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Building

Quarterly analysis of building activity

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Please refer to the glossary on the BER's **website** for explanations of technical terms.

Executive summary

After rising by eight index points in 2024Q2, the **FNB/BER Building Confidence Index** gained five points in 2024Q3 to register a level of 40.

Architect confidence jumped to 45. Sentiment was supported by a marked increase in average activity. **Quantity surveyor** activity was also higher. Despite this, sentiment declined by 10 points to 37.

The business mood among **residential builders** slipped to 30 in 2024Q3, from 45 in 2024Q2. Most of the underlying indices either deteriorated or remained as weak as last quarter which underscores the downbeat sentiment.

In contrast, **non-residential builders** registered renewed optimism. Sentiment at 57 in 2024Q3 (from 41 in 2024Q2) is at its best level since 2008. An improvement in activity and profitability boosted confidence. Moreover, the rating of insufficient demand for new work (a proxy for order books) declined significantly.

Table of Content

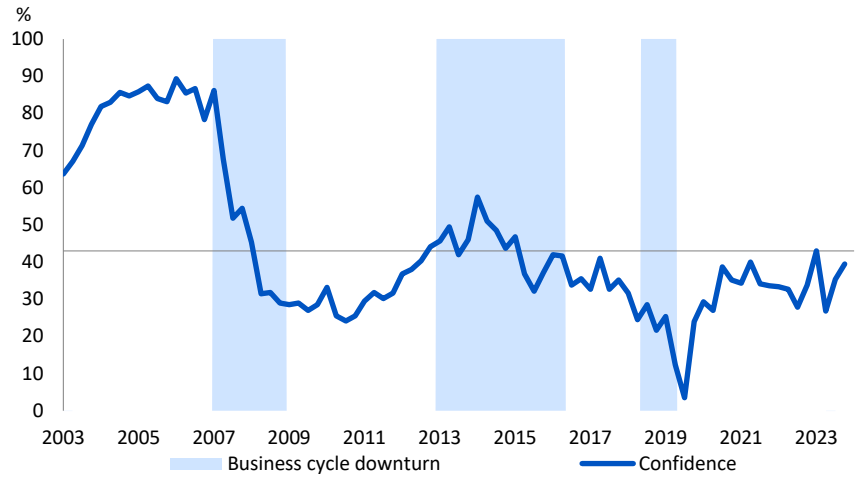
Introduction

This report outlines some of the key findings of the BER's 2024Q3 Building and Construction Survey, including the **FNB/BER Building Confidence Index** as well as related data.

Summary of the 2024Q3[1] building survey results

The **FNB/BER Building Confidence Index** gained five points to register a level of 40 in 2024Q3 (Figure 1). This means that the majority of firms (60%) along the building value chain are dissatisfied with prevailing business conditions.

Figure 1: FNB/BER Building Confidence Index



Source: BER

The following changes to sentiment were recorded in 2024Q3 compared to 2024Q2: building material manufacturers (+16), architects (+12), hardware retailers (+10), building sub-contractors (+3), main contractors (-6) and quantity surveyors (-10).

Overall building activity remained relatively stable in 2024Q3 although, from a sub-sector perspective, residential activity underperformed noticeably relative to non-residential activity.

Encouragingly, the volume of work at the start of the building pipeline registered a marked increase. This means that building activity should fare (much) better in the coming quarters.

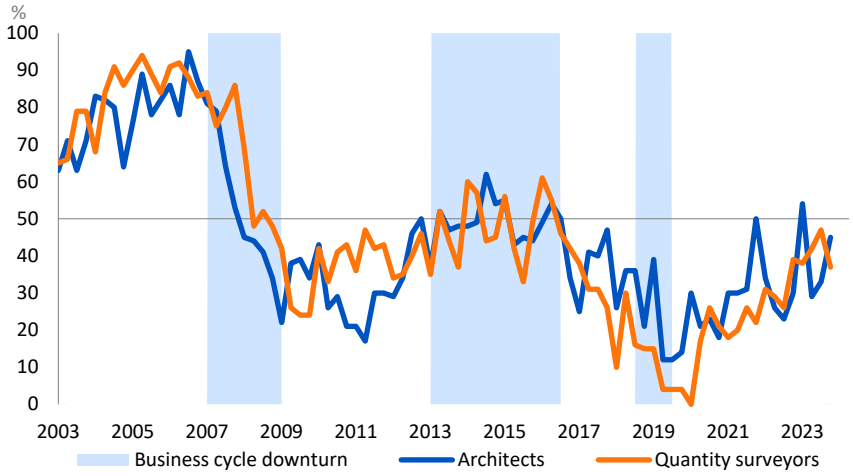
[1] The survey was conducted between 7 and 26 August 2024.

BROAD-BASED INCREASE IN WORK FOR ARCHITECTS, QUANTITY SURVEYORS CAUSE FOR OPTIMISM

Average activity for **architects** increased to a net balance of -4% in 2024Q3, from -23% in 2024Q2. While the rise in work was broad-based, the biggest improvement was in the index measuring growth in projects awarded, which registered a net balance of -11%, from -40% in 2024Q2. As a result of the higher activity, sentiment gained 12 points to reach a level of 45 in 2024Q3 (Figure 3).

Similar to architects, **quantity surveyors** saw an improvement in activity, albeit less pronounced. A net 11% of respondents indicated that activity growth was lower in 2024Q3 compared to the same quarter last year, down from 19% that stated as such in 2024Q2. Despite the better activity, confidence declined to 37, from 47 in 2024Q2.

Figure 2: Architect and quantity surveyor confidence



Source: BER

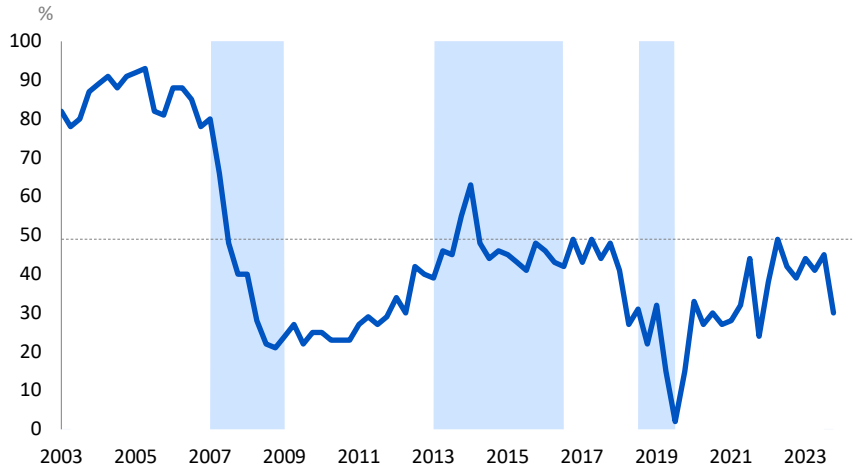
Interestingly, both architects and quantity surveyors – with a net balance of 5% and 1% respectively – expect activity next quarter to be higher than the corresponding period last year. This is the first time since 2007Q4 that both sub-sectors were that upbeat.

In terms of economic data, the better activity at the start of the building pipeline suggests that a pick-up in building plans passed is likely.

RESIDENTIAL BUILDER SENTIMENT IN THE DOLDRUMS

The business confidence of **residential builders** fell by 15 index points to 30 in 2024Q3 (Figure 3). This is the lowest level since 2022Q3.

Figure 3: Residential builder confidence

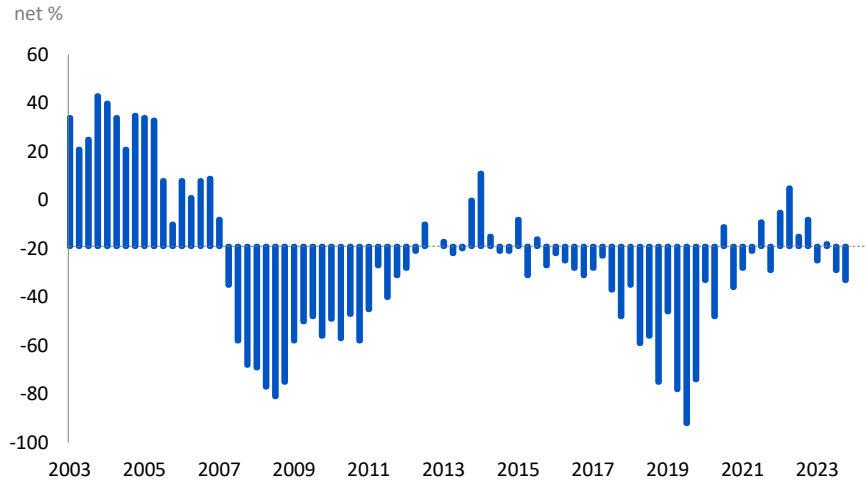


Source: BER

Stats SA data showed that the real value of residential building investment contracted by 7.3% year-on-year (y-o-y) in 2024Q2 following a 16% y-o-y decline in 2024Q1. The survey results suggest that activity likely remained under significant pressure in 2024Q3. Last quarter, a net 29% of respondents reported lower activity growth compared to the same period in the previous year, 33% stated as such this quarter (Figure 4).

Of concern is that respondents expect activity to remain weak in 2024Q4.

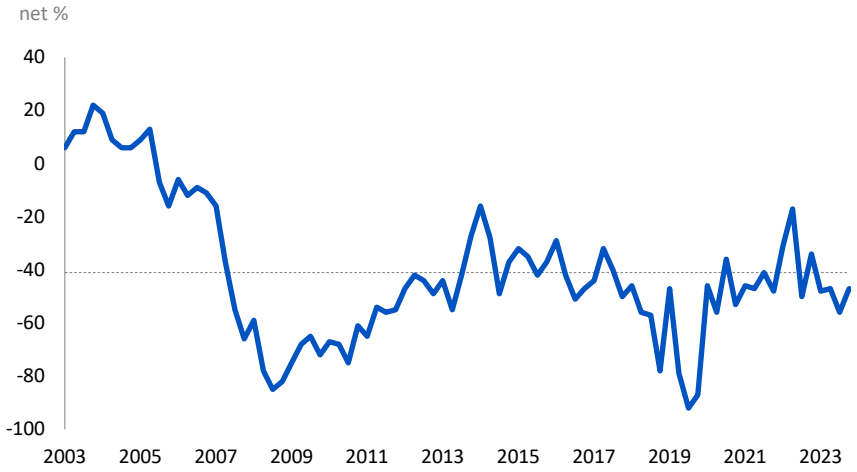
Figure 4: Residential builders, growth in activity



Source: BER

Along with the persistently weak activity, tendering price competition intensified this quarter. Despite this, overall profitability improved somewhat likely due to increased cost cutting – the further decline in the employment sub-index provides some evidence for this. A net 47% of respondents reported lower profitability in 2024Q3 relative to a year earlier, an improvement from the 56% that stated as such in 2024Q2 (Figure 5).

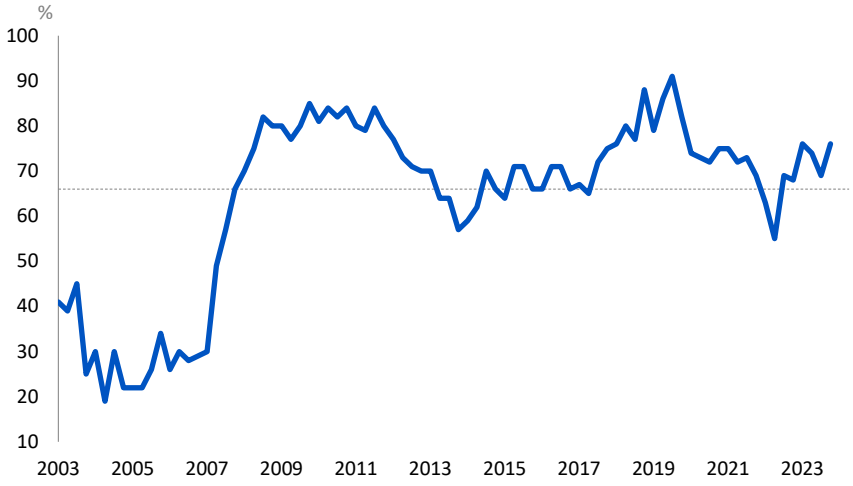
Figure 5: Residential builders, overall profitability



Source: BER

The state of order books supports respondents' views that the outlook for work is downbeat. The index measuring insufficient new demand as a business constraint (a proxy for order books) increased to 76% in 2024Q3, from 69% in 2024Q2 (Figure 6). This is above the long-term average of the series of 66%.

Figure 6: Residential builders, insufficient demand for new work as a business constraint



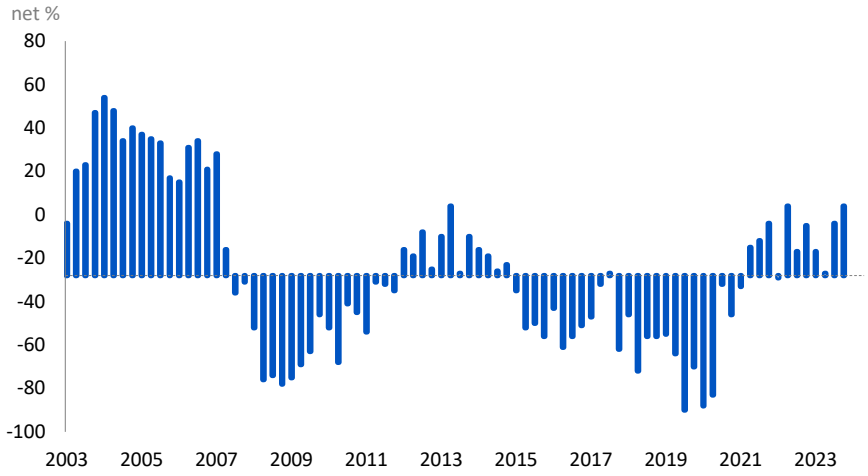
Source: BER

Overall, most of the sub-indices worsened or remained downbeat this quarter, supporting the depressed business mood of residential builders.

NON-RESIDENTIAL BUILDING ACTIVITY CONTINUES TO TREND HIGHER

A net 4% of **non-residential building** respondents noted that activity growth was higher in 2024Q3 than a year ago. This is an improvement from the 4% that stated it was lower than a year ago in 2024Q2. Indeed, the realised outcome was far more positive than expected (Figure 7). This means that real investment in non-residential buildings likely fared better than the 3.7% annual decline recorded by Stats SA for 2024Q2.

Figure 7: Non-residential building activity

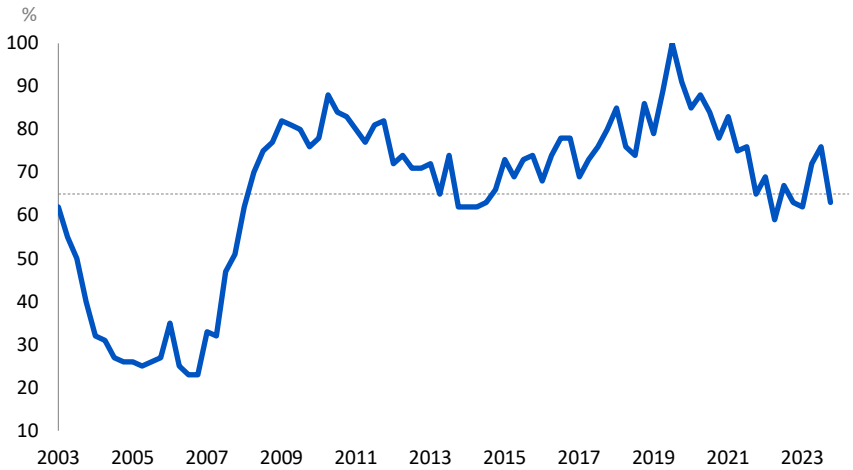


Source: BER

The better activity also resulted in higher profitability and employment. The employment sub-index, at a net 13%, is at its best level since the end of 2007.

In addition to better current activity, order books were also improved. In 2024Q2 the index measuring insufficient demand for new work as a business constraint registered a level of 76%. This fell to 63% in 2024Q3 (Figure 8).

Figure 8: Non-residential builders, insufficient demand for new building work as a business constraint

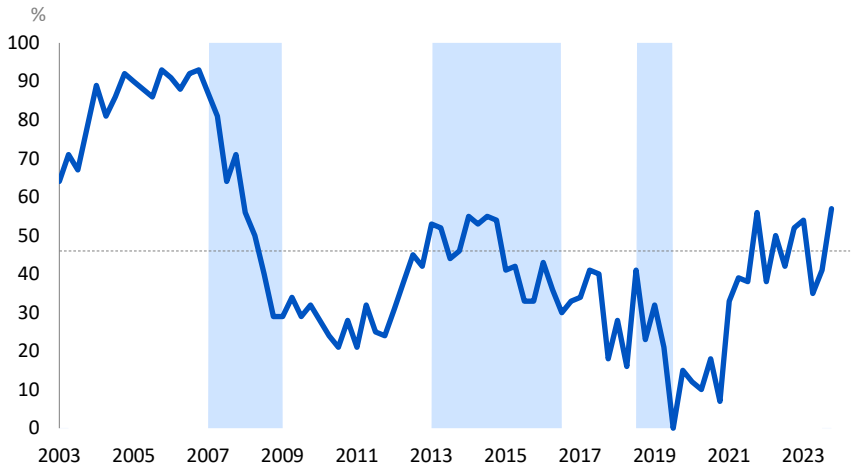


Source: BER

In all, and in stark contrast to the residential building sector, underlying conditions – especially activity – in the non-residential building sector saw a noticeable improvement in 2024Q3. As a

result, sentiment among non-residential builders jumped to its best level since 2008Q3 of 57 in 2024Q3, from 41 in 2024Q2 (Figure 9).

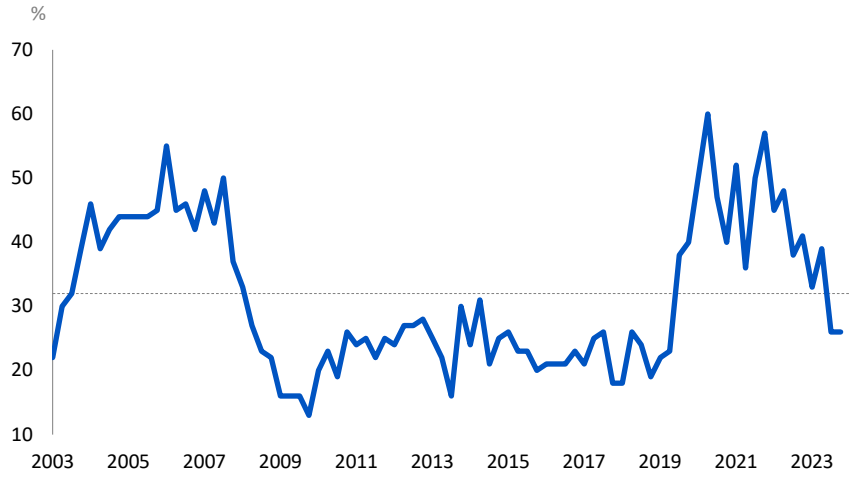
Figure 9: Non-residential builder confidence



Source: BER

Lastly, the constraint measuring the inadequate supply of building materials declined to 26% in 2024Q2 and remained at that level in 2024Q3 (Figure 10). This means that the supply constraints registered after the economy's re-opening following the COVID-19 pandemic are now firmly over. It also highlights the plight of broader demand in the rest of the sector that, during a period of rising non-residential building activity, building materials are still easily procured, which means other sub-sectors are struggling.

Figure 10: Non-residential builders, inadequate supply of building material as a business constraint



Source: BER

Conclusion

The **FNB/BER Building Confidence Index** gained five points to register a level of 40 in 2024Q3.

The better sentiment was due to an improved mood (relative to 2024Q2) in most sectors but most notably building material manufacturers and architects.

In terms of headline activity, work seems to be stable. However, continuing from last quarter, the residential building sector is under pressure, characterised by weak activity and deteriorating profitability.

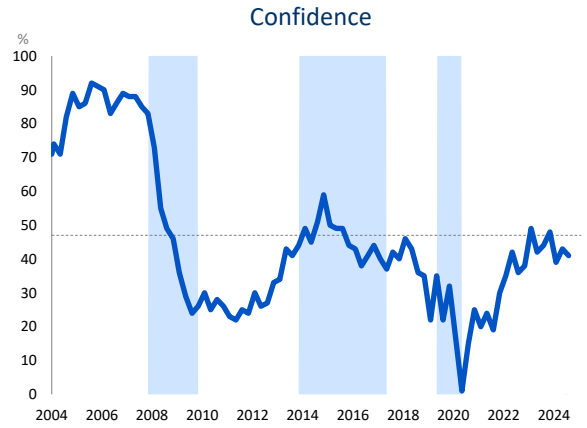
In contrast, the non-residential building sector is faring well. Activity increased lifting overall profitability and even employment. Moreover, the rating of new demand as a business constraint declined significantly, which suggests that company order books are looking better.

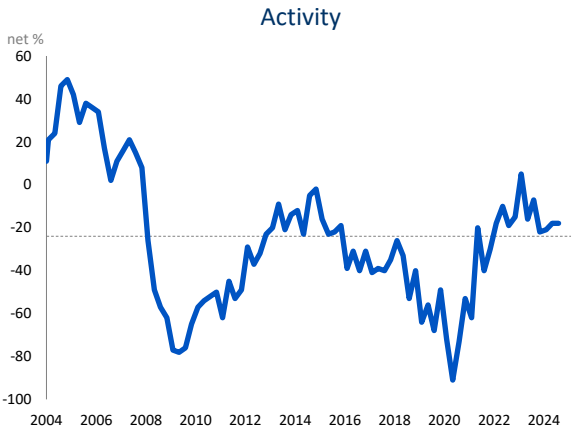
Another positive development this quarter is the sharp rise in activity among architects (also quantity surveyors, but less so). This means that work further down the building value chain (main contractors and sub-contractors) will likely increase in the coming quarters.

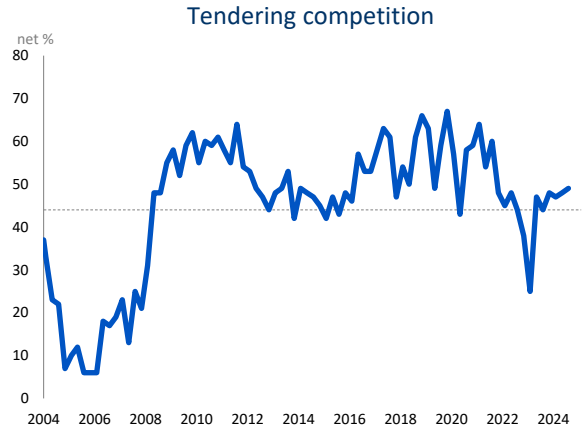
Survey results

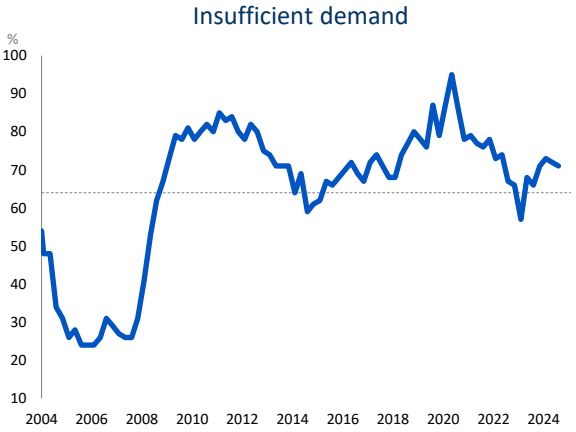
BUILDING: TOTAL[2]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Confidence	%	22	44	66	38	49	42	44	48	39	43	**41**	-2	7
Activity	Net %	-58	-27	4	-15	5	-16	-7	-22	-21	-18	**-18**	0	13
Tendering competition	Net %	30	46	62	38	25	47	44	48	47	48	**49**	1	7
Insufficient demand	%	47	66	85	66	57	68	66	71	73	72	**71**	-1	5





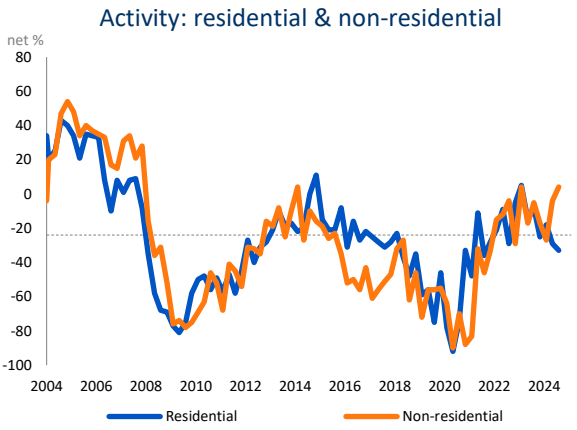


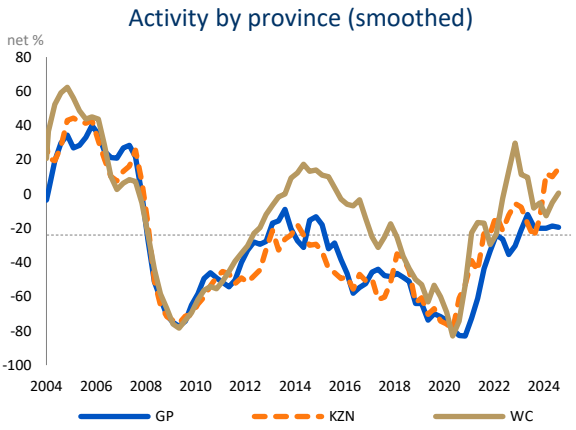


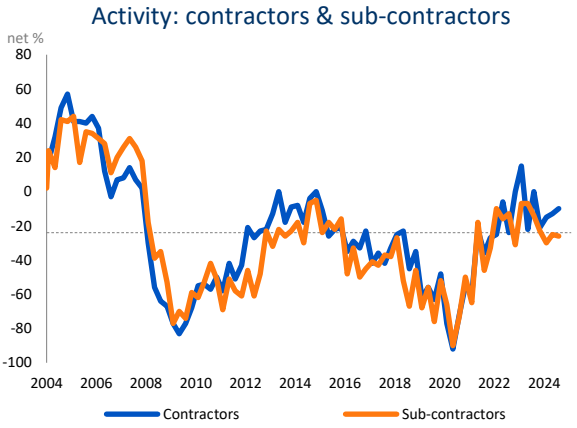
[2] Combined residential and non-residential building activity of contractors and sub-contractors.

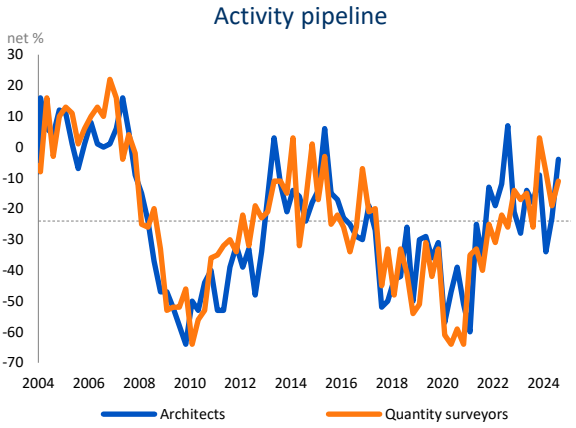
μ - average
σ – standard deviation
Δ – change from previous period
σΔ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

BUILDING: TOTAL





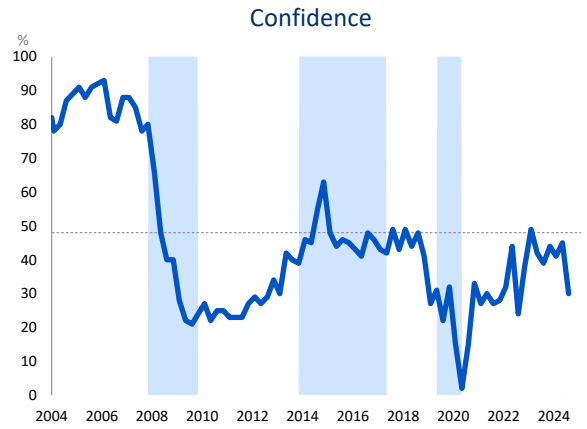


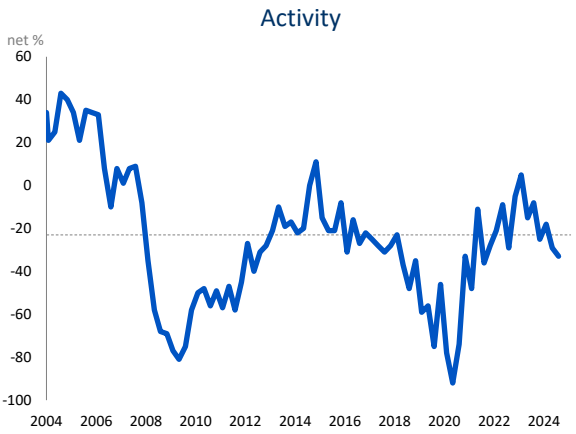


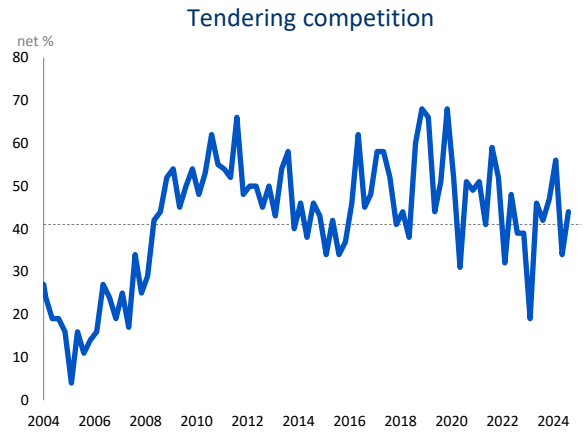
μ - average
σ – standard deviation
Δ – change from previous period
σ_Δ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

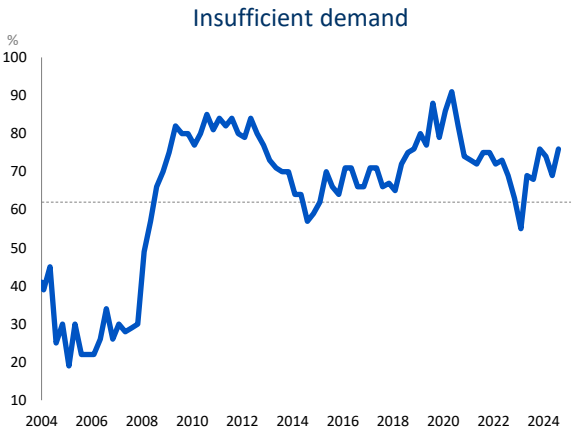
BUILDING: RESIDENTIAL[3]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Confidence	%	22	44	66	38	49	42	39	44	41	45	**30**	-15	8
Activity	Net %	-56	-27	2	-5	5	-15	-8	-25	-18	-29	**-33**	-4	15
Seasonally adjusted	Net %	-56	-27	2	-9	5	-19	-1	-28	-18	-33	**-26**	7	13
Tendering competition	Net %	29	43	57	39	19	46	42	47	56	34	**44**	10	11
Insufficient demand	%	47	65	84	63	55	69	68	76	74	69	**76**	7	6







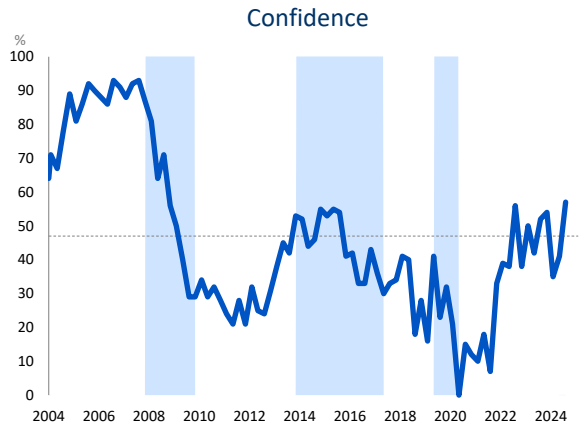


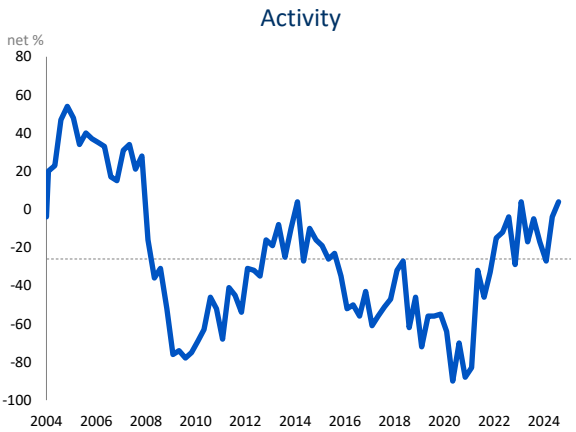
[3] The residential sector covers the construction of and additions to houses, town houses and flats for which building plans were submitted to a local authority. Other sporadic residential structures, such as tourist accommodation and casinos, and informal structures are not covered. The section on the building material retail trade provides additional information on activity related to additions and the informal sector.

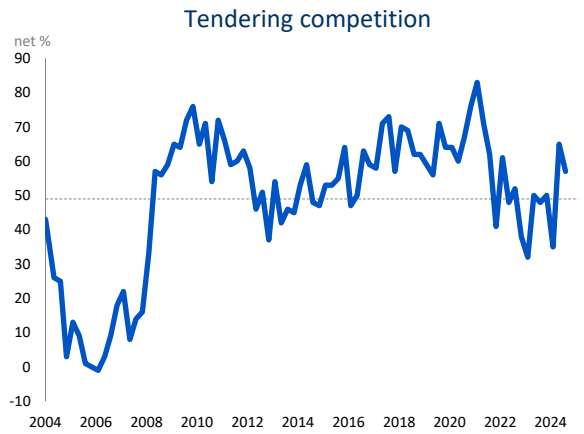
μ - average
σ – standard deviation
Δ – change from previous period
σ_Δ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

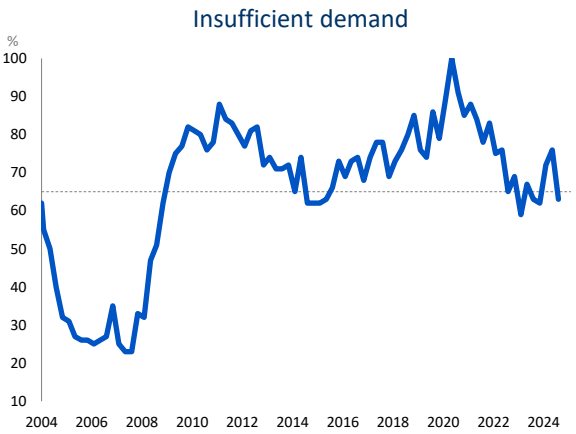
BUILDING: NON-RESIDENTIAL[4]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ_Δ
Confidence	%	21	45	69	38	50	42	52	54	35	41	**57**	16	10
Activity	Net %	-63	-28	7	-29	4	-17	-5	-17	-27	-4	**4**	8	16
Tendering competition	Net %	29	50	70	38	32	50	48	50	35	65	**57**	-8	10
Insufficient demand	%	46	66	86	69	59	67	63	62	72	76	**63**	-13	6







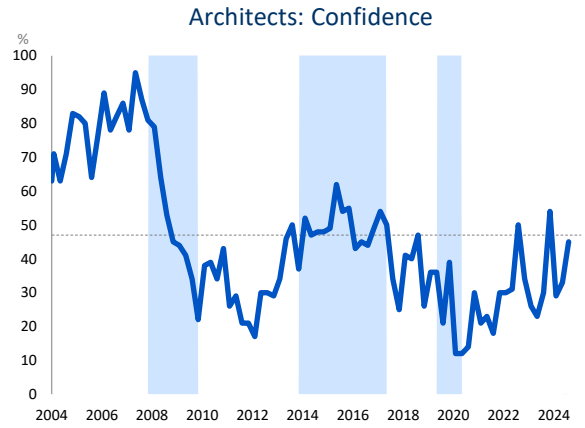


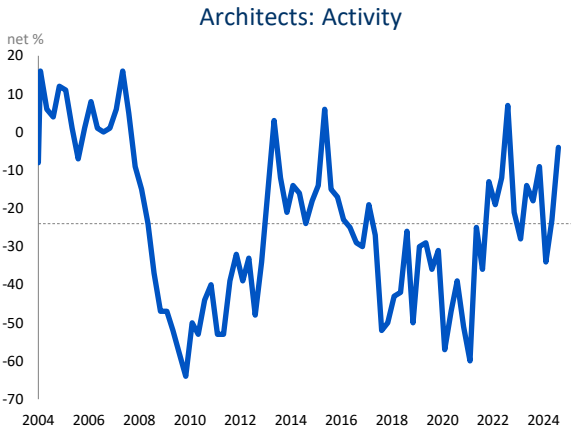
[4] The non-residential sector covers offices, banks, shops (retail), industrial (factories), warehouses and other structures (such as churches, sport clubs, schools and hospitals).

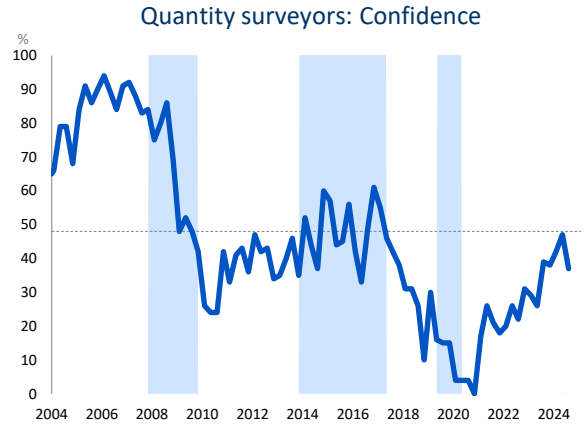
μ - average
σ – standard deviation
Δ – change from previous period
σ_Δ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

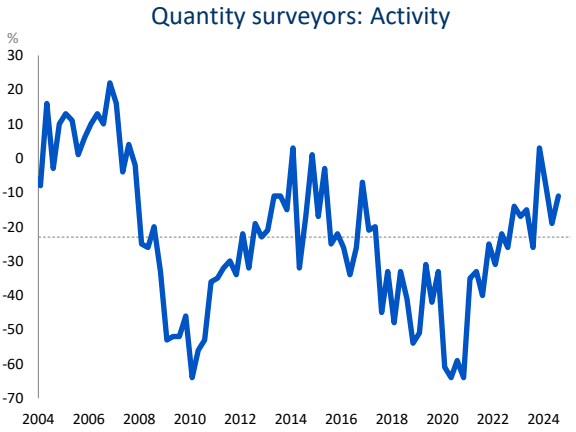
ARCHITECTS AND QUANTITY SURVEYORS[5]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Architects														
Confidence	%	24	44	65	34	26	23	30	54	29	33	**45**	12	11
Activity	Net %	-45	-25	-5	-21	-28	-14	-18	-9	-34	-23	**-4**	19	13
Quantity surveyors														
Confidence	%	21	45	69	31	29	26	39	38	42	47	**37**	-10	9
Activity	Net %	-45	-24	-3	-14	-17	-15	-26	3	-8	-19	**-11**	8	13







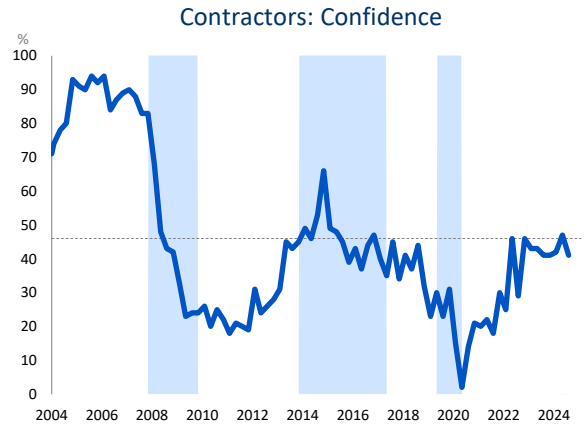


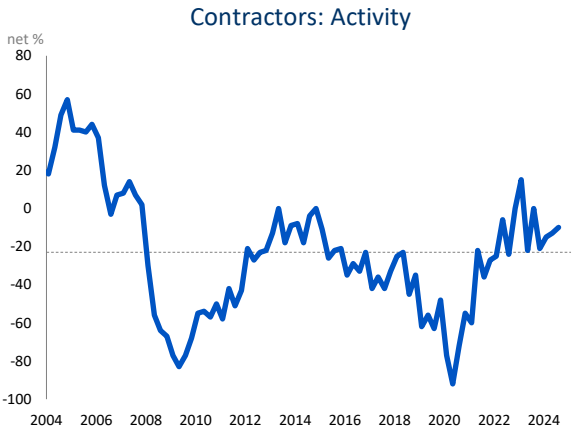
[5] According to the Standard Industrial Classification of all Economic Activities (SIC), architects and quantity surveyors are not part of the building and construction sector; they are classified as "business services". However, the BER includes them here, as they provide additional information on developments in the building sector.

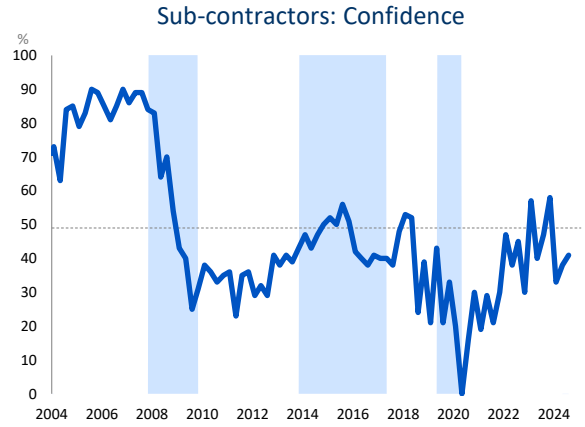
μ - average
σ – standard deviation
Δ – change from previous period
σΔ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

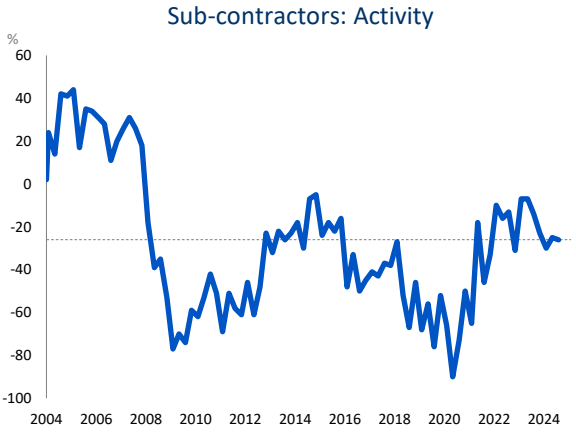
BUILDING: CONTRACTORS AND SUB-CONTRACTORS[6]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Contractors														
Confidence	%	20	43	67	46	43	43	41	41	42	47	**41**	-6	8
Activity	Net %	-58	-26	6	0	15	-22	0	-21	-15	-13	**-10**	3	14
Sub-contractors														
Confidence	%	26	47	68	30	57	40	47	58	33	38	**41**	3	10
Activity	Net %	-61	-29	3	-31	-7	-7	-14	-23	-30	-25	**-26**	-1	16









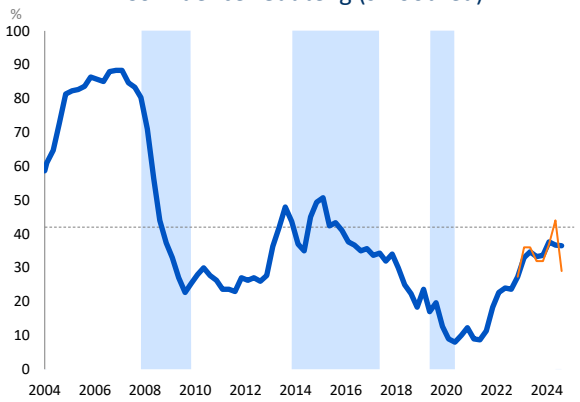
[6] Sub-contractors cover the building trades, such as electricians, plumbers, painters and shop fitters.

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

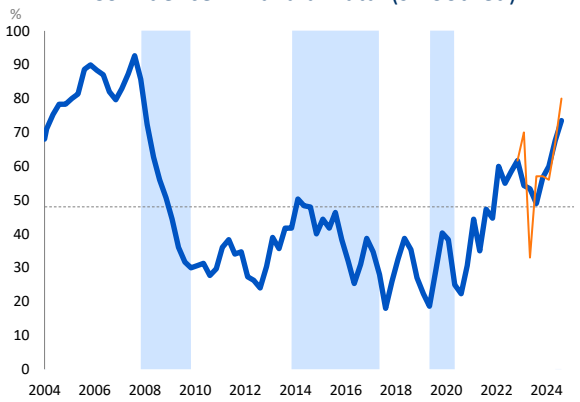
BUILDING: PROVINCES

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Gauteng														
Confidence	%	15	39	63	27	36	36	32	32	37	44	**29**	-15	10
Smoothed	%	16	39	62	27	33	35	33	34	38	37	**37**	0	4
Activity	Net %	-67	-33	2	-44	-5	-14	-17	-26	-17	-17	**-22**	-5	17
Smoothed	Net %	-65	-33	0	-30	-21	-12	-19	-20	-20	-19	**-20**	-1	8
KwaZulu-Natal														
Confidence	%	24	47	70	60	70	33	57	57	56	67	**80**	13	18
Smoothed	%	27	47	68	62	54	53	49	57	60	68	**74**	6	6
Activity	Net %	-67	-31	5	0	10	-33	-29	-14	0	50	**-20**	-70	24
Smoothed	Net %	-64	-31	2	-6	-8	-17	-25	-14	12	10	**15**	5	10
Western Cape														
Confidence	%	23	48	73	43	53	42	48	61	32	44	**56**	12	9
Smoothed	%	24	48	72	47	46	48	50	47	46	44	**50**	6	5
Activity	Net %	-54	-18	19	22	37	-25	17	-17	-16	-5	**6**	11	19
Smoothed	Net %	-52	-18	17	30	11	10	-8	-5	-13	-5	**1**	6	10

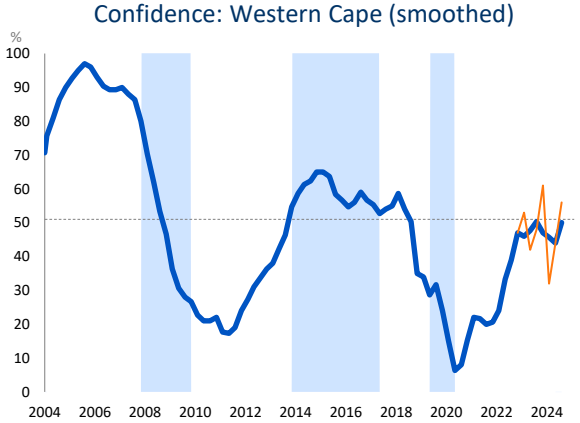
Confidence: Gauteng (smoothed)



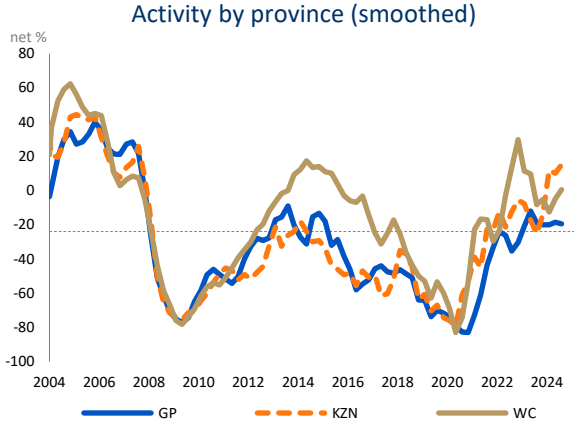
Confidence: KwaZulu-Natal (smoothed)



Confidence: Western Cape (smoothed)



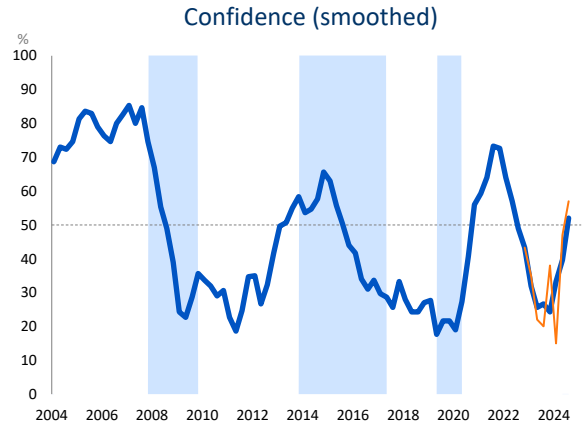
Activity by province (smoothed)

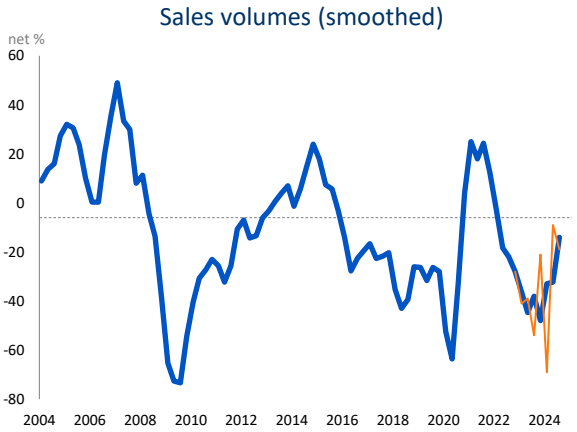


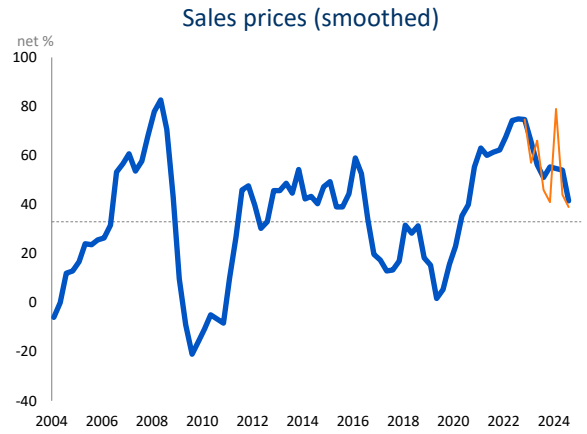
μ - average
σ – standard deviation
Δ – change from previous period
σΔ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

BUILDING MATERIALS RETAIL TRADE[7]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Confidence	%	23	46	69	39	35	22	20	38	15	47	**57**	10	16
Smoothed	%	26	46	67	43	32	26	27	24	33	40	**52**	12	6
Sales volumes	Net %	-44	-12	20	-29	-41	-39	-54	-21	-69	-9	**-19**	-10	27
Smoothed	Net %	-39	-12	15	-28	-36	-45	-38	-48	-33	-32	**-14**	18	12
Sales prices	Net %	10	37	65	74	57	66	46	41	79	44	**39**	-5	22
Smoothed	Net %	13	37	61	75	66	56	51	55	55	54	**42**	-12	10







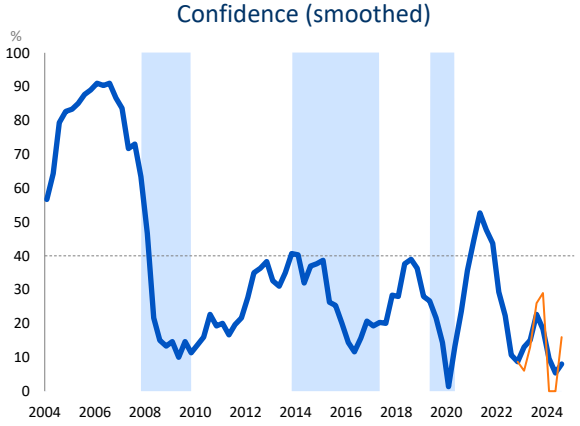
[7] Hardware, paint, glass and other building material retailers. Developments in the building material retail trade provides additional information on activity related to additions and the informal sector.

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

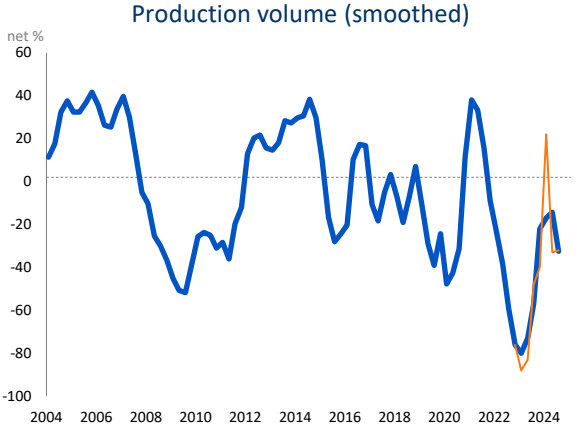
BUILDING MATERIALS MANUFACTURING[8]

Indicator	Unit	μ-σ	μ	μ+σ	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	Δ	σ Δ
Confidence	%	7	34	61	20	6	13	26	29	0	0	**16**	16	17
Smoothed	%	10	34	58	9	13	15	23	18	10	5	**8**	3	7
Production volume	Net %	-44	-7	30	-69	-88	-83	-48	-40	22	-33	**-32**	1	32
Smoothed	Net %	-38	-7	25	-76	-80	-73	-57	-22	-17	-14	**-33**	-19	14
Production costs	Net %	32	55	79	57	100	78	46	12	40	67	**6**	-61	29
Smoothed	Net %	39	55	71	74	78	75	45	33	40	38	**37**	-1	10
Expected conditions in 12m	Net %	-21	5	32	-39	-16	-29	21	-15	51	-33	**63**	96	32
Smoothed	Net %	-14	5	24	-18	-28	-8	-8	19	1	27	**15**	-12	12

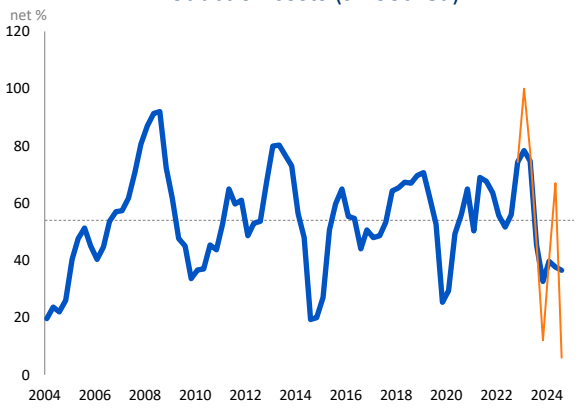
Confidence (smoothed)



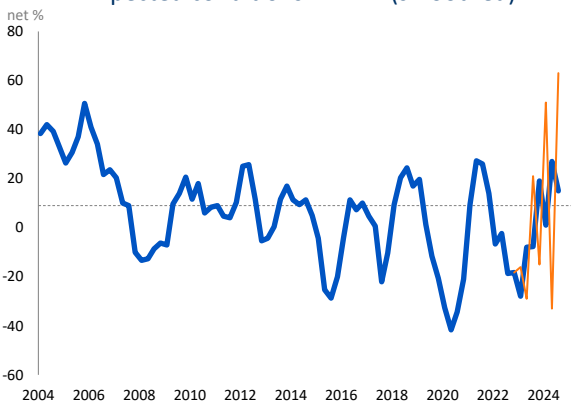
Production volume (smoothed)



Production costs (smoothed)



Expected conditions in 12m (smoothed)

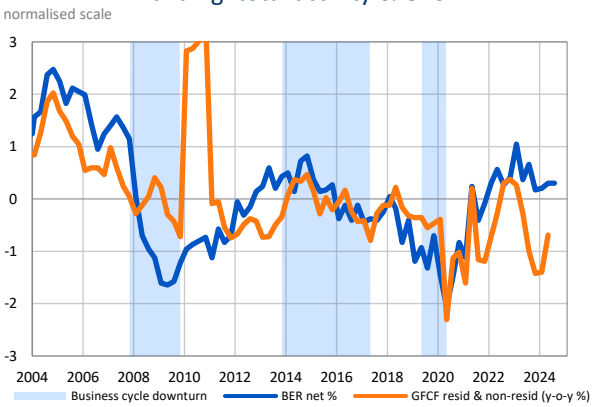


[8] Covering glass and non-metallic mineral (i.e. bricks, tiles, cement, prefab concrete, asphalt and mica products) manufacturing.

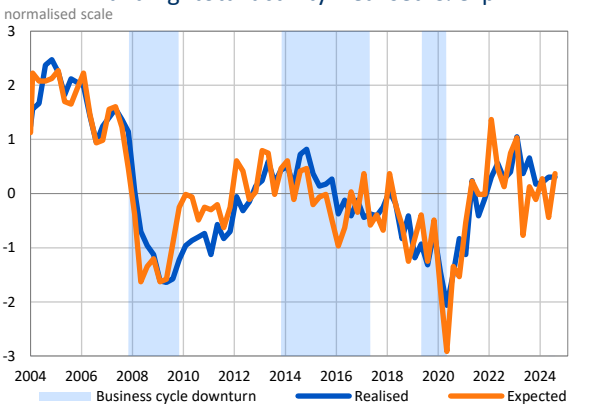
μ - average
σ – standard deviation
Δ – change from previous period
σΔ – volatility (standard deviation of the changes)
All above calculated over the last 20 years
See technical note for further details

SUMMARY

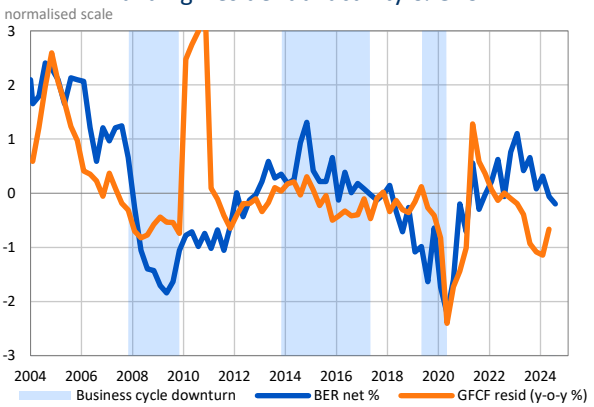
Building: total activity & GFCF



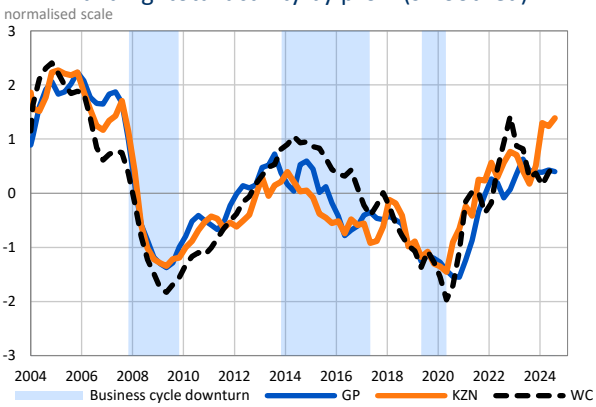
Building: total activity: realised & exp.



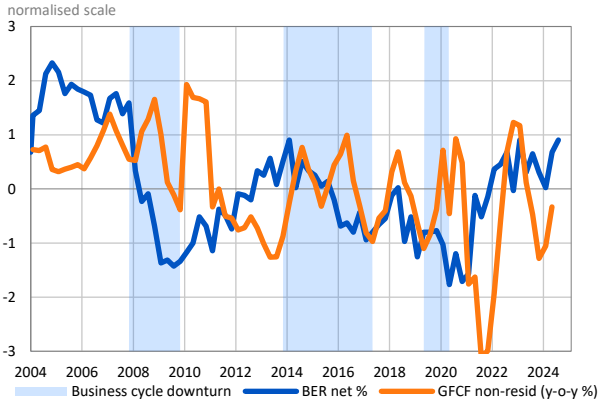
Building: residential activity & GFCF



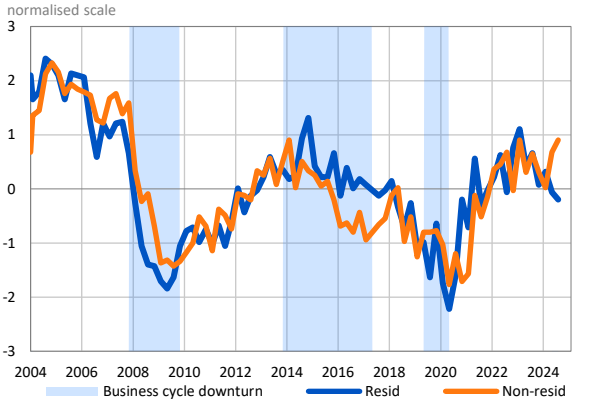
Building: total activity by prov. (smoothed)



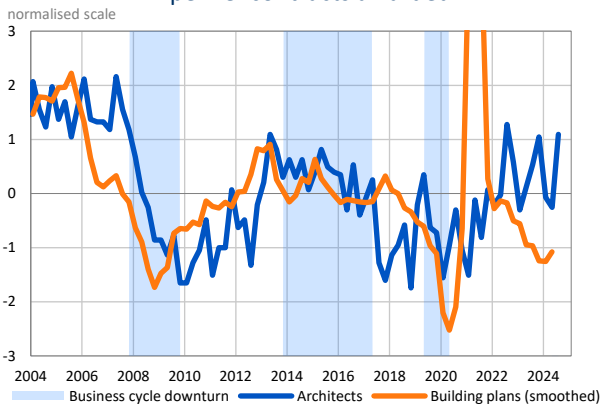
Building: non-residential activity & GFCF



Building: resid. & non-resid. activity



Pipeline: contracts awarded



BUILDING PLANS PASSED AND COMPLETED

Indicator (thousand sqm)	South Africa	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpuma-langa	Limpopo
Recorded building plans passed						**24Q2**				
Dwelling-houses < 80 square metres	57.7	16.8	5.4	0.3	5.6	1.4	0.9	25.6	1.2	0.4
Dwelling-houses >= 80 square metres	843.3	282.3	46.1	8.0	26.3	74.7	43.5	229.0	95.2	38.2
Flats and townhouses	358.3	160.4	12.8	0.2	3.1	76.5	2.8	92.0	6.5	3.9
Other residential buildings	72.1	12.1	0.0	0.4	0.0	28.9	27.2	0.8	2.6	0.0
Office and banking space	40.4	3.5	5.5	0.0	1.3	0.7	0.0	17.6	2.5	9.3
Shopping space	310.6	76.2	3.3	0.9	3.9	40.8	49.9	114.8	18.8	2.0
Industrial and warehouse space	358.9	59.9	22.0	20.3	1.7	24.9	16.3	149.4	55.5	8.9
Other non-residential buildings	96.8	36.0	5.0	0.0	0.6	25.3	1.8	24.9	2.6	0.6
Additions and alterations: Dwelling-houses	554.6	193.2	47.8	6.2	16.6	65.5	18.8	154.9	43.7	8.0
Additions and alterations: Other buildings	176.8	48.9	26.9	2.5	7.2	22.1	2.6	50.4	12.6	3.7
Total	**2870**	**889**	**175**	**39**	**66**	**361**	**164**	**859**	**241**	**75**
y-o-y % change	**-19.6**	**-30.6**	**-34.8**	**38.2**	**-27.3**	**-19.8**	**45.3**	**-14.3**	**-2.9**	**-11.4**
Buildings reported as completed						**24Q2**				
Dwelling-houses < 80 square metres	60.2	15.3	2.0	0.0	0.1	1.7	2.2	38.0	0.2	0.7
Dwelling-houses >= 80 square metres	552.4	193.9	38.4	2.2	3.6	56.4	28.7	191.8	18.8	18.6
Flats and townhouses	193.5	101.9	2.4	0.0	0.0	26.3	7.3	53.6	2.1	0.0
Other residential buildings	7.2	4.8	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
Office and banking space	32.3	2.1	1.6	1.1	0.0	1.7	2.2	14.0	0.0	9.6
Shopping space	93.3	11.1	0.9	0.0	0.9	33.1	1.8	45.6	0.0	0.0
Industrial and warehouse space	231.1	20.8	1.1	3.0	0.0	36.3	7.0	157.4	4.6	1.1
Other non-residential buildings	31.4	25.1	2.5	0.2	0.0	2.9	0.3	0.3	0.0	0.0
Additions and alterations: Dwelling-houses	168.5	52.0	19.1	3.7	2.3	21.6	19.2	38.2	9.9	2.6
Additions and alterations: Other buildings	52.0	21.1	6.0	1.9	0.0	4.7	2.5	14.4	1.4	0.0
Total	**1422**	**448**	**74**	**12**	**7**	**185**	**71**	**556**	**37**	**32**
y-o-y % change	**-16.1**	**-30.0**	**-37.4**	**7.4**	**-63.7**	**16.1**	**42.6**	**-4.8**	**-13.0**	**-54.0**

Source: Statistics South Africa

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 activity, employment etc. (for which official figures are published), but also provide unique information, such as business confidence, tendering prices, business conditions, constraint indicators 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 building activity 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. The BER also took responsibility for a quantitative building cost survey in that year. The breadth of the building survey was expanded on two occasions: 1) architects and quantity surveyors were added in 1986 in order to track developments along the whole building pipeline (i.e. from the initiation to the completion of projects) and 2) civil engineering contractors were added in 1997.

Consult the BER web page (**www.ber.ac.za**) for more information about the business tendency and building cost survey methods.

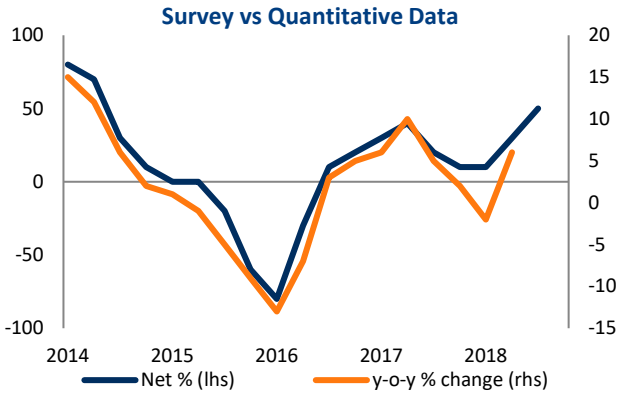
THE UNIQUE UNITS OF MEASUREMENT OF QUALITATIVE SURVEYS

Net percentage (net %)

The responses related to the change in activity, 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 building activity 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 activity. The net percentage is calculated as the percentage of respondents rating "activity" 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 activity compared to a year ago. Take note that this does not mean a year-on-year contraction of 10%. It only means that the activity 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

Three-quarter centred moving average (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 (3qcma) 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 (μ-σ) and above (μ+σ) 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: σ_{Δ})

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.