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**Labour Shortages and Supply Bottlenecks
Hamper Business Activity.** Results of the
WIFO-Konjunkturtest Quarterly Survey
of October 2021

Werner Hölzl, Jürgen Bierbaumer, Michael Klien, Agnes Kügler

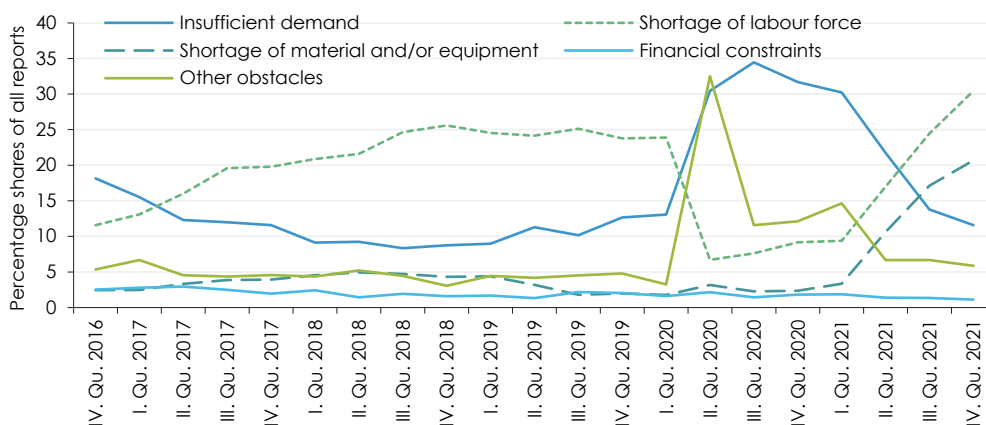
Labour Shortages and Supply Bottlenecks Hamper Business Activity

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- Domestic companies continued to assess the economic situation with confidence in October, although the WIFO-Konjunkturampel (economic traffic light) – an early indicator of turning points – is showing a weakening of momentum.
- The index of business expectations recently rose again month-on-month. Its level still points to a continuation of the recovery, albeit at a slower pace.
- The WIFO Business Climate Indices in manufacturing, construction and the service sector have already returned to pre-crisis levels. In the retail sector, the economic climate continues to be slightly below average.
- Capacity utilisation was higher in October than in June in almost all sectors. Only in manufacturing was a slight decline recorded.
- In the economy as a whole, the "shortage of labour force" was again the most important obstacle to business activity. The "shortage of materials and capacity" continued to gain in importance: particularly in manufacturing and retail trade, supply bottlenecks recently hampered business activity.

Factors limiting economic activity in the total economy



"In the economy as a whole, "shortage of labour force" was the most frequently cited constraint on business activity in October 2021, ahead of "shortage of materials or capacity", which was particularly important in manufacturing, construction and retail trade."

Since the beginning of 2021, the "insufficient demand" has noticeably lost weight, while the importance of the shortage of labour force has noticeably increased – in October, it was the most important obstacle for 30 percent of companies. For around 20 percent it was the "shortage of materials or capacity". This is the highest value since the survey began and reflects the importance of the supply crisis (source: WIFO-Konjunkturtest, seasonally adjusted).

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The business cycle assessments of Austrian companies show a stable development of the economy across almost all sectors in October, except in the retail trade sector. Nevertheless, the WIFO-Konjunkturampel (economic traffic light) shows red and thus signals that the peak of the economic upturn has probably been reached. Capacity utilisation fell slightly in manufacturing but remained above average in all sectors. As in the previous quarter, the "shortage of labour force" was cited as the most important obstacle to business activity. In addition, shortages of materials and inputs caused by supply bottlenecks hampered business activity in manufacturing, construction and retailing.

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Economic sentiment changed only slightly across all sectors in a quarter-on-quarter comparison. Economic expectations improved slightly following the marked recovery in spring 2021, but remained optimistic in October.

