

Manufacturing

Quarterly analysis of manufacturing activity

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Executive summary

The South African manufacturing sector was negatively affected by a range of shocks at the start of the third quarter of 2021. Indeed, the latest Absa Manufacturing Survey¹ suggests that many of the underlying activity and demand indicators fell back somewhat from a strong rebound recorded in the second quarter.

Following a significant improvement in sentiment in Q2, manufacturing business confidence declined to 41 in 2021Q3. This is in line with the long-term average confidence reading and suggests that roughly four out of ten respondents were satisfied with prevailing business conditions.

Encouragingly, a net majority of respondents recorded an improvement in domestic sales volumes for a second consecutive quarter. There are likely still some base effects at play as this survey question (as do most others tracking activity and demand) asks respondents to compare the current level to the same quarter last year. However, the base-effect boost should be less so than in Q2 when respondents compared conditions to the strictest lockdown quarter of 2020.

The export performance was more muted than the domestic outcome. However, producers expect export volumes to improve again in Q4. Indeed, looking further ahead, the majority of respondents expect an increase in export volumes in 12 months' time.

A range of demand- and supply-shock disruptions in July not only affected (export) orders, but also had negative implications for output growth. Nonetheless, a net majority reported an increase in production volumes for a second consecutive quarter in Q3.

Production cost increases reaccelerated in Q3. Some respondents expressed concern that they were unable to pass on the higher costs to consumers. On top of higher costs, manufacturers were also still grappling with shortages of raw materials and disrupted supply chains.

While investment dipped somewhat in Q3, longer-term planned investment outlays rose. In terms of the constraints on planned investment surveyed, most eased compared to the previous quarter (meaning they were rated as a less serious constraint than before). The most encouraging move was for the insufficient demand constraint, with the constraint indicator dropping to the lowest level since 2011.

¹ The third quarter survey was conducted between 11 and 30 August 2021.

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Introduction

After proving more resilient than expected during the first quarter of the year, official data showed a loss of momentum in manufacturing sector activity in the second quarter. While significantly up from the low base recorded in 2020, output contracted on a quarterly basis. The survey suggests that the sector continued to face headwinds in the third quarter of 2021 (2021Q3) amid a range of supply- and demand shocks.

This report provides an overview of the situation in the manufacturing sector as it developed during 2021Q3, expectations for the fourth quarter of 2021 (2021Q4) and also 12 months hence. The main section of the report discusses the trends in the overall manufacturing industry with the assistance of graphs, followed by a brief outlook for the sector. After this section, separate tables and graphical displays of the survey data are also provided for each individual sector and province².

A brief overview of the latest official data

SA real GDP growth beats expectations again

For the fourth quarter in a row, Stats SA reported that real gross domestic product (GDP) recovered at a faster-than-expected pace in Q2. GDP expanded by 1.2% quarter-on-quarter (q-o-q)³. This was an acceleration from the downwardly revised 1% (from 1.1%) recorded in 2021Q1. The Q2 GDP number was not only better than expected, but after a downward revision to the 2021Q1 number, GDP momentum accelerated in the second quarter. Compared to 2020Q2, real GDP surged by 19.4% year-on-year (y-o-y). Apart from the robust q-o-q number, the high annual growth was of course a function of the very low base in 2020Q2. However, the level of real GDP is still 1.3% below where it was in 2019Q4 (i.e. pre-COVID). This means that the GDP recovery remains incomplete.

The acceleration in quarterly GDP growth momentum was largely driven by stronger performances by the agriculture, electricity, transport and personal services sectors compared to Q1. In contrast, manufacturing was one of the

GDP recovery
remains
incomplete

² The Manufacturing Survey separately covers eight of the main subsectors of the manufacturing industry as well as the three main provinces (Gauteng, KwaZulu-Natal and the Western Cape).

³ All quarterly and monthly growth figures quoted in this section are seasonally adjusted rates. Also note that the Q2 GDP release was the first where Stats SA moved to using the unannualised data as the headline GDP figure, we therefore also use unannualised figures in this report.

Manufacturing
sector contracts
in Q2

sectors which performed worse in Q2 relative to Q1 on a quarterly basis. Indeed, the sector contracted by 0.8% following a paltry 0.5% growth rate recorded in Q1. On an annual basis, the sector still expanded by 42.1% - the second-fastest growth rate of all sectors with only mining booking a bigger gain of 52.8% - from the low base in 2020.

Range of supply
and demand
shocks hurt
economy at the
start of Q3

The manufacturing sector, and broader economy, were hit by significant shocks at the start of the third quarter. These include the unrest, looting and violence in KwaZulu-Natal (KZN) and parts of Gauteng during July, which led to many businesses temporarily closing. Even some businesses not directly affected by the unrest also preventively halted production to protect facilities and staff. Most notably, SAPREF, SA's largest fuel refinery also closed and some of the harbours operated on skeleton staff. When calm returned, some businesses struggled to ramp up production as staff transport remained a problem for some time. The destruction of warehousing facilities, shops and even some factories pose a longer-term drag on the workings of (already strained) supply chains. A further hit to July exports in particular was Transnet declaring a force majeure following a cyberattack and closing some of its ports for a few days. Global shipping networks and supply chains were still hampered by demand generally still outstripping supply, persisting shortages of raw materials and intermediate goods (such as semi-conductors) and temporary closures of key harbours in China. A recent spate of cable theft incidents on key local freight rails further strains exports – although probably more affecting the mining sector. On top of these shocks, demand was also negatively affected by the third COVID-19 wave and accompanying stricter Level-4 lockdown restrictions. While manufacturing was generally not directly affected by any restrictions on production capacity, subsectors exposed to the liquor and hospitality sectors in particular would have seen a negative demand shock.

Amid all these shocks, Stats SA reported a sharp contraction in monthly manufacturing production in July. Output fell by 8% month-on-month (m-o-m) - the fourth consecutive monthly decline. The annual print also came in much weaker than expected, with output falling by 4.1% y-o-y.

Absa PMI points
to solid monthly
bounceback in
August

Fortunately, the Absa Purchasing Managers' Index (PMI) points to a strong rebound in activity in August. Following a record single-month decline in July, the PMI rose to 57.9 points in August from a very low 43.5 points. However, even if September's headline PMI print remains at the elevated level seen in August, the third quarter as a whole will be lower than the second quarter due to the severity of the shock experienced in July. Indeed, with a solid recovery in August manufacturing production and a slight further monthly uptick in September, the manufacturing sector is likely to be a big drag on Q3 quarterly GDP growth.

Global manufacturing growth losing momentum

From very elevated levels, the latest global PMI data suggest that the recent loss in growth momentum was sustained through August. Generally, manufacturers continue to grapple with increased demand amid shortages of critical basic materials, supply chain bottlenecks, as well as surging COVID-19 cases fuelled by the Delta variant. The JP Morgan global manufacturing PMI stepped down to 54.1 in August, from 55.4 in July. China was a particular weak spot. Data from the Chinese National Bureau of Statistics (NBS) points to growing pressure on businesses, with the official manufacturing PMI slipping to 50.1 in August from 50.4 in July. Furthermore, for the first time since April 2020, the Caixin manufacturing PMI fell below the 50-neutral level, registering 49.2 in August, down from 50.3 in July.

China's factory sector taking strain

The 2021 Q3 Absa Manufacturing Survey results

Manufacturing business confidence dips lower

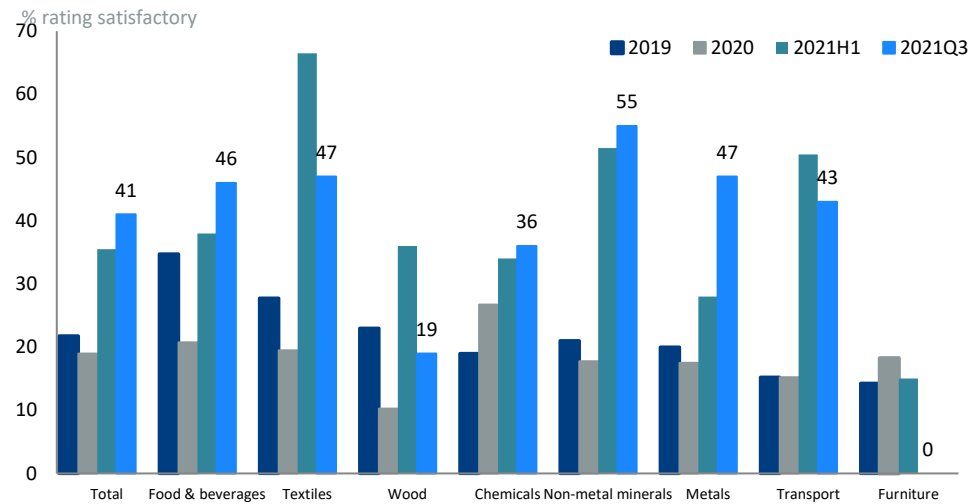
Following a significant improvement in sentiment in Q2, manufacturing business confidence declined to 41 in 2021Q3. This is in line with the long-term average confidence reading and suggests that roughly four out of ten respondents were satisfied with prevailing business conditions. Still, barring last quarter's reading of 46, this is the highest confidence reading since 2012. This is because manufacturing business confidence was relatively muted well before the COVID-crisis hit. Indeed, overall manufacturing business confidence has not edged above the 50-mark (signalling more optimism than pessimism) since late 2007.

As illustrated in Figure 1 below, confidence in most subsectors came in above levels through 2019 and 2020 and, for some subsectors, even above the average recorded during the first half of this year. However, there was only one subsector where the majority of respondents were satisfied with business conditions in 2021Q3: the non-metal minerals subsector⁴. Even so, business confidence came down from 67 to 55.

Business confidence now in line with long-term average

⁴ This subsector refers to the full glass & non-metallic mineral products. In the main text of the document, subsectors will be referred to by mentioning the main subcategory within the subsector. The footnote on the first page of the **survey results** section provides all the subcategories included per subsector.

Figure 1: Manufacturing business confidence per subsector (2019-2021Q3)



Source: BER

Compared to the other sectors included in the overall RMB/BER Business Confidence Index (BCI), manufacturers were significantly more pessimistic than businesspeople in the retail and wholesale sectors. However, as has been the case for the past few quarters, business confidence among manufacturers remains higher than that of building contractors.

Domestic and export sales pull back from Q2 high

Encouragingly, a net majority of respondents recorded an improvement in domestic sales volumes for a second consecutive quarter. Indeed, at 13, the net balance remains well above the long-term average of -4 (a level signalling that most respondents note a decline in sales). There are likely still some base effects at play as the survey question asks respondents to compare the current level to the same quarter last year, but less so than in Q2 when respondents compared conditions to the strictest lockdown quarter of 2020. Indeed, unlike 2021Q2, when the majority of respondents in all subsectors recorded an increase in sales volumes, a majority of respondents in the non-metal mineral, chemicals and furniture subsectors now recorded a decline (with transport producers reporting no change relative to 2020Q3).

Domestic selling price inflation slowed quite considerably compared to the second quarter, but the indicator still points to a relatively steep pace of price increases compared to the long-term average.

The export performance was more muted than the domestic outcome. However, the net balance of 0 (meaning no change in sales volumes from 2020Q3 to 2021Q3) compares to a long-term average reading of -14. Export selling price inflation, as was the case on the domestic front, slowed from 2021Q2, but also stayed well above the long-term average reading. Indeed, given that the rand

Volume growth slows as selling price inflation also moderates

exchange rate is significantly stronger than it was during the third quarter of last year (which normally leads to a decline in selling price inflation as income in rand terms lessens), it is remarkable that export selling price inflation remained this high.

