

Bi-Annual Economic and Capacity Survey

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1. Economic overview

1.1 International Developments

The IMF and other organisations have again marginally downgraded the outlook for growth in the global economy since our last update in the second quarter. The downward revision comes post Brexit where the UK voted to leave the Eurozone, and is the main driver behind the marginal downgrade. Before Brexit, commodity prices that were picking up (and still are, to a degree) as well as a renewed outlook and better performance of emerging market economies, saw the IMF expecting more of an upward revision in global growth, rather than a marginal decline. Brexit is the main difference between the expected performance of the world economy now, compared to a pre-Brexit outlook.

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

Before Brexit, the advanced economies were expected to grow more or less in line with previous projections made in April. Since the debacle, advanced economies growth outlook has been downgraded by 0.1 and 0.2 percent in 2016 and 2017 respectively. This is marginal, but further confirms the degree of moderation that has been experienced since the Great recession. Among advanced economies, the United Kingdom experienced the largest downward in forecasted growth. Growth was stronger than expected in the first half of the year, but Brexit is expected to dampen demand with growth revised downwards by about 0.2 percentage points for 2016 and by almost to 1 percentage point in 2017, which is more substantial. The US economy has largely been in line with expectations, with Brexit expected have very little role in influencing the economy. Monetary policy normalization also seems to be slowing to some degree, which will bolster the economy in the short term. Growth was stronger than expected in the Eurozone in the first quarter, but was weaker in the 2nd quarter of 2016, growing just 0.3 percent. Growth for 2016 is projected to be 1.6 percent according to the European Central Bank. Japan, the world's 4th biggest economy is expected to grow only by 0.3 percent in 2016, revised downward by 0.2 percent.

In China, the outlook has improved due to recent policy support by government. Benchmark lending rates were cut five times in 2015, fiscal policy turned expansionary in the second half of the year, infrastructure spending picked up, and credit growth accelerated. The direct impact of the U.K. referendum will likely be limited, as China does not trade in high volumes with the UK in relative terms. China's growth outlook is mostly unchanged.

The recession in Brazil is now expected to be less severe than initially thought, with a return to positive growth in 2017. Many political risks and uncertainties do however loom over the economy. Higher oil prices have benefitted the Russian economy, their recession is also expected to be slightly milder. There are however several structural bottlenecks that remain in the country. India remains one of the biggest growth drivers in the emerging world, but their growth forecast was revised downwards slightly with a slower than expected recovery in investment growth.

Growth in Africa has been revised downwards quite significantly, mainly due to the downgrade of the previous biggest economy in Africa, Nigeria. The impact of lower revenue from oil exports in Nigeria has now materialised, and is worse than initially thought. This has in turn caused shortages of foreign currency. Power generation as well as low investor and consumer confidence also plaque the economy. Nigeria is expected to go into recession in 2016, growth declining by 1.8 percent.

Projections by the IMF for the South African economy are largely in line with local economists and institutions, with growth remaining very flat, but expected to be bottoming out in 2016. Overall, growth for Sub-Saharan Africa is expected to be 1.6 percent and 2.3 percent in 2016 and 2017 respectively, downgrade by a whopping 1.4 and 0.7 percent respectively. World growth is expected to be 3.1 and 3.4 percent respectively.



1.2 Domestic Economy

The South African economy has faced several headwinds in 2016, some of which were expected, while others were not. Global factors play a much bigger role than the media may suggest, with the sluggish global economy offering little relief in the demand for South African goods and services which has waned considerably over the last 2-3 years. What the global slowdown has done, is highlighted the many underlying structural problems the South African economy and political economy has always had. So far this year, the economy contracted in the first quarter by 1.2 percent, but rebounded strongly in the second quarter, growing by 3.3 percent, on a seasonally adjusted, annualised, quarter on quarter basis.

Breaking the economy down from the production side, the primary sector of the economy contracted by 15.5 percent in the first quarter, but rebounded relatively strongly, growing 8.8 percent in the second quarter. This was largely due to the rebounding of the mining sector. The agricultural sector, plagued by the worst drought in a century, declined again for the 6th consecutive quarter, by 0.8 percent. The worst of the drought, caused by an El Nino weather pattern, is expected to be over in the next 6-12 months. The drought led to vastly lower production of wheat crops, which meant we had to import more, pushing prices up. **The mining sector recovered significantly in the second quarter, but in the first 6 months of the year, the sector is down by 6.5 percent compared to the same period last year.** Commodity process have ticked up to some degree resulting in production volumes of manganese ore, iron ore and coal increasing, at a moderate pace however. The production of gold, diamonds and other non-metallic minerals declined over the period. The sector is highly constrained by a number of factors, mainly the combination of a global oversupply of various mineral groups and low demand for these minerals. Policy uncertainty also plays a role.

