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The anatomy of the services inflation surge using survey data*

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This policy brief draws on business survey data to assess the relative influence of supply- and demand-side factors on price expectations among service-sector firms in Slovakia. Distinguishing between the two is fundamental for monetary and fiscal policymakers' real-time decisions. Firms are classified according to whether anticipated changes in demand and selling prices move in the same direction – indicating demand-driven expectations – or in opposite directions, suggesting supply-driven pressures. The findings point to a clear shift in the drivers of price expectations over time.

In 2020, service-sector price expectations were shaped by a combination of weak demand and adverse supply conditions, with supply-side factors exerting the stronger influence. This pattern reversed in 2021, when improving demand conditions became the primary source of upward price expectations. From 2022 through 2025, the growing share of firms anticipating price increases reflects a blend of strengthening demand and persistent supply constraints. Among larger and more economically significant firms, however, demand-side factors emerge as the dominant driver throughout 2021–2025. This is broadly similar to developments at the euro area level. This pattern is consistent with the prevailing macroeconomic environment of the time, which feature accommodative monetary and fiscal policies during the Covid period, followed by tight labour markets and rising labour costs.

The share of service firms expecting to change their selling prices is a leading indicator of services inflation as measured by the Harmonised Index of Consumer Prices (HICP) in Slovakia.

During the inflation surge of 2022-23, a higher share of service firms expected to raise their selling prices, reflecting a combination of strong demand and adverse supply factors.

According to service firms' responses, the adverse negative supply factors observed in 2022-23 were mainly driven by higher energy and other input prices.

The increase in intended selling prices among turnover-weighted service firms in 2021-25 was primarily driven by firms' positive demand-driven expectations.

Service firms' price expectations point to a gradual moderation of services inflation in both Slovakia and the euro area over the coming months, albeit somewhat faster in Slovakia than in the euro area.

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Inflation in services and firms' price expectations[1]

Inflation in services accounts for roughly 25-30% of headline inflation in Slovakia. During the inflation surge of 2022-23, this contribution was around 26%, before increasing to about 27% in 2024 and reaching close to 30% in 2025 (Eurostat, 2026). As a result, elevated services inflation has become an increasingly important contributor to headline inflation.

This policy brief examines service firms' selling price expectations and their relationship with services inflation. We further decompose firms' expectations into demand and supply components. This distinction is important, as the appropriate monetary policy response to inflation depends crucially on whether inflationary pressures are driven primarily by demand or by supply factors.

Since 2002, the European Commission (2026a) and the Statistical Office of the Slovak Republic (SU SR, 2026) have conducted monthly business surveys in Slovakia covering four economic sectors: construction, industry, retail trade, and services (European Commission, 2026b). In this analysis, we focus on the services sector survey. It includes direct questions on both past and expected demand and expected selling prices over the subsequent three months.

Selling price expectations from business surveys are a good indicator of future inflation. Chart 1 shows the proportion of service firms expecting to raise their selling prices (weighted by turnover[2]), alongside the year-on-year Harmonised Index of Consumer Prices (HICP) for services in Slovakia.[3] The contemporaneous correlation between the year-on-year HICP for services and the share of firms expecting selling price increases, weighted by turnover, is 0.59. As the correlation between the year-on-year HICP for services and the turnover-weighted share of firms expecting selling price increases, lagged by three months, is 0.63, the latter is a leading indicator of services inflation.[4]

Chart 1

The year-on-year HICP in services and the proportion of firms expecting to increase their selling prices over the next three months[5]

Sources: SU SR (2026), Eurostat (2026) and author's own calculations. Seasonally adjusted.

[1] Ostapenko, N. Measuring Demand and Supply Pressures in Slovakia and the Euro Area using Business Surveys. Mimeo, National Bank of Slovakia.
[2] We use turnover weights, as these are the aggregation weights employed by the Statistical Office of the Slovak Republic (SU SR, 2026) and the European Commission (2026b) when compiling business survey results. Moreover, turnover weights correspond to the relevant economic quantity that firm-level selling price expectations are intended to capture, namely the value of production.
[3] HICP services inflation is based on consumer expenditure weights, reflecting the relative importance of different services in households' consumption baskets. In contrast, firms' intentions to increase prices are aggregated using firms' turnover weights, which differ from the HICP weights.
[4] Similarly to the findings of Bobeica et al. (2024).
[5] The graph shows contemporaneous time series.

At the start of the pandemic, the proportion of service firms expecting to increase their selling prices over the following three months rose significantly, reaching 40% of turnover-weighted firms in 2022–23. This elevated proportion was mainly driven by large firms, although medium-sized and small firms also reported a substantially higher propensity to increase prices than in previous periods. Although small and medium-sized firms accounted for an average of around 3% and 5%, respectively, of the total turnover-weighted share of firms in the 2022–23 period, compared to around 16% for large firms, still a much higher proportion of small and medium firms were expected to raise their selling prices. For instance, around 30% and 40% out of turnover-weighed small and medium-sized firms, respectively, planned to raise their prices by mid-2022, compared to an average of 4% and 6% in 2020. The relatively high proportion of small and medium-sized firms expecting price increases during this period may be related to the easing of pandemic-related restrictions, which boosted demand for contact-intensive services.

Based on the current share of service firms expecting to increase their selling prices over the next three months, we expect services inflation to soften somewhat in the coming months.

Firms' demand and supply expectations

By combining firms' demand expectations and past demand realisations with their price change expectations, we categorise firm-level expectations over the next three months into demand- and supply-driven components (Table 1).[6] For example, if a firm experienced strong demand over the past three months and expects both demand and selling prices to increase over the next three months, this is classified as a positive demand factor.[7] By contrast, if a firm has experienced weaker demand in the past three months and expects demand to decline further in the next three months, yet still anticipated an increase in selling prices, this can be classified as a negative supply factor. In this case, rising prices despite weak demand likely reflect higher current or expected input costs, or supply-chain disruptions.[8]

Table 1 Demand- and supply-driven decomposition of expectations[9]

Demand t-1:t-3	Price Expectation t+1:t+3	Demand Expectation t+1:t+3	Interpreted Type
↑	↑	↑	Positive demand
↑	↓	↑	Positive supply

Note: Negative demand and supply have opposite signs to those of positive demand and supply.

Chart 2 illustrates the relationship between changes in firms' demand and expected changes in their own selling prices. Negative demand is characterised by a decline in both demand and selling prices, whereas negative supply is characterised by falling demand accompanied by rising selling prices.[10]

[6] One question in the survey asks firms about the demand for their services over the past three months, while a closely related question concerns expected demand over the next three months.

[7] We also use information on realized demand over the past three months, as selling price expectations for the coming three months may be formed partly on the basis of recent demand developments. For example, a firm that experienced strong demand in the previous three months may plan to raise its selling prices even if it expects demand to weaken going forward. In such cases, classifying a price increase as being driven by negative supply factors based on expected demand would be ambiguous. More generally, firms form expectations about future outcomes by combining recent developments with forward-looking assessment of changes in prices or demand. The role of past realisations in expectation formation is well established in learning models, such as those of Evans and Honkapohja, (2001).

[8] While this brief was being drafted, related ideas were published by Battistini and Neves (2026).

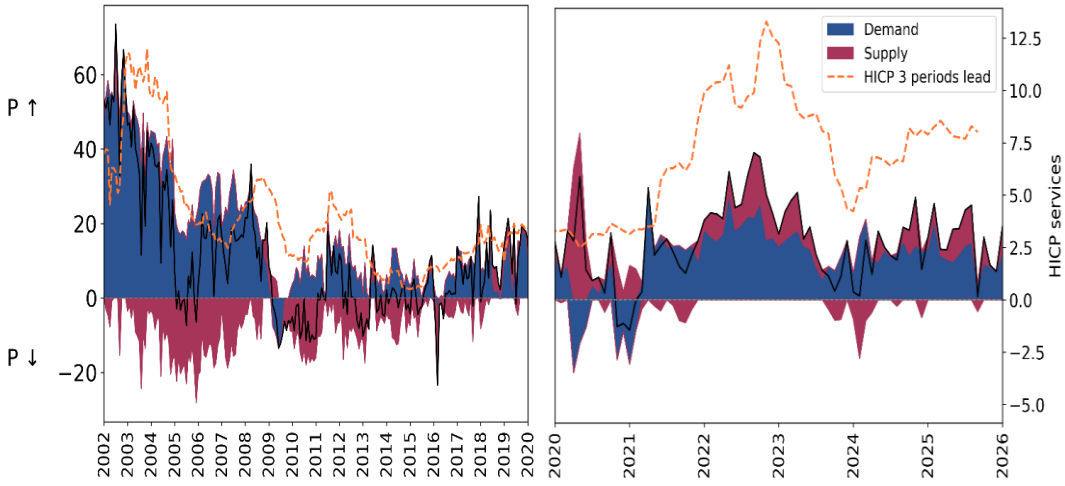
[9] Our approach is closely related to the 'poor man's sign restrictions framework proposed by Jarociński and Karadi (2020), as well as to the sign restrictions discussed by Shapiro (2024).

[10] Demand and supply signals were calculated for each firm as $Demand\_i = \frac{1}{\sqrt{2}}\left(Q_i^{future\_P} + \frac{Q_i^{past\_D}+Q_i^{future\_D}}{2}\right)$ and $Supply\_i = \frac{1}{\sqrt{2}}\left(Q_i^{future\_P} - \frac{Q_i^{past\_D}+Q_i^{future\_D}}{2}\right)$, where $Q_i^{future\_P}$ is a response regarding expected prices in the next three months, $Q_i^{past\_D}$ is a response regarding demand in the previous three months and $Q_i^{future\_D}$ is a response regarding demand in the next three months. The answers were transformed as follows: 1 if a firm expects an increase; 0 if there is no change; and -1 if a firm expects a decline. These signals were then aggregated at the sectoral level using turnover weights.

At the onset of the pandemic, service firms were affected by both negative demand and negative supply constraints, leading to declines in both realised and expected demand. The service sector was among the most severely hit, as lockdown measures constrained contact-intensive activities. Between March and December 2020, the services most affected by negative demand were insurance, reinsurance and pension funding (accounting for 17% of turnover-weighted service firms in the survey), financial service activities, except insurance and pension funding (6%) and land transport and transport via pipelines (3%). These sectors were also affected by negative supply factors, representing 16%, 15%, and 3%, respectively, of turnover-weighed service firms.

Chart 2

Demand- and supply-driven expectations of Slovak service firms (share of all service firms, weighted by turnover[11])[12,13]



Sources: SU SR (2026), Eurostat (2026) and author's own calculations. Seasonally adjusted.
Note: P stands for expected selling prices (up/down).

The year 2021 was characterised mainly by positive demand factors, likely reflecting the reopening of the economy following the rollout of vaccinations. Throughout the subsequent inflation surge, from mid-2021 to mid-2023, positive demand factors dominated service firms anticipating increases in their selling prices. These findings align with Giannone and Primiceri's (2024) recent study on the drivers of inflation during the inflation surge episode.

During 2022-23, the service subsectors most affected by positive demand, in turnover-weighted terms, were computer programming, consultancy and related activities (on average more than 12% of total turnover-weighted service firms), followed by **warehousing and support activities for transportation** (4%), land transport and transport via pipelines (4%) and financial service activities, except insurance and pension funding (4%).

Negative supply expectations emerged in early 2022, most likely reflecting rising input costs and energy prices. The most pronounced increase in supply-driven service price expectations occurred in mid-2022. In the following months, expected selling price increases were driven by a combination of adverse supply conditions and positive demand factors, with both contributing to upward price pressures. During 2022-23, the service subsectors most affected by negative supply factors, in turnover-weighted terms, were land transport and transport via pipelines (on average over 5% of total turnover-weighted service firms), postal and courier activities (5%) and financial service activities, except insurance and pension funding (3%). These

[11] The service firm subsectors with the highest turnover shares from the survey between 2022 and 2023 were: computer programming, consultancy and related activities, warehousing and support activities for transportation, and land transport and transport via pipelines.

[12] The black line shows the sum of the two seasonally adjusted components of firm-level selling price expectations. It is related to the aggregated selling price expectations in Slovakia if these were the sum of two unadjusted demand and supply components, divided by the square root of two: $= \frac{\sum w_i \frac{1}{\sqrt{2}}\left(Q_i^{future\_P} + \frac{Q_i^{past\_D} + Q_i^{future\_D}}{2}\right)}{\sum w_i} + \frac{\sum w_i \frac{1}{\sqrt{2}}\left(Q_i^{future\_P} - \frac{Q_i^{past\_D} + Q_i^{future\_D}}{2}\right)}{\sum w_i} = \frac{\sum w_i \sqrt{2}\left(Q_i^{future\_P}\right)}{\sum w_i} = \sqrt{2}P$, where P represents the selling price expectations in Slovakia. Therefore, we divided our resulting sum by $\sqrt{2}$, so any discrepancies between the series arise solely from differences in seasonal adjustment.

[13] When the same analysis is conducted using employment weights, supply factors become as important as, or slightly more important than, demand factors in 2022–2023 (see Chart A.1).

subsectors also correspond to those with the highest employment shares over 2022–2023 according to the survey.[14]

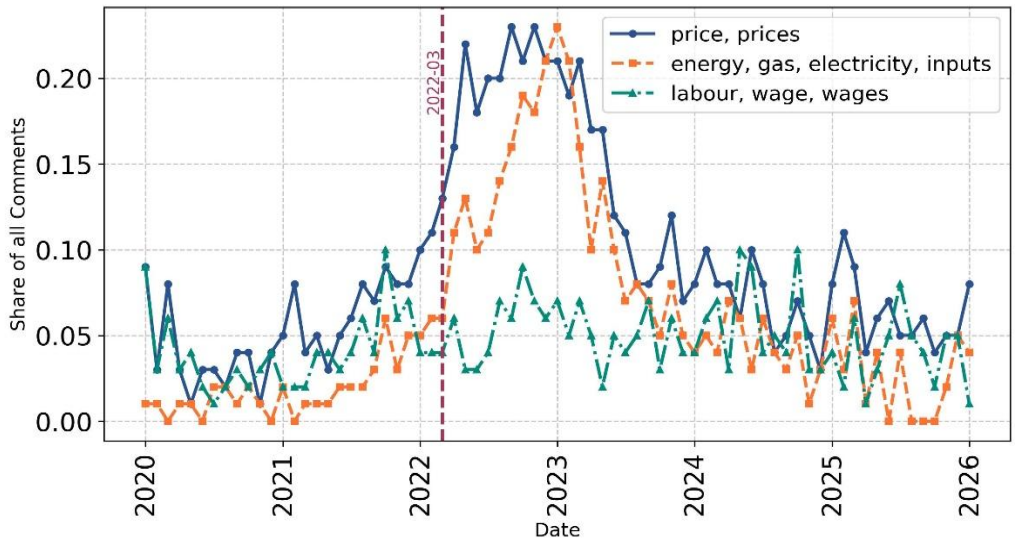
From the second half of 2023 until the beginning of 2024, firms expecting higher prices also anticipated higher demand for their services, indicating that demand factors were once again dominant. However, this pattern began to shift in 2024-25, as supply-side factors started to re-emerge.

The importance of supply-side factors in the period from 2020 to 2025 is evident from the frequency with which service firms commented on prices and energy costs in 2022–2023, and on labour and wages in 2020-2022 and 2024–2025. As shown in Chart 3, in the second half of 2021 around 5% of service firms referred to energy or other input costs in their comments. By the end of 2022, this share had increased markedly, with approximately 21% of commenting firms mentioning energy or input costs. The peak was reached in early 2023, when such costs pressures accounted for 23% of all comments in the services sector, after which the frequency of references to energy and input costs gradually declined.

Chart 3 also reports the share of comments from service firms referring to the labour market and wages. The reopening of economies in mid-2021, together with the rollout of vaccinations, led to a strong rebound in demand for services. Combined with an already tight labour market in Slovakia, this resulted in rising wages in the services sector during 2021-22. This development is reflected in the increased number of firm comments related labour market conditions and wages in the second half of 2021.

From 2023 onwards, the proportion of firms mentioning prices declined steadily until early 2025, when it started to increase again. By February 2025, approximately 11% of firms were referring to prices in their comments, though these were no longer primarily related to energy or input costs. This may be connected to the VAT tax increase that came into effect in January 2025, or to the relatively cheaper prices of competitors from abroad.

Chart 3
Mentions of words related to prices, energy and input costs, labour markets and wages in the service firms' comments over time



Sources: SU SR (2026) and author's own calculations.
Note: Share of comments containing terms related to prices, energy, input costs, and labour markets. Specifically, we match Slovak words beginning with 'cen' or 'cien' for prices; 'energ', 'plyn', 'elektr' or 'vstup' for energy and input prices; and 'prac', 'prác', 'mzd' or 'miezd' for labour market factors and wages. Comments referring to prices, but not explicitly to input costs, may reflect uncertainty about pricing, general price developments in the economy, or competitors' pricing strategies.

[14] The service firm subsectors with the highest employment shares from the survey between 2022 and 2023 were: land transport and transport via pipelines, postal and courier activities, and financial service activities, except insurance and pension funding.

Euro area firms say Slovakia is no exception

The same approach can be applied to decompose aggregated selling price expectations of service firms in the euro area into demand- and supply-driven components, based on the co-movement (or opposite movement) between expected selling price changes and expected demand in the aggregated survey responses. Provided that the aggregation weights used at the country level are consistent across the corresponding survey questions, the decomposition based on aggregated shares yields results identical to those obtained using firm-level responses.[15]

At the onset of the pandemic, negative demand- and supply-driven expectations dominated in the services sector of the euro area, with the negative demand component exceeding the negative supply component, according to weighted firms' expectations.

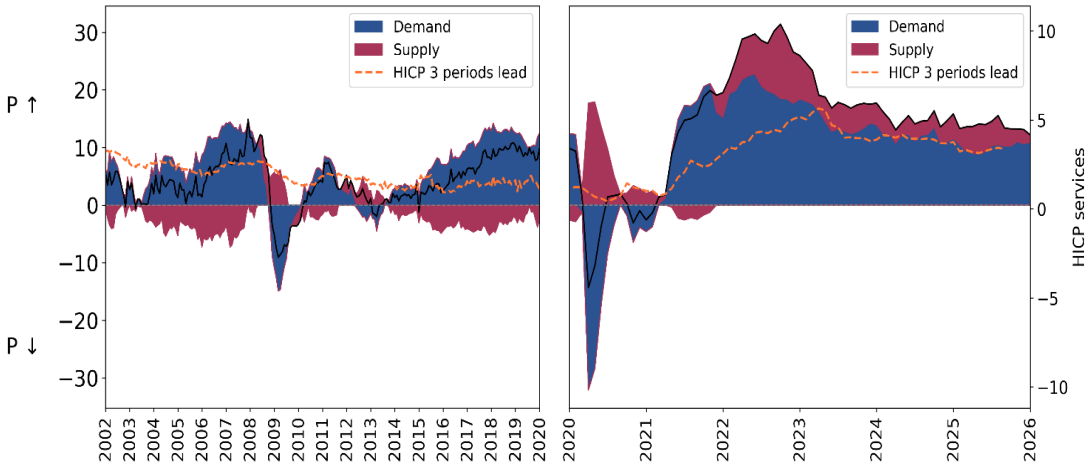
From mid-2021 onward, demand-driven expectations became predominant. Between late 2021 and early 2022, negative supply-driven expectations increased among euro area service firms; nevertheless, positive demand-driven expectations continued to prevail over this period (see Chart 4). The pronounced role of supply-side constraints at the start of 2022 helps to rationalise the ECB's cautious approach to policy tightening during this period and is consistent with the findings of Giannone and Primiceri (2024) on the drivers of inflation during the inflation surge episode.

During 2024–2025, the service sector's selling price expectations were also predominantly demand-driven. Supply factors of positive selling price expectations might be attributed to tight labour markets in the euro area, labour shortages and higher labour costs relative to weaker productivity.

Based on the current share of service firms expecting to increase their selling prices over the next three months, we expect services inflation in the euro area to moderate only very gradually in the coming months.

Chart 4

Demand- and supply-driven expectations of the euro area service firms (weighted by the weights used in the aggregation of the euro area service sector firms)



Sources: SU SR (2026), Eurostat (2026) and author's own calculations. Seasonally adjusted.
Note: P stands for expected selling prices (up/down).

[15] We use the weights implemented by partner institutions (European Commission, 2026b) for aggregations, since we use the aggregated answers for calculations. Using other weighting schemes might alter the aggregate results.

Conclusions

Using business survey data, this policy brief analyses firm-level selling price expectations in the services sector and show that the share of firms expecting to raise their selling prices is a leading indicator of actual services inflation in Slovakia and the euro area. Firms' selling price expectations can be decomposed into demand- and supply-driven components based on their co-movement with firms' demand.

During the pandemic, service firms were affected by both negative demand- and negative supply-side factors, resulting in a lower share of firms expecting to increase their selling prices. In contrast, the inflation surge in 2021–2023 was driven by a sharp increase in the share of service firms intending to raise their selling prices.

As in 2021–2023, the expected increase in selling prices for turnover-weighted service firms during 2024–2025 was primarily driven by positive demand factors, and to a lesser extent by negative supply factors. While our decomposition does not identify causal policy effects, it suggests that firms perceived price pressures following the Covid-19 pandemic to be primarily demand-driven. This pattern is consistent with the broader macroeconomic environment during this period, which featured accommodative monetary and fiscal policies during the Covid, tight labour markets and rising and rising labour costs afterwards. From early 2022, however, many service firms also reported negative supply-driven expectations, primarily due to rising energy and input costs associated with the reopening of economies. These adverse supply conditions coincided with still-positive demand expectations, with both factors contributing to the widespread increase in selling price intentions.

Service firms' price expectations point to a gradual moderation of services inflation in both Slovakia and the euro area over the coming months, albeit somewhat faster in Slovakia than in the euro area.

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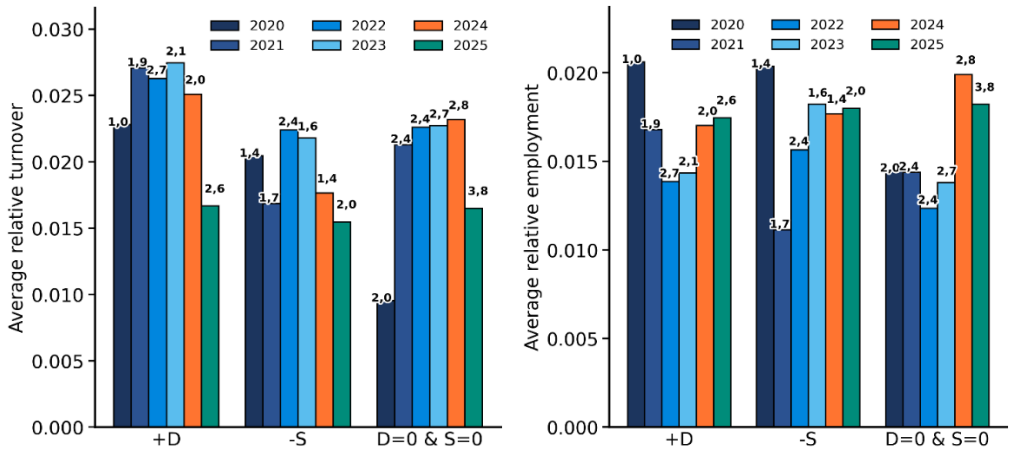
Appendix A: How turnover and employment shape service sector expectations

On average, service firms reporting positive demand-driven expectations had higher turnover weights than those reporting negative supply-driven expectations across all subperiods. Moreover, in each subperiod except for 2020 due to negative demand shocks, a larger number of firms reported positive demand-driven expectations than negative supply-driven expectations. However, it was only in 2022 that the combined number of firms with positive demand- and negative supply-driven expectations exceeded the number of firms reporting unchanged expectations. During 2022–23, high-turnover firms, which tend to be more capital-intensive and productive, were predominantly reporting positive demand-driven expectations. Chart A.1 (left panel) displays the average turnover weights of service firms with positive demand-driven and negative supply-driven expectations over the period.

In contrast, service firms with higher employment shares seem to be more vulnerable to supply shocks (see the right panel of Chart A.1). Starting from 2022, the average employment weight of firms reporting negative supply-driven expectations exceeded that of firms with positive demand-driven or unchanged. This pattern is consistent with the cost structure of service firms, where labour represents a substantial share of total costs. Service firms with higher employment weights may have been more adversely affected by energy price shocks, potentially because they operate more extensive branch networks and rely more heavily on transport. Consistent with this, the subsectors with the highest employment weights in 2022–23 were land and pipeline transport, followed by postal and courier services. Moreover, the period of elevated inflation was characterised by tight labour markets, implying that labour-intensive firms likely faced more acute labour shortages and stronger upward pressure on wages.

Chart A.1

Average turnover (left) and employment (right) weights of service firms by demand- and supply-driven expectations during 2020–2025



Sources: SU SR (2026) and author's own calculations.
Note: The numbers at the top of the bars correspond to the total number of monthly observations of firms within each category for each year (in thousands). The y-axis shows the min–max transformed average weights for turnover and employment. Each firm is weighted equally.
The weight of a firm reflects how much it should contribute to aggregate indicators, given a specific criterion (e.g. employment or turnover). A firm with a larger weight represents more economic activity in the population than a firm with a smaller weight.