

ANALYSIS – Microdata gives insights into how companies adjust their prices

One way of gaining an understanding of how companies adjust their prices is to investigate how often and by how much prices change for products included in the consumer price index (CPI). The results show that it is primarily the frequency, and not the magnitude, of price changes that correlates with the rate of inflation. This was evident in 2022 and 2023, when inflation was high. At that time, companies increased their prices much more frequently than before, while the average size of price changes did not change much. As inflation has fallen, companies have also started to change their prices less frequently. This indicates that pricing behaviour is now more in line with what it was before the period of high inflation.

To understand what affects inflation, it is important to understand how companies set their prices and whether and, if so, how this changes under different economic circumstances. There are studies indicating that the pass-through to consumer prices from companies' changed costs is greater when inflation and demand are high.¹ Such changes in companies' costs could, for example, be changes in the prices of their input goods or wage costs.

A study by the National Institute of Economic Research (NIER) showed that Swedish companies, on average, raised their prices in line with how their costs rose in the period from 2019 to the second quarter of 2023.² Historically, however, companies have tended to even out price changes and allow part of their cost changes to be absorbed by profit margins, but this did not occur during the period of rising inflation in 2022 and 2023. This indicates that this part of companies' price-setting behaviour changed during the period of high inflation.

Here, we study another aspect of companies' price-setting behaviour, namely by how much and how often companies change their prices. Using a large data set, we have studied in detail how prices change for the products included in the consumer price index (CPI).³ Figure 16 shows that the gap between the frequency of price rises and that of price reductions increased strongly during the period of high inflation but that, as of the start of 2024, it seems to have been at about the same level as it was before

¹ See, for instance, C. Borio, M. Lombardi, J. Yetman and E. Zakrajšek (2023), "The two-regime view of inflation", BIS papers No 133, Bank for International Settlements.

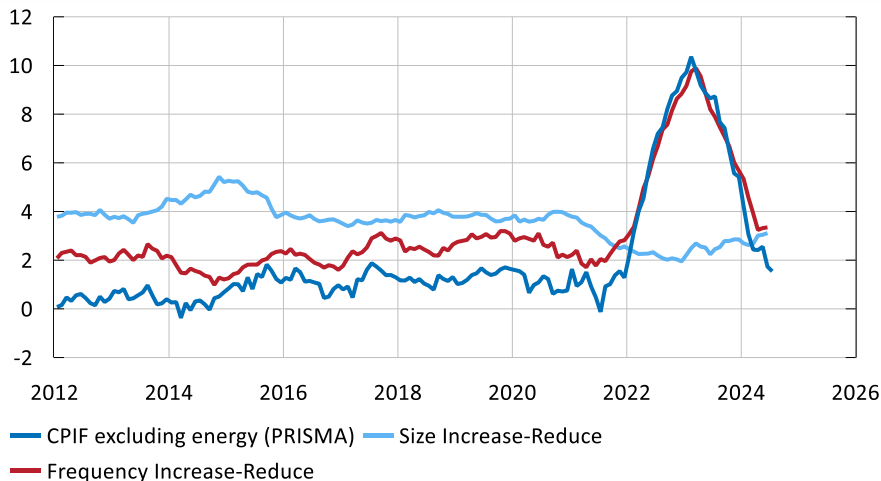
² National Institute of Economic Research, "Prissättning hos svenska företag 2023" (Pricing among Swedish companies in 2023), special study, National Institute of Economic Research (2023).

³ For a more detailed examination, see M. Klein, K. Strömberg and O. Tysklind (2024), "Inflation dynamics in the high inflation period: insights from new micro data", *Economic Commentaries*, no. 14, Sveriges Riksbank.

inflation started to rise. The development in the high inflation period was thus primarily driven by an upswing in how often companies raised their prices. In contrast, the development of the average size of price movements was relatively stable and did not change particularly much.^{4 5}

Figure 1. Aggregate price change rate over 12 months and relative frequency and size of price changes

Annual percentage change (CPI) and percentage points (frequency and size)



Note. The CPIF excluding energy (PRISMA) is based on the CPIF excluding energy, where the components not included in the microdata have been excluded. The relative frequency and magnitude of price changes compared with the previous month are expressed as 12-month moving averages. This is to match the annual percentage change.

Sources: Statistics Sweden and the Riksbank.

The same pattern can be seen when the subgroups food and other goods are examined in the CPI. However, for services prices the relationships are different. Among services prices, the rate of price increase remains high and companies are changing their prices more frequently than usual.⁶ Municipal taxes and rents are examples of service prices that have increased more than usual. This is assessed to be primarily due to the cost increases that took place in 2022 and 2023, rather than the demand and cost developments taking place presently.

⁴ The aggregate price level in the CPI is calculated on the basis of a large number of collected prices and it thus depends on both how often and by how much prices are adjusted. The data set used covers about 75 per cent of the total weight of the CPI and includes about 9 million price observations from 2010 on. The material allows the prices of individual products to be followed month by month to see if they change and, if so, by how much. From there, product and product group weights can be used to create aggregate measures of the frequency of price increases and decreases, and measures of the magnitude of price changes.

⁵ These results are in line with similar studies in other countries. See, for example, the article “Analyzing businesses’ price-setting behaviour” in Bank of Canada’s Monetary Policy Report from April 2024. The result is also in line with how companies in the Riksbank’s Business Survey responded in 2022, when they reported that they were adjusting prices more frequently than usual. Similar results have emerged from surveys in other countries, such as this one at CEPR: [Price-setting in a high-inflation environment](#).

⁶ M. Klein, E. Skeppås and O. Tysklind, “Price changes on goods and services during the high inflation period: insights from microdata”, Economic Commentaries, no. 15, Sveriges Riksbank (2024).

As inflation has become normalised, so too has the frequency of price changes. One lesson that can be learned for the future is that it is important to spot early signs that companies are starting to adjust their prices more frequently during periods of major changes in costs and high demand. One source of such information, for example, could be the Riksbank's own Business Surveys. Early in 2022, companies in the Survey stated that they were adjusting prices more frequently than usual and that it was easier than usual to gain acceptance from customers for increased prices.⁷

⁷ See, for example, "I've never before experienced customers accepting price increases so easily", *Riksbank's Business Survey*, February 2022, Sveriges Riksbank.