



## **Bi-Annual Economic and Capacity Survey**

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**January – June 2017**

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## Table of contents:

<b>1. Economic overview .....</b>	<b>3</b>
1.1 International Developments .....	3
1.2 Domestic Economy .....	4
1.3 Gross fixed capital formation .....	5
<b>2. CESA Survey: Background.....</b>	<b>8</b>
<b>3. Prevailing conditions in the Consulting Engineering Industry .....</b>	<b>8</b>
3.1 Financial Indicators .....	8
3.1.2 Outsourcing .....	9
3.1.3 Return on Working Capital .....	11
3.1.4 Value of outstanding payments.....	12
3.1.5 Profitability and late payments .....	13
3.2 Human Resources .....	15
3.2.1 Employment .....	15
3.2.2 Salary and Wage bill .....	16
3.2.3 Training .....	17
3.2.4 Employment profile .....	18
3.3 Industry profile of Executive Staff.....	19
3.4 Capacity Utilisation .....	20
3.5 Competition in tendering.....	21
3.6 Pricing .....	22
<b>4. Industry Outlook.....</b>	<b>24</b>
<b>6. Market Profile .....</b>	<b>28</b>
6.1 Sub-disciplines of fee income earned .....	28
6.2 Economic Sectors .....	28
6.3 Geographic Location .....	30
6.4 Clients .....	31
<b>5. Industry challenges as noted by respondents .....</b>	<b>32</b>
<b>7. Professional Indemnity Insurance .....</b>	<b>33</b>
<b>8. Quality Management System .....</b>	<b>34</b>
<b>Statistical Tables.....</b>	<b>35</b>

# 1. Economic overview

## 1.1 International Developments

The global pick up, anticipated by the IMF in the April 2017 world economic review, remains on track. The global economy is still expected to grow by 3.5 percent in 2017, rising marginally to 3.6 percent in 2018, supported by more buoyant financial markets and a cyclical recovery in manufacturing and trade. However, although global growth outlook remained unchanged, contributions by countries have shifted somewhat since the April 2017 review. US growth projections are now lower, mainly due to the assumption that fiscal policy will be less expansionary than expected. Growth has been revised upward for Japan, China and the Euro area. Although risks to the global growth outlook is fairly balanced, they remain skewed to the downside over the medium term. On the upside there could be a more profound rebound in the Euro area, as political risk diminished, while on the downside rich market valuations and low volatility in an environment of policy uncertainty raise the likelihood of a market correction, which could dampen growth and confidence. Risks noted in the previous report, namely a turn toward inward looking policies and geopolitical risks remain relevant.

The outlook for emerging and developing economies remains positive, as the IMF expects a sustained pick up in activity, with growth rising from 4.3 percent in 2016 to 4.7 percent in 2017 and 4.8 percent in 2018. Growth is primarily driven by commodity importers. China's growth is expected to remain at 6.7 percent in 2017 (on par with growth in 2016), while growth in India is projected to gain further momentum. The outlook for Sub-Saharan Africa however remains challenging. Growth is projected to rise in 2017 and 2018, but remain in negative territory in per capita terms. The slight improvement in growth is largely due to an upgrade in the outlook for South Africa, supported mainly by a recovery in the agriculture sector. The outlook for South African remains uncertain, with elevated political uncertainty and weak consumer and business confidence.

Projections by the IMF for the South African economy are largely in line with local economists and institutions, with growth expected to remain relatively flat, increasing moderately from 0.3 percent in 2016 to 1.0 percent in 2017. Overall, growth for Sub-Saharan Africa is expected to be 2.7 percent and 3.5 percent in 2017 and 2018 respectively. Output in Nigeria is expected to improve, following disruptions in the oil sector coupled with foreign exchange, power and fuel shortages in 2016, from -1.5 percent to 0.8 percent in 2017 and 1.9 percent in 2018.

**Table 1: Global economic outlook**

	2013	2014	2015	2016	2017	2018
<b>World</b>	3.4%	3.4%	3.2%	3.1%	3.5%	3.6%
<b>Advanced Economies</b>	1.4%	1.8%	2.1%	1.7%	2.0%	1.9%
US	2.2%	2.4%	2.6%	1.6%	2.1%	2.1%
Eurozone	-0.4%	0.8%	2.0%	1.7%	1.9%	1.7%
UK	1.7%	2.9%	2.2%	1.8%	1.7%	1.5%
<b>Emerging markets</b>	5.0%	4.6%	4.1%	4.1%	4.6%	4.8%
Brazil	2.7%	0.1%	-3.8%	-3.6%	0.3%	1.3%
Russia	1.3%	0.6%	-3.7%	-0.2%	1.4%	1.4%
India	6.9%	7.3%	7.6%	6.8%	7.2%	7.7%
China	7.7%	7.4%	6.9%	6.7%	6.7%	6.4%
Sub-Saharan Africa	5.2%	5.0%	3.4%	1.4%	2.7%	3.5%
<b>SA</b>	2.2%	1.5%	2.0%	0.3%	1.0%	1.2%

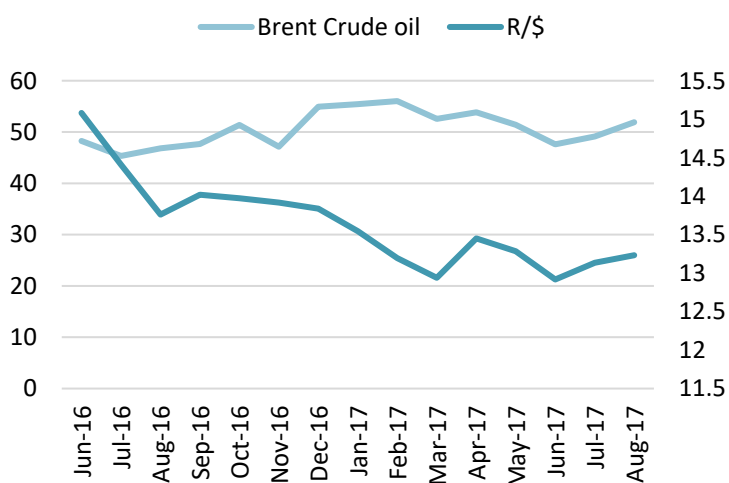
Source: IMF World Economic Outlook July 2017

## 1.2 Domestic Economy

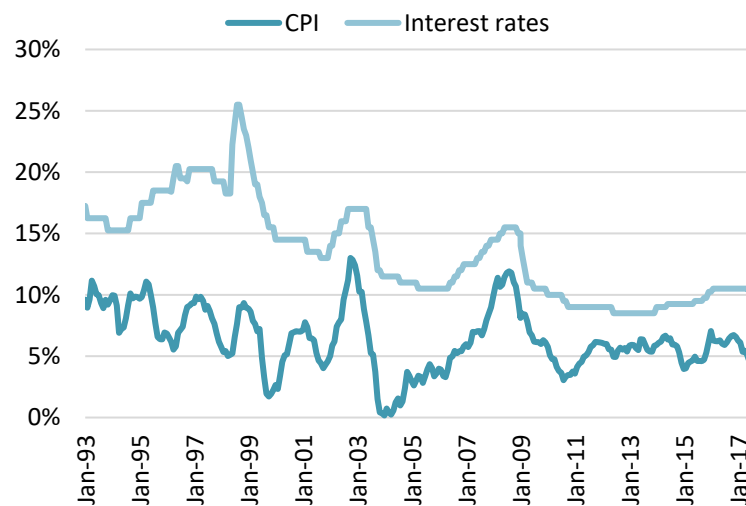
The South African economy grew by the slowest rate in 2016, since the 2009 recession when economic growth contracted by 1.5 percent, barely missing another recession by increasing at a modest pace of just 0.3 percent. Growth was well below government expectations of between 1.5 and 1.8 percent as released by Treasury in February 2017, and therefore has a significant impact on expected revenue collection and expenditure plans. Growth was stifled by low commodity prices as well as lack of investor confidence which is putting a damper on much needed private sector investment. Policy uncertainty around land claims, mining and renewable energy has also has clamped down on foreign investment.

The economy clawed back in the 2<sup>nd</sup> quarter of 2017, from a technical recession following negative growth of 0.3 percent and 0.6 percent in the 4<sup>th</sup> quarter of 2016 and 1<sup>st</sup> quarter of 2017 (seasonally adjusted annualised rates), and increased by 2.5 percent y-y in the 2<sup>nd</sup> quarter of 2017. Economic growth was largely supported by a strong recovery in the agriculture sector, which grew by 33.6 percent, and positive (albeit marginal) growth in the manufacturing sector. Value add by the construction sector fell for the second consecutive quarter down 0.5 percent y-y following the decrease of 0.8 percent in the 1<sup>st</sup> quarter of 2017. The currency depreciated to an average of R13.23/\$ in August, but is on average at R13.2/\$ still stronger in the first eight months of 2017 compared to the same period last year (R15.1/\$). The price of Brent Crude oil however increased by comparison, to an average of \$52.23/barrel in the first eight months compared to an average \$41.2/barrel last year (Jan – Aug 2016), an increase of 27 percent, adding some push to inflationary pressures. However a slowdown in food prices has supported lower inflation in recent months, which averaged 4.6 percent in July (5.6 percent for the first seven months). Inflation is expected to average 5.6 percent in 2017 and 5.3 percent for 2017 according to the BER's CPI expectations survey. The lower inflationary environment is good news for the South African economy as this could pave the way for some further monetary policy easing in the medium term. Interest rates were lowered to 10.25 percent in August.

Currency and Oil Price Movement  
Last 12 months



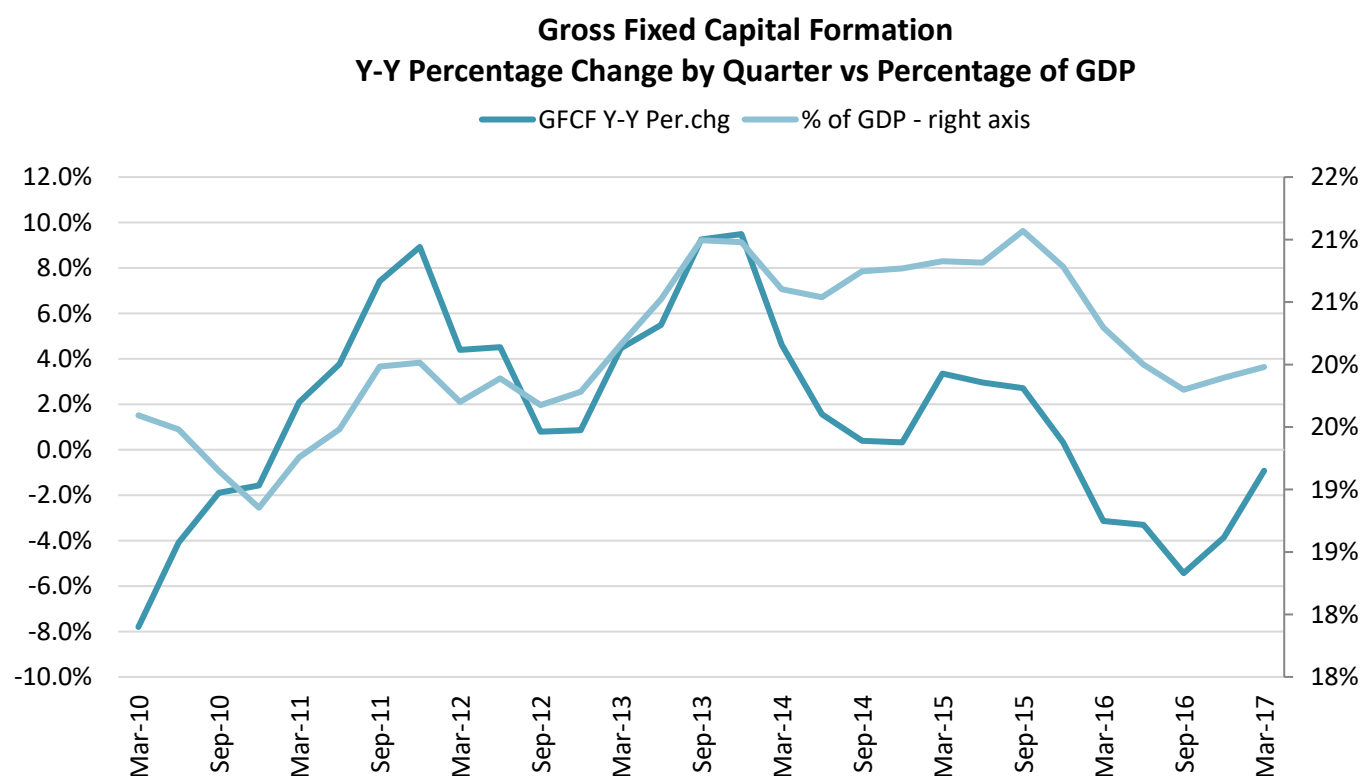
Interest Rates vs CPI



**Table 2: Macro economic growth projections (Industry Insight Forecast Report 2017Q1)**

Macro-Economic Forecasts	2013	2014	2015	2016	2017
GDP	2.5%	1.2%	1.3%	0.3%	0.7%
Household consumption	2.0%	0.7%	1.7%	0.4%	0.7%
Government consumption	3.8%	1.8%	2.0%	1.2%	0.7%
Gross Fixed capital formation	7.6%	-0.4%	2.7%	0.2%	0.1%
Imports	5.0%	-0.5%	6.4%	-3.6%	2.1%
Exports	3.6%	3.3%	3.0%	-1.2%	1.4%
Prime Lending rate	8.5%	9.2%	9.7%	10.5%	10.75%
ZAR/US\$	9.70	10.80	12.10	15.20	13.80
CPI Inflation	5.8%	6.2%	3.8%	6.2%	6.2%
Current Account Deficit	-5.9	-5.4	-4.1	-4.0	-3.9

### 1.3 Gross fixed capital formation

**Figure 1: GFCF (Y-Y percentage changes vs Percentage of GDP) Source SARB Quarterly Bulletin**

Gross fixed capital formation (GFCF) fell by 3.9 percent in 2016, the first contraction since 2009 and 2010 when investment fell by 6.7 percent and 3.9 percent respectively. Investment was negatively affected by a slowdown in government investment from an increase of 13.4 percent in 2015 to 1.1 percent in 2016, further contraction in SOE's expenditure and a sharp decline in private sector investment which fell by 6 percent in 2016. The rate of decline in investment slowed to -0.9 percent y-y in the 1<sup>st</sup> quarter of 2017, supported by a recovery in investment by government which increased by 4.9 percent y-y. The decline in investment by SOE's accelerated to -2.8 percent, while the decline in investment by the private sector

slowed to -2.1 percent. A slowdown in business confidence during the 2<sup>nd</sup> quarter of 2017 to a level of just 29 (the lowest level since 2009), is likely to have a negative impact on investment by the private sector in the 2<sup>nd</sup> quarter of 2017.

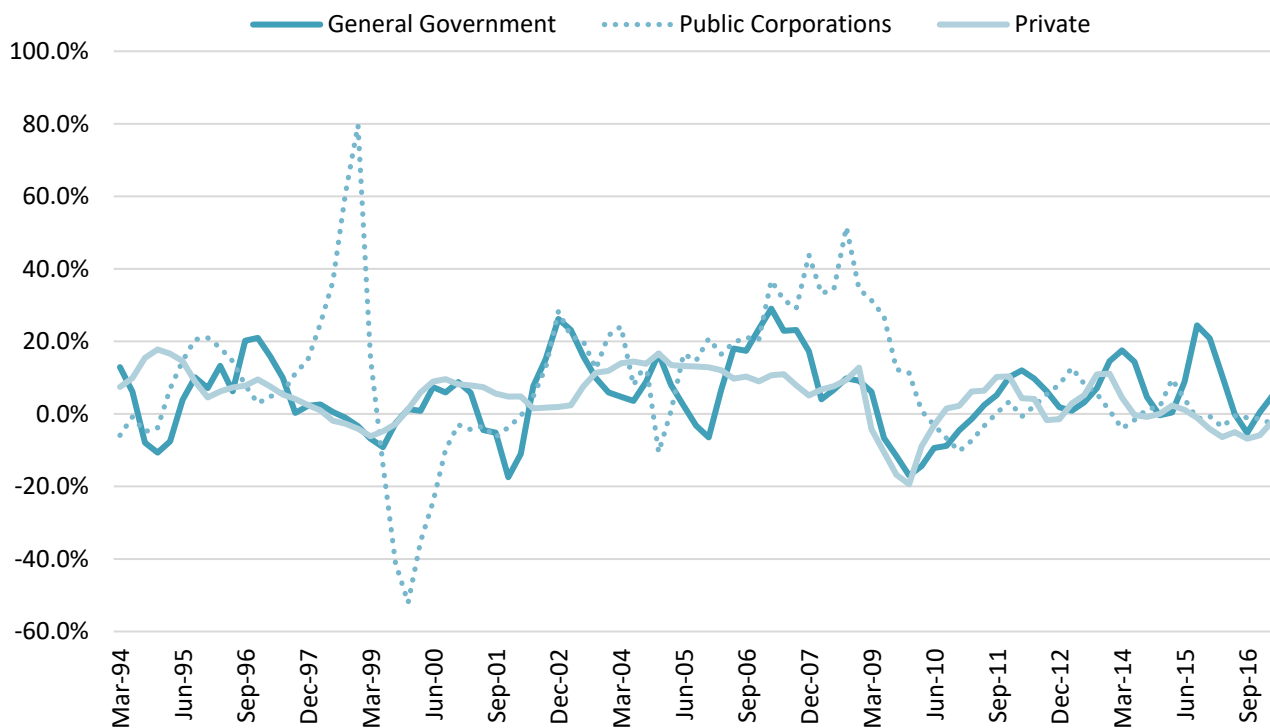
GFCF as a percentage of GDP averaged at 20.0 percent in 2016, and was unchanged in the 1<sup>st</sup> quarter of 2017. The NDP has, what may seem to be a somewhat unachievable target of 30 percent contribution of GFCF to GDP by 2030. All economic indicators currently suggest that investment in relation to GDP is likely to slow over the medium term, due to slower government spending, financial constraints experienced by SOE's and continued weak private sector confidence.

