, it is possible that households and businesses might respond in preserving their real purchasing power. Changes to the wage- and price-setting process could lead to higher labour costs and higher profit margins, particularly if there is a tight labour market or if firms have pricing power.

Underlying consumer price inflation in the UK remains higher than in other advanced economies (Table 1). Most measures of the persistent inflation component have increased. This persistence of inflation points to the potential role of higher labour costs and/or higher profit margins in underpinning domestic inflation in the UK. For instance, the International Monetary Fund find that higher profits have played more of a role in inflation in the euro area, while higher labour costs have been more of a factor in the United States.

We look at how domestic inflation has evolved in the UK, specifically whether there has been a change in the relative contributions of unit labour costs and unit profits. We also look at how the UK experience compares with other advanced economies to see how labour and capital income have evolved in recent years.

Table 1: Core inflation in the UK is still high
Core CPI, March 2023 to August 2023, G7

	Canada	France	Germany	Italy	Japan	UK	US
March 2023	4.5	3.7	5.7	4.8	2.6	6.2	5.6
April 2023	4.5	3.9	5.7	4.9	2.8	6.8	5.5
May 2023	4.4	3.6	5.2	4.9	2.9	7.1	5.3
June 2023	4.0	3.7	5.6	4.6	2.8	6.9	4.8
July 2023	3.8	3.6	5.5	4.2	2.8	6.9	4.7
August 2023	3.9	3.3	5.5	3.9	2.9	6.2	4.3

Source: Organisation for Economic Co-operation and Development (OECD), Office for National Statistics (ONS)

Notes

1. UK figures are based on CPI excluding energy, food, alcohol, and tobacco. Figures for other countries are based on the national measures of consumer price indices excluding energy and food as reported by the OECD.

3 . Unit labour costs and unit profits in the national accounts

Gross domestic product (GDP) is a measure of the value added that is created through the production of goods and services in a country. From an income perspective, it measures the income earned from that production. This captures the returns to labour and capital, which enables us to look at the movements in unit labour costs, unit profits and unit net taxes. This comprises:

- compensation of employees (CoE): this is ameasure of the total remuneration, or payment for work or services, paid to employees; it is the sum of gross wages and salaries, and employers' social security contributions, and is an indicator of labour income

- gross operating surplus (GOS): this is output less the cost of intermediate goods and services, the compensation of employees, and taxes and subsidies on production and imports;it is an indicator of capital income

- other income: this includes gross mixed income and the gross operating surplus of unincorporated enterprises and households, where it is difficult to distinguish between income from labour and income from capital

- taxes less subsidies (or net taxes): these are taxes and subsidies on products and production for the whole economy that must be paid irrespective of the profits made; examples include Value Added Tax (VAT), import and excise duties, Stamp Duty, and business rates

Changes in the implied price of GDP capture the broadest measure of inflation in the domestic economy. They reflect changes in the price of economic output that is produced in the UK. These income components are measured in current prices. By dividing these items by the volume of GDP, we can look at the contributions of unit labour costs, unit profits and unit net taxes to the movements in this implied price of GDP. This provides further insights on which parts of the domestic economy are seeing inflationary pressures.

It is important to note that the contributions to the inflation of GDP are an accounting exercise only. It does not imply causality so it should not be inferred that inflation is high because labour costs and/or profits have increased. Changes in labour and capital income might be responding to higher inflation rather than driving it, especially in cases of external shocks.

4 . Contributions of unit labour costs and unit profits to domestic inflation in the UK

Figure 1 shows the contributions to the movements in the implied price of gross domestic product (GDP), capturing the recent increase in domestic inflation in the UK. Through the 2010s, these domestic prices increased by 1.8% a year on average. There was more volatility through 2020 and 2021 at the time of the coronavirus (COVID-19) pandemic, although previous analysis explains that movements in current price and volume GDP did not reflect inflationary pressures at that time.