The secondary sector of the economy expanded by 5.3 percent in the second quarter of the year, following a mild expansion of 0.1 percent in the first quarter. Manufacturing rebounded significantly, growing by 8.1 percent in the second quarter, and 3.6 percent for the first 6 months of the year. The resurgence in real manufacturing output came especially from increased production of motor vehicles, parts and accessories and other transport equipment, petroleum, chemical, rubber and plastic products as well as food and beverages. The increase in the production of motor vehicles was underpinned by firm export demand following the 'more competitive' exchange rate of the rand. The electricity, gas and water sector did not support growth in the second quarter, declining by 1.8 percent, with the demand for electricity remaining historically low in the winter months. The last part of the secondary sector, the construction sector, barely grew in the first six months of the year, expanding by 0.4 and 0.1 percent respectively. This sector will of course be touched on more throughout the rest of the report.

The tertiary sector expanded in the 2nd quarter by 2 percent, off a disappointing figure of 0.8 percent in the first quarter of 2016. All four of the categories in the tertiary sector experienced positive growth in the quarter.

The transport, storage and communications sector grew by 2.9 percent in the second quarter from contracting 2.7 percent in the previous quarter. Growth was supported by the deployment of new locomotives by Transnet. There was a stronger performance by the finance, real estate, insurance and business services sector, growing to 2.9 percent, from 1.9 percent in the previous quarter. Growth in the real value added by general government accelerated marginally to 1.2 per cent in the second quarter. The tertiary sector and the more service orientated industries have kept the economy afloat over the last few years, while the primary and secondary sectors have remained stagnant. This observation is testament to the varied drivers of these different industries. All of which are coming under intensified pressure in 2016. Higher interest rates, as well as very low levels of consumer and business confidence is associated with a projected slowdown in consumer demand, subsequently weakening the outlook for the tertiary sector.

The South African economy remains sensitive to a multitude of downside risks. 2016 is expected to be the year in which growth bottoms out. Many economists and formal institutions do believe that the sovereign credit rating of the country will be downgraded to a non-investment grade by at least one of the three credit rating agencies come December, when our first inquiry will be made. Global factors do play a large role, but what they have done is exposed some of the structural weaknesses of the economy, which there was less attention on in periods of more thriving demand. Since South Africa avoided a credit rating downgrade at the beginning of the year, there have been several political developments which have impacted negatively on the probability of a further downgrade. The rating agencies regard the economy and the political environment as fundamental when evaluating a sovereign's credit rating. If negative political developments are not kept in check, this will impact of the government's ability to implement policies to achieve objectives. Growth plays a big role, which is why many believe that the credit rating will be downgraded, with Industry Insight projecting 0.3 percent growth for 2016, increasing to 0.8 percent in 2017 and 1.2 percent in 2018



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

Table 2: Macro economic growth projections (Industry Insight)

| Macro-Economic Forecasts | 2013 | 2014 | 2015 | 2016 | 2017 |
|-------------------------------|-------|-------|-------|--------|--------|
| GDP | 2,5% | 1,2% | 1,3% | 0,2% | 1,5% |
| Household consumption | 2,0% | 0,7% | 1,7% | 0,4% | 1,2% |
| Government consumption | 3,8% | 1,8% | 2,0% | 0,7% | 0,7% |
| Gross Fixed capital formation | 7,6% | -0,4% | 2,7% | 0,4% | 0,4% |
| Imports | 5,0% | -0,5% | 6,4% | 3,0% | 3,5% |
| Exports | 3,6% | 3,3% | 3,0% | 5,5% | 4,5% |
| Prime Lending rate | 8,50% | 9,25% | 9,75% | 10,50% | 11,00% |
| 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 1: 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 programs, 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



2. CESA Survey: Background

A total of 64 questionnaires were returned via both the on-line and hard copy system, compared with 100 returned in the previous survey. The sample for the current survey represents a fee income of R1.5bn, and 3704 employees for the period January – June 2016.

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



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 first six months of 2016 fell marginally by 0.2 percent compared to the last six months of 2015, following the increase of 6.0 percent in the previous period.

Larger firms reported a stronger decline of 5.3 percent, while medium and smaller size firms improved earnings by 15.1 percent and 10.6 percent respectively. This follows a similar trend reported in the previous survey whereby larger firms recorded more muted growth compared to a more robust increase in earnings by the medium and smaller size firms.

Fee income stabilized at R25 billion, annualised, at current prices as at June 2016.

Respondents expect earnings to increase by 6 percent in nominal terms during the last six months of 2016, compared with the first six months of the year.