**Table 3: GFCF Residential, Non-Residential and Construction works, by client 2016 Current prices**

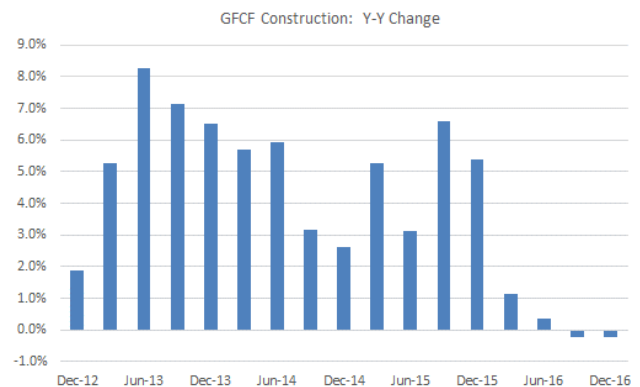
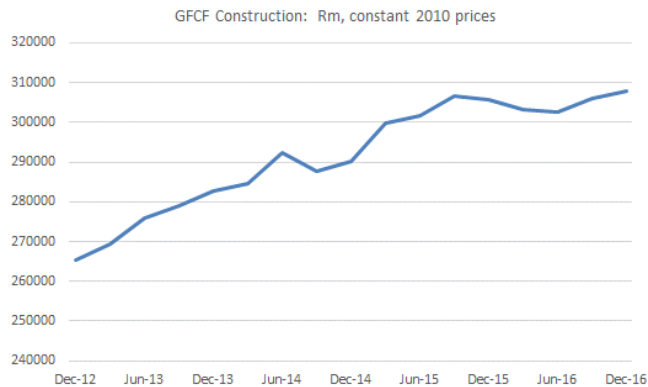
2015	Government	SOE's	Private	Total
<b>Residential</b>	1,020	50	77,210	78,280
<b>Non-residential</b>	19,856	3,584	49,259	72,699
<b>Civil works</b>	92,417	118,024	59,027	269,468
<b>Total</b>	113,293	121,658	185,496	420,447

Source: South African Reserve Bank Quarterly Bulletin

**GFCF by client**  
**Constant 2010 prices, annualised: Y-Y Percentage Change**



**Gross Fixed Capital Formation Construction**



According to SARB, a total of R420bn was spent on construction infrastructure in 2016, including investment in residential and non-residential buildings and construction works, representing a nominal increase of 6.0 percent y-y (not adjusted for inflation), or R23.9 billion. This would also include purchases of machinery and equipment, often imported, used in the construction process such as the installation of turbines. Investment in Buildings (residential and non-residential buildings), increased by 2.9 percent (nominal) to R151 bn, while investment in construction works (largely civil construction including investment in energy, transport and water), increased by 7.8 percent to R269 bn. In real terms, investment in construction rose modestly by 1 percent in the 1<sup>st</sup> quarter of 2017 (sea. Adj annualized rates), with a 2.4 percent growth in civil spending counteracted by a 1.7 percent decline in investment in buildings.

## 2. CESA Survey: Background

A total of 52 questionnaires were returned via both an on-line and hard copy system. The sample represents a fee income of R2.4bn, and 6275 employees for the period January – June 2017.

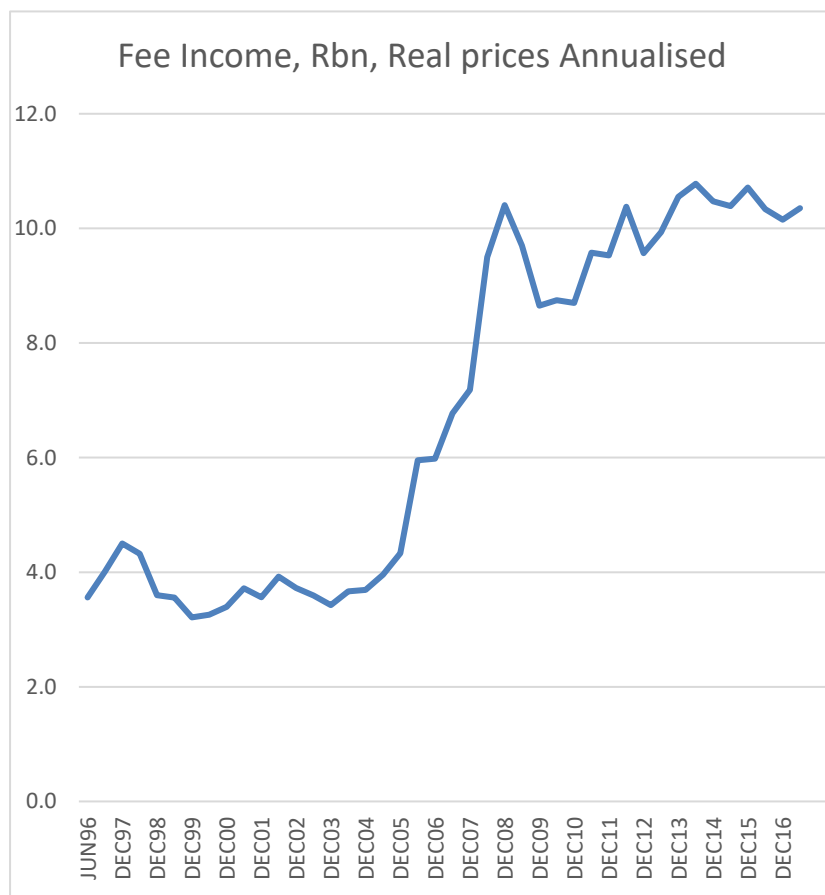
The analysis of the questionnaires completed by active firms in the consulting engineering profession provides a proxy for current and expected working conditions for the profession, which can be measured on a regular basis.

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 in the first six months of 2017 increased by 5.0 percent (in current prices) compared to the last six months of 2016, which was relatively unchanged compared to the same period in 2016. The increase was better than the expected 7 percent decrease as reported by firms in the previous survey with regards to the outlook for the first six months of 2017.

Larger firms reported an increase of 5 percent, while earnings for medium SIZE firms ended flat, and smaller and micro firms reported an increase of 14 percent.

Fee income rose to R26.6 billion , anualised, at current prices as at June 2017.

Earnings are expected to remain flat in the second half of 2017, although larger firms expect a marginal increase of 1.3 percent. Medium size firms are less optimistic expecting a drop of 8 percent.

Considering trends in industry indicators, as reported by responding firms in this survey, we maintain our view that it is likely that earnings have reached an upper turning point with a softer growth outlook in the medium term.



A summary of fee earnings by firm size, as well as projected earnings for the first six months of 2017 is provided in the table below.

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

Firm size category	Actual (June 2017 vs December 2016)	Projected for December 2017
Large	5%	1.3%
Medium	0%	-8.1%
Small / Micro	14%	4.4%
Total	5%	0.4%

### 3.1.2 Outsourcing

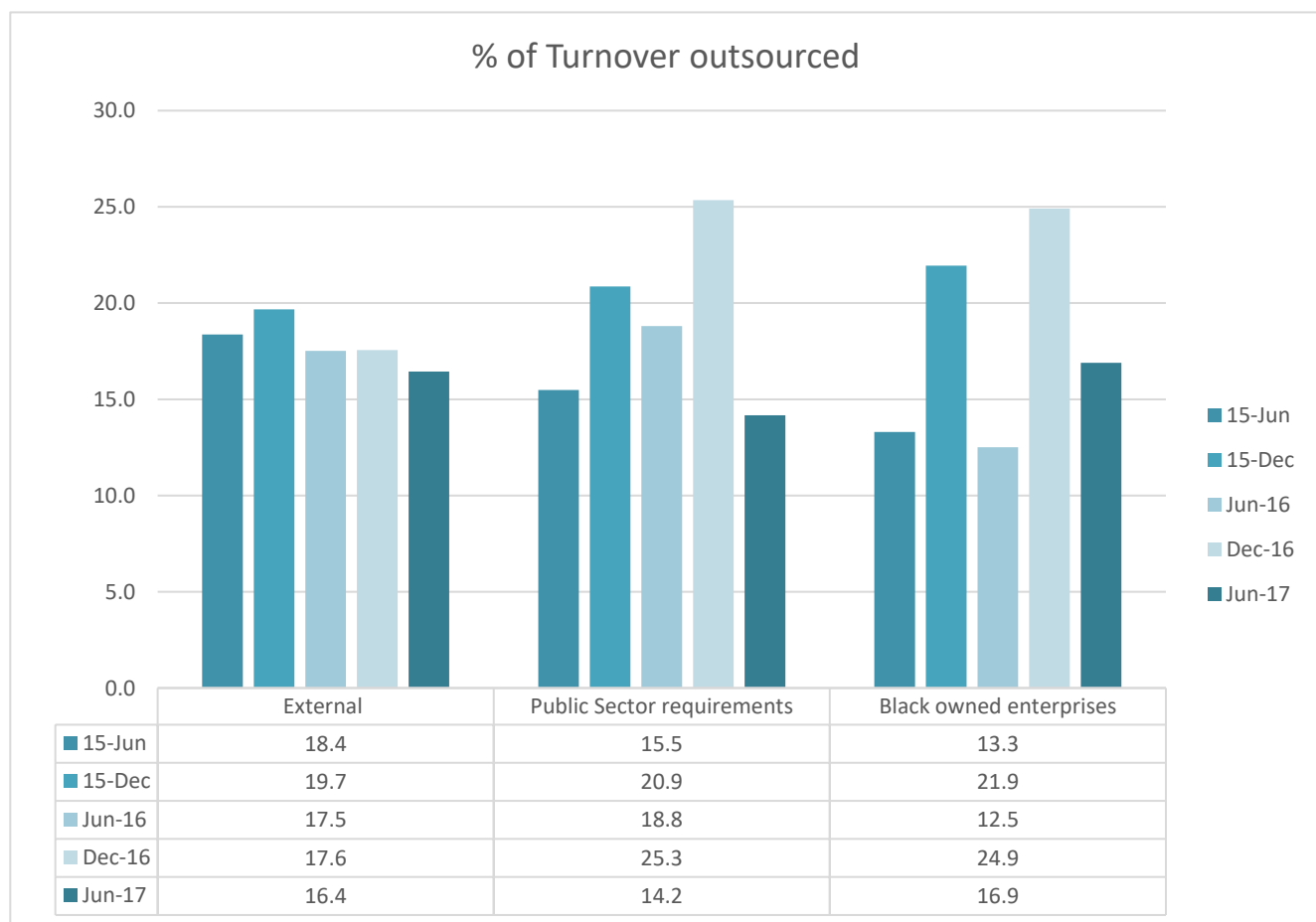
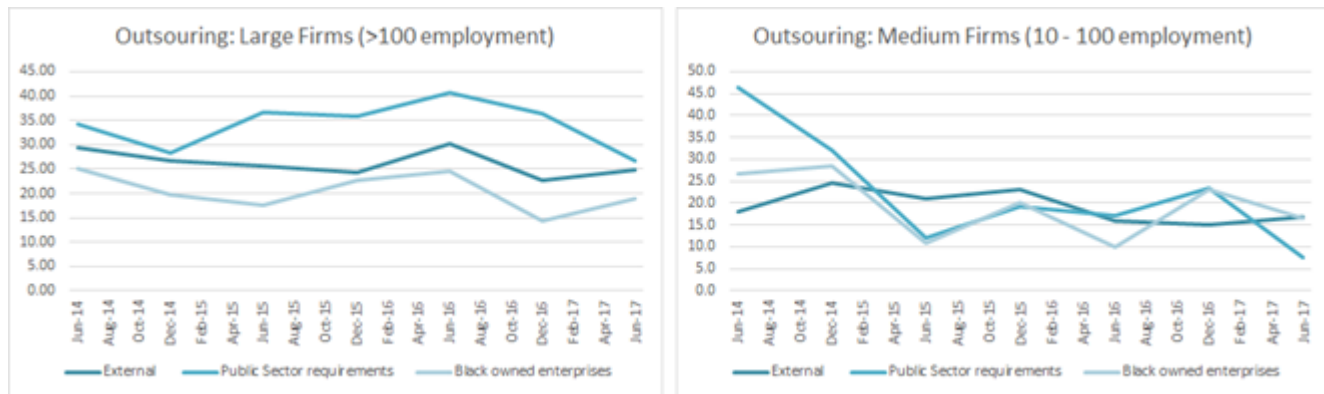
On average firms **outsourced** a higher percentage of turnover due to procurement and transformation requirements as prescribed by public sector clients, compared to outsourcing to external enterprises or black owned enterprises. However in this survey, outsourcing as prescribed by public sector clients fell to an average of 14.2 percent (from 25.3 percent in the previous survey). Outsourcing in general moderated across all three segments in the current survey.

Larger firms outsourced 24.9 percent to external enterprises, 26.6 percent for procurement purposes laid down by the public sector (compared to 36.4 percent) but increased outsourcing to black owned enterprises from 14.3 percent to 18.9 percent.

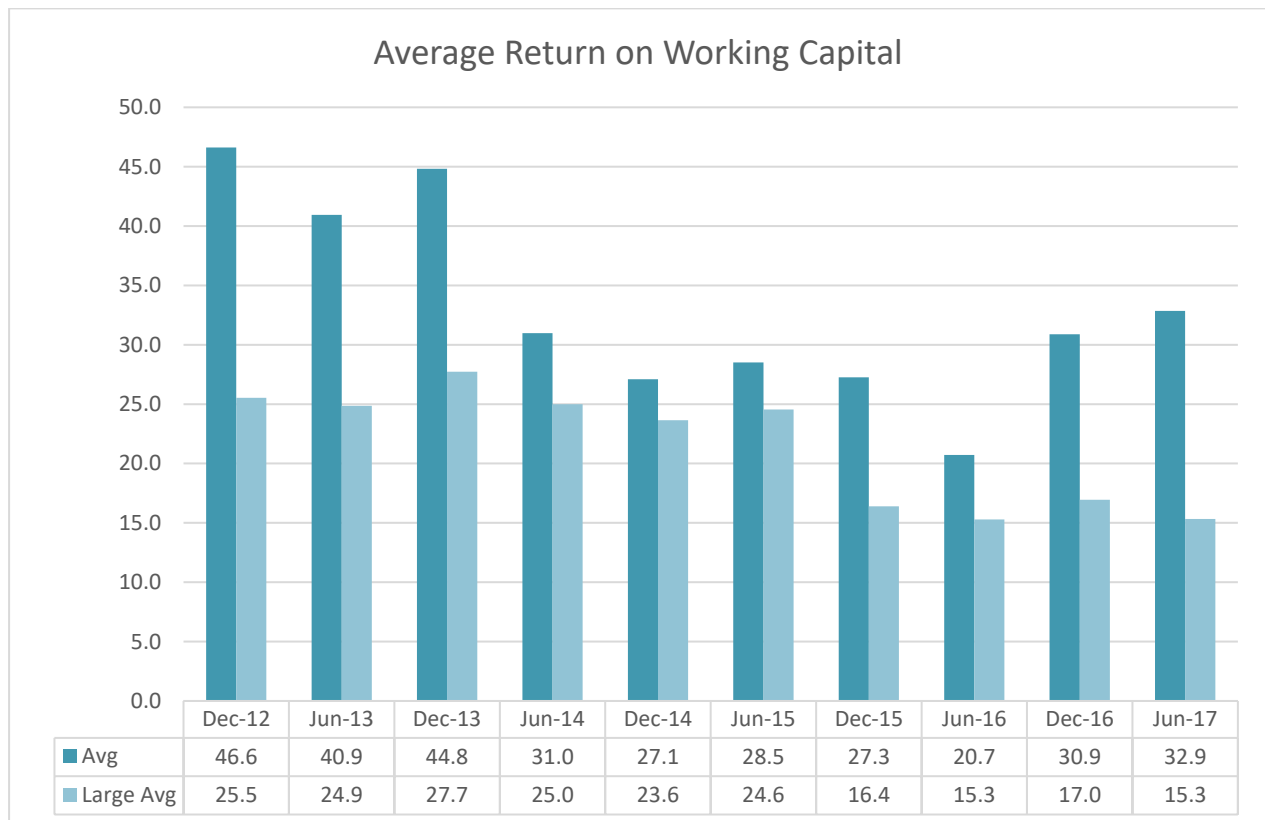
**Figure 3: Matrix distribution of average percentage outsourced by firms, according to main purpose**

**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>Procurement / Transformational requirements as laid down by the public sector clients</i>	<i>Black owned enterprises</i>
A	24.9	26.6	18.9
B	16.9	7.6	16.6
C	10.5	14.5	24.5
D	14.4	6.4	6.2
Average % of industry turnover	<b>16.4</b>	<b>14.2</b>	<b>16.9</b>
Average % of industry turnover December 2016 Survey	<b>17.6</b>	<b>25.3</b>	<b>24.9</b>



### 3.1.3 Return on Working Capital



**Figure 4: Average Return on Working Capital – Trend since December 2012**

- The industry's **return on working capital**<sup>1</sup> (un-weighted average) recovered to 32.9 percent in the June 2017 survey after having slowed to 20.7 percent and 30.9 in the previous two surveys, which is more in line with the average of between 30 and 40 percent in 2012 and 2013. Majority of firms reported a ROI of between 20% and 100%.
- Larger firms by comparison, however reported a weakening, to an average of 15.3 percent from 17.0 percent.