The results of the WIFO-Konjunkturtest (business cycle survey)¹ for October 2021 (beginning of the fourth quarter) show a largely stable development since the summer. The WIFO Business Climate Index remained almost unchanged compared to July (Table 1). At 19.4 points, it was around 29 points higher than in October 2020. The situation assessments deteriorated slightly compared to July (-2.0 points), but the corresponding index remained noticeably in positive territory at 20.9 points. The index of business expectations stood at 17.9 points in October and was thus just above the value for July 2021 (+1.0 points). As the slight increase in Octo-

ber shows, Austrian companies did not expect the recent increase in COVID-19 infections to have a serious impact on their business activities. The majority of domestic companies expected an improvement in their business situation.

There were only slight differences by industry: in manufacturing, the WIFO Business Climate Index remained unchanged compared to the previous quarter and, at 20.7 points, was clearly above the zero line separating positive from negative economic assessments. The index of current situation assessments deteriorated slightly

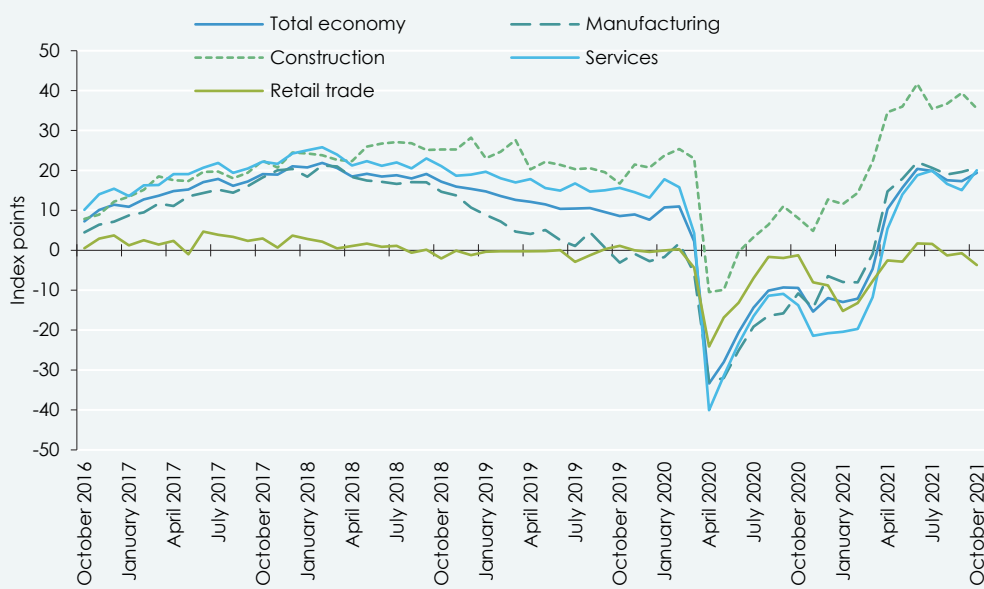
¹ The WIFO-Konjunkturtest (business cycle survey) is a monthly survey of Austrian companies on their current economic situation and the development in the coming months. Once a quarter, the questionnaire of the WIFO-Konjunkturtest (business cycle survey) is extended by additional questions ("quarterly questions") which provide relevant information on the business cycle but are not included in the monthly indices of the WIFO-Konjunkturtest (business cycle survey). The current results of the WIFO-Konjunkturtest (business cycle survey) are available on the WIFO website

(<https://www.wifo.ac.at/en/publications/wifo-konjunkturtest>) and on the Business Cycle Analyses topic page at WIFO https://www.wifo.ac.at/en/topics/business_cycle or www.konjunkturtest.at). Hölzl and Schwarz (2014) provide an overview of the WIFO-Konjunkturtest (business cycle survey). Detailed results on the subsectors of manufacturing and services can be downloaded as a graphical appendix (in German) from the project homepage https://www.wifo.ac.at/en/research_priorities/wifo-konjunkturtest/publications).

(-0.8 points) compared to July and stood at 23.6 points. The index of business expectations improved slightly (+0.9 points) and

remained in the optimistic range at 17.7 points.

Figure 1: WIFO Business Climate Indices



Source: WIFO-Konjunkturtest (business cycle survey), seasonally adjusted.

Table 1: Indices of the WIFO-Konjunkturtest (business cycle survey)

	2020		2021		2021		2021		October Change compared to July (previous quarter)
	October	January	April	July	August	September	October		
Total economy									
WIFO Business Climate Index	- 9.4	- 13.0	10.3	19.9	17.6	17.3	19.4	- 0.5	
Index of current situation assessments	- 7.2	- 13.4	8.7	22.9	20.5	20.3	20.9	- 2.0	
Business Expectations Index	- 11.7	- 12.5	12.0	16.9	14.7	14.3	17.9	+ 1.0	
Manufacturing									
WIFO Business Climate Index	- 10.8	- 7.9	14.8	20.6	19.0	19.6	20.7	+ 0.0	
Index of current situation assessments	- 10.2	- 8.2	13.7	24.4	20.7	21.8	23.6	- 0.8	
Business Expectations Index	- 11.4	- 7.6	15.9	16.8	17.3	17.5	17.7	+ 0.9	
Construction									
WIFO Business Climate Index	8.0	11.6	34.6	35.4	36.7	39.4	35.5	+ 0.1	
Index of current situation assessments	9.3	18.7	40.9	35.6	34.6	37.1	31.8	- 3.8	
Business Expectations Index	6.8	4.5	28.7	35.3	39.0	41.8	39.4	+ 4.1	
Services sector									
WIFO Business Climate Index	- 13.8	- 20.4	5.4	20.0	16.6	15.1	20.0	+ 0.1	
Index of current situation assessments	- 13.1	- 26.1	- 0.1	22.2	20.4	18.7	21.7	- 0.5	
Business Expectations Index	- 14.4	- 14.8	10.9	17.8	12.9	11.5	18.4	+ 0.6	
Retail trade									
WIFO Business Climate Index	- 1.3	- 15.2	- 2.6	1.6	- 1.3	- 0.7	- 3.7	- 5.3	
Index of current situation assessments	14.5	2.2	5.4	9.0	6.0	6.7	- 1.7	- 10.7	
Business Expectations Index	- 17.0	- 32.6	- 10.5	- 5.9	- 8.6	- 8.2	- 5.7	+ 0.2	

Source: WIFO-Konjunkturtest (business cycle survey).

Indices of the WIFO-Konjunkturtest (business cycle survey)

The indices of the WIFO-Konjunkturtest (business cycle survey) are calculated monthly at the sector level for manufacturing, construction, services and retail trade. The surveys are conducted monthly by WIFO (manufacturing, construction and services) and Austrian Institute for SME Research (retail trade). The sector indices are weighted (services 0.5, manufacturing 0.3, construction and retail trade 0.1 each) to calculate the "macroeconomic indices". The WIFO Business Climate Index aggregates two sub-indices that are reported separately:

- The current situation assessment index is based on the monthly surveys on the assessment of the current situation and the development over the past three months. It is designed as a concurrent index that is ahead of the official short-term statistics simply because it is available at an early stage (around two months before the current data in the official statistics).
- The business expectations index summarises those monthly questions that relate to developments in the months following the survey. It is designed as a leading indicator.

Details on the indices are provided by Hölzl and Schwarz (2014).

Also in the construction industry the WIFO Business Climate Index hardly changed compared to July (+0.1 points to 35.5 points). While the index of current assessments of the situation fell by 3.8 points to 31.8 points, the index of business expectations rose by 4.1 points to 39.4 points. Both indices were thus once again clearly in positive territory. The favourable development of the expectations index continues to be primarily due to the fact that a large proportion of construction companies expect a further increase in construction prices.

In the service sector, which is more strongly affected by official restrictions, there were also only minor changes compared to July 2021: The WIFO Business Climate Index almost stagnated (+0.1 points) and was clearly above the zero line at 20.0 points². The index of current situation assessments deteriorated slightly compared to July (-0.5 points), but remained noticeably positive at 21.7 points. The index of business expectations improved in October (+0.6 points versus July) and was once again clearly in positive territory at 18.4 points.

The business cycle indices for the retail sector, which are calculated by WIFO on the basis of surveys by the Austrian Institute for SME Research, show a deterioration compared to the previous quarter: the business climate index in October was 5.3 points below the July value and slipped back below the zero line with -3.7 points. The index of current assessments of the economic situation dropped significantly (-10.7 points compared to July) and was also negative at -1.7 points. The index of business expectations improved slightly (+0.2 points), but at -5.7 points continues to signal a predominance of pessimistic assessments.

A longer-term view of the WIFO Business Climate Indices shows the extent of the decline as a result of the COVID-19 crisis, but also the significant increase since the beginning of 2021. Likewise, the slight differences in the sectoral development compared to the previous quarter become visible (Figure 1).

1. Economic traffic light shows red – dynamics of the upswing weakening

Using a Markov regime switching model, the WIFO-Konjunkturampel (economic traffic light) calculates the probability with which the current values of the indicators of the WIFO-Konjunkturtest (business cycle survey) correspond to an improvement or deterioration of the business cycle estimates compared to the previous period (Glocker and Hölzl, 2015)³. The calculated probability can fall into one of three categories, which are collectively referred to as the "WIFO-Konjunkturampel":

- In the "green area" (improvement), the probability is over two-thirds that the change in the current index values

² In August 2021, the business activity indices in the services sector declined. As the detailed results by sector show, this decline was driven in particular by the accommodation and food services and transport sectors, which were particularly restricted in winter and spring 2021. In September and October, the

compared with the previous measuring point reflects an improvement in economic assessments.

- In the "red area" (deterioration), the probability is less than one third that the current index value represents an improvement over the previous measurement point.
- The indifference area lies between the "green" and "red" areas. In this case, the development of the economic assessments cannot be clearly assigned.

The probability of being in an improvement regime was assessed by the model as very low at 0.01 in October 2021. As a result, the

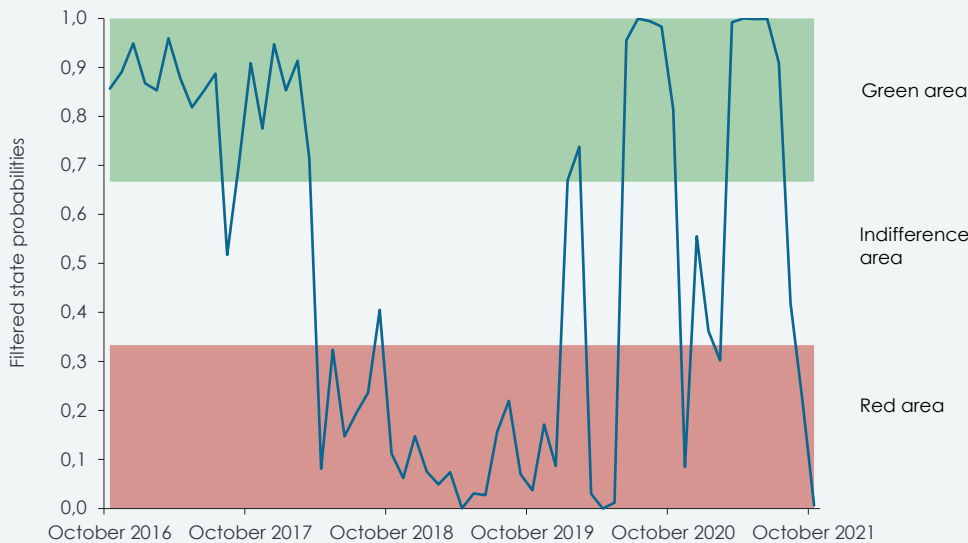
indices in these sectors, and thus in services as a whole, recovered again.

³ Deterioration is defined as the opposite state of the "improvement" state: the probability of being in the "improvement" state (q) is 1 minus the probability of being in the "deterioration" state ($p = 1 - q$).

WIFO-Konjunkturampel (economic traffic light) remained on red, as in the previous month. During the deep slump in April and May 2020, the traffic light jumped to red; in the subsequent catch-up process in summer and autumn, it showed green, and in November, in the course of the second COVID-19 wave, it showed red again. From March

to July 2021, it once again turned green (Figure 2). Although the majority of domestic companies still expect the economic situation to improve, the traffic light turned red in September 2021 as the momentum of the upswing weakened recently. Growth rates are expected to decline somewhat in the coming months, but to remain positive.

Figure 2: WIFO-Konjunkturampel (economic traffic light)



Source: WIFO-Konjunkturtest (business cycle survey). The WIFO-Konjunkturampel (economic traffic light) for Austria shows the monthly probability for the phases "improvement of business cycle assessments" ("green area") and "deterioration of business cycle assessments" ("red area"). In the indifference range, the development of business cycle assessments cannot be clearly classified.

2. Uncertainty remains above average

Since the 1980s, the WIFO-Konjunkturtest (business cycle survey) has been asking companies to assess the uncertainty of their future business situation, which has an impact on their investment and employment decisions (Glocker and Hölzl, 2019). In May 2021, the wording of the question on uncertainty was changed in the course of its inclusion in the Joint Harmonised EU Programme of Business and Consumer Surveys. In addition, since May, the uncertainty question has been asked monthly instead of quarterly as before. Due to these changes, only very limited comparisons over time are possible to date.

The indicator of uncertainty regarding the future business situation has a value range from 0 (no uncertainty) to 100 (highest uncertainty). For the economy as a whole, the value in October 2021 (fourth quarter) was 56.0 points. Uncertainty was above average in manufacturing (60.6 points), slightly below average in services (54.4 points) and significantly below average in construction (49.9 points). In retail trade it was slightly above average with 58.6 points. According to the available monthly data, uncertainty in October was slightly higher in manufacturing than in July 2021, while in the other sectors (construction, services and retail) it stagnated or even declined compared with the summer.

Uncertainty was higher in October 2021 than in the summer only in manufacturing.

3. Capacity utilisation and order backlogs remain high

3.1 Slight decline in capacity utilisation in manufacturing

Especially in sectors with high capital intensity, high adjustment costs and long adjustment periods, capacity utilisation is an

important business cycle indicator. It is therefore surveyed in all sectors as part of the WIFO-Konjunkturtest (business cycle survey; Hölzl et al., 2019). Macroeconomic capacity utilisation increased by 1.1 percentage points to 88.1 percent in October 2021

Compared to July, capacity utilisation increased in all sectors except manufacturing. In the service industries, capacity utilisation reached the level seen before the COVID-19 crisis.

compared to July. By sector, capacity utilisation improved in all sectors except manufacturing, where it fell slightly by 0.3 percentage points due to supply constraints, but remained above average at 85.5 percent. In the construction industry, it was also above average at 86.0 percent (+0.2 percentage points). A significant increase was recorded

in the service sectors (+2.0 percentage points), with capacity utilisation here returning to 90.1 points, roughly the long-term average before the COVID-19 crisis. This shows that economic activity in the service industries has broadly stabilised again over the summer in the wake of the easing of the COVID-19 measures.

Figure 3: Capacity utilisation by sectors



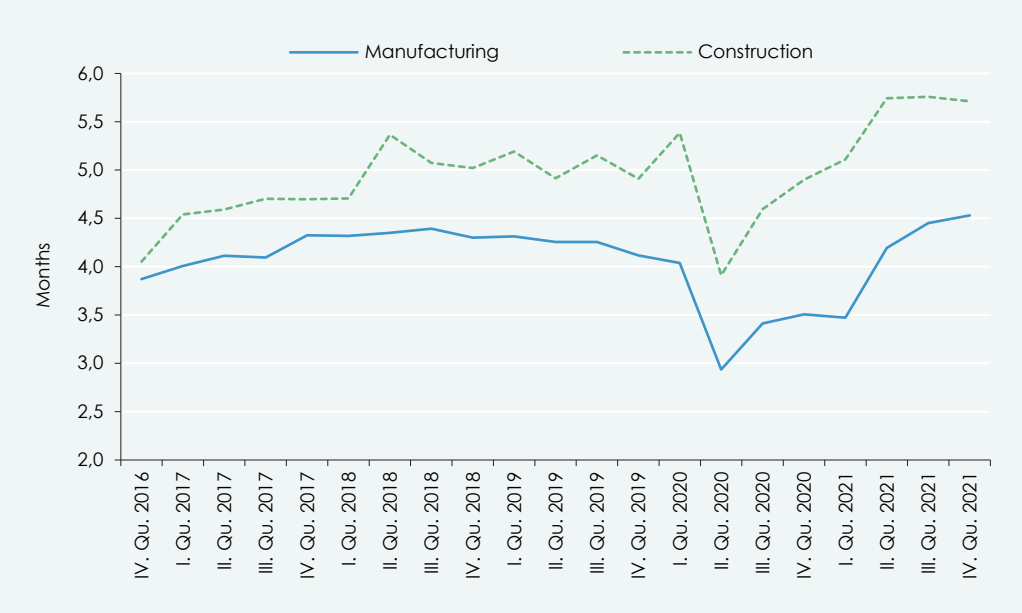
Source: WIFO-Konjunkturtest (business cycle survey), seasonally adjusted.

3.2 Secured production time remains high

The secured production time – measured in months – is surveyed as part of the quarterly WIFO-Konjunkturtest (business cycle

survey) in manufacturing and construction (Figure 4). In October, the average values in the two sectors developed slightly differently.

Figure 4: Average secured production time in manufacturing and construction



Source: WIFO-Konjunkturtest (business cycle survey).

Figure 5: **Development of overall orders and expected export orders in manufacturing**



Source: WIFO-Konjunkturtest (business cycle survey).

In the construction industry, companies reported that their production activity is assured for the next 5.7 months. Although this Figure represents a slight decrease of 0.05 months compared with July 2021, it is only marginally below the long-term peak of 5.8 months. In manufacturing, the average secured production time rose slightly to 4.5 months (+0.08 months compared with July 2021).

3.3 Order situation in manufacturing remains favourable, but has recently lost momentum

In manufacturing, new orders and expectations for new orders from abroad are asked

4. Barriers to business activity: labour shortages and material shortages continue to gain importance

In the WIFO-Konjunkturtest (business cycle survey), obstacles to firms' business activities are also surveyed on a quarterly basis. The surveyed companies have the option to report no obstacle to their economic activities or to choose the most important obstacle from a predefined list:

- insufficient demand (services and manufacturing) or lack of orders (construction),
- shortage of labour force,
- shortage of space or capacity (services) or shortage of materials and/or capacity (manufacturing and construction),
- financing constraints and

as relevant indicators once a quarter. The answers to these questions are aggregated into balances between the share of positive and the share of negative answers. As Figure 5 shows, although the development of order books in October (fourth quarter) was not as dynamic as in the previous quarter, the corresponding indicator remained clearly in positive territory. Expected foreign order books also remained in positive territory: the share of optimistic voices expecting an increase in foreign orders in the coming months rose compared with July, and the positive reports outweighed the negative ones by 10.3 percentage points.

In the manufacturing industry, incoming orders continued to develop positively. The majority of companies also remained confident with regard to expected incoming orders from abroad.

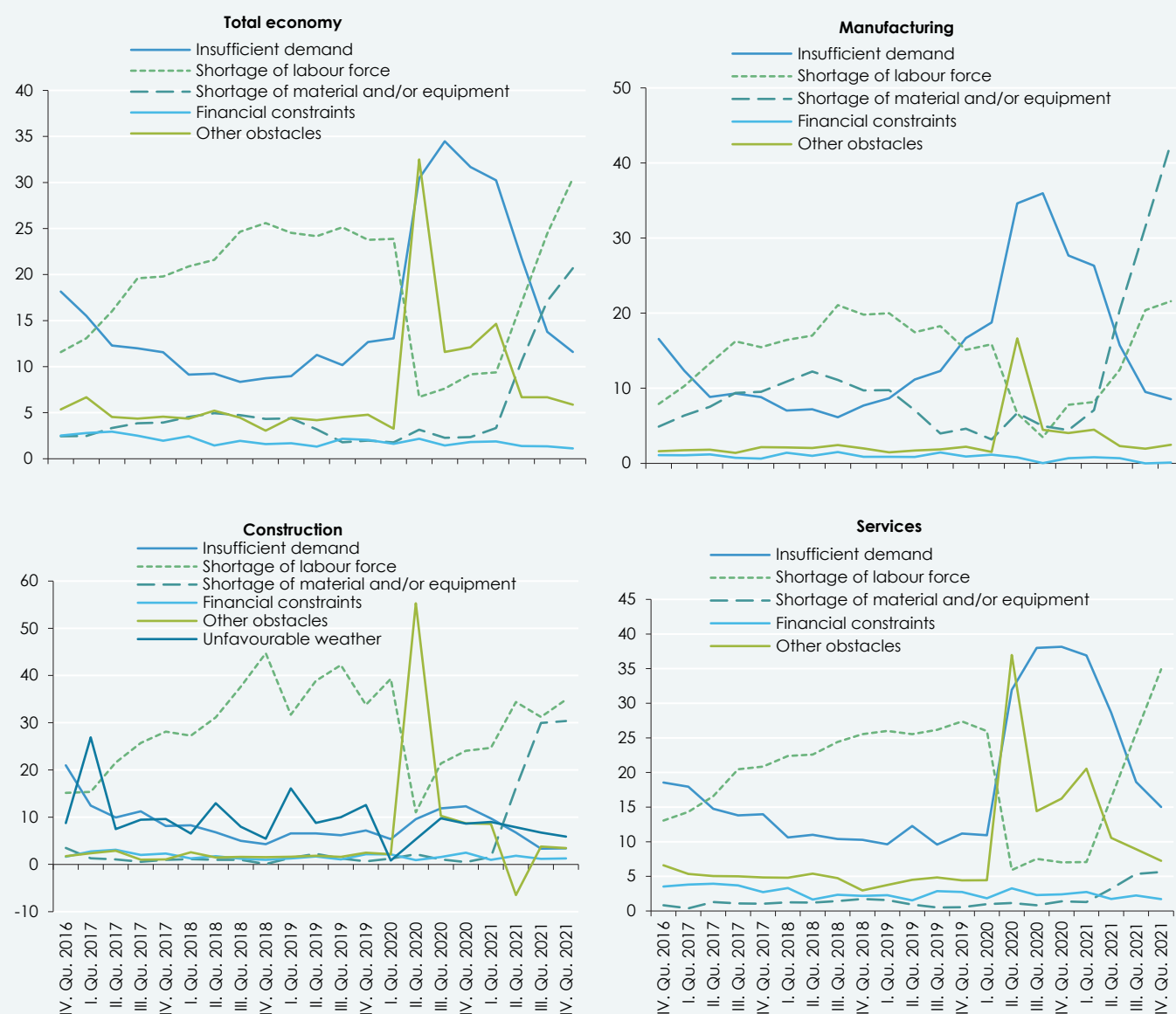
- other reasons – this category mainly reflects the impact of the COVID-19 crisis and the public health measures to contain it, in addition to the weather impact.

In the construction industry, the additional obstacle "unfavourable weather" is raised⁴.

In October 2021, only about 25 percent of firms in manufacturing (-12 percentage points from July), about 21 percent of construction firms (-3 percentage points), about 35 percent of firms in services (-4 percentage points), and about 37 percent of retail firms (-5 percentage points) reported that their operations were unaffected.

⁴ In the calculation of macroeconomic barriers, "adverse weather" is classified under "other barriers".

Figure 6: **Factors limiting economic activity**
Percentage shares of all reporting enterprises



Source: WIFO-Konjunkturtest (business cycle survey), seasonally adjusted. In order to ensure the comparability of the time series during the year, seasonally adjusted values are shown. Negative values cannot be excluded due to the seasonal adjustment procedure "Dainties". These are statistical artefacts.

As was the case in April and July, "shortage of materials or capacity" was the most important obstacle to the production of manufacturing in October 2021. Supply bottlenecks also affected business activity in the construction and retail sectors.

In October 2021, for the third time since the surveys began, "shortage of materials or capacity" was the most frequently cited most important obstacle to production activity in manufacturing (around 42.7 percent of all companies), ahead of "shortage of labour force" (around 21.6 percent). Only about 8.5 percent of manufacturing firms reported "insufficient demand" as the most important obstacle anymore, about 2.5 percent "other obstacles" and less than 1 percent "financing problems" (Figure 6). Since the July survey, the proportion of manufacturing firms facing obstacles to production has increased significantly, with "shortage of materials or capacity" in particular gaining enormously in importance. The reason for

this is the continuing shortage of industrial intermediate products and raw materials. This, in turn, is due to logistical problems – such as capacity bottlenecks in the international transport of goods due to the closure of ports, among other things – and a backlog of orders. In addition to the "shortage of materials and capacity", the "shortage of labour force" also remained a relevant obstacle to business activity in manufacturing.

In the construction industry, about 34.9 percent of surveyed firms reported "shortage of labour force" as the most important constraint on construction activity in October, ahead of "shortage of materials or capacity" (about 30.4 percent), "adverse weather"

(about 5.9 percent) and "insufficient demand" (about 3.4 percent). Thus, in the construction industry, the importance of the shortage of materials remained virtually unchanged since the last report in July.

In the services sectors, "shortage of labour force" (34.9 percent) was the most important constraint on business activity in October, ahead of "insufficient demand" (around 15 percent) and "other obstacles" (around 7.2 percent). The latter have become noticeably less important since the spring, reflecting the widespread withdrawal of COVID-19 measures by the authorities over the summer. "Shortages of materials or capacity" (5.6 percent) and "financing constraints" (1.7 percent) play only a minor role in the services sector.

Retailers have been surveyed about barriers to doing business since July 2021. Some 36.1 percent of retailers surveyed in October reported "supply bottlenecks" as the most important constraint to their business, some

14.5 percent reported an "insufficient demand" and some 11 percent reported a "shortage of labour force". This shows that international logistics problems and supply bottlenecks are increasingly affecting the retail sector.

The aggregate indicator for the economy as a whole (excluding retail) again shows a decline in the importance of the "insufficient demand" to around 11.6 percent of the companies surveyed in October. The "shortage of labour force", on the other hand, continued to gain strongly in importance and was already the most important obstacle for 30.5 percent of the companies in October. For around 20.7 percent of the companies, it was the "shortage of materials or capacity". This is the highest figure since the survey began and reflects the significance of the supply crisis, which is affecting manufacturing and construction in particular, but is also having a negative impact on business activity in the retail trade.

5. Summary

The indices of the WIFO-Konjunkturtest (business cycle survey) of October 2021 point to a stable development of the economy in almost all sectors. Only in the retail sector did the economic outlook deteriorate. Capacity utilisation increased in most sectors compared to July. While it increased significantly in the service sector and reached the average of the pre-crisis years, it declined slightly in manufacturing due to supply bottlenecks, but still exceeded the pre-crisis average. In the construction industry, capacity utilisation recently stagnated. Despite a slowdown in momentum, new orders in manufacturing remained well within the growth range. Expectations regarding the future development of orders improved slightly.

In the economy as a whole, the shortage of labour force was the most frequently cited obstacle to business activity in October, ahead of shortages of materials or capacity. On the one hand, this is an expression of the favourable economic situation, but on the other hand, in addition to structural demographic problems, it shows the effects of supply bottlenecks and international logistics problems on the Austrian economy. The resulting shortage of materials and intermediate products is hampering business activity, especially in manufacturing, but also in the retail and construction sectors.

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