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.



| Firm size category | Actual (June 2016 vs December 2015) | Projected for December 2016 | Actual (December 2015 vs June 2015) |
|--------------------|-------------------------------------|-----------------------------|--|
| Large | -5.3% | 7% | 2% |
| Medium | 15.1% | 2% | 31% |
| Small | 10.6% | -4% | 11% |
| Micro | -5.0% | 36% | -11% |
| Total | -0.2% | 6% | 6% |

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 30.3 percent to external enterprises, 40.7 percent for procurement purposes laid down by the public sector and 24.6 percent to black owned enterprises.

Outsourcing ratios on

•

average moderated compared to the previous two surveys.

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

| | External enterprises or individuals including sub-consultants, joint ventures and contract workers | Procurement / Transformational requirements as laid down by the public sector clients | Black owned enterprises |
|-----------------------|--|--|-------------------------|
| A | 30.3 | 40.7 | 24.6 |
| В | 15.9 | 17.0 | 10.1 |
| С | 16.2 | 17.0 | 12.0 |
| D | 13.0 | 8.7 | 9.5 |
| Average % of industry | | | |
| turnover | 17.5 | 18.8 | 12.5 |



3.1.3 Return on Working Capital



Average Return on Working Capital

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





- The industry's **return on working capital**¹ (un-weighted average) slowed more significantly to 20.7 percent in the June 2016 survey, from 27.3 percent in the December 2015 survey and 28,5 percent in the June 2015 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 15.3 percent, from 16.4 percent in the December 2015 survey and having reported more stable rates that averaged between 23,0 percent and 27,0 percent, in previous surveys.

| Group | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Jun-16 |
|----------------|--------|--------|--------|--------|--------|--------|
| А | 27.7 | 25.0 | 23.6 | 24.6 | 16.4 | 15.3 |
| В | 66.4 | 33.2 | 31.1 | 22.4 | 24.8 | 18.9 |
| С | 24.5 | 38.6 | 22.8 | 33.9 | 32.4 | 28.1 |
| D | 33.9 | 25.5 | 28.2 | 33.1 | 28.9 | 19.9 |
| Grand Total | 44.8 | 31.0 | 27.1 | 28.5 | 27.3 | 20.7 |

Table 6: Return on Working Capital by firm size

3.1.4 Value of outstanding payments



Fees not yet invoiced for confirmed appointments as % of revenue

Figure 5: Order book: Income ration

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).



The ratio of fees not yet invoiced for confirmed appointments to existing earnings rose to an average of 1.7 in the first six months of 2016, after having stabilized at 1.5 for 2015, from an average of 1.6 in 2014. Larger firms reported an above increase in 1.9, from 1.5 in the previous survey, following a mild weakening over the last two years.

3.1.5 Profitability and late payments



Figure 6: Profitability: Net % Satisfaction rate

Profitability slowed to an average of 14 percent in the first six months, from an average of 17.8 percent in the previous survey. 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.

The average profit margin for larger firms slowed to 10.3 percent after having recovered to an average of 14.7 percent in the last six months of 2015. Medium size firms reported relatively stable rates to an average of 16.8 percent from 17 percent. Both medium and smaller size firms expect margins to deteriorate in the last six months of 2016, to an average of between 11 and 13 percent, while larger firms are seemingly more optimistic expecting margins to improve from 10.3 percent (January to June 2016) to 12.5 percent.

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

In line with the previous survey, majority of firms now expect profit margins to stabilise, while 17 percent expect a further weakening. An increased number of firms (28 percent) are expecting an improvement, although this is not reflected in the quantitative data provided by respondents.

Surprisingly majority of larger firms (77 percent) are

satisfied with prevailing margins, which contradicts earlier reports where larger firms were largely unsatisfied with prevailing margins. An increasing number of medium firms are however expressing unsatisfactory levels compared to the June 2015 survey, from 16 percent to 39 percent.





The net satisfaction rate has also started showing some improvement, and although still in the red, the negativity has improved from -51.2 in the December survey to -3.8 in the current survey. This improvement follows negative sentiment regarding profitability for the past 5 years.

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 25 percent from 23.0 percent and 24.5 percent in the previous two surveys. At 25 percent, this is the highest recorded level since 1999.

These ratios include income outstanding from foreign clients, which contributed 16 percent to total earnings outstanding after 90 days, compared to 60 and 42 percent in the December 2015 and June 2015 surveys respectively.



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

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, percent by provincial 2.2 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.



Figure 7: % of earnings outstanding for > 90 days



3.2 Human Resources

3.2.1 Employment

- Employment fell by an average of 1 percent in the first six months of 2016 compared to the previous survey, which is 1 percent up on the same period (first six months) in 2015. Larger firms however did not increase employment (down 4 percent), while medium and smaller firms reported an increase of 10 and 3 percent respectively. Compared to the same period last year, employment is estimated to have increased by around 1 percent to an estimated 24,072.
- The number of firms looking for engineers however moderated further to 32 percent (from 40 percent and 70 percent in the previous two surveys). Details provided in the table below.



