



Consulting Engineers South Africa

Bi-Annual Economic and Capacity Survey

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Table of contents:

1. Economic overview	3
1.1 International Developments	3
1.2 Domestic Economy	4
1.3 Gross fixed capital formation	7
2. CESA Survey: Background	9
3. Prevailing conditions in the Consulting Engineering Industry	9
3.1 Financial Indicators	9
3.1.1 Outsourcing	10
3.1.2 Return on Working Capital	11
3.1.3 Value of outstanding payments	12
3.1.4 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	16
3.2.4 Employment profile	17
3.3 Industry profile of Executive Staff	18
3.4 Capacity Utilisation	19
3.5 Competition in tendering	20
3.6 Pricing	21
4. Industry Outlook	23
5. Industry challenges as noted by respondents	
6. Market Profile	28
6.1 Sub-disciplines of fee income earned	28
6.2 Economic Sectors	28
6.3 Geographic Location	30
6.4 Clients	31
7. Professional Indemnity Insurance	32
8. Quality Management System	33
Statistical Tables	34

1. Economic overview

1.1 International Developments

Global economic growth is currently estimated at 3.1 percent in 2015, projected at 3.4 percent for 2016 and 3.6 percent in 2017. The recovery in global growth is slower than expected in the IMF's October 2015 projections, mainly due to the slow pace of recovery experienced by emerging and developing economies, accounting for 70 percent of global growth.

In advanced economies a modest recovery is expected to continue, while risks to the global outlook remain on the downside and related to ongoing adjustments in the global economy, a generalized slowdown in emerging market economies, re-balancing of the Chinese economy, lower commodity prices, and the gradual exit from extraordinary accommodative monetary conditions in the United States.

Three key factors continue to influence the global outlook:
Gradual slowdown and rebalancing of Chinese economy
Lower prices for energy and other commodities
Gradual tightening of US monetary policy

- Growth in advanced economies is projected at 2.1 percent in 2016, with similar growth rates expected in 2017.
- Growth in emerging markets and developing economies is projected to increase from 4.0 percent in 2015 to 4.3 percent in 2016, and 4.7 percent in 2017.
- Growth in China is expected to slow to 6.3 percent in 2016 and 6.0 percent in 2017, reflecting the impact of weaker investment growth.
- The IMF expects most countries in sub-Saharan Africa will experience a gradual pickup in growth, but with lower commodity prices these growth rates will be lower than seen over the past decade. This follows through on the continued adjustment to lower commodity prices and higher borrowing costs, which is weighing heavily on countries such as Angola, Nigeria and South Africa.
- World commodity prices peaked in 2011, and have since declined largely due to the slowdown in the Chinese economy. Given the high levels of capacity it is unlikely that commodity price weakness will be revised. On the African continent, falling commodity prices, rising borrowing costs and declining revenues, is increasing fiscal stress.

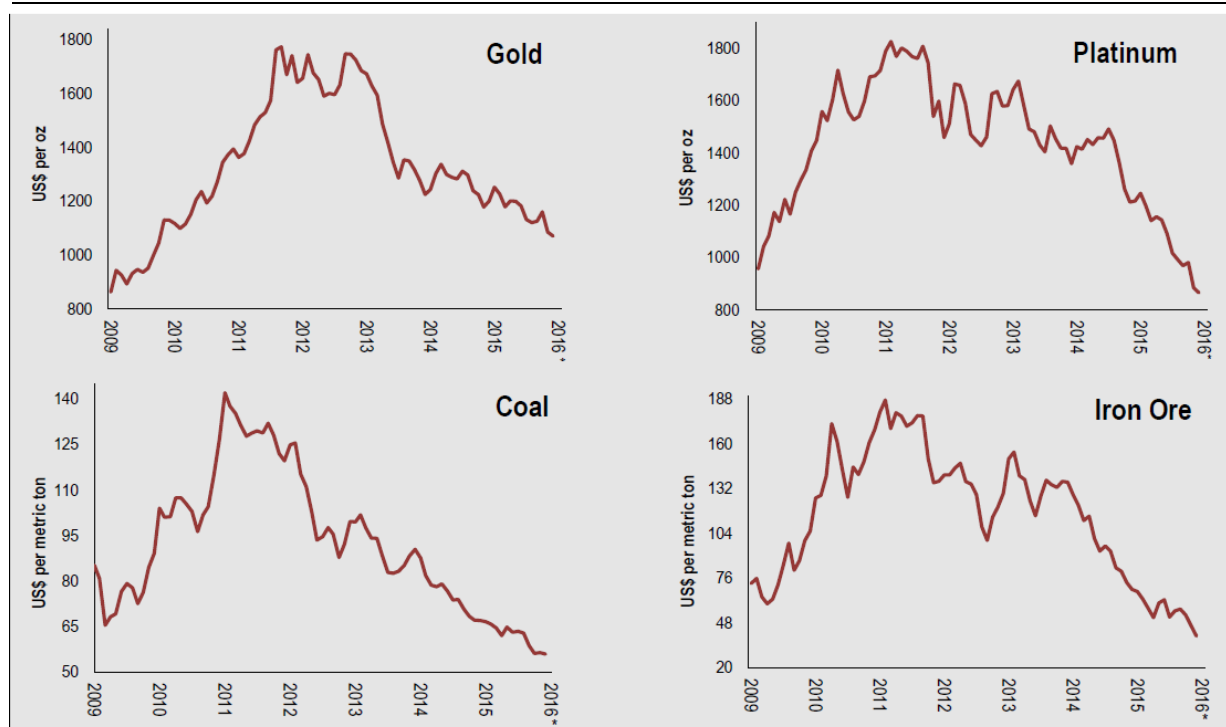


Figure 1: Prices of SA's major commodity exports: 2009 – 2016 (Source Budget 2016 Review)

The IMF's World economic outlook report lists the following key risks to the global growth outlook:

- A sharper-than-expected slowdown along China's needed transition to more balanced growth, with more international spillovers through trade, commodity prices, and confidence, with attendant effects on global financial markets and currency valuations.
- Adverse corporate balance sheet effects and funding challenges related to potential further dollar appreciation and tighter global financing conditions as the United States exits from extraordinarily accommodative monetary policy.
- A sudden rise in global risk aversion, regardless of the trigger, leading to sharp further depreciations and possible financial strains in vulnerable emerging market economies. Indeed, in an environment of higher risk aversion and market volatility, even idiosyncratic shocks in a relatively large emerging market or developing economy could generate broader contagion effects.
- An escalation of ongoing geopolitical tensions in a number of regions affecting confidence and disrupting global trade, financial, and tourism flows.

1.2 Domestic Economy

GDP growth slowed to 0.6 percent q-q, seasonally adjusted annualised in the 4th quarter of 2015, from 0.7 percent q-q in the previous quarter. South African economic growth thereby slowed from 1.5 percent y-y in 2014 to 1.3 percent in 2015. Growth was largely dragged down by a further contraction in the agriculture sector, down 14 percent q-q, while construction recorded marginal growth of 1.1 percent in the 4th quarter (from 0.5 percent in the previous quarter). Final quarter results from the South African Reserve Bank, due March 2016, will shed more light on the performance of the construction industry in terms of gross fixed capital formation.

GDP growth has now slowed to below population growth, resulting in declining per capita incomes, or otherwise put, the average South African is becoming poorer. Global conditions have exposed South Africa's, as it did for many countries on the African continent, economic weakness, exacerbated by policy uncertainty, political instability, and violent protest action. South Africa's GDP growth is currently well below the average for the world, advanced economies, as well as for developing economies, and showed considerable weakness in the last two years. South Africa is facing serious structural

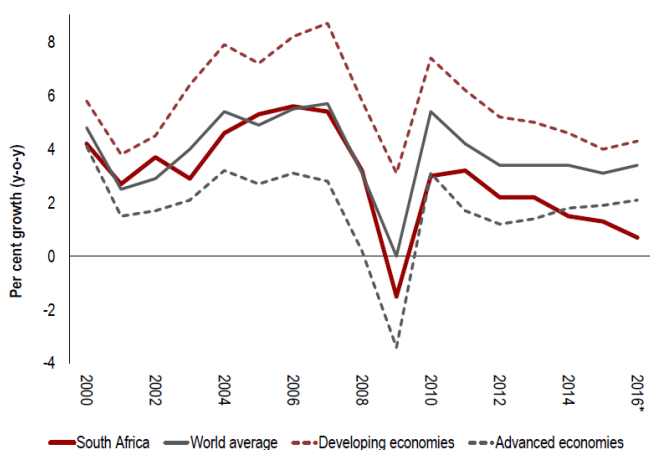


Figure 2: SA and global economic growth: 2000 - 2016 (Source: Budget 2016 Review)

constraints, with frustratingly little done to improve South Africa's ability to increase private sector participation, increase foreign direct investment, support industrialisation, increasing global competitiveness, limit debilitating energy constraints, and deal more effectively with rigid labor regulations.

Headline inflation averaged 4.5 percent in 2015, comfortably within the target range of 3 – 6 percent, and below 2014 level of 6.1 percent. However inflationary expectations have trended higher for the next two years, despite the weaker economy. Headline inflation is expected to average between 6.8 and 7.0 percent in 2016, with only a marginally lower inflation (at around 6.3 percent) expected for 2017. Inflation is currently fueled by the nationwide draught, pushing food prices higher, while the weaker currency elevated import prices.

Collective bargaining in the public sector is also adding to the inflationary pressures.

Brent crude oil prices collapsed in the second half of 2014, reaching a low of \$33/barrel in December 2015. Oil prices are expected to remain subdued in view of weak global growth and an increase in supplies from the US. Lower oil prices have a direct impact on inflation, however the benefit of the lower oil price to the South African economy have been diluted due to the increase in fuel levies imposed in April 2015 and again in April 2016, as well as currency weakness.

The exchange rate experienced several beatings during the last few months. Zuma's decision to fire respected Finance Minister Nhlanhla Nene and replace him with unknown David (Des) Van Rooyen, sent shockwaves through the economy as well as the financial markets, and although the re-appointment of Pravin Gordhan restored some confidence, the damage to investor sentiment was already done. The strong reaction to the rand, shortly after Gordhan delivered his somewhat disappointing budget speech (disappointing in that we expected plans to ensure more robust cuts to government expenditure and more effective tax increases to support revenue growth), says the markets are not convinced that the South African government has done enough to prevent a junk status, depreciating the currency to close to R16.00/US\$. The rand suffered another blow when it fell to R16.23/US\$ following fears that the fallout between Gordhan and SARS would worsen, which could result in yet another Minister of Finance being sacked, or either resign. David Van Rooyen was subsequently appointed as Minister of COGTA, responsible for the expenditure of the Municipal Infrastructure Grant (MIG), projected to total R50bn over the next three years.

Probably the most critical concern, and most significant downside risk to inflation and economic growth, for the domestic economy is the fear of a further sovereign credit rating downgrade. So the question is what would a junk status mean to the South African economy and construction?

Moody's cut Brazil's rating to junk status on the same day South Africa's budget speech, 24 February 2016. Moody's put Brazil two notches into junk territory reducing its rating to Ba2 from Baa3 with a negative outlook highlighting the possibility of further downgrades. S&P stripped Brazil of their investment rating in September 2015, followed shortly with a second downgrade, and Fitch Ratings reduced Brazil to junk in mid-December.

This is the likely scenario that is awaiting us. A credit rating below investment grade, or so-called "junk status" eliminates the South African portfolio market for large international portfolio investors. This could lead to capital outflows, which will widen the current account deficit, one of the key indicators closely monitored by the credit rating agencies. Capital outflows will result in currency depreciation, which will increase import costs, amongst others, oil. Even a stable oil price therefore, will still result in higher oil prices being paid in rand terms, and this in turn will lead to increase production costs as well as consumer inflation. The current inflationary outlook is negative, expecting to surpass the 6 percent upper target this year, which means a rating downgrade could substantially increase the inflationary outlook, accelerating monetary policy tightening, further slowing an already dismal economic growth outlook. A lower credit rating also means the cost of borrowing for the South African government will escalate, which means more tax payers money will be used to finance

debt, with less available to spend on critical economic and social infrastructure. Currently government expects that 3.6 percent of GDP per annum will be used on interest expenditure, estimated at around R260 bn per year, equal to total public sector infrastructure allocations per annum.

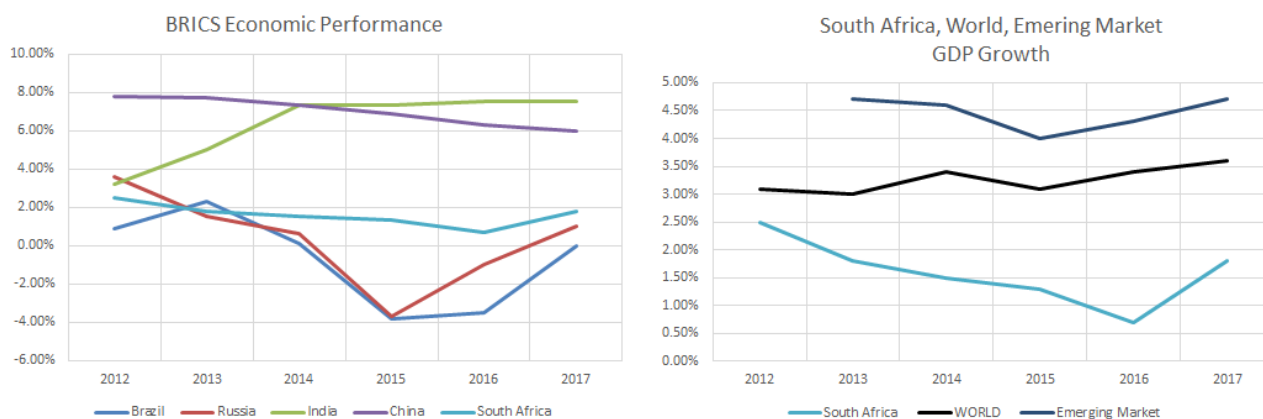


Table 1: Global economic outlook

	2013	2014	2015	2016	2017
World	3.00%	3.40%	3.10%	3.40%	3.60%
Advanced Economies	1.30%	1.80%	1.90%	2.10%	2.10%
US	1.90%	2.40%	2.50%	2.60%	2.60%
Eurozone	-0.40%	0.90%	1.50%	1.70%	1.70%
UK	1.70%	2.90%	2.20%	2.20%	2.20%
Emerging markets	4.70%	4.60%	4.00%	4.30%	4.70%
Brazil	2.30%	0.10%	-3.80%	-3.50%	0.00%
Russia	1.50%	0.60%	-3.70%	-1.00%	1.00%
India	5.00%	7.30%	7.30%	7.50%	7.50%
China	7.70%	7.30%	6.90%	6.30%	6.00%
Sub-Saharan Africa	5.10%	5.00%	3.50%	4.00%	4.70%
SA	1.80%	1.50%	1.30%	0.70%	1.80%