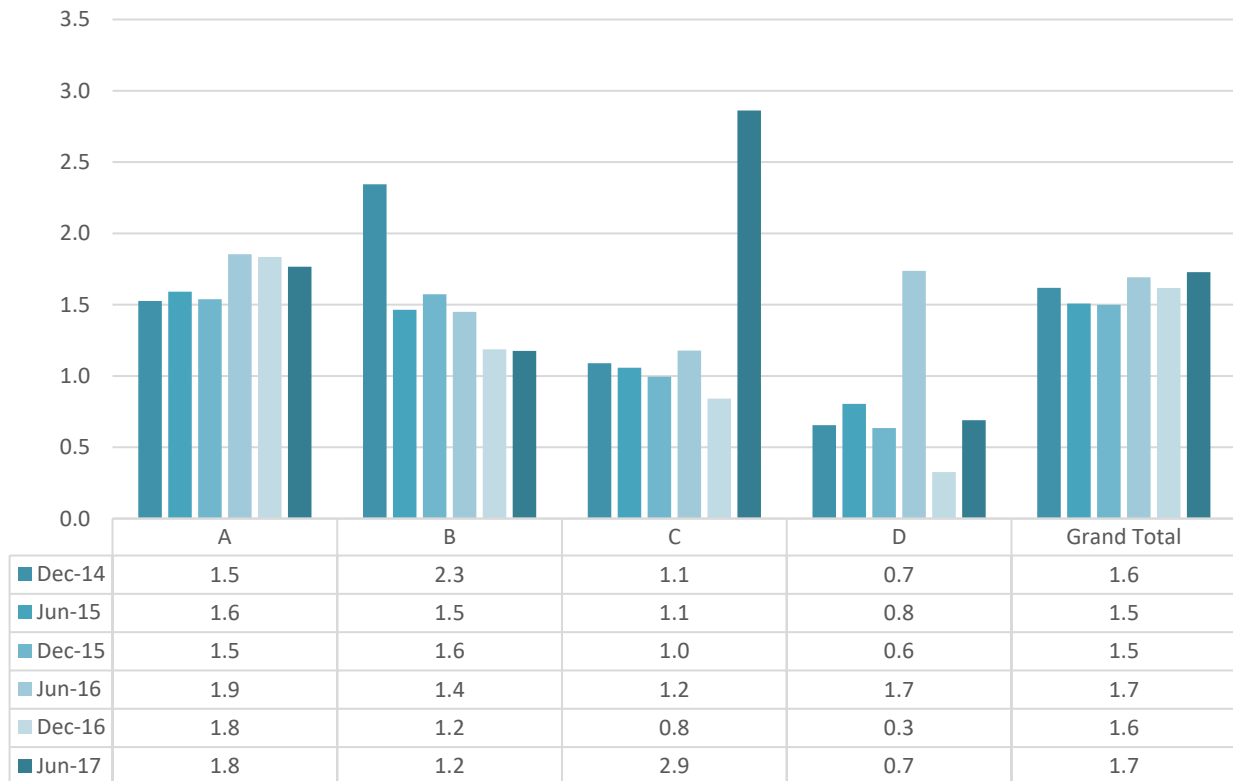
**Table 6: Return on Working Capital by firm size**

Group	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
A	25.0	23.6	24.6	16.4	15.3	17.0	15.3
B	33.2	31.1	22.4	24.8	18.9	48.2	53.5
C	38.6	22.8	33.9	32.4	28.1	33.4	41.8
D	25.5	28.2	33.1	28.9	19.9	10.0	22.8
<b>Grand Total</b>	<b>31.0</b>	<b>27.1</b>	<b>28.5</b>	<b>27.3</b>	<b>20.7</b>	<b>30.9</b>	<b>32.9</b>

<sup>1</sup> 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

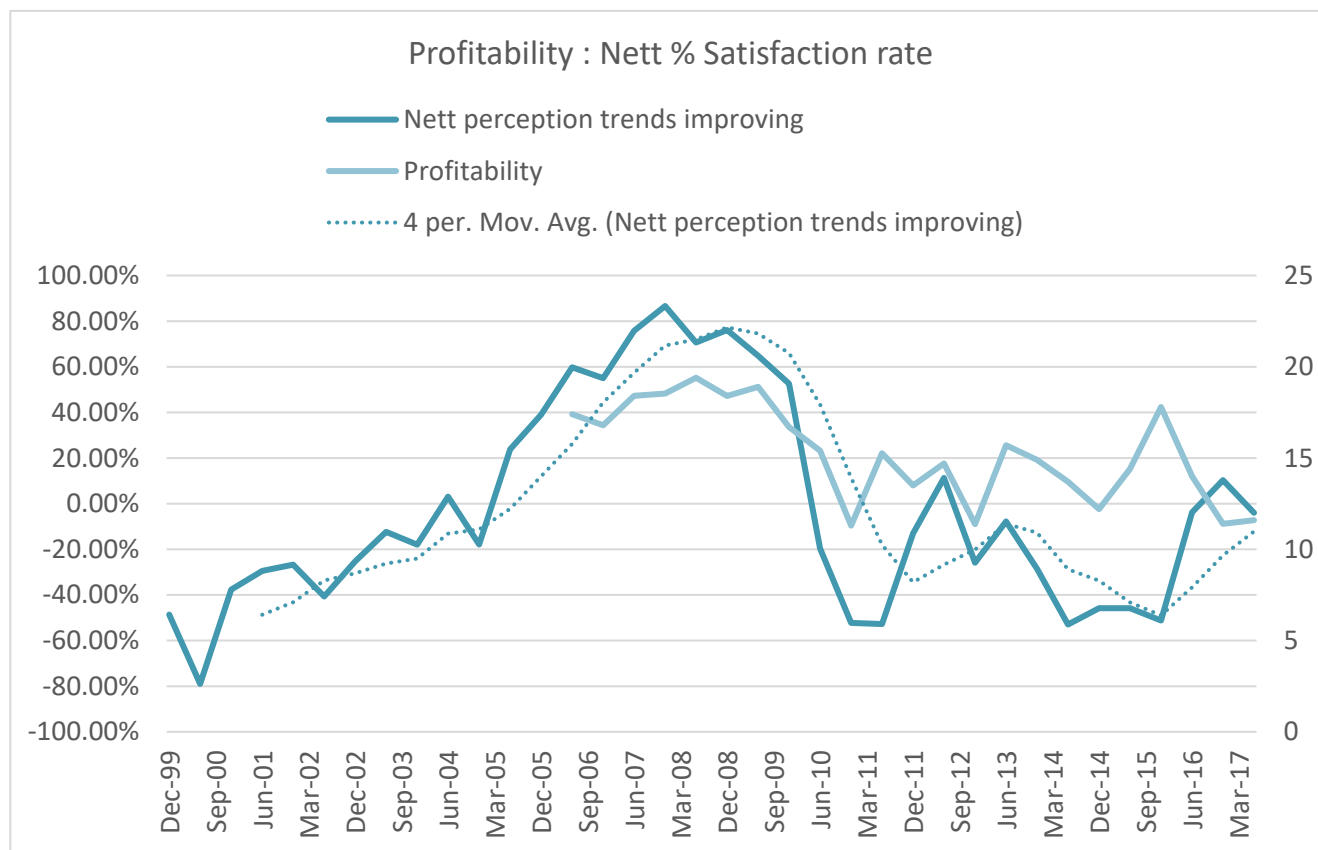
Fees not yet invoiced for confirmed appointments as % of revenue



**Figure 5: Order book: Income ratio**

There was a slight improvement in the ratio of fees not yet invoiced for confirmed appointments to existing earnings to 1.7 from 1.6 in the December 2016 survey, after having stabilized at 1.5 for 2015, from an average of 1.6 in 2014. Larger and medium size firms stabilized at a ratio 1.8 and 1.2 respectively, while smaller firms reported a more aggressive improvement from 0.8 (December 2016) to 2.9 in the current survey, suggesting an acceleration in pipeline work.

### 3.1.5 Profitability and late payments



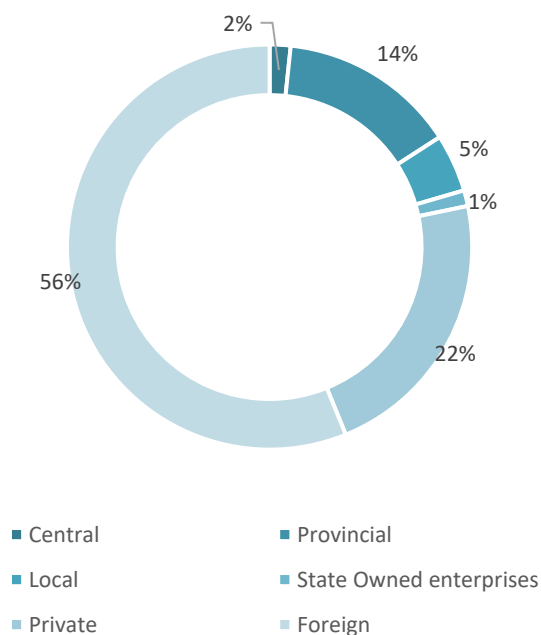
**Figure 6: Profitability: Net % Satisfaction rate vs Average Profitability**

Nett profitability stabilised at 11.6 percent in the first six months of 2017, from an average of 12.7 percent in 2016 and 16.1 percent in 2015. Allowing for fluctuations on a survey to survey basis, there has been no significant change in the overall trend (based on a two year average) in profitability since 2011, remaining below 15 percent on average.

Contrary to previous surveys, majority of firms are now expecting some improvement in profitability (54 percent vs an average of 27 percent in 2016, supported mainly by larger firms), while fewer firms (11 percent) expect a further deterioration.

Majority of larger firms (82 percent) are satisfied with prevailing margins. On average, however only 10 percent of firms reported profit margins as “good” (better than satisfactory) from 24.4 percent (December 2016). This lowered the nett satisfaction rate from a positive 10.3 percent to a negative 4.0 percent.

### Payment outstanding > 90 days Distribution by client type



**Payment** remains a serious issue, having a broad based effect on firms operating in the industry. After having shown some improvement in the December 2015 survey, the percentage of fees outstanding for longer than 90 days as a percentage of total estimated income (including late payments) deteriorated to an average of 23.8 percent in the first six months of 2017. The impact of foreign clients remain prominent in this survey contributed 56 percent to total fees outstanding for a period longer than 90 days. Excluding foreign clients, private sector contributed 50 percent to delayed payments, followed by provincial government at 32 percent, local government at 11 percent, central government at 4 percent and SOE's at 3 percent.

It is estimated that around R6.3bn in earnings is currently outstanding after the 90 day period.

In relation to earnings, the respective foreign clients owed 155 percent of earnings, provincial government 83 percent, private sector 19.3 percent, central government 7.6 percent, local government 10.9 percent and SOE's 3.4 percent.

### % of Earnings outstanding for > 90 days

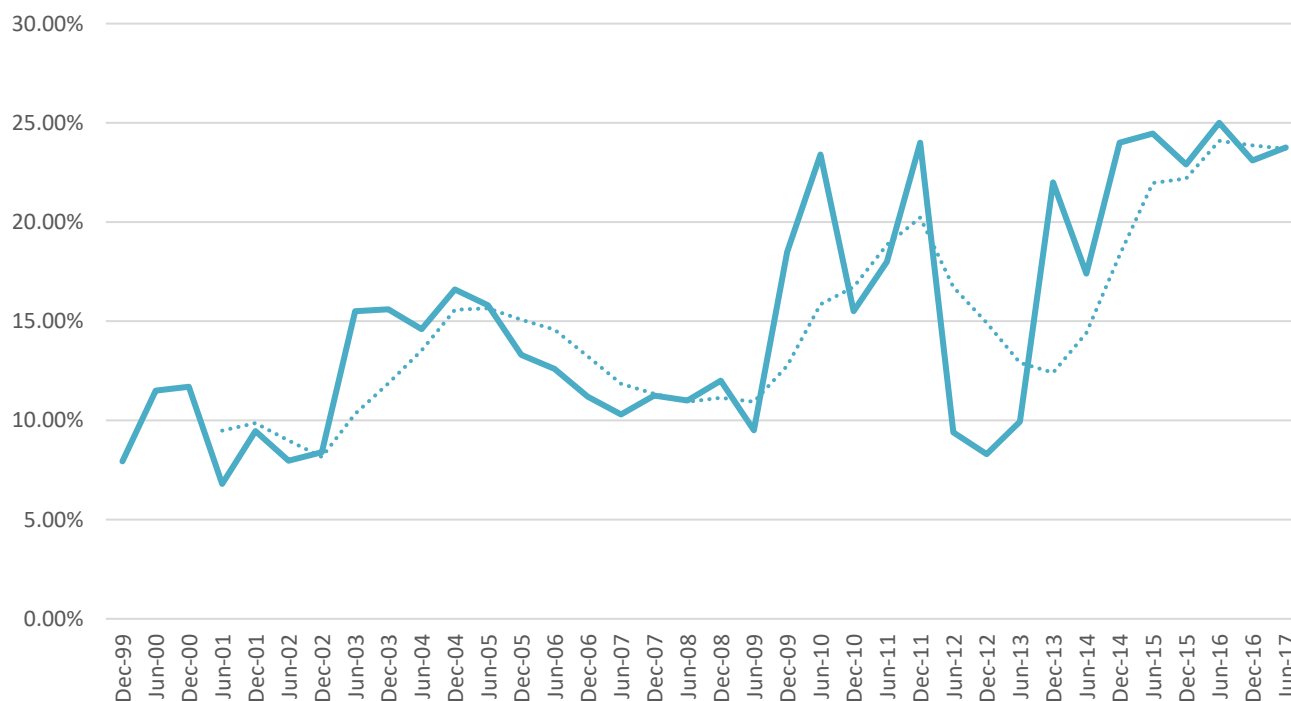
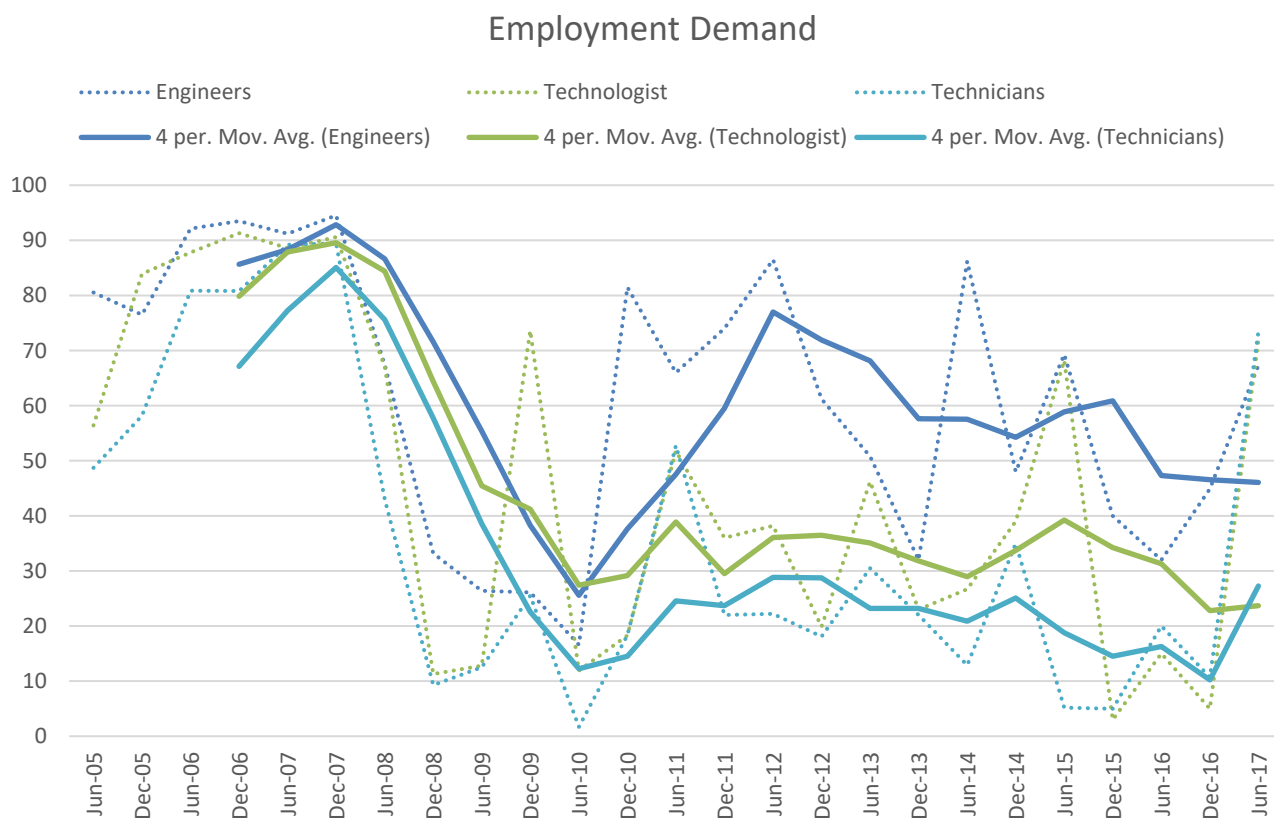