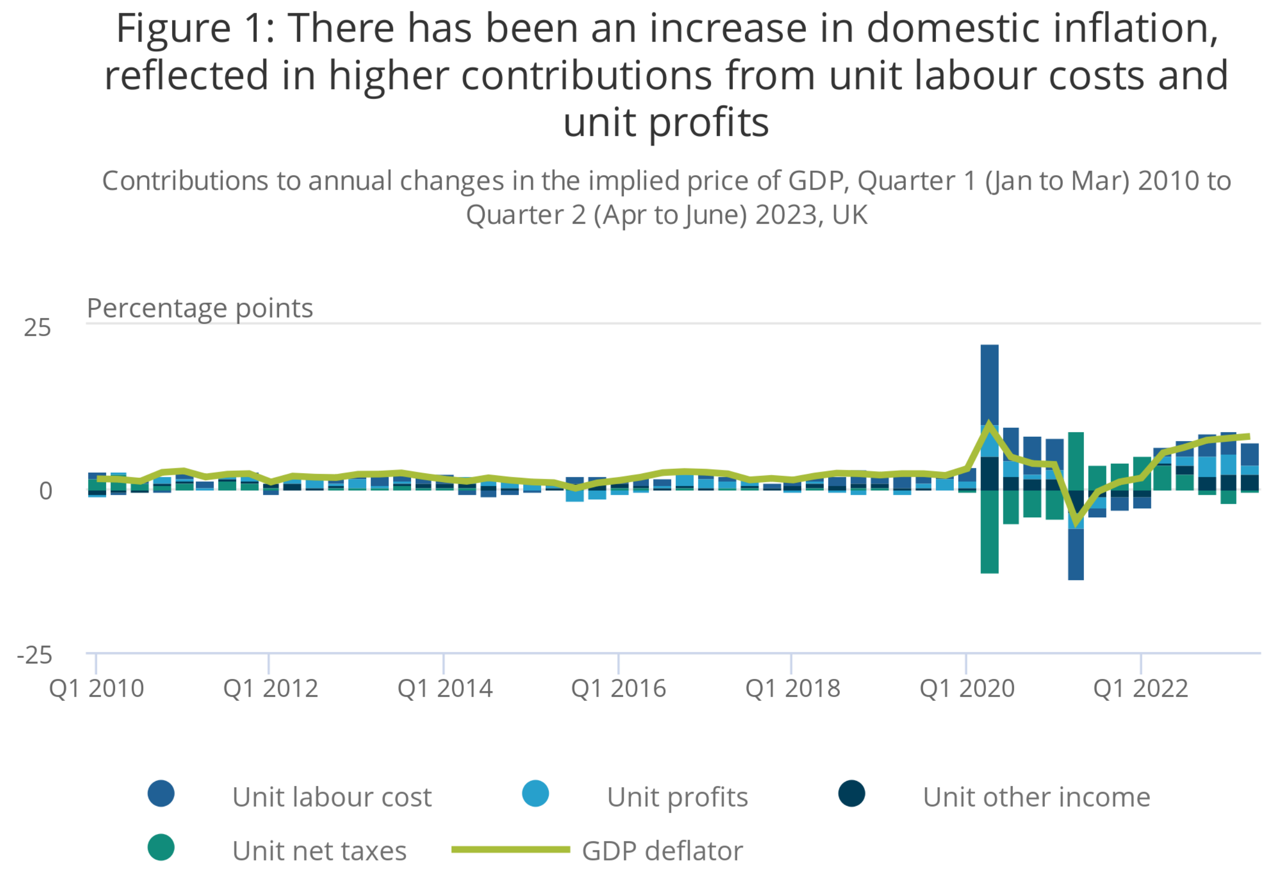
In the year to Quarter 2 (Apr to June) 2023, this measure of domestic inflation increased by 7.9%, which was reflected in higher unit labour costs and higher unit profits. This highlights how changes in the amount of spare capacity in the labour market and changes in the pricing power might have led to the higher persistence in price inflation, but also how these labour and capital incomes might have responded to higher inflation.

One point to note is the role of unit taxes to domestic inflation of late, specifically the role of subsidy payments [note 1]. The Energy Price Guarantee (EPG) and the Energy Bill Relief Scheme (EBRS) policies specified a limit on the amount that consumers could be charged for a unit of gas or electricity, or provided a price reduction to be applied per unit of gas and electricity consumed.

These were treated as a subsidy on products, in which the government compensated energy suppliers who are considered as non-financial corporations; this would show up under unit taxes. However, this would also be recorded in gross operating surplus, where it would also be reflected in these estimates of unit profits. This would not be indicative of a change in profit margins.

Figure 1: There has been an increase in domestic inflation, reflected in higher contributions from unit labour costs and unit profits

Contributions to annual changes in the implied price of GDP, Quarter 1 (Jan to Mar) 2010 to Quarter 2 (Apr to June) 2023, UK



Source: Office for National Statistics (ONS)

Notes:

1. Unit labour costs are based on compensation of employees, which comprise wages and salaries, and employers' social contributions