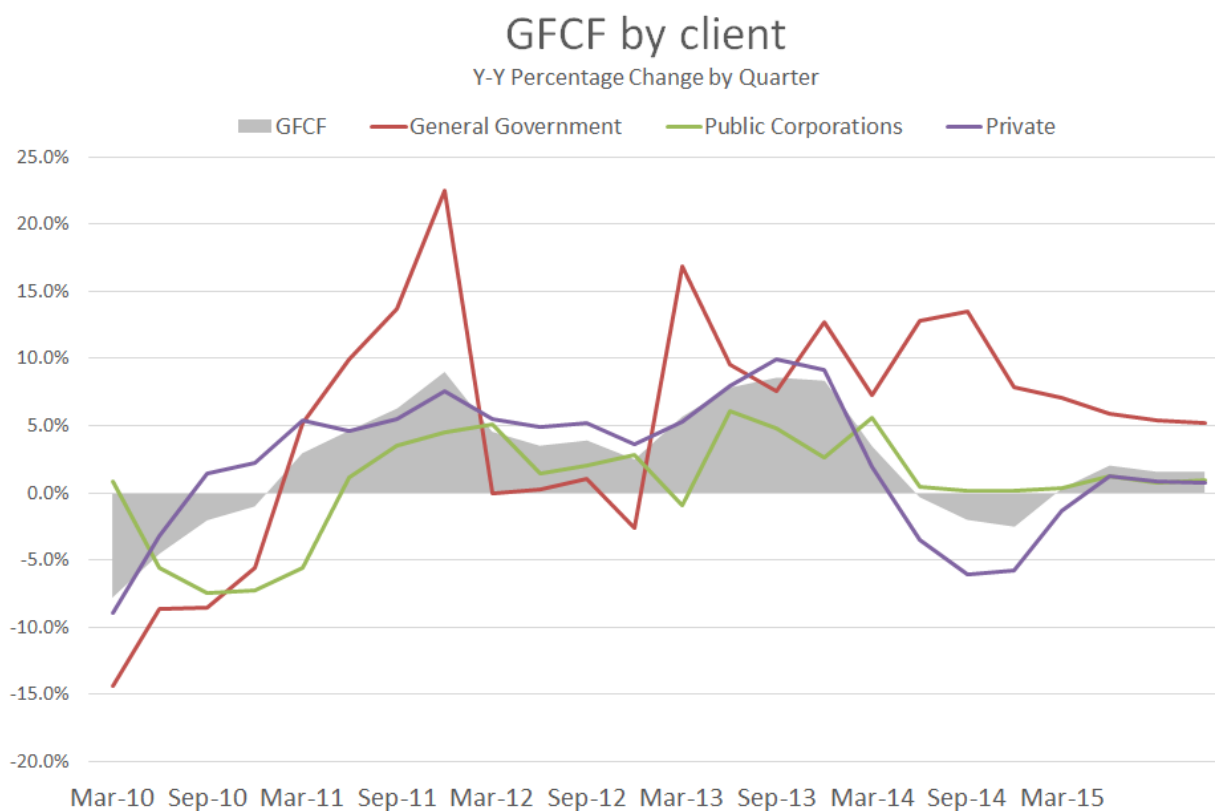
Source: IMF World Economic Outlook January 2016 Update

Table 2: Macro economic growth projections (Industry Insight)

Macro-Economic Forecasts	2013	2014	2015	2016	2017
GDP	2.2%	1.5%	1.4%	0.8%	1.2%
Household consumption	2.9%	1.4%	2.2%	0.5%	1.8%
Government consumption	3.3%	1.9%	2.0%	0.7%	0.7%
Gross Fixed capital formation	7.6%	-0.4%	3.4%	-0.5%	0.2%
Imports	1.8%	-0.5%	6.4%	2.5%	3.8%
Exports	4.6%	2.6%	3.0%	3.5%	4.0%
Prime Lending rate	8.50%	9.25%	9.75%	10.75%	11.50%
ZAR/US\$	9.70%	10.80%	12.10%	16.80%	15.60%
CPI Inflation	5.80	6.20	3.80	6.20	6.00
Current Account Deficit	-5.9	-5.4	-4.1	-4.0	-3.9

Source: Industry Insight Forecast Report 2016Q1

1.3 Gross fixed capital formation

**Figure 3: GFCF by Client Type (Source: SARB Quarterly Bulletin)**

Growth in Gross fixed capital formation lagged GDP growth in 2014, and contracted by 0.3 percent on average for the year, compared to a 1.5 percent increase in economic growth. Investment in fixed capital formation showed a mild recovery in 2015, up 1.4 percent on average, supported by a 6 percent increase in investment by general government. Investment growth from SOE's and the private sector remained muted, increasing by 0.8 percent and 0.4 percent respectively. The outlook for gross fixed investment has deteriorated and expected to fall behind GDP growth in the next three years.

According to SARB, a total of R355bn was spent on construction infrastructure in 2015, including investment in residential and non-residential buildings and construction works, representing a nominal increase of 2.7 percent y-y (not adjusted for inflation), or R9 billion. This would also include purchases of machinery and equipment, often imported, used in the construction process such as the installation of turbines. Government invested R99,0 bn, compared with R89 bn by SOE's and R166 bn by the private sector. In terms of the performance by the various clients, investment by SOE's on construction works remains the largest client to the industry, and since investment is expected to slow over the medium term as government is unable to support transfers from the fiscus to SOE's, while tariff increases will not be sufficient to support the relevant infrastructure programmes, is likely to support a contraction in the industry over the medium term. Government spending on construction works is the second largest client, and is also expected to cut spending on infrastructure over the next three years, according to estimates released in the 2016 Budget review. Investment in renewable energy projects escalated the contribution by the private sector to construction works, with R62bn spent by the private sector in 2015. Further investment in renewables are however threatened by Eskom's ability to connect existing projects to the national grid. Eskom has approached the newly formed BRICS development bank for funding in this regard. Ultimately uncertainty around connectivity will delay the implementation of bid window 3, potentially slowing investment in the near term. The private sector remains the most important client in the building industry, with R54 billion spent on housing and R49 billion spent on non-residential buildings in 2015. According to SARB, investment in housing by the private sector continued to contract in 2015, while some growth was still reported in other buildings. The outlook is slightly more upbeat for further development of affordable and rental housing, supported by newly listed residentially focused funds, as well as government's commitment to develop 50 catalytic housing projects by 2018, while the outlook for commercial developments deteriorated amidst slowing economic growth, continued weak investor confidence and further tightening of monetary policy, potentially at a faster pace than originally.

Gross fixed capital formation (GFCF) as a percentage of GDP averaged at 20,7 percent in 2014, but slowed to 20,6 percent in the 1st quarter of 2015, compared to an average of 21,1 percent in 2013. The NDP has what may seem 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 2015 Current prices

2015	Government	SOE's	Private	Total
Residential	656	25	54,273	54,954
Non-residential	20,393	1,317	49,134	70,844
Civil works	78,360	88,551	62,996	229,907
Total	99,409	89,893	166,403	355,705

Source: South African Reserve Bank

Table 4: GFCF by client type, 2010 prices

	Rm, 2005 prices, seasonally adj annualised				Annual Percentage Change				GFCF % of GDP
	General Government	Public Corporations	Private Business enterprises	Total	General Government	Public Corporations	Private Business enterprises	Total	
2009	84,155	117,410	349,422	550,987	-7.6%	19.7%	-12.9%	-6.7%	20.4%
2010	76,204	111,710	341,517	529,431	-9.4%	-4.9%	-2.3%	-3.9%	19.4%
2011	85,918	112,575	361,245	559,738	12.7%	0.8%	5.8%	5.7%	19.5%
2012	85,599	115,799	378,518	579,916	-0.4%	2.9%	4.8%	3.6%	19.9%
2013	95,537	119,428	409,162	624,127	11.6%	3.1%	8.1%	7.6%	21.1%
2014	105,382	121,281	395,052	621,715	10.3%	1.6%	-3.4%	-0.4%	20.7%
2015	111,557	122,266	396,485	630,308	5.9%	0.8%	0.4%	1.4%	20.7%

2. CESA Survey: Background

A total of 100 questionnaires were returned via both the on-line and hard copy system, compared with 119 returned in the previous survey. The sample for the current survey represents a fee income of R3bn, and 7460 employees for the period July - December 2015.

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

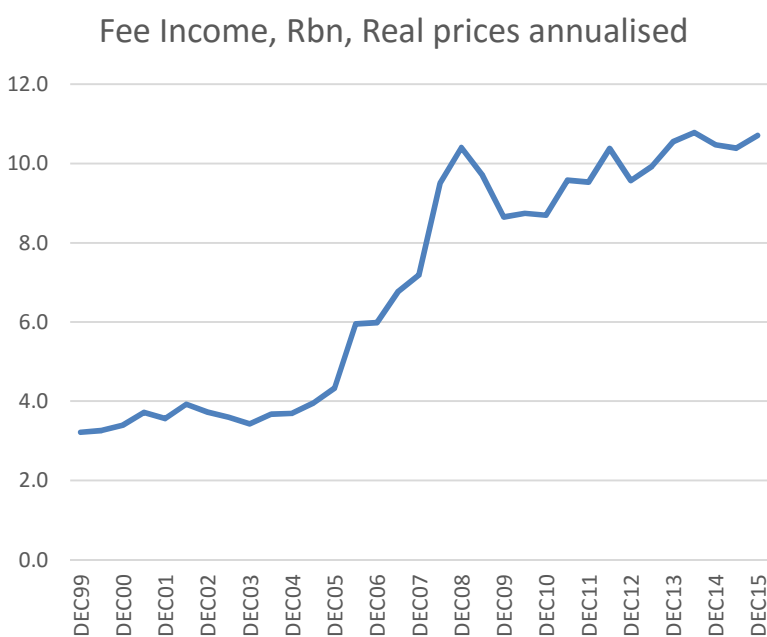


Figure 4: Fee income, Rbn, Constant prices, annualised

A summary of fee earnings by firm size, as well as projected earnings for the last six months of 2015 is provided in the table below.

Fee earnings in the last six months of 2015 increased by around 6 percent, against an expected decrease of between 2 percent and 3 percent. Larger firms reported muted growth of 2 percent on average for the last six months, while stronger growth was reported by medium and smaller firms (up by 31 percent and 11 percent respectively).

Fee income reached R25 billion, annualised, current prices as at December 2015, from R24 billion as at December 2014.

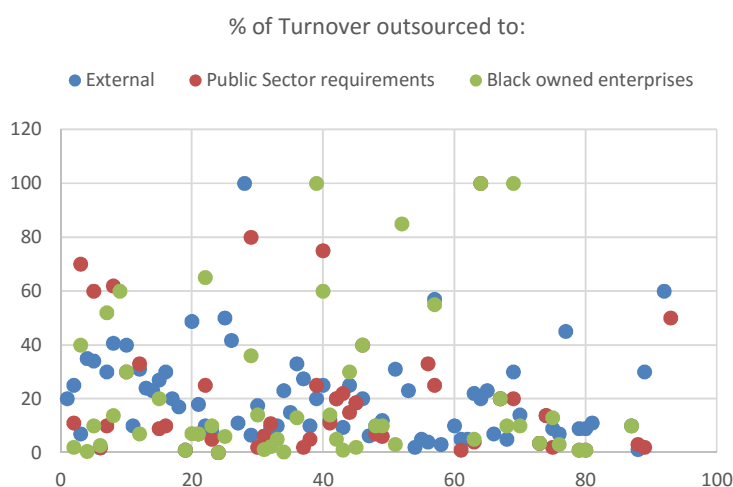
Respondents expect earnings to fall by between 5 percent in nominal terms during the first six months of 2016, compared with the second half of 2015.

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

Table 5: Fee earnings, actual vs projected by firm size

Firm size category	Actual (December 2015 vs June 2015)	Projected for December 2015	Actual (December 2014 vs June 2014)
Large	2%	-2.8%	-6.6%
Medium	31%	14.5%	50.0%
Small	11%	-17.7%	9.0%
Micro	-11%	-35.2%	28.1%
Total	6%	-1.6%	-0.7%

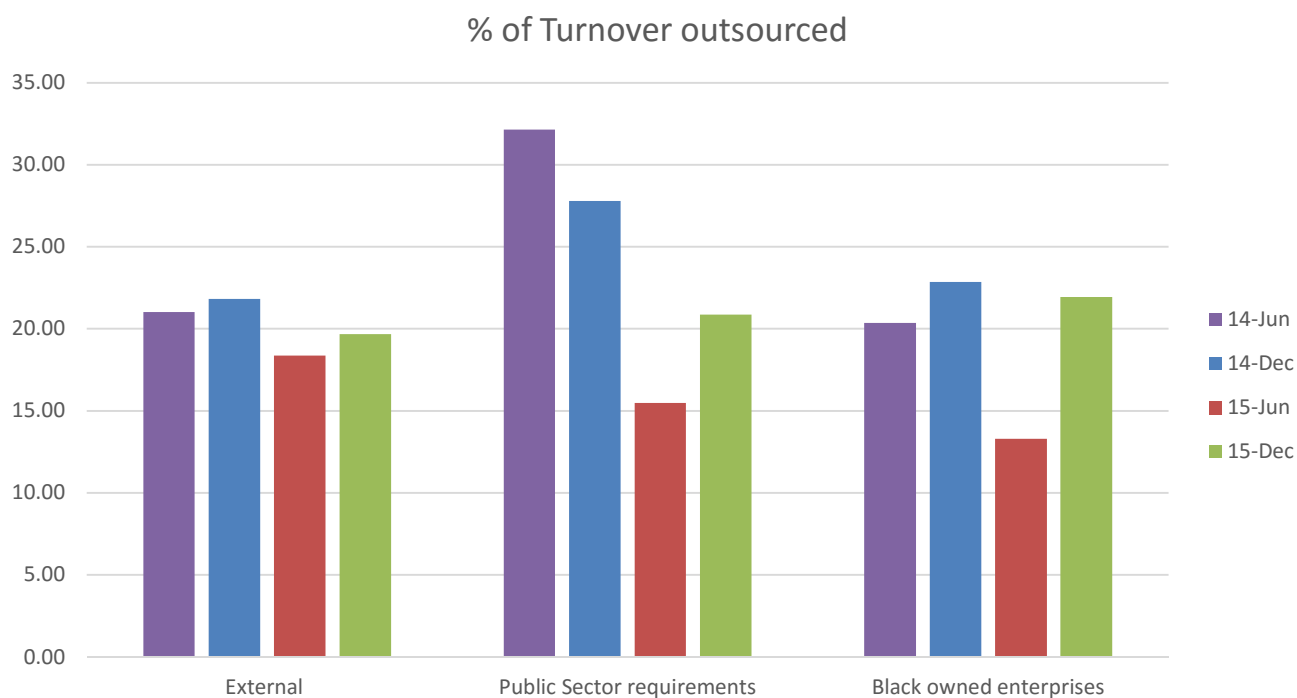
3.1.2 Outsourcing



- 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
- Larger firms outsourced 24 percent to external enterprises, 36 percent for procurement purposes laid down by the public sector and 23 percent to black owned enterprises. The percentage outsourced to black owned enterprises was again much lower in this survey.
- Outsourcing ratios on average increased since the June 2015 survey, but is relatively on par with previous surveys.