Figure 8: Employment Demand and Difficulties in recruitment



| Type of personnel | % 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 | % of firms wanting to increase staff June 2016 |
|-----------------------|---|--|---|--|---|--|--|
| Engineers | 50.8 | 32.0 | 86.2 | 48.0 | 69.3 | 40.0 | 32.0 |
| Technologists | 46.2 | 23.0 | 26.7 | 39.0 | 68.2 | 3.0 | 15.0 |
| Technicians | 30.5 | 22.0 | 12.9 | 35.0 | 5.1 | 5.0 | 20.0 |
| Other technical staff | 20.9 | 36.0 | 3.4 | 13.0 | 51.1 | 4.0 | 38.0 |
| Support staff | 24.0 | 28.0 | 2.1 | 3.8 | 2.9 | 0.0 | 18.0 |

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

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 stabilised at 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 62 percent to 59 percent, while medium size firms reported a much lower salary bill averaging 51 percent. Smaller firms reported a salary and wage bill contribution of 56 percent.



3.2.3 Training

Figure 9: 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 23.0 percent of the total estimated salary bill, from 5.0 percent and 7.0 percent (December and June 2015 surveys). Although significantly higher compared to previous surveys, 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 0.7 percent of the salary and wage bill, slightly up on the 0.4 percent in the previous survey, and the highest level since June 2013 when on average 1.0 percent of the salary and wage bill was spent on direct training costs.

Larger firms spent on average 0.8 percent of their salary and wage bill on direct training (also up compared to the December 2015 survey at 0.3 percent), while medium and smaller firms spent on average 0.4 and 1.3 percent respectively.

Training remains largely in favour of white males, representing 53% of total direct

training costs (excluding salaries), followed by 26 percent toward black males, 12 percent towards black females and only 9 percent to white females.

3.2.4 Employment profile

An estimated 24,072 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 (95%) with women representing 5 percent of professional engineers in the industry. Employment growth has been muted following the build up to the Soccer World cup in 2010.







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, **increased to 40.8 percent from 39,5 percent and 38,0 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 13.6 percent of total executives, from 11,0 percent and 10,1 percent in the previous two surveys. Of the total women employed in the consulting engineering industry (across all skill levels), 1.2 percent are appointed at an executive level, slightly down from 1.5 percent in the December 2015 survey, compared to between 5 percent and 8 percent amongst male employees.



Capacity Utilisation Rate



Figure 10: Capacity Utilisation Rate

3.4 Capacity Utilisation

Capacity utilisation of technical staff has shown very little movement over the last few surveys, but is showing some tendency to slow, and averaged 84.8 percent in the June 2016 survey, from 86,9 percent and 87,0 percent in the previous two surveys.

Since 2009, majority of respondents largely expect utilisation rates to remain unchanged, but with a marginal improvement in the number of firms expecting utilization rates to improve in the next 6 months, up from less than 20 percent in the December 2015 survey. Fewer firms expect further deterioration in levels, down to 5.3 percent from 7 percent.







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.

The improvement in competition in tendering continued in the current survey as fewer firms report on very keen to fierce competition, down from 76 percent in the December 2015 survey to 59.3 percent, with only 22 percent of firms reporting very fierce competition (compared to 64.2 percent in the December 2015 survey). Less pressure in tendering could also be a factor of a contraction in the number of engineering firms, as similar trends are evident in the contracting industry, although there have been no reports of increased activity, similar to the engineering industry.

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 in the December 2015 survey, but eased to an average of 25.9 percent in the June 2016 survey, in line with diminished pressure on competition. 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 31.3 percent in the June 2016 survey, from 33,0 percent in the December 2015 survey and an average of 34,0 and 40,0 percent in the previous two surveys. Fewer larger firms reported fierce competition, down to 16.1 percent from 72 percent and 63 percent in the previous two surveys. Medium size firms are currently experiencing the highest level of competition with 40.0 percent saying completion was fierce. Subsequently discounting by medium size firms also increased, to an average rate of 31.4 percent (from 27,0 percent and from 24,6 percent in the previous two surveys).

| 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 | 84.4 | 24.1 | 31.3 | 16.1 |
| Medium | 80.8 | 40.7 | 31.4 | 40.0 |
| Small | 87.5 | 17.0 | 22.9 | 11.0 |
| Micro | 90.0 | 7.8 | 16.1 | 7.8 |
| Industry Average | 84.8 (Weighted) | 27.9 (Weighted) | 25.9 (Weighted) | 22.2 (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 for the 2nd consecutive survey, down 7.7 percent (on average) following the decrease of 4,9 percent in the last six months of 2015. This follows an increase of 15.0 and 4.8 percent in 2013 and 2014, while 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 6.3 percent in the first half of 2016, from 4,8 percent in the last six months of 2015. Inflationary pressures eased temporarily in 2015 compared to an increase of 6,0 percent in 2014, and although inflationary pressures started to increase (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) some currency stability in the 2nd and 3rd quarters of 2016 supported some softening in the CPI. Inflation is expected to average 6.4 percent in 2016, from 4.6 percent in 2015, slowing to 5.9 and 5.8 percent in 2017 and 2018.