2. Unit profits are based on the gross operating surplus of corporations, excluding the alignment adjustment.

3. Other income includes mixed income and the operating surplus of non-corporations.

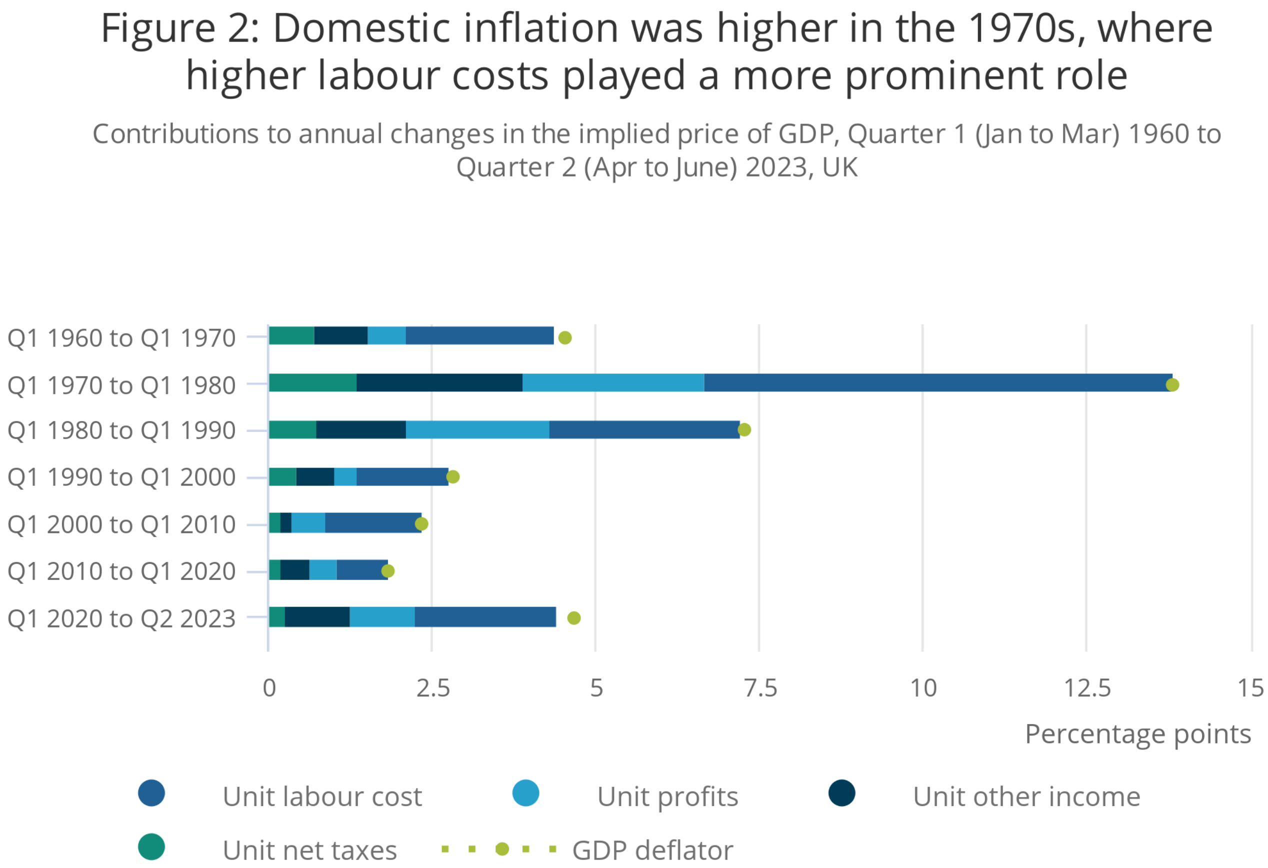
4. There is a residual that includes the alignment adjustment and statistical discrepancy in recent quarters.

Figure 2 provides more historical context around the recent increase in domestic inflation. It shows the annualised rate of domestic inflation in recent decades, which is a proxy of the underlying trends in domestic inflation in the UK. We can look at the extent to which unit labour costs and/or unit profits have played a relatively larger role over the last 18 months.

Domestic inflation was higher on average in the 1970s, where it is estimated to have increased by almost 14% a year over this period. Higher unit labour costs played a much larger role in higher prices at that time, where higher inflation expectations are likely to have played a more prominent role in maintaining the purchasing power of real labour income. This was particularly evident around the time of peak inflation.

Figure 2: Domestic inflation was higher in the 1970s, where higher labour costs played a more prominent role

Contributions to annual changes in the implied price of GDP, Quarter 1 (Jan to Mar) 1960 to Quarter 2 (Apr to June) 2023, UK



Source: Office for National Statistics

Notes:

1. Unit labour costs are based on compensation of employees, which comprise wages and salaries, and employers' social contributions.

