



Bi-Annual Economic and Capacity Survey

July – December 2019

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1. Economic overview

1.1 International Developments

In what has become a global pandemic, the spread of coronavirus, or Covid-19 rocked global markets in the last few weeks. The spread of the virus is certainly going to plunge the global economy into recession. China, where the virus originated, makes up one-seventh of global trade and is the single biggest importer in the world. The fact that they have effectively closed their borders has already significantly disrupted global supply chains, which will most certainly take a toll on the global economy, the specific degree to which is largely unknown. Without knowing the exact trajectory of the virus, the effectiveness of the containment efforts, as well as consumer and business reaction, it is very difficult to forecast the expected effect of the virus on the economy. However, conservative estimates are wiping at minimum 2 percentage points of GDP growth from the Chinese economy (from 6.0 percent to 4.0 percent), which will have a significant impact on the global economy and should be something to worry about.

For the first time since the great recession of 2008/09, the US Fed and other central banks around the world have lowered their benchmark interest rates, in a bid to aid what they perceive as being slowing economies in the not so distant future. US markets were down by the biggest margin since the great recession, with the JSE following suite. Investors have rushed to safe haven assets such as longer-term bonds, with the 10 year US Treasury bond yield going under 1 percent for the first time since the recession, as well as the US Dollar (with a major selloff of emerging market currencies including the Rand, which is currently trading at almost R18 to the Dollar).. This is already starting to have an impact on the local construction industry, with contractors unable to import certain materials, and will certainly be affecting manufacturers that import some of their inputs. This has certainly come at a bad time for the South African economy, which is already flirting with a full-blown year on year recession, and it will be something we will be closely monitoring going forward. In January, the IMF was forecasting the global economy to grow by 3.3 percent in 2020, and 3.4 percent for 2021, which was downgraded to a worse than expected performance by some emerging markets. They will adjust these forecasts downwards in coming weeks.

The greatest risk has come from the demand side of the economy. With many countries ordering citizens to stay at home, people are not going out to restaurants/bars. The tourism industry in South Africa for example, is expected to almost completely shut down. So this has become a major demand shock which is going to debilitate the global economy in a manner not fully understood.

Table 1: Global economic outlook (Pre-COVID-19, revised forecasts expected in due course)

	2016	2017	2018	2019	2020	2021
World	3.1%	3.8%	3.6%	2.9%	3.3%	3.4%
Advanced Economies	1.7%	2.4%	2.2%	1.7%	1.6%	1.6%
US	1.6%	2.2%	2.9%	2.3%	2.0%	1.7%
Eurozone	1.7%	2.4%	1.8%	1.2%	1.3%	1.4%
UK	1.8%	1.8%	1.4%	1.3%	1.4%	1.5%
Emerging markets	4.1%	4.7%	4.5%	3.7%	4.4%	4.6%
Brazil	-3.6%	1.1%	1.1%	1.2%	2.2%	2.3%
Russia	-0.2%	1.8%	2.3%	1.1%	1.9%	2.0%
India	6.8%	6.7%	7.1%	4.8%	5.8%	6.5%
China	6.7%	6.8%	6.6%	6.1%	6.0%	5.8%
Sub-Saharan Africa	1.4%	2.7%	3.0%	3.3%	3.5%	3.5%
SA	0.6%	1.3%	0.8%	0.4%	0.8%	1.4%

Source: IMF World Economic Outlook January 2020

1.2 Domestic Economy

Stats SA released yet another extremely disappointing set of GDP data for the 4th quarter of 2019, confirming that the economy had yet again gone into a technical recession in the last half of the year. Growth contracted by 1.5 percent in the 4th quarter, off the back of a -0.8 percent drop in the 3rd quarter. **This is the 2nd consecutive year that the economy has gone into a technical recession (two consecutive quarters of contracting GDP growth) and meant that GDP growth was just 0.2 percent for the full year of 2019, compared to 2018.** This was much lower than initially expected and forecasted by economists, who had pinned growth down at around 0.9 percent at the beginning of the year.

This means that South Africans have continued to get poorer in real terms, for the sixth consecutive year, in terms of GDP per capita figures. Growth in the economy (ie: how much we produce and spend) has failed to exceed population growth since 2014. Then looking at the figures from the expenditure/demand side, it is evident that consumers in South Africa are under pressure, with overall household expenditure down by 0.8 percent on a quarter on quarter basis. One of the biggest contributors to the poor first quarter figures was a big contraction in exports, down 26.4 percent. What is also a worrying indicator for the more medium to longer run is that there was again a decline in investment in the economy, with a decrease of 4.5 percent reported.

Not only was 2019 the worst year for the economy since the financial crisis, it was the worst year for construction as well, with output in the construction industry contracting by 3.3 percent in 2019, marking the 3rd consecutive year of contraction within the construction industry. Slowdown in government spending as well as the private sector has led to less building of infrastructure as well as housing and commercial buildings. The gross fixed capital formation figures also show that there was a 1.7 percent y-y contraction in investment within the construction industry, which is the 4th year of consecutive contraction. The construction sector was the 2nd worst performing sector in 2019, eclipsed by the agricultural sector which contracted by 6.9 percent, which was also the 2nd consecutive year of contraction. In fact, all of the primary and secondary sectors (the 'real economy') saw their output contract in 2019 y-y. South Africa's manufacturing industry has stagnated quite dramatically over the last 6 years, contracting by almost 1.0 percent in 2019, and failing to grow at above 1 percent since 2013. Mining production also continues to dwindle. The output of the wholesale, retail trade, hotels and restaurants show a South African consumer clearly under significant pressures, with the services industry failing to grow in 2019, off the back of just 0.6 percent growth in 2018, and a contraction in growth in 2017. General government services and the finance, real estate and business services sectors were the only to expand in 2019.

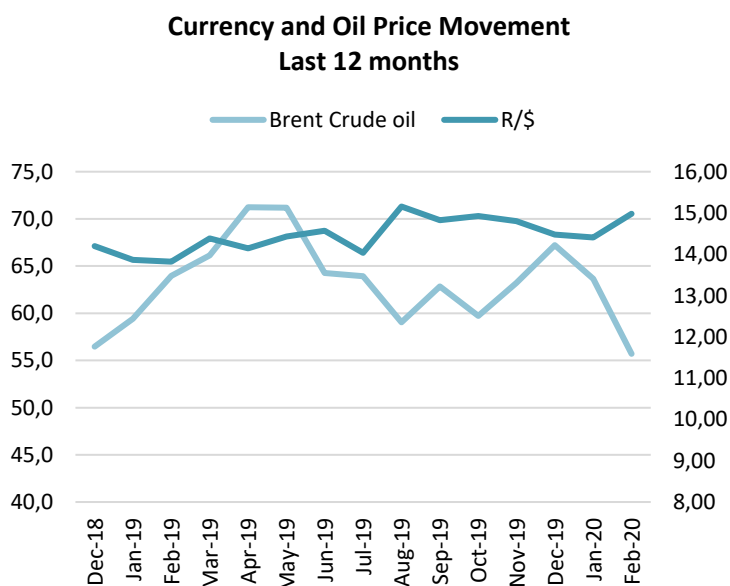


Figure 2: Currency movements versus oil price

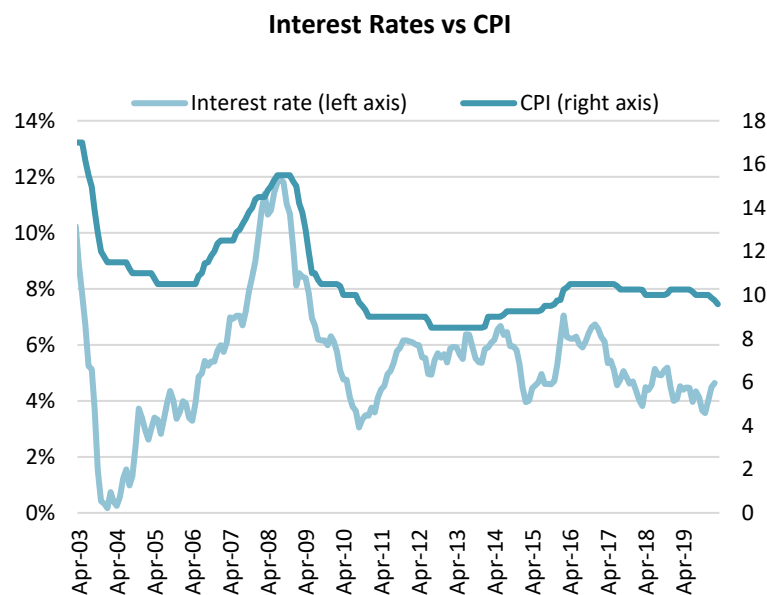


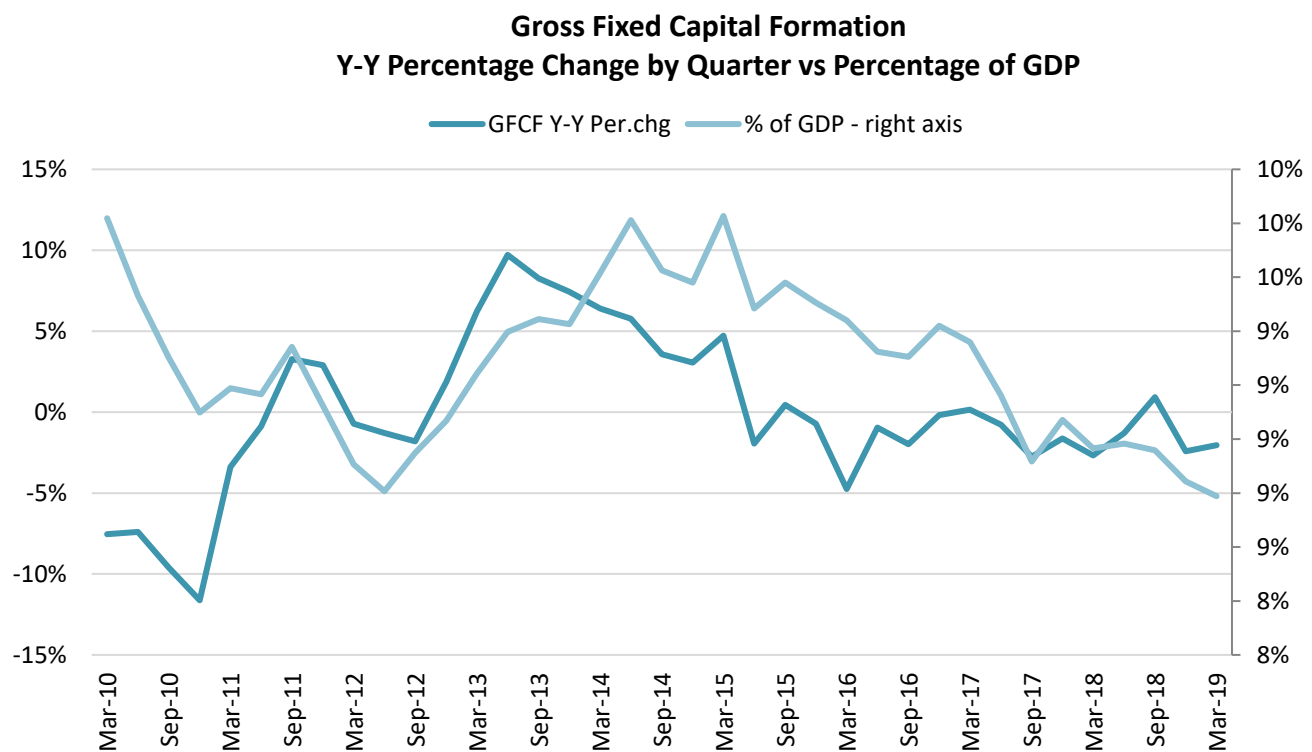
Figure 1: Interest rates versus CPI history

Table 2: Macro economic growth projections (Industry Insight Forecast Report March 2020)

Please note, these forecasts have not taken into the effect of the Covid-19 pandemic, which we are still reviewing

Macro-Economic Forecasts	2019	2020	2021	2022	2023
GDP	0.1%	-0.3%	0.3%	0.9%	1.7%
Household consumption	1.0%	1.6%	1.7%	2.2%	2.4%
Government consumption	1.5%	-0.2%	0.2%	0.2%	0.8%
Gross Fixed capital formation	-0.9%	-0.5%	0.5%	0.7%	0.8%
Imports	-0.5%	4.2%	4.8%	3.8%	4.0%
Exports	-2.5%	1.8%	2.2%	2.0%	3.9%
Prime Lending rate	9.75%	9.00%	8.75%	8.75%	8.50%
ZAR/US\$	R14.00	R 15.80	R 15.20	R 15.25	R 14.80
CPI Inflation	4.1%	4.7%	4.6%	4.5%	4.8%

1.3 Gross fixed capital formation

**Figure 3: GFCF (Y-Y percentage changes vs Percentage of GDP) Source SARB Quarterly Bulletin**

It was another tough year for the construction industry in terms of fixed investment. Gross fixed capital formation was down for the 4th consecutive year, with investment in construction declining by 3.5 percent in 2019, y-y, off the back of a 1.4 percent decline in 2018. Fortunately, the civil construction industry reported the smallest decline out of all the economic sectors, with investment down by 0.9 percent. The non-residential sector recorded the largest decline in investment, down 11.5 percent, with a significant slowdown in public sector investment. Gross fixed capital formation for residential buildings was down by 3.8 percent in 2019, y-y.

GFCF as a percentage of GDP averaged at 19.2 percent in 2019 overall and has not even been above 20 percent since the first quarter of 2015, suggesting the government's target of 30 percent in the National Development Plan has become rather optimistic.

Table 3: GFCF Residential, Non-Residential and Construction works, by client 2019, current prices (millions)

2019	Government	SOE's	Private	Total
Residential	14.7	64.0	84.4	86.0
Non-residential	26.3	31.0	47.6	77.1
Civil works	77.8	91.4	94.9	264.2
Total	105.6	94.6	227.0	427.3

Source: South African Reserve Bank Quarterly Bulletin

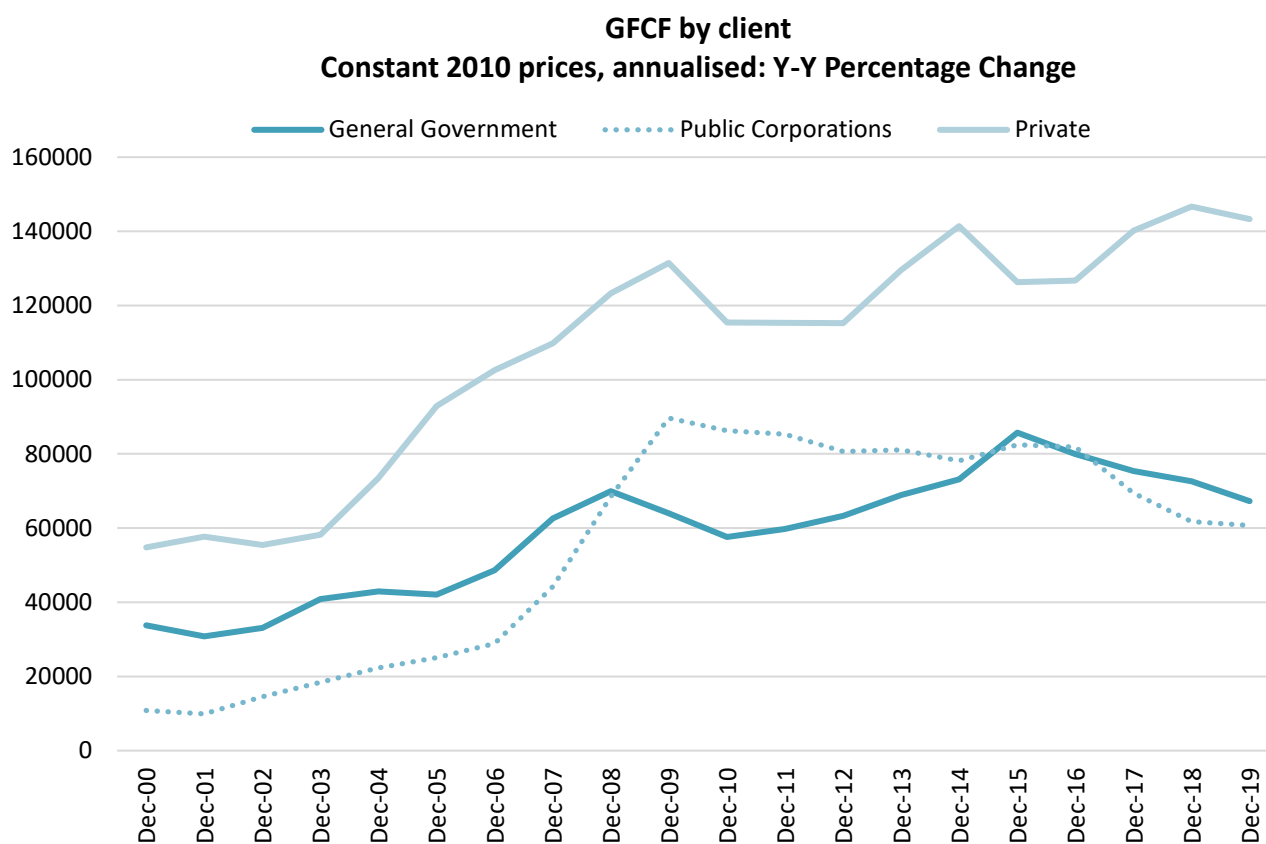


Figure 4: GFCF by client, constant 2010 prices (Source SARB)