Transport
subsector still
reports rising
export volumes

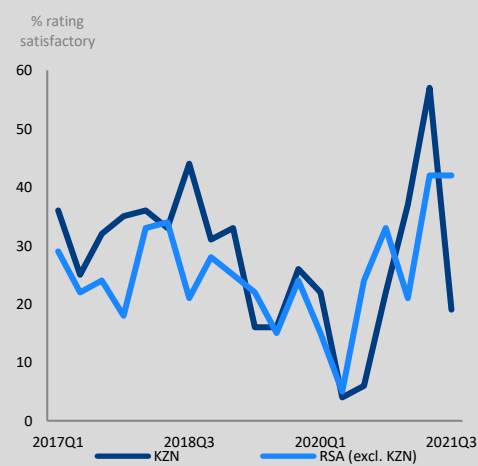
In terms of the subsector performance, it is encouraging to note that transport producers recorded an annual increase in export sales for a third consecutive quarter. Food and beverages producers, another large exporting subsector, also recorded an increase in exports after a slight dip in the previous quarter. On the other hand, a slight net majority of respondents in the metals and chemicals subsectors recorded a decline in exports from very positive readings last quarter.

The disruptions caused by the looting spree, the Transnet cyberattack, as well as a recent spate of cable theft incidents on key freight rails weighed heavily on exports in 2021Q3. However, producers expect export volumes to improve again in Q4. Indeed, looking further ahead, the majority of respondents expect an increase in export volumes in 12 months' time.

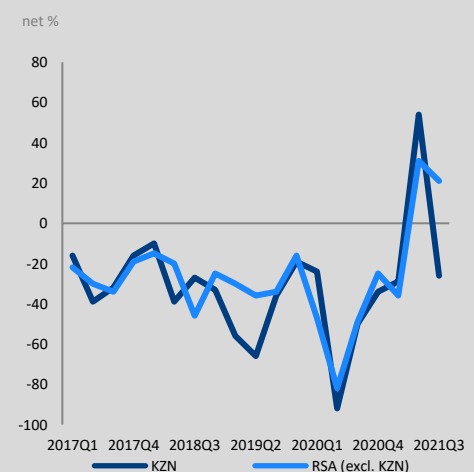
Box: Impact of the looting and unrest on the survey results

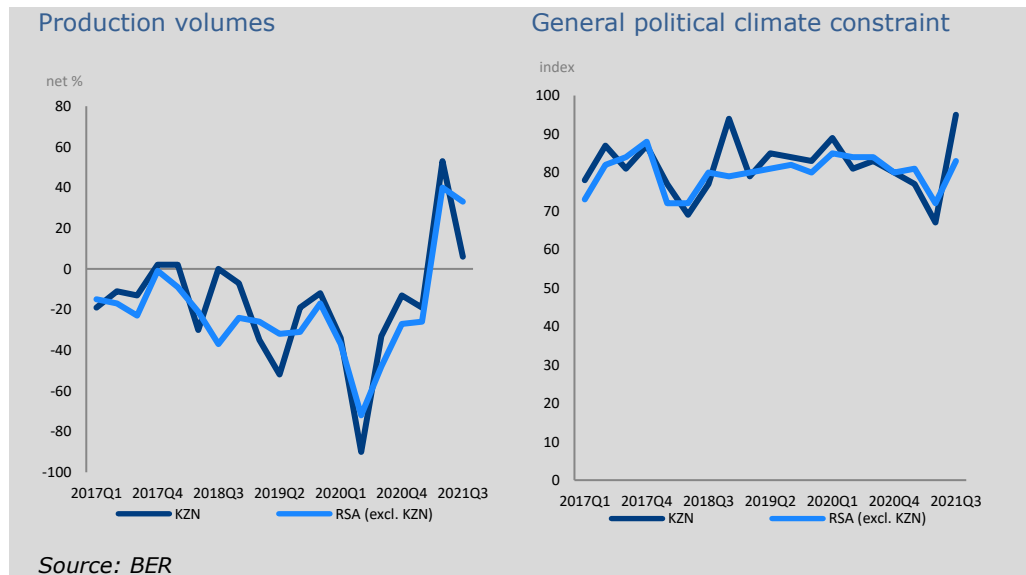
The survey took place after calm returned to the KZN and Gauteng regions affected by the July unrest and looting. However, when disentangling the KZN results from the rest of the country, it is clear the region saw a much bigger deterioration in confidence and underlying activity, while the general political climate constraint rose faster (see graphs below). A summary of the survey results for KZN (as well as Gauteng and the Western Cape) can be found in the data annexures at the end of the report. The negative impact of the unrest and looting, in particular on the KZN region, was also frequently mentioned in the commentary of some of the respondents.

Business confidence



Domestic sales





Output growth under pressure amid shocks

The disruptions not only affected (export) orders, but also had negative implications for output growth in Q3. A (seasonally adjusted) net majority of 30% reported an increase in production compared to the same quarter last year, down from 51% in Q2. While 30% is still very high compared to the long-term average reading of -2%, it comes from a very low base set in 2020. The annual and monthly decline in the official manufacturing production data recorded in July confirms that Q3 was off to a weak start. However, August should see a strong recovery in output growth as business conditions normalised following the July shocks and demand may have benefitted from an alleviation in lockdown restrictions. Beyond this quarter, manufacturers expect Q4 to look better than Q3.

Except for chemicals producers (with a net balance of -2), the subsectors with the biggest weightings in the official manufacturing production calculation recorded an increase in output relative to 2020Q3. Indeed, an even bigger net majority reported an increase in food and beverages production (the biggest subsector) relative to Q2. The metals subsector also recorded a second consecutive increase, likely aided by a normalisation of supply conditions in the subsector following the ramp-up in ArcelorMittal's production.

Production cost increases reaccelerate as shortages persist

Following a surprising moderation in Q2 (given anecdotal evidence of rising costs and the uptick in Stats SA's producer price index (PPI)), production cost increases reaccelerated in Q3. The indicator tracking the rate of increase in the average costs per unit of production rose to the highest level since 2018 with

Production
growth likely still
helped by low
2020 base

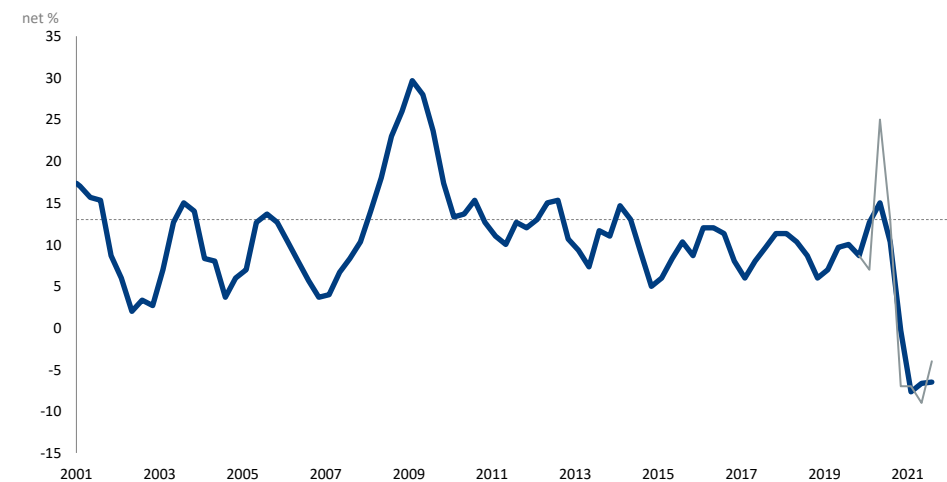
most subsectors reporting an increase from Q2 to Q3. The survey shows that labour costs rose, while raw materials costs also remained high – albeit increasing at a slightly slower pace compared to Q2. Some of the comments from respondents flagged high electricity costs and transport costs (particularly for international shipping) as a big driver of rising costs. Elevated plastic, steel and packaging costs were reportedly also contributing to higher inputs costs for some subsectors.

With selling price inflation and volume growth slowing amid production costs increasing, there was likely renewed pressure on turnover and profitability. Indeed, some respondents expressed concern that they were unable to pass on the higher costs to consumers.

On top of higher costs, manufacturers were also still grappling with shortages of raw materials and disrupted supply chains – not helped by the July-specific issues discussed earlier. The raw material constraint remained very high in Q3 at 62 (this compares to a 20-year average reading of 38). Indeed, for a fourth consecutive quarter, a net majority of respondents rated the current level of raw material stocks (relative to planned production) as too low. Stock levels of final goods also remain very low relative to expected demand (see Figure 2). Should manufacturers be able to obtain the raw materials and intermediate products required, an inventory restocking drive could boost production going forward.

Raw material shortages persist

Figure 2: Finished good stocks relative to expected demand remain low (smoothed series)



Source: BER

Planned fixed investment outlays improve further

Amid the shocks experienced during Q3, it was perhaps not surprising to see a slight net majority reporting a decline in fixed investment relative to 2020Q3. It was therefore encouraging to see a solid improvement in longer-term planned investment outlays⁵. Indeed, a net majority of 3% reported an increase in total investment in 12 months' time. In contrast, in Q3 last year, a net 30% expected a decline. As illustrated below, manufacturers foresee the biggest increase in investment in inventories in 12 months' time. In fact, a net 19% is the highest net balance on record. The persisting low levels of raw materials and final goods stocks underscores the necessity of investment in inventories. The other investment categories surveyed also show a marked improvement and are currently at much better levels compared to their long-term averages.

Increase in fixed investment expected in 12 months' time

Table 1: Planned fixed investment in 12 months' time

Net %	Investment in 12 months' time				
	Total	Land, building, construction	Inventories	Replacements	Additions
2020Q1	-19	-25	-31	-20	-41
2020Q3	-30	-43	-33	-40	-59
2021Q1	-11	-25	-12	-14	-30
2021Q3	3	-11	19	-2	-13
Avg. since 2000	2	-13	-8	-9	-18

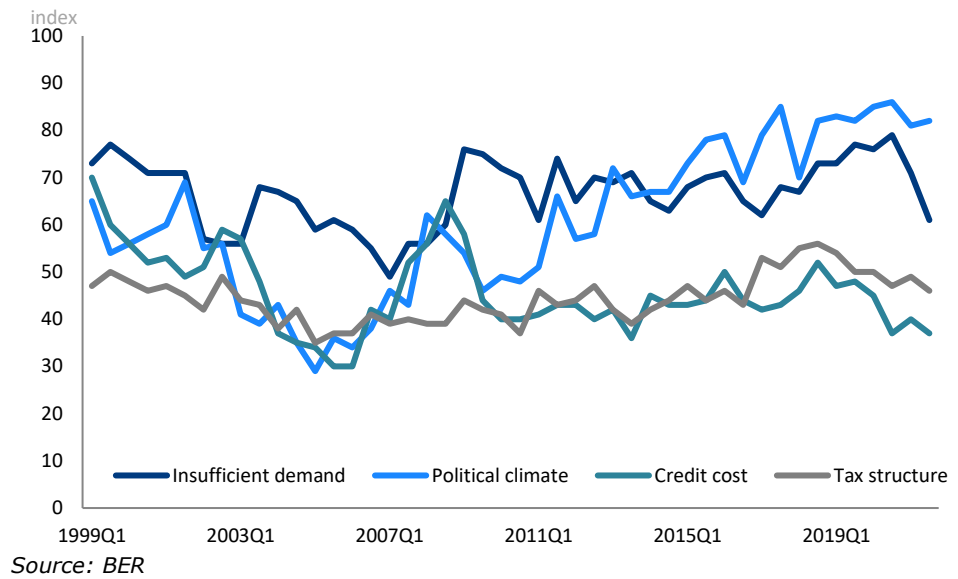
Source: BER

In terms of the constraints on planned investment surveyed, most eased compared to the previous quarter (meaning they were rated as a less serious constraint than before). The most encouraging move was for the insufficient demand constraint, with the constraint indicator dropping to the lowest level since 2011. This follows a steady upward trend in the indicator since 2017 (see Figure 3). In contrast, the political climate was rated as a somewhat more serious constraint on investment intentions compared to Q1. In this regard, the looting and unrest was flagged frequently in the commentary from respondents, but the lockdown restrictions (particularly the alcohol ban) were also mentioned as hampering planning and could have contributed to the tick-up in the political climate constraint.

Insufficient demand rated as a less serious constraint

⁵ These long-term questions are only surveyed in the first and third quarter of each year. The same holds for the long-term investment constraint questions. For more information on the calculation of constraint indices, see the **Technical note** at the end of this report.