Figure 7: % of earnings outstanding for > 90 days

## 3.2 Human Resources

### 3.2.1 Employment

- Employment increased by an average of 4 percent in the first six months of 2017 to an estimated 24,283, compared to the last six months of 2016, following the 3 percent decline reported in the previous survey. This represents a marginal increase of 0.9 percent compared to the same period in 2016. Larger firms reported a 4 percent increase in employment, mainly due to an increase in full time employment (up by 8.1 percent) while part time employment fell by 19 percent. Medium size firms reported a similar change in employment with a 3.1 percent increase in full time employment vs a 66 percent drop in part time employment.
- The number of firms looking for engineers increased for the consecutive survey to 67.3 percent from 44.9 percent in the previous survey, with a notable increase in demand for other technical staff to 75.2 percent. Demand for technologist has also increased with 71.8 percent of firms looking to employ. Even demand for support staff increased to 35.3 percent. Details provided in the table below.



**Figure 8: Employment Demand**

**Table 7: % of firms wanting to increase staff, by type of personnel**

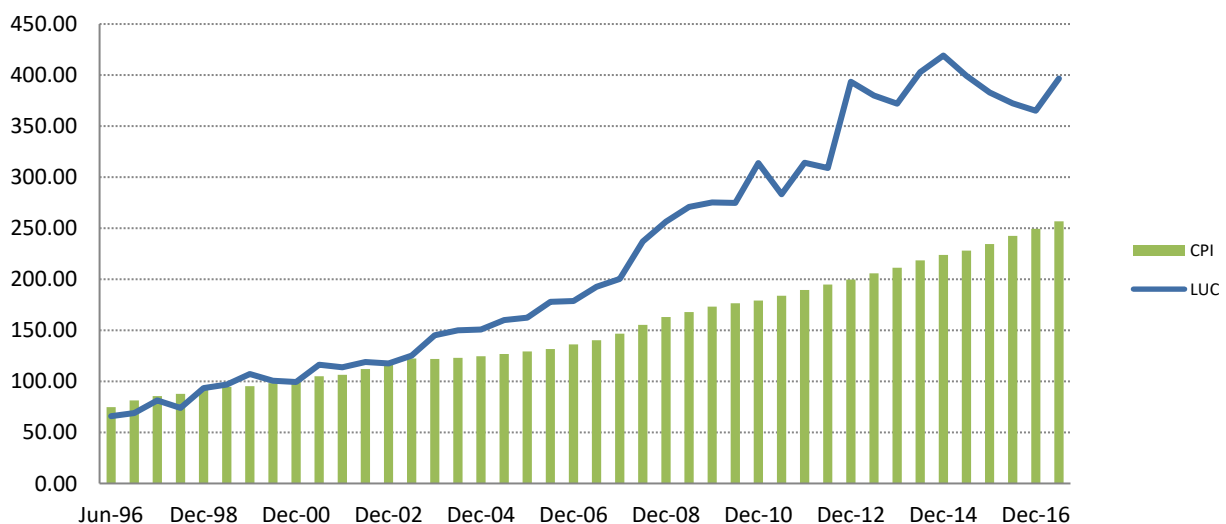
Type of personnel	% of firms wanting to increase staff June 2014	% of firms wanting to increase staff December 2014	% of firms wanting to increase staff June 2015	% of firms wanting to increase staff December 2015	% of firms wanting to increase staff June 2016	% of firms wanting to increase staff December 2016	% of firms wanting to increase staff June 2017
Engineers	86.2	48.0	69.3	40.0	32.0	44.9	67.3
Technologists	26.7	39.0	68.2	3.0	15.0	5.0	71.8
Technicians	12.9	35.0	5.1	5.0	20.0	10.7	73.4
Other technical staff	3.4	13.0	51.1	4.0	38.0	72.0	75.2
Support staff	2.1	3.8	2.9	0.0	18.0	0.0	35.3

### 3.2.2 Salary and Wage bill

The salary and wage bill represents 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 but was lower at 61 percent in the current survey.
- The contribution of the salary and wage bill was highest amongst larger firms, and averaged 64 percent (from 65 percent in December 2016), while medium size firms reported an average salary bill of 50 percent. Smaller and micro firms reported a salary and wage bill contribution of between 42 percent and 48 percent.
- 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 by 9 percent in the December 2017 survey, representing an increase of 7 percent compared to the same period in 2016. Inflation averaged 5.9 percent in the first six months of 2017 (from an average of 6.4 percent in 2016), and is expected to increase by around 6.0 percent for 2017, before slowing to 5.7 percent and 5.6 percent in 2018 and 2019, according to recent estimates released by National Treasury.

Change in CESA Labour costs vs CPI  
Index 2000 = 100



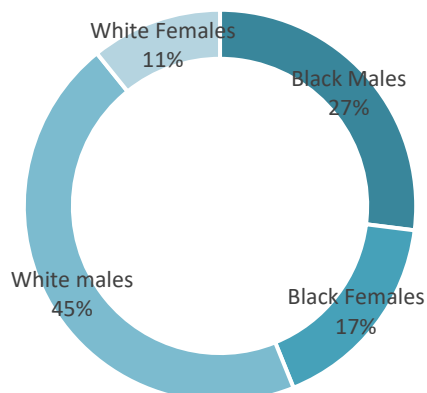


### 3.2.3 Training



**Figure 9: Training direct expenses as % of salary bill**

#### Direct Training Costs distribution (excluding Salaries)



Expenditure on training, in particular bursaries, is of a seasonal nature and responses can therefore be distorted in terms of timing when the bi-annual survey is conducted. Training expenses, which include the costs directly associated with training as well as the cost of salaries but excluding the 1% Construction Education and Training Authority (CETA) skills development levy, averaged 6 percent of the total estimated salary bill, compared to an average of 17 percent in 2016 and 6 percent in 2015. Although lower compared to 2015, this data is not entirely reliable, as many firms generally do not complete this section of the questionnaire. Majority of the firms report only on “direct training costs”.

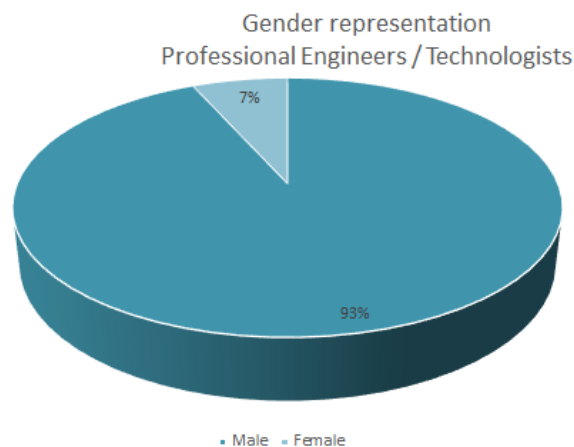
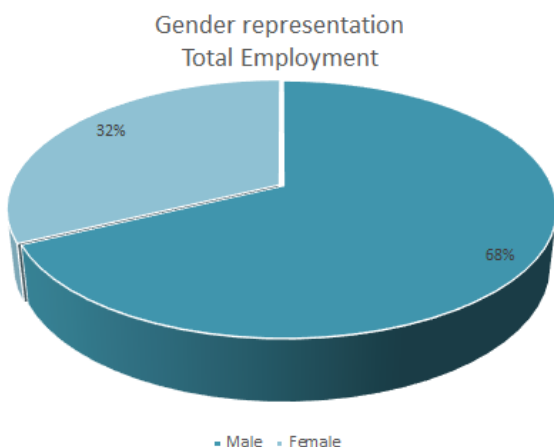
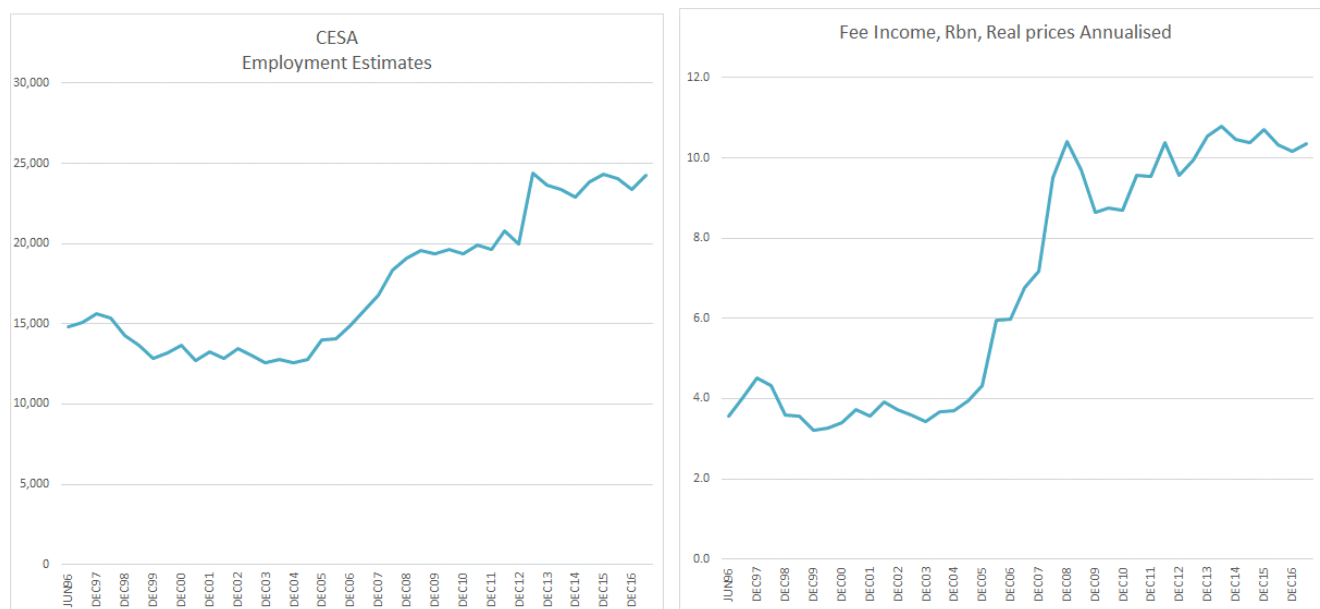
Direct training costs, a more reliable measurement of firms’ contribution to training, averaged 0.6 percent of the salary and wage bill, on par with the December 2016 survey and an improvement on the average of 0.4 percent reported in 2015.

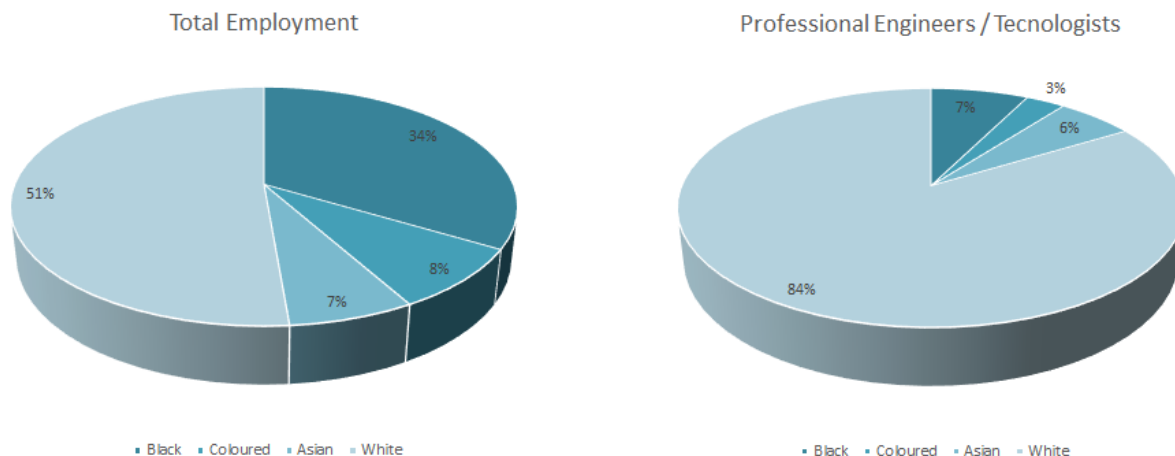
Larger firms spent on average 0.6 percent of their salary and wage bill on direct training, up from 0.3 percent (December 2016) while medium spent on average 0.8 percent (on par with the previous survey).

Training, is largely in favour of white males, contributing 45 percent of total direct training expenditure, followed by black males at 27 percent, black females at 17 percent and white females at 11 percent.

### 3.2.4 Employment profile

An estimated 24,283 people are employed in the private consulting engineering industry, of which 68 percent are male and 32 percent female. Professional Engineers (pr.Eng) contributed 13 percent to total employment, strongly dominated by males (94%) with women representing 6.0 percent of professional engineers in the industry. Employment growth has been muted following the build up to the Soccer World cup in 2010 but improved slightly following declines for two consecutive surveys. Employment increased by 0.9 percent compared to the same period last year. Employment trends are in line with the more muted performance in earnings over the last four to five years.