Gross Fixed Capital Formation Construction

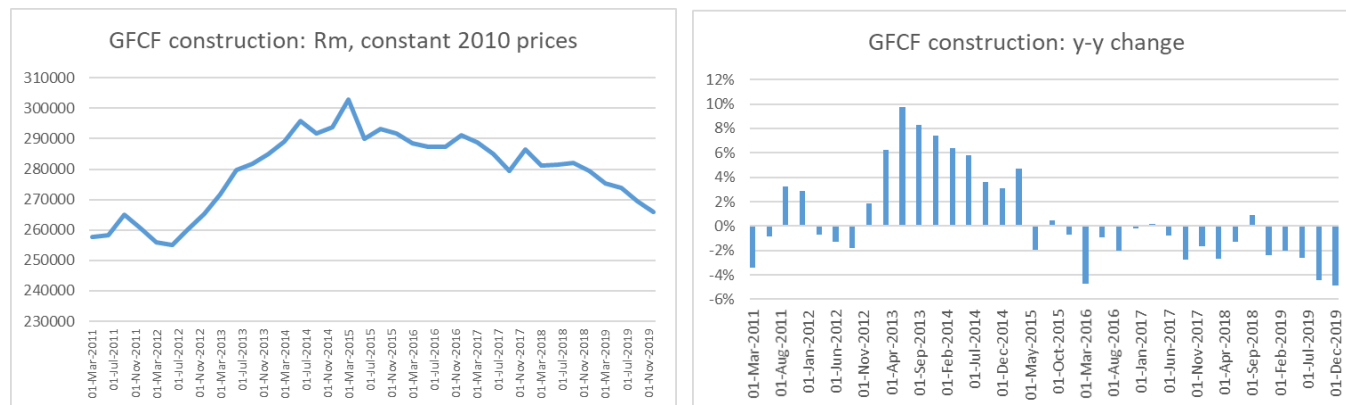


Figure 5: Gross fixed capital formation, level and Y-Y Per.chg

According to SARB, a total of R271bn was spent on construction infrastructure over the last year (in constant prices), including investment in residential and non-residential buildings and construction works (down by approximately R10bn). This would also include purchases of machinery and equipment, often imported, used in the construction process such as the installation of turbines. The most interesting thing from table 3 above, remains that the private sector continues to be the biggest investor in the civil construction industry, with just over R60.9 billion invested, surpassing general government and SOE's (respectively) for the 2nd consecutive year. This clearly shows that renewable energy is a sub-sector of the civil industry that is something to be excited about going forward.

2. CESA Survey: Background

A total of 57 questionnaires were returned via both an on-line and hard copy system. The sample represents a cumulative fee income of R2.40bn, and 5396 employees for the period July – December 2019.

The analysis of the questionnaires completed by active firms in the consulting engineering profession provides a proxy for current and expected working conditions for the profession, which can be measured on a regular basis.

CESA welcomes commentary received from firms and invites all members to actively participate in sending commentary on either the survey or conditions in the work place thereby increasing the relevance of these reports.

The survey is re-evaluated on a continuous basis to ensure that the questions asked are pertinent to current conditions in the industry. Several new questions were included in the current survey to improve the compilation of benchmark indicators.

3. Prevailing conditions in the Consulting Engineering Industry

3.1 Financial Indicators



Fee earnings for the last six months of 2019 contracted by 39.0 percent (in current prices) compared to the first six months of 2019, against an expected drop of 4 percent reported in the June 2019 survey.

Larger firms reported the biggest decrease of 40.4 percent, while earnings for medium size firms was 4.5 percent lower (which was the 'best' performance out of the different segments). Small firms reported a robust decrease in earnings of 30.3 percent, while micro firms also only reported a marginal decrease of 6.6 percent.

Earnings are expected to get even lower by the respondents in the survey, and please note that the responses were prior to the Covid-19 outbreak (before it was declared a pandemic, and before there was even a case in South Africa). Earnings were expected to fall by around 6 percent in the first six months of 2020, but this outlook is now significantly worse considering the 21-day lockdown, and the ripple economic effect post-COVID-19.

A summary of fee earnings by firm size, as well as projected earnings for the last six months of 2019 is provided in the table below.

Table 4: Fee earnings, actual vs projected by firm size

Firm size category	Actual (Dec 2019 vs Jun 2018)	Projected for Jun 2020
Large	-40.4%	-16.0%
Medium	-4.5%	2.0%
Small / Micro	-26.0%	-17.2%
Total	-39.2%	-15.0%

3.1.2 Outsourcing

On average firms **outsourced** a lower percentage of turnover to external enterprises, compared to transformation purposes or for procurement reasons as laid down by public sector clients. Outsourcing to black owned entities increased to 20.7 percent of turnover, compared to 15.8 percent in the June 2019 survey.

Larger firms outsourced 27.3 percent to external enterprises, and outsourcing to black owned enterprises remained at a lower level. Micro firms outsourced the most to black owned enterprises, at just under 30 percent of their overall turnover. Looking at some of the past results, these numbers haven't changed dramatically, and have fluctuated between a certain range for the past few surveys.

Figure 7: Matrix distribution of average percentage outsourced by firms, according to main purpose

Table 5: Average percentage of turnover outsourced, for consulting services only, by firm, size and purpose

	<i>External enterprises or individuals including sub-consultants, joint ventures and contract workers</i>	<i>Black owned enterprises</i>
A	27.3	17.8
B	12.8	24.3
C	18.7	14.5
D	7.0	29.4
Average % of industry turnover	16.7	20.7
Average % of industry turnover June 2019 Survey	16.6	15.8

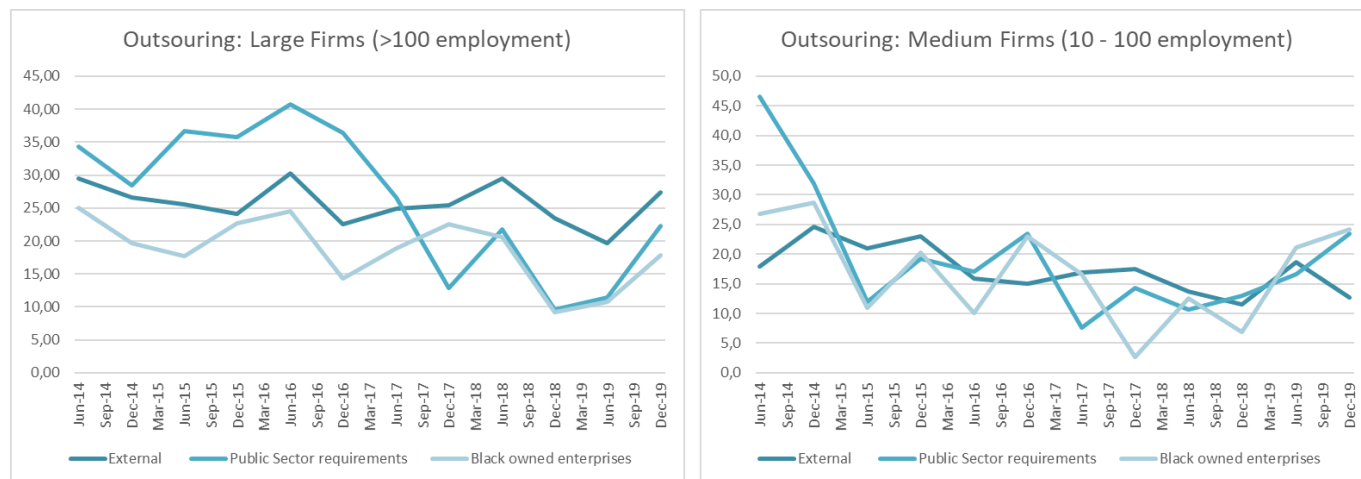


Figure 9: Outsourcing trend, large versus medium sized firms

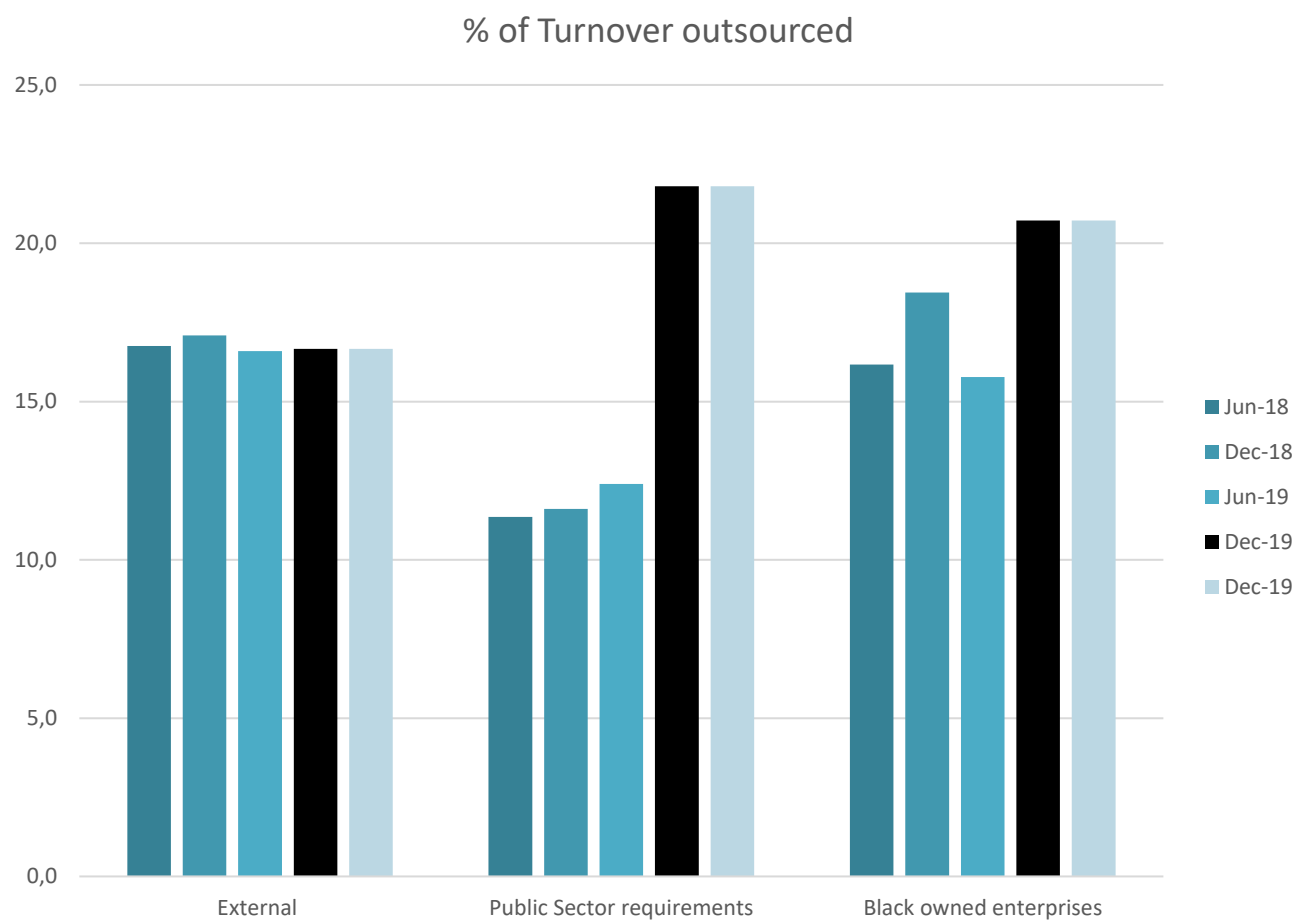


Figure 8: Percentage of turnover outsourced (average)

3.1.3 Return on Working Capital

Average Return on Working Capital

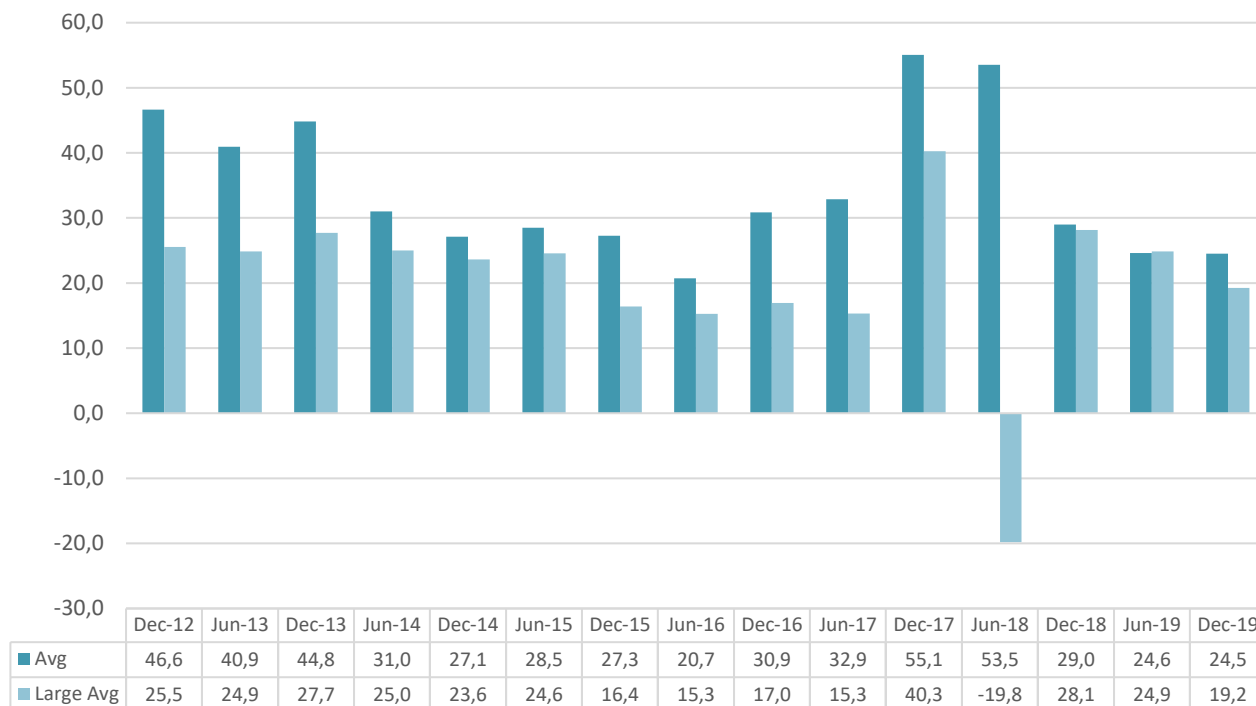


Figure 10: Average Return on Working Capital – Trend since December 2012

- The industry's **return on working capital**¹ (un-weighted average) moderated marginally to 24.5 percent in the December 2019 survey after having slowed to 24.6 percent the previous survey and is now below the average of between 30 and 40 percent in 2012 and 2013. Majority of firms reported a ROI of between 20% and 30%, with large firms return on working capital also falling to 19.2, well below the current industry average.
- Medium sized firms have consistently reported a good return on working capital and have recovered from lower levels reported in the last survey (from 13.4 percent to 26.0 percent in the current survey.) Micro firms reported the highest return on working capital of 35.8 percent.

