

Latest results from the Decision Maker Panel survey - 2023 Q2

The Decision Maker Panel (DMP) is a survey of Chief Financial Officers from small, medium and large UK businesses. We use it to monitor developments in the economy and to track businesses' views. This is a summary of results up until May 2023.



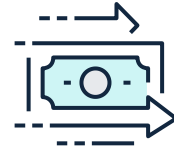
Price growth

Firms expect their own-price growth to slow down by around 2 percentage points over the next year.



Pricing behaviour

60% of firms mostly set their prices in response to specific events, rather than at fixed intervals.



Price change frequency

Firms changed their prices more frequently in 2022 than 2019.

Published on 22 June 2023

Content

Recent developments in output price inflation

How firms set prices

Frequency of price changes

Inflation dynamics

Methodology

Since 2021, inflation has risen sharply across many advanced economies. This reflects multiple factors, including energy prices, supply disruptions, and labour market tightness, as discussed in the [May 2023 Monetary Policy Report](#). This piece discusses recent results from the DMP survey on how firms have been setting prices during the current period of high inflation. It starts by summarising the latest data on inflation rates reported in the DMP and businesses' expectations for the year ahead. It then moves on to report how firms say that they have been setting prices and contrasts the experience of firms who are setting prices in different ways.

Recent developments in output price inflation

Although the DMP inflation data cover economy-wide output prices, not just those from consumer-facing firms, they follow a similar trend to official UK CPI data. Average own-price inflation rose from just under 2% in early 2021 to a peak of 8% in early 2023 (Chart 1). Output price inflation has begun to fall back slightly in the latest data. Firms expected their own-price inflation to fall by just over two percentage points over the next year in the latest data for the three months to May.

Chart 1: Realised and expected annual own-price growth has been steady in recent months

Realised and expected annual price inflation and change in inflation expected over the next year
(a)



(a) Realised price growth results are based on the question 'Looking back, from 12 months ago to now, what was the approximate % change in the average price you charge, considering all products and services?'. Expected price growth results are based on the question: 'Looking ahead, from now to 12 months from now, what approximate % change in your average price would you expect in each of the following scenarios: lowest, low, middle, high and highest?' and respondents were asked to assign a probability to each scenario.

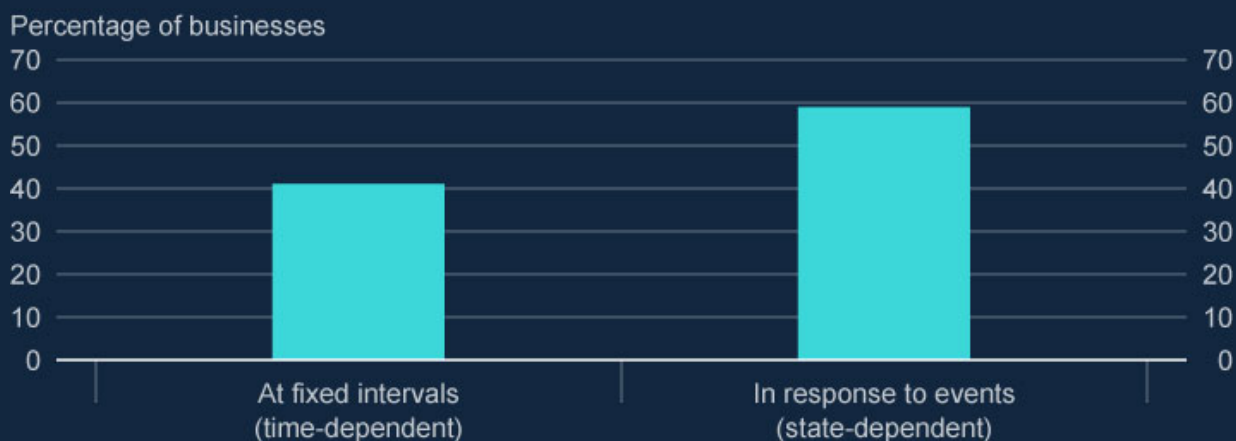
How firms set prices

Most prices in the economy do not adjust instantaneously, due to various costs and frictions associated with changing prices. In the academic literature, firms that set prices in response to events are often referred to as behaving in a 'state-dependent' way, whereas those changing prices at fixed intervals are described as being 'time-dependent'. These two approaches have different implications for how inflation responds to (large) shocks. In a state-dependent setting, both the speed and magnitude of adjustment can change with the size of the shock. In contrast, in a time-dependent setup, the speed of adjustment is independent of the size of the shock.

To help understand how firms typically set prices, DMP members were asked between February and April 2023 whether their businesses: (i) 'Mostly change prices in response to specific events (eg changes in costs or demand)'; or (ii) 'Mostly change prices at fixed intervals (eg once a year or once a quarter, etc.)'. There was a 60–40 split in favour of setting prices in response to events (state-dependency) rather than at fixed intervals (time-dependency), as shown in Chart 2.

