

Methodology of the WIFO-Konjunkturtest (business cycle survey)

Early knowledge of the economic cycle – especially of the turning points – is an important basis for economic policy and corporate decision-making. In order to determine the development in a timely manner, high-quality coincident or – even better – forward-looking economic indicators (early indicators) are required. For Austria, the WIFO-Konjunkturtest provides such a system of early indicators.

The WIFO-Konjunkturtest is a monthly survey of Austrian companies on their economic situation and its development in the coming months. The aim is to record the current and forthcoming development of the Austrian economy with as little effort as possible on the part of the respondents. The results are published twelve times a year before the end of the month of the survey. They are thus available much earlier than data from the official business cycle statistics. For example, the results of the business survey for a given month are available around two months before the publication of the preliminary value and around three months before the publication of the first value of the production index.

Today, around 1,700 companies with more than 200,000 employees voluntarily participate in the WIFO-Konjunkturtest each month. We would like to take this opportunity to thank these companies: without their cooperation, the WIFO-Konjunkturtest would not be possible.

1. History

Business surveys such as the WIFO-Konjunkturtest are carried out in many countries today. In Austria, the WIFO-Konjunkturtest was introduced as early as 1953. The direct model was the ifo Business Survey in Munich, which has been an integral part of German economic research since 1949 and the basis of the ifo Business Climate Index published since 1971. The WIFO-Konjunkturtest was modified and simplified in 1963. Instead of monthly, the survey was conducted on a quarterly basis and the number of questions was reduced. The WIFO-Konjunkturtest was conducted like this until 1996, with minor changes.

Since 1996, WIFO has participated in the "Joint Harmonised EU Programme of Business and Consumer Surveys" of the European Commission's Directorate General for Economic and Financial Affairs, which coordinates business surveys throughout the EU and partly beyond. This required modifications that significantly changed the WIFO-Konjunkturtest:

- The question program was expanded. The questionnaire, which has been harmonised throughout Europe, has also been used in Austria since 1996.
- The frequency of the survey was changed from quarterly (back) to monthly. As provided for in the harmonised program, a survey is now conducted every third month (January, April, July and October), in some cases with a considerably broader range of questions ("quarterly surveys").

The WIFO-Konjunkturtest has been extended to cover additional sectors. In addition to manufacturing and construction, an important part of the services sector has also been covered since 1996. Retail trade is also part of the Joint Harmonised EU Programme of Business and Consumer Surveys. In Austria, this survey is conducted by KMU Forschung Austria (KMFA) on behalf of WIFO as part of its independent monthly survey of the retail trade.

2. The survey concept

The core idea of the WIFO-Konjunkturtest and comparable business surveys is to obtain reliable and theoretically sound indicators of the business cycle by means of questions that are as quickly and easily answered by companies as possible. The **simplicity of the survey design** keeps the burden on the participating companies low: A trained person should be able to answer a questionnaire in less than 5 minutes.

The WIFO-Konjunkturtest is largely qualitative, i.e. no numerical data are requested (except for two quarterly questions and the number of employees). Three qualitative options are offered for the answers (e.g. good – satisfactory – poor or better – same – worse). The questionnaires do not include definitions but use well known concepts such as "number of employees" without defining exactly what is meant by "employees" (full-time, part-time, temporary). This concept permeates the entire WIFO-Konjunkturtest and – unlike official statistics, which necessarily collect quantitative data – allows not only a quick response, but also a quick calculation of the indicators and thus timely analyses of economic developments.

3. The WIFO-Konjunkturtest indices

The results of the WIFO-Konjunkturtest are published as monthly indices and are available at https://www.wifo.at/en/publikationen/wifo_konjunkturtest. They are available for individual sectors and subsectors as well as for the economy in general. The indices summarise the results of the WIFO-Konjunkturtest in a few figures. The index formation procedure follows the tradition of other well-known and reliable indicators, such as the ifo Business Climate Index or the European Commission's confidence indicators, which are calculated from the harmonised European business surveys (including the WIFO-Konjunkturtest).

WIFO's concept differs from the concepts of the above-mentioned ifo and European Commission indicators in some elements. The **ifo Business Climate Index** is formed from two questions that are asked uniformly across all industries. The balances of the business situation and the business situation expectations are averaged (geometrically) in the ifo Business Climate Index but are also analysed and presented separately. The **European Commission** calculates confidence indicators at the sector level (manufacturing, construction, trade and services) from two to three individual indicators in each case, which show good synchronisation and leading-edge properties for the EU in general.

WIFO follows a combination of both approaches: in contrast to the EU confidence indicator and in line with the ifo concept, a distinction is made between **expectations** and **current assessments**, but in contrast to the concept of the ifo Business Climate Index, the index is formed

using a maximum number of individual indicators. The aggregation of different indicators suppresses series-specific errors, but this may also level out the leading indicators.

The indices of the WIFO-Konjunkturtest are calculated monthly at the sector level for manufacturing, construction and services. The "macroeconomic indices" are calculated from these **sector indices**, with the individual sector indices being weighted on the basis of the gross value added of the respective sector.

