

## 4.5 The ifo Business Uncertainty Indicator

STEFAN LAUTENBACHER, STEFAN SAUER, KLAUS WOHLRABE

### 4.5.1 The Impact of Uncertainty on Economic Activity

Economic uncertainty is a much-discussed topic in politics, central banks, and macroeconomic research. In the past decade, uncertainty has often been cited to explain the slowing of the economy, for instance during the eurozone sovereign debt crisis, the Brexit negotiations, the trade war between the US and China, and the war in Ukraine with its economic impacts. Uncertainty can affect the economy through various channels. On the one hand, it can increase risk premiums on financial markets and thus the cost of financing. On the other hand, higher uncertainty can make households and firms more cautious and may cause them to postpone decisions that are not easily reversed. If households are reluctant to buy durable consumer goods, such as cars and furniture, and businesses postpone investments and new hires, overall economic demand can be weakened.

### 4.5.2 Measuring Uncertainty

Since uncertainty is not directly observable, various proxy measures have been developed. These include the implied or realized volatility of stock market returns, the dispersion of business expectations (Grimme and Stöckli 2018), and counts of uncertainty-related keywords in newspaper articles (Bachmann et al. 2013; Baker et al. 2016; Bloom 2009). However, these measures sometimes show large differences (Kozeniauskas et al. 2018). It is also an open question how well they are aligned with the actual perceived uncertainty of decision-makers in the economy. Their uncertainty is crucial, as it can influence consumption and investment behavior. For this reason, in recent years surveys have been increasingly used to measure the subjective uncertainty of households and firms. Concerning firms, since April 2019 the ifo Institute has elicited the uncertainty of managers in its monthly ifo Business Survey with the following question:

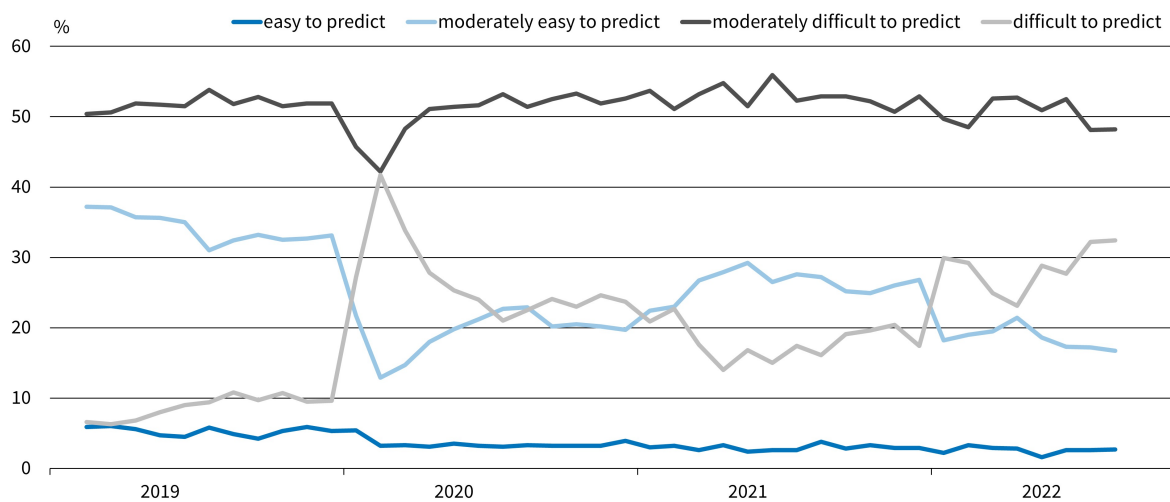
The **future development** of our **business situation** is **currently**

- easy to predict
- moderately easy to predict
- moderately difficult to predict
- difficult to predict

A possible advantage of this question is that it captures uncertainty indirectly by omitting the words “uncertainty” or “uncertain”. Since the use of terms that have negative connotations for respondents might blur the measurement, a possible bias in the answers is avoided.

Figure 4.10 shows the shares of the answers of all participating companies since the question was introduced. On average, more than half of the participants choose the category “rather difficult”. Before the start of the COVID-19 crisis, the category “rather easy” followed with a share of between 30% and 40%, while the share of respondents who find it difficult to predict their firm’s future business development initially fluctuated around 10%. However, in March and April 2020, during the outbreak of the COVID-19 crisis, there was a sharp rise to over 40%. This share shrank considerably in the following months. Following the beginning of the war in Ukraine and the resulting uncertainties, it is again currently (October 2022) over 30%.

**Figure 4.10: Share of the four uncertainty categories in all answers**



Source: ifo Business Survey.

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From these shares, the ifo Business Uncertainty Indicator for the German economy is calculated by the following formula, which weights the degree of uncertainty of the four answer categories easy (e), rather easy (re), rather difficult (rd), and difficult (d):

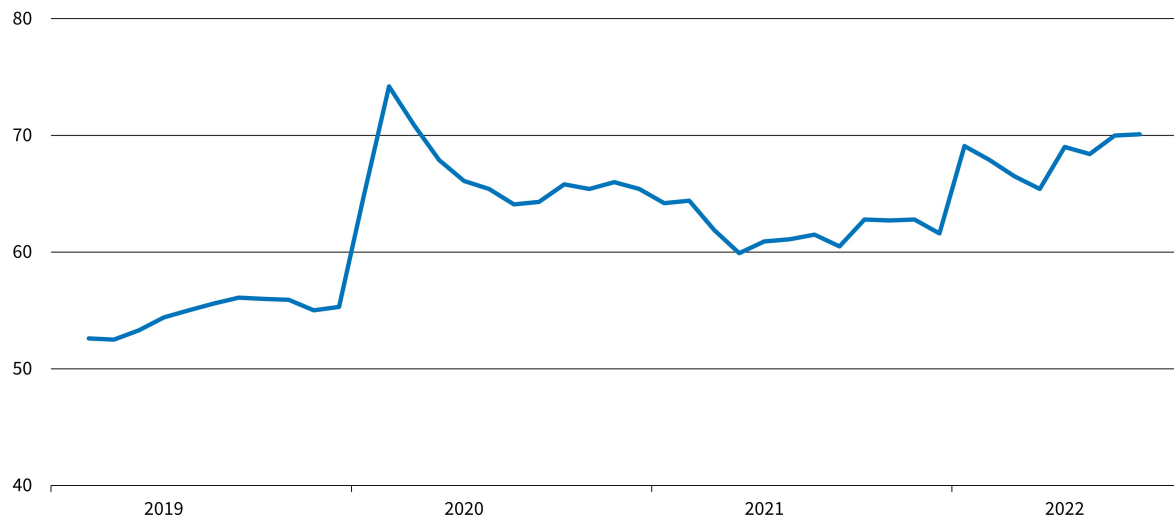
$$Uncertainty = 0 \cdot share(e) + \frac{1}{3} \cdot share(re) + \frac{2}{3} \cdot share(rd) + 1 \cdot share(d) \quad (4.1)$$

The value range of the ifo Business Uncertainty Indicator thus lies between 0 and 100, whereby 100 reflects the highest uncertainty. This would occur if all firms chose the category “difficult”. A value of 0 would accordingly mean that all firms are able to predict their business development easily.

Figure 4.11 shows the ifo Business Uncertainty Indicator since April 2019. The indicator has been consistently above 50, which marks the center of the uncertainty scale. Together with the answer shares in Figure 4.10, this suggests that there is a certain basis level of uncertainty