Figure 5: Matrix distribution of average percentage outsourced by firms, according to main purpose**Table 6: 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	24.2	35.8	22.6
B	23.0	19.2	20.3
C	15.6	22.8	30.6
D	17.1	9.5	5.9
Average % of industry turnover	19.7	20.9	21.9



3.1.3 Return on Working Capital

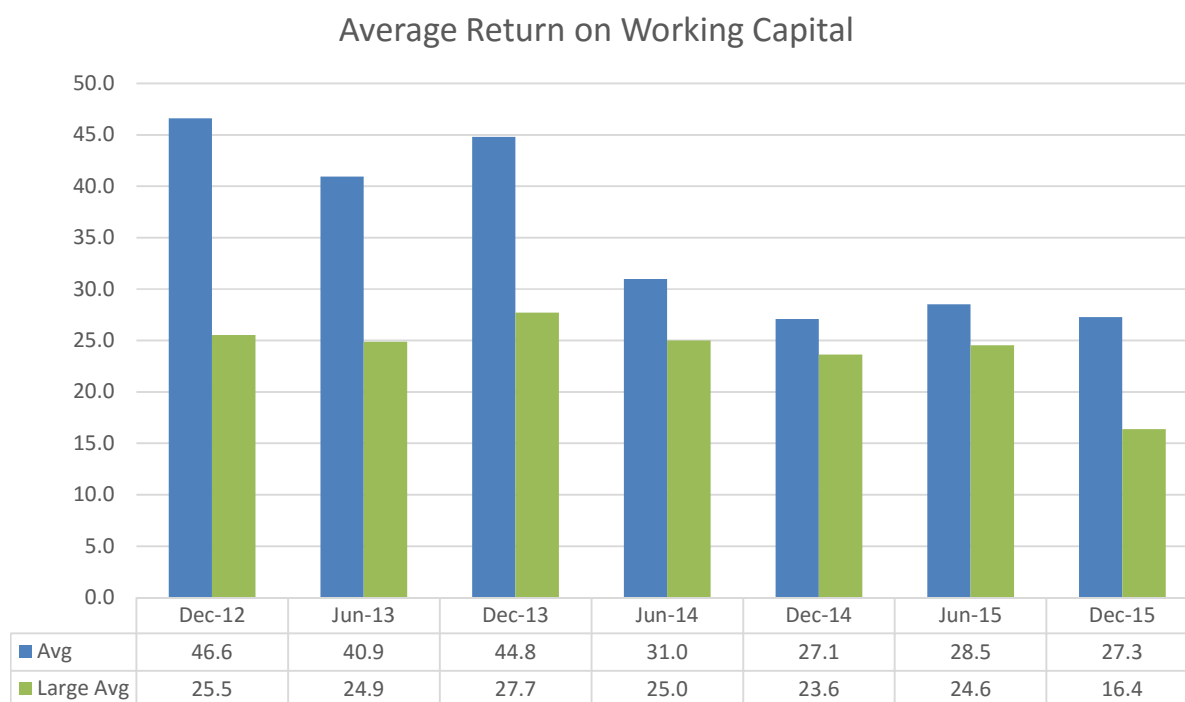


Figure 6: Average Return on Working Capital – Trend since December 2012

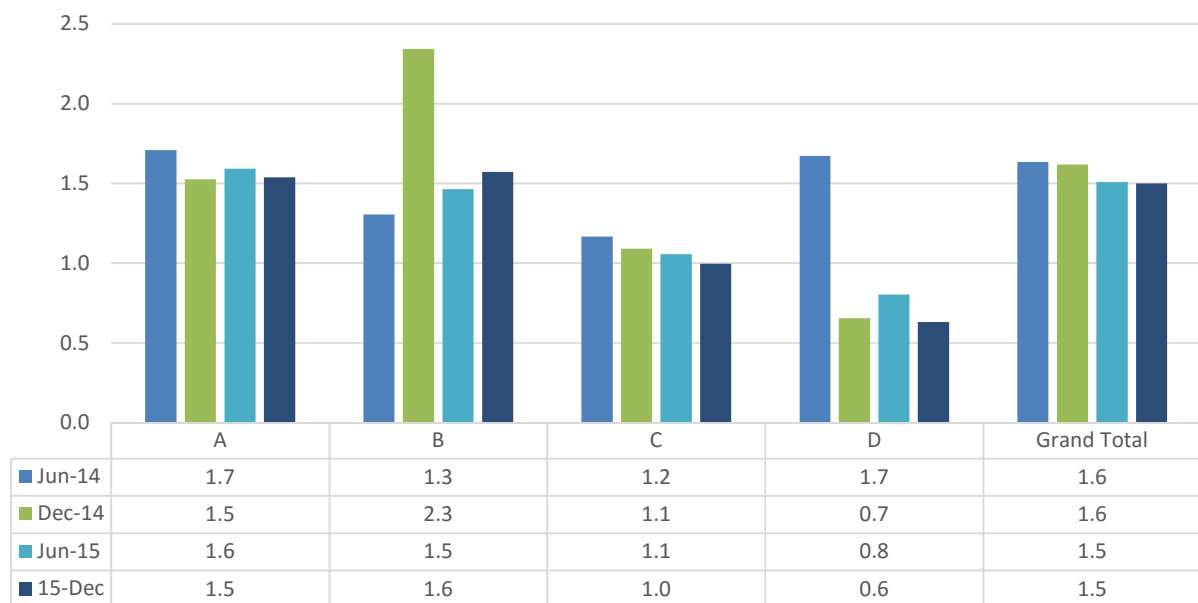
- The industry's **return on working capital**¹ (un-weighted average) slowed to 27.3 percent in the December 2015 survey, from 28.5 percent in the June 2015 survey, and 27.1 percent the previous survey. This is still well below the averages of between 30 and 40 percent in 2012 and 2013. Majority of firms reported a ROI of between 20% and 100%, with a few reporting negative rates.
- Larger firms by comparison, reported a much lower return on working capital of 16.4 percent, from having reported more stable rates that averaged between 23.0 percent and 27.0 percent, in previous surveys.

Table 7: Return on Working Capital by firm size

Group	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15
A	27.7	25.0	23.6	24.6	16.4
B	66.4	33.2	31.1	22.4	24.8
C	24.5	38.6	22.8	33.9	32.4
D	33.9	25.5	28.2	33.1	28.9
Grand Total	44.8	31.0	27.1	28.5	27.3

3.1.4 Value of outstanding payments

Fees not yet invoiced for confirmed appointments as % of revenue

**Figure 7: Order book: Income ration**

The ratio of fees not yet invoiced for confirmed appointments to existing earnings stabilized at 1.5 for 2015, from an average of 1.6 in 2014. Larger firms reported a mild weakening over the last two years, while there was a more notable improvement amongst medium size firms, with the sharp increase in the December 2014 likely related to a respondent error.

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).

3.1.5 Profitability and late payments

Profitability : Nett % Satisfaction rate

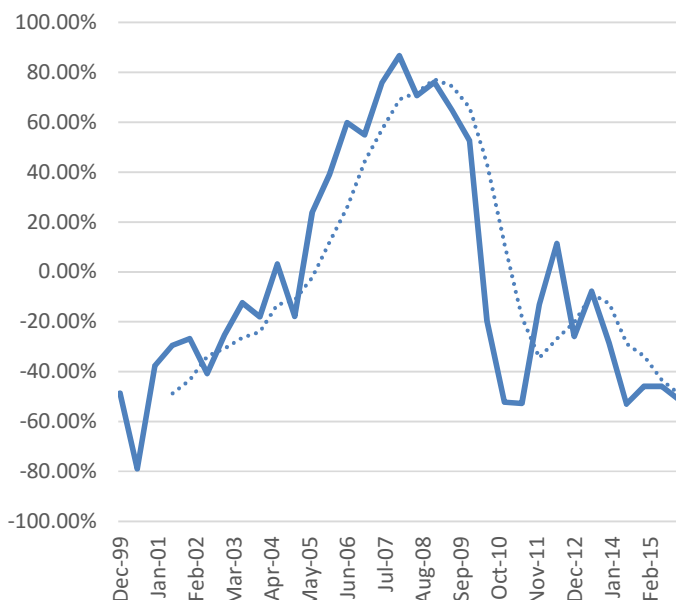


Figure 8: Profitability: Net % Satisfaction rate

Not surprising, majority of larger firms (78 percent) are unsatisfied with prevailing margins, compared with 25 percent of medium firms. An increasing number of medium firms are however expressing unsatisfactory levels compared to the June 2015 survey, from 16 percent to 25 percent.

The net satisfaction rate remains in deep negative territory and deteriorated further from -45.8 in June 2015 to -51.2 in the current survey. Negative sentiment regarding profitability has now persisted for the past 5 years.

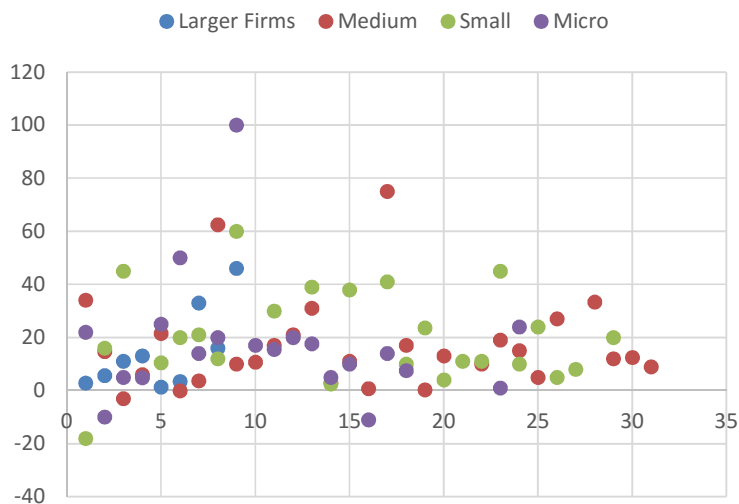
Profitability improved for the second consecutive survey to an average of 17.8 percent, an average of 14,4 percent and 12,2, percent in the previous two surveys.

The average profit margin for larger firms recovered to 14.7 percent from 9,4 percent in the first six months of 2015. Medium size firms also reported improved profitably to an average of 17 percent (from 14 percent), while smaller firms reported the most notable improvement to an average of 20 percent, from 13,1 in the previous survey. This was however on par with reports in the 2014 surveys.

A matrix of reported profit margins are provided in the chart below.

Contrary to previous reports, majority of firms now expect profit margins to stabilise, while 28 percent expect a further weakening. This is an improvement on the 63 percent that expected weaker margins in the previous survey. Fewer firms expect an improvement down from 18 percent to 10 percent.

Profit Margins



Payment remains a serious issue, having a broad based effect on firms operating in the industry. The percentage of fees outstanding for longer than 90 days as a percentage of total estimated income (including late payments) showed some improvement to 23 percent, from 24.5 percent and 24.0 percent in the previous two surveys. This ratio is however still higher when compared to the 17,4 percent in the June 2014 survey.

These ratios include income outstanding from foreign clients, which contributed 62 percent to total earnings outstanding after 90 days, compared to 42 percent (June 2015).

It is estimated that around R5,8bn in earnings is currently outstanding after the 90 day period.

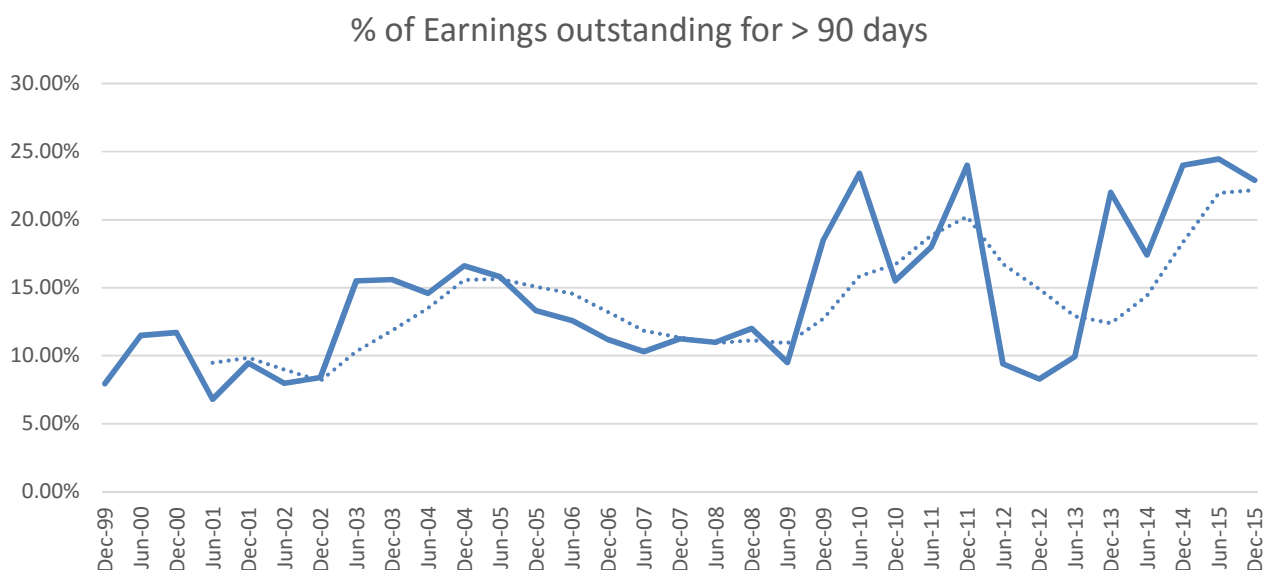
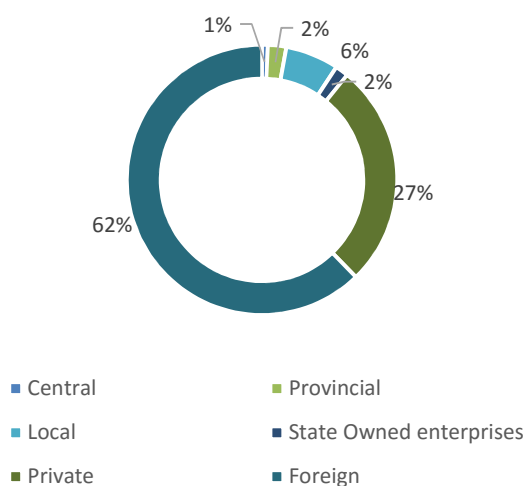


Figure 9: % of earnings outstanding for > 90 days

Foreign clients represented 62 percent of earnings outstanding for longer than 90 days (compared with 42 percent in June 2015), followed by 27 percent owed by the private sector, 6.4 percent by local authorities, 2.2 percent by provincial government and less than 1 percent by central government. SOE's contributed 1.6 percent during the current survey.

In relation to earnings, the respective foreign clients owed 35 percent of earnings, private sector 35 percent, local government 16 percent, and provincial, local authorities and SOE's all owed on average 6 percent of respective earnings.

Payment outstanding > 90 days Distribution by client type



3.2 Human Resources

3.2.1 Employment

- Employment improved for the second consecutive survey, albeit marginally, up 2 percent in the last six months of 2015 compared with the first half of the year, following an increase of 4 percent in the June 2015 survey. Larger firms however did not increase employment, while medium and smaller firms reported an increase of 6 and 11 percent respectively. Compared to the same period last year, employment is estimated to have increased by around 6 percent to an estimated 24,315.
- Firms did however report an 8 percent increase in the appointment of professional engineers in the current survey.
- The number of firms looking for engineers however moderated to 40 percent, from just under 70 percent. Details provided in the table below.