Table 6: Return on Working Capital by firm size

Group	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19
A	17.0	15.3	40.3	-19.8	28.1	24.9	19.2
B	48.2	53.5	127.3	114.2	25.1	13.4	26.0
C	33.4	41.8	26.1	61.2	34.4	30.5	18.8
D	10.0	22.8	5.2	20.3	20.6	36.3	35.8
Grand Total	30.9	32.9	55.1	53.5	29.0	24.6	24.5

¹ Return on investment is defined as the company's annual profit after interest and tax, as a percentage of Net Working Capital (current assets – current liabilities) during the last completed financial year. Working capital is considered part of operating capital as it affects the day to day operating liquidity. An increase in working capital indicates the business has either increased current assets (i.e. accounts receivable or inventory), or has decreased its current liabilities (accounts payable).

3.1.4 Value of outstanding payments

Fees not yet invoiced for confirmed appointments as % of revenue

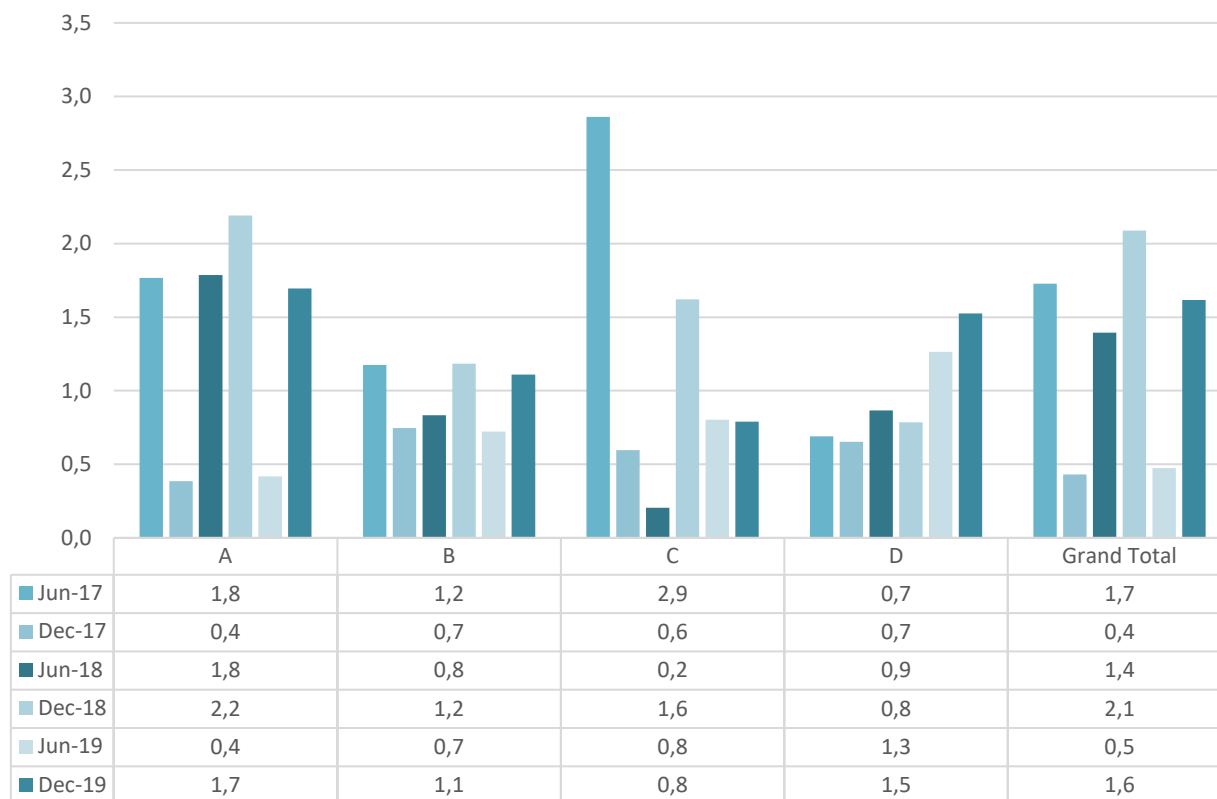


Figure 11: Order book: Income ratio

In terms of the ratio of fees not yet invoiced for confirmed appointments in order books in relation to current earnings, there was a significant improvement in the current survey. Larger firms report the highest proportion of 1.7 (almost double their income), while micro firms also reported a high proportion of 1.6 times their current income. An increase in the order book to income ratio suggest an improvement in pipeline earnings, suggesting improved conditions in the next 6 to 12 months. This of course will not be the case, with the economy expected to enter a deep recession following the Covid-19 outbreak.

3.1.5 Profitability and late payments

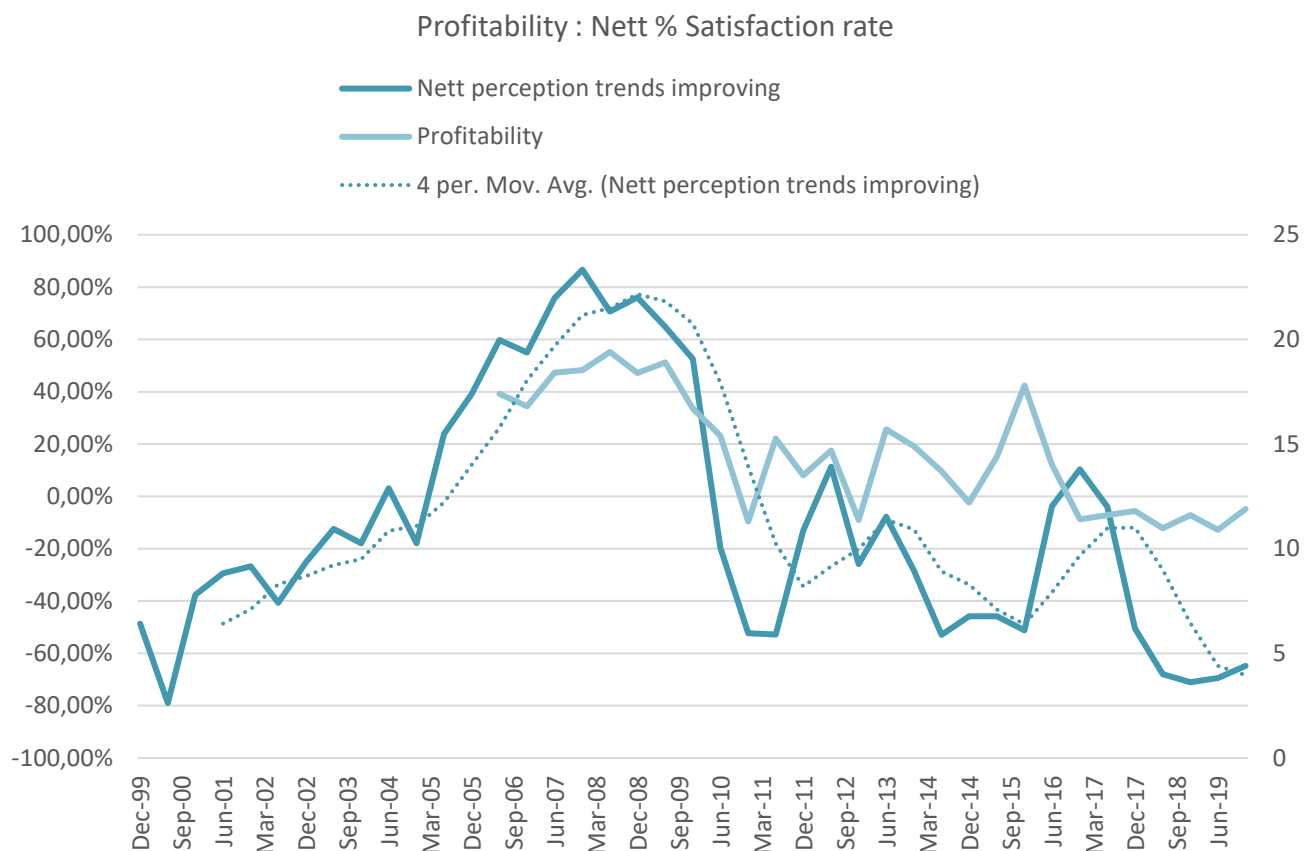


Figure 12: Profitability: Net % Satisfaction rate vs Average Profitability

Nett profitability improved to an average of 11.9 percent in the last six months of 2019, up marginally from an average of 10.9 percent in the previous survey (**which was the lowest recorded since 2005**), and below the average of 12.7 percent in 2016. However margins have been relatively stable for the last 3 years, albeit at lower levels by historical terms. Allowing for fluctuations on a survey to survey basis, the trend has been more and more negative since 2015, when the downturn within the broader construction industry began, from a 'peak' nett profitability of 17.8 percent in the last six months of 2015.

It seems that the consulting engineers have become more and more realistic about the lacklustre overall environment, as their expectations around profitability has become increasingly negative. Only 3.2 percent of respondents expect the trend in profitability to improve. This is down from double digits prior to June 2017 (for example 54 percent of respondents expected profitability to improve in June 2015), and the vast majority of firms expect a receding trend (70.4 percent), while 26.4 percent of firms expect conditions to remain static (more or less the same). Overall it is quite a deterioration, because a much higher number of firms expects profits to recede compared to the previous 6 month period (70.4 percent this quarter, compared to 62.3 percent in the previous quarter).

Very similar to the previous three surveys, majority of firms (67.2 percent) continue to be unsatisfied with profit margins, compared to 74.2 percent in the previous survey, but also compared to just 14.0 percent in the Dec 2017 survey for example, just two years ago. Only 2.4 percent of firms reported their margins as good, which is also a record low, while 30.4 percent are satisfied with their margins. **No firms reported their margins as being exceptional.**

Table 7: Outstanding fees payable for work already completed and invoiced: January – June 2019

Firm size category	Total gross income	Outstanding fee income	Proportion of overall income
Large	2092599317	3545775651	62.9%
Medium	145969117	161845410	52.6%
Small	101065905	79738001	44.1%
Micro	26969404	41134561	60.4%
Total	2405539635	3868733213	50.8%

Overall, the large firms continue to have the highest proportion of their income outstanding after 90 days, which jumped significantly in the current survey, to 62.9 percent, significantly higher than the 31.1 percent reported in the previous survey. Late payment has become a serious constraint as the overall industry is in such a dire state, with many stakeholders struggling to meet their financial obligations, which will be further exacerbated by the Covid-19 outbreak, and the economy shutting down to a large degree. Medium sized firms reported that 52.6 percent of their overall income was still outstanding. Small firms had a small proportion at just 44.1 percent, with micro firms reporting a ratio of 50.8 percent.

3.2 Human Resources

3.2.1 Employment

- Employment decreased by an average of 6.0 percent in the second half of 2019 to an estimated 19 843, compared to the first six months of 2019, following the 2.0 percent decrease reported in the previous survey. This is a continuation of the decrease reported in the last survey. Small firms reported the biggest decrease in employment, down 5.0 percent in the first half of 2019. Large firms also reported a decrease, of just 2.6 percent, while medium sized and micro firms both reported increases of 8.2 percent and 9.1 percent respectively. Increases in medium and micro employment was not however enough to life the overall reemployment into positive territory. We do believe that these increase from medium and small firms are somewhat of an anomaly in the data, as the underlying trend in employment has been consistently downwards since 2011. It also doesn't tie into the fact that large firms are the only firms that are looking to increase the number of engineers (53.6 percent), while only 23 percent and 26 percent of medium and small firms want to increase the number of engineers, so employment will be limited in coming months.
- Interestingly, the number of firms looking for engineers increased substantially to 49.8 percent from 4.4 percent two surveys prior. The demand for the other disciplines, such as technicians, support staff remain low. There was an uptick in the demand for technologists, from 5.5 to 8.5 percent.

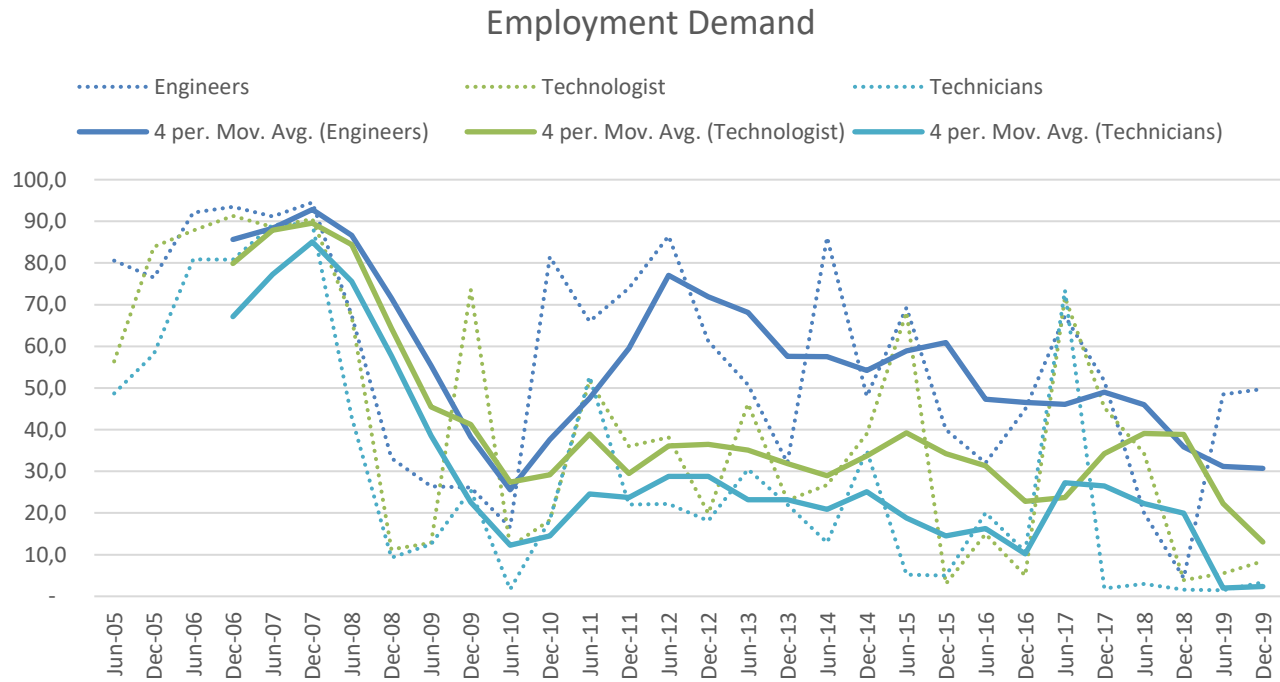


Figure 13: Employment Demand

Table 8: % of firms wanting to increase staff, by type of personnel

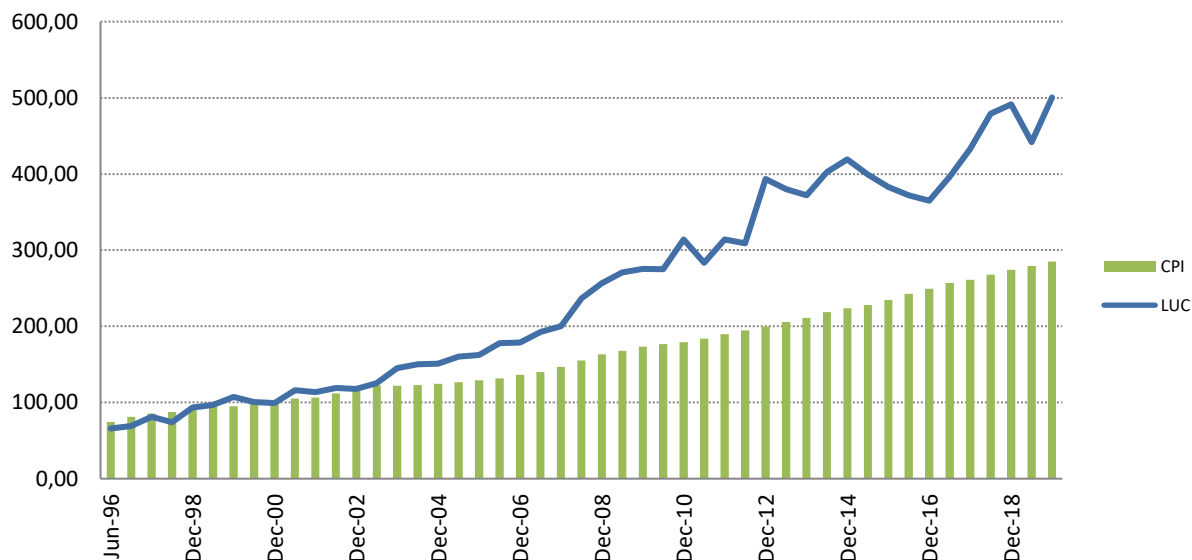
Type of personnel	% of firms wanting to increase staff December 2016	% of firms wanting to increase staff June 2017	% of firms wanting to increase staff December 2017	% of firms wanting to increase staff June 2018	% of firms wanting to increase staff December 2018	% of firms wanting to increase staff June 2019	% of firms wanting to increase staff December 2019
Engineers	44.9	67.3	51.7	20.0	4.4	48.5	49.8
Technologists	5.0	71.8	3.7	18.0	3.9	5.5	8.5
Technicians	10.7	73.4	45.3	34.3	1.6	10.4	3.3
Other technical staff	72.0	75.2	1.9	3.0	2.3	1.5	4.3
Support staff	0.0	35.3	2.3	0.0	7.5	2.4	1.6

3.2.2 Salary and Wage bill

The salary and wage bill represent a significant contributor to the average cost of production in the consulting engineering profession.