2. Unit profits are based on the gross operating surplus of corporations, excluding the alignment adjustment.

3. Other income includes mixed income and the operating surplus of non-corporations.

4. There is a residual that includes the alignment adjustment and statistical discrepancy in recent quarters.

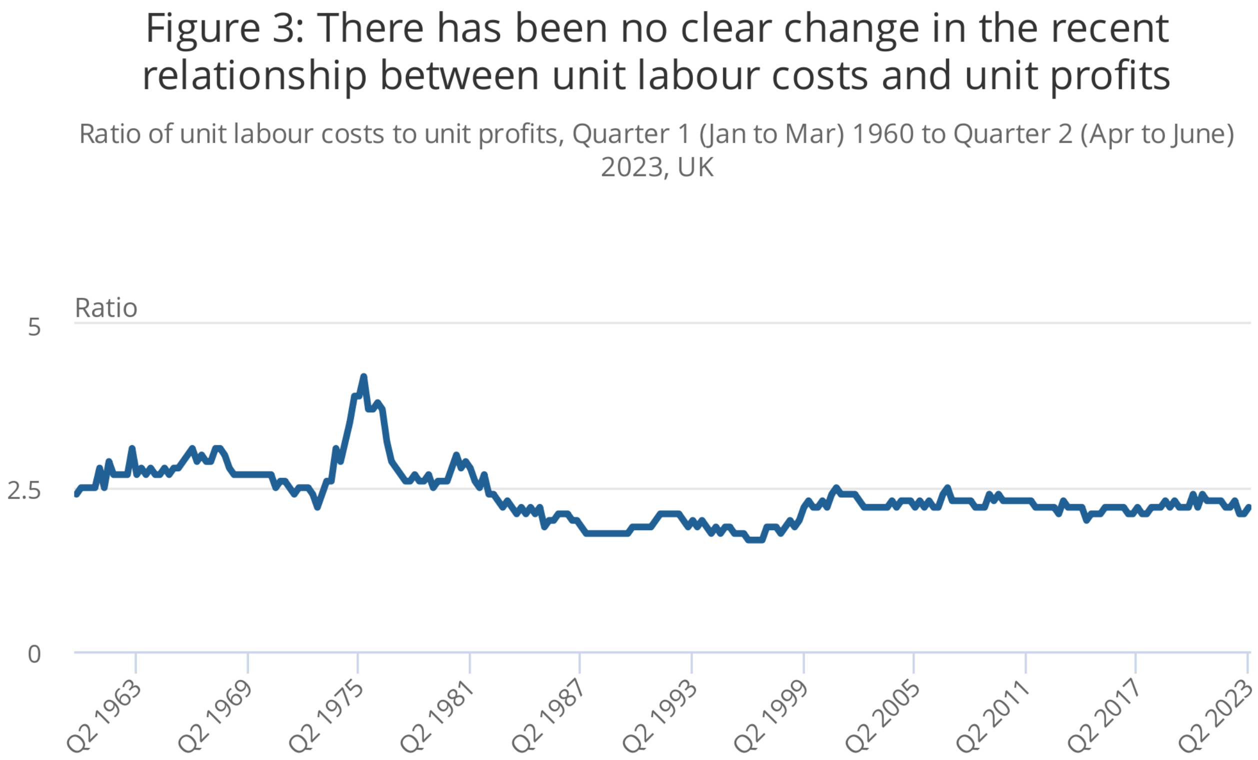
5. The annualised rate of inflation is the geometric average of price increases each year over a set period.

Figure 3 shows how labour and capital income have evolved in line with one another over time, which provides some indication on the relative bargaining power of those who earn labour and capital income. One feature is how the relative contributions have not varied markedly over the last 25 years, including in the recent inflationary episode. The ratio of unit labour costs to unit profits stabilised around 2000, which is where it still roughly is today.

The recent increases in unit labour costs and unit profits are high in absolute terms but are broadly proportionate in relative terms to their trends over the last 25 years. There is no clear evidence that there has been a marked change in labour income relative to capital income. This implies that neither households nor businesses have increased their share of national income in recent years. This contrasts with the 1970s, where there was an increase in the relative role of unit labour costs.

Figure 3: There has been no clear change in the recent relationship between unit labour costs and unit profits

Ratio of unit labour costs to unit profits, Quarter 1 (Jan to Mar) 1960 to Quarter 2 (Apr to June) 2023, UK



Source: Office for National Statistics

Notes:

1. Unit labour costs are based on compensation of employees, which comprise wages and salaries, and employers' social contributions.

2. Unit profits are based on the gross operating surplus of corporations, excluding the alignment adjustment.

Table 2 shows these proxies of the labour and capital income share of GDP. If unit labour costs had been playing more of a role in underpinning domestic inflation, this would show up as an increase in the labour share of income. Likewise, if there has been a relative increase in unit profits, this would be reflected in there being a higher profit share of income. The shares in recent quarters have not changed much compared with the 2000 to 2019 period.

Table 2: Labour costs and profits as a share of nominal GDP
Labour costs and profits as a percentage of GDP, Quarter 1 (Jan to Mar) 2000 to Quarter 2 (Apr to June) 2023, UK

	Q1 2000 to Q4 2009 average	Q1 2010 to Q4 2019 average	Q1 2023 to Q2 2023 average
Unit labour costs	49.5	48.7	49.0
Unit profits	21.6	22.2	22.8

Source: Office for National Statistics

Notes

1. Unit labour costs reflect compensation of employees as a per cent of nominal GDP. Unit profits are based on the gross operating surplus of corporations excluding the alignment adjustment, which are shown as a per cent of nominal GDP.

2. Unit labour costs comprised 54.9% of GDP over the period Quarter 1 1970 to Quarter 4 1979, while unit profits were 19.4% of GDP for the same period.

Notes for Contributions of unit labour costs and unit profits to domestic inflation in the UK

1. The Coronavirus Job Retention Scheme provided support to employers by keeping their employees on the payroll with a view to having a quick return to production. This was recorded as other subsidies on production, which would cover the payments of remuneration to those furloughed employees. These subsidy payments would have been reflected in the unit labour cost as part of their recording in the national accounts.