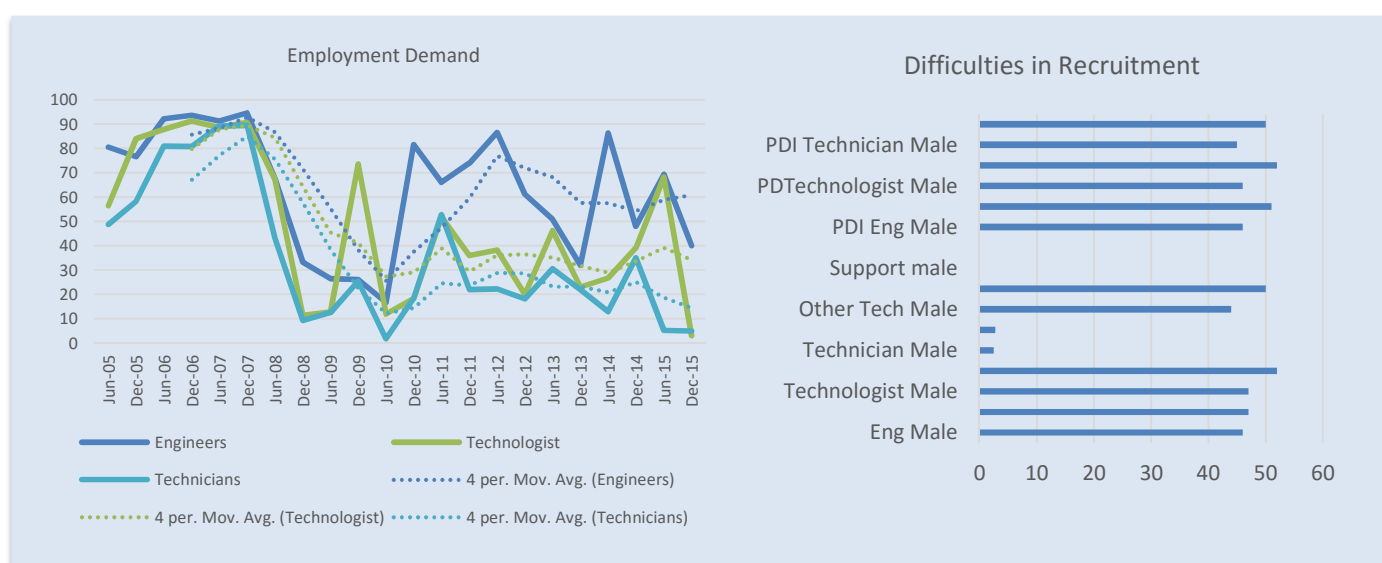


Figure 10: Employment Demand and Difficulties in recruitment

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

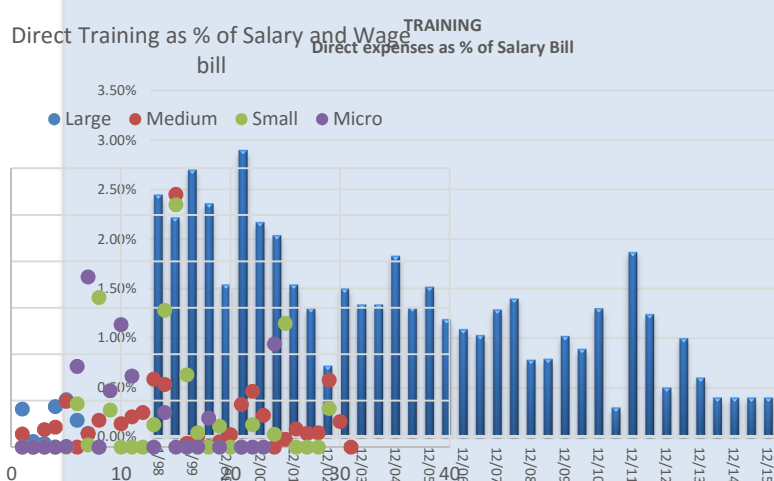
Type of personnel	% of firms wanting to increase staff December 2012	% of firms wanting to increase staff June 2013	% of firms wanting to increase staff December 2013	% of firms wanting to increase staff June 2014	% of firms wanting to increase staff December 2014	% of firms wanting to increase staff June 2015	% of firms wanting to increase staff December 2015
Engineers	61.2	50.8	32.0	86.2	48.0	69.3	46.5
Technologists	19.9	46.2	23.0	26.7	39.0	68.2	49.5
Technicians	18.1	30.5	22.0	12.9	35.0	5.1	2.7
Other technical staff	12.5	20.9	36.0	3.4	13.0	51.1	47.0
Support staff	7.5	24.0	28.0	2.1	3.8	2.9	0.0

3.2.2 Salary and Wage bill

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

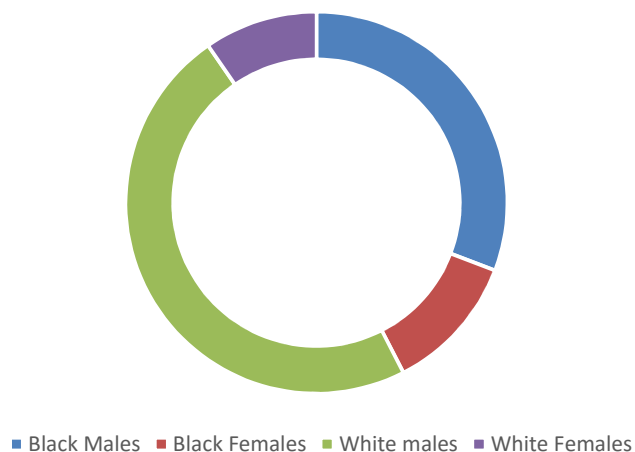
- The contribution of the salary and wage bill to fee earnings moderated to 63 percent from an average of 66 percent in the June 2015 survey.
- The contribution of the salary and wage bill was highest amongst larger firms, but moderated from 68 percent to 62 percent, while medium size firms reported a much lower salary bill averaging 53 percent (from 62 percent). Smaller firms reported a salary and wage bill contribution of 43 percent.

3.2.3 Training

Figure 11: Training direct expenses as % of salary bill and Training Matrix

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 5,0 percent of the total estimated salary bill, from 7,0 percent (June 2015). Although relatively on par with the previous survey (7, 8 percent), 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 (excluding Salaries)



Direct training costs, a more reliable measurement of firms' contribution to training, averaged 0.4 percent of the salary and wage bill, relatively on par with recent previous surveys, but significantly lower compared to between 1 and 2 percent reported up to 2012.

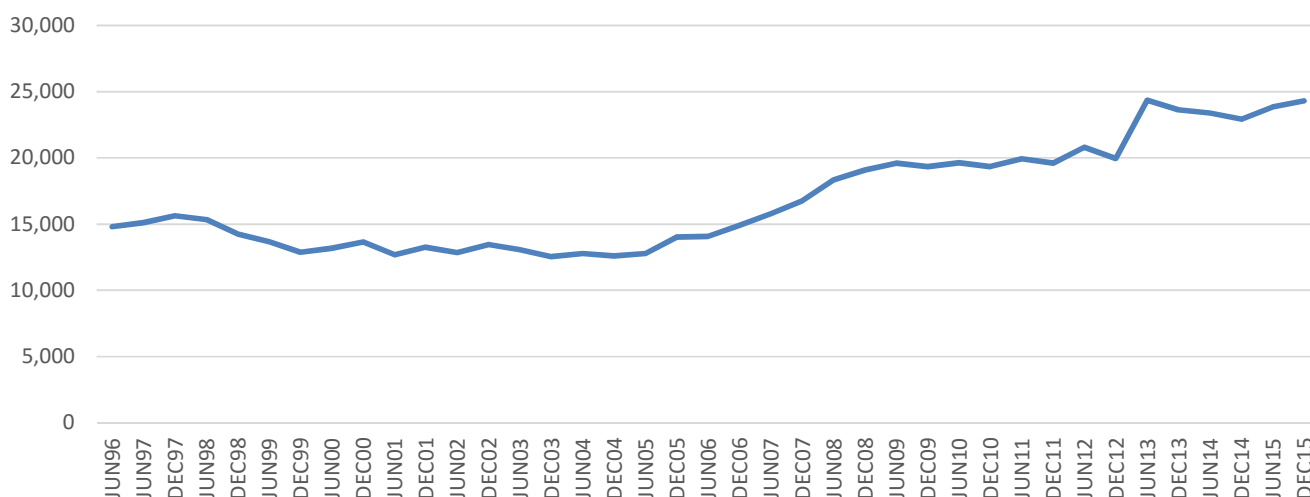
Larger firms spent on average 0, 3 percent of their salary and wage bill on direct training (in line with the June 2015 survey), while medium and smaller firms spent on average 0.8 and 0, 9 percent respectively.

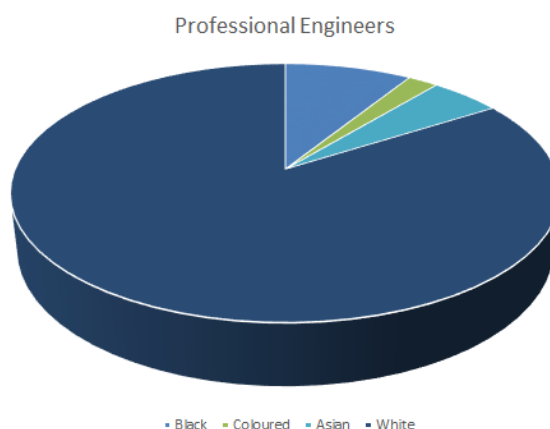
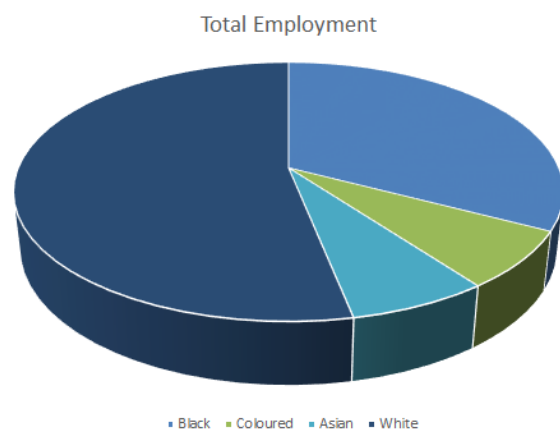
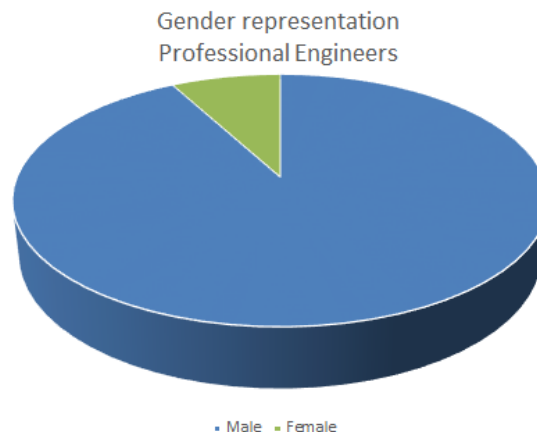
Training remains largely in favour of white males, representing 48% of total direct training costs (excluding salaries), followed by 31 percent toward black males, with females representing 21 percent of total direct training costs.

3.2.4 Employment profile

An estimated 24,315 people are employed in the private consulting engineering industry, of which 68 percent are male and 32 percent female. Professional Engineers (pr.Eng) contribute 13 percent to total employment, strongly dominated by males (92%) with women representing 8 percent of professional engineers in the industry. Employment growth has been muted following the build up to the Soccer World cup in 2010.

CESA: Employment





3.3 Industry profile of Executive Staff

The appointment of Black executive staff (including Black, Asian and Coloured), measured by the contribution of Black executive directors, non-executive directors, members and partners as a percentage of total executive staff, **increased to 39,5 percent from 38,0 percent and 36,0 percent** in the previous two surveys. The appointment of Black executive staff has steadily increased from 28,1 percent in the June 2012 survey. This shows real significant progress in terms of industry transformation. A detailed breakdown is provided in Statistical Tables.

There has also been a steady improvement in the appointment of women at an executive level. Women (including all races) appointed at an executive level represented 11,0 percent of total executives, from 10,1 percent in the previous survey. Of the total women employed in the consulting engineering industry (across all skill levels), 1,5 percent are appointed at an executive level, compared to between 5 percent and 8 percent amongst male employees.

3.4 Capacity Utilisation

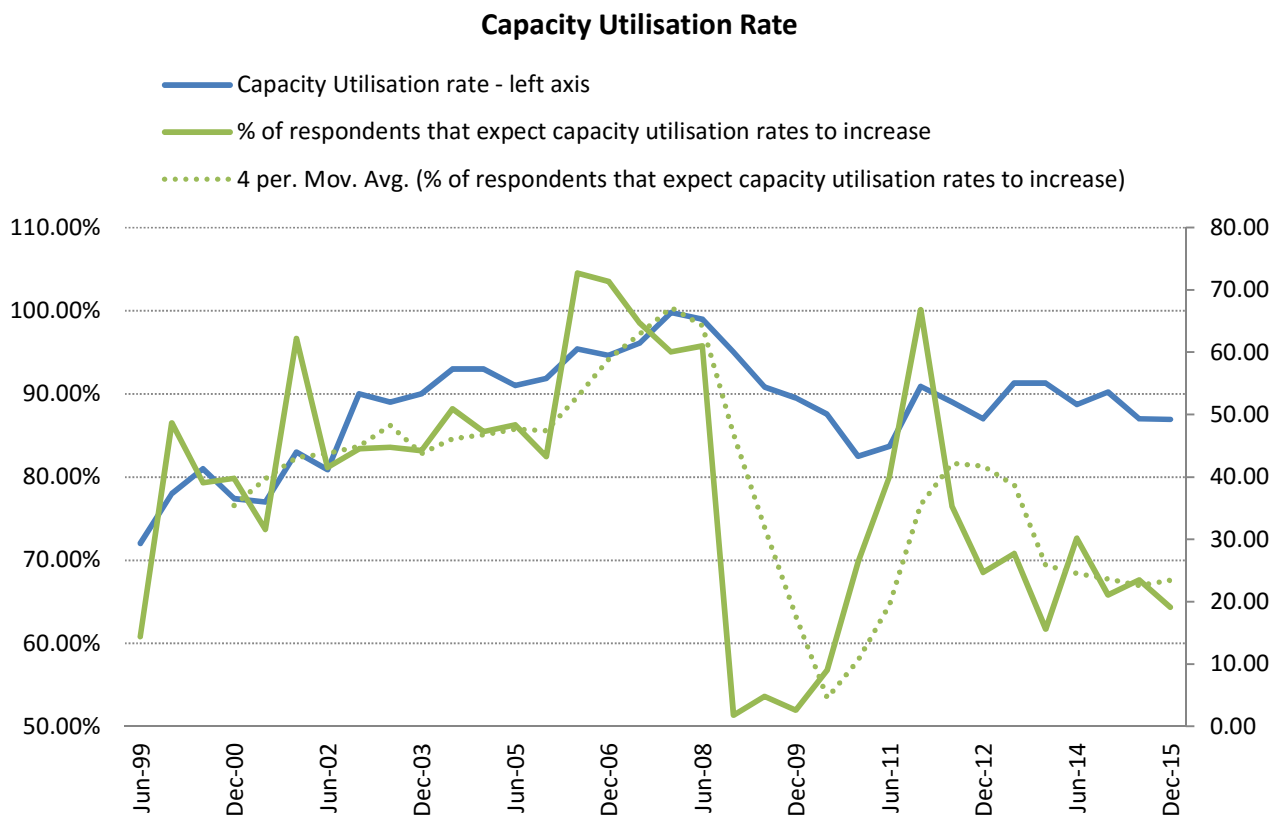


Figure 12: Capacity Utilisation Rate

Capacity utilisation of technical staff has shown very little movement over the last few surveys, but is showing some tendency to slow, and averaged 86,9 percent in the December 2015 survey, from 87,0 and 90 percent in the previous two surveys.