Figure 12: CESA Labour Cost Indicator (LCI)

Figure 13: Change in CESA LCI vs CPI



4. Industry Outlook



Figure 14: Confidence Index

<u>Explanatory note</u>: 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.

In the December 2015 survey, confidence levels fell to its lowest level in 16 years, significantly weaker in the last six months of 2015, compared to expectations in the June 2015 survey. Since then there has been some improvement with the net satisfaction rate improving to 75 percent in the first six months of 2016 (from 39.4 percent in the December 2015 survey), with similar levels projected for the next 12 months. Levels remain well below the average over the last five years, and is recovering from 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 8: Confidence as at June 2016, by firm size category | / (% of respondents that | experienced satisfactory be | usiness |
|--|--------------------------|-----------------------------|---------|
| conditions) | | | |

| Firm size category | First six months of 2016 | Next 6 months | Next 12 months |
|--------------------|--------------------------|---------------|----------------|
| Large | 75.6% | 72.1% | 63.7% |
| Medium | 74.3% | 65.7% | 64.9% |
| Small | 66.5% | 66.1% | 79.8% |
| Micro | 94.8% | 80.5% | 64.9% |



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 9: CESA Confidence index: % respondents satisfied with working conditions

| Survey Period | CESA Confidence Index | % Change on previous | % Change on survey same |
|-------------------|-----------------------|----------------------|-------------------------|
| | | survey | 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 (forecast) | 70.0 | -6.7% | 77.7% |
| Jun-17 (forecast) | 65.0 | -7.1% | -13.3% |



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



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 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.

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 2015, with a mild improvement in the last few quarters, resulting in contractor's satisfaction rate deteriorating to levels that are largely negative, described as poor to very poor.

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 at levels below 45, currently at 42 as at the 3rd quarter of 2016. 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. No additional challenges were raised by respondents in the current 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 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 price volatility, and low private sector confidence.





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 52.5 percent and 12.6 percent in earnings during the first six months of 2016. The contribution of project management slowed to 5.7 percent from 10.6 percent in the previous survey, more on par with trends in 2013. Although a small discipline by comparison to other areas, marine development increased its contribution to 2.6 percent, reporting the strongest increase since the last survey, contributing close to R300m in earnings during the first six months.

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 33 percent (from 30 percent) and the water sector which contributed 18 percent (from 17 percent). The contribution by the commercial sector slowed significantly to just 13 percent (from 23 and 26 percent in the last two surveys), suggesting fewer pipeline commercial activity. The contribution by the mining sector showed further recovery to 7.0 percent from 5.1 and 2.2 percent in the last two surveys, while the contribution by housing slowed marginally to 8 percent. The energy sector contributed 5.0 percent, relatively on par with 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 10: Distribution of fee earnings by economic sector, by firm size

| | Water | Transporta tion | Energy | Mining | Education | Health | Tourism | Housing | Commercial | Agriculture | Other | Total |
|-------------|-------|---------------------|--------|--------|-----------|--------|---------|---------|------------|-------------|-------|-------|
| А | 17% | 41% | 5% | 2% | 0% | 0% | 10% | 12% | 0% | 12% | 0% | 100% |
| В | 23% | ő 2 9% | 7% | 3% | 4% | 0% | 5% | 14% | 3% | 12% | 0% | 100% |
| С | 26% | 6 <mark>3</mark> 0% | 3% | 0% | 1% | 0% | 13% | 14% | 2% | 10% | 0% | 100% |
| D | 11% | 6 0% | 0% | 9% | 3% | 2% | 13% | 21% | 2% | 38% | 0% | 100% |
| Grand Total | l 19% | 36 <mark>%</mark> | 5% | 2% | 2% | 0% | 9% | 13% | 1% | 13% | 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 |
|------------|-----|-------------------|-----|-----|----|-----|-----|-----|----|--------|-----|-------|
| А | 18% | 36 <mark>%</mark> | 12% | 14% | 2% | 1% | 13% | 3% | 0% | 0% | 0% | 100% |
| В | 30% | 27% | 21% | 6% | 7% | 6% | 3% | 1% | 0% | 0% | 0% | 100% |
| С | 9% | 8% | 43% | 22% | 1% | 17% | 0% | 0% | 0% | 0% | 0% | 100% |
| D | 14% | 20% | 41% | 18% | 0% | 2% | 6% | 0% | 0% | 0% | 0% | 100% |
| Grand Tota | 21% | 32% | 17% | 12% | 4% | 4% | 9% | 2% | 0% | 0% | 0% | 100% |