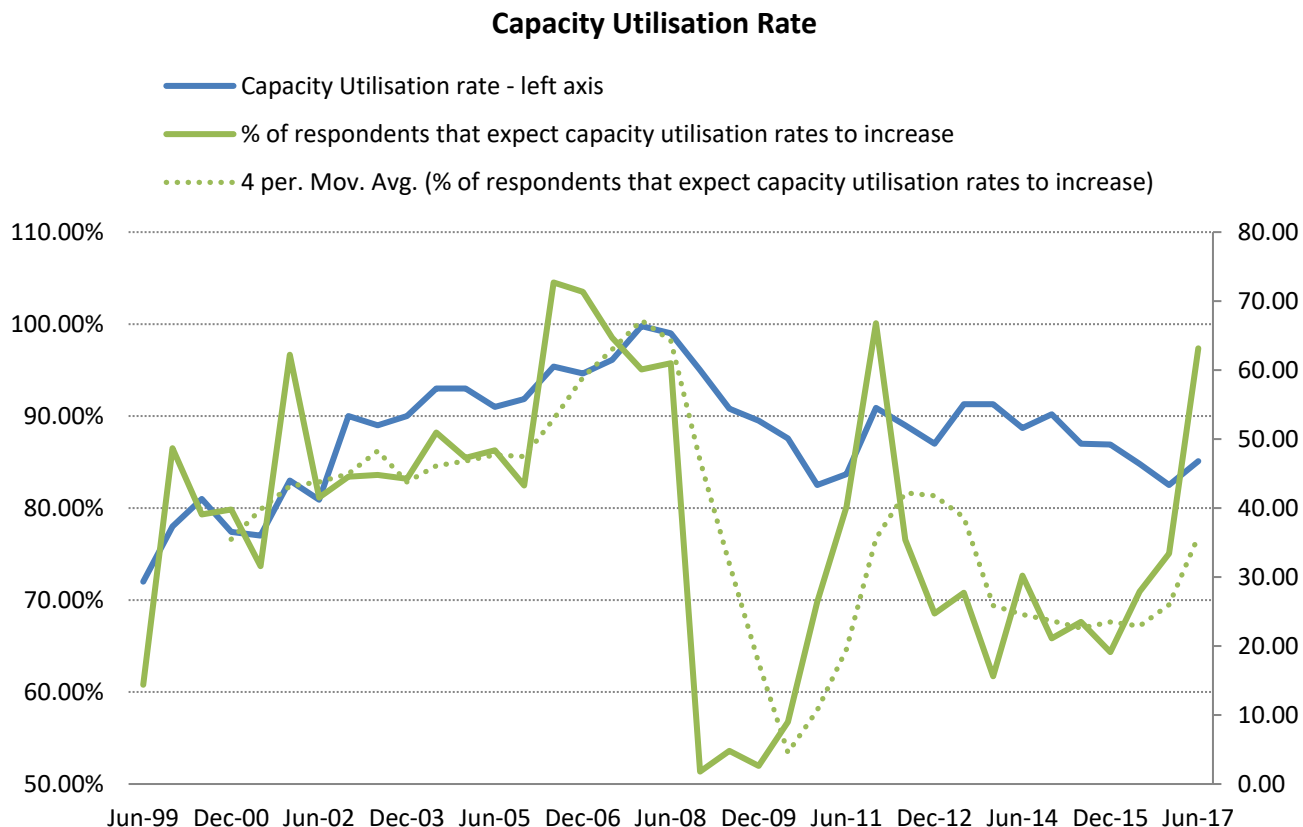




### 3.3 Industry profile of Executive Staff

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, moderated to 37.4 percent from 45.7 percent and 40.8 percent in the previous two surveys. This is a notable decrease following sustained periods of higher levels of black executive participation, which may be subject to reporting error. Whether or not this is an anomaly or trend can only be confirmed in follow up surveys. A detailed breakdown is provided in Statistical Tables.

**The appointment of women at an executive level, (including all races) improved to 12.8 percent from 11 percent but is still below the 13.6 percent in the June 2016 survey.** Of the total women employed in the consulting engineering industry (across all skill levels), 1.6 percent were reported at an executive level (up from 0.5 percent in the December 2016 survey, but on par with 2015 surveys. down from 1.2 percent and 1.5 percent in the previous two surveys, compared to around 5 percent of total males employed at an executive level.

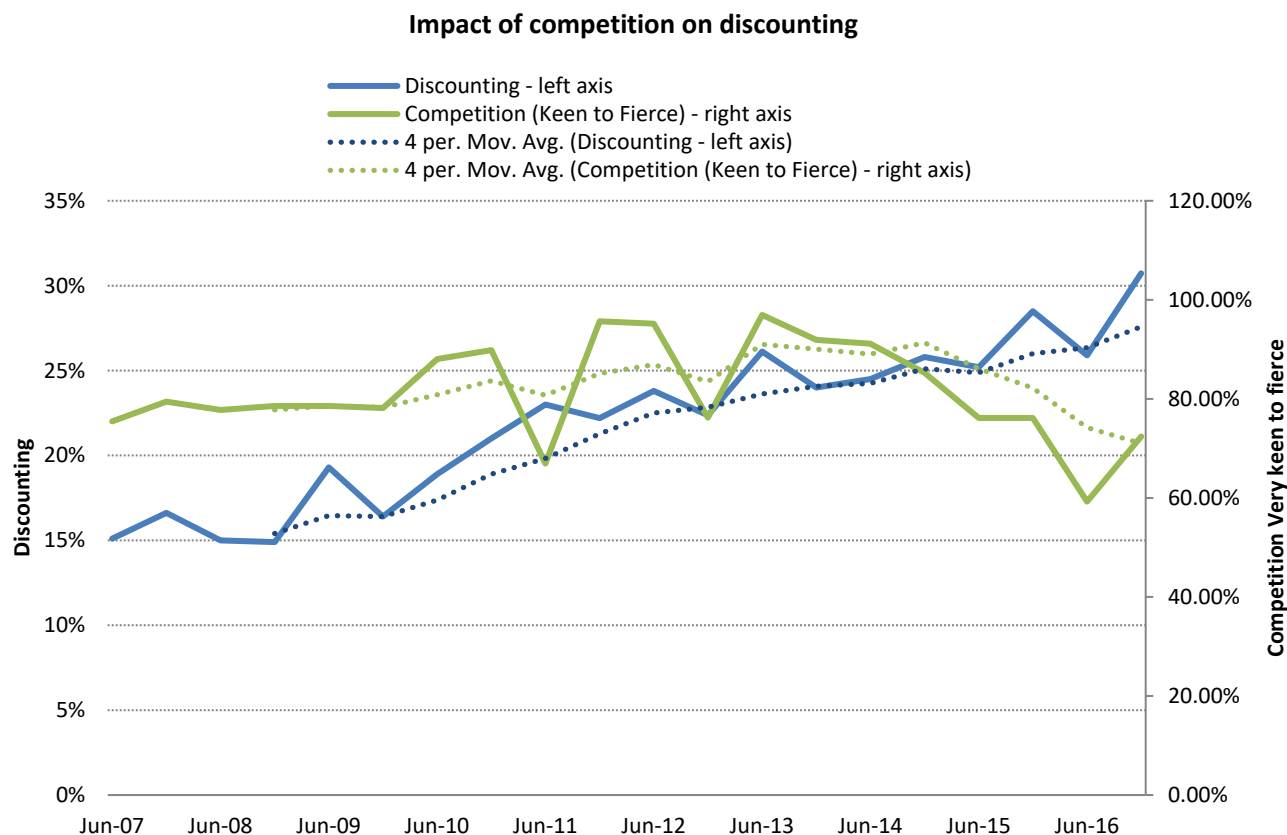


**Figure 10: Capacity Utilisation Rate**

### 3.4 Capacity Utilisation

**Capacity utilization of technical staff improved to an average of 85.1 percent, after having slowed over the previous two surveys to 82.5 percent.** This improvement is further encouraged by an increase in the number of firms that expect utilization rates to improve from an average of 30 percent in 2016 to 63.2 percent in the June 2017 survey. Just over a third of the firms expect no change in utilization while just over 2 percent expect a slowdown.

Larger firms reported the highest capacity utilisation at 91 percent, while medium size firms averaged a rate of 84.5 percent. Smaller firms reported the lowest rates of 78.8 percent. Larger firms were also the most optimistic regarding the outlook for utilisation, as close to 70 percent expect an improvement, while majority of the medium and smaller size firms expect rates to either remain static or decline.



**Figure 11: Competition and Discounting**

### 3.5 Competition in tendering

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 increases the risk for the engineering firm.

Although there has been some improvement the level of very keen to fierce competition since 2011/2012, an increasing number of firms continue to report on very keen fierce competition. In this survey 93 percent reported on very keen to fierce competition, up from 72.4 percent in the December survey and an average of 65.8 percent in 2016. Higher levels of competition are however more experienced by larger firms, with 97.5 percent reporting on very keen to fierce completion, while 59 percent of medium size firms experienced similar levels of competition. Micro firms reported the lowest level of strong competition, averaging 61 percent (very keen to fierce).

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 in the June survey (from a record high of 30.7 percent in the December 2016 survey) to an average of 27.5 percent. Medium size firms reported the highest level of discounting at 34.5 percent, followed by larger firms (28.6 percent, down from 38.3 percent in the December 2016 survey),

and an average of 23.8 percent for smaller to micro firms. Discounted rates are benchmarked against the ECSA Guideline fee scales.

<b>Firm Size Category</b>	<b>Capacity Utilisation of existing technical staff during the past 6 months</b>	<b>% of Respondents that expect capacity utilisation of technical staff to increase over the next 6 months</b>	<b>Average discount being offered by respondents in tendering situation to clients, benchmarked against the ECSA guideline fee scales</b>	<b>% of Respondents that reported Very Keen to FIERCE Competition for work during the last six months</b>
Large	91.8	69.1%	28.64	97.5%
Medium	84.5	22.6%	34.55	59.0%
Small	86.1	25.6%	26.33	78.0%
Micro	78.8	38.9%	21.25	61.1%
<b>Industry Average</b>	<b>85.1 (Weighted)</b>	<b>63.1 (Weighted)</b>	<b>27.5 (Weighted)</b>	<b>93.1 (Weighted)</b>

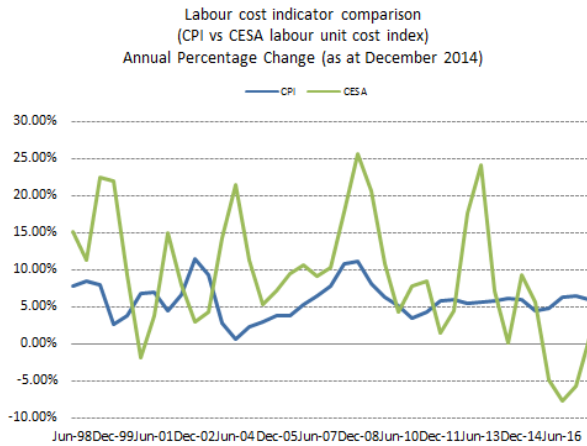
### 3.6 Pricing

*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.*

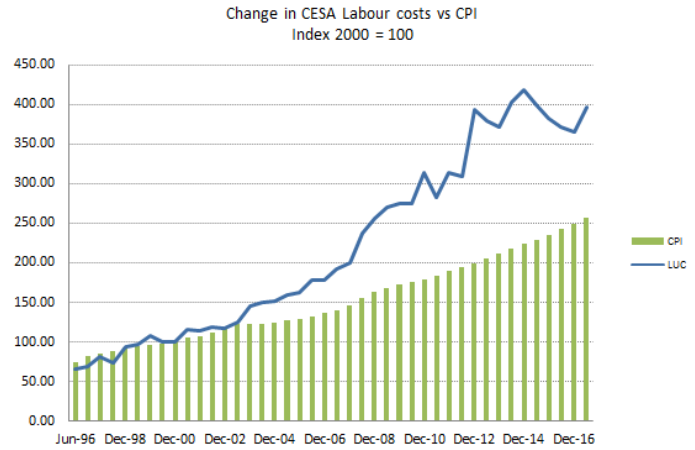
The index is based on the sample of total number of employees versus the salaries and wages paid during the period under review.

**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, increased marginally by 0.9 percent since the last six months of 2016, and is the first increase since the December 2015 survey.**

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 determination of ECSA Guideline Fees, which has shown an average increase of 5.9 percent in the first half of 2017, from 6.4 percent in the second half of 2016. Inflation is expected to average 6.1 percent in 2017, slowing to 5.7 and 5.6 percent in 2018 and 2019.

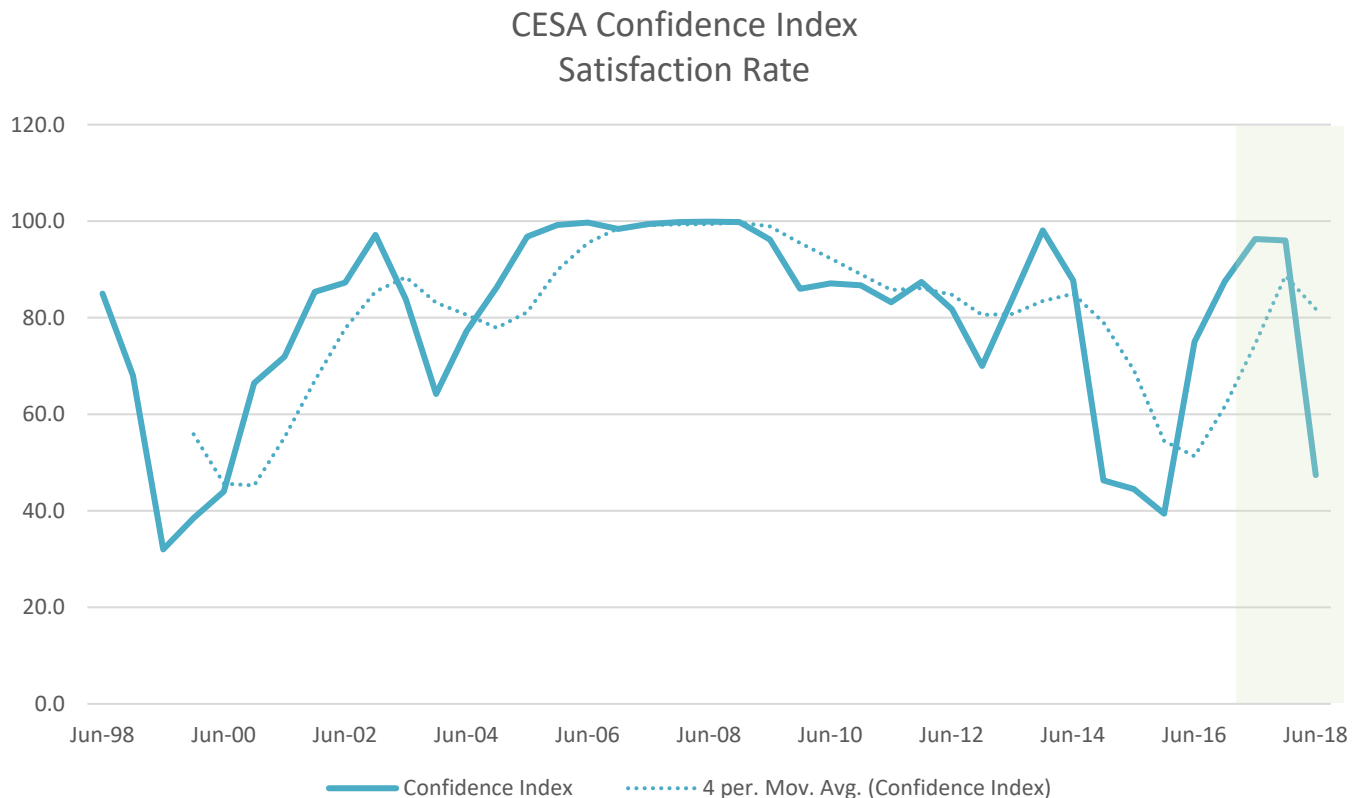


**Figure 12: CESA Labour Cost Indicator (LCI)**



**Figure 13: Change in CESA LCI vs CPI**

## 4. Industry Outlook



**Figure 14: Confidence Index**

**Explanatory note:** The confidence index, as an indicator of members’ assessments regarding current and future prospects with regard to market developments, 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.<sup>2</sup> The confidence index is used as a leading indicator to determine a short to medium term outlook for the consulting engineering industry.

In the December 2015 survey, confidence levels fell to its lowest level in 16 years. Since then there has been some improvement with the net satisfaction rate improving to 87.5 percent in the last six months of 2016 and to 96.3 percent in the June 2017 survey. Expectations for the last six months of 2017 are still relatively positive, but levels of optimism are waning for next year, particularly amongst larger and medium size firms.

Confidence levels amongst larger firms improved to a nett satisfaction rate of 97 percent in the first six months of 2017 but falls to below 50 percent for the same time next year. Medium size firms reported equally satisfactory levels for the first six months but also expect weaker conditions for next year. Smaller to micro firms currently reported the lowest confidence levels (averaging 73 percent for June 2017), with no real change expected in the next 12 months.

A breakdown by firm size category is provided in the table below.