Since 2009, majority of respondents largely expect utilisation rates to remain unchanged, and although there was an increase in the number of firms that expected levels to improve between 2010 and 2011, this was reversed with currently less than 20 percent expecting higher utilisation rates in the next 6 months. Around 7 percent of firms, the highest since the downturn in 2009/10, are expecting further deterioration in capacity levels.

3.5 Competition in tendering

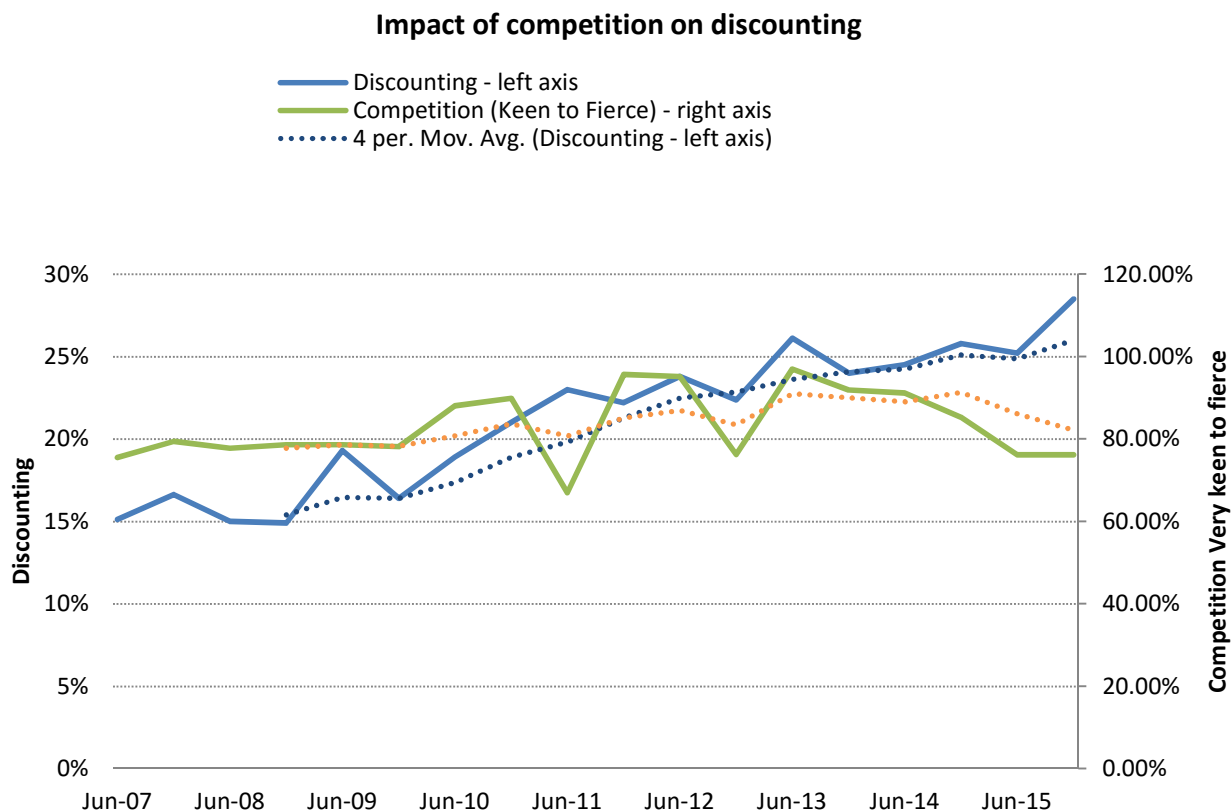


Figure 13: Competition and Discounting

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 increases the risk for the engineering firm.

Firms continue to predominately report, on very keen to fierce competition, but did report some level of moderation from a peak of 97 percent in June 2013 to 76.2 percent by December 2015, although majority still experience fierce competition at 64 percent of the weighted responses. This in itself suggests much tougher working conditions, and supports the notion by firms to discount more aggressively. On average, 64 percent of firms reported fierce competition, from 55 percent the previous (June 2015) survey.

There is a 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 accelerated to a record high since the inception of this question in the survey (June 2007), to an average of 28,5 percent, from an average of 25 percent in the previous two surveys.

Stronger competition generally leads to the propensity to offer higher levels of discounting. Discounted rates are benchmarked against the ECSA Guideline fee scales.

By comparison larger firms tend to discount more aggressively, although the average rate moderated to 33,0 percent in the December 2015 survey from an average of 34,0 and 40,0 percent in the previous two surveys. An increasing number of larger firms have reported fierce competition, up from 63 percent to 72 percent, the highest amongst all firm groups.

Medium size firms discounted at an average rate of 27,0 percent (from 24,6 percent), 32,5 that reported fierce competition.

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 FIERCE Competition for work during the last six months
Large	78.6	11.7	33.6	72.5
Medium	90.7	37.3	27.3	32.5
Small	91.5	40.3	28.5	31.7
Micro	80.0	25.9	28.3	23.7
Industry Average	86.9 (Weighted)	19.1 (Weighted)	28.5 (Weighted)	64.2 (Weighted)

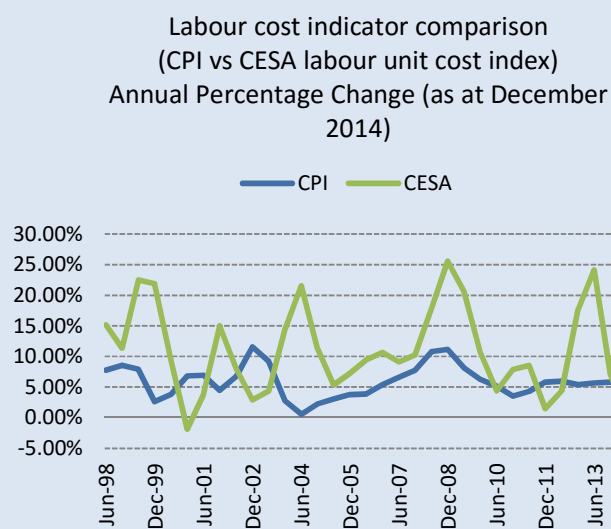
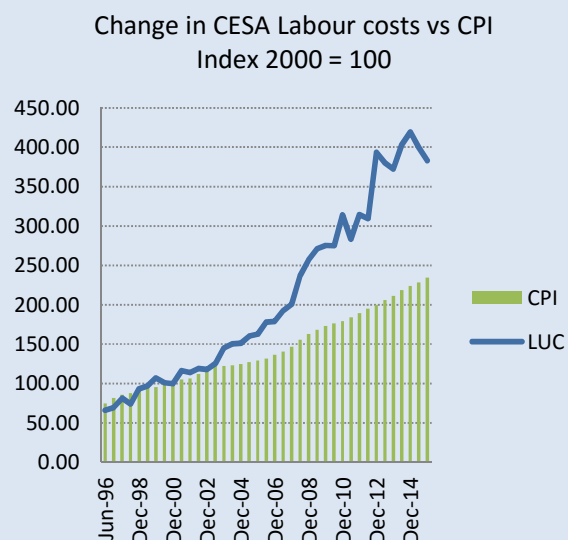
3.6 Pricing

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 for the industry, decreased by 4,9 percent (on average) in the last six months of 2015, following an increase of 5,6 percent y-y in the first six months of 2015. Following an increase of 15 percent and 4,8 percent in 2013 and 2014, labour costs ended flat for 2015, averaging an increase of 0.4 percent.

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 4,8 percent in the second half of 2015, from 4,4 percent in the first six months of 2015. Inflationary pressures eased temporarily in 2015 compared to an increase of 6,0 percent in 2014, but as inflationary pressures start to mount accelerated by a faster than expected depreciation of the rand, higher than inflationary increases in regulated (or government administered prices) and the impact of the drought on food prices, are expected to exert significant upward pressure on inflation, projected to average between 6,8 percent and 7,0 percent in 2016. February CPI shocked on the upside, coming in at 7 percent, which may suggest that initial projections were somewhat understated, as inflation, at the current rate of increase, could average between 7,5 and 8 percent for 2016.

Figure 14: CESA Labour Cost Indicator (LCI)**Figure 15: Change in CESA LCI vs CPI**

4. Industry Outlook

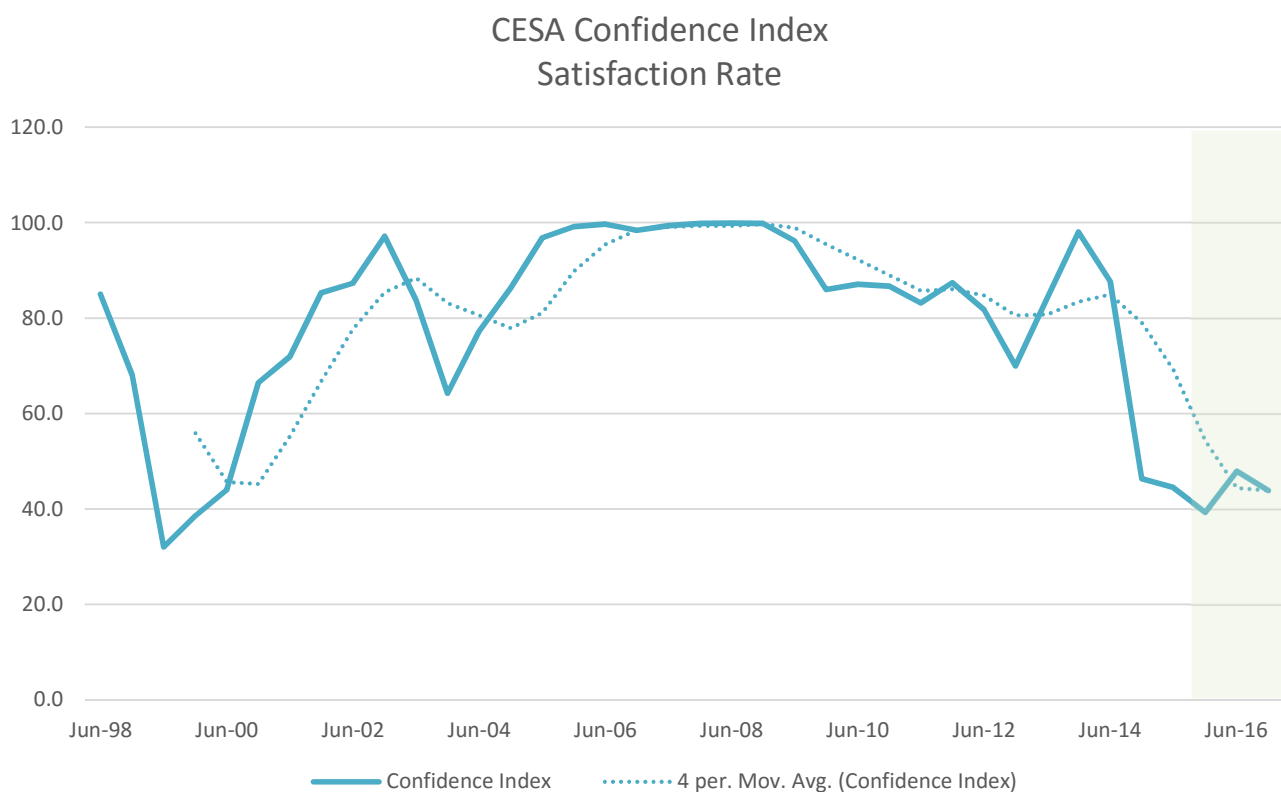


Figure 16: Confidence Index

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.² To ensure that possible distortions stemming from ad hoc replies do not occur, only those members that have submitted returns during the last two consecutive surveys are used. The confidence index is used as a leading indicator to determine a short to medium term outlook for the consulting engineering industry.

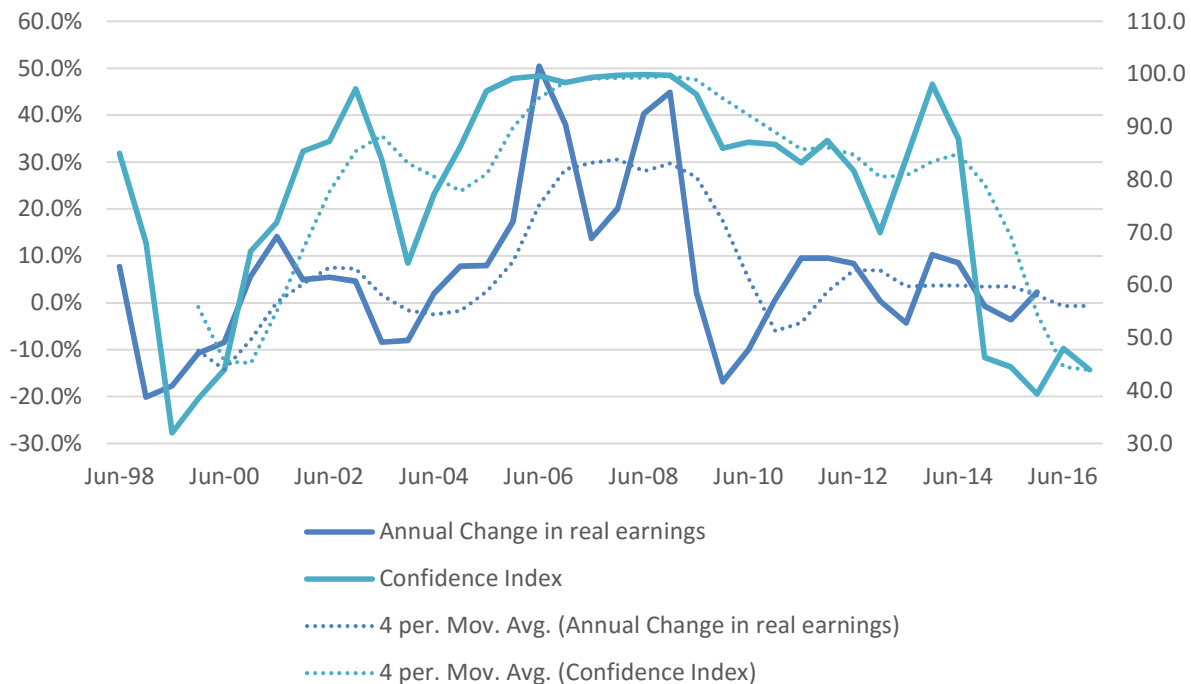
Confidence levels fell to its lowest level in 16 years, and were significantly weaker in the last six months of 2015, compared to expectations in the June 2015 survey. Levels fell from an expected 56.0 percent satisfaction rate to 39,4 percent, and although business conditions are expected to improve slightly to a satisfaction rate of 48 percent (first six months of 2016) and 44 percent (last six months of 2016), levels are well below the average of the last five years. Satisfaction amongst firms are at historically low levels, surpassed only by the 1998/99 recession caused by the Asian financial crisis.