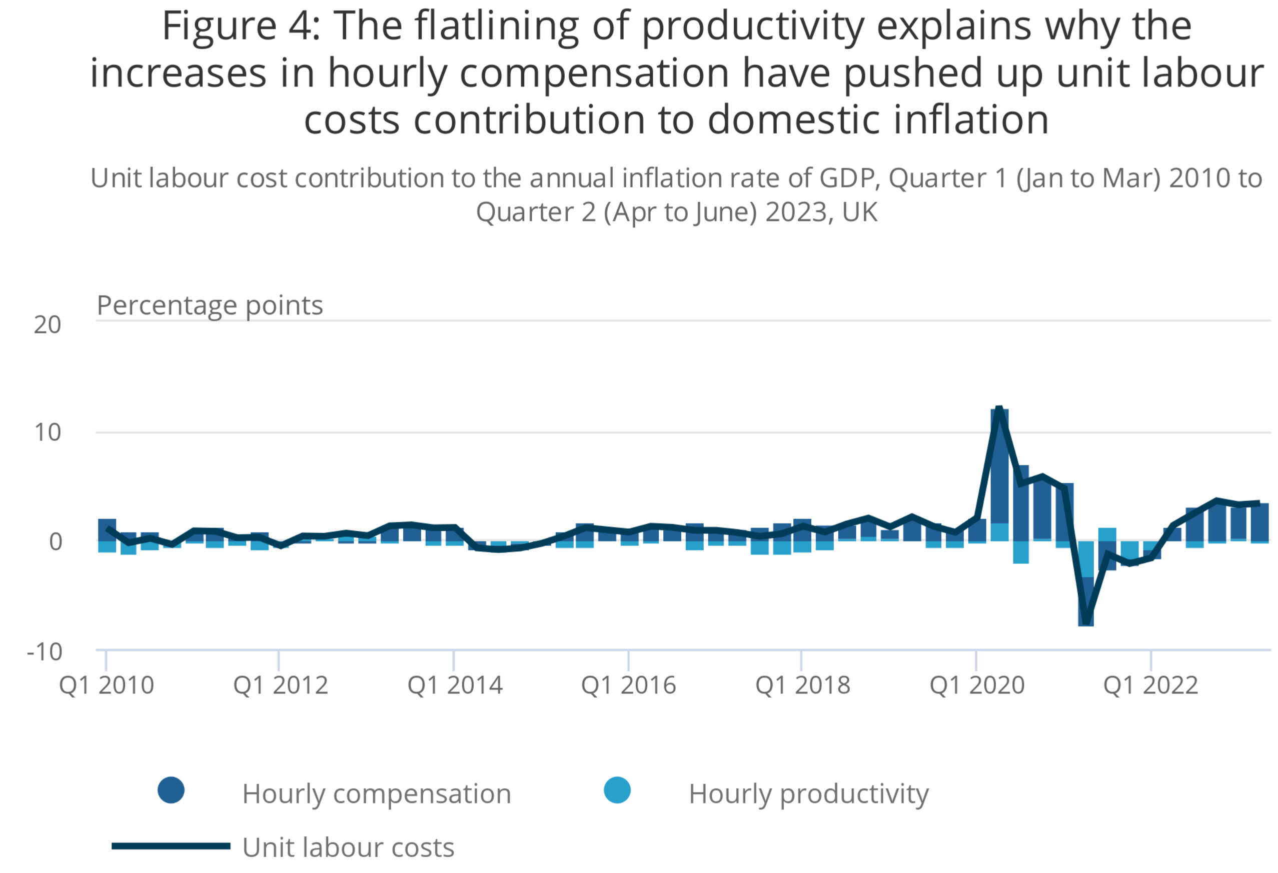
5 . Unit labour costs

Changes in unit labour costs reflect the change in labour compensation relative to the change in labour productivity. Figure 4 shows the recent effects of a historically tight labour market, which has recently led to higher wage inflation. There have been vacant jobs to be filled, but a scarcity in the available workers to fill those jobs, so it has been more challenging for employers to recruit into those unfilled roles.

Employers tend to offer higher wages in tight labour markets as they compete over a smaller pool of available workers, leading to higher wage inflation.The higher cost of living might have also played a role as workers look to maintain the purchasing power of their real incomes, where labour income has responded to higher inflation.

Figure 4: The flatlining of productivity explains why the increases in hourly compensation have pushed up unit labour costs contribution to domestic inflation

Unit labour cost contribution to the annual inflation rate of GDP, Quarter 1 (Jan to Mar) 2010 to Quarter 2 (Apr to June) 2023, UK



Source: Office for National Statistics

Notes:

1. Unit labour costs are measured as compensation of employees over real GDP.
2. Hourly compensation is measured as compensation of employees over total hours worked.
3. Hourly productivity is measured as real GDP over total hours worked.

This has led to higher unit labour costs, given the recent performance in UK productivity (Figure 4). For the last 15 years, there has been little increase in output per hour worked in the UK economy. There has been a reduction in the amount of capital available per worker and lower total factor productivity. This explains why increases in wage inflation over the last year have pushed up the contribution of unit labour costs to the overall inflation rate of gross domestic product (GDP), as the lack of productivity increases has not been able to absorb these higher labour costs. This contrasts with the period before the global financial crisis where productivity gains enabled some increases in wage inflation, which were not inflationary.

Unlike absolute increases, the relative share of unit labour cost in nominal GDP is still broadly unchanged at slightly below 50% in recent quarters, which is in line with its trend since 2000. This is consistent with our recent analysis of industry-level data, which found that labour costs have largely been stable as a fraction of output in manufacturing and some service industries.