Table 12: Distribution of fee earnings by client type, by firm size

| | CENT | RAL | PRO AL | VINCI | LOCAL | | PAF ATA | RAST NL | PRIVATE | TOTAL |
|------------|------|-----|-----------|-------|-------|-----|------------|------------|---------|-------|
| А | | 5% | | 17% | | 17% | | 16% | 45% | 100% |
| В | | 2% | | 12% | | 30% | | 18% | 37% | 100% |
| С | | 10% | | 15% | | 37% | | 8% | 30% | 100% |
| D | | 4% | | 17% | | 41% | | 5% | 3B% | 100% |
| Grand Tota | | 4% | | 15% | | 23% | | 16% | 41% | 100% |



6.3 Geographic Location



Provincial Distribution of earnings

Figure 16

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 18.8 percent in the first six months of 2016, down from 23,2 and 28,0 percent in the previous two surveys. This steady decline is notable if considered that Gauteng contributed around 40 percent during 2011/12. The contribution by the Western Cape recovered to levels more in line with historical averages, and averaged 14.8 percent in the first six months of 2016, after having slowed to below 14 percent in the previous two surveys. Kwazulu Natal increased its contribution to 28.2 percent from 18,0 and 14,8 percent in the last two surveys, and has made the most significant increase over the last five years, and was the highest contributing proving in this survey. Earnings in the Eastern Cape also improved in this survey to 10.5 percent from an average of 6 percent over the last two surveys.

Earnings outside of South Africa played a less prominent role in this survey, and contributed 8.2 percent in terms of earnings in Africa and 1.7 percent on an international basis. 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.



6.4 Clients

The contribution to fee earnings by the private sector improved slightly to 41.0 percent (from 40.3 percent in the December 2015 survey), but is largely on par with the average over the last 2-year and 5-year period.

Earnings through local authorities improved to 23.0 percent, from 20.8 percent in the previous survey, but is also relatively on par with historical averages, while earnings by provincial governments moderated slightly to 15 percent, on par with the average over the last two years, but higher compared to the five year average. The contribution by SOE's rose to 16 percent after having fallen to its lowest level since 2011 in the December 2015 survey when it contributed 13,1 percent to total earnings.

The public sector remains the most important client to the industry, but due to the decrease in central government (down from 5.9 percent in December 2015 to 4.0 percent in the current survey), the



Client Distribution based on fee earnings

Figure 17: Distribution of earnings by client type

contribution by the public sector moderated to 58 percent from 60 percent.

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

| Table 13: Fee e | arnings distributi | on by client by firm | size | | | |
|--------------------|--------------------|----------------------|-------|-------------|---------|--------|
| | Central | Provincial | Local | Parastatals | Private | Total |
| Large | 5% | 17% | 17% | 16% | 45% | 100.0% |
| Medium | 2% | 12% | 30% | 18% | 37% | 100.0% |
| Small | 10% | 15% | 37% | 8% | 30% | 100.0% |
| Micro | 4% | 17% | 41% | 5% | 33% | 100.0% |
| Total | 4% | 15% | 23% | 16% | 41% | 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 1.6 percent of gross fee earnings (from an average of 1.9 percent in the December 2015 survey). Majority of firms (64 percent) spent 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 14: Average annual premium and limit of indemnity as percentage of gross fee income, by firm size category

| Firm size | Average annual premium as | Average Limit of Indemnity as % of | Average deductible on PI as % of |
|-----------|--------------------------------|------------------------------------|----------------------------------|
| category | percentage of gross fee income | gross fee income | limit of indemnity |
| A | 0.7 | 23.5 | 1.5 |
| В | 2.4 | 72.7 | 1.6 |
| С | 1.4 | 137.1 | 1.1 |
| D | 1.1 | 105.8 | 1.8 |
| Average | 1.6 | 88.5 | 1.5 |

Majority of firms (68%) reported a low risk exposure, while only 3,3 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 28 percent of the responding firms, reported claims over the last five years, averaging 2,9 claims per firm, slightly above the 2,8 average in the previous survey. On average (based on limited responses), of the 53 claims reported by participating firms, 3 (or 5.7 percent) were not refunded and improvement on the 12 percent reported in the December 2015 survey.

The industry's average limit of indemnity (LOI) as a percentage of gross fee income over the 12 month period increased substantially in the December 2015 survey compared to previous surveys, and was maintained in the current survey. 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 72 and 137 percent respectively.