Medium size firms are nonetheless more optimistic by comparison to opinions expressed by larger firms. A breakdown by firm size category is provided in the table below.

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

Table 9: Confidence as at December 2015, by firm size category (% of respondents that experienced satisfactory business conditions)

Firm size category	Last six months of 2015	Next 6 months	Next 12 months
Large	20.4%	32.1%	26.8%
Medium	91.6%	87.8%	88.5%
Small	75.8%	81.4%	78.6%
Micro	62.6%	77.0%	74.1%

Annual Change in Real Earnings of Consulting Engineering vs Confidence

Confidence levels amongst firms have deteriorated over the last few years, alongside modest increases in fee earnings. The current weakening in the confidence index, depicting less than satisfactory conditions, may therefore predict weaker growth in earnings.

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
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 (forecast)	48.0	21.8%	7.9%
Dec-16 (forecast)	44.0	-8.3%	11.7%

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

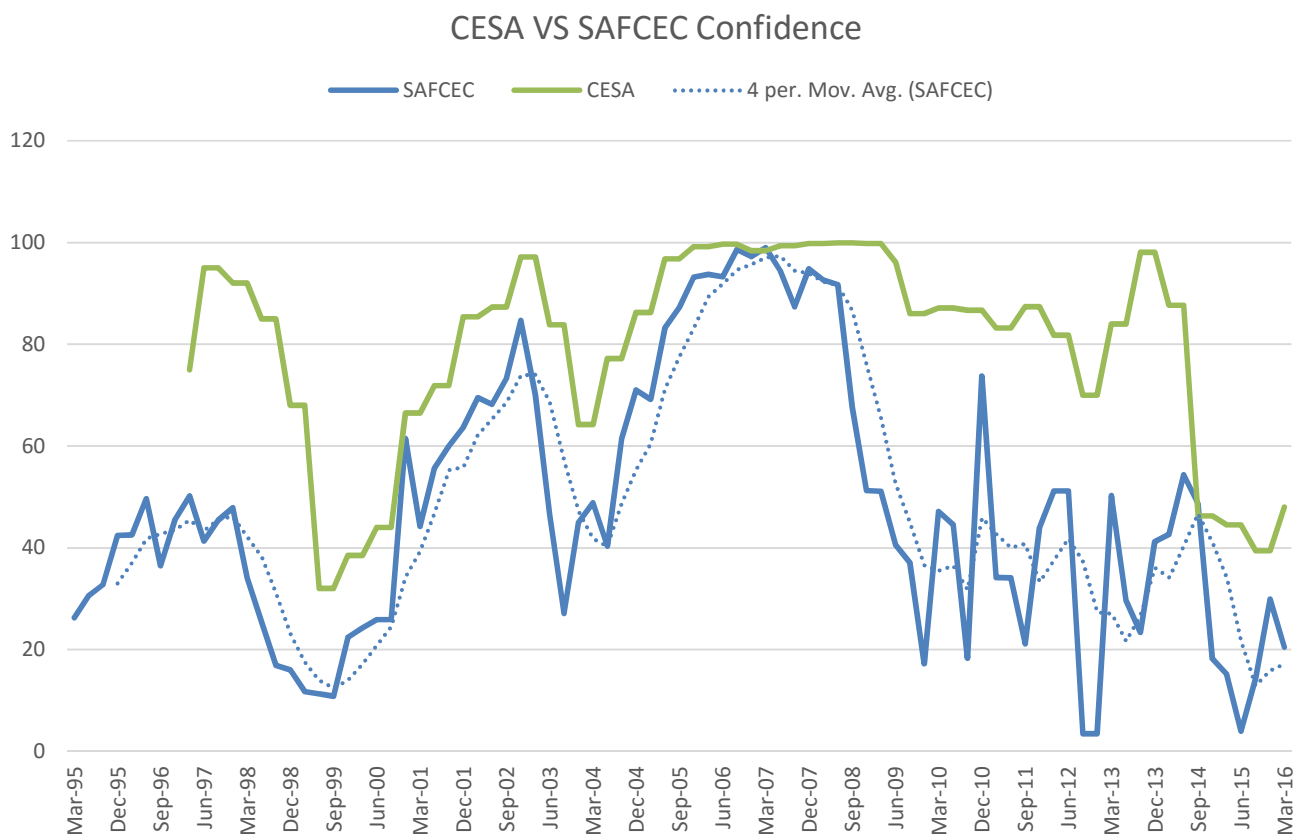


Figure 17

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 a disconnection between opinions expressed by engineers and contractors, where projects are in planning stages, supporting earnings in the consulting engineering industry, but implementation is slow.

An increasing number of contractors reported that business conditions were just average, resulting in an improvement in the index during mid-2014, however, conditions deteriorated during the second half of 2014 and into the first half of 2015, resulting in contractor's satisfaction rate deteriorating to levels that are largely negative, described as poor to very poor. For the first time since 2008/09 opinions expressed by contractors and engineers are more in line, albeit converging at a concerning low rate, depicting depressed working conditions both in terms of planning and contracting.

Confidence in the consulting engineering sector generally lags business sentiment. Business confidence started to deteriorate in 2007, falling to a level of below 50, (which means business is mostly pessimistic regarding business conditions), alongside higher interest rates and inflation during that time. In the eight years that followed, business confidence fell to a level as low as 23 by 2011, and although it has shown some improvement since then, it continued to fluctuate around the level of 50, often weakening to below the neutral level. Business confidence weakened in the second half of 2015, from an average of 46 (Jan – June 2015) to an average of 37, the lowest level in 15 years. This weak sentiment carried through to the first quarter of 2016, at a highly depressed level of 36. This continues to depict negative market sentiment which does not bode well for private sector fixed investment. Business confidence is negatively impacted by poor economic growth, threatened by a looming recession, increase in political instability, tightening of monetary policy alongside a sharper than expected increase in inflation. 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.

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.

- 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. 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

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 51 percent and 12 percent in earnings during the last 6 months of 2015. The contribution of project management slowed to 7 percent from 11,5 percent in the previous survey, more on par with the December 2013 survey.

With the recent amendment to Standard Building regulations, which provides more focus on health and safety issues, it may be necessary to amend forthcoming surveys to include this as a discipline offered by the engineering services sector.

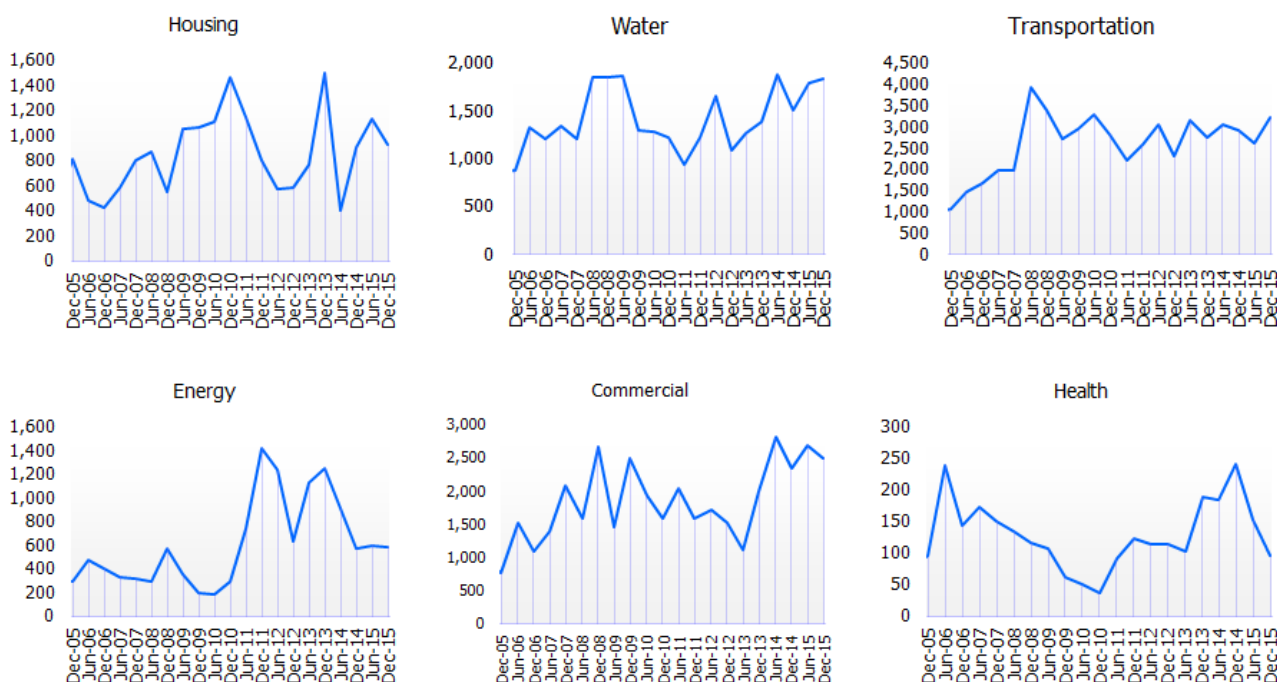
Details of the various sub-disciplines are provided for under Statistical Tables.

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 water services, transportation and commercial, with a growing emphasis on housing.

The two most prominent sectors were transportation, with a marginal increase in its contribution to 30 percent (from 25 percent) and the commercial sector which contributed 23,3 percent (from 25,8 percent). The contribution by the mining sector recovered to 5,1 percent (from 2,0 percent and 5,7 percent in the previous two surveys), while the contribution by the water sector stabilized at 17 percent. The energy sector contributed 5,4 percent, relatively on par with the 5,8 percent reported in the first six months of 2015, while earnings in the housing sector fell to 8,6 percent, from 10,9 percent in the previous survey.

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

	Water	Transportation	Energy	Mining	Education	Health	Tourism	Housing	Commercial	Agriculture	Other	Total
A	16%	30%	6%	7%	0%	0%	0%	8%	25%	1%	7%	100%
B	24%	28%	3%	1%	7%	4%	1%	9%	17%	0%	7%	100%
C	17%	40%	4%	0%	1%	3%	0%	7%	21%	2%	4%	100%
D	6%	7%	20%	1%	5%	1%	1%	23%	21%	3%	10%	100%
Grand Total	17%	30%	5%	5%	2%	1%	0%	9%	23%	1%	7%	100%

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

	GAU	KZN	WC	EC	NC	MPU	FS	LIM	NW	AFRICA	INT	Total
A	22%	18%	12%	6%	1%	3%	3%	2%	1%	22%	12%	100%
B	27%	22%	13%	5%	3%	5%	7%	10%	4%	3%	1%	100%
C	24%	16%	14%	17%	3%	10%	2%	8%	4%	2%	0%	100%
D	20%	4%	39%	8%	1%	6%	15%	4%	1%	2%	0%	100%
Grand Total	23%	18%	13%	6%	2%	4%	4%	4%	2%	16%	9%	100%

Table 13: Distribution of fee earnings by client type, by firm size

	CENTRAL	PROVINCIAL	LOCAL	PARASTATAL	PRIVATE	TOTAL
A	5%	17%	16%	15%	47%	100%
B	7%	27%	26%	12%	29%	100%
C	6%	12%	38%	8%	36%	100%
D	9%	17%	19%	2%	53%	100%
Grand Total	6%	20%	21%	13%	40%	100%

6.3 Geographic Location

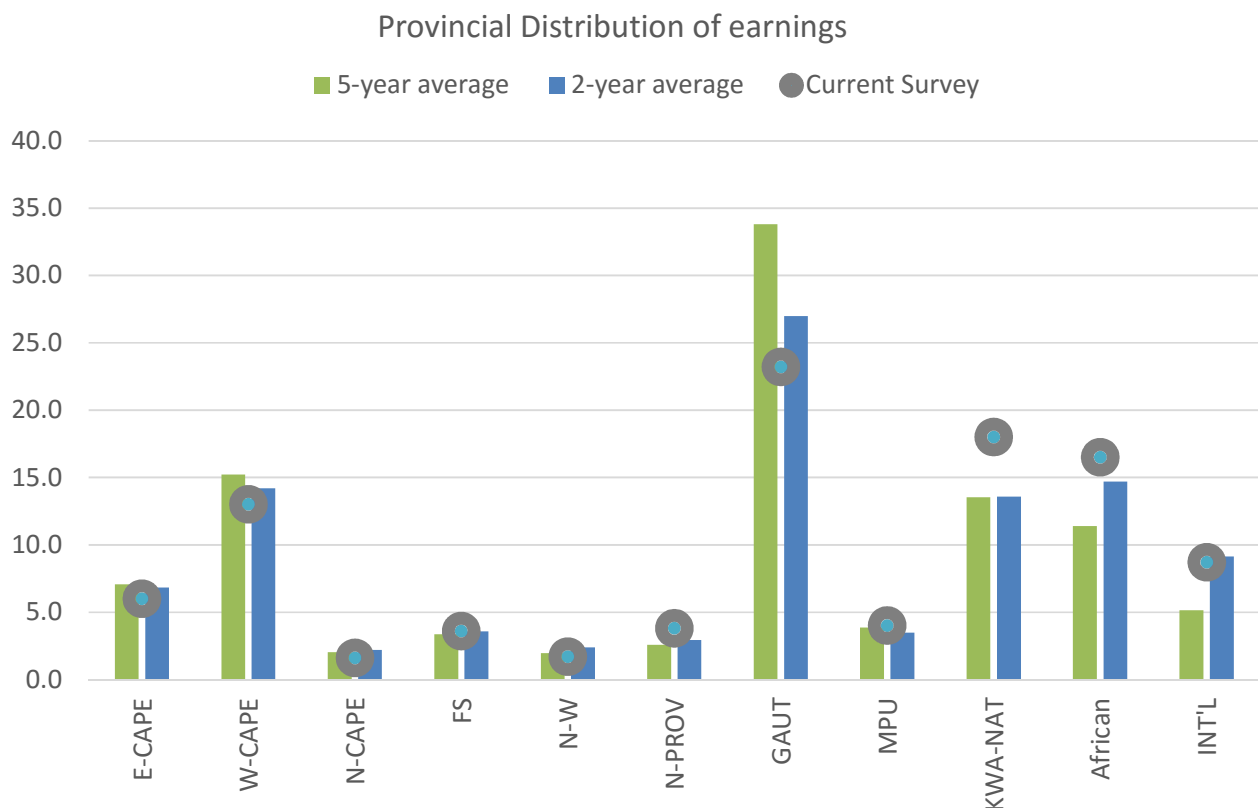


Figure 18

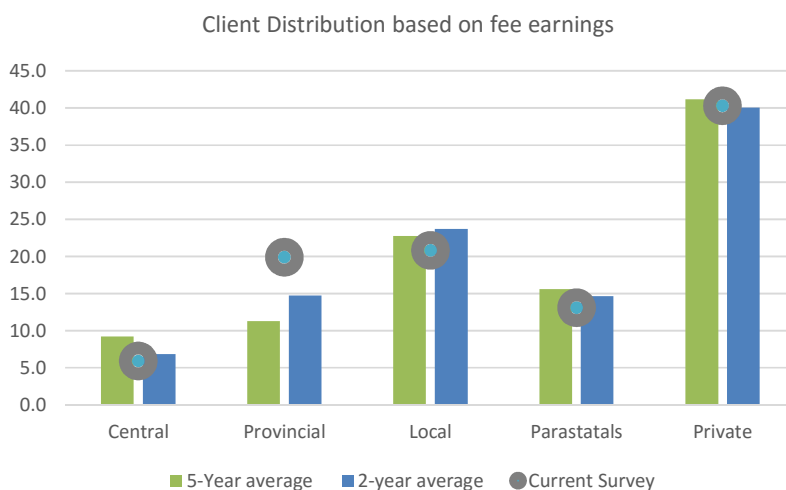
The contribution of earnings in Gauteng has slowly deteriorated when compared to the average percentage contribution over the last two and five years (refer to chart above). Gauteng contributed 23,2 percent of earnings in the last six months of 2015, from 28,0 percent in the first six months of 2015. Gauteng contributed around 40 percent during 2011/12. The contribution by the Western Cape also moderated in relation to the last two and five year averages, to 13,0 percent, from 14,3 percent, although it was some improvement from the 12,4 percent reported in the December 2014 survey. KwaZulu Natal increased its contributions to 18,0 percent from 14,8 percent, and has steadily increased its contribution over the last five years. Earnings in the Eastern Cape slowed to 6,0 percent from 6,5 percent of total earnings, also below historical averages.