## 4 Other Indicators and Analyses from the ifo Business Survey

Figure 4.11: ifo Business Uncertainty Indicator

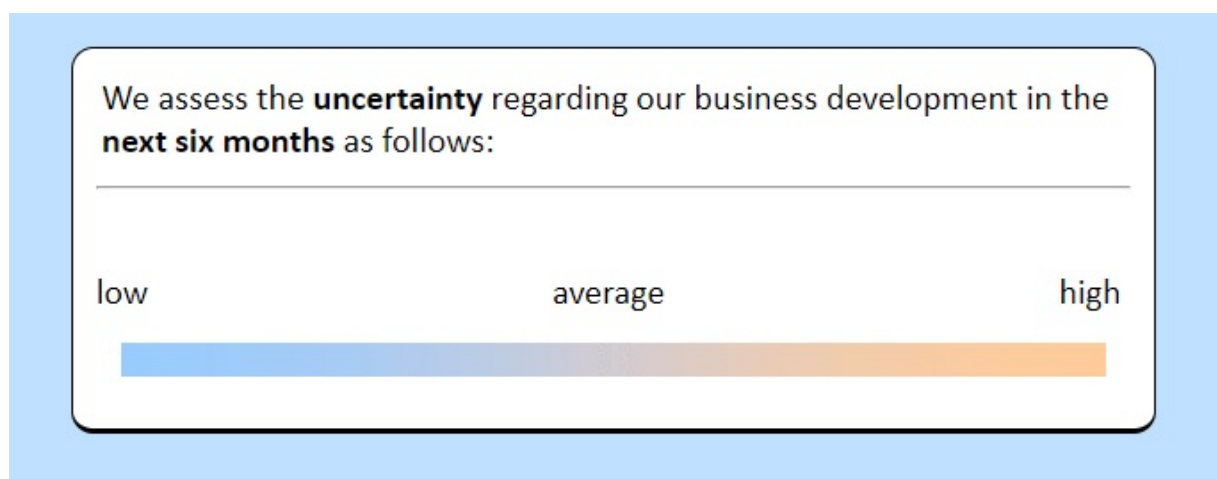


Source: ifo Business Survey.

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among managers regarding the further course of their business. Even before the COVID-19 crisis, that is, in comparatively quiet economic times, it was not easy for managers to predict their future business development. The beginning of the COVID-19 crisis marks the peak of the ifo Business Uncertainty at 73.8 in April 2020. However, the current uncertainty (October 2022) is also very high, the value of 70.1 being the third highest value since the start of the indicator.

In addition to this uncertainty measure, since July 2017 uncertainty has also been elicited using a direct question in the ifo Business Survey:



The respondents can indicate their subjective uncertainty on an approximately continuous scale, the ends of which are labeled “low” and “high”. The scale has values between 0 and

100, whereby higher values correspond to higher uncertainty. The weighted average of the answers to this direct question gives a second uncertainty indicator.

**Figure 4.12: Comparison of the two uncertainty measures for the overall economy**

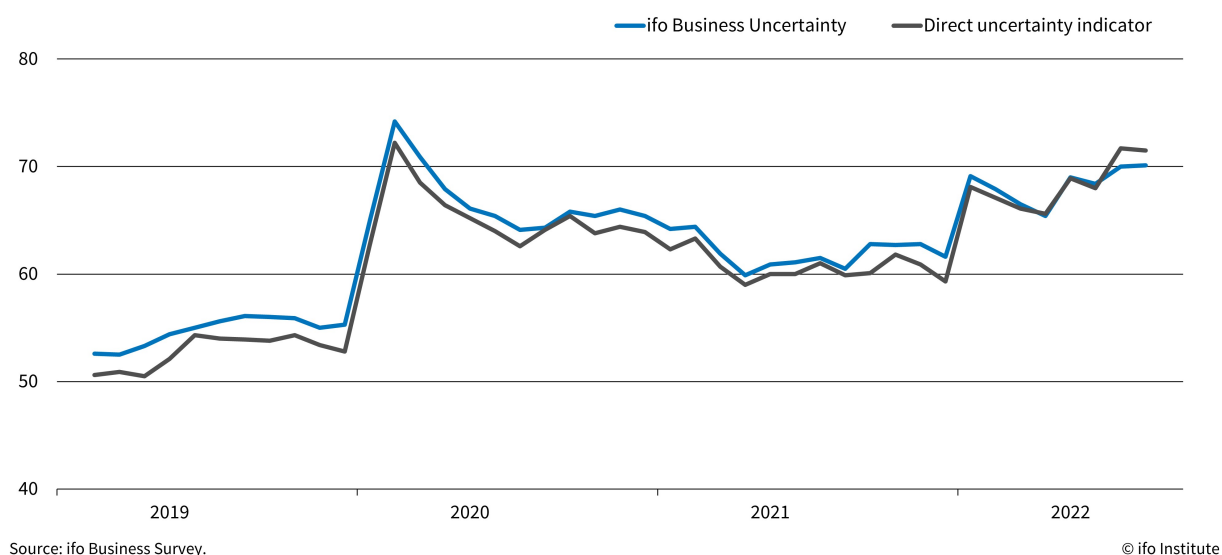
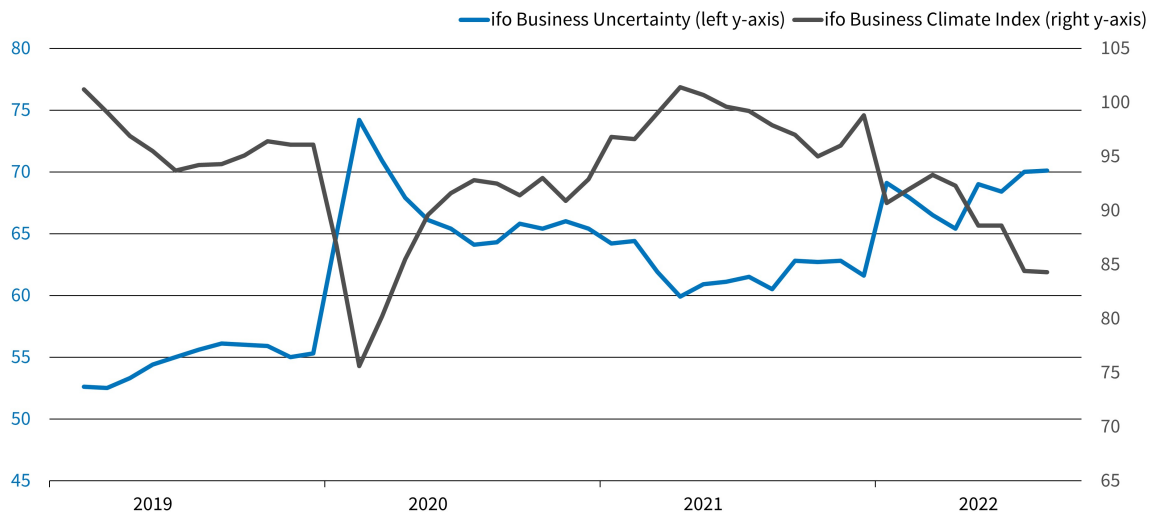


Figure 4.12 shows that the (still relatively short) time series of the two uncertainty indicators are almost identical. This suggests that the two different underlying questions of the indicators measure the same perception, which validates the results of the ifo Business Uncertainty Indicator. Moreover, it implies that managers seem to have a good understanding of the concept of uncertainty: If business leaders find it more difficult to predict their future business situation, on average they also rate their own uncertainty as higher. Lautenbacher 2020 discusses these measures of uncertainty in detail and additionally compares them with firms' business expectations for the next six months and their current business situation as ascertained by the ifo Business Survey. He finds that the more pessimistic managers are about their future business development and the more negatively they assess their current business situation, the more uncertain they are. There are also two special cases. First, even in a business situation rated as “good”, uncertainty can be high if a deterioration of the situation is expected. Second, managers remain uncertain in a business situation rated as “bad” even if they expect the situation to improve.

Based on these findings, it is not surprising that the new uncertainty measure also has a strong negative correlation with the ifo Business Climate Index (see Figure 4.13). After all, the index is constructed as the average of the assessments of the current business situation and the business expectations. A deterioration in the ifo Business Climate Index is thus typically accompanied by an increase in perceived uncertainty. In times of a rising ifo Business Climate Index, managers tend to find it easier to predict the future development of their business situation.

## 4 Other Indicators and Analyses from the ifo Business Survey

**Figure 4.13: Comparison of the ifo Business Uncertainty and the ifo Business Climate Index**



Source: ifo Business Survey.

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### 4.5.3 Conclusion

To sum up, the ifo Business Uncertainty Indicator is based on managers' perceptions of how difficult they find it to predict the future business development of their firm. As such, it measures uncertainty at the decision-maker level, where it may affect investment and hiring, and, at an aggregate level, the business cycle. The indicator almost perfectly follows a second measure of firms' subjective uncertainty, and it is strongly negatively related to the ifo Business Climate Index. The ifo Business Uncertainty Indicator is published monthly with the press release for the ifo Business Climate Index. Furthermore, the uncertainty is also calculated on the sector and industry level as well as for different regions and firm sizes.