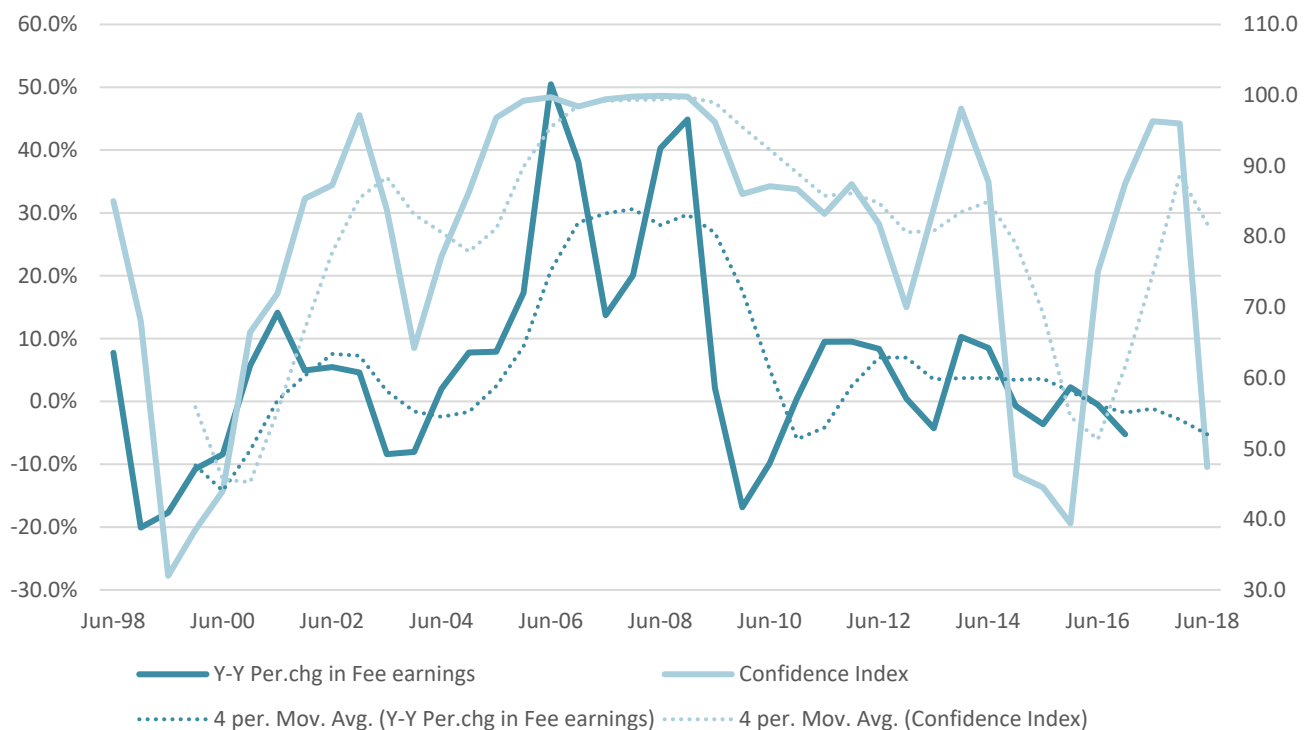
<sup>2</sup> The net percentage reflects only those members that expect conditions to be satisfactory, quite busy or very busy.



**Table 8: Confidence as at December 2016, by firm size category (% of respondents that experienced satisfactory business conditions)**

Firm size category	First six months of 2017	Next 6 months	Next 12 months
Large	97.2%	100.0%	47.5%
Medium	100.0%	70.7%	60.5%
Small	78.9%	65.5%	64.6%
Micro	67.0%	95.8%	81.9%

### 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's. Growth in earnings have been muted over the last few years, but have started to decline (in real terms) over the last few surveys.

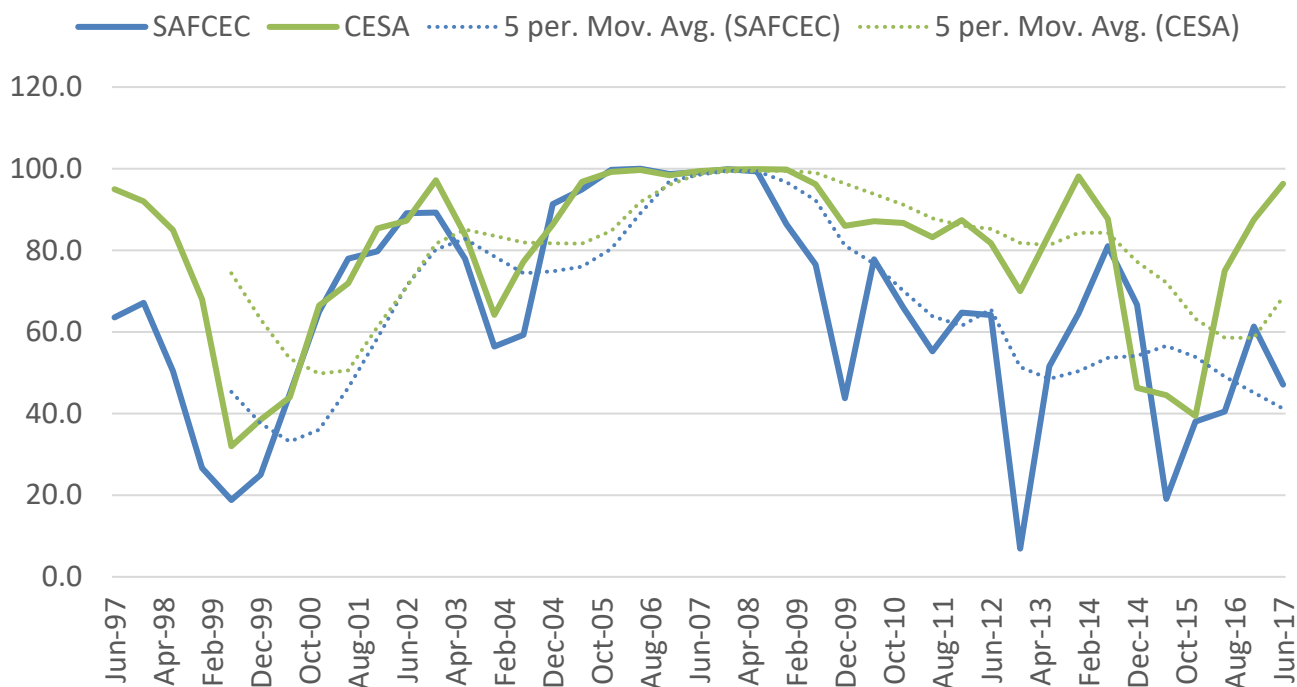
It therefore remains to be seen whether the recovery in confidence levels during 2017 will filter through to stronger growth in earnings, considering the more positive outlook on profitability and a stabilization in the orderbook to income ratios in the current survey.

**Table 9: 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	-3.6%	-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 (forecast)	96.0	-0.3%	9.7%
Jun-18 (forecast)	47.4	-50.6%	-50.8%

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

### CESA vs SAFCEC Confidence Satisfaction rate (including Satisfactory to Very Good business conditions)



**Figure 15: 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 slow roll out of government projects. 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 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. Trend lines on both professions are still on a downward trajectory, but with a recent mild improvement amongst consulting engineers. If sustained, this could suggest an increase in pipeline work for civil contractors.

Confidence in the consulting engineering sector generally lags business sentiment. Business confidence fell to a level of just 29 in the 2<sup>nd</sup> quarter of 2017, the weakest levels since the 4<sup>th</sup> quarter of 2009. Business confidence has been below or close to the 50 level for the past 7 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. At the current rate investment levels will remain poor, contributing to additional constraints in South Africa's economic growth as well as investment in construction.

## **6. Market Profile**

### **6.1 Sub-disciplines of fee income earned**

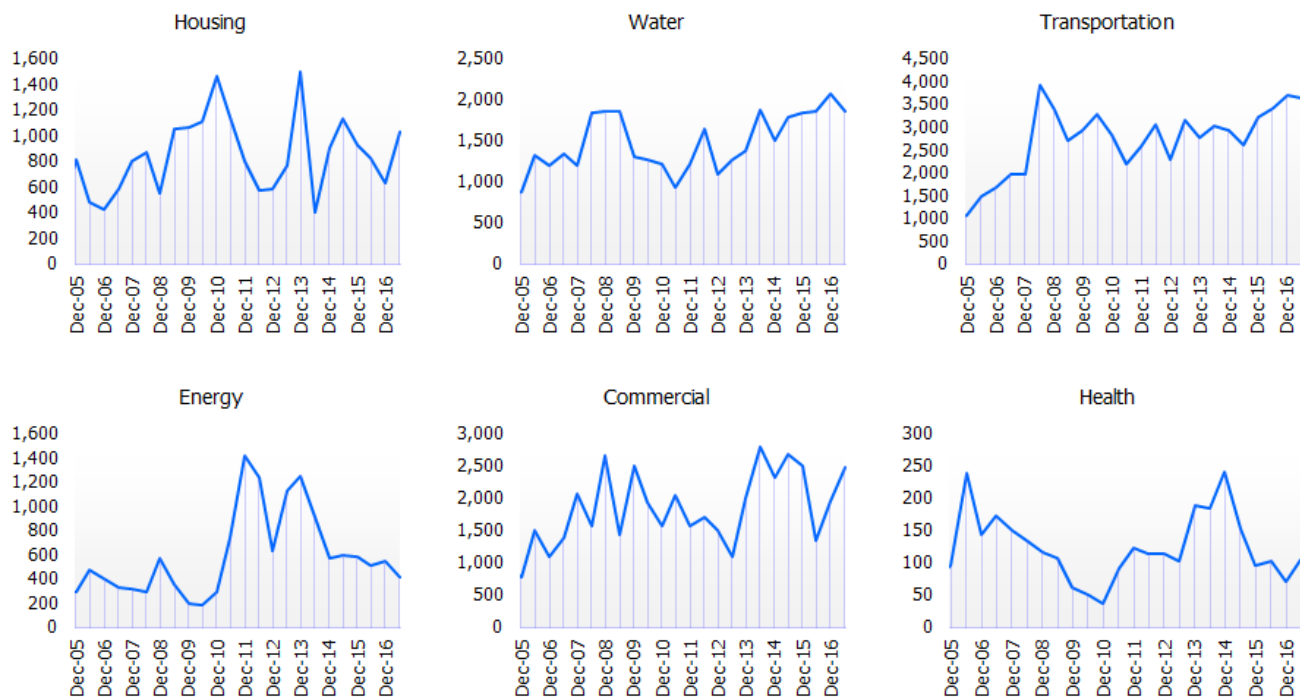
The South African consulting engineering industry is represented by many different sub-disciplines. The most common disciplines within larger firms include civil and structural services, contributing 60.0 percent and 13.7 percent in earnings during the first six months of 2017. The contribution of project management slowed to less than 4 percent (from an average of 6.8 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.

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

### **6.2 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 but there was a more notable increase in the contribution by the commercial sector which increased to 24 percent from an average of 16 percent in 2016. Housing also gained some momentum to 10 percent of earnings from an average of 7 percent in 2016. The contribution by the mining sector fell to 4 percent in the current survey, down from an average of 6 percent in 2016, as investment in mining remains under pressure. The energy sector contributed 4.0 percent, relatively on par with last six surveys dating back to June 2014.

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.

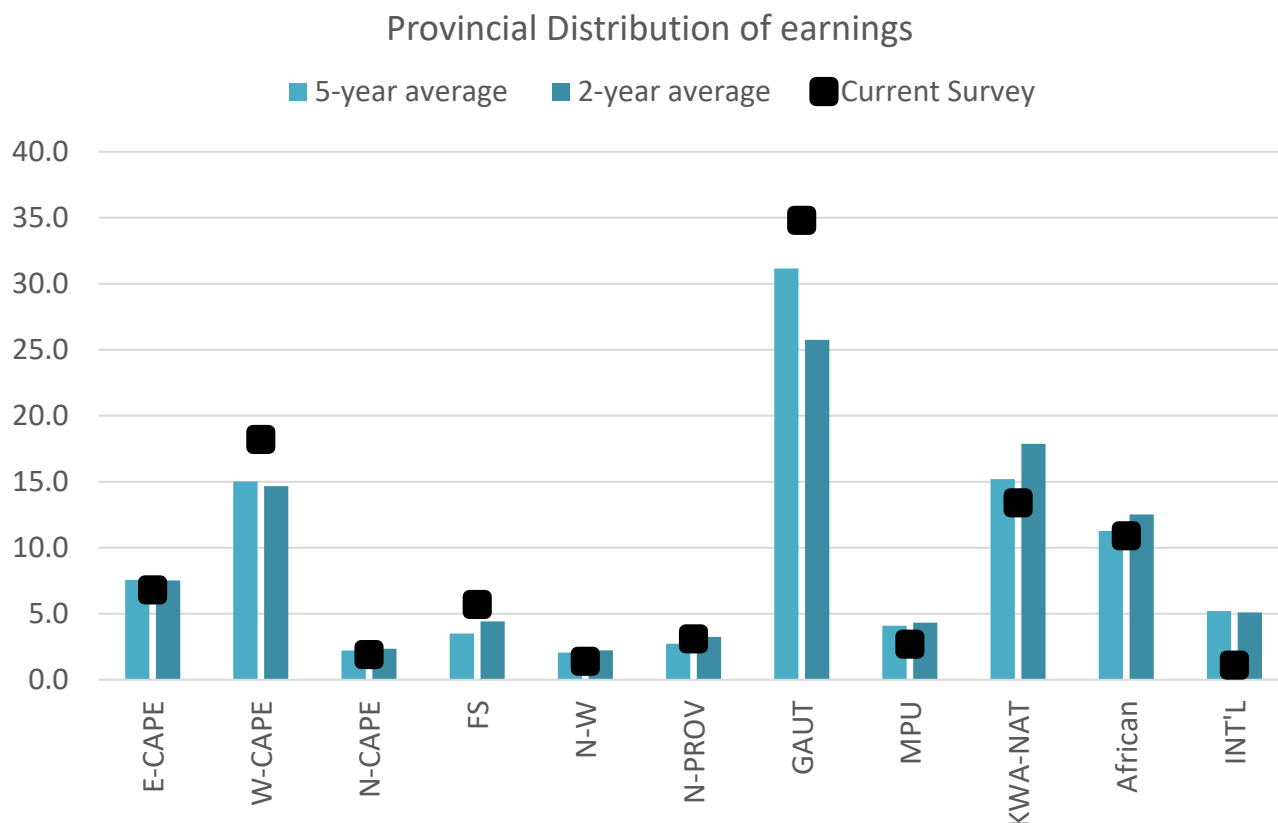
**Table 10: Distribution of fee earnings by economic sector, by firm size**

	Water	Transportation	Energy	Mining	Education	Health	Tourism	Housing	Commercial	Agriculture	Other	Total
A	18%	38%	4%	0%	1%	0%	11%	25%	0%	3%	0%	100%
B	26%	26%	2%	4%	4%	0%	8%	28%	0%	1%	0%	100%
C	13%	34%	17%	1%	5%	1%	10%	15%	0%	3%	0%	100%
D	9%	24%	0%	1%	0%	0%	12%	18%	4%	31%	0%	100%
Grand Total	19%	37%	4%	1%	1%	0%	10%	25%	0%	3%	0%	100%

**Table 11: Distribution of fee earnings by province, by firm size**

	GAU	KZN	WC	EC	NC	MPU	FS	LIM	NW	AFRICA	INT	Total
A	35%	15%	19%	7%	1%	1%	6%	2%	1%	13%	1%	100%
B	40%	8%	11%	7%	5%	10%	9%	7%	3%	2%	0%	100%
C	33%	2%	21%	9%	5%	21%	0%	6%	0%	1%	0%	100%
D	16%	4%	38%	2%	3%	5%	3%	1%	22%	0%	5%	100%
Grand Total	35%	13%	18%	7%	2%	3%	6%	3%	1%	11%	1%	100%

### 6.3 Geographic Location



**Figure 16: Provincial Distribution of earnings**

The contribution of Gauteng to total earnings increased for the second consecutive survey to 34.8 percent in the current survey (from an average of 25.7 percent in 2016). This is the highest rate since December 2013. The contribution by the Western Cape also showed some improvement, rising to 18.2 percent in the current survey from an average of 15.7 percent in 2016. Kwazulu Natal's contribution improved to 13.4 percent in the current survey from 10.5 percent in the December 2016 survey, but this is still below the average of 19.4 percent for 2016.

Earnings outside of South Africa (Africa in particular) contributed 10.9 percent, down from 12.1 percent (December 2016) and an average of 10.2 percent in 2016. Whether or not this is a shift in strategy as far as local engineers are concerned can only be determined by the results of future surveys, and may be affected by sampling in this particular survey. International earnings contributed 1.1 percent to earnings, down from 2.5 percent in the previous survey, and an average of 2.1 percent in 2016. Overall earnings in African and the international market are lower compared to the 2 and 5 year averages.

## 6.4 Clients

The contribution to fee earnings by the private sector increased to 49 percent, considerably higher than the overall 2 and 5 year average. This is a notable shift in the this survey as the contribution by the private sector has generally deteriorated over the last few years. The strong increase in the private sector means the contribution by provincial and local government dropped to 7 percent and 18 percent respectively (from 14 percent and 25 percent in the December 2016 survey).

The contribution by SOE's also moderated slightly to 16 percent (from 18 percent), relatively on par with the 5 year average. Notable in the previous survey was the higher contribution by the central government which rose to 10 percent (from 4.0 and 5.9 percent in the previous two surveys), and this contribution was maintained in the current survey. Medium size firms earned 54 percent of their earnings from local government compared to only 15 percent by larger firms.

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 June 2017 survey the combined representation of the public sector (including central, provincial, local government and SOE's) fell to 51 percent from 67 percent in the previous survey, while the contribution by the private sector accelerated to 49 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.