6 . Unit profits

Gross operating surplus is a broad measure of corporate profitability. Unit profits would increase relatively more than unit labour costs if prices were more flexible than wages in response to a cost shock.

For instance, it might be easier for businesses to adjust their prices to protect their profitability, if there are wage rigidities. This also highlights it is possible for unit profits to increase without a change in the markup over the cost of producing an extra unit of output, provided that their marginal costs increased. Unit profits could also increase if businesses had the pricing power in their industry, where it would be possible to raise its markup. This would be reflected in its price increasing by more than the initial cost shock.

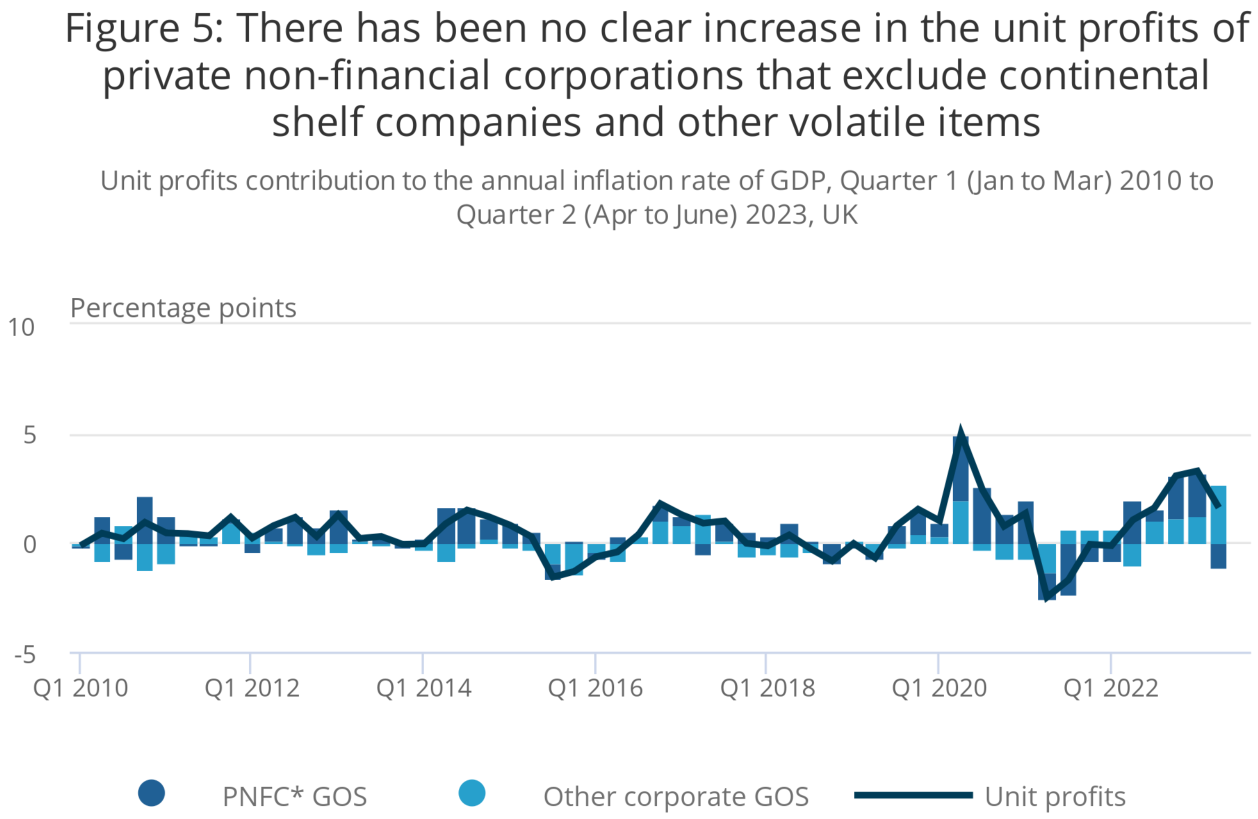
One point to note is that gross operating surplus is not the same as profits recorded by businesses. It reflects those profits before firms have paid any corporation taxes, interest on loans or dividends to shareholders. These costs have increased in recent years as higher interest rates pushed up the cost of capital in the UK and globally. It would include the profits of industries that are not typically considered as the main drivers of price setting for goods and services, such as continental shelf companies and those in the finance industry.

Figure 5 shows how unit profits in the UK have evolved in recent years. We also look at another proxy indicator of corporate profits, which covers private non-financial corporations excluding continental shelf companies, rental of buildings, and inventory holding gains. The contribution of unit profits to inflation of gross domestic product (GDP) has increased of late, although this is less clear for these private non-financial corporations where the contribution has been more volatile in recent quarters compared with its typical trends.

One feature also is that this would not include the recent subsidy payments of the Energy Price Guarantee (EPG) and the Energy Bill Relief Scheme (EBRS), which were provided to energy suppliers. Instead, there has been an increase in the gross operating surplus of continental shelf companies, which likely reflects the effects of higher energy prices on the cash value of their output. This implies that there is no clear evidence of businesses increasing their unit profits.

