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Research Report

Reactions to supply chain disruptions: Evidence from German firms

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Key Messages

- Almost 90 percent of German manufacturing firms have adopted concrete changes in their sourcing strategies in response to supply chain disruptions
- Increased stockpiling (68 percent) and diversification of suppliers (65 percent) are the most frequently adopted measures to strengthen the resilience of supply chains
- Many firms plan to adopt further changes within a year: one in two manufacturers intends to increase its number of suppliers
- Policymakers should support firms in their diversification efforts by strengthening the multilateral trade order and further lowering trade barriers

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Reactions to Supply Chain Disruptions: Evidence from German Firms

Cevat Giray Aksoy, Andreas Baur, Lisandra Flach, Beata Javorcik*

Since the outbreak of the Covid-19 pandemic, the configuration of international supply chains has received increased public attention. Pandemic-related disruptions in production and transportation have led to questions about the reliability of international production networks. Moreover, the war in Ukraine and the associated sanctions against Russia have cast a new light on the geopolitical significance of economic interdependencies with autocratic regimes. How do firms react to these developments, and have they already adjusted their sourcing strategies? In this policy brief, we present the results from a representative survey of more than 4,000 firms in Germany, providing insights into how companies have responded to supply chain disruptions and which priorities they are setting for the future.

Supply chain disruptions have provoked widespread changes in sourcing strategies

As part of the ifo Business Survey in July 2022, more than 4,000 firms in German manufacturing, wholesale and retail trade were asked about their current and future sourcing strategies. According to the survey, the vast majority of enterprises in Germany have taken actions to adjust their supply chains after the outbreak of the Covid-19 pandemic. More than 87 percent of manufacturing firms report having made concrete changes in response to supply chain disruptions (Figure 1). For wholesale trade, the respective share is 76 percent, while for retail trade it is 63 percent. These numbers are surprisingly high, given that in a previous ifo Business Survey (May 2021), less than half of firms reported having plans to adjust their sourcing strategy (see Flach et al. 2022). This highlights that many firms have re-evaluated supply chain risks and adjusted their sourcing strategies.

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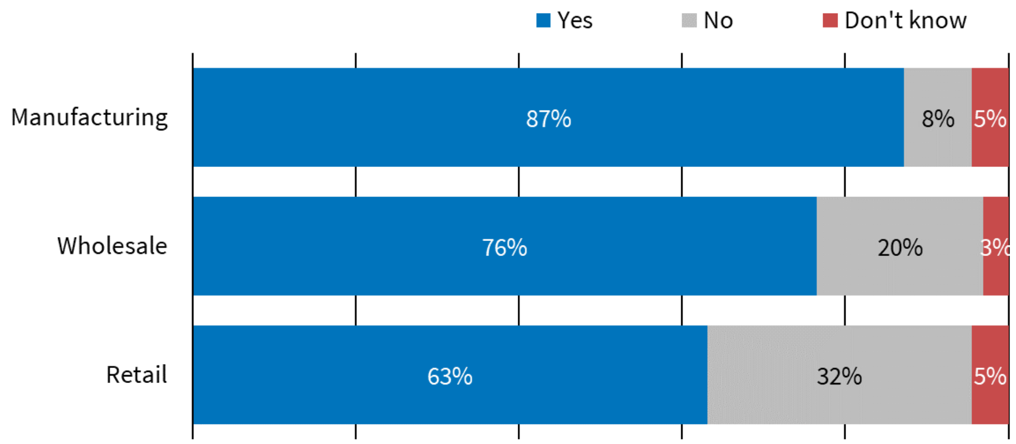
Figure 1

Adjustments to sourcing strategy in response to supply chain disruptions



Source: ifo Business Survey, July 2022.

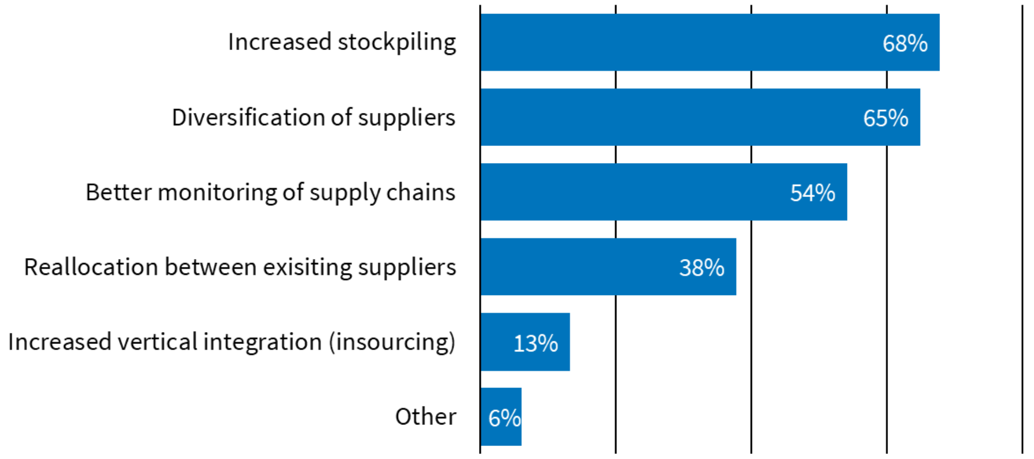
Increased stockpiling and diversification are most frequently cited actions

Figure 2 shows the actions taken by firms in response to supply chain disruptions. In manufacturing, the most prominent measure is stockpiling, with 68 percent of all firms reporting that they have increased their inventories. This indicates that many manufacturers have re-evaluated the costs and benefits of stockpiling and have partially moved away from just-in-time production. Supplier diversification has been another top priority for firms since the outbreak of the pandemic, with more than 65 percent having taken action to broaden their supply base by adding new suppliers. Moreover, 38 percent of manufacturers report reallocations between already existing suppliers. Another important measure relates to supply chain visibility, with 50 percent of firms adopting measures to improve their monitoring of supply chains. This, however, is rarely accompanied by an increase in vertical integration (i.e. producing inputs in-house that previously were sourced from independent suppliers): only 13 percent of German manufactures say that they have resorted to insourcing.

Figure 2

Measures in response to supply chain disruptions

Manufacturing, multiple answers possible



Source: ifo Business Survey, July 2022.

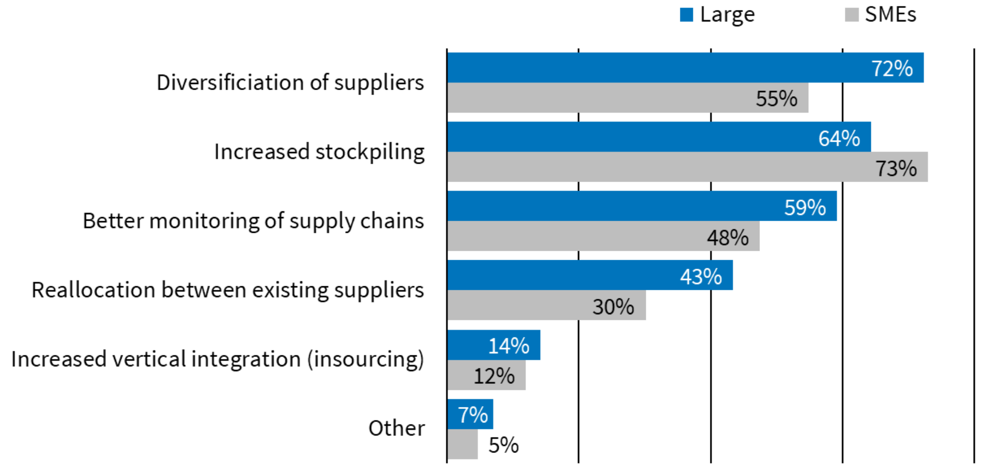
Important differences between SMEs and large firms

There are major differences across firm size with respect to changes in supply chains (Figure 3). First, large firms have been in general more active in adopting new measures in the face of supply chain disruptions. Second, while large enterprises have put stronger emphasis on supplier diversification and supply-chain monitoring, SMEs have focused relatively more on increasing inventories. These differences could be due to fixed costs related to the respective measures.

Figure 3

Measures in response to supply chain disruptions

Manufacturing by size class, multiple answers possible



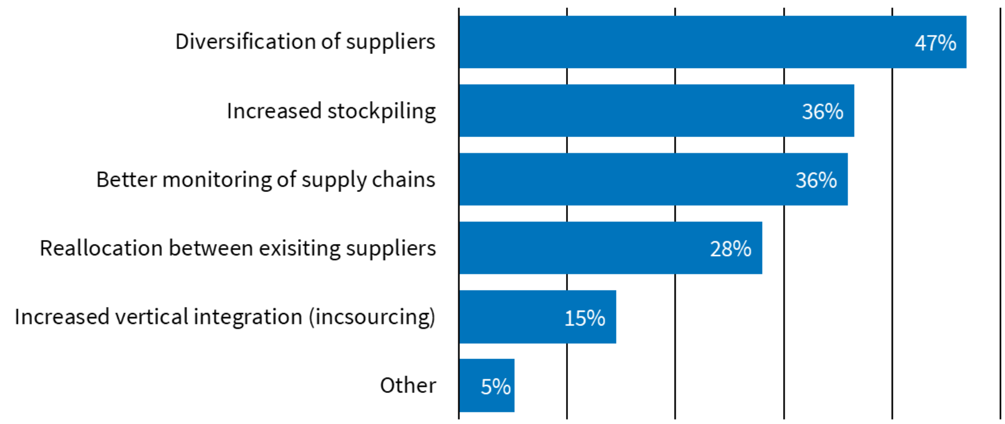
Source: ifo Business Survey, July 2022.

Firms aim to further diversify supply chains in the coming months

Although a large share of German companies have already adopted changes in their sourcing strategies, many firms still plan further actions within the next twelve months (Figure 4). Most frequently mentioned is the diversification of suppliers. Almost half of all firms have plans to find additional suppliers within a year. Moreover, around 30 percent intend further reallocations between existing suppliers. Plans to improve supply chain surveillance and to increase inventories are reported by around one-third of all manufacturers.

Figure 4

Planned adjustments to sourcing strategy within the next 12 months
Manufacturing, multiple answers possible



Source: ifo Business Survey, July 2022.

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Policy implications

The results presented in this policy brief show that the vast majority of firms in Germany have already undertaken concrete steps to increase the resilience of their supply chains. Moreover, many enterprises plan further adjustments to their sourcing strategy in the future. In particular, supplier diversification and increased stockpiling rank high on their agenda.

Policymakers can support these efforts in several ways. First, strengthening the multilateral, rules-based trading system would go a long way towards enabling firms to create better diversified and more robust supply chains.

Second, by lowering trade costs and reducing uncertainty, bilateral trade agreements can provide firms with additional opportunities for supply chain diversification. However, the use of trade agreements is often associated with considerable bureaucratic hurdles, especially for SMEs. Making trade agreements more SME-friendly, for example by increasing transparency and facilitating customs procedures, could make an important contribution to the stability of supply chains.

Lastly, efforts aimed at increasing supply chain transparency and facilitating the exchange of information between public and private actors would be very useful. For example, supply chain stress tests, simulating different crisis scenarios, could help to identify weaknesses and risks as well as a lack of diversification for specific critical goods (Simchi-Levi and Simchi-Levi 2020). Similarly, facilitating researcher access to firm-level transaction data could further improve understanding of the risks associated with international supply chains.

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