In terms of deductibles as a percentage of the indemnity limit the industry averaged 1.5 percent in the June 2016 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 (97 percent). While all the larger firms have the QMS in place, 93% of the micro enterprises that responded to the survey, currently comply, up from 88 percent in the December 2015 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 41 percent of the firms certified in this survey, an improvement from the 34 percent in the last six months of 2015. 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 15: General financial indicators

| | | | Fee Inc | ome, R mill (Annu | alised) | Cost D | eflator |
|------------------|-------------------------|---|-------------------|-------------------------|----------------------|----------------------------|------------------------|
| Survey period | Employment ³ | Salaries / Wages – 2000 prices (Annualised) | 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% |
| Jun-16 | 24,072 | 6,511 | 25,068 | 10,335 | -0.5% | 242.6 | 6.3% |

Table 16: Consulting Engineering Profession: Financial indicators: Annual Percentage Change (Real)

| | | | | Cost escalation |
|---------------|------------|----------------------|------------|--------------------|
| Survey period | Employment | Salary and Wage bill | Fee income | 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% |

³ Revised June 2007



| Dec-15 | 6.1% | -0.9% | 2.3% | 4.8% |
|--------|-------|-------|-------|------|
| Jun-16 | -0.2% | -5.0% | -0.5% | 6.3% |

* Revised

Table 17: Sub-disciplines: Percentage share of earnings

| Sub-discipline | Jun-15 | Dec-15 | Jun-16 | 5-year average | 2-year average | Deviation 5-year | Deviation 2-year | Deviation last six months |
|-------------------------------------|--------|--------|--------|-------------------|-------------------|---------------------|---------------------|---------------------------------|
| Agricultural | 0.4% | 1.2% | 0.9% | 0.9% | 1.4% | -0.5% | -1.7% | -0.3% |
| Architecture | 0.8% | 0.6% | 0.7% | 0.7% | 0.9% | 0.2% | -0.9% | 0.0% |
| Mechanical building Services | 3.1% | 1.7% | 2.3% | 3.7% | 3.8% | -0.6% | -3.2% | 0.6% |
| Civil | 50.9% | 48.9% | 52.5% | 45.2% | 46.2% | 5.7% | -42.6% | 3.6% |
| Electrical / Electronic | 7.7% | 5.1% | 4.3% | 7.2% | 7.0% | 0.6% | -7.8% | -0.8% |
| Environmental | 2.0% | 4.6% | 4.0% | 3.0% | 4.1% | -1.0% | -4.7% | -0.6% |
| Facilities Management (New) | 1.2% | 0.0% | 0.0% | 0.7% | 0.4% | 0.5% | -0.4% | 0.0% |
| Geotechnical | 1.2% | 2.0% | 1.4% | 1.1% | 1.4% | 0.0% | -2.0% | -0.6% |
| Industrial Process / Chemical | 0.9% | 3.0% | 2.9% | 2.0% | 2.3% | -1.0% | -2.4% | -0.1% |
| GIS | 0.4% | 0.2% | 0.2% | 0.5% | 0.3% | -0.2% | -0.3% | 0.0% |
| Hydraulics (New) | 0.8% | 0.5% | 0.2% | 0.8% | 0.8% | 0.0% | -1.1% | -0.3% |
| Information Systems / Technology | 2.0% | 3.0% | 2.0% | 0.9% | 1.6% | 1.1% | -2.6% | -1.0% |
| Marine | 1.7% | 0.1% | 2.6% | 0.9% | 0.5% | 0.9% | 2.0% | 2.5% |
| Mechanical | 6.5% | 5.6% | 7.1% | 4.0% | 5.3% | 2.5% | -3.8% | 1.5% |
| Mining | 0.2% | 0.3% | 0.3% | 2.1% | 0.5% | -1.9% | -0.5% | 0.0% |
| Project Management | 6.7% | 10.6% | 5.7% | 10.8% | 9.8% | -4.0% | -14.6% | -4.9% |
| Quantity Surveying | 0.3% | 0.0% | 0.1% | 0.3% | 0.3% | -0.1% | -0.2% | 0.1% |
| Structural | 11.6% | 12.7% | 12.6% | 13.7% | 11.8% | -2.2% | -11.9% | 0.0% |
| Town planning | 1.7% | 0.0% | 0.2% | 1.5% | 1.4% | 0.2% | -1.3% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | | | | | |



Table 18: Sub-disciplines, Fee income R mill, Real 2000 prices

| Sub-discipline | Jun-15 | Dec-15 | Jun-16 | Change last six months | Change last 12 months |
|----------------------------------|--------|--------|--------|---------------------------|--------------------------|
| Agricultural | 43 | 126 | 93 | -26.1% | 116.7% |
| Architecture | 86 | 69 | 68 | -1.8% | -21.2% |
| Mechanical building Services | 325 | 180 | 237 | 31.1% | -27.2% |
| Civil | 5,284 | 5,235 | 5,423 | 3.6% | 2.6% |
| Electrical / Electronic | 804 | 545 | 444 | -18.7% | -44.9% |
| Environmental | 205 | 491 | 410 | -16.5% | 100.1% |
| Facilities Management (New) | 121 | 1 | 1 | -37.9% | -99.4% |
| Geotechnical | 121 | 213 | 147 | -31.2% | 21.2% |
| Industrial Process / Chemical | 95 | 321 | 303 | -5.5% | 220.0% |
| GIS | 38 | 21 | 21 | -0.1% | -43.0% |
| Hydraulics (New) | 81 | 51 | 21 | -58.9% | -74.2% |
| Information Systems / Technology | 208 | 323 | 210 | -34.9% | 1.3% |
| Marine | 180 | 12 | 269 | 2089.2% | 49.6% |
| Mechanical | 676 | 596 | 731 | 22.6% | 8.1% |
| Mining | 22 | 28 | 32 | 14.6% | 47.0% |
| Project Management | 699 | 1,133 | 591 | -47.8% | -15.4% |
| Quantity Surveying | 28 | 4 | 11 | 208.3% | -60.2% |
| Structural | 1,201 | 1,359 | 1,306 | -3.9% | 8.8% |
| Town planning | 174 | 3 | 18 | 517.2% | -89.6% |
| Total | 10,389 | 10,712 | 10,335 | -3.5% | -0.5% |



Table 19: Provincial Distribution, R mill, Real 2000 prices (Annualized, two survey average)

| Durations | | | | Survey | period | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Province | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Jun-16 |
| EC | 507 | 884 | 992 | 702 | 880 | 675 | 643 | 1,085 |
| WC | 1,646 | 1,093 | 2,026 | 1,847 | 1,299 | 1,486 | 1,393 | 1,530 |
| NC | 153 | 179 | 211 | 248 | 325 | 187 | 171 | 331 |
| FS | 287 | 238 | 232 | 270 | 283 | 571 | 386 | 331 |
| NW | 134 | 169 | 264 | 259 | 283 | 280 | 182 | 320 |
| LIM | 230 | 169 | 179 | 248 | 367 | 218 | 407 | 227 |
| GAU | 3,703 | 3,984 | 3,693 | 3,434 | 2,577 | 2,950 | 2,485 | 1,943 |
| MPU | 679 | 427 | 264 | 346 | 388 | 322 | 428 | 630 |
| KZN | 1,148 | 2,106 | 1,129 | 1,015 | 1,267 | 1,538 | 1,928 | 2,914 |
| AFRICAN | 813 | 507 | 1,087 | 1,425 | 1,655 | 1,382 | 1,767 | 847 |
| INT'L | 268 | 179 | 475 | 1,004 | 1,152 | 779 | 932 | 176 |
| Total | 9,569 | 9,935 | 10,552 | 10,799 | 10,474 | 10,389 | 10,722 | 10,335 |

Table 20: Provincial Distribution Y-Y percentage Change

| Table 20. Trovincial Distribution T T percentage change |
|--|
| (Trend – SMOOTHED over two consecutive surveys, to remove short term volatility) |
| |

| Drovinco | | Survey period | | | | | | | | | | |
|----------|--------|---------------|--------|--------|--------|--------|--------|--------|--|--|--|--|
| Province | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Jun-16 | | | | |
| EC | 0.9% | 9.6% | 52.1% | 21.6% | -15.8% | -8.1% | -16.6% | 11.1% | | | | |
| WC | -0.9% | -13.7% | -1.3% | 41.3% | 0.7% | -28.0% | -8.4% | 4.9% | | | | |
| NC | -14.7% | -18.4% | 11.3% | 38.3% | 46.9% | 11.5% | -37.4% | -1.9% | | | | |
| FS | 8.1% | -35.1% | -37.6% | -4.5% | 17.4% | 70.3% | 73.3% | -16.1% | | | | |
| NW | -28.9% | 27.7% | 82.0% | 72.5% | 25.1% | 7.8% | -14.6% | -10.8% | | | | |
| LIM | -6.3% | -30.8% | -31.7% | 7.2% | 76.4% | 36.8% | 1.7% | 8.5% | | | | |
| GAU | 3.2% | 0.8% | -0.2% | -7.4% | -21.8% | -22.4% | -9.5% | -19.9% | | | | |
| MPU | 31.6% | 49.7% | -29.5% | -45.0% | 6.0% | 16.6% | 2.5% | 49.2% | | | | |
| KZN | 29.8% | 24.4% | 19.1% | -34.2% | -29.5% | 30.9% | 52.0% | 72.6% | | | | |
| AFRICAN | -11.8% | -36.1% