BUREAU FOR ECONOMIC RESEARCH

Construction

Quarterly analysis of construction activity

Third quarter 2020

1918·2018

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Introduction

This report outlines some of the key findings of the BER's 2020Q3 Construction Survey, including the **FNB/BER Civil Confidence Index**, as well as related data.

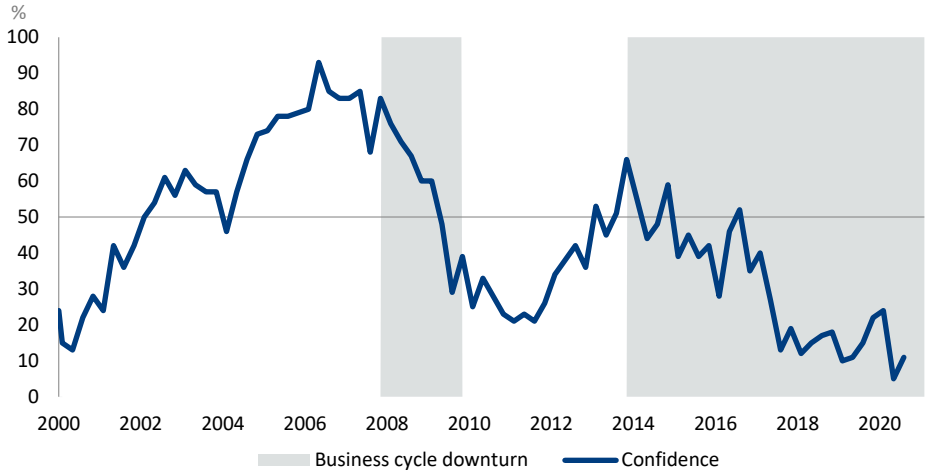
Summary of the 2020Q3[1] construction survey results

No rebound in civil construction activity in Q3

The **FNB/BER Civil Confidence index** rose from 10 to 24 points between 2018Q4 and 2020Q1. Subsequently, confidence dropped to an all-time low of 5 in 2020Q2. A slight (six-index point) increase in confidence to 11 was registered in 2020Q3 (Figure 1).

The current level of the index indicates that a vast majority (almost ninety percent) of respondents are still dissatisfied with prevailing business conditions.

Figure 1: FNB/BER Civil Confidence Index



Source: BER

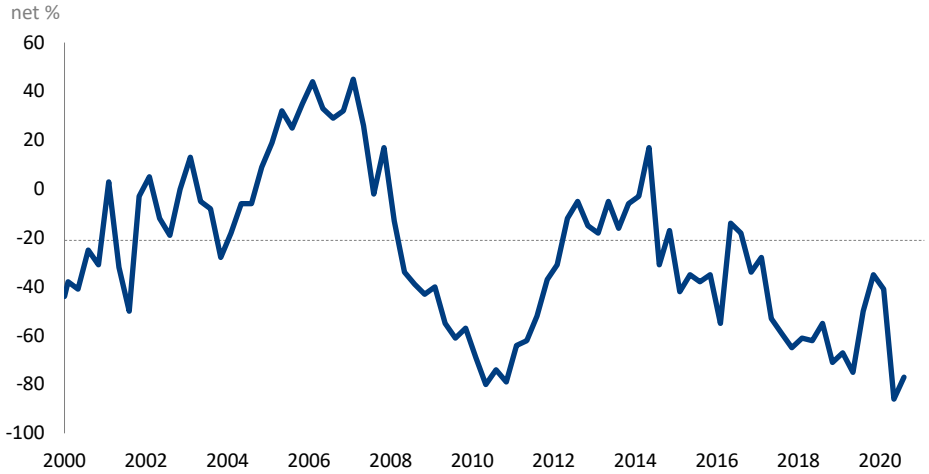
Construction activity remained on weak footing in Q3

According to Stats SA, the real value of construction works contracted by 30.9% year-on-year (y-o-y) in 2020Q2. This is in step with the BER's survey results in 2020Q2. Growth in construction activity is set for a further contraction in 2020Q3. A net 77% of respondents noted that growth in construction activity was lower in 2020Q3 compared to 2019Q3 (Figure 2). While this is an

[1] The survey was conducted between 12 and 31 August 2020.

improvement from the 86% that stated as such in 2020Q2, the current level is (outside of last quarter's figure) the worst since the end of 2010.

Figure 2: Civil contractors, growth in activity



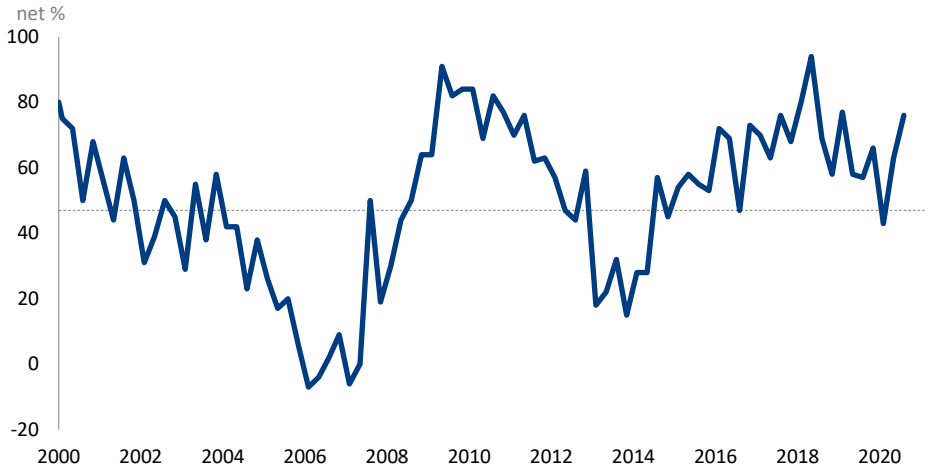
Source: BER

Overall **profitability** deteriorated. In 2020Q3, a net 94% of respondents reported lower profitability compared to a year earlier, up from 86% in 2020Q2.

Tendering price competition intensified in Q3, likely due to less work out to tender…

Contributing to the pressure on profitability in the quarter was much keener tendering price competition. A net 76% of respondents revealed that tendering price competition was fiercer in 2020Q3 compared to the same period a year ago, from 63% and 43% in 2020Q2 and 2020Q1 respectively (Figure 3). This is usually also a sign of the relative scarcity of available tenders.

Figure 3: Civil contractors, tendering competition

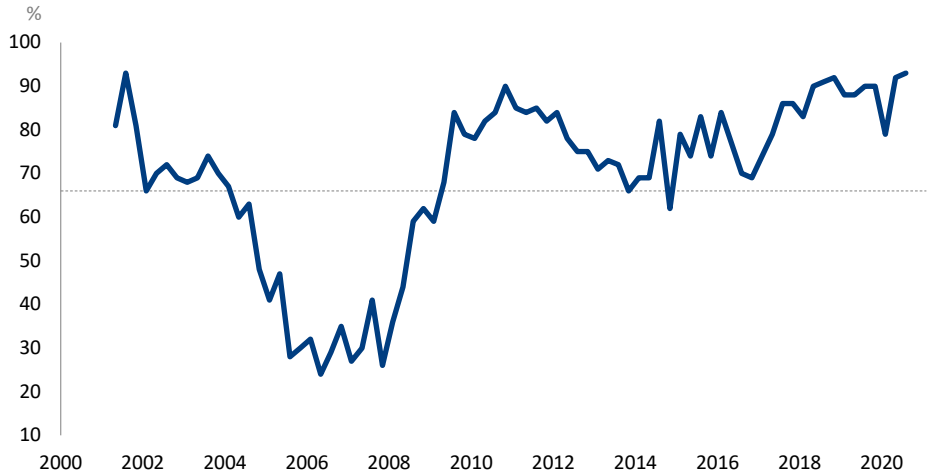


Source: BER

Looking ahead, construction activity will remain under pressure. The percentage of respondents that considered the lack of new demand for construction works as

a constraint to business operations edged higher still to 93% in 2020Q3, from 92% in 2020Q2 (Figure 4).

Figure 4: Civil contractors, lack of new demand a business constraint



Source: BER

In conclusion

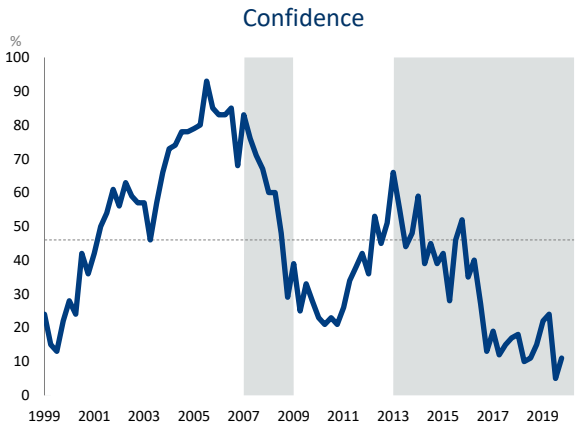
The civil construction sector took a huge knock in 2020Q2 (as was broadly the case in the economy as well). The BER's 2020Q3 construction survey results suggest that underlying conditions, especially activity and profitability, remain very downbeat, albeit slightly less so than in 2020Q2.

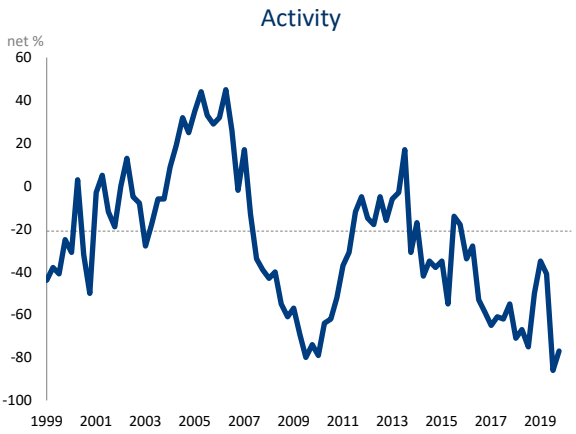
The **FNB/BER Civil Construction Confidence Index** was on a stable upward trajectory, supported by an improvement in activity, up until 2020Q1. This came to an abrupt end in 2020Q2. Although rising in 2020Q3, confidence stayed low. Moreover, tendering price competition, growth in profitability and the rating of the lack of new construction demand are at worse levels in 2020Q3 than in 2020Q2.

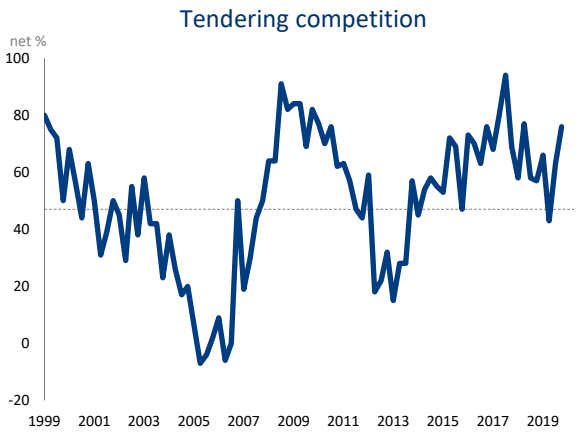
Survey results

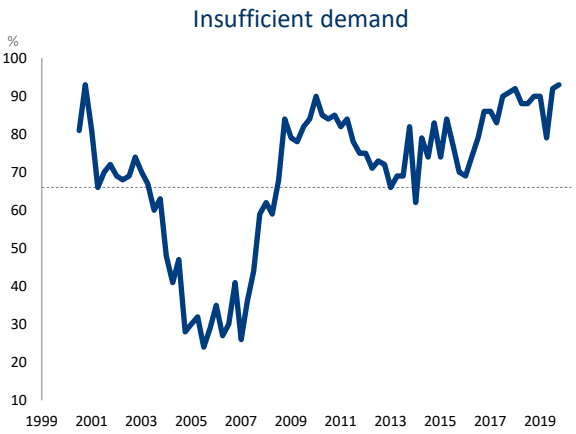
Civil construction

Indicator	Unit	μ-σ	μ	μ+σ	18Q4	19Q1	19Q2	19Q3	19Q4	20Q1	20Q2	20Q3	Δ	σ Δ
Confidence	%	23	46	68	18	10	11	15	22	24	5	**11**	6	9
Activity	Net %	-59	-25	8	-71	-67	-75	-50	-35	-41	-86	**-77**	9	17
Tendering competition	Net %	25	49	74	58	77	58	57	66	43	63	**76**	13	16
Insufficient demand	%	50	69	88	92	88	88	90	90	79	92	**93**	1	8









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

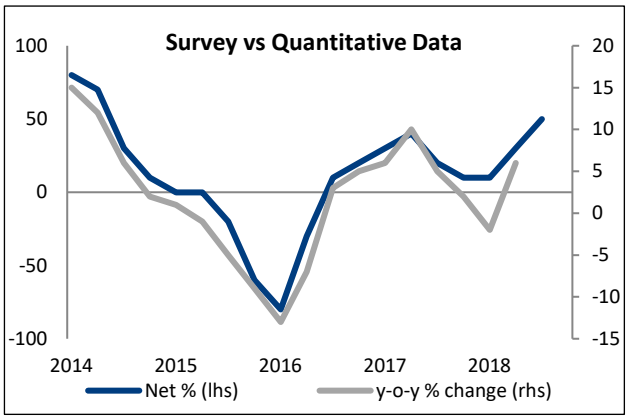
Net percentage (net %)

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.