- The contribution of the salary and wage bill to fee earnings generally averages between 63 percent and 66 percent and was 66 percent of total income in the current survey, so no major deviation from the trend.
- The contribution of the salary and wage bill was highest amongst large firms, averaged at 67 percent, which is quite high. This is while small and micro firms reported an average of 47 percent and 48 percent of total income respectively.

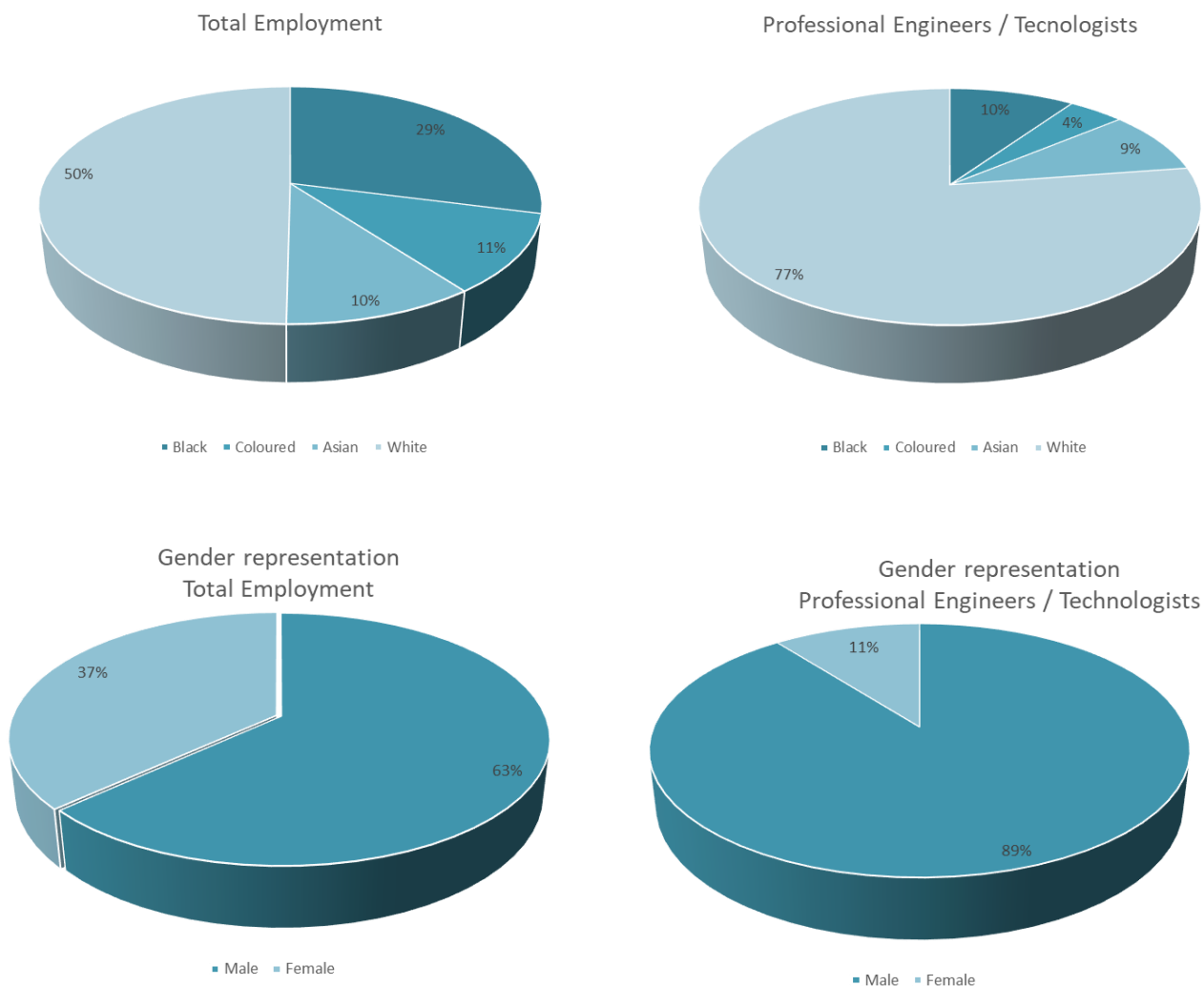
Change in CESA Labour costs vs CPI
Index 2000 = 100



- Average labour cost per unit (measured by the average salary and wage bill divided by number of full and part time employees and hours worked), increased marginally by 1.9 percent in the December 2019 survey, following a decrease of 7.9 percent in the previous survey, compared to the same period in 2018. Inflation averaged 4.0 percent in the last six months of 2019 (from an average of 4.3 percent in the first six months), and is expected to remain under 6 percent for 2019 and 2020, according to the Reserve Bank.

3.2.3 Employment profile

An estimated 19 843 people are employed in the private consulting engineering industry, of which 63 percent are male and 37 percent female. Professional Engineers (pr.Eng) contributed 13.7 percent to total employment, strongly dominated by males (90%) with women representing 10.0 percent of professional engineers in the industry. Overall growth in employment has been seriously lacking over the last 3 surveys (which is a year and a half period), from recent highs at around 24 300 employed, to the current 19 843. The data shows a 7.9 percent decline in the current quarter, off the back of a marginal increase coming off a lower base.



3.3 Industry Profile of Executive Staff

The appointment of Black executive staff (including Black, Asian and Coloured staff), measured by the contribution of Black executive directors, non-executive directors, members and partners as a percentage of total executive staff, decreased slightly to 36.2 percent from 37.4 percent in the previous survey. A detailed breakdown is provided in Statistical Tables.

The appointment of women at an executive level, (including all races) deteriorated to 11.0 percent from 11.9 percent. Of the total women employed in the consulting engineering industry (across all skill levels), 9.3 percent were reported at an executive level, up from under 5 percent in previous surveys.

3.4 Capacity Utilisation

Capacity Utilisation Rate

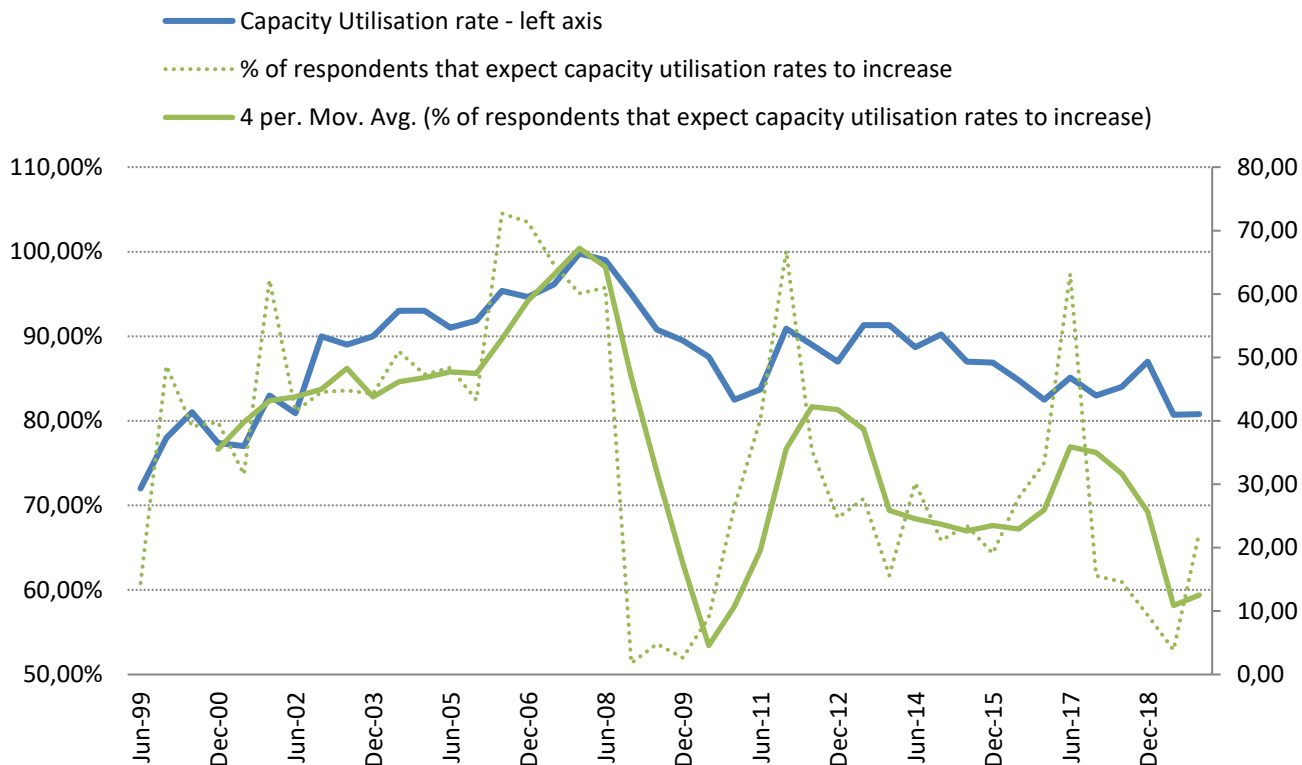


Figure 14: Capacity Utilisation Rate

Capacity utilisation of technical staff has steadily decreased since 2013, and averaged 81 percent, on par with the June 2019 survey. The vast majority of firms (76.5 percent) continue to expect capacity utilization levels to remain static over the next period. A total of 22.0 percent of firms expect an increase, which is now extremely unlikely given the Covid-19 outbreak.

Interestingly, small firms reported the highest capacity utilisation at 88.0 percent. Medium sized firms reported capacity of 76.0 percent, which was the lowest, with large firms reported just under 80 percent, which under current circumstances remain on the high side. This also relates to a reduction in employment will maintain a relative stable utilisation of existing capacity.

3.5 Competition in tendering

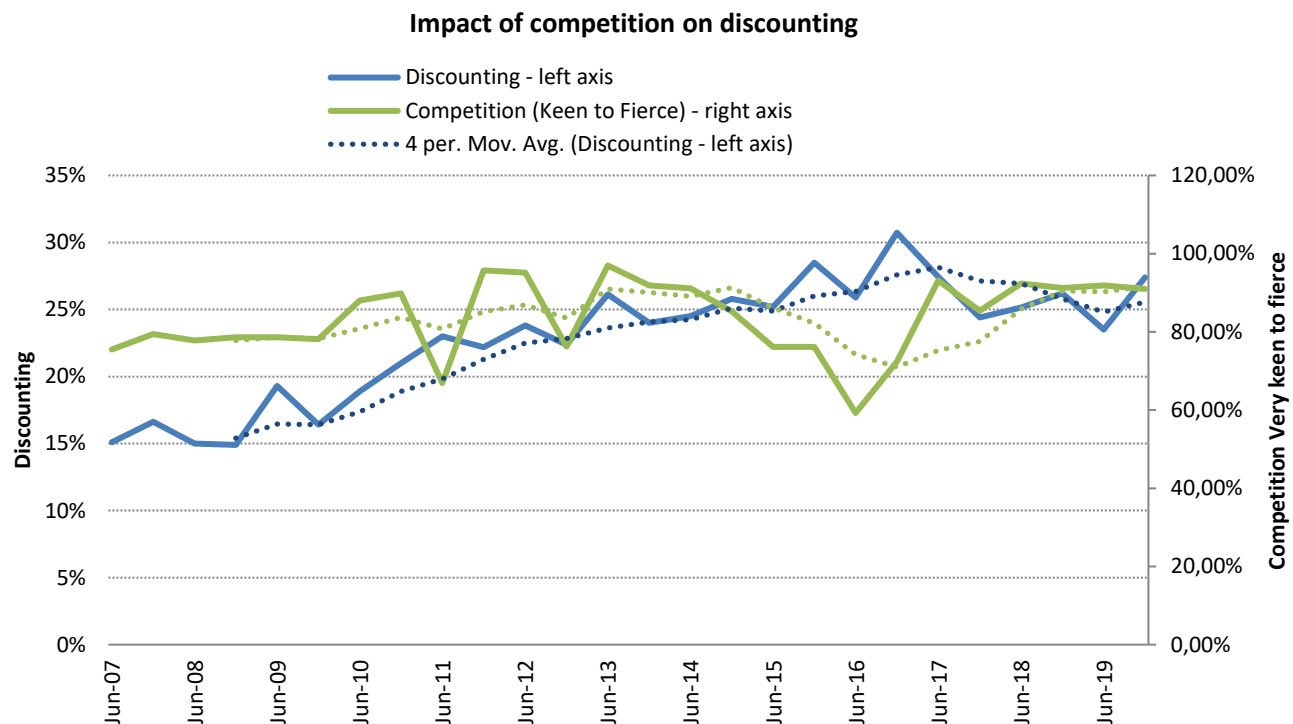


Figure 15: Competition and Discounting

Competition in tendering generally eases during a time when the availability of work increases and intensifies during periods of work shortages. An easing of competition will generally lead to an increase in prices, while price inflation is capped during periods of work shortages due to the fact that an increasing number of firms tender on the same project. The tendering process is costly and time consuming, and higher levels of competition significantly increase the risk for the engineering firm.

In line with a very competitive environment, an increasing number of firms continue to report on very keen fierce competition. In this survey 91.0 percent reported on very keen to fierce competition, in line with the previous survey. This is as the mega projects have dried up, and large firms are fighting with some of the medium sized firms for work, to some degree. This is however significantly up from an average of 65.8 percent in 2016.

Higher levels of competition are however more experienced by larger firms, with 94.2 percent reporting on very keen to fierce completion, while 63.0 percent of medium size firms experienced similar levels of competition, which was the lowest. Micro firms reported 65.0 percent, which was also low, but small firms reported very high levels of competition at 83.0 percent.

Higher levels of competition is supported by higher tendencies to discount hence the clear correlation between the level of discounting and competition. As competition started to intensify after 2009, the propensity to discount also started to accelerate. The average discounting rate did however moderate slightly again in the current survey, as well as the previous June 2018 survey, to an average of 23.5 percent in the current survey. Large size firms again reported the highest level of discounting at 35.0 (larger firms also reported the most intense competition), followed by small firms at 27.3 percent. *Discounted rates are benchmarked against the 2015 ECSA Guideline fee scales.*

Firm Size Category	Capacity Utilisation of existing technical staff during the past 6 months	% of Respondents that expect capacity utilisation of technical staff to increase over the next 6 months	Average discount being offered by respondents in tendering situation to clients, benchmarked against the ECSA guideline fee scales	% of Respondents that reported Very Keen to FIERCE Competition for work during the first six months
Large	79.6%	19.6%	35.0%	94.2%
Medium	76.0%	30.7%	25.5%	63.0%
Small	88.0%	56.3%	27.3%	83.0%
Micro	80.4%	16.3%	22.1%	65.0%
Industry Average	80.9	30.7%	32.5%	49.2

3.6 Pricing

No specific escalation index is available for the consulting engineering industry. After exploring many different avenues it was proposed to calculate a CESA Cost index that is based on a “labour unit cost” and extracted directly from the CESA BECS Survey. This should accommodate at least between 60% and 65% of the firms’ costs and should therefore, in theory, be a reliable indicator of escalation. The CPI is currently used to deflate all financial information, until such time CESA officially applies the CESA Labour cost index as an industry price deflator.

The index is based on the sample of total number of employees versus the salaries and wages paid during the period under review.

According to CESA’s labour cost indicator, the average unit cost of labour (smoothed over a two-survey period to remove short term volatility) for the industry, slowed by 2.9 percent since the last six months of 2019, and is the first decline in 6 surveys.

While changes in the general cost of living (as measured by the Statistics South Africa’s Consumer Price Index) are clearly not indicative of labour cost changes in the consulting engineering industry, the CPI may have a strong influence in the

Figure 16: CESA Labour Cost Indicator (LCI)

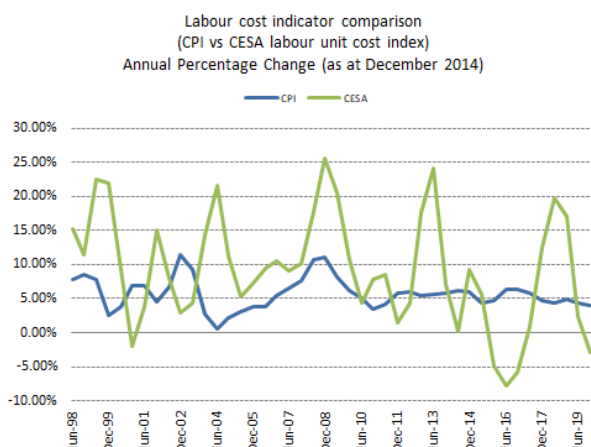
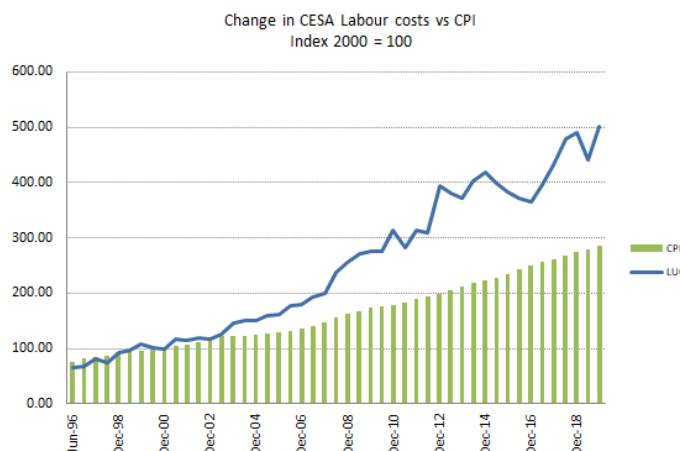


Figure 17: Change in CESA LCI vs CPI



determination of ECSA Guideline Fees, which has shown an average increase of 4.0 percent in the second half of 2019, from 5.0 percent in the second half of 2018, and is expected to remain well under 6 percent for 2019 and 2020, according to the Reserve Bank.

4. Industry Outlook

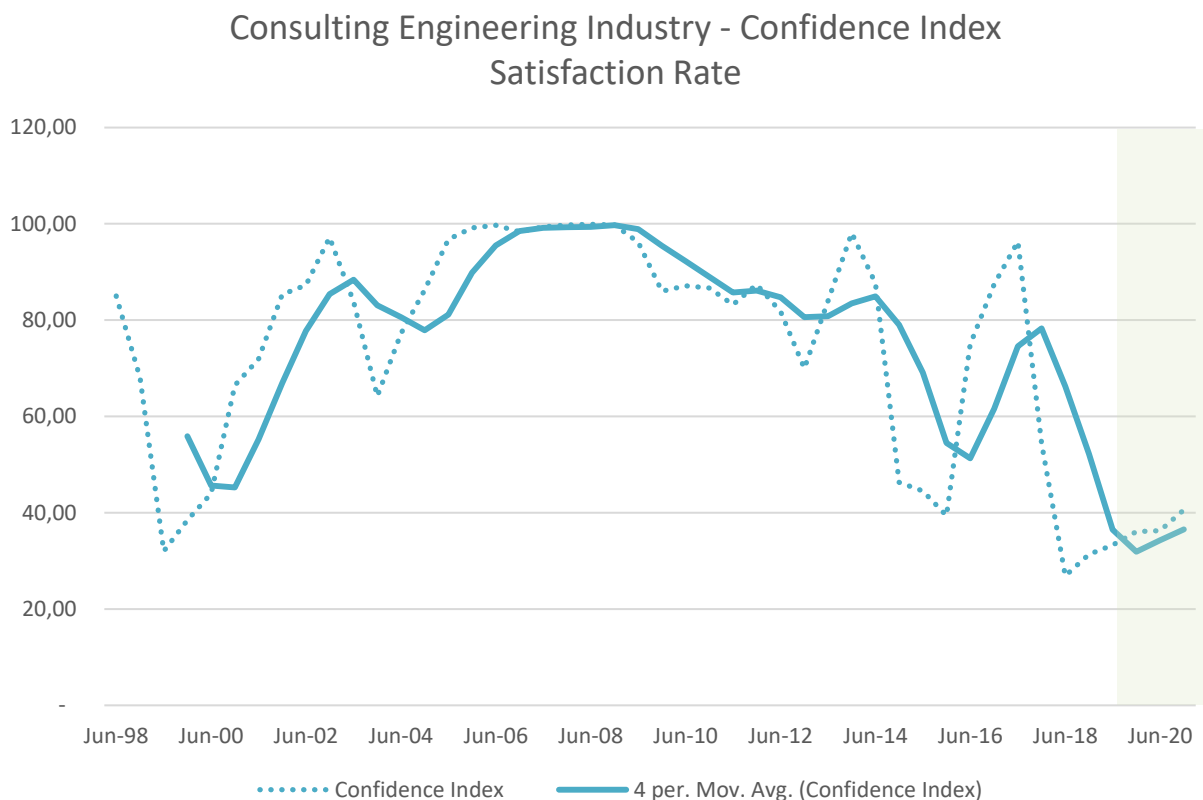


Figure 18: Confidence Index

Explanatory note: The confidence index, as an indicator of members’ assessments regarding current and future prospects with regard to market developments and is a “weighted” index. The response of each company is weighted according to its total employment, including full and part time staff, and the index represents the net percentage of members satisfied with business conditions.² The confidence index is used as a leading indicator to determine a short to medium term outlook for the consulting engineering industry.

It is important to note that the survey was conducted prior the Covid-19 outbreak (before there was even a case in South Africa, and before we realized that it was going to result in an economic lockdown). Confidence, and many of the other subjective responses from the respondents would have been adversely affected if the survey was conducted a month later and the true implications of the outbreak will only be seen in the June 2020 survey. Confidence has however improved over the last 6 survey periods, with a net satisfaction rate of 40.6 percent reported in the current survey, an improvement from 36.3 percent in the previous survey and the low point of 26.9 percent in the Jun 2018 survey. Things were certainly looking up in the short term, especially on the civil construction front, with a notable uptick in tender activity of big road and water projects towards the latter parts of 2019. This has all unfortunately been put on hold as South Africa goes into lockdown.

The large firms are by far the least confident and are the reason the index is so low in the current six month period again. Confidence levels for larger firms were just 30.5, which is still much improved from under 14 percent in the previous survey

² The net percentage reflects only those members that expect conditions to be satisfactory, quite busy or very busy.

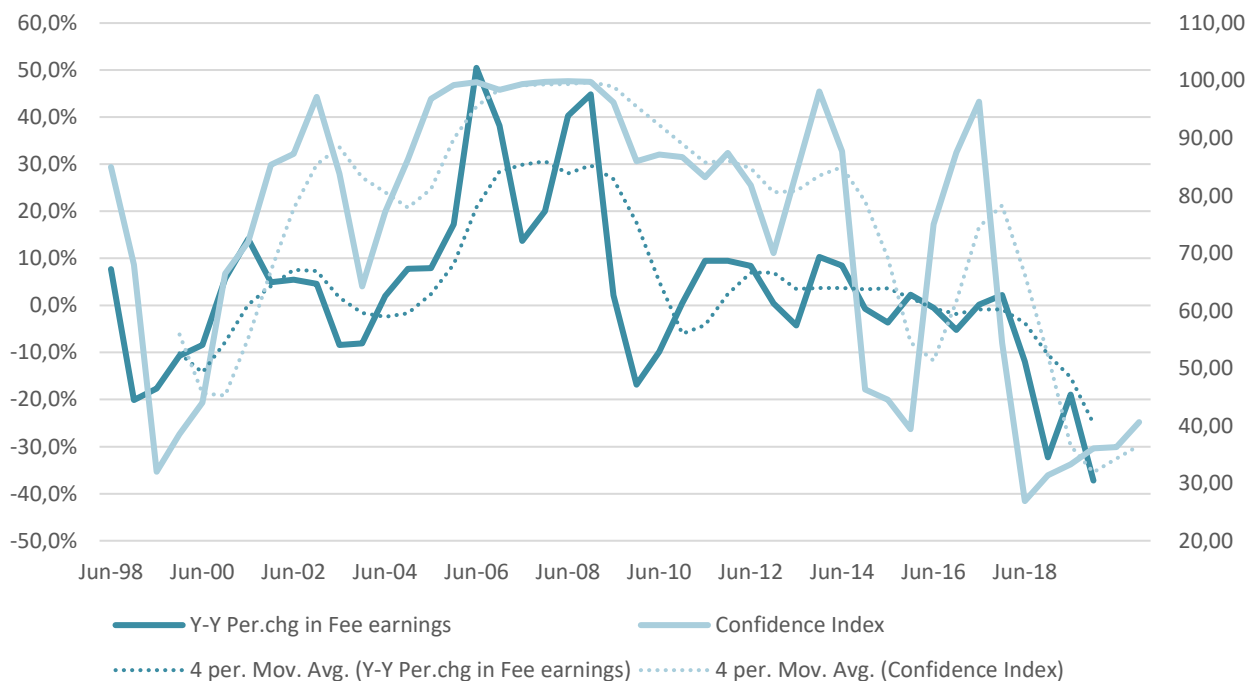
but remain at concerning weak levels. Medium sized firms are the most positive, with a nett satisfaction rate of 83.9 percent, while smaller firms reported a nett satisfaction rate of 60.2 percent and 53.8 percent for micro firms.

The outlook for the following 6 to 12 months did not show any real improvement, particularly within the larger firms, which will now be worsened by not only the virus outbreak but also the release of the 2020/21 Budget where public sector infrastructure has been cut over the medium term period. Infrastructure projections will be further compromised by the economic impact resulting from the containment measures taken on the 26th of March, enforcing a nationwide 21-day lockdown. Medium and Smaller firms did however expect more satisfactory conditions in the next 12 months, but this may very well turn more negative considering the above.

Table 9: Confidence as at December 2019 by firm size category (% of respondents that experienced satisfactory business conditions)

Firm size category	First six months of 2019	Next 6 months	Next 12 months
Large	30.5%	30.5%	34.8%
Medium	83.9%	76.4%	84.4%
Small	60.2%	74.8%	68.9%
Micro	53.8%	72.5%	82.5%
Industry Average	57.0%	73.6%	75.7%

Annual Change in Real Earnings of Consulting Engineering vs Confidence



Confidence levels amongst firms have deteriorated over the last few years, and are also showing signs of increased volatility, evidence of higher levels of uncertainty brought about by domestic and political turmoil. Firms do however think that we have reached the lowest point in the cycle, as confidence, although still historically low, is improved for the next 12-month period. Unfortunately, expectations are hardly met, and even though firms may have been more optimistic in previous surveys, regarding the outlook for the next 6 to 12 months, reality is more often than not, worse than expected.

Table 10: CESA Confidence index: % respondents satisfied with working conditions

Survey Period	CESA Confidence Index	% Change on previous survey	% Change on survey same time last year
Dec-05	99.3	2.5%	14.9%
Jun-06	99.7	0.5%	3.0%
Dec-06	98.4	-1.30	-0.8
Jun-07	99.4	1.0%	-0.3%
Dec-07	99.8	0.4%	1.4%
Jun-08	99.9	0.1%	0.5%
Dec-08	99.8	-0.1%	0.0%
Jun-09	96.2	-3.6%	-3.7%
Dec-09	86.0	-10.6%	-13.8%
Jun-10	87.1	1.3%	-9.4%
Dec-10	86.7	-0.5%	0.8%
Jun-11	83.2	-4.0%	-4.5%
Dec-11	87.4	5.0%	0.8%
Jun-12	81.8	-6.4%	-1.7%
Dec-12	70.0	-14.4%	-19.9%
Jun-13	84.0	20.0%	2.7%
Dec-13	98.1	16.8%	40.1%
Jun-14	87.7	-10.6%	4.4%
Dec-14	46.3	-47.2%	-52.8%
Jun-15	44.5	-3.9%	-49.3%
Dec-15	39.4	-11.5%	-14.9%
Jun-16	75.0	90.4%	68.5%
Dec-16	87.5	16.7%	122.1%
Jun-17	96.3	10.1%	28.4%
Dec-17	54.4	-43.5%	-37.8%
Jun-18	26.8	-50.6%	-72.1%
Dec-18	31.3	16.6%	-42.4%
Jun-19	33.2	6.1%	23.8%
Dec-19	36.1	8.4%	15.0%
Jun-20 (forecast)	36.3	0.7%	9.1%
Dec-20 (forecast)	40.6	11.8%	12.6%

So how do the business environment perceptions in the consulting engineering industry compare with the contracting industry and business in general?

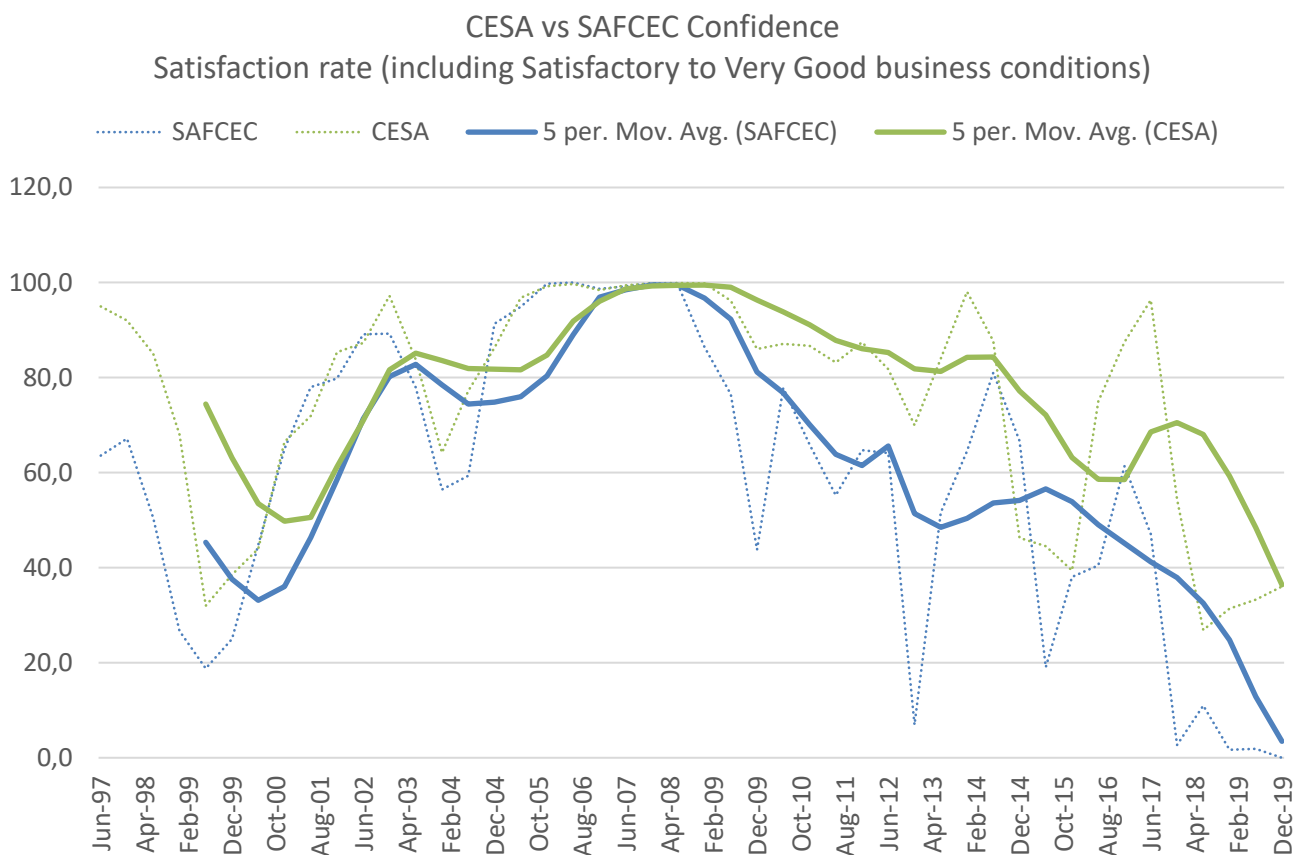


Figure 19: CESA vs SAFCEC

The relationship between confidence levels of engineers and civil contractors deteriorated from 2009 onwards as the business environment, in terms of consulting engineering, did not seem to deteriorate at the same pace as that experienced by the civil construction industry. Contractors have for some time reported on the slow pace by which contracts are awarded, as well as the extremely slow roll out of government projects, especially in the last survey. This creates disconnect between opinions expressed by engineers and contractors, where projects are in planning stages, supporting earnings in the consulting engineering industry, but implementation is extremely slow, negatively affecting turnover in the construction sector. Both consulting engineers and contractors experienced improved conditions during 2014, although this was short lived and confidence levels took another dip in 2015. The trend does seem to be correlated for the last two data points, with confidence turning very negative. The SAFCEC confidence index remained at rock bottom in the 4th quarter of 2019 but was much improved in the 1st quarter of the year – this will of course be short lived. As mentioned, there was a bit more positivity around tender activity, and this had boosted the confidence of civil engineers specifically, which could be correlated with an improvement in sentiment of consulting engineers who see these projects at a planning stage before they go out to tender by the contractor.

Confidence in the consulting engineering sector generally lags business sentiment. Business confidence has been below or close to the 50 level for the past 9 years, (which means business is mostly pessimistic regarding business conditions), at first due to uncertain outlook on interest rates and inflation, slowing economic growth and now further constrained by political instability, policy uncertainty and credit rating downgrades. Market sentiment amongst the private sector is important to the engineering industry, since the private sector contributes on average, nearly 40 percent to total

earnings, which is why it is important for confidence levels to be restored to a level of between 60 and 70 in order to stimulate higher levels of investment, which we do not see happening any time soon unfortunately.

5. Market Profile

5.1 Sub-disciplines of fee income earned

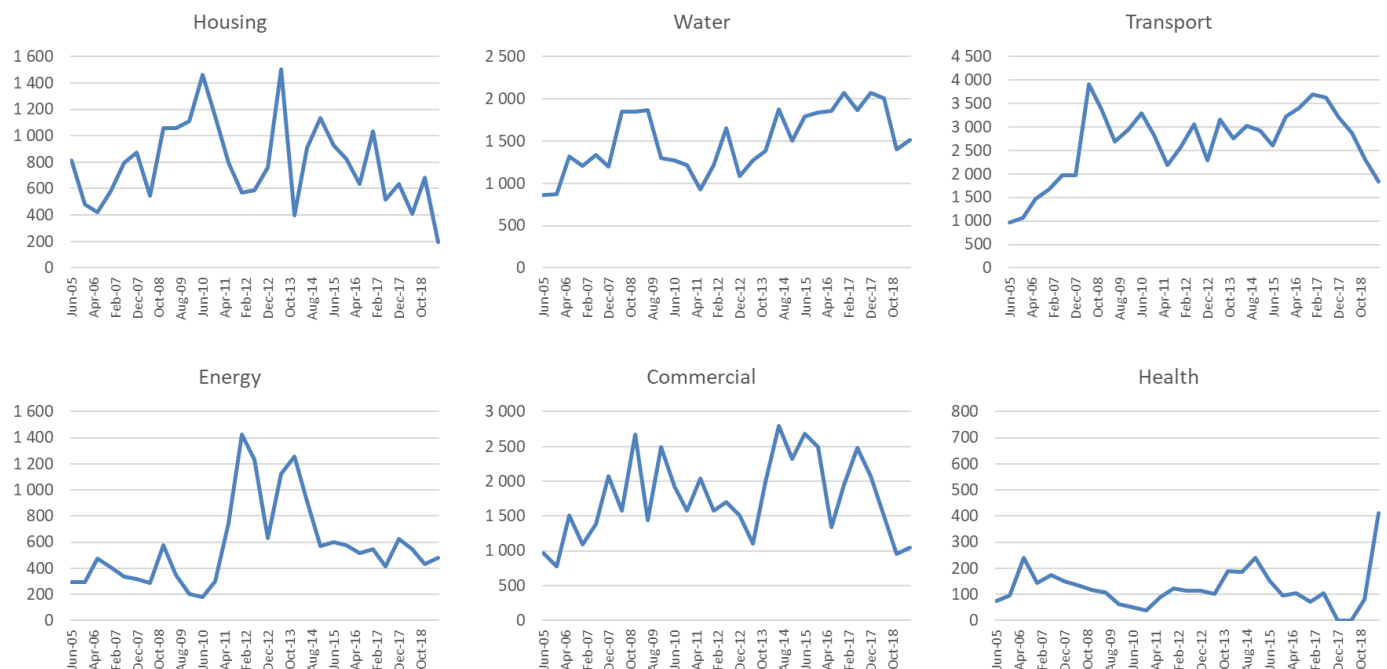
The South African consulting engineering industry is represented by many different sub-disciplines. The most common disciplines within larger firms include civil and structural services, contributing 50.4 percent and 12.8 percent in earnings during the last six months of 2019. The contribution of electrical work increased to 8.2 percent (from an average of 4.2 percent in 2016). The growing contribution of the civil sector as a percentage of earnings is encouraging for the civil engineering contracting industry as this will have a direct impact on pipeline work in the civil industry, although this has not been observed yet. Project management jumped to 10.2 percent from 5.3 percent in the previous survey.

Details of the various sub-disciplines are provided for under Statistical Tables.

5.2 Economic Sectors

The economic sectors include all infrastructure associated within that sector including expenditure related to soft issues such as feasibility studies or environmental assessments. From this, three key sectors evolved namely transportation, commercial and water services. The contribution by the transport and water services was relatively unchanged. What was noticeable this survey, was the greater contribution of commercial projects, from 14 to 17 percent.

The charts below depict trends in rand terms.



The table below provides a snapshot of earnings by sector categorized between large, medium, small and micro firms.

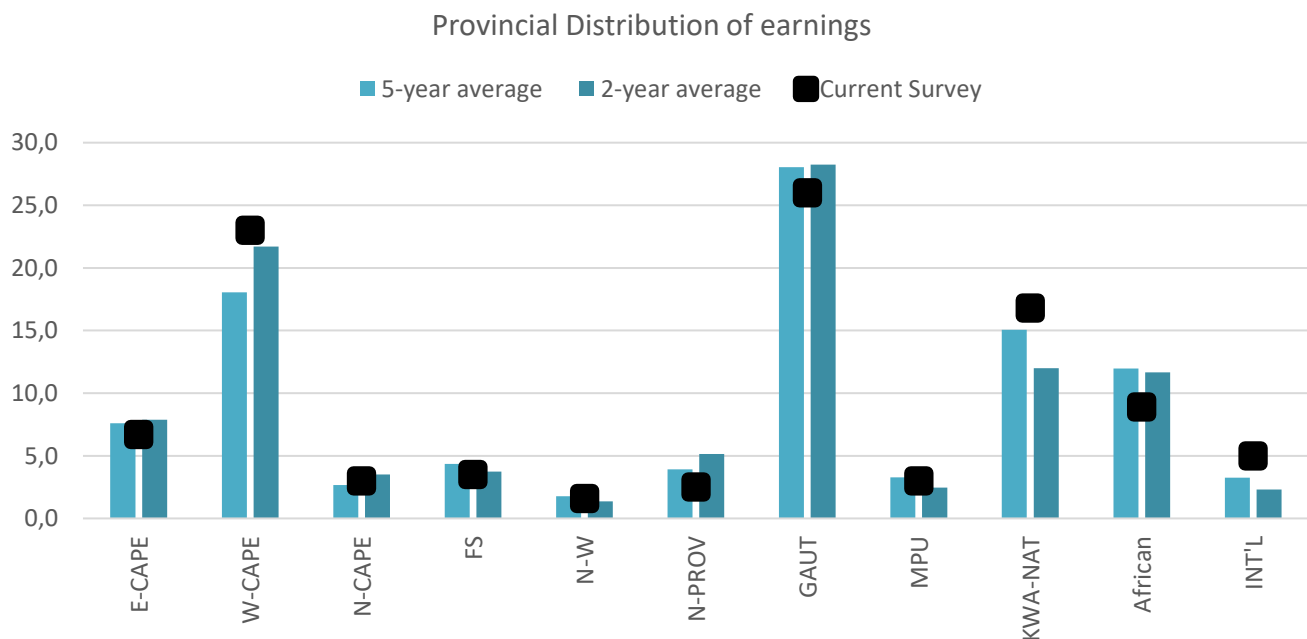
Table 11: Distribution of fee earnings by economic sector, by firm size

	GAU	KZN	WC	EC	NC	MPU	FS	LIM	NW	AFRICA	INT	Total
A	25%	17%	23%	6%	3%	3%	3%	2%	2%	10%	6%	100%
B	40%	10%	33%	1%	0%	6%	6%	2%	1%	1%	0%	100%
C	32%	6%	18%	14%	12%	1%	4%	4%	5%	3%	1%	100%
D	9%	7%	40%	13%	1%	14%	1%	13%	0%	1%	0%	100%
Grand Total	18%	47%	0%	22%	0%	0%	4%	0%	0%	7%	3%	100%

Table 12: Distribution of fee earnings by province, by firm size

	WATER	Transportation	Energy	Mining	Education	Health	Tourism	Housing	Commercial	Agriculture	Eco other	Total
A	16%	26%	8%	8%	3%	3%	1%	4%	16%	0%	16%	100%
B	23%	28%	6%	2%	3%	2%	0%	8%	26%	0%	2%	100%
C	27%	18%	0%	0%	5%	3%	0%	9%	27%	6%	5%	100%
D	30%	9%	0%	2%	3%	4%	0%	7%	23%	3%	20%	100%
Grand Total	17%	26%	8%	7%	3%	3%	1%	4%	17%	0%	14%	100%

5.3 Geographic Location

**Figure 20: Provincial Distribution of earnings**

The contribution of Gauteng to total earnings remained low in this survey at 26.0 percent in the current survey, compared to just 36.8 percent two surveys ago. The big movements in the current survey was the contribution in KwaZulu Natal, from 12.5 percent to 16.8 percent (which we speculate could be around all the big road projects that have gone out to tender, as well as some water projects). The Eastern Cape share almost halved from 12.1 percent contribution to total earnings to just 6.7 percent.

As mentioned by some of the firms in the comments section, companies have had to supplement their income from international clients, and this was evident in that 5 percent of earnings went to an international client in the current quarter, from 0.6 percent in the previous survey. The contribution from Africa remains low at just 8.9 percent, compared to over 15 percent in previous surveys.

5.4 Clients

The contribution to fee earnings by the private sector remained high in the current survey at 44.0 percent from 40.7 percent, more in line with the two- and five-year average, as the private sector continues to supplement a lack of work coming from the state. This is a notable shift over the last few surveys. The stronger increase in the private sector means the contribution by public sector clients remains low. The biggest public sector client were local municipalities, at 25.0 percent of earnings.

The contribution by SOE's remained at low levels, slightly up to 14.4 percent (from 13.5 percent), in line with the longer-term averages. There is a general consensus that there has been significantly less work coming out of the SOE's over the past few years, as they have become more and more inefficient, with corruption and other factors hindering their performance significantly and catching up with the entities, aggravated by strains on government fiscus thereby limiting support coming from government. Financial support from government is now in the form of bailouts rather than financial support for infrastructure development.

Client Distribution based on fee earnings

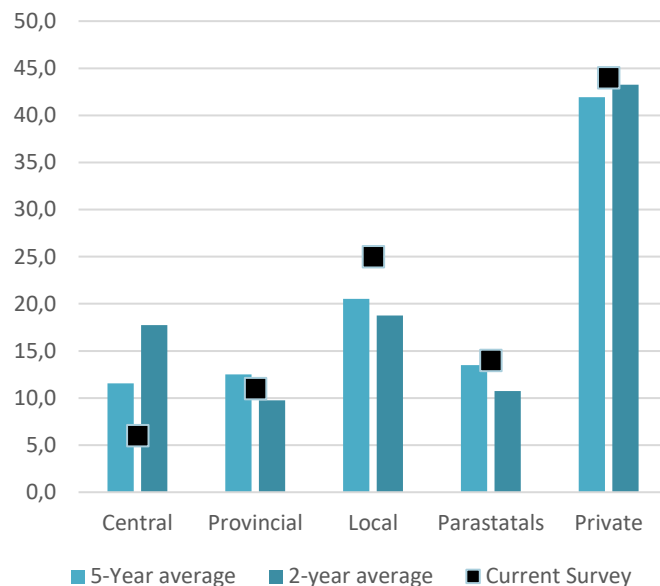


Figure 21: Distribution of earnings by client type

The public sector is generally regarded as the most important client to the industry, but due to the increased contribution by the private sector in the last few surveys, the combined representation of the public sector (including central, provincial, local government and SOE's) decreased slightly to 56.0 percent from 59.8 percent in the previous survey, while the contribution by the private sector increased to 44.0 percent. The role of the public sector however remains critical to the engineering profession and particular for medium and smaller firms. A breakdown of earnings by client type and firm size is provided in the table below.

Table 13: Fee earnings distribution by client by firm size

	Central	Provincial	Local	Parastatals	Private	Total
Large	7%	10%	24%	15%	44%	100.0%
Medium	2%	9%	41%	3%	44%	100.0%
Small	0%	12%	37%	9%	43%	100.0%
Micro	11%	18%	36%	5%	29%	100.0%
Total	3%	48%	11%	1%	37%	100.0%
Average 2-Year	17.8	9.8	18.8	10.8	43.3	100.0%
Average 5-year	11.6	12.5	20.5	13.5	41.9	100.0%

6. Industry challenges as noted by respondents

Many of the challenges were noted before but as they are still applicable are included again in this report. No **additional** challenges were raised by respondents in the December 2019 survey.

- Many commented that they are currently in survival mode.
- Regulation issues, including the procurement of consulting engineering services, remain one of the biggest challenges faced by the industry. Procurement is currently based on price and broad-based black economic empowerment (BBBEE) points, with functionality or quality having a minimum threshold, thus being largely price driven. This is affecting tender prices, as firms sometimes tender below cost in view of the diminished availability of projects.
- Unrealistic tendering fees remain a concern for members, while the extended time it takes in which to finalise a proposal is affecting profitability in the industry.
- The quality of technical personnel is argued by some firms to have deteriorated, putting greater risk on the built environment sector. Skills shortage is regarded as one the most significant institutional challenges faced by the private and the public sector. CESA has offered their services to government to procure and implement projects.
- Fraud and corruption is affecting the ethos of our society, with a lot of talk and little action accompanying the growing evidence of corruption. CESA is aware that members are under pressure from contractors and corrupt officials, to certify payment for work not completed. This is regarded as an extremely serious matter for CESA and as such will be relentless in holding those in power accountable.
- Unlocking greater private sector participation is seen as a critical element to fast track delivery which will support engineering fees and as such engineering development in the industry. Transnet for example has recently called for private sector investment to support their capital investment programme. Private sector participation in this context refers to involvement on a more technical level (and not as a client), to improve municipal capacity and efficiency. Government must create an environment for the private sector so that it can play a much bigger role in infrastructure delivery. Many of the projects highlighted in the NDP can be carried out by the private sector through public-private partnerships.
- Service delivery, especially at municipal level remains a critical burning issue. The consulting engineering industry is threatened by incapacitated local and provincial governments. As major clients to the industry, it is important that these institutions become more effective, more proactive in identifying needs and priorities and more efficient in project implementation and – management.
- The involvement of non-CESA members in government tenders and procurement continues to threaten the standard and performance of the industry. Non-CESA members do not seem to comply with the same standards and principles as those firms that are members of CESA. Whether this is linked to complaints of “below cost” tendering during 2009, is not certain, but CESA members should be better informed about engaging in below cost tendering.
- Firms from across South African borders are tendering at rates that are not competitive for local firms. Complaints have been received of some of these firms not producing proper drawings and not attending site visits. Clients, unfortunately, are not always properly experienced or educated to conduct proper procurement assessments and unknowingly award contracts to these “unscrupulous” firms. While these occurrences may be limited to smaller rural areas, it remains an unacceptable practice.
- Lack of attention to maintain infrastructure poses a serious problem for the industry. Not only is it much more costly to build new infrastructure, but dilapidated infrastructure hampers economic growth potential. The cost of resurfacing a road after seven years at current prices, is estimated at R175 000 per kilometer, compared to R3 million per kilometer to rebuild, less than 6% of the construction price. In many cases, infrastructure is left to deteriorate to such a state, that maintenance becomes almost impossible.
- A further challenge to the industry is to find a way to standardize the procurement procedures applied by the different government departments. Procurement procedures should be standard for the country, or at least for the specific tier of government.
- Adapting to a low growth environment as outlook for infrastructure spending is hampered by poor economic growth, lower than expected revenue by government, international economic instability and price volatility, and low private sector confidence.
- Requirement as set out in the Construction Sector Charter inhibit small firms to competitively tender on government projects, requiring them as such to be more reliant on private sector work. In this survey small and micro enterprises earned between 44 percent and 62 percent from the private sector.

Statistical Tables

Table 14: General financial indicators

Survey period	Employment ³	Salaries / Wages 2000 prices (Annualised)	Fee Income, R mill (Annualised)			Cost Deflator	
			Current prices	Constant 2000 prices	Y/Y real % change	CPI Index 2000 = 100	CPI y/y % Change
Dec-10	19.357	5.220	15.588	8.699	0.5%	179.2	3.5%
Jun-11	19.937	5.650	17.614	9.576	9.5%	183.9	4.2%
Dec-11	19.618	6.002	18.054	9.527	9.5%	189.5	5.8%
Jun-12	20.796	6.124	20.221	10.380	8.4%	194.8	5.9%
Dec-12	19.964	6.316	19.109	9.569	0.4%	199.7	5.4%
Jun-13	24.356	6.557	20.446	9.935	-4.3%	205.8	5.6%
Dec-13	23.625	6.226	22.286	10.552	10.3%	211.2	5.8%
Jun-14	23.389	7.006	23.557	10.799	8.5%	218.2	6.2%
Dec-14	22.921	6.808	23.439	10.474	-0.7%	223.8	5.9%
Jun-15	23.838	6.857	23.697	10.389	-3.6%	228.1	4.4%
Dec-15	24.315	6.748	25.119	10.712	2.3%	234.5	4.8%
Jun-16	24.072	6.511	25.068	10.335	-0.5%	242.6	6.3%
Dec-16	23.349	6.699	25.319	10.150	-5.2%	249.4	6.4%
Jun-17	24.283	6.522	26.585	10.352	0.2%	256.8	5.9%
Dec-17	21.369	6.226	27.117	10.377	2.2%	261.3	4.8%
Jun-18	23.934	6.288	24.405	9.113	-12.0%	267.8	4.3%
Dec-18	21.540	4.851	19.280	7.030	-32.3%	274.3	5.0%
Jun-19	21.002	5.109	20.687	7.405	-18.7%	279.4	4.3%
Dec-19	19.843	2.756	12.584	4.414	-37.2%	285.1	4.0%

Table 15: Consulting Engineering Profession: Financial indicators: Annual Percentage Change (Real)

Survey period	Employment	Salary and Wage bill	Fee income	Cost escalation based on CPI index (Stats Sa)
Dec-10	0.1%	4.0%	0.5%	3.50%
Jun-11	1.6%	19.6%	9.5%	4.20%
Dec-11	1.4%	15.0%	9.5%	5.80%
Jun-12	4.3%	8.4%	8.4%	5.90%
Dec-12	1.8%	5.2%	0.4%	5.40%
Jun-13	17.1%	7.1%	-4.3%	5.60%
Dec-13	18.3%	-1.4%	10.3%	5.80%
Jun-14	-4.0%	7.0%	8.7%	6.20%
Dec-14	-2.9%	9.4%	-0.7%	5.90%
Jun-15	1.9%	-2.1%	-3.6%	4.4%
Dec-15	6.1%	-0.9%	2.3%	4.8%
Jun-16	1.0%	-5.0%	-0.5%	6.3%
Dec-16	-3.9%	-0.7%	-5.2%	6.4%
Jun-17	0.9%	0.2%	0.2%	5.9%
Dec-17	-8.5%	-7.1%	2.2%	4.8%
Jun-18	-1.4%	-3.6%	-12.0%	4.3%
Dec-18	0.8%	-22.1%	-32.3%	5.0%
Jun-19	-12.3%	-18.7%	-18.7%	4.3%
Dec-19	-7.9%	-38.1%	-37.2%	4.0%

³ Revised June 2007

Table 16: Sub-disciplines: Percentage share of earnings

Sub-discipline	Dec-18	Jun-19	Dec-19	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Agricultural	0.6%	0.7%	0.6%	0.7%	0.7%	-0.1%	-0.1%	-0.1%
Architecture	0.4%	1.0%	1.7%	0.6%	0.8%	1.0%	0.8%	0.6%
Mechanical building Services	6.7%	3.1%	4.0%	3.6%	3.9%	0.4%	0.1%	0.8%
Civil	53.7%	51.8%	50.4%	52.7%	52.9%	-2.3%	-2.5%	-1.4%
Electrical / Electronic	5.4%	8.4%	8.2%	6.0%	7.2%	2.2%	1.0%	-0.2%
Environmental	8.1%	1.7%	1.9%	3.3%	3.3%	-1.4%	-1.4%	0.2%
Facilities Management (New)	0.0%	0.6%	0.5%	0.5%	0.5%	0.0%	0.0%	-0.1%
Geotechnical	2.0%	0.9%	1.3%	1.3%	1.1%	0.0%	0.2%	0.4%
Industrial Process / Chemical	0.2%	0.4%	0.1%	1.2%	0.2%	-1.1%	-0.1%	-0.2%
GIS	1.1%	0.6%	0.2%	0.6%	0.5%	-0.4%	-0.3%	-0.4%
Hydraulics (New)	1.2%	1.4%	1.4%	0.8%	1.1%	0.7%	0.3%	0.0%
Information Systems / Technology	0.0%	0.1%	0.1%	1.6%	0.1%	-1.5%	0.0%	-0.1%
Marine	0.3%	0.1%	0.3%	0.6%	0.4%	-0.3%	-0.1%	0.2%
Mechanical	0.4%	1.3%	1.4%	3.0%	1.0%	-1.7%	0.3%	0.1%
Mining	2.3%	8.5%	1.8%	2.0%	4.0%	-0.2%	-2.2%	-6.8%
Project Management	7.2%	5.3%	10.2%	7.3%	7.5%	2.8%	2.7%	4.9%
Quantity Surveying	0.3%	0.1%	2.4%	0.4%	0.8%	2.0%	1.6%	2.3%
Structural	9.8%	11.1%	12.8%	13.0%	12.9%	-0.2%	-0.1%	1.7%
Town planning	0.4%	2.7%	0.7%	0.8%	1.0%	0.0%	-0.3%	-2.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%			

Table 17: Sub-disciplines, Fee income R mill, Real 2000 prices

Sub-discipline	DEC18	JUN19	DEC19	Change last six months	Change last 12 months
Agricultural	64	100	26	-0.1%	-0.1%
Architecture	41	60	74	0.8%	0.6%
Mechanical building Services	695	408	176	0.1%	0.8%
Civil	5 554	5 291	2 224	-2.5%	-1.4%
Electrical / Electronic	556	610	363	1.0%	-0.2%
Environmental	839	403	84	-1.4%	0.2%
Facilities Management (New)	3	43	23	0.0%	-0.1%
Geotechnical	202	141	59	0.2%	0.4%
Industrial Process / Chemical	18	174	6	-0.1%	-0.2%
GIS	109	61	8	-0.3%	-0.4%
Hydraulics (New)	127	71	62	0.3%	0.0%
Information Systems / Technology	4	179	2	0.0%	-0.1%
Marine	28	60	14	-0.1%	0.2%
Mechanical	37	383	61	0.3%	0.1%
Mining	236	115	79	-2.2%	-6.8%
Project Management	745	825	449	2.7%	4.9%
Quantity Surveying	35	24	105	1.6%	2.3%
Structural	1 015	1 345	566	-0.1%	1.7%
Town planning	42	85	33	-0.3%	-2.0%
Total	10 352	10 377	10 377	14%	0%

Table 18: Provincial Distribution, R mill, Real 2000 prices (Annualized, two survey average)

Province	Survey period							
	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19
EC	1.085	721	704	751	650	683	893	296
WC	1.530	1.685	1.884	1.819	1 738	2 119	1 757	1 015
NC	331	284	197	171	155	179	532	132
FS	331	548	590	560	379	365	347	154
NW	320	142	145	176	158	128	103	71
LIM	227	497	321	295	768	814	170	110
GAU	1.943	3.309	3.602	3.332	2 688	3 194	1 972	1 148
MPU	630	416	279	295	315	240	89	132
KZN	2.914	1.066	1.387	1.617	1 425	967	923	742
AFRICAN	847	1.228	1.128	1.197	1 234	1 400	554	393
INT'L	176	254	114	150	235	168	44	221
Total	10.335	10.150	10.352	10.364	9 745	10 256	7 384	4 414

Table 19: Provincial Distribution Y-Y percentage Change*(Trend – SMOOTHED over two consecutive surveys, to remove short term volatility)*

Province	Survey period							
	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19
EC	11.1%	37.0%	-17.6%	-16.8%	-8.7%	-9.1%	19.0%	18.1%
WC	4.9%	11.7%	22.1%	13.2%	-2.6%	16.5%	26.3%	-13.5%
NC	-1.9%	71.6%	-4.2%	-44.4%	-35.7%	4.9%	7.3%	118.0%
FS	-16.1%	-8.2%	58.9%	27.4%	-33.5%	-34.8%	21.6%	-5.4%
NW	-10.8%	0.0%	-42.9%	-23.8%	10.4%	-27.3%	-18.3%	-13.3%
LIM	8.5%	15.9%	29.0%	-18.5%	87.8%	175.6%	-74.1%	-80.0%
GAU	-19.9%	-3.4%	56.1%	26.9%	-22.2%	-4.1%	35.1%	-34.6%
MPU	49.2%	39.5%	-34.3%	-43.5%	-9.4%	-18.8%	-62.7%	-52.6%
KZN	72.6%	14.8%	-49.3%	-18.7%	16.2%	-40.2%	-44.8%	7.8%
AFRICAN	-13.9%	-34.1%	-9.9%	15.4%	4.8%	16.9%	12.0%	-60.5%
INT'L	-42.7%	-74.9%	-66.8%	-30.0%	27.7%	11.5%	-91.7%	-16.6%
Total	0.9%	-3.0%	-2.6%	1.2%	-4.9%	-1.0%	1.0%	-26.9%

Table 20: Provincial Distribution percentage share of earnings

Province	Survey period								5-year average	2-year average
	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19		
EC	10.5	7.1	6.8	7.7	5.5	7.8	12.3	6.7	7.6	7.9
WC	14.8	16.6	18.2	16.9	18.9	22.4	23.7	23.0	18.1	21.7
NC	3.2	2.8	1.9	1.4	1.8	1.7	7.1	3.0	2.7	3.5
FS	3.2	5.4	5.7	5.1	2.5	4.6	4.6	3.5	4.4	3.8
NW	3.1	1.4	1.4	2.0	1.2	1.3	1.5	1.6	1.8	1.4
LIM	2.2	4.9	3.1	2.6	13.9	2.1	2.6	2.5	3.9	5.2
GAU	18.8	32.6	34.8	29.5	25.4	36.8	26.5	26.0	28.0	28.3
MPU	6.1	4.1	2.7	3.0	3.5	1.2	1.7	3.0	3.3	2.5
KZN	28.2	10.5	13.4	17.8	11.0	7.9	12.3	16.8	15.1	12.0
AFRICAN	8.2	12.1	10.9	12.2	13.2	14.1	7.3	8.9	12.0	11.7
INT'L	1.7	2.5	1.1	1.8	3.1	0.2	0.5	5.0	3.3	2.3
Total	100%	100%	100%	100%	100%	100%	100%	100%		

Table 21: Client Distribution Fee income earned, R mill, Real 2000 prices (Annualized)

Client	Survey period						
	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19
Central	1.015	1.035	1 038	2 369	2 165	591	265
Provincial	1.421	725	1 764	1 002	506	738	486
Local	2.538	1.863	1 868	1 094	710	2 068	1 104
State Owned	1.827	1.656	1 557	456	689	1 034	618
Private	3.350	5.072	4 151	4 192	2 953	3 027	1 942
Total	10.150	10.352	10 377	9 113	7 023	7 458	4 414

Table 22: Client distribution Percentage share of earnings

Client	Survey period							5-year average	2-year average
	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19		
Central	10.0	10.0	10.0	26.0	30.8	8.0	6.0	11.6	17.8
Provincial	14.0	7.0	17.0	11.0	7.2	10.0	11.0	12.5	9.8
Local	25.0	18.0	18.0	12.0	10.1	28.0	25.0	20.5	18.8
State Owned	18.0	16.0	15.0	5.0	9.8	14.0	14.0	13.5	10.8
Private	33.0	49.0	40.0	46.0	42.0	41.0	44.0	41.9	43.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Table 23: Economic sector Percentage share of earnings

Economic sector	Dec-18	Jun-19	Dec-19	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Water (Full water cycle)	20%	21%	17%	19.0%	19.8%	3.0%	2.2%	-2.6%
Transportation (land, air, road, rail, ports)	33%	25%	25%	30.3%	28.0%	1.2%	3.5%	-5.8%
Energy (electricity, gas, hydro)	6%	6%	7%	5.8%	6.5%	0.2%	-0.5%	1.4%
Mining / Quarrying	9%	11%	7%	7.2%	10.3%	1.8%	-1.3%	-0.8%
Education	1%	1%	3%	1.4%	1.6%	-0.4%	-0.6%	2.2%
Health	1%	6%	3%	1.4%	2.3%	-1.4%	-2.3%	2.6%
Tourism/Leisure	0%	0%	1%	0.3%	0.3%	-0.3%	-0.3%	1.0%
Housing (residential inc. land)	6%	9%	4%	7.5%	6.5%	-0.5%	0.5%	-0.6%
Commercial ⁴	14%	14%	17%	18.6%	15.2%	-2.1%	1.3%	-3.0%
Agriculture / Forestry / Fishing	1%	1%	0%	0.7%	0.9%	1.3%	1.1%	0.4%
Other	10%	6%	14%	7.8%	8.6%	-2.8%	-3.6%	5.3%
Total	100%	100%	100%					

⁴ Commercial includes: Manufacturing, industrial buildings, communication, financial, facilities management