Figure 5: There has been no clear increase in the unit profits of private non-financial corporations that exclude continental shelf companies and other volatile items

Unit profits contribution to the annual inflation rate of GDP, Quarter 1 (Jan to Mar) 2010 to Quarter 2 (Apr to June) 2023, UK



Source: Office for National Statistics (ONS)

Notes:

1. Unit profits are based on the gross operating surplus of corporations, excluding the alignment adjustment.

2. PNFC* GOS is based on gross operating surplus of private non-financial corporations (PNFC) excluding continental shelf companies, rental of buildings, inventory holding gains, and the alignment adjustment. This also excludes gross operating surplus of public corporations and financial corporations which are part of unit profits overall but not PNFC GOS.

3. Other corporate GOS is based on financial corporations, public corporations, PNFC continental shelf companies, PNFC rental of buildings, PNFC inventory holding gains, and the alignment adjustment.

The Bank of England August Decision Maker Panel does not point to a marked increase in profit margins, with 41% of firms reporting that their profit margins declined over the year to Quarter 1 (Jan to Mar) 2023 compared with a lower 31% of firms reporting that their profit margins increased over the same period.

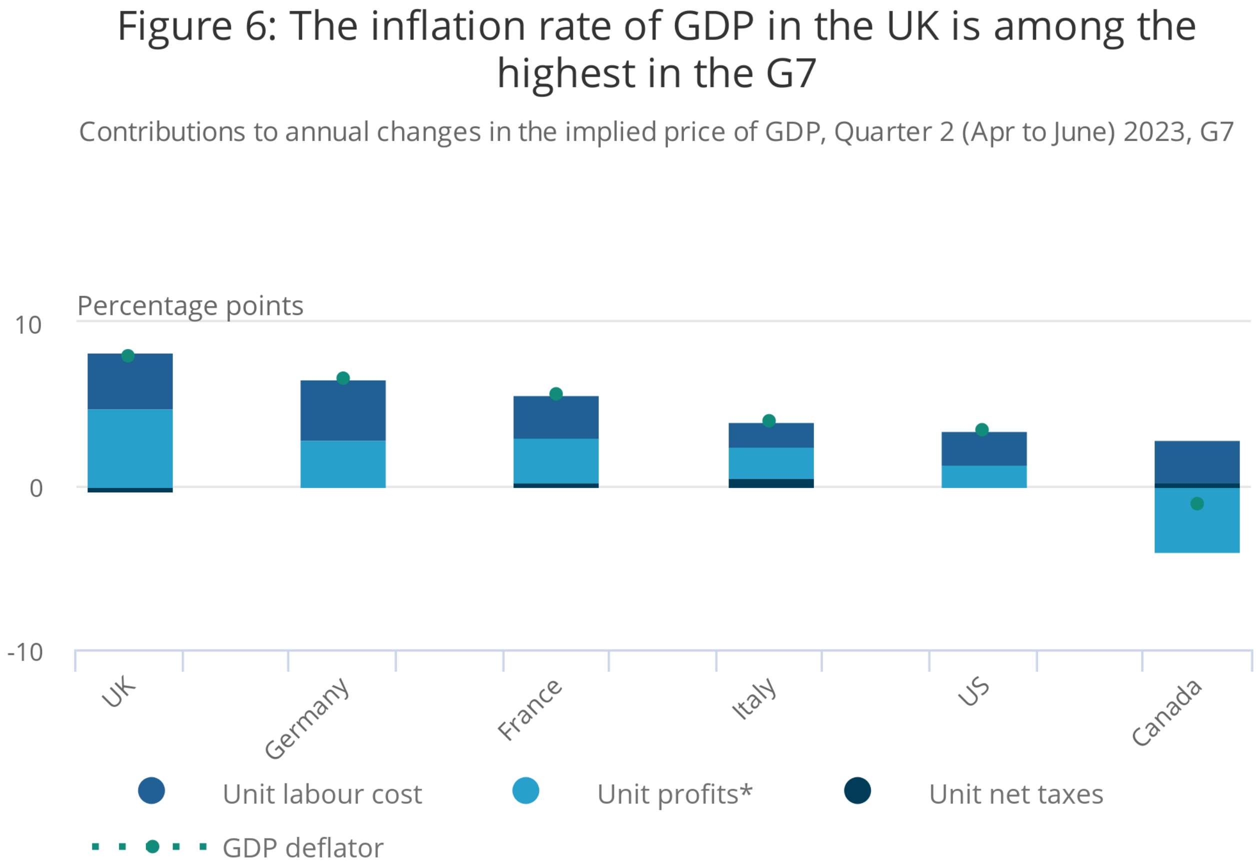
7 . Contributions of unit labour costs and unit profits to domestic inflation in the G7

Figure 6 shows how much the gross domestic product (GDP) deflator has increased in Quarter 2 (Apr to June) 2023 compared with the same period last year for the G7 economies, including the contributions from unit labour costs, unit profits, and unit net taxes.