Earnings outside of South Africa is playing a more prominent role, and contributed 16,5 percent, 13,3 percent and 15,8 percent in terms of Africa over the last three surveys. International earnings averaged 8,7 percent from 7,5 percent (June 2015).

6.4 Clients

The contribution to fee earnings by the private sector fell to 40,3 percent from 43 percent in the previous survey, but is largely on par with the average over the last 2-year and 5-year period.

Earnings through local authorities also moderated to an average of 20,8 percent (from an average of 23,7 percent over the last two years), while earnings by provincial governments increased to an above average contribution of close to 20 percent in the current survey (from an average of 14,8 percent over the last two years). The contribution by SOE's fell to its lowest level since 2011, and contributed 13,1 percent to total earnings, from an average of 14,7 percent over the last two years.



The public sector remains the most important client to the industry, and due to the increase in provincial sector earnings, the contribution by the public sector increased to 60 percent (from 57 percent).

Figure 19: Distribution of earnings by client type

A breakdown of earnings by client type and firm size is provided in the table below.

Table 14: Fee earnings distribution by client by firm size

	Central	Provincial	Local	Parastatals	Private	Total
Large	5%	17%	16%	15%	47%	100.0%
Medium	7%	27%	26%	12%	29%	100.0%
Small	6%	12%	38%	8%	36%	100.0%
Micro	9%	17%	19%	2%	53%	100.0%
Total	6%	20%	21%	13%	40%	100.0%
Average 2-Year	6.9%	14.8%	23.7%	14.7%	40.1%	100.0%
Average 5-year	9.2%	11.3%	22.8%	15.6%	41.1%	100.0%

7. Professional Indemnity Insurance

The industry spends approximately between R200 million and R400 million on premiums for professional indemnity insurance, or roughly 2 percent of gross fee earnings (from an average of 1.2 percent in the June 2015 survey). Majority of firms (64 percent) spend less than 1% of their income on insurance, but a few did report between 3 percent and 11 percent. Most of the larger firms reported a level of between 0,2 percent and 1,3 percent.

Table 15: 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	0.5	17.7	2.0
B	0.8	64.2	5.3
C	4.0	131.9	6.6
D	1.2	182.8	0.9
Average	1.9	113.5	4.3

Majority of firms (70%) reported a low risk exposure, while only 3,2 percent of the respondents reported to have a high risk exposure. 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 26 percent of the responding firms, reported claims over the last five years, averaging 2,8 claims per firm, slightly above the 2,2 average in the previous survey. On average (based on limited responses), of the 57 claims reported by participating firms, 7 (or 12 percent) were not refunded, which is above average compared to previous surveys of between 5 percent and 7 percent.

The industry's average limit of indemnity (LOI) as a percentage of gross fee income over the 12 month period increased substantially compared to previous surveys, mainly due to participation of larger firms that affected the average. The limit of indemnity averaged between 2 percent and 42 percent for larger firms, an average of 23 percent. It is much higher for medium and smaller size firms, averaging 48 and 143 percent respectively.

The industry average in terms of deductibles as a percentage of the indemnity limit averaged 4,3 percent in the December 2015 survey, from 1,5 percent in the June 2015 survey and 2,2 percent in the December 2014 survey. Larger firms averaged mostly between 1,6 percent and 4 percent, which is higher compared to previous surveys, which averaged between 1 and 3 percent. Majority of medium firms were below 2 percent.

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 (95 percent). While all the larger firms have the QMS in place, 88,5% of the micro enterprises that responded to the survey, currently comply.

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 34 percent of the firms certified in this survey. Majority of the small to micro firms are not ISO 9001:2008 certified, compared to all of the larger firms (employing more than 100 people) and around 50 percent of the medium firms. An ISO certification is not a condition of membership at this stage.

Statistical Tables

Table 16: 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
Jun-07	15,807	3,613	9,493	6,771	13.7%	140.2	6.5%
Dec-07	16,755	3,542	10,537	7,183	20.1%	146.7	7.7%
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%

Table 17: 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-07	12.4%	16.7%	13.7%	6.50%
Dec-07	12.4%	5.7%	20.1%	7.70%
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%

* Revised

³ Revised June 2007

Table 18: Sub-disciplines: Percentage share of earnings

Sub-discipline	Dec-14	Jun-15	Dec-15	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Agricultural	1.5%	0.4%	1.2%	0.9%	1.4%	-0.5%	-0.6%	0.8%
Architecture	1.2%	0.8%	0.6%	0.7%	0.9%	0.2%	-1.1%	-0.2%
Mechanical building Services	8.2%	3.1%	1.7%	3.7%	3.8%	-0.6%	-5.3%	-1.4%
Civil	45.0%	50.9%	48.9%	45.2%	46.2%	5.7%	-48.2%	-2.0%
Electrical / Electronic	5.1%	7.7%	5.1%	7.2%	7.0%	0.6%	-9.7%	-2.7%
Environmental	6.1%	2.0%	4.6%	3.0%	4.1%	-1.0%	-1.5%	2.6%
Facilities Management (New)	0.1%	1.2%	0.0%	0.7%	0.4%	0.5%	-1.6%	-1.2%
Geotechnical	1.4%	1.2%	2.0%	1.1%	1.4%	0.0%	-0.6%	0.8%
Industrial Process / Chemical	3.6%	0.9%	3.0%	2.0%	2.3%	-1.0%	-0.2%	2.1%
GIS	0.3%	0.4%	0.2%	0.5%	0.3%	-0.2%	-0.5%	-0.2%
Hydraulics (New)	1.1%	0.8%	0.5%	0.8%	0.8%	0.0%	-1.2%	-0.3%
Information Systems / Technology	1.5%	2.0%	3.0%	0.9%	1.6%	1.1%	-0.6%	1.0%
Marine	0.0%	1.7%	0.1%	0.9%	0.5%	0.9%	-2.1%	-1.6%
Mechanical	2.1%	6.5%	5.6%	4.0%	5.3%	2.5%	-6.2%	-0.9%
Mining	0.7%	0.2%	0.3%	2.1%	0.5%	-1.9%	-0.5%	0.1%
Project Management	11.5%	6.7%	10.6%	10.8%	9.8%	-4.0%	-5.9%	3.9%
Quantity Surveying	0.3%	0.3%	0.0%	0.3%	0.3%	-0.1%	-0.5%	-0.2%
Structural	9.8%	11.6%	12.7%	13.7%	11.8%	-2.2%	-10.7%	1.1%
Town planning	0.5%	1.7%	0.0%	1.5%	1.4%	0.2%	-3.1%	-1.6%
Total	100.0%	100.0%	100.0%					

Table 19: Sub-disciplines, Fee income R mill, Real 2000 prices

Sub-discipline	Dec-14	Jun-15	Dec-15	Change last six months	Change last 12 months
Agricultural	159	43	126	193.3%	-21.0%
Architecture	124	86	69	-19.7%	-44.4%
Mechanical building Services	859	325	180	-44.5%	-79.0%
Civil	4,710	5,284	5,235	-0.9%	11.2%
Electrical / Electronic	539	804	545	-32.2%	1.2%
Environmental	637	205	491	139.6%	-23.0%
Facilities Management (New)	13	121	1	-99.0%	-90.7%
Geotechnical	142	121	213	76.2%	50.4%
Industrial Process / Chemical	373	95	321	238.5%	-13.9%
GIS	28	38	21	-43.0%	-22.5%
Hydraulics (New)	113	81	51	-37.4%	-54.9%
Information Systems / Technology	158	208	323	55.5%	103.8%
Marine	0	180	12	-93.2%	#DIV/0!
Mechanical	221	676	596	-11.8%	169.9%
Mining	77	22	28	28.2%	-63.8%
Project Management	1,203	699	1,133	62.2%	-5.8%
Quantity Surveying	36	28	4	-87.1%	-89.9%
Structural	1,031	1,201	1,359	13.2%	31.8%
Town planning	51	174	3	-98.3%	-94.3%
Total	10,474	10,389	10,712	3.1%	2.3%

Table 20: Provincial Distribution, R mill, Real 2000 prices (Annualized, two survey average)

Province	Survey period							
	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15
EC	727	507	884	992	702	880	675	643
WC	1 516	1,646	1,093	2,026	1,847	1,299	1,486	1,393
NC	197	153	179	211	248	325	187	171
FS	467	287	238	232	270	283	571	386
NW	104	134	169	264	259	283	280	182
LIM	280	230	169	179	248	367	218	407
GAU	3 986	3,703	3,984	3,693	3,434	2,577	2,950	2,485
MPU	301	679	427	264	346	388	322	428
KZN	1 567	1,148	2,106	1,129	1,015	1,267	1,538	1,928
AFRICAN	1 007	813	507	1,087	1,425	1,655	1,382	1,767
INT'L	239	268	179	475	1,004	1,152	779	932
Total	10 380	9,569	9,935	10,552	10,799	10,474	10,389	10,722

Table 21: Provincial Distribution Y-Y percentage Change*(Trend – SMOOTHED over two consecutive surveys, to remove short term volatility)*

Province	Survey period							
	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15
EC	-7.1%	0.9%	9.6%	52.1%	21.6%	-15.8%	-8.1%	-16.6%
WC	8.2%	-0.9%	-13.7%	-1.3%	41.3%	0.7%	-28.0%	-8.4%
NC	-2.8%	-14.7%	-18.4%	11.3%	38.3%	46.9%	11.5%	-37.4%
FS	3.8%	8.1%	-35.1%	-37.6%	-4.5%	17.4%	70.3%	73.3%
NW	-43.3%	-28.9%	27.7%	82.0%	72.5%	25.1%	7.8%	-14.6%
LIM	28.2%	-6.3%	-30.8%	-31.7%	7.2%	76.4%	36.8%	1.7%
GAU	11.6%	3.2%	0.8%	-0.2%	-7.4%	-21.8%	-22.4%	-9.5%
MPU	17.7%	31.6%	49.7%	-29.5%	-45.0%	6.0%	16.6%	2.5%
KZN	24.2%	29.8%	24.4%	19.1%	-34.2%	-29.5%	30.9%	52.0%
AFRICAN	5.7%	-11.8%	-36.1%	-12.4%	90.1%	93.1%	21.0%	2.3%
INT'L	2.3%	43.3%	11.5%	29.0%	230.7%	229.6%	30.7%	-20.6%
Total	9.0%	4.5%	-2.1%	2.6%	9.4%	3.7%	-2.2%	-0.7%

Table 22: Provincial Distribution percentage share of earnings

Province	Survey period								5-year average	2-year average
	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15		
EC	7.0	5.3	8.9	9.4	6.5	8.4	6.5	6.0	7.1	6.9
WC	14.6	17.2	11.0	19.2	17.1	12.4	14.3	13.0	15.2	14.2
NC	1.9	1.6	1.8	2.0	2.3	3.1	1.8	1.6	2.0	2.2
FS	4.5	3.0	2.4	2.2	2.5	2.7	5.5	3.6	3.4	3.6
NW	1.0	1.4	1.7	2.5	2.4	2.7	2.7	1.7	2.0	2.4
LIM	2.7	2.4	1.7	1.7	2.3	3.5	2.1	3.8	2.6	2.9
GAU	38.4	38.7	40.1	35.0	31.8	24.6	28.4	23.2	33.8	27.0
MPU	2.9	7.1	4.3	2.5	3.2	3.7	3.1	4.0	3.9	3.5
KZN	15.1	12.0	21.2	10.7	9.4	12.1	14.8	18.0	13.5	13.6
AFRICAN	9.7	8.5	5.1	10.3	13.2	15.8	13.3	16.5	11.4	14.7
INT'L	2.3	2.8	1.8	4.5	9.3	11.0	7.5	8.7	5.2	9.1
Total	100.0%	100%	100%	100%	100%	100%	100%	100%		

Table 23: Client Distribution Fee income earned, R mill, Real 2000 prices (Annualized)

Client	Survey period						
	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15
Central	268	497	3,176	582	1,194	488	632
Provincial	507	994	538	1,455	1,320	1,351	2,132
Local	2,986	2,086	1,266	2,975	2,189	2,639	2,228
State Owned	1,455	1,987	1,593	1,703	1,676	1,434	1,403
Private	4,354	4,371	3,978	4,064	4,095	4,478	4,317
Total	9,569	9,935	10,552	10,779	10,474	10,389	10,712

Table 24: Client distribution Percentage share of earnings

Client	Survey period							5-year average	2-year average
	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15		
Central	2.8	5.0	30.1	5.4	11.4	4.7	5.9	9.2	6.9
Provincial	5.3	10.0	5.1	13.5	12.6	13.0	19.9	11.3	14.8
Local	31.2	21.0	12.0	27.6	20.9	25.4	20.8	22.8	23.7
State Owned	15.2	20.0	15.1	15.8	16.0	13.8	13.1	15.6	14.7
Private	45.5	44.0	37.7	37.7	39.1	43.1	40.3	41.1	40.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Table 25: Economic sector Percentage share of earnings