Client Distribution based on fee earnings

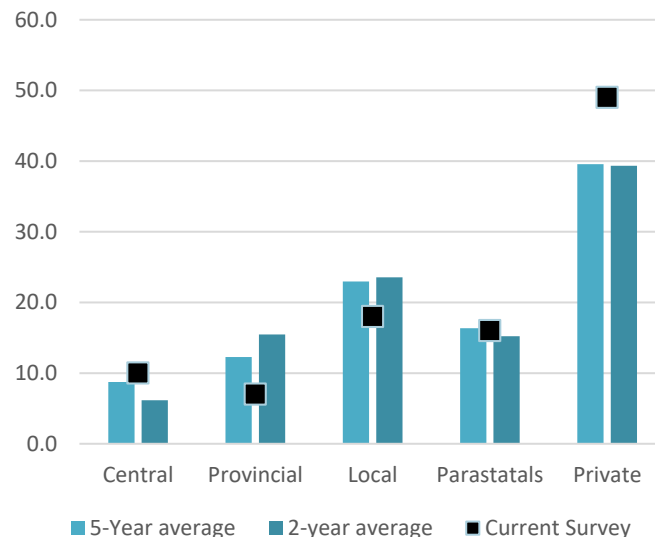


Figure 17: Distribution of earnings by client type

Table 12: Fee earnings distribution by client by firm size

	Central	Provincial	Local	Parastatals	Private	Total
Large	9%	5%	15%	18%	52%	100.0%
Medium	11%	14%	28%	7%	41%	100.0%
Small	8%	20%	25%	6%	41%	100.0%
Micro	7%	2%	54%	9%	27%	100.0%
Total	9%	7%	18%	16%	49%	100.0%
Average 2-Year	6.2	15.5	23.6	15.2	39.4	100.0%
Average 5-year	8.7	12.3	23.0	16.4	39.6	100.0%

## 5. 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 June 2017 survey.

- 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 of 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.



## 7. Professional Indemnity Insurance

The industry reported to have spent less on premiums for professional indemnity insurance, which lower to an average of 1.2 percent in the June 2017 survey from between 1.6 percent and 1.7 percent in the previous two surveys. Majority of firms (64 percent) spent less than 1% of their income on insurance, but a few did report between 3 percent and 5 percent. Most of the larger firms reported a level of between 0.2 percent and 1.2 percent.

**Table 13: Average annual premium and limit of indemnity as percentage of gross fee income, by firm size category**

Firm size category	Average annual premium as percentage of gross fee income	Average Limit of Indemnity as % of gross fee income	Average deductible on PI as % of limit of indemnity
A	0.6	32.0	1.6
B	1.4	43.1	2.1
C	1.1	123.9	1.7
D	1.6	379.0	0.4
Average	1.2	149.8	1.4

Majority of firms (63%) reported a low risk exposure, while none of the firms reported to have high risk exposure. Seventy percent of the larger firms reported on medium risk, higher than the average for the industry. Please note that only a few firms reported on the value of claims paid by insurers as a percentage of premiums paid, so the results from this section of the survey is deemed unreliable and not suitable for analytical purposes.

Approximately 32 percent of the responding firms, reported claims over the last five years, averaging less than 4 claims per firm, slightly higher than the 3.0 average in the previous survey. Larger firms had the highest average number of claims per firm (at 6.1) compared to an average of 4.5 for smaller to micro size firms and 4.5 for medium size firms.

The industry's average limit of indemnity (LOI) as a percentage of gross fee income over the 12 month period increased from an average of 88.5 percent (June 2016) 90.6 percent (December 2016) to 149 percent. The limit of indemnity averaged 32 for larger firms (from 25.5 percent in December 2016) and 43.2 percent for medium size firms. Smaller to micro firms reported a much higher average of 251 percent.

In terms of deductibles as a percentage of the indemnity limit the industry averaged 1.4 percent in the June 2017 survey, on par with the June 2016 survey. Larger firms averaged 1.6 percent, compared to an average of 2.1 percent for medium size firms.

## 8. Quality Management System

A quality management system (QMS) is a control that is implemented at various stages of production process or service delivery stages. All firms are required to have a QMS as a condition of CESA membership. Majority of firms reported to have a QMS system in place (96 percent). While all the larger, medium and smaller size firms reported to have the QMS in place, only 85% of the micro enterprises that responded to the survey currently comply, on par with the previous survey.

Having a QMS in place is now compulsory for all CESA members, who recognize the importance of good efficient quality control. CESA recommends the ISO:9001:2008 frame work, recognizing this framework as being comprehensive and internationally recognized. Members can, provided the correct procedures are followed, claim a portion of the skills development levy for quality management training. For more information on statutory requirements for members, please refer to the practice note released by CESA.

Members are obliged to use accredited agents should they wish to obtain an ISO 9001:2008 certificate. Details of certification bodies used by Members consenting to make this information available, is published on the CESA website. On average 47 percent of the firms certified in this survey, a moderate improvement from the 42 percent in the last six months of 2016 but well above the 34 percent in the last six months of 2015. Majority of the small to micro firms are still not ISO 9001:2008 certified, compared to more than 90 percent of the larger and medium size firms. An ISO certification is not a condition of membership at this stage.

## Statistical Tables

**Table 14: General financial indicators**

Survey period	Employment <sup>3</sup>	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
Jun-08	18,347	4,940	14,752	9,499	40.3%	155.3	10.8%
Dec-08	19,081	5,516	16,965	10,407	44.9%	163.0	11.1%
Jun-09	19,596	5,141	16,287	9,700	2.1%	167.9	8.1%
Dec-09	19,342	5,019	14,984	8,653	-16.9%	173.2	6.2%
Jun-10	19,632	4,723	15,433	8,746	-9.8%	176.5	5.1%
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%	228.10	4.4%
Dec-15	24,315	6,748	25,119	10,712	2.3%	234.50	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%	256.82	5.9%

**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)
Jun-08	16.1%	36.7%	40.3%	10.80%
Dec-08	13.9%	55.7%	44.9%	11.10%
Jun-09	6.8%	4.1%	2.1%	8.10%
Dec-09	1.4%	-9.0%	-16.9%	6.20%
Jun-10	0.2%	-8.1%	-9.8%	5.10%
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%

<sup>3</sup> Revised June 2007

**Table 16: Sub-disciplines: Percentage share of earnings**

Sub-discipline	Jun-16	Dec-16	Jun-17	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Agricultural	0.9%	0.7%	0.2%	0.9%	0.8%	-0.6%	-0.6%	-0.5%
Architecture	0.7%	0.3%	0.5%	0.7%	0.6%	-0.1%	-0.1%	0.2%
Mechanical building Services	2.3%	2.8%	5.3%	3.6%	2.5%	2.8%	2.8%	2.5%
Civil	52.5%	48.5%	60.0%	48.3%	50.2%	9.8%	9.8%	11.5%
Electrical / Electronic	4.3%	4.1%	5.3%	6.8%	5.3%	0.0%	0.0%	1.2%
Environmental	4.0%	4.0%	1.3%	3.2%	3.6%	-2.3%	-2.3%	-2.7%
Facilities Management (New)	0.0%	0.0%	1.5%	0.4%	0.3%	1.2%	1.2%	1.5%
Geotechnical	1.4%	1.5%	0.9%	1.3%	1.5%	-0.6%	-0.6%	-0.6%
Industrial Process / Chemical	2.9%	3.7%	0.0%	1.9%	2.6%	-2.6%	-2.6%	-3.7%
GIS	0.2%	1.9%	0.9%	0.6%	0.7%	0.2%	0.2%	-1.0%
Hydraulics (New)	0.2%	0.5%	0.0%	0.7%	0.5%	-0.5%	-0.5%	-0.5%
Information Systems / Technology	2.0%	5.6%	3.1%	1.5%	3.2%	-0.1%	-0.1%	-2.5%
Marine	2.6%	0.0%	0.0%	1.0%	1.1%	-1.1%	-1.1%	0.0%
Mechanical	7.1%	3.4%	0.9%	4.4%	5.6%	-4.7%	-4.7%	-2.5%
Mining	0.3%	0.6%	1.3%	1.3%	0.3%	1.0%	1.0%	0.7%
Project Management	5.7%	7.9%	3.9%	9.4%	7.7%	-3.8%	-3.8%	-4.0%
Quantity Surveying	0.1%	0.3%	0.3%	0.3%	0.2%	0.1%	0.1%	0.0%
Structural	12.6%	13.9%	13.7%	12.5%	12.7%	1.0%	1.0%	-0.2%
Town planning	0.2%	0.4%	0.9%	1.4%	0.6%	0.3%	0.3%	0.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>			

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

Sub-discipline	Dec-15	Jun-16	Dec-16	Change last six months	Change last 12 months
Agricultural	93	68	21	-70%	-78%
Architecture	68	30	52	72%	-24%
Mechanical building Services	237	282	549	94%	132%
Civil	5,423	4,922	6,211	26%	15%
Electrical / Electronic	444	416	549	32%	24%
Environmental	410	410	135	-67%	-67%
Facilities Management (New)	1	2	155	9869%	20185%
Geotechnical	147	154	93	-39%	-36%
Industrial Process / Chemical	303	372	0	-100%	-100%
GIS	21	188	93	-50%	335%
Hydraulics (New)	21	54	0	-100%	-100%
Information Systems / Technology	210	564	321	-43%	53%
Marine	269	0	0	-	-
Mechanical	731	347	93	-73%	-87%
Mining	32	59	135	128%	323%
Project Management	591	807	404	-50%	-32%
Quantity Surveying	11	27	31	16%	177%
Structural	1,306	1,407	1,418	1%	9%
Town planning	18	41	93	127%	415%
<b>Total</b>	<b>10,335</b>	<b>10,150</b>	<b>10,352</b>	<b>2.0%</b>	<b>0.2%</b>

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

Province	Survey period							
	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
EC	992	702	880	675	643	1,085	721	704
WC	2,026	1,847	1,299	1,486	1,393	1,530	1,685	1,884
NC	211	248	325	187	171	331	284	197
FS	232	270	283	571	386	331	548	590
NW	264	259	283	280	182	320	142	145
LIM	179	248	367	218	407	227	497	321
GAU	3,693	3,434	2,577	2,950	2,485	1,943	3,309	3,602
MPU	264	346	388	322	428	630	416	279
KZN	1,129	<b>1,015</b>	<b>1,267</b>	<b>1,538</b>	<b>1,928</b>	<b>2,914</b>	<b>1,066</b>	<b>1,387</b>
AFRICAN	1,087	1,425	1,655	1,382	1,767	847	1,228	1,128
INT'L	475	1,004	1,152	779	932	176	254	114
<b>Total</b>	10,552	10,799	10,474	10,389	10,722	10,335	10,150	10,352

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

Province	Survey period							
	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
EC	52.1%	21.6%	-15.8%	-8.1%	-16.6%	11.1%	37.0%	-17.6%
WC	-1.3%	41.3%	0.7%	-28.0%	-8.4%	4.9%	11.7%	22.1%
NC	11.3%	38.3%	46.9%	11.5%	-37.4%	-1.9%	71.6%	-4.2%
FS	-37.6%	-4.5%	17.4%	70.3%	73.3%	-16.1%	-8.2%	58.9%
NW	82.0%	72.5%	25.1%	7.8%	-14.6%	-10.8%	0.0%	-42.9%
LIM	-31.7%	7.2%	76.4%	36.8%	1.7%	8.5%	15.9%	29.0%
GAU	-0.2%	-7.4%	-21.8%	-22.4%	-9.5%	-19.9%	-3.4%	56.1%
MPU	-29.5%	-45.0%	6.0%	16.6%	2.5%	49.2%	39.5%	-34.3%
KZN	19.1%	-34.2%	-29.5%	30.9%	52.0%	72.6%	14.8%	-49.3%
AFRICAN	-12.4%	90.1%	93.1%	21.0%	2.3%	-13.9%	-34.1%	-9.9%
INT'L	29.0%	230.7%	229.6%	30.7%	-20.6%	-42.7%	-74.9%	-66.8%
<b>Total</b>	2.6%	9.4%	3.7%	-2.2%	-0.7%	0.9%	-3.0%	-2.6%

**Table 20: Provincial Distribution percentage share of earnings**

Province	Survey period								5-year average	2-year average
	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17		
EC	9.4	6.5	8.4	6.5	6.0	10.5	7.1	6.8	7.6	7.5
WC	19.2	17.1	12.4	14.3	13.0	14.8	16.6	18.2	15.0	14.7
NC	2.0	2.3	3.1	1.8	1.6	3.2	2.8	1.9	2.2	2.4
FS	2.2	2.5	2.7	5.5	3.6	3.2	5.4	5.7	3.5	4.4
NW	2.5	2.4	2.7	2.7	1.7	3.1	1.4	1.4	2.1	2.2
LIM	1.7	2.3	3.5	2.1	3.8	2.2	4.9	3.1	2.7	3.3
GAU	35.0	31.8	24.6	28.4	23.2	18.8	32.6	34.8	31.2	25.8
MPU	2.5	3.2	3.7	3.1	4.0	6.1	4.1	2.7	4.1	4.3
KZN	<b>10.7</b>	<b>9.4</b>	<b>12.1</b>	<b>14.8</b>	<b>18.0</b>	28.2	10.5	13.4	15.2	17.9
AFRICAN	10.3	13.2	15.8	13.3	16.5	8.2	12.1	10.9	11.3	12.5
INT'L	4.5	9.3	11.0	7.5	8.7	1.7	2.5	1.1	5.2	5.1
<b>Total</b>	100%	100%	100%	100%	100%	100%	100%	100%		

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

Client	Survey period						
	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
Central	582	1,194	488	632	413	1,015	1,035
Provincial	1,455	1,320	1,351	2,132	1,550	1,421	725
Local	2,975	2,189	2,639	2,228	2,377	2,538	1,863
State Owned	1,703	1,676	1,434	1,403	1,654	1,827	1,656
Private	4,064	4,095	4,478	4,317	4,237	3,350	5,072
<b>Total</b>	10,779	10,474	10,389	10,712	10,232	10,150	10,352



**Table 22: Client distribution Percentage share of earnings**

Client	Survey period						Jun-17	5-year average	2-year average
	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16			
Central	5.4	11.4	4.7	5.9	4.0	10.0	10.0	8.7	6.2
Provincial	13.5	12.6	13.0	19.9	15.0	14.0	7.0	12.3	15.5
Local	27.6	20.9	25.4	20.8	23.0	25.0	18.0	23.0	23.6
State Owned	15.8	16.0	13.8	13.1	16.0	18.0	16.0	16.4	15.2
Private	37.7	39.1	43.1	40.3	41.0	33.0	49.0	39.6	39.4
<b>Total</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

**Table 23: Economic sector Percentage share of earnings**

Economic sector	Jun-16	Dec-16	Jun-17	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Water (Full water cycle)	18%	20%	18%	15.8%	18.2%	2.2%	-0.2%	-2.4%
Transportation (land, air, road, rail, ports)	33%	36%	35%	29.2%	31.1%	5.8%	3.9%	-1.4%
Energy (electricity, gas, hydro)	5.0%	5%	4%	7.7%	5.4%	-3.7%	-1.4%	-1.4%
Mining / Quarrying	7%	5%	4%	7.5%	4.8%	-3.5%	-0.8%	-1.0%
Education	2%	1%	1%	1.5%	1.4%	-0.5%	-0.4%	-0.2%
Health	1%	1%	1%	1.3%	1.0%	-0.3%	0.0%	0.3%
Tourism/Leisure	0%	0%	0%	0.6%	0.4%	-0.6%	-0.4%	-0.3%
Housing (residential inc. land)	8%	6%	10%	8.0%	8.5%	2.0%	1.5%	3.8%
Commercial <sup>4</sup>	13%	19%	24%	19.2%	20.3%	4.8%	3.7%	4.7%
Agriculture / Forestry / Fishing	1%	1%	0%	1.2%	1.0%	-1.2%	-1.0%	-0.6%
Other	12%	5%	3%	8.1%	7.8%	-5.1%	-4.8%	-1.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>					

<sup>4</sup> Commercial includes: Manufacturing, industrial buildings, communication, financial, facilities management

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

Economic sector	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17	Per. Change last 6 months	Per. Change Last 12 months
Water (Full water cycle)	1,791	1,838	1,860	2,070	1,863	-10.0%	0.2%
Transportation (land, air, road, rail, ports)	2,611	3,221	3,411	3,693	3,623	-1.9%	6.2%
Energy (electricity, gas, hydro)	600	576	517	545	414	-24.0%	-19.9%
Mining / Quarrying	224	545	723	505	414	-18.0%	-42.8%
Education	102	166	207	124	104	-16.7%	-49.9%
Health	153	95	103	72	104	43.7%	0.2%
Tourism/Leisure	82	43	0	32	0	-100.0%	#DIV/0!
Housing (residential inc. land)	1,134	926	827	634	1,035	63.2%	25.2%
Commercial	2,684	2,492	1,344	1,955	2,484	27.1%	84.9%
Agriculture / Forestry / Fishing	167	85	103	60	0	-100.0%	-100.0%
Other	841	724	1,240	459	311	-32.4%	-75.0%
<b>Total</b>	<b>10,389</b>	<b>10,712</b>	<b>10,335</b>	<b>10,150</b>	<b>10,352</b>	<b>2.0%</b>	<b>0.2%</b>