Like core Consumer Prices Index (CPI) inflation, the inflation rate of GDP in the UK is the highest in the G7 at 7.9%. The contribution of unit labour costs to the inflation rate is higher than most other G7 economies apart from Germany. Domestic inflation is lower in Canada, where the price of GDP has declined over this period. One factor is likely to be how Canada is a net energy exporter, so it would not have had the same import inflation as the UK and European economies. Similarly, its unit profits would move in proportion to energy prices, which were declining in the first half of 2023.

Figure 6: The inflation rate of GDP in the UK is among the highest in the G7

Contributions to annual changes in the implied price of GDP, Quarter 2 (Apr to June) 2023, G7



Source: Organisation for Economic Co-operation and Development (OECD), Office for National Statistics (ONS)

Notes:

1. Unit labour costs are based on compensation of employees, which comprise wages and salaries, and employers' social contributions.

2. Unit profits* are based on the gross operating surplus, mixed income, and any other residual incomes. This is a broader definition compared with our preferred concept of unit profits.

3. OECD figures as of 5 October 2023. Figures are not available for Japan.

One point to note is that contributions of unit profits are more challenging to compare across countries. Most countries do not publish the necessary information to get to our preferred concept of corporate profitability.

We can only look at a broader concept, which is not as useful in looking at whether there has been a change in pricing behaviour, given it also includes other types of income such as mixed income and household gross operating surplus (GOS). It may also include components such as the alignment adjustment and the statistical discrepancy, which are not always explicitly reported by all national statistical institutes. Figure 6 shows that this wider concept of capital income has played a prominent contribution in domestic inflation in these economies.

Table 3 compares the ratio of unit labour costs with unit profits and other income over time. There has not been a marked change in the income shares in recent quarters compared with the previous decade. The UK and Germany have experienced some increase in this broader concept of unit profits, while there has also been some increase in the United States. In the UK, this increase was mainly driven by other income, inclusive of mixed income and household GOS, which measure a combination of labour and capital income, and are not part of our preferred definition of unit profits.

Table 3: There has not been a marked change in the income shares in recent quarters for the G7 economies
Labour costs and profits as a share of nominal GDP in the G7

	Unit labour costs		**Unit profits***	
	2010 to 2019 average	**Q1 2023 to Q2 2023 average**	**2010 to 2019 average**	**Q1 2023 to Q2 2023 average**
Canada	50.5	51.8	38.6	37.7
France	52.0	52.0	34.7	34.7
Germany	51.6	52.2	38.5	39.6
Italy	39.6	40.2	47.6	48.2
UK	48.7	49.0	39.3	41.3
US	52.9	52.3	40.4	41.3

Source: Organisation for Economic Cooperation and Development (OECD), Office for National Statistics (ONS)

Notes

1. Unit labour costs are based on compensation of employees which comprise wages and salaries and employers' social contributions.

2. Unit profits* are based on the gross operating surplus, mixed income, and any other residual incomes. This is a broader definition compared with our preferred concept of unit profits.

3. OECD figures as of 5 October 2023. Figures are not available for Japan.

8 . Glossary

Consumer price inflation

Consumer price inflation is the rate at which the prices of goods and services bought by households rise or fall. It is estimated by using price indices.

Consumer Prices Index (CPI)

The CPI is a measure of consumer price inflation produced to international standards and in line with European regulations. The CPI is the inflation measure used in the UK government's target for inflation.

Gross domestic product (GDP)

A measure of the economic activity produced by a country. There are three approaches used to measure GDP: the output approach, the expenditure approach, and the income approach.

The implied GDP deflator

A broad measure of general inflation, taking into account changes in prices for all the goods and services produced in the domestic economy. Used to adjust for price changes in the national accounts.

Terms of trade

The ratio of export prices to import prices.

9 . Data sources and quality

More information on the UK National Accounts methodology is available in our Introduction to the UK National Accounts.

For more information on how gross domestic product (GDP) data are gathered and measured, see our Quarterly national accounts statistical bulletin.

The Quarterly sector accounts statistical bulletin includes estimates of national production, income and expenditure, UK Sector Accounts, and the UK Balance of Payments.

The Profitability of UK companies statistical bulletin reports the estimates for net rate of return on capital employed for UK private non-financial corporations (PNFCs) related to their UK operations.

More information about UK Consumer Prices Indices (CPI) methodology is available in our Consumer price indices, a brief guide: 2017 and our Consumer Price Inflation (includes all 3 indices – CPIH, CPI and RPI) Quality and Methodology Information (QMI).

10 . Related links

GDP quarterly national accounts, UK: April to June 2023
Bulletin | Released 29 September 2023
Revised quarterly estimate of gross domestic product (GDP) for the UK. Uses additional data to provide a more precise indication of economic growth than the first estimate.

Consumer price inflation, UK: August 2023
Bulletin | Released 20 September 2023
Price indices, percentage changes, and weights for the different measures of consumer price inflation.

Analysis of wage and price increases, UK: 2011 to 2023
Article | Released 15 September 2023
Analysis of the relationship between recent wage and price increases, in selected industry sectors.

Persistence in consumer prices inflation, UK: 2002 to 2023
Article | Released 21 August 2023
Estimates of the underlying trend rate of inflation in the UK economy.

11 . Cite this article

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