Economic sector	Dec-14	Jun-15	Dec-15	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Water (Full water cycle)	14.4%	17%	17%	14.2%	16.5%	3.0%	0.6%	-0.1%
Transportation (land, air, road, rail, ports)	27.9%	25%	30%	27.2%	27.8%	2.8%	2.3%	4.9%
Energy (electricity, gas, hydro)	5.5%	6%	5%	8.9%	6.3%	-3.6%	-0.9%	-0.4%
Mining / Quarrying	5.7%	2%	5%	7.9%	4.2%	-2.8%	0.9%	2.9%
Education	1.3%	1%	2%	1.4%	1.5%	0.2%	0.0%	0.6%
Health	2.3%	1%	1%	1.4%	1.6%	-0.5%	-0.7%	-0.6%
Tourism/Leisure	0.5%	1%	0%	0.7%	0.5%	-0.3%	-0.1%	-0.4%
Housing (residential inc. land)	8.7%	11%	9%	8.6%	8.0%	0.1%	0.7%	-2.3%
Commercial ⁴	22.2%	26%	23%	19.7%	24.3%	3.5%	-1.0%	-2.6%
Agriculture / Forestry / Fishing	0.6%	2%	1%	1.3%	1.1%	-0.5%	-0.3%	-0.8%
Other	11.0%	8%	7%	8.7%	8.2%	-1.9%	-1.4%	-1.3%
Total	100%	100%	100%					

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

Table 26: Economic Sector Rm, Real 2000 prices, Annualized

Economic sector	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Per. Change last 6 months	Per. Change Last 12 months
Water (Full water cycle)	1,381	1,877	1,505	1,791	1,838	2.6%	22.1%
Transportation (land, air, road, rail, ports)	2,760	3,027	2,920	2,611	3,221	23.4%	10.3%
Energy (electricity, gas, hydro)	1,255	911	571	600	576	-4.0%	0.8%
Mining / Quarrying	564	406	594	224	545	143.1%	-8.2%
Education	237	250	140	102	166	62.4%	18.2%
Health	189	185	241	153	95	-37.5%	-60.5%
Tourism/Leisure	126	40	54	82	43	-46.9%	-19.1%
Housing (residential inc. land)	1,501	397	908	1,134	926	-18.3%	2.0%
Commercial	1,996	2,799	2,325	2,684	2,492	-7.1%	7.2%
Agriculture / Forestry / Fishing	70	150	67	167	85	-49.1%	26.8%
Other	474	737	1,150	841	724	-13.9%	-37.0%
Total	10,552	10,779	10,474	10,389	10,712	3.1%	2.3%

Table 27: 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-01	R 73.80	107.80	3.8%	
Dec-01	R 72.23	115.00	15.0%	9.4%
Jun-02	R75.56	116.39	8.0%	
Dec-02	R74.67	118.31	2.9%	5.4%
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%

Table 28: 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)				
	Jul-Dec 2013 %	Jan-Jun 2014 %	July - Dec 2014 %	Jan-Jun 2015 %	July-Dec 2015 %
Central government	11.8%	2.8%	37.0%	13.6%	6.3%
Provincial government	6.1%	8.3%	10.2%	12.0%	5.9%
Local government	7.4%	14.2%	17.4%	13.2%	16.3%
State owned enterprises	4.2%	13.1%	6.2%	6.9%	6.4%
Private Sector	6.7%	16.8%	13.5%	32.9%	35.6%
Foreign (all EX-RSA)	56.0%	7.4%	44.0%	39.0%	81.4%
Total	22%	17.4%	24.0%	24.5%	22.9%

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

Survey	Bursaries % of salary bill	Bursaries R mill current prices	Training % of Salary bill ⁵	Training R mill current prices
Jun-02	0,5%	R10	1,3%	R 25.7
Dec-02	0,9%	R19	0,7% ⁶	R 14.6
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

⁵ Training now includes all training, in-house and external. Comparisons with previous surveys not compatible. – excludes costs related to salaries⁶ Revised: Removed outlier questionnaire erroneously included in previous sample.

Table 30: Employment profile of the consulting engineering industry: Percentage contribution: July – December 2015

Job Category	Black	Coloured	Asian	White	Total	% Share by type
Professional Engineer Pr.Eng	8.9%	2.1%	5.0%	84.0%	100.00%	13.28%
Professional Architects	4.8%	0.0%	4.8%	90.5%	100.00%	0.28%
Professional Quantity Surveyors	12.1%	0.0%	9.1%	78.8%	100.00%	0.44%
Professional Other	6.3%	1.9%	3.4%	88.4%	100.00%	5.55%
Technologists Pr TEchENG	15.0%	3.4%	7.6%	74.0%	100.00%	4.39%
Technicians PrTechni	48.8%	10.1%	3.1%	38.0%	100.00%	1.73%
Unregistered technical staff: Engineer	19.9%	7.1%	8.2%	64.8%	100.00%	13.83%
Unregistered technical staff: Technologist	33.0%	10.9%	9.1%	47.0%	100.00%	3.83%
Unregistered technical staff: Technician	55.4%	9.6%	6.7%	28.3%	100.00%	10.40%
Unregistered technical staff: Other	47.9%	5.9%	10.3%	35.9%	100.00%	12.10%
Technical Assistants	55.3%	9.0%	3.6%	32.1%	100.00%	4.48%
Draughts Persons	12.0%	11.2%	8.1%	68.7%	100.00%	6.48%
Laboratory / Survey Assistants	93.8%	0.0%	2.5%	3.7%	100.00%	2.16%
Administration / Support staff	41.5%	10.5%	7.3%	40.7%	100.00%	21.05%
Total	32.7%	7.1%	7.0%	53.2%	100.00%	100.00%

Table 31: Employment profile of the consulting engineering industry: Change in contribution July - Dec 2015 vs Jan – June 2015

Job Category	Black	Coloured	Asian	White
Professional Engineer Pr.Eng	1.0%	-0.5%	0.1%	-0.6%
Professional Architects	4.8%	0.0%	-6.3%	1.6%
Professional Quantity Surveyors	3.0%	0.0%	-4.5%	1.5%
Professional Other	-3.0%	-1.9%	-2.7%	7.6%
Technologists Pr TEchENG	-1.5%	-2.1%	2.4%	1.1%
Technicians PrTechni	3.7%	-1.8%	-1.4%	-0.6%
Unregistered technical staff: Engineer	-0.9%	2.1%	-1.4%	0.2%
Unregistered technical staff: Technologist	-6.3%	1.9%	0.5%	3.9%
Unregistered technical staff: Technician	-2.3%	-1.0%	1.0%	2.2%
Unregistered technical staff: Other	12.6%	-1.8%	1.0%	-11.8%
Technical Assistants	8.0%	-4.1%	0.1%	-4.0%
Draughts Persons	-2.6%	0.4%	0.1%	2.1%
Laboratory / Survey Assistants	12.3%	-2.6%	0.9%	-10.6%
Administration / Support staff	3.7%	-0.8%	-1.0%	-2.0%
Total	1.2%	-0.9%	-0.1%	-0.2%

Table 32: 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-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15
(PTY) LTD	Executive Directors	Pr.Eng	13.7%	12.1%	15.5%	16.3%	14.0%	14.8%	14.5%
		PrTechEng	23.8%	41.9%	37.5%	33.3%	33.3%	36.5%	33.3%
		Other	60.5%	60.0%	68.6%	73.0%	61.8%	60.9%	60.3%
		TOTAL	22.6%	26.3%	29.8%	29.2%	27.3%	28.4%	29.5%
	Non-Executive Directors	Pr.Eng	50.0%	60.0%	16.7%	100.0%	33.3%	53.8%	62.5%
		PrTechEng	100.0%	100.0%	60.0%	60.0%	66.7%	50.0%	100.0%
		Other	84.2%	100.0%	87.5%	78.6%	86.7%	68.5%	76.9%
		TOTAL	75.0%	90.0%	58.0%	82%	55.0%	64.0	73.0%
CC	Members	Pr.Eng	71.4%	80.0%	75.0%	77.8%	81.8%	88.2%	85.7%
		PrTechEng	40.0%	60.0%	60.0%	42.9%	50.0%	42.3%	40.0%
		Other	85.7%	83.3%	50.0%	80.0%	87.5%	93.8%	92.3%
		TOTAL	62.5%	70.9%	65.0%	66.7%	78.2%	69.5%	71.4%
Partnership	Partners	Pr.Eng	0.0%	0.0%	0.0%	0.0%	20.0%	14.3%	75.0%
		PrTechEng	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	60.0%
		Other	50.0%	50.0%	66.7%	75.0%	75.0%	75.0%	50.0%
		TOTAL	11.1%	12.5%	25.0%	30.0%	54.5%	46.7%	63.6%
Total			30.2%	35.5%	35.8%	36.0%	38.4%	40.4%	39.5%

Table 33: 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-00	44.0	14.29%	37.5%
Dec-00	66.5	51.05%	72.6%
Jun-01	71.9	8.23%	63.5%
Dec-01	85.4	18.67%	28.4%
Jun-02	87.3	2.24%	21.3%
Dec-02	97.2	11.34%	13.8%
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 (forecast)	48.0	21.8%	7.9%
Dec-16 (forecast)	44.0	-8.3%	11.7%

Table 34: Employment Breakdown, by race, gender and job category July - December 2015

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	245	42	288	62	7	69	141	20	160	2,526	186	2,712	2,974	255	3,228
Professional Architects	3	0	3	0	0	0	3	0	3	46	16	62	52	16	69
Professional Quantity Surveyors	10	3	13	0	0	0	7	3	10	75	10	85	91	16	108
Professional Other	65	20	85	23	3	26	26	20	46	879	314	1,193	993	356	1,350
Technologists Pr TEChENg	147	13	160	33	3	36	69	13	82	761	29	791	1,010	59	1,069
Technicians PrTechni	154	52	206	42	0	42	10	3	13	144	16	160	350	72	422
Unregistered technical staff: Engineer	520	150	670	173	65	239	206	69	274	1,689	490	2,180	2,588	774	3,362
Unregistered technical staff: Technologist	196	111	307	59	42	101	62	23	85	389	49	438	706	225	931
Unregistered technical staff: Technician	1,069	333	1,402	180	62	242	131	39	170	660	56	716	2,039	490	2,529
Unregistered technical staff: Other	967	441	1,408	108	65	173	225	78	304	742	314	1,055	2,042	899	2,941
Technical Assistants	477	124	601	72	26	98	23	16	39	252	98	350	823	265	1,088
Draughts Persons	154	36	190	121	56	176	101	26	127	660	422	1,082	1,036	539	1,575
Laboratory / Survey Assistants	454	39	493	0	0	0	13	0	13	16	3	20	484	42	526
Administration / Support staff	732	1,392	2,124	209	327	536	144	232	376	392	1,689	2,082	1,477	3,640	5,117
Total	5,192	2,758	7,950	1,082	657	1,738	1,160	542	1,702	9,231	3,692	12,924	16,665	7,650	24,315

Table 35: Employment Breakdown, by race, gender and job category July - December 2015: 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	1.0%	0.2%	1.2%	0.3%	0.0%	0.3%	0.6%	0.1%	0.7%	10.4%	0.8%	11.2%	12.2%	1.0%	13.3%
Professional Architects	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	0.1%	0.3%
Professional Quantity Surveyors	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	0.4%	0.1%	0.4%
Professional Other	0.3%	0.1%	0.3%	0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	3.6%	1.3%	4.9%	4.1%	1.5%	5.6%
Technologists Pr TEChEng	0.6%	0.1%	0.7%	0.1%	0.0%	0.1%	0.3%	0.1%	0.3%	3.1%	0.1%	3.3%	4.2%	0.2%	4.4%
Technicians PrTechni	0.6%	0.2%	0.8%	0.2%	0.0%	0.2%	0.0%	0.0%	0.1%	0.6%	0.1%	0.7%	1.4%	0.3%	1.7%
Unregistered technical staff: Engineer	2.1%	0.6%	2.8%	0.7%	0.3%	1.0%	0.8%	0.3%	1.1%	6.9%	2.0%	9.0%	10.6%	3.2%	13.8%
Unregistered technical staff: Technologist	0.8%	0.5%	1.3%	0.2%	0.2%	0.4%	0.3%	0.1%	0.3%	1.6%	0.2%	1.8%	2.9%	0.9%	3.8%
Unregistered technical staff: Technician	4.4%	1.4%	5.8%	0.7%	0.3%	1.0%	0.5%	0.2%	0.7%	2.7%	0.2%	2.9%	8.4%	2.0%	10.4%
Unregistered technical staff: Other	4.0%	1.8%	5.8%	0.4%	0.3%	0.7%	0.9%	0.3%	1.2%	3.1%	1.3%	4.3%	8.4%	3.7%	12.1%
Technical Assistants	2.0%	0.5%	2.5%	0.3%	0.1%	0.4%	0.1%	0.1%	0.2%	1.0%	0.4%	1.4%	3.4%	1.1%	4.5%
Draughts Persons	0.6%	0.1%	0.8%	0.5%	0.2%	0.7%	0.4%	0.1%	0.5%	2.7%	1.7%	4.4%	4.3%	2.2%	6.5%
Laboratory / Survey Assistants	1.9%	0.2%	2.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%	2.0%	0.2%	2.2%
Administration / Support staff	3.0%	5.7%	8.7%	0.9%	1.3%	2.2%	0.6%	1.0%	1.5%	1.6%	6.9%	8.6%	6.1%	15.0%	21.0%
Total	21.4%	11.3%	32.7%	4.4%	2.7%	7.1%	4.8%	2.2%	7.0%	38.0%	15.2%	53.2%	68.5%	31.5%	100.0%

Table 36: Executive Staff profile: Employment, company type, race & gender: July – December 2015

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	20	7	26	13	0	13	26	0	26	379	7	386	438	13	451
		PrTechEng	16	0	16	13	0	13	7	0	7	72	0	72	108	0	108
		Other	62	7	69	20	3	23	23	10	33	65	16	82	170	36	206
	Non- Executive Director	PrEng	10	7	16	0	0	0	0	0	0	10	0	10	20	7	26
		PrTechEng	3	0	3	0	0	0	0	0	0	0	0	0	3	0	3
		Other	10	13	23	3	3	7	0	3	3	10	0	10	23	20	42
CC	Member	PrEng	20	0	20	3	0	3	16	0	16	69	3	7	108	3	46
		PrTechEng	16	0	16	3	0	3	0	0	0	29	0	29	49	0	49
		Other	23	13	36	0	3	3	0	0	0	7	13	3	29	29	42
Partnership	Partner	PrEng	7	0	7	3	0	3	0	0	0	3	0	3	13	0	13
		PrTechEng	7	0	7	0	0	0	3	0	3	7	0	7	16	0	16
		Other	0	0	0	0	3	3	0	0	0	3	0	3	3	3	7
GRAND TOTAL			193	46	239	59	13	72	75	13	88	654	39	611	980	111	1010
% distribution of executive staff			19.1%	4.5%	23.6%	5.8%	1.3%	7.1%	7.4%	1.3%	8.7%	64.7%	3.9%	60.5%	97.1%	11.0%	100.0%
% directorship only			12.8%	1.7%	14.5%	6.0%	0.4%	6.4%	7.3%	1.3%	8.5%	67.5%	3.0%	70.5%	93.6%	6.4%	100.0%
Total employment			5,192	2,758	7,950	1,082	657	1,738	1,160	542	1,702	9,231	3,692	12,924	16,665	7,650	24,315
Executive Staff as % of total employment			3.7%	1.7%	3.0%	5.4%	2.0%	4.1%	6.5%	2.4%	5.2%	7.1%	1.1%	4.7%	5.9%	1.5%	4.2%

End of report

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