**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-03	R79.51	121.42	4.3%	
Dec-03	R92.14	135.18	14.3%	9.3%
Jun-04 * Revised	R95.22	147.56	21.5%	
Dec-04	R95.75	150.40	11.3%	16.4%
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%	

**Table 26: Fee income outstanding for more than 90 days (including foreign fee income earnings)**

Income distribution	Fee income outstanding for more than 90 days as % of total annualized fee income by client (total fee income = gross fee income + fee income outstanding)				
	Jan-Jun 2015 %	July-Dec 2015 %	Jan- Jun 2016 %	Jul-Dec 2016 %	Jan-Jun 2017 %
Central government	13.6%	6.3%	3.7%	3.3%	7.6%
Provincial government	12.0%	5.9%	17.3%	3.3%	83.7%
Local government	13.2%	16.3%	16.1%	5.9%	10.9%
State owned enterprises	6.9%	6.4%	7.47%	3.9%	3.4%
Private Sector	32.9%	35.6%	11.2%	29.8%	19.3%
Foreign (all EX-RSA)	39.0%	81.4%	28.4%	132.0%	155.1%
<b>Total</b>	<b>24.5%</b>	<b>22.9%</b>	<b>25.0%</b>	<b>23.1%</b>	<b>23.8%</b>

**\* Note:**

*In the July – December 2001 survey the questionnaire was changed to exclude non-payment for periods less than 60 days, which leads to distortions when comparing previous survey's results.*

*In the July – December 2002 survey the questionnaire was changed to include non-payments by foreign clients (irrespective of client classification). The total percentage of fee income outstanding therefore includes non-payments by foreign clients, previously excluded.*

**Table 27: Contribution to education and training (excluding 1% CETA Levy)**

Survey	Bursaries % of salary bill	Bursaries R mill current prices	Training % of Salary bill <sup>5</sup>	Training R mill current prices
Jun-03	0,6%	R13	1,5%	R 31.7
Dec-03	0,5%	R11	1,3%	R 28.0
Jun-04	0,6%	R13	1,3%	R30.0
Dec-04	0,5%	R12	1,8%	R44.6
Jun-05	0,6%	R15	1,3%	R33.7
Dec-05	0,7%	R19	1,5%	R44.2
Jun-06	0,9%	R35	1,2%	R48.5
Dec-06	0,6%	R29	1,1%	R49.7
Jun-07	0,9%	R44	1,0%	R52.2
Dec-07	0,6%	R32	1,3%	R67.0
Jun-08	1.1%	R82	1.4%	R107.4
Dec-08	0.5%	R40	0.8%	R70.1
Jun-09	0.6%	R52	0.8%	R68.2
Dec-09	0.4%	R37	1.0%	R88.9
Jun-10	0.9%	R72	0.9%	R74.2
Dec-10	0.4%	R37	1.3%	R121.6
Jun-11	0.5%	R 53	0.3%	R31.2
Dec-11	0.3%	R34	1.9%	R212
Jun-12	0.8%	R95	1.2%	R148
Dec-12	0.4%	R50	0.5%	R63
Jun-13	0.6%	R81	1.0%	R134
Dec-13	1.6%	R210	0.6%	R78
Jun-14	0.5%	R76	0.4%	R61
Dec-14	0.3%	R46	0.4%	R61
Jun-15	0.5%	R78	0.4%	R63
Dec-15	0.3%	R47	0.4%	R63
Jun-16	0.7%	R111	0.7%	R111
Dec-16	0.5%	R84	0.6%	R100
Jun-17	0.7%	R117	0.6%	R100

<sup>5</sup> Training now includes all training, in-house and external. Comparisons with previous surveys not compatible. – excludes costs related to salaries

**Table 28: Employment profile of the consulting engineering industry: Percentage contribution: Jan – Jun 2017**

Job Category	Black	Coloured	Asian	White	Total	% Share by type
Professional Engineer Pr.Eng	5.2%	2.4%	4.3%	88.0%	100.00%	12.6%
Professional Architects	50.0%	50.0%	0.0%	0.0%	100.00%	0.0%
Professional Quantity Surveyors	13.5%	1.9%	9.6%	75.0%	100.00%	0.8%
Professional Other	11.8%	2.3%	4.6%	81.2%	100.00%	5.6%
Technologists Pr TEchENG	12.9%	4.4%	9.7%	73.0%	100.00%	5.1%
Technicians PrTechni	39.0%	12.4%	5.2%	43.4%	100.00%	4.0%
Unregistered technical staff: Engineer	23.0%	5.9%	10.1%	61.0%	100.00%	12.9%
Unregistered technical staff: Technologist	34.3%	12.7%	14.5%	38.5%	100.00%	5.4%
Unregistered technical staff: Technician	66.2%	11.2%	5.3%	17.3%	100.00%	10.1%
Unregistered technical staff: Other	45.7%	8.3%	4.6%	41.4%	100.00%	7.7%
Technical Assistants	40.2%	8.9%	6.7%	44.1%	100.00%	2.9%
Draughts Persons	12.0%	13.3%	3.8%	70.9%	100.00%	7.1%
Laboratory / Survey Assistants	92.6%	0.0%	3.0%	4.3%	100.00%	4.8%
Administration / Support staff	40.2%	12.9%	7.8%	39.1%	100.00%	20.8%
Total	33.6%	8.3%	6.8%	51.3%	100.00%	100.00%

**Table 29: Employment profile of the consulting engineering industry: Change in contribution Jan-Jun 2017 vs Jul-Dec 2016**

Job Category	Black	Coloured	Asian	White
Professional Engineer Pr.Eng	-0.8%	-0.5%	0.0%	1.4%
Professional Architects	16.7%	50.0%	0.0%	-66.7%
Professional Quantity Surveyors	1.2%	1.9%	-0.6%	-2.6%
Professional Other	3.1%	-0.1%	-3.4%	0.5%
Technologists Pr TEchENG	-4.5%	-2.0%	0.7%	5.7%
Technicians PrTechni	-0.2%	-0.7%	0.5%	0.4%
Unregistered technical staff: Engineer	0.9%	0.0%	1.0%	-1.9%
Unregistered technical staff: Technologist	-3.4%	5.5%	3.0%	-5.0%
Unregistered technical staff: Technician	1.5%	-0.1%	-1.1%	-0.3%
Unregistered technical staff: Other	13.3%	-0.3%	-0.7%	-12.4%
Technical Assistants	-7.2%	0.7%	1.5%	5.0%
Draughts Persons	-0.7%	-2.5%	-1.1%	4.3%
Laboratory / Survey Assistants	1.0%	-2.7%	0.4%	1.3%
Administration / Support staff	-1.4%	-1.5%	-1.2%	4.1%
Total	0.5%	-0.5%	-0.3%	0.2%

**Table 30: 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	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Dec-16	
(PTY) LTD	Executive Directors	Pr.Eng	16.3%	14.0%	14.8%	14.5%	21.5%	18.4%	13.7%	
		PrTechEng	33.3%	33.3%	36.5%	33.3%	31.8%	33.3%	44.8%	
		Other	73.0%	61.8%	60.9%	60.3%	60.0%	50.0%	56.1%	
		TOTAL	29.2%	27.3%	28.4%	29.5%	32.0%	29.7%	29.7%	
	Non-Executive Directors	Pr.Eng	100.0%	33.3%	53.8%	62.5%	71.4%	100.0%	40.0%	
		PrTechEng	60.0%	66.7%	50.0%	100.0%	57.1%	100.0%	0.0%	
		Other	78.6%	86.7%	68.5%	76.9%	70.0%	100.0%	76.2%	
		TOTAL	82%	55.0%	64.0	73.0%	67.6%	100.0%	64.3%	
	CC	Members	Pr.Eng	77.8%	81.8%	88.2%	85.7%	81.8%	60.0%	23.1%
			PrTechEng	42.9%	50.0%	42.3%	40.0%	0%	100.0%	75.0%
			Other	80.0%	87.5%	93.8%	92.3%	85.7%	66.7%	77.8%
			TOTAL	66.7%	78.2%	69.5%	71.4%	75.0%	66.7%	50.0%
Partnership	Partners	Pr.Eng	0.0%	20.0%	14.3%	75.0%	0.0%	33.3%	50.0%	
		PrTechEng	0.0%	100.0%	0.0%	60.0%	0.0%	100.0%	100.0%	
		Other	75.0%	75.0%	75.0%	50.0%	50.0%	50.0%	50.0%	
		TOTAL	30.0%	54.5%	46.7%	63.6%	20.0%	57.1%	62.5%	
Total			36.0%	38.4%	40.4%	39.5%	40.8%	45.7%	37.4%	

**Table 31: 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-03	83.8	-13.76%	-3.9%
Dec-03	64.2	-23.38%	-33.9%
Jun-04	77.2	20.25%	-7.9%
Dec-04	86.3	11.77%	34.4%
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 (forecast)	96.0	-0.3%	9.7%
Jun-18 (forecast)	47.4	-50.6%	-50.8%



**Table 32: Employment Breakdown, by race, gender and job category January – June 2017**

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	148	12	160	66	8	74	117	16	133	2,543	156	2,699	2,875	191	3,067
Professional Architects	4	0	4	4	0	4	0	0	0	0	0	0	8	0	8
Professional Quantity Surveyors	12	16	27	4	0	4	12	8	20	125	27	152	152	51	203
Professional Other	113	47	160	20	12	31	43	20	63	707	391	1,098	883	469	1,352
Technologists Pr TEchENg	129	31	160	47	8	55	102	20	121	867	39	906	1,145	98	1,242
Technicians PrTechni	281	98	379	90	31	121	43	8	51	383	39	422	797	176	973
Unregistered technical staff: Engineer	539	184	723	117	66	184	180	137	316	1,442	473	1,914	2,278	859	3,137
Unregistered technical staff: Technologist	273	180	453	109	59	168	141	51	191	465	43	508	988	332	1,320
Unregistered technical staff: Technician	1,199	418	1,617	188	86	273	86	43	129	398	23	422	1,871	570	2,442
Unregistered technical staff: Other	453	406	859	51	105	156	55	31	86	508	270	777	1,067	813	1,879
Technical Assistants	199	82	281	51	12	63	23	23	47	246	63	309	520	180	699
Draughts Persons	156	51	207	172	59	230	63	4	66	766	461	1,227	1,156	574	1,731
Laboratory / Survey Assistants	1,000	82	1,082	0	0	0	27	8	35	47	4	51	1,074	94	1,168
Administration / Support staff	836	1,199	2,035	168	484	652	98	297	395	551	1,430	1,981	1,652	3,410	5,063
<b>Total</b>	<b>5,344</b>	<b>2,805</b>	<b>8,149</b>	<b>1,086</b>	<b>930</b>	<b>2,016</b>	<b>988</b>	<b>664</b>	<b>1,652</b>	<b>9,048</b>	<b>3,418</b>	<b>12,466</b>	<b>16,466</b>	<b>7,817</b>	<b>24,283</b>

**Table 33: Employment Breakdown, by race, gender and job category Januaryy – June 2017: 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	0.6%	0.0%	0.7%	0.3%	0.0%	0.3%	0.5%	0.1%	0.5%	10.5%	0.6%	11.1%	11.8%	0.8%	12.6%
Professional Architects	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%
Professional Quantity Surveyors	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.5%	0.1%	0.6%	0.6%	0.2%	0.8%
Professional Other	0.5%	0.2%	0.7%	0.1%	0.0%	0.1%	0.2%	0.1%	0.3%	2.9%	1.6%	4.5%	3.6%	1.9%	5.6%
Technologists Pr TEchENg	0.5%	0.1%	0.7%	0.2%	0.0%	0.2%	0.4%	0.1%	0.5%	3.6%	0.2%	3.7%	4.7%	0.4%	5.1%
Technicians PrTechni	1.2%	0.4%	1.6%	0.4%	0.1%	0.5%	0.2%	0.0%	0.2%	1.6%	0.2%	1.7%	3.3%	0.7%	4.0%
Unregistered technical staff: Engineer	2.2%	0.8%	3.0%	0.5%	0.3%	0.8%	0.7%	0.6%	1.3%	5.9%	1.9%	7.9%	9.4%	3.5%	12.9%
Unregistered technical staff: Technologist	1.1%	0.7%	1.9%	0.5%	0.2%	0.7%	0.6%	0.2%	0.8%	1.9%	0.2%	2.1%	4.1%	1.4%	5.4%
Unregistered technical staff: Technician	4.9%	1.7%	6.7%	0.8%	0.4%	1.1%	0.4%	0.2%	0.5%	1.6%	0.1%	1.7%	7.7%	2.3%	10.1%
Unregistered technical staff: Other	1.9%	1.7%	3.5%	0.2%	0.4%	0.6%	0.2%	0.1%	0.4%	2.1%	1.1%	3.2%	4.4%	3.3%	7.7%
Technical Assistants	0.8%	0.3%	1.2%	0.2%	0.0%	0.3%	0.1%	0.1%	0.2%	1.0%	0.3%	1.3%	2.1%	0.7%	2.9%
Draughts Persons	0.6%	0.2%	0.9%	0.7%	0.2%	0.9%	0.3%	0.0%	0.3%	3.2%	1.9%	5.1%	4.8%	2.4%	7.1%
Laboratory / Survey Assistants	4.1%	0.3%	4.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%	0.0%	0.2%	4.4%	0.4%	4.8%
Administration / Support staff	3.4%	4.9%	8.4%	0.7%	2.0%	2.7%	0.4%	1.2%	1.6%	2.3%	5.9%	8.2%	6.8%	14.0%	20.8%
Total	22.0%	11.6%	33.6%	4.5%	3.8%	8.3%	4.1%	2.7%	6.8%	37.3%	14.1%	51.3%	67.8%	32.2%	100.0%

**Table 34: Executive Staff profile: Employment, company type, race & gender: January – June 2017**

Comp any Type	Owner category	Professional	Black			Coloured			Asian			White			Total		
		Category	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
(PTY) LTD	Executive Director	PrEng	25	0	25	8	4	13	13	4	17	345	0	345	392	8	400
		PrTechEng	25	0	25	13	0	13	17	0	17	63	4	67	118	4	122
		Other	46	13	59	13	8	21	0	17	17	63	13	76	122	51	173
	Non-Executive Director	PrEng	0	4	4	4	0	4	0	0	0	13	0	13	17	4	21
		PrTechEng	0	0	0	0	0	0	0	0	0	8	0	8	8	0	8
		Other	38	25	63	0	4	4	0	0	0	21	0	21	59	29	88
CC	Member	PrEng	8	0	8	4	0	4	0	0	0	42	0	42	55	0	55
		PrTechEng	13	0	13	0	0	0	0	0	0	4	0	4	17	0	17
		Other	8	13	21	0	4	4	0	4	4	4	4	8	13	25	38
Partnership	Partner	PrEng	4	0	4	0	0	0	0	0	0	4	0	4	8	0	8
		PrTechEng	8	0	8	0	0	0	0	0	0	0	0	0	8	0	8
		Other	4	0	4	4	0	4	0	0	0	8	0	8	17	0	17
GRAND TOTAL			181	55	236	46	21	67	29	25	55	577	21	598	834	122	956
% distribution of executive staff			18.9%	5.7%	24.7%	4.8%	2.2%	7.0%	3.1%	2.6%	5.7%	60.4%	2.2%	62.6%	87.2%	12.8%	100.0%
% directorship only			13.9%	1.8%	15.8%	4.8%	1.8%	6.7%	4.2%	3.0%	7.3%	67.9%	2.4%	70.3%	90.9%	9.1%	100.0%
Total employment			5,344	2,805	8,149	1,086	930	2,016	988	664	1,652	9,048	3,418	12,466	16,466	7,817	24,283
Executive Staff as % of total employment			3.4%	2.0%	2.9%	4.3%	2.3%	3.3%	3.0%	3.8%	3.3%	6.4%	0.6%	4.8%	5.1%	1.6%	3.9%

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**End of report**

For further information please contact

**Consulting Engineers South Africa**

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Email CESA at [general@cesa.co.za](mailto:general@cesa.co.za)

CESA Head Office contact information is available below. The CESA also has branches throughout South Africa.

**Telephonic Contacts**

Tel: +27 (011) 463 2022

Fax: +27 (011) 463 7383

**Physical Address**

Fullham House, Hampton Park North,  
20 Georgian Crescent  
Bryanston  
Johannesburg, South Africa

**Postal Address**

PO Box 68482  
Bryanston  
Johannesburg, South Africa  
2021

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