Table 24: Economic Sector Rm, Real 2000 prices, Annualized

Economic sector	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Per. Change last 6 months	Per. Change Last 12 months
Water (Full water cycle)	2 075	2 005	1 406	1 515	766	-49.4%	-43.5%
Transportation (land, air, road, rail, ports)	3 217	2 871	2 305	1 843	1 110	-39.8%	-48.2%
Energy (electricity, gas, hydro)	623	547	434	478	328	-31.3%	-23.3%
Mining / Quarrying	830	820	653	787	319	-59.5%	-68.3%
Education	104	91	59	108	141	30.4%	155.2%
Health	0	0	79	412	116	-71.9%	57.0%
Tourism/Leisure	0	0	9	3	44	1310.4%	419.8%
Housing (residential inc. land)	519	638	412	683	195	-71.5%	-49.0%
Commercial	2 075	1 504	962	1 043	751	-28.1%	-18.3%
Agriculture / Forestry / Fishing	0	182	39	44	16	-63.8%	-55.3%
Other	934	456	671	466	629	34.9%	0.9%
Total	10 377	9 113	7 030	7 384	4 414	-40.2%	-37.2%

Table 25: Proposed CESA Labour unit cost index

Survey period	Labour Unit cost (LUC) per hour	Index (2000 = 100) Smoothed	Year on Year percentage change in Index	Annual Average Annual Increase
Jun-05	R101.62	155.44	5.3%	
Dec-05	R 103.07	161.20	7.2%	6.3%
Jun-06	R 112.97	170.14	9.5%	
Dec-06	R113.40	178.28	10.6%	10.0%
Jun-07	R122.3	185.61	9.1%	
Dec-07	R127.21	196.49	10.2%	9.7%
Jun-08	R150.43	218.65	17.8%	
Dec-08	R162.80	246.68	25.5%	21.7%
Jun-09	R171.98 r	263.65 r	20.6% r	
Dec-09	R174.77	273.07	10.7%	15.6%
Jun-10	R174.50	275.06	4.3%	
Dec-10	R199.3	294.37	7.8%	6.1%
Jun-11	R179.8	298.5	8.5%	
Dec-11	R199.5	298.7	1.5%	5.0%
Jun-12	R196.2	311.6	4.4%	
Dec-12	R249.8	351.2	17.6%	10.9%
Jun-13	R241.3	386.7	24.1%	
Dec-13	R236.1	375.9	7.0%	15.6%
Jun-14	R255.8	387.4	0.2%	
Dec-14	R266.1	411.0	9.3%	4.8%
Jun-15	R253.5	409.2	5.6%	
Dec-15	R243.08	391.06	-4.9%	0.4%
Jun-16	R236.34	377.56	-7.7%	
Dec-16	R231.78	368.66	-5.7%	-6.7%
Jun-17	R251.81	380.84	0.9%	
Dec-17	R 274.81	432.84	12.5%	6.68%
Jun-18	R 304.36	479.39	19.8%	
Dec-18	R 311.95	491.35	17.0%	18.40%
Jun-19	R 280.5	441.83	2.3%	
Dec-19	R 317.74	500.47	-2.9%	-0.32%

Table 26: CESA Confidence index: % respondents satisfied with working conditions

Survey Period	CESA Confidence Index	% Change on previous survey	% Change on survey same time last year
Jun-05	96.8	12.2%	25.4%
Dec-05	99.3	2.5%	14.9%
Jun-06	99.7	0.5%	3.0%
Dec-06	98.4	-1.30	-0.8
Jun-07	99.4	1.0%	-0.3%
Dec-07	99.8	0.4%	1.4%
Jun-08	99.9	0.1%	0.5%
Dec-08	99.8	-0.1%	0.0%
Jun-09	96.2	-3.61%	-3.7%
Dec-09	86.0	-10.6%	-13.8%
Jun-10	87.1	1.3%	-9.4%
Dec-10	86.7	-0.5%	0.8%
Jun-11	83.2	-4.0%	-4.5%
Dec-11	87.4	5.0%	0.8%
Jun-12	81.8	-6.4%	-1.7%
Dec-12	70.0	-14.4%	-19.9%
Jun-13	84.0	20.0%	2.7%
Dec-13	98.1	16.8%	40.1%
Jun-14	87.7	-10.6%	4.4%
Dec-14	46.3	-47.2%	-52.8%
Jun-15	44.5	-3.9%	-49.3%
Dec-15	39.4	-11.5%	-14.9%
Jun-16	75.0	90.4%	68.5%
Dec-16	87.5	16.7%	122.1%
Jun-17	96.3	10.1%	28.4%
Dec-17	55.4	-43.5%	-37.8%
Jun-18	26.9	-50.6%	-72.1%
Dec-18	34.3	16.6%	-42.4%
Jun-19	20.3	6.1%	23.8%
Dec-19	22.5	8.4%	15.0%
Jun-20 (forecast)	33.1	0.7%	9.1%
Dec-20 (forecast)	36.1	11.8%	12.6%

Table 27: Employment profile of the consulting engineering industry: Percentage contribution: Jul – Dec 2019

Job Category	Black	Coloured	Asian	White	Total	% Share by type
Professional Engineer Pr.Eng	7.5%	2.3%	7.2%	83.1%	100.00%	13.8%
Professional Architects	6.9%	6.9%	13.8%	72.4%	100.00%	0.6%
Professional Quantity Surveyors	12.5%	0.0%	25.0%	62.5%	100.00%	0.9%
Professional Other	14.8%	5.2%	12.3%	67.7%	100.00%	3.0%
Technologists Pr TEchENG	14.4%	8.8%	11.9%	64.9%	100.00%	6.2%
Technicians PrTechni	37.5%	12.5%	10.2%	39.8%	100.00%	1.7%
Unregistered technical staff: Engineer	22.2%	8.4%	14.4%	55.1%	100.00%	13.0%
Unregistered technical staff: Technologist	37.8%	14.3%	17.6%	30.3%	100.00%	6.9%
Unregistered technical staff: Technician	55.1%	13.2%	7.7%	24.0%	100.00%	9.6%
Unregistered technical staff: Other	26.1%	10.4%	8.9%	54.7%	100.00%	12.7%
Technical Assistants	45.5%	16.9%	10.4%	27.3%	100.00%	3.0%
Draughts Persons	17.0%	18.1%	5.4%	59.5%	100.00%	6.9%
Laboratory / Survey Assistants	0.0%	0.0%	0.0%	0.0%	100.00%	0.0%
Administration / Support staff	42.7%	14.0%	10.1%	33.2%	100.00%	21.7%
Total	29.1%	10.7%	10.4%	49.8%	100.00%	100.00%

Table 28: Employment profile of the consulting engineering industry: Change in contribution Jul-Dec 2019 vs Jan-Jun 2019

Job Category	Black	Coloured	Asian	White
Professional Engineer Pr.Eng	-0.9%	-0.2%	2.6%	-1.5%
Professional Architects	-18.1%	6.9%	13.8%	-2.6%
Professional Quantity Surveyors	-3.3%	-2.6%	11.8%	-5.9%
Professional Other	1.9%	0.9%	7.9%	-10.7%
Technologists Pr TEchENG	-4.0%	4.0%	2.7%	-2.8%
Technicians PrTechni	11.4%	-0.1%	3.0%	-14.3%
Unregistered technical staff: Engineer	-3.4%	0.2%	2.7%	0.5%
Unregistered technical staff: Technologist	-4.7%	0.3%	8.6%	-4.2%
Unregistered technical staff: Technician	-2.4%	-3.9%	1.5%	4.7%
Unregistered technical staff: Other	-8.6%	-0.3%	2.0%	7.0%
Technical Assistants	-8.6%	5.6%	6.4%	-3.4%
Draughts Persons	-2.1%	3.1%	1.7%	-2.8%
Laboratory / Survey Assistants	0.0%	0.0%	0.0%	0.0%
Administration / Support staff	-3.3%	1.4%	4.9%	-2.9%
Total	-2.3%	0.9%	3.7%	-2.3%

Table 29: Executive Staff profile - contribution by BLACK people, as percentage of TOTAL Executive Staff, by company type (Black include Black, Asian and Coloured)

Company Type	Owner category	Professional Category	Dec-15	Jun-16	Dec-16	Jun-17	Dec-17	Dec-18	Dec-19	
(PTY) LTD	Executive Directors	Pr.Eng	14.5%	21.5%	18.4%	13.7%	17.8%	20.3%	21.1%	
		PrTechEng	33.3%	31.8%	33.3%	44.8%	50.0%	58.3%	47.4%	
		Other	60.3%	60.0%	50.0%	56.1%	105.9%	64.0%	53.8%	
		TOTAL	29.5%	32.0%	29.7%	29.7%	15.3%	42.9%	43.5%	
	Non-Executive Directors	Pr.Eng	62.5%	71.4%	100.0%	40.0%	64.2%	0.0%	44.4%	
		PrTechEng	100.0%	57.1%	100.0%	0.0%	79.4%	100.0%	47.1%	
		Other	76.9%	70.0%	100.0%	76.2%	21.4%	33.3%	0.0%	
		TOTAL	73.0%	67.6%	100.0%	64.3%	78.5%	71.4%	25.0%	
	CC	Members	Pr.Eng	85.7%	81.8%	60.0%	23.1%	51.2%	57.1%	0.0%
			PrTechEng	40.0%	0%	100.0%	75.0%	41.5%	33.3%	0.0%
			Other	92.3%	85.7%	66.7%	77.8%	17.8%	100.0%	0.0%
			TOTAL	71.4%	75.0%	66.7%	50.0%	50.0%	0.0%	#DIV/0!
Partnership	Partners	Pr.Eng	75.0%	0.0%	33.3%	50.0%	105.9%	45.7%	36.2%	
		PrTechEng	60.0%	0.0%	100.0%	100.0%	15.3%	20.3%	21.1%	
		Other	50.0%	50.0%	50.0%	50.0%	64.2%	58.3%	47.4%	
		TOTAL	63.6%	20.0%	57.1%	62.5%	79.4%	64.0%	53.8%	
Total			39.5%	40.8%	45.7%	37.4%	21.4%	42.9%	43.5%	

Table 30: Employment Breakdown, by race, gender and job category July – December 2019

Job category	Black			Coloured			Asian			White			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Professional Engineer Pr.Eng	181	23	205	58	4	62	158	39	197	2 053	216	2 270	2 451	282	2 733
Professional Architects	4	4	8	8	0	8	12	4	15	50	31	81	73	39	112
Professional Quantity Surveyors	12	12	23	0	0	0	27	19	46	85	31	116	124	62	185
Professional Other	58	31	89	15	15	31	31	42	73	259	147	405	363	235	598
Technologists Pr TEchENg	131	46	178	89	19	108	112	35	147	764	35	799	1 096	135	1 231
Technicians PrTechni	100	27	127	39	4	42	35	0	35	116	19	135	289	50	340
Unregistered technical staff: Engineer	371	201	571	135	81	216	232	139	371	1 069	351	1 420	1 806	772	2 578
Unregistered technical staff: Technologist	374	147	521	124	73	197	151	93	243	378	39	417	1 027	351	1 378
Unregistered technical staff: Technician	714	332	1 046	189	62	251	108	39	147	409	46	455	1 420	479	1 899
Unregistered technical staff: Other	355	305	660	143	120	262	124	100	224	861	521	1 382	1 482	1 046	2 528
Technical Assistants	158	112	270	58	42	100	27	35	62	96	66	162	340	255	594
Draughts Persons	158	73	232	193	54	247	69	4	73	521	289	811	942	421	1 362
Laboratory / Survey Assistants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration / Support staff	587	1 251	1 837	135	467	602	124	313	436	278	1 150	1 428	1 123	3 180	4 304
Total	3 204	2 563	5 766	1 185	942	2 127	1 208	861	2 069	6 940	2 941	9 881	12 536	7 307	19 843

Table 31: Employment Breakdown, by race, gender and job category July – December 2019: Percentage share

Job category	Black			Coloured			Asian			White			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Professional Engineer Pr.Eng	0.9%	0.1%	1.0%	0.3%	0.0%	0.3%	0.8%	0.2%	1.0%	10.3%	1.1%	11.4%	12.4%	1.4%	13.8%
Professional Architects	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.3%	0.2%	0.4%	0.4%	0.2%	0.6%
Professional Quantity Surveyors	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.4%	0.2%	0.6%	0.6%	0.3%	0.9%
Professional Other	0.3%	0.2%	0.4%	0.1%	0.1%	0.2%	0.2%	0.2%	0.4%	1.3%	0.7%	2.0%	1.8%	1.2%	3.0%
Technologists Pr TEChENg	0.7%	0.2%	0.9%	0.4%	0.1%	0.5%	0.6%	0.2%	0.7%	3.9%	0.2%	4.0%	5.5%	0.7%	6.2%
Technicians PrTechni	0.5%	0.1%	0.6%	0.2%	0.0%	0.2%	0.2%	0.0%	0.2%	0.6%	0.1%	0.7%	1.5%	0.3%	1.7%
Unregistered technical staff: Engineer	1.9%	1.0%	2.9%	0.7%	0.4%	1.1%	1.2%	0.7%	1.9%	5.4%	1.8%	7.2%	9.1%	3.9%	13.0%
Unregistered technical staff: Technologist	1.9%	0.7%	2.6%	0.6%	0.4%	1.0%	0.8%	0.5%	1.2%	1.9%	0.2%	2.1%	5.2%	1.8%	6.9%
Unregistered technical staff: Technician	3.6%	1.7%	5.3%	1.0%	0.3%	1.3%	0.5%	0.2%	0.7%	2.1%	0.2%	2.3%	7.2%	2.4%	9.6%
Unregistered technical staff: Other	1.8%	1.5%	3.3%	0.7%	0.6%	1.3%	0.6%	0.5%	1.1%	4.3%	2.6%	7.0%	7.5%	5.3%	12.7%
Technical Assistants	0.8%	0.6%	1.4%	0.3%	0.2%	0.5%	0.1%	0.2%	0.3%	0.5%	0.3%	0.8%	1.7%	1.3%	3.0%
Draughts Persons	0.8%	0.4%	1.2%	1.0%	0.3%	1.2%	0.4%	0.0%	0.4%	2.6%	1.5%	4.1%	4.7%	2.1%	6.9%
Laboratory / Survey Assistants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Administration / Support staff	3.0%	6.3%	9.3%	0.7%	2.4%	3.0%	0.6%	1.6%	2.2%	1.4%	5.8%	7.2%	5.7%	16.0%	21.7%
Total	16.1%	12.9%	29.1%	6.0%	4.7%	10.7%	6.1%	4.3%	10.4%	35.0%	14.8%	49.8%	63.2%	36.8%	100.0%

Table 32: Executive Staff profile: Employment, company type, race & gender: July – December 2019

Comp any Type	Owner category	Profession al	Black			Coloured			Asian			White			Total		
		Category	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Femal e	Total	Male	Female	Total
(PTY) LTD	Executive Director	PrEng	27	4	31	8	4	12	42	8	50	332	15	347	409	31	440
		PrTechEng	23	0	23	27	0	27	19	0	19	77	0	77	147	0	147
		Other	31	23	54	8	8	15	23	15	39	73	19	93	135	66	201
	Non-Executive Director	PrEng	8	0	8	8	0	8	23	0	23	42	8	50	81	8	89
		PrTechEng	12	8	19	0	0	0	8	4	12	39	0	39	58	12	69
		Other	8	12	19	0	4	4	8	0	8	15	19	35	31	35	66
CC	Member	PrEng	0	0	0	0	0	0	0	0	0	8	0	8	8	0	8
		PrTechEng	0	0	0	0	0	0	4	0	4	12	0	12	15	0	15
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partnership	Partner	PrEng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		PrTechEng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL			201	61	108	46	154	50	15	66	127	27	154	598	62	151	1034
% distribution of executive staff			10,4%	4,5%	14.9%	4.9%	1.5%	6.3%	12.3%	2.6%	14.9%	57.8%	6.0%	63.8%	85.4%	14.6%	100.0%
% directorship only			10,3%	3,4%	13.7%	5.4%	1.5%	6.9%	10.8%	2.9%	13.7%	61.3%	4.4%	65.7%	87.7%	12.3%	100.0%
Total employment			3 204	2 563	5 766	1 185	919	1 984	938	696	1 634	8 369	3 267	11 636	14 046	7 323	21 369
Executive Staff as % of total employment			3,4%	1,8%	2.7%	4.2%	1.7%	3.3%	13.6%	3.9%	9.5%	7.1%	1.9%	5.7%	6.3%	2.1%	4.8%

End of report

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