Since the questionnaires used in the WIFO-Konjunkturtest are adapted to the specific circumstances of the sectors surveyed (manufacturing, construction, services, retail trade), the questions included in the indices also differ. Although this limits comparability between the sectors somewhat, the use of all questions available for the respective sector allows the greatest possible amount of information to be processed.

4. The WIFO Business Climate Index

The WIFO Business Climate Index aggregates the arithmetic mean of two sub-indices, which are reported separately:

The **index of current assessments** is based on monthly surveys of the current situation and developments over the past three months. It is designed as a concurrent index, which has an indirect lead over the official business statistics simply due to its early availability (around two months before the current data from the official statistics). It is calculated from companies' assessments of the following variables:

- Manufacturing: order backlogs, foreign order backlogs, stocks of finished goods, development of production in the last three months,
- Construction: order backlogs, development of construction activity in the last three months,
- Service sector: order backlogs, development of business situation in the last three months, development of demand in the last three months, development of employment in the last three months,
- Retail trade: development of business situation in the last three months, volume of stock currently held.

The **index of business expectations** summarises those monthly questions that refer to the development in the following months of the survey. It is designed as a leading indicator and is based on the companies' assessment of the following variables:

- Manufacturing: development of production in the next three months, development of own business situation in the next six months, development of the number of employees in the next three months,
- Construction: development of the number of employees in the next three months, Development of construction prices in the next three months,

- Service sector: development of demand in the next three months, development of workforce in the next three months, development of own business situation in the next six months,
- Retail trade: development of orders placed with suppliers in the next three months, development of workforce in the next three months, development of own business activity over the next three months.

5. Calculation of balances

In the next 3 months, our production will . . .

increase

stay about the same

decrease

In the course of the evaluation, "balances" are determined: The proportion of negative responses is deducted from the proportion of positive responses to a question. If 300 companies out of 1,000 in the manufacturing sector respond to the above question about their production expectations and say that production will "increase", 500 assume that production activity will "remain about the same", and 200 believe that their production will "fall", this results in a balance of +10 percentage points (30 percent – 20 percent = 10 percentage points). In practice, the balances calculated in this way show a high correlation with the actual growth rates of the production index calculated by Statistics Austria.

However, there are **exceptions to the evaluation concept** of balances. This primarily concerns questions that do not follow the general three-step question concept of the business cycle test (e.g., capacity utilisation), but order books are also no longer reported according to the balance concept, as this has caused confusion among many users of the business cycle survey results:

- order backlogs: share of companies with sufficient or more than sufficient order backlogs,
- capacity utilisation: arithmetic mean of capacity utilisation in percent,
- assured production duration: arithmetic mean of assured production duration in months,
- primary obstacle to production, construction respectively business activity: proportion of companies reporting a specific obstacle,
- business uncertainty index: 0 to 100 index points, 0 = lowest measurable uncertainty, 100 = maximum measurable uncertainty.

6. Seasonal adjustment

"Seasonal effects" are another peculiarity. These are patterns in the results of the business survey which occur in an annual rhythm. Every year, for example, companies' production expectations fall in autumn, and then recover toward the end of the year. As these are not cyclical fluctuations, they are "removed" by means of seasonal adjustment procedures. For the WIFO-Konjunkturtest we use the "Dainties" calculation method.

7. Publications

Glocker, C., & Hölzl, W. (2015). Bestimmung einer Konjunkturampel für Österreich auf Basis des WIFO-Konjunkturtests. *WIFO-Monatsberichte*, 2015, 88(3), 175-183. <https://www.wifo.ac.at/wwa/pubid/57854>.

Hölzl, W., & Schwarz, G. (2014). Der WIFO-Konjunkturtest: Methodik und Prognoseeigenschaften. *WIFO-Monatsberichte*, 2014, 87(12), 835-850. <https://www.wifo.ac.at/wwa/pubid/50863>.

Methodology of the WIFO- Investitionsbefragung (Investment survey)

The WIFO-Investitionsbefragung is a semi-annual survey of companies on their investment activities within the context of the WIFO-Konjunkturtest (business cycle survey). Like the latter, the investment survey's main objective is to have relevant econometric data available before they can be provided by the statistical offices.

1. History

In autumn 2021, the WIFO-Investitionsbefragung replaced the WIFO-Investitionstest, which had been conducted as an independent survey since 1964 and had been part of the "Joint Harmonised EU Programme of Business and Consumer Surveys" of the European Commission's Directorate General for Economic and Financial Affairs since 1996. The WIFO-Investitionstest now covers companies in the manufacturing sector and the service sectors.

2. The survey concept

As an integral part of the WIFO-Investitionsbefragung, companies report "qualitative" items (ordinally scaled variables, i.e., "decreases" – "remains the same" – "grows") about their investment activity of the last two years as well as investment plans for the current and the coming year. From the data obtained in this way, a rough picture of the investment development emerges (balances from the reports of an expansion or reduction of investments). In addition, other factors such as investment goals and motives are surveyed.

3. Use of the results

In order to inform the public about the expected investment activity of the Austrian economy, the results of the WIFO-Investitionsbefragung (investment survey) are published twice a year in the WIFO-Monatsberichte (monthly reports) and are, of course, made available to the participating companies free of charge. However, the WIFO-Investitionsbefragung is also of great value for microeconomic research due to the timely publication of the results.