Figure 3: Constraints on investment in 12 months' time



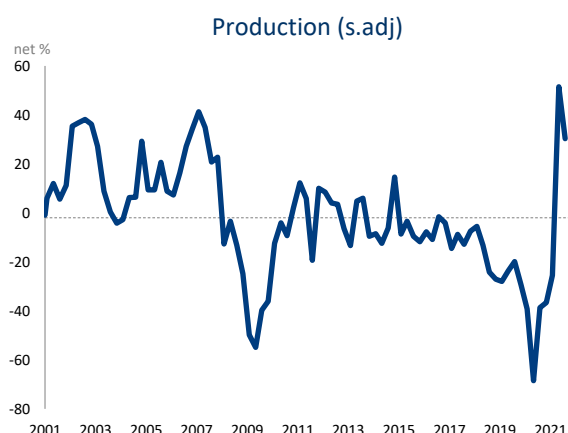
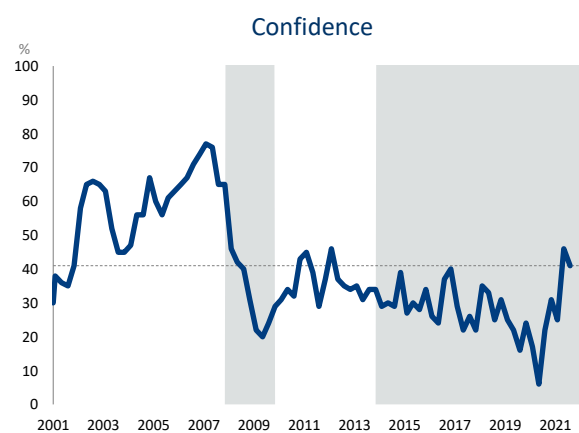
Outlook

The supply- and demand-shocks affecting the manufacturing sector during July mean that the recovery experienced a significant setback in Q3. Indeed, manufacturing production is set to contract again on a quarterly basis – although base effects should still boost annual production. Beyond Q3, the survey suggests that some momentum could be regained. Expectations for Q4 are generally more optimistic and a net majority of respondents expect business conditions to look better in 12 months from now. The improvement in longer-term investment intentions amid a lessening of the insufficient demand constraint in particular is also encouraging. That said, the sector will still have to grapple with high costs in a recovering demand environment and has to find ways to navigate the still strained supply chains for some time.

Survey results

Manufacturing: total⁶

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	σ_{Δ}
Confidence	%	24	40	57	24	17	6	22	31	25	46	41	-5	7
Activity & prices														
Production	Net %	-26	-2	21	-18	-37	-77	-44	-25	-23	43	25	-18	17
Seasonally adjusted	Net %	-26	-2	21	-29	-39	-69	-39	-37	-25	51	30	-21	15
Employment	Net %	-29	-15	-1	-20	-30	-54	-44	-37	-27	1	-6	-7	9
Average hours worked / worker	Net %	-27	-12	4	-18	-34	-74	-52	-21	-27	25	-1	-26	12
Domestic sales	Net %	-30	-4	22	-21	-42	-85	-45	-28	-31	37	13	-24	17
Domestic selling prices	Net %	14	30	47	7	13	5	18	24	32	56	36	-20	12
Export sales	Net %	-32	-14	4	-21	-37	-73	-44	-28	-23	25	0	-25	13
Export selling prices	Net %	-7	14	35	7	12	19	11	20	16	43	23	-20	14
Production costs	Net %	44	59	74	53	57	66	63	58	68	61	71	10	12
Stocks & investment														
Finished goods rel. to demand	Net %	3	10	18	6	7	25	13	-7	-7	-9	-4	5	7
Smoothed	Net %	4	10	17	9	13	15	10	0	-8	-7	-7	0	5
Capacity underutilisation	%	64	72	79	79	82	92	85	67	69	61	67	6	6
Smoothed	%	65	72	78	81	84	86	81	74	66	66	64	-2	5
Fixed investment	Net %	-12	3	18	-9	-12	-48	-39	-29	-17	11	-3	-14	9
Constraints														
Insufficient demand	Net %	53	61	70	74	74	85	72	65	65	54	57	3	5
Political climate	Net %	40	59	77	82	87	83	85	81	80	72	84	12	6
Expected in 12 months														
Business conditions	Net %	-29	-9	11	-27	-46	-50	-27	-21	-23	6	3	-3	15
Smoothed	Net %	-26	-9	9	-35	-41	-41	-33	-24	-13	-5	5	10	12
Fixed investment	Net %	-13	2	17		-19		-30		-11		3	14	13



⁶ The total consists of 1) food & beverages, 2) textiles, clothing, leather & footwear, 3) wood, paper, printing & publishing, 4) chemical products, rubber & plastics, 5) glass & non-metallic mineral products, 6) basic metals, metal products & machinery, 7) electrical machinery, radio, TV and professional equipment, 8) motor vehicles, parts & transport equipment and 9) furniture & other. Although the BER covers the electrical machinery etc. sector and includes it in the total, it does not publish the results of this sector separately. The BER does not cover petroleum refining (which is part of the chemical etc. sector) and scrap metal (which is part of "other") and they are therefore not included in the total.

μ – average

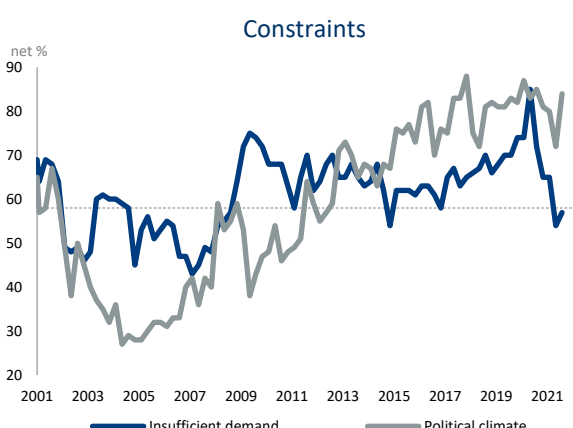
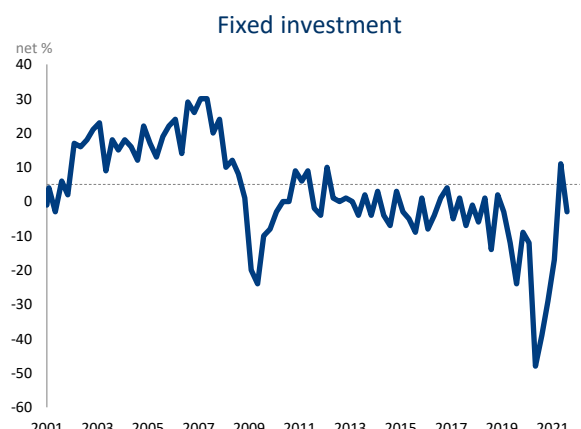
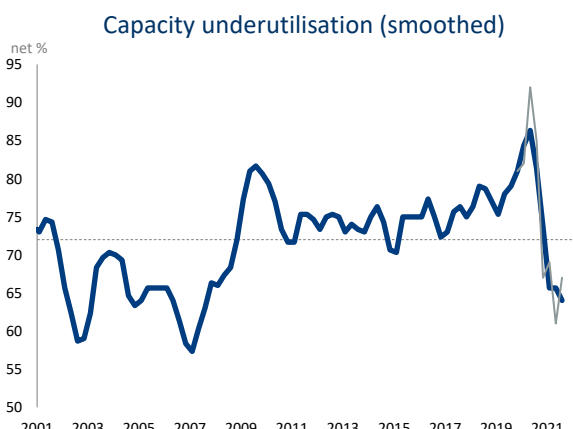
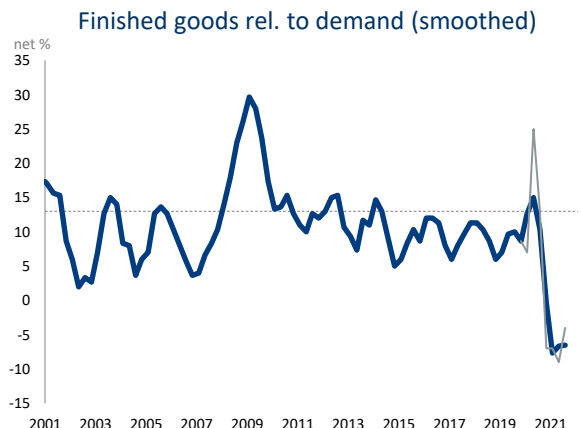
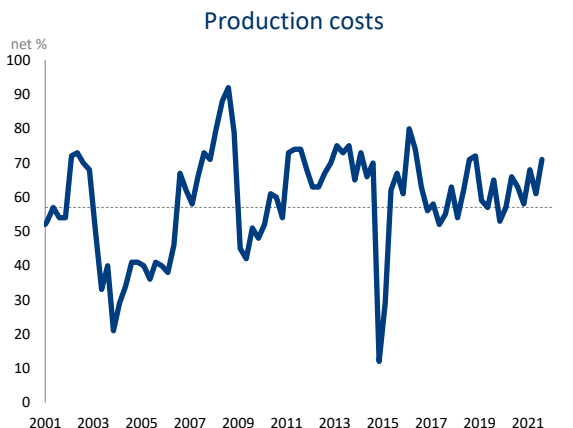
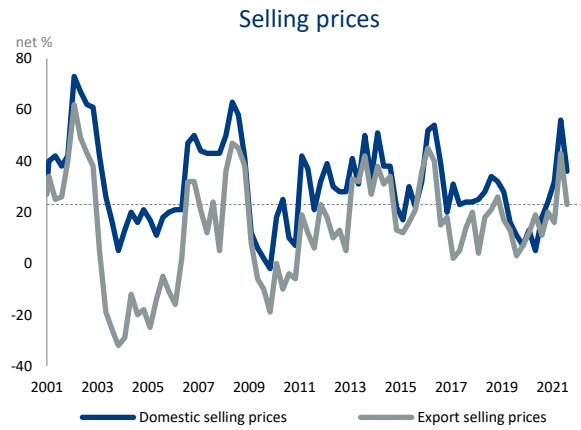
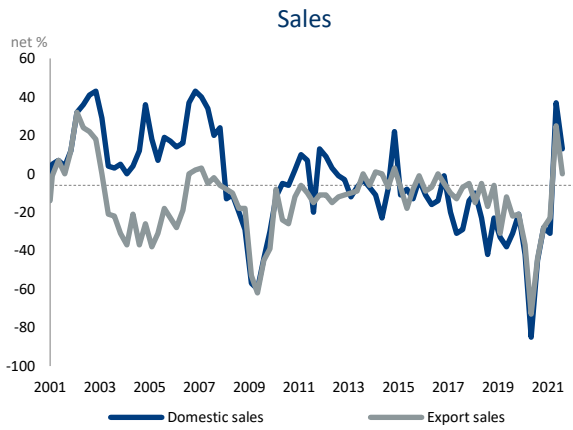
σ – standard deviation

Δ – change from previous period

σ_{Δ} – volatility (standard deviation of the changes)

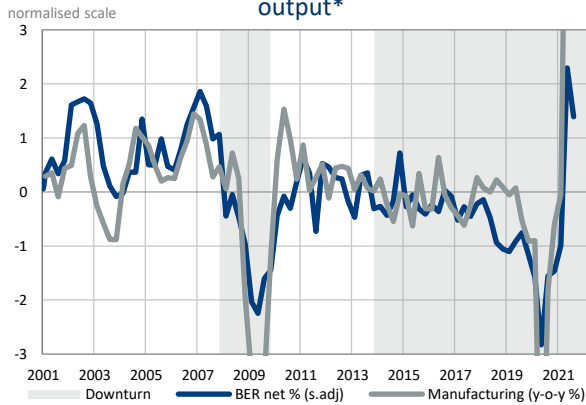
All of the above calculated over the last 20 years

See technical note for further details

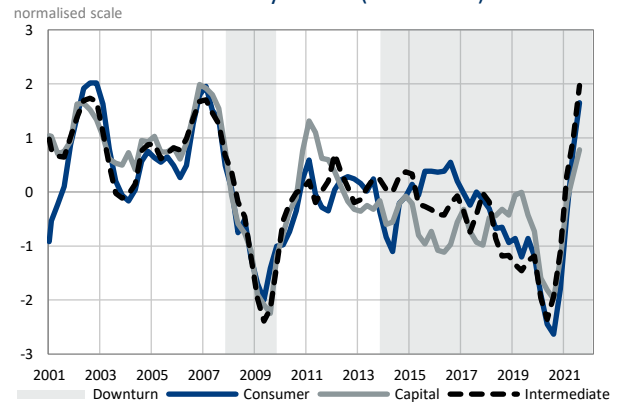


Summary

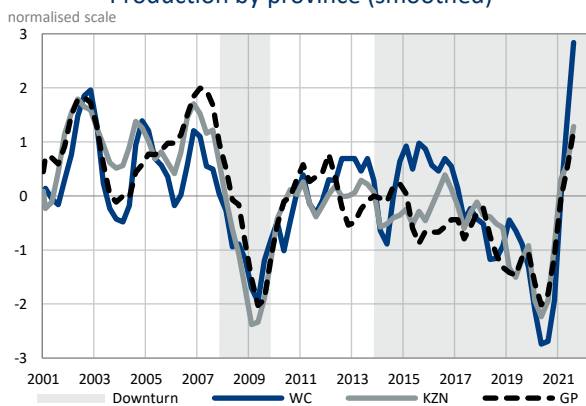
Production & actual manufacturing output*



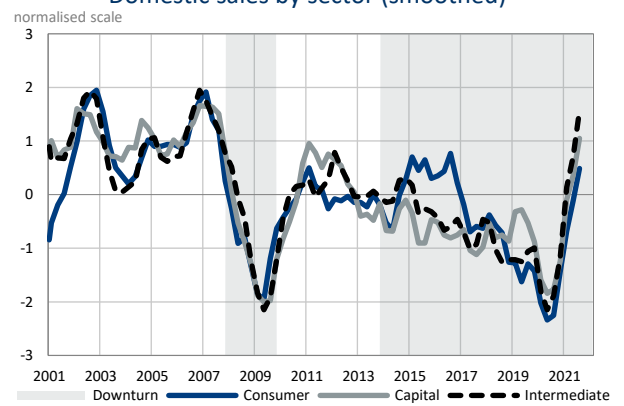
Production by sector (smoothed)



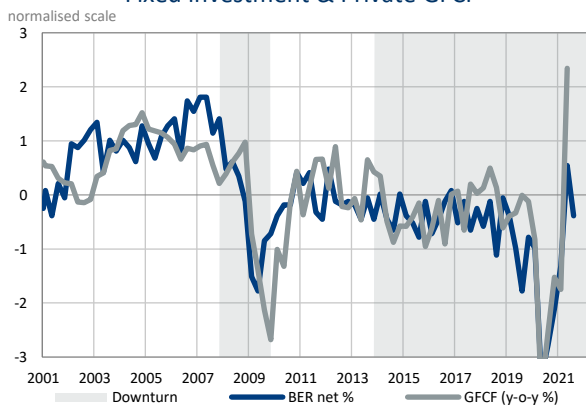
Production by province (smoothed)



Domestic sales by sector (smoothed)



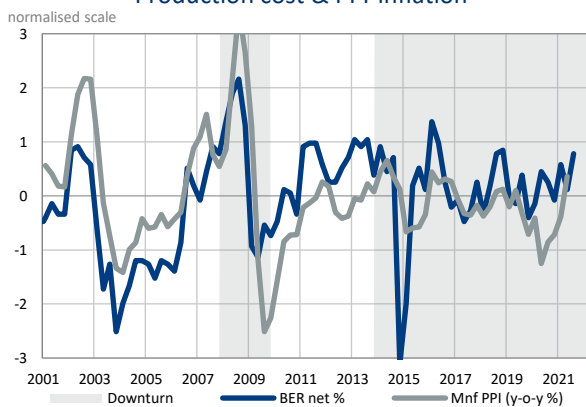
Fixed investment & Private GFCF



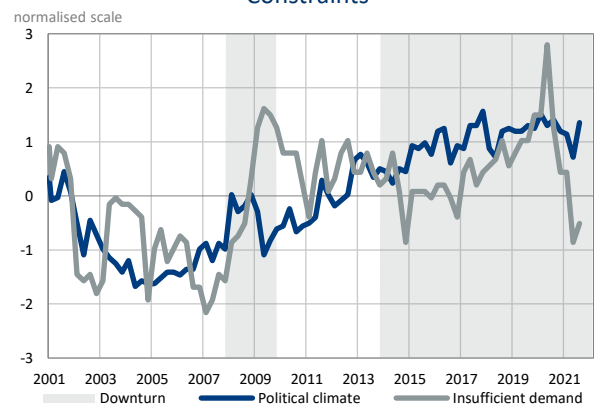
Export sales & actual exports



Production cost & PPI-inflation



Constraints



Capital⁷, intermediary⁸ and consumer⁹ goods

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Capital goods														
Confidence	%	19	40	61	15	24	0	6	30	23	33	32	-1	11
Smoothed	%	20	40	60	20	13	10	12	20	29	29	33	4	9
Production	Net %	-40	-7	26	-41	-28	-88	-60	-42	-25	31	0	-31	26
Smoothed	Net %	-36	-7	22	-28	-52	-59	-63	-42	-12	2	16	14	20
Domestic sales	Net %	-42	-9	24	-42	-38	-86	-64	-32	-39	36	7	-29	25
Smoothed	Net %	-38	-9	20	-35	-55	-63	-61	-45	-12	1	22	21	18
Export sales	Net %	-41	-18	6	-28	-26	-84	-71	-50	-15	32	19	-13	23
Smoothed	Net %	-36	-18	1	-26	-46	-60	-68	-45	-11	12	26	14	18
Intermediate goods														
Confidence	%	21	38	56	21	14	6	19	31	23	50	41	-9	8
Smoothed	%	22	38	55	17	14	13	19	24	35	38	46	8	8
Production	Net %	-31	-4	22	-19	-45	-86	-47	-15	-28	51	32	-19	19
Smoothed	Net %	-28	-4	19	-32	-50	-59	-49	-30	3	18	42	24	17
Domestic sales	Net %	-36	-7	22	-21	-49	-90	-48	-29	-33	51	15	-36	20
Smoothed	Net %	-33	-7	19	-33	-53	-62	-56	-37	-4	11	33	22	18
Export sales	Net %	-34	-15	4	-18	-38	-67	-42	-21	-26	35	-4	-39	15
Smoothed	Net %	-31	-15	2	-25	-41	-49	-43	-30	-4	2	16	14	12
Consumer goods														
Confidence	%	28	43	58	35	19	9	34	33	30	43	45	2	9
Smoothed	%	30	43	57	21	21	21	25	32	35	39	44	5	8
Production	Net %	-16	3	23	-6	-24	-54	-33	-33	-13	34	26	-8	17
Smoothed	Net %	-13	3	20	-16	-28	-37	-40	-26	-4	16	30	14	13
Domestic sales	Net %	-21	2	25	-12	-29	-74	-31	-24	-24	14	10	-4	18
Smoothed	Net %	-18	2	22	-26	-38	-45	-43	-26	-11	0	12	12	13
Export sales	Net %	-31	-10	10	-22	-44	-77	-35	-29	-23	8	-5	-13	16
Smoothed	Net %	-28	-10	7	-31	-48	-52	-47	-29	-15	-7	2	9	13

⁷ Capital goods: Structural metal products (SIC code 353-4), general purpose machinery (356), special purpose machinery & machine tools (357), electrical motors & generators (361), medical appliances, photo equipment (374-6), motor vehicles & bodies (381-2), parts & accessories (383), other transport equipment (384-7)

⁸ Intermediary goods: Grain mill products, starches & animal feeds (303), spinning, weaving & finishing of textiles, yarns (311), knitted & crocheted fabrics (313), sawmilling, preserving of timber, bark grinding & compressing (321), wood & wood products (322), paper and products (323), basic chemicals (334), rubber (337), plastic products (338), glass & glass products, fibreglass (341), other non-metal mineral products (bricks, tiles, cement, prefab concrete, asphalt, mica products) (342), basic iron & steel (351), basic precious (gold, platinum, silver) & non-ferrous metal (aluminium, copper, lead, nickel, tin, zinc) products (352), other fabricated metal products (355), electrical distribution & control apparatus (362), wire & cable (363), batteries, electrical bulbs & other (364-6)

⁹ Consumer goods: Meat, fish, fruit, vegetables, oils & fats (301), dairy products (302), other (304), beverages (305), tobacco (306), other textiles (312), wearing apparel & articles of fur (314-5), leather (316), footwear (317), other chemical products (335-6), computers & office machines, household appliances (358-9), TV, radio & communication equipment (371-3), furniture (391), other (e.g. jewellery, musical instruments, games & toys, recycling NOT COVERED) (392)

μ – average

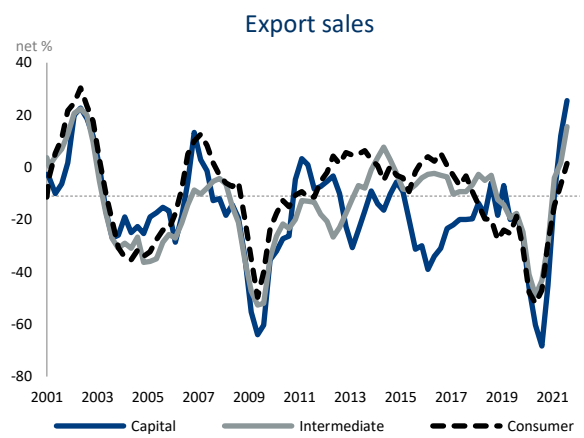
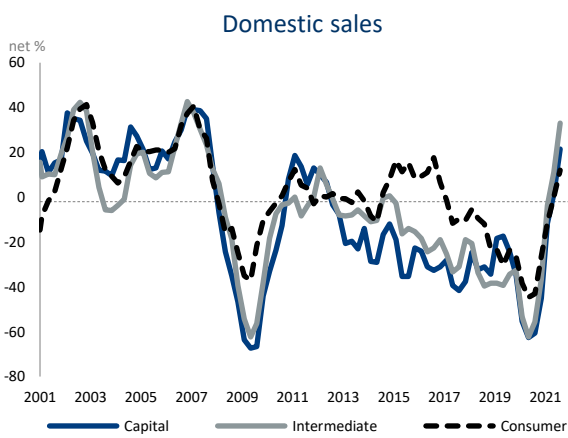
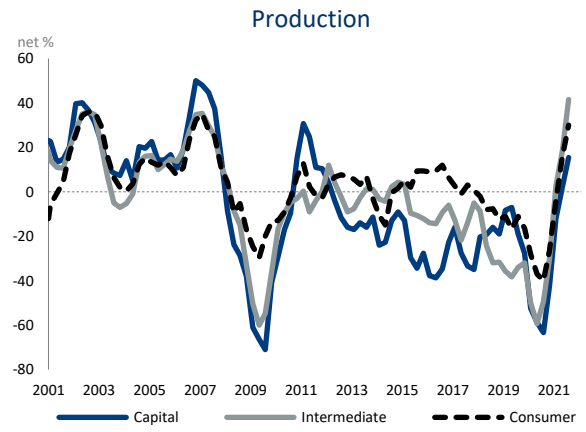
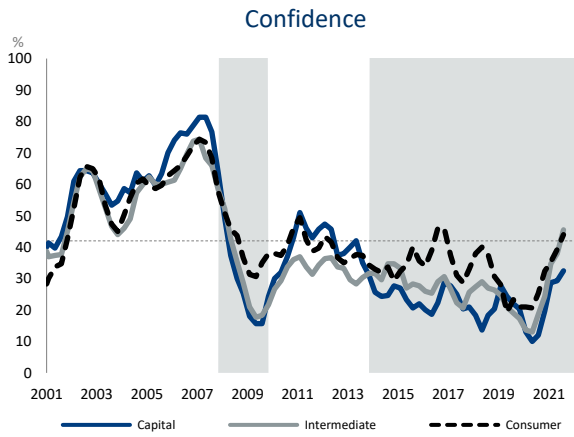
σ – standard deviation

Δ – change from previous period

σ_{Δ} – volatility (standard deviation of the changes)

All of the above calculated over the last 20 years

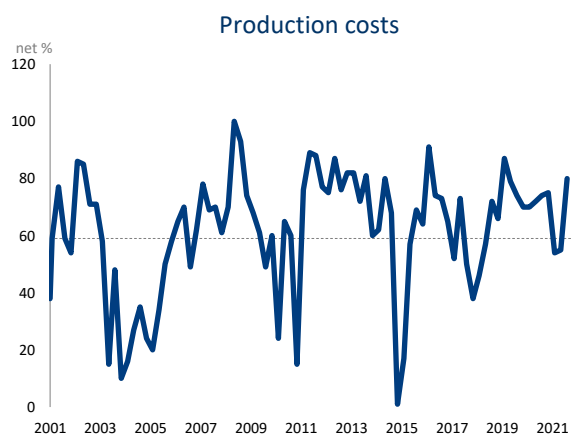
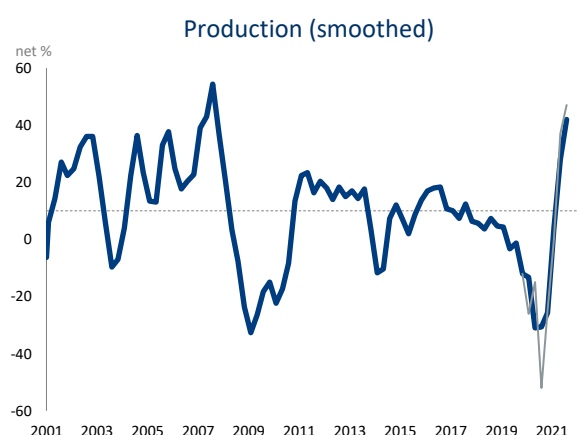
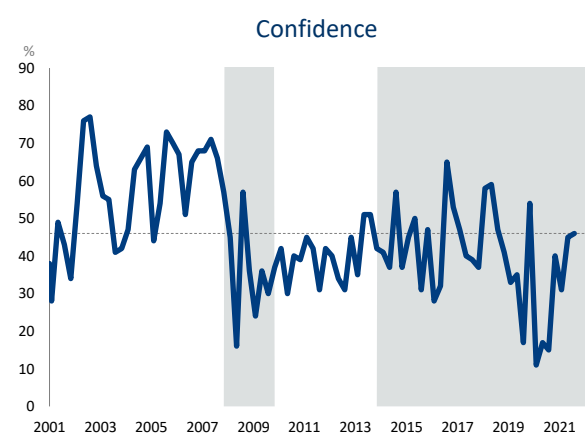
See technical note for further details



μ – average
 σ – standard deviation
 Δ – change from previous period
 σ_{Δ} – volatility (standard deviation of the changes)
 All of the above calculated over the last 20 years
 See technical note for further details

Food and beverages¹⁰

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	31	46	61	54	11	17	15	40	31	45	46	1	14
Production	Net %	-14	10	33	1	-26	-15	-52	-25	0	37	47	10	22
Smoothed	Net %	-9	10	29	-12	-13	-31	-31	-26	4	28	42	14	17
Export sales	Net %	-27	-2	24	-12	-51	-56	-76	4	3	-5	12	17	21
Smoothed	Net %	-24	-2	20	-24	-40	-61	-43	-23	1	3	4	1	17
Production costs	Net %	40	62	83	70	70	72	74	75	54	55	80	25	20
Business conditions in 12m	Net %	-26	-6	14	-10	7	-15	-29	-9	-33	16	31	15	21



¹⁰ Food & Beverages: Meat, fish, vegetables, oils & fats (SIC code 301), dairy products (302), grain mill products, starches & animal feeds (303), other food (304) and beverages (305). In 2017, this sector contributed 28.4% to production and 11.1% to manufactured exports, petroleum and other excluded in both cases. We recommend that users attach more weight to the trend (smoothed series) than a single data point, as the correlation between the survey production data and reference series is low.

μ – average

σ – standard deviation

Δ – change from previous period

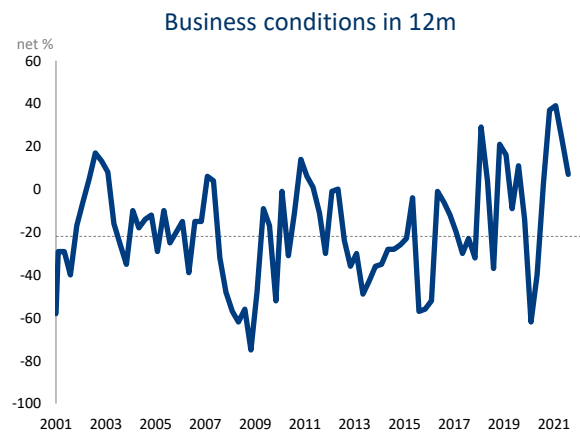
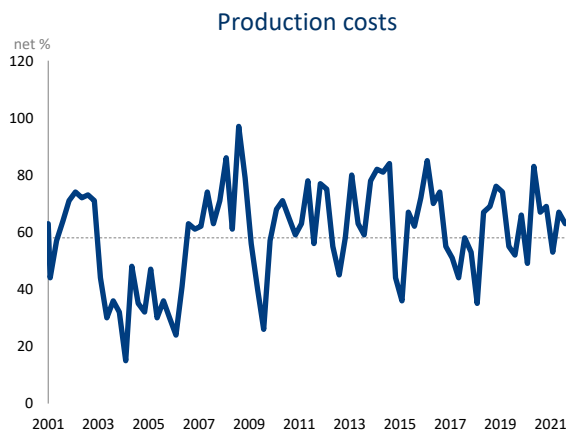
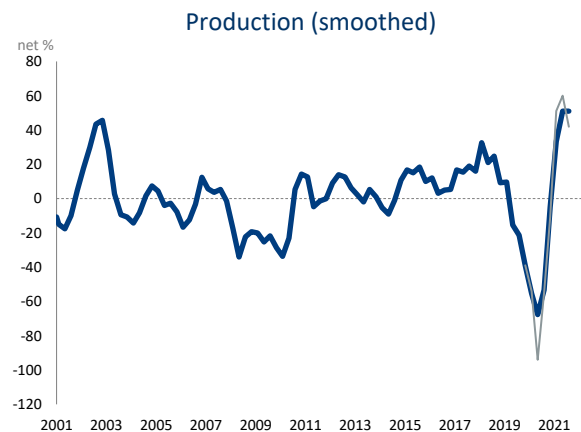
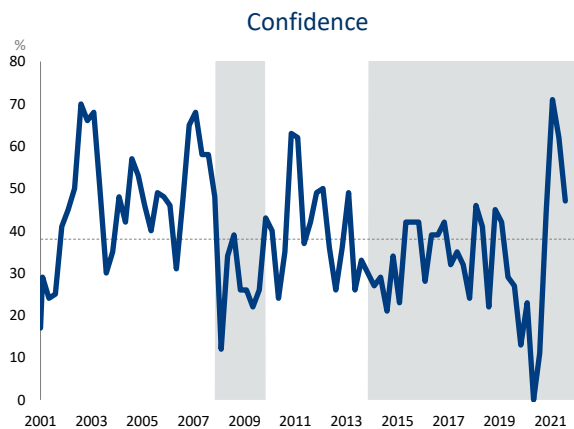
σ_{Δ} – volatility (standard deviation of the changes)

All of the above calculated over the last 20 years

See technical note for further details

Textiles, clothing leather and footwear¹¹

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	25	40	54	13	23	0	11	44	71	62	47	-15	13
Production	Net %	-26	1	28	-18	-54	-94	-55	-11	51	60	42	-18	25
Smoothed	Net %	-21	1	23	-39	-55	-68	-53	-5	33	51	51	0	21
Production costs	Net %	42	59	77	66	49	83	67	69	53	67	63	-4	16
Business conditions in 12m	Net %	-42	-18	7	-14	-62	-40	3	37	39	23	7	-16	23

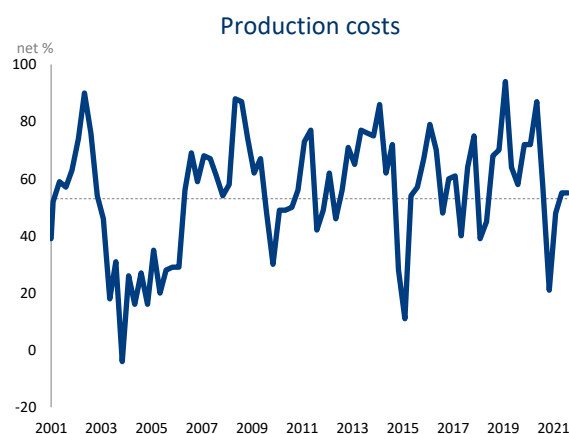
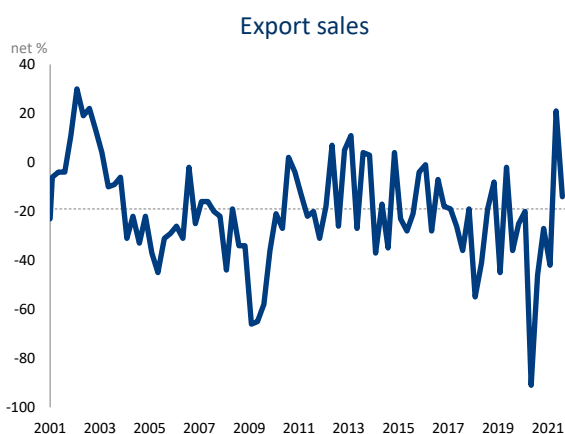
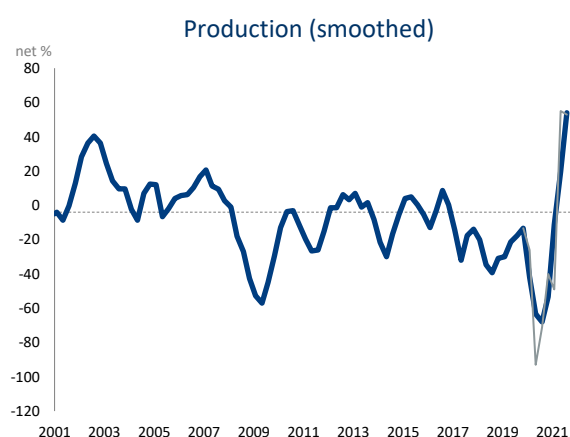
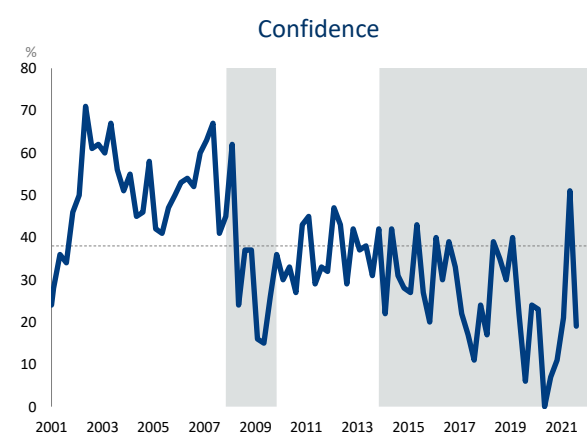


¹¹ Textiles, Clothing, Footwear & Leather: spinning, weaving & finishing of textiles, yarns (SIC code 311), other textiles (312), knitted & crocheted fabrics (313), wearing apparel & articles of fur (314-5), leather (316) and footwear (317). In 2017, this sector contributed 3.7% to production excluding petroleum and other.

μ – average
 σ – standard deviation
 Δ – change from previous period
 σ_{Δ} – volatility (standard deviation of the changes)
 All of the above calculated over the last 20 years
 See technical note for further details

Wood, paper, printing and publishing¹²

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	22	37	53	24	23	0	7	11	21	51	19	-32	13
Production	Net %	-36	-7	21	-7	-26	-93	-71	-40	-49	55	53	-2	26
Smoothed	Net %	-31	-8	16	-13	-42	-63	-68	-53	-11	20	54	34	21
Export sales	Net %	-42	-20	1	-25	-20	-91	-46	-27	-42	21	-14	-35	22
Production costs	Net %	35	55	76	72	72	87	57	21	48	55	55	0	18
Business conditions in 12m	Net %	-31	-8	15	-21	-16	-80	-15	-10	-6	13	11	-2	25



¹² Wood, Paper, Printing & Publishing: sawmilling, preserving of timber, bark grinding & compressing (SIC code 321), wood & wood products (322), paper and products (323) and printing, publishing & recorded media (324-6). In 2017, this sector contributed 13.1% to production and 4.7% to manufactured exports, petroleum and other excluded in both cases. We recommend that users attach more weight to the trend (smoothed series) than a single data point, as the correlation between the survey production data and reference series is low.

μ – average

σ – standard deviation

Δ – change from previous period

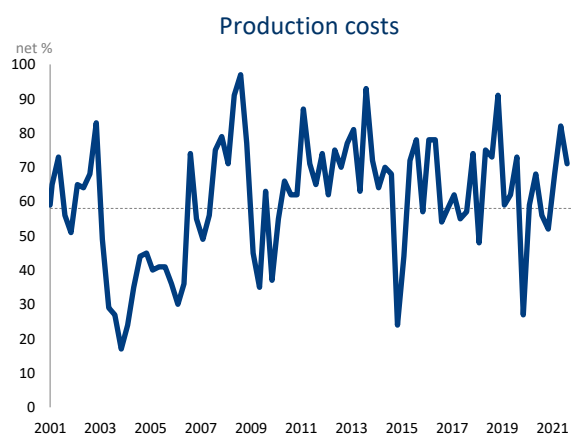
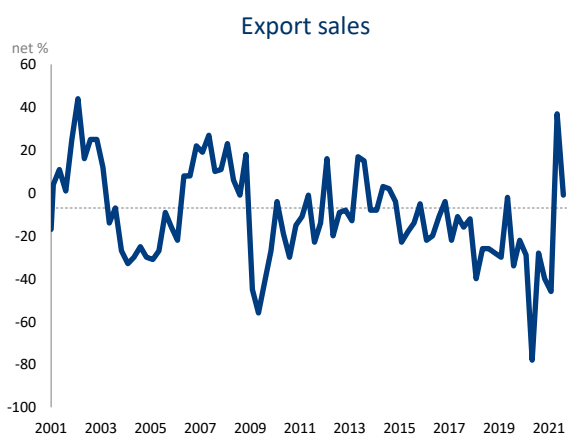
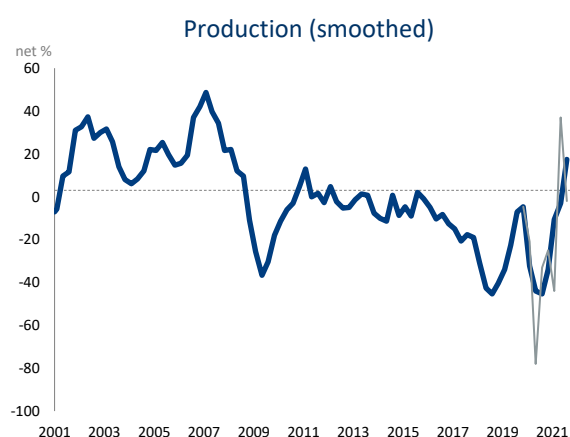
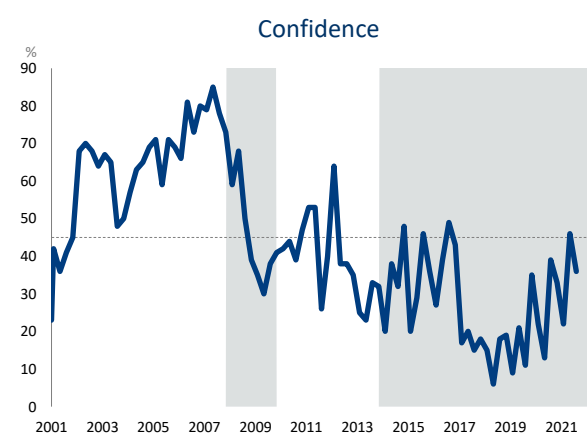
σ_{Δ} – volatility (standard deviation of the changes)

All of the above calculated over the last 20 years

See technical note for further details

Chemical, rubber and plastic products¹³

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	24	44	64	35	22	13	39	33	22	46	36	-10	12
Production	Net %	-26	0	26	2	-21	-78	-33	-25	-44	37	-2	-39	23
Smoothed	Net %	-23	0	23	-5	-32	-44	-45	-34	-11	-3	18	21	15
Export sales	Net %	-33	-11	12	-22	-29	-78	-28	-40	-46	37	-1	-38	21
Production costs	Net %	42	60	78	27	59	68	56	52	68	82	71	-11	17
Business conditions in 12m	Net %	-31	-5	21	-18	-62	-51	-13	-18	-42	13	6	-7	22



¹³ Chemicals, Rubber & Plastics: Refined petroleum & coke (SIC code 331-3) (NOT COVERED), basic chemicals (334), other chemical products (335-6), rubber (337) and plastics (338). In 2017, this sector contributed 16.6% to production and 15.4% to manufactured exports, petroleum and other excluded in both cases. We recommend that users attach more weight to the trend (smoothed series) than a single data point, as the correlation between the survey production data and reference series is low.

μ – average

σ – standard deviation

Δ – change from previous period

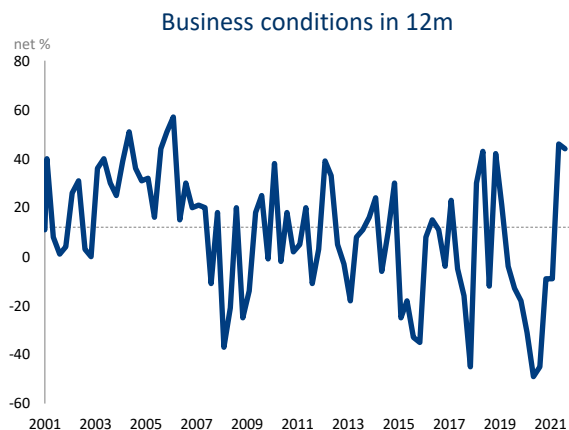
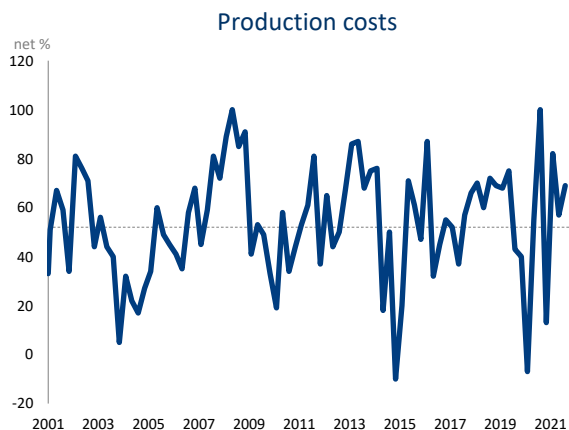
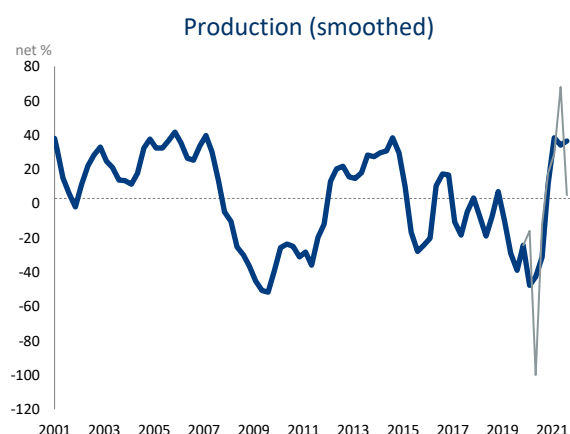
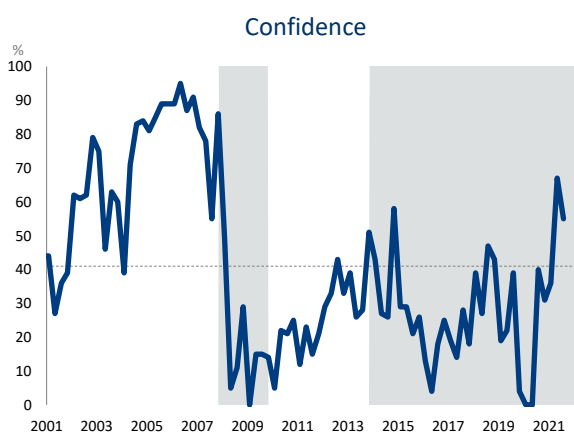
σ_{Δ} – volatility (standard deviation of the changes)

All of the above calculated over the last 20 years

See technical note for further details

Glass and non-metallic mineral products¹⁴

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	14	41	68	4	0	0	40	31	36	67	55	-12	16
Production	Net %	-30	3	35	-27	-16	-100	-12	18	29	68	5	-63	30
Smoothed	Net %	-25	3	30	-24	-48	-43	-31	12	38	34	37	3	21
Production costs	Net %	30	54	77	40	-7	55	100	13	82	57	69	12	27
Business conditions in 12m	Net %	-16	10	35	-18	-31	-49	-45	-9	-9	46	44	-2	26

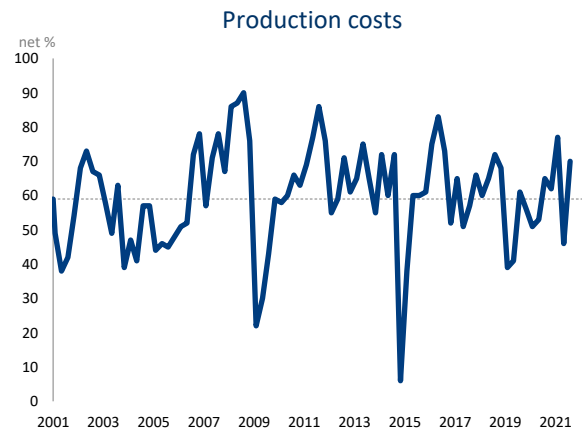
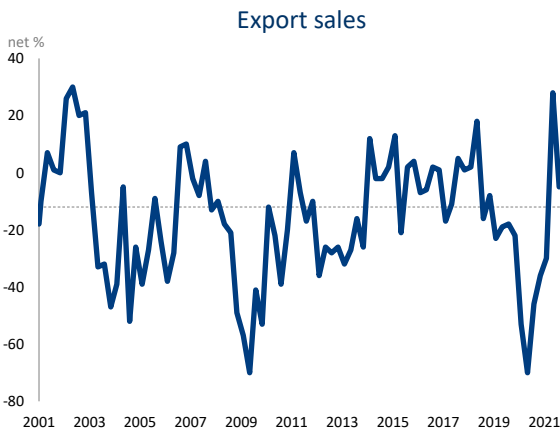
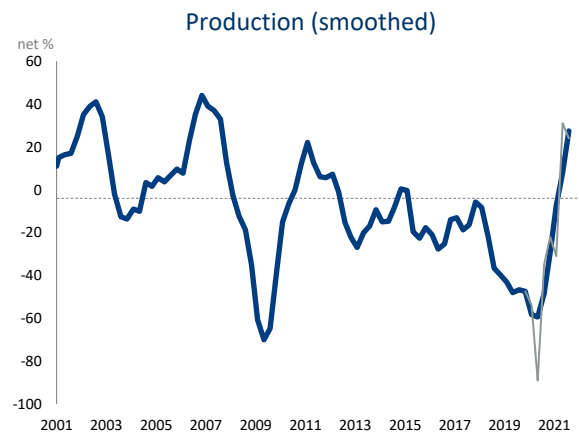
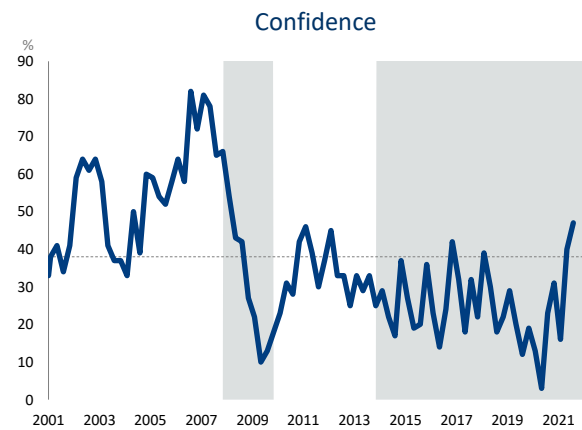


¹⁴ Glass & Non-metallic minerals: Glass & glass products, fibreglass (SIC code 341), other non-metallic mineral products (bricks, tiles, cement, prefab concrete, asphalt, mica products) (342). In 2017, this sector contributed 4.4% to production, excluding petroleum and other.

μ – average
 σ – standard deviation
 Δ – change from previous period
 σ_{Δ} – volatility (standard deviation of the changes)
 All of the above calculated over the last 20 years
 See technical note for further details

Basic metals, metal products and machinery¹⁵

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	19	37	55	19	13	3	23	31	16	40	47	7	11
Production	Net %	-39	-8	22	-32	-54	-89	-35	-22	-31	31	24	-7	23
Smoothed	Net %	-35	-8	18	-47	-58	-59	-49	-29	-7	8	28	20	19
Export sales	Net %	-38	-16	6	-22	-53	-70	-46	-36	-30	28	-5	-33	19
Production costs	Net %	46	60	75	56	51	53	65	62	77	46	70	24	16
Business conditions in 12m	Net %	-35	-13	9	-38	-64	-55	-42	-35	-20	-11	-18	-7	16

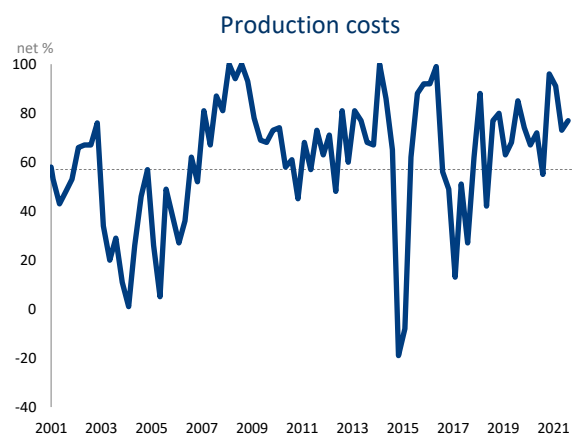
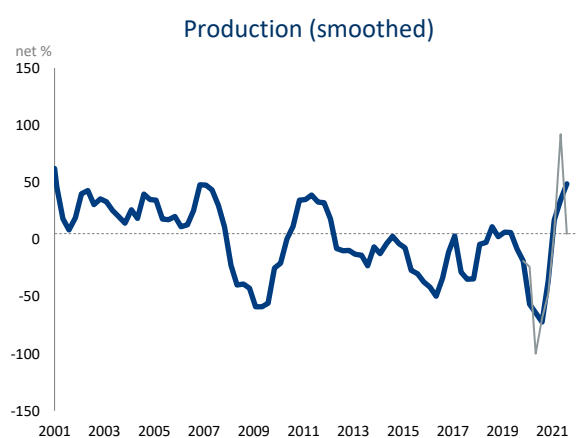
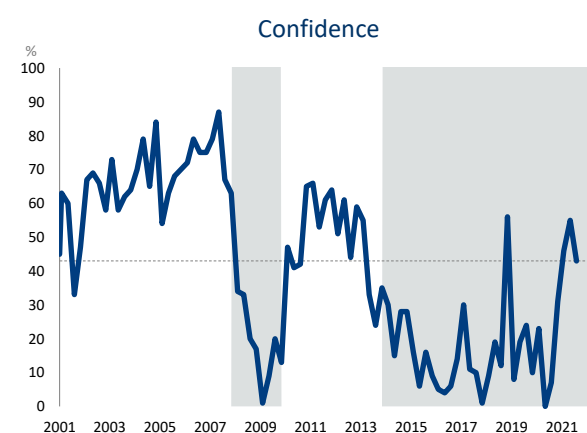


¹⁵ Basic metals, Metal Products & Machinery: Basic iron & steel (SIC code 351), basic precious (gold, platinum, silver) & non-ferrous metal (aluminium, copper, lead, nickel, tin, zinc) products (352), structural metal products (353-4), other fabricated metal products (355), general purpose machinery (356), special purpose machinery & machine tools (357), computers & office machines (358) and household appliances (359). In 2017, this sector contributed 21.1% to production and 42.5% to manufactured exports, petroleum and other excluded in both cases.

μ – average
 σ – standard deviation
 Δ – change from previous period
 σ_{Δ} – volatility (standard deviation of the changes)
 All of the above calculated over the last 20 years
 See technical note for further details

Motor vehicles, parts and transport equipment¹⁶

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	15	41	66	10	23	0	7	31	46	55	43	-12	14
Production	Net %	-39	-1	38	-46	-24	-100	-69	-48	7	92	5	-87	38
Smoothed	Net %	-32	-1	31	-19	-57	-64	-72	-37	17	35	49	14	25
Export sales	Net %	-45	-12	20	-42	-14	-96	-67	-66	9	60	22	-38	38
Smoothed	Net %	-37	-12	12	-21	-51	-59	-76	-41	1	30	41	11	22
Production costs	Net %	35	61	88	74	67	72	55	96	91	73	77	4	23
Business conditions in 12m	Net %	-48	-15	19	-54	-29	-70	-18	-23	-17	11	-16	-27	29

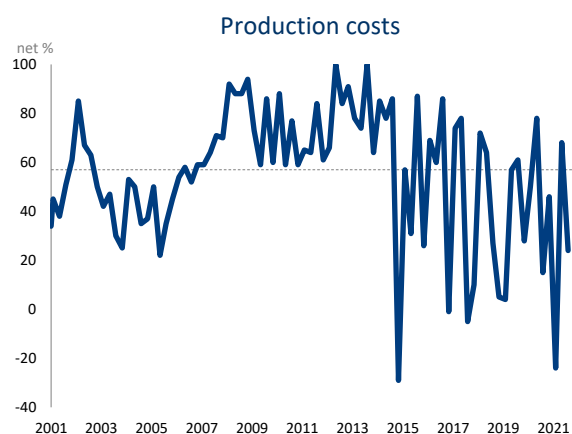
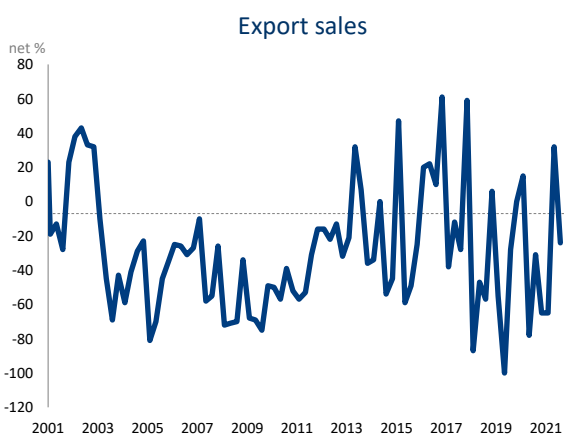
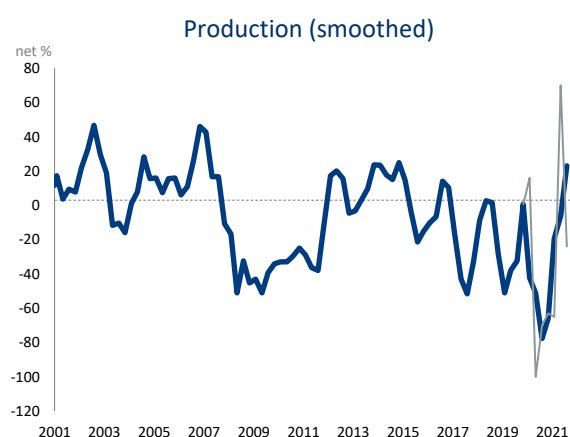
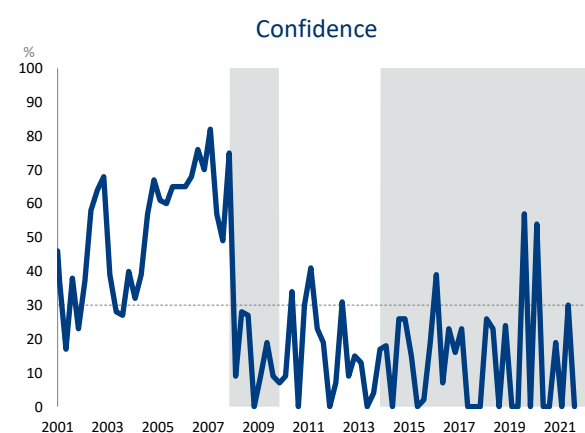


¹⁶ Transport equipment: Motor vehicles & bodies (SIC code 381-2), parts & accessories (383), other transport equipment (384-7). In 2017, this sector contributed 7.7% to production and 16.1% to manufactured exports, petroleum and other excluded in both cases.

μ – average
 σ – standard deviation
 Δ – change from previous period
 σ_{Δ} – volatility (standard deviation of the changes)
 All of the above calculated over the last 20 years
 See technical note for further details

Furniture and other¹⁷

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Confidence	%	3	27	51	0	54	0	0	19	0	30	0	-30	21
Production	Net %	-46	-7	31	-43	16	-100	-70	-63	-65	70	-24	-94	46
Smoothed	Net %	-35	-7	21	1	-42	-51	-78	-66	-19	-6	23	29	26
Export sales	Net %	-65	-29	7	0	15	-78	-31	-65	-65	32	-24	-56	42
Production costs	Net %	28	56	84	28	50	78	15	46	-24	68	24	-44	35
Business conditions in 12m	Net %	-49	-15	19	10	-19	-55	-41	-51	-65	29	100	71	34



¹⁷ Furniture & Other: Furniture (SIC code 391), other (e.g. jewellery, musical instruments, games & toys, recycling NOT COVERED) (392), tobacco (306). In 2017, this sector contributed 1.2% to production and 1.0% to manufactured exports, petroleum and other excluded in both cases. We recommend that users attach more weight to the trend (smoothed series) than a single data point, as the correlation between the survey production and export data vis-à-vis the reference series is low.

μ – average

σ – standard deviation

Δ – change from previous period

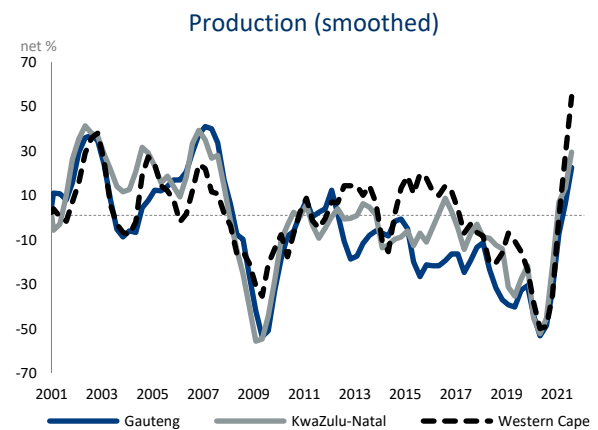
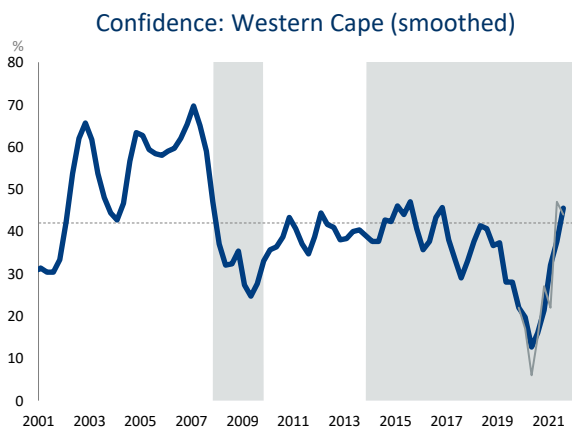
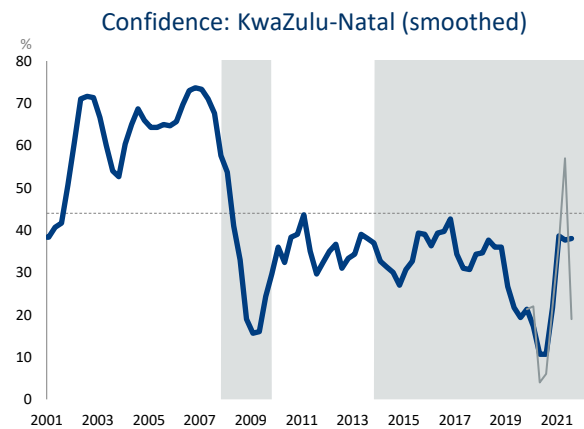
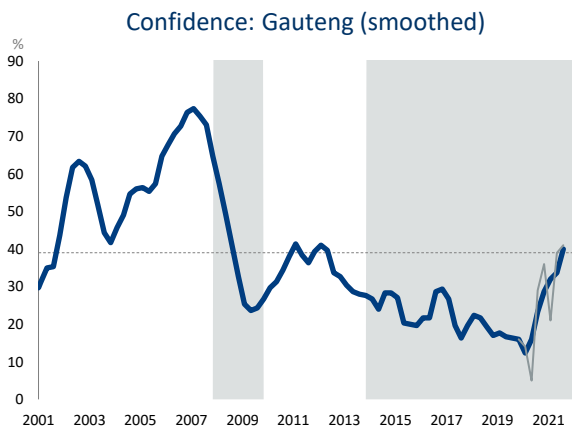
σ_{Δ} – volatility (standard deviation of the changes)

All of the above calculated over the last 20 years

See technical note for further details

By province

Indicator	Unit	$\mu-\sigma$	μ	$\mu+\sigma$	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	Δ	$\Delta\sigma$
Gauteng														
Confidence	%	20	38	56	18	14	5	29	36	21	39	41	2	8
Smoothed	%	20	38	56	16	12	16	23	29	32	34	40	6	8
Production	Net %	-32	-6	20	-17	-40	-75	-45	-26	-26	30	15	-15	18
Smoothed	Net %	-30	-6	18	-31	-44	-53	-49	-32	-7	6	23	17	16
KwaZulu-Natal														
Confidence	%	24	42	61	26	22	4	6	22	37	57	19	-38	11
Smoothed	%	25	42	60	21	17	11	11	22	39	38	38	0	9
Production	Net %	-27	0	27	-12	-34	-90	-33	-13	-19	53	6	-47	22
Smoothed	Net %	-24	0	23	-22	-45	-52	-45	-22	7	13	30	17	16
Western Cape														
Confidence	%	28	42	56	36	17	6	15	27	22	47	44	-3	12
Smoothed	%	30	42	54	22	20	13	16	21	32	38	46	8	9
Production	Net %	-23	1	25	-17	-31	-67	-52	-28	-25	54	55	1	22
Smoothed	Net %	-18	1	21	-23	-38	-50	-49	-35	0	28	55	27	18



μ – average
 σ – standard deviation
 Δ – change from previous period
 σ_{Δ} – volatility (standard deviation of the changes)
 All of the above calculated over the last 20 years
 See technical note for further details

Technical note

Short-term planning is hampered as official (quantitative or numeric) data is released with a time lag. Business tendency survey (BTS) results reveal what happened between the release of the last official figures and the current state of affairs. The survey results not only reveal earlier developments in sales, production, employment, selling prices, capacity utilisation, investment etc. (for which official figures are published), but also provide unique information, such as business confidence, business conditions, constraints and respondents' expectations (or forecast) for the next quarter for which no official figures exist. It is now widely recognised that such subjective individual expectations play a key role in economic developments. Furthermore, the survey results of successive quarters provide a means of tracking cyclical movements, pinpointing trend changes and establishing forecasts.

The survey method

The survey results are obtained from questionnaires completed by senior executives in the trade, manufacturing and building sector during the middle month of every calendar quarter.

The business survey questionnaire contains a small number of questions. These questions are qualitative in nature, e.g. "Compared to the same quarter a year ago, is the volume of production up, the same or down?". No figures are requested.

The sample of executives remains the same from one survey to the next. A panel is in effect established. The sample provides for the main sectors. The list of participants is reviewed every few years to replace those firms that went out of business or stopped responding during the previous two years with new ones.

To provide for widely differing sizes, each firm in the manufacturing and trade sectors is allocated a weight based on its turnover. Firms in the building sector are not weighted. Participants have to complete a "participant details form" at the time of recruitment and every few years to ensure that their sector classification and turnover (optional) are correct.

The BER conducted its first survey of the manufacturing and trade (i.e. retail, wholesale and motor trade) sectors in 1954. The sector coverage was expanded to the building sector (i.e. main contractors and sub-contractors) in 1969. Architects, quantity surveyors and civil engineering contractors were added later to the building survey.

Consult the BER web page (www.ber.ac.za) for more information about the business tendency method.

The unique units of measurement of qualitative surveys

Net percentage (net %)

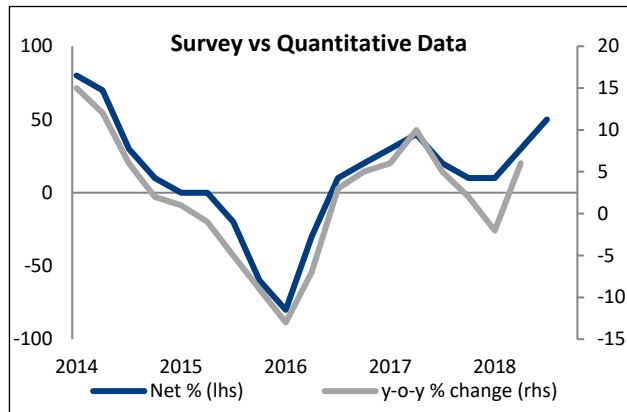
The responses related to the change in production, prices, employment, business conditions etc. are presented as a "net percentage" (also called a "net balance" or a "net majority"). If, for example, the percentages of respondents rating production as "higher", the "same" or "lower" compared to a year ago are 70%, 10% and 20% respectively, then one can conclude that the majority of participants experienced higher production. The net percentage is calculated as the percentage of respondents rating "production" as higher less the percentage rating it as "lower". The percentage rating it as the "same" is ignored. The net percentage in this example is therefore 50%, being the difference between the 70% "higher" and the 20% "lower". A net percentage of -10%, for instance, would indicate a decline in production compared to a year ago. Take note that this does not mean a year-on-year contraction of 10%. It only means that the production of a majority of 10% of the respondents was lower compared to a year ago.

The net percentage, or net balance statistic, can theoretically vary between a minimum of -100 (when all participants replied "lower") and a maximum of +100 (when all respondents replied "higher"). Theoretically a value of zero, therefore, indicates no change, between 0 and 100 reflects a rise (or improvement) and between 0 and -100 a decline (or deterioration) compared to the same quarter a year ago. The net balance statistic is a diffusion index, i.e. it indicates the degree to which the indicated change is "diffused" (spread) throughout the sample population. It indicates both the direction and size of the change.

Given that it reflects respondents' estimation of the change in the phenomenon/variable in the current quarter relative to the same quarter a year ago, the net percentage corresponds to a year-on-year percentage change/growth rate in the corresponding/equivalent official data series (see the figure on the right).

Percentage (%)

The responses relating to business confidence and constraints are presented as percentages.



In the case of business confidence, respondents have to rate prevailing business conditions as either "satisfactory" or "unsatisfactory". The percentage of respondents rating prevailing business conditions as satisfactory is taken as an indicator (proxy) for business confidence. A reading of 10 for business confidence, for instance, means that only 10% of the respondents indicated that they were satisfied. In this example, 90% were, therefore, unsatisfied.

In the case of the constraints, respondents have to rate if a particular issue – for instance, a shortage of skilled labour – "seriously", "slightly" or "not at all" hampers their activity. Composite constraint indices are calculated by weighting the responses as follows: The answers of respondents rating a particular constraint as "serious" are weighted by 0.67%; "slightly" by 0.33% and "not a constraint at all" are discarded. The results are then multiplied by $100/67 = 1.49$ to convert it to an index that can vary between zero and 100.

Care must be taken when making inferences from the constraints indices given that the list of constraints (issues) remains unchanged over time. Each constraint ought to be analysed relative to its own historical performance rather than comparing the ratings of the different constraints at a specific point in time. The latter inference would be more appropriate if respondents had to list all issues hampering their activity at a particular point in time and rank them in order of their impact.

Theoretically, the confidence and constraints series can vary between a minimum of zero and a maximum of 100. A value of zero would reflect an extreme lack of confidence/no limitation at all and 100 extreme confidence/complete limitation. These results reflect respondents' evaluation of the phenomenon/the survey variable in respect to that specific survey quarter, i.e. not relative to some period in the past or future.

Descriptive statistics in the tables

Smoothed

Some series show erratic/volatile movements, i.e. data jumps around quite a bit between consecutive quarters. In such cases, it is necessary to smooth these movements over a longer period to obtain a general trend. Another case where we added moving averages is when the correlation between the survey results and the corresponding reference series is low or non-existent.

Three-quarter centred moving averages (3qcm) were selected in order to not disturb turning points too much, e.g. the moving average of 17Q4 is calculated as the average of 17Q3, 17Q4 and 18Q1, that of 18Q1 is calculated as the average of 17Q4, 18Q1 and 18Q2 etc. In order for the smoothed series to run up to the last unsmoothed data point, the last smoothed data point is only the average of two quarters, namely the previous and current quarter.

When a smoothed series is added, it is prudent not to attach too much value to the unsmoothed results of a particular quarter, but rather to evaluate it in its historical context.

Seasonal adjustment (SA)

In theory, the time series ought to display no seasonal patterns because respondents are instructed to compare the current quarter with the same one of a year ago (e.g. they have to compare the current Festive Season or wet/dry winter period with the same time a year ago). However, in practice, some series nevertheless reveal seasonal patterns, probably because some respondents incorrectly compare the survey quarter with the one directly preceding it. In such cases, a seasonally adjusted series (i.e. where such seasonal variation is eliminated with X12 ARIMA) is added.

Average (μ)

The neutral level of the time series for the two measurement types, net percentage and percentage, is 50 or zero respectively. The long-term average (mean) is often not equivalent to this neutral level. In such cases, it is more useful to evaluate the current results relative to such a long-term average than the neutral level.

One standard deviation below ($\mu-\sigma$) and above ($\mu+\sigma$) the average

The standard deviation indicates the common variation in or dispersion of the values. Data points falling between one standard deviation below and above the average could be regarded as common. Any data point falling outside these ranges, therefore, displays statistically significant variation.

Change (Delta: Δ)

This statistic indicates the change in the results of the latest quarter relative to the preceding quarter.

Volatility (standard deviation of the deltas: $\Delta\sigma$)

This statistic indicates the volatility of the quarter-on-quarter change. If the size (regardless if it is an increase or decline) of the change is greater than the standard deviation of the deltas, then it displays a statistically significant variation.

Conventions and aids provided in the charts

Shaded areas

Indicates cyclical downturns as demarcated by the South African Reserve Bank. Users need to take note that the business cycle could have already reversed course towards the end of the period covered in the chart, but usually we wait until the bank determines a turning point before changing the shaded areas.

Solid vs. dotted horizontal (X) axes:

A solid line indicates the theoretical mid-points of 50 or zero respectively, while a dotted line indicates the long-term average (mean). Also see the section on the “average” above.

Normalised scale

Time series data is normalised (standardised) when one wishes to observe the co-movement among indicators with different units of measurement, say for instance, between a diffusion index (confidence) and the growth rate in a volume index (GDP growth). Normalisation converts both series to the same scale (unit) by subtracting the long-term average from each series and dividing it by its standard deviation. This ensures that one compares “apples” with “apples” when making a visual inspection and not mistakenly identify co-movements or deviations that different scales could produce.