Chart 2: 60% of firms typically set prices in response to events (state-dependency)

How firms typically set prices (a)



(a) The results on firms' price-setting behaviour are based on the question: 'Which of the following best describes how your business usually sets prices?'. Respondents were asked to choose one of the following options: (i) Mostly change prices in response to specific events (eg changes in costs or demand), (ii) Mostly change prices at fixed intervals (eg once a year or once a quarter, etc).

Goods producers were around three times more likely to say that they primarily use state-dependent pricing, whereas for service providers the split between state and time-dependence was roughly equal. By industry, construction, followed by wholesale and retail, and accommodation and food had the highest share of state-dependent price-setters (all between 70% and 80%). Healthcare and other services (which include education and personal services such as hairdressing) had the lowest state-dependent share at around 25%.

Similar questions about price-setting have been asked in other surveys in the past. In earlier work, around two thirds of firms reported at least partly using state-dependent pricing in both the [UK](#) and the [euro area](#). Our results are not obviously out of line with these previous studies, although the earlier estimates include firms that use both state and time-dependent pricing. In an environment where the shocks are large, the state-dependent element may have become more critical for firms which use a mixed strategy.

Frequency of price changes

State versus time-dependent pricing models have contrasting predictions around how often prices change. In a time-dependent model, the frequency of price changes is constant over time. However, in a state-dependent model, prices should change more often in response to

large shocks to costs or demand. To test this, firms were also asked how often they typically changed their prices in both 2019 and 2022.

Businesses reported that prices changed more often in 2022, when inflation was much higher, than in 2019 (Chart 3). That is also consistent with evidence from UK CPI microdata. [1] Most of the increase in the frequency of price changes in the DMP data was in state-dependent price-setting firms: an average of 49% of their prices changed each month in 2022, compared to 31% in 2019. The corresponding change for time-dependent price-setters was a more modest increase from 11% to 17%.

Chart 3: Firms changed their prices more frequently in 2022 compared with 2019

Frequency of price changes in 2019 and 2022 (a)



(a) The results on frequency of price changes are based on the question: ‘Approximately how often did your prices change in each of the following years?’. Respondents were then asked to choose one of the following options for both year 2019 and 2022: daily, weekly, monthly, quarterly, half-yearly, annually, and prices did not change.

Inflation dynamics

Firms that identify as using state-dependent pricing in the DMP saw a larger and earlier rise in inflation than time-dependent firms (Chart 4). Since 2021 Q2, the average inflation rate of state-dependent firms has been around 1.5 percentage points higher than for time-dependent businesses, having been lower in 2020.

Looking forward, state-dependent firms expect a larger fall in their own price inflation over the next year. The markers on the right of Chart 4 shows that state-dependent firms expected their own-price inflation to fall by around three percentage points over the next year in the three months to May, compared to a fall of only one percentage point for time-dependent firms.

Chart 4: State-dependent firms expect a larger fall in their own price inflation over the next year

Realised and expected annual inflation rates by how firms set prices (a)

— Use time-dependent pricing ◆ Time-dependent expectations for year ahead
 — Use state-dependent pricing ◆ State-dependent expectations for year ahead

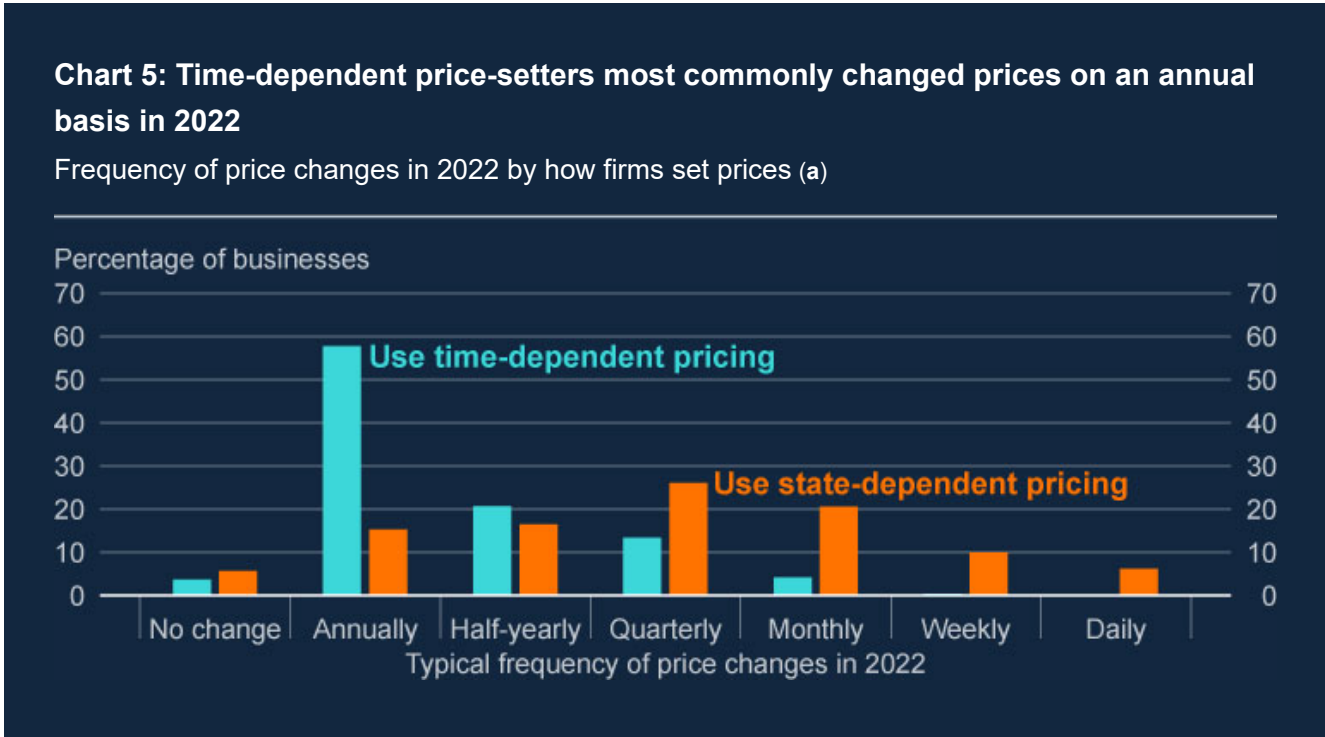


(a) The series are based on the questions: ‘Looking back, from 12 months ago to now, what was the approximate % change in the average price you charge, considering all products and services?’ and ‘Looking ahead, 12 months from now, what approximate % change in your average price would you expect in each of the following scenarios: lowest, low, middle, high, highest?’. For the last question, respondents were then asked to assign a probability to each scenario. A point estimate is constructed by combining the five scenarios with the probabilities attached to them. Firm price-setting behaviour is based on the question: ‘Which of the following best describes how your business usually sets prices?’. Respondents were asked to choose one of the following options: (i) Mostly change prices in response to specific events (eg changes in costs or demand), (ii) Mostly change prices at fixed intervals (eg once a year or once a quarter, etc).

The earlier initial rise in inflation and then a bigger expected fall over the next year for state-dependent firms fits well with the prediction of faster pass-through for this group following a large shock. It is possible that these different groups of firms could also have faced different shocks. State-dependent firms have reported higher unit cost growth since 2022 H2

(unfortunately, these data were not available for earlier periods). Still, the initial pass-through of these costs to inflation is also estimated to have been higher and there is little difference in expected cost growth for the next year.

A slower adjustment to the shocks that have already taken place may explain why time-dependent price-setters expect greater persistence in their inflation rates over the next year. Time-dependent price-setters most commonly changed prices on an annual basis in 2022 (Chart 5). Around 60% of time-dependent firms only changed prices once or not at all in 2022, compared to just 20% of state-dependent firms.



(a) The results on frequency of price changes are based on the question: 'Approximately how often did your prices change in each of the following years?'. Respondents were then asked to choose one of the following options for both year 2019 and 2022: daily, weekly, monthly, quarterly, half-yearly, annually, and prices did not change. Firm price-setting behaviour is based on the question: 'Which of the following best describes how your business usually sets prices?'. Respondents were asked to choose one of the following options: (i) Mostly change prices in response to specific events (eg changes in costs or demand), (ii) Mostly change prices at fixed intervals (eg once a year or once a quarter, etc).


The presence of state-dependent price-setters can introduce a non-linear response of inflation when there are large shocks as firms adjust more quickly. This could help explain why inflation has risen so quickly since 2021. If firms' expectations are fulfilled, it could also indicate that inflation will fall more rapidly if prices changing more often means that more of the required price-level adjustment has already taken place. But that will also depend on other factors such as how high inflation has affected expectations for future wages and prices.

Methodology

The DMP consists of the Chief Financial Officers of small, medium and large UK businesses operating in a broad range of industries.

We survey panel members to monitor developments in the UK economy and to track businesses' views on them. This work complements the intelligence gathered by our [Agents](#).

This note is a summary of surveys conducted with DMP members up to May 2023. The May survey was in the field between 5 and 19 May. In May we received 2,348 responses.

Further [monthly data from the May survey](#) for a limited number of DMP series was published on 1 June 2023. Aggregate level data for all survey questions are published on a quarterly basis. [Quarterly data up to January 2023](#) were released on 2 February 2023. More information can also be found on the [DMP website](#) .

The panel was set up in August 2016 by the Bank of England with academics from Stanford University and the University of Nottingham. It was designed to be representative of the population of UK businesses. All results are weighted using employment data. See [Bloom et al \(2017\)](#) for more details.

The DMP receives funding from the Economic and Social Research Council.

1. See [Richard Davies work on prices and inflation](#)  for data on the frequency of price changes in the UK CPI microdata.

Latest results from the Decision Maker Panel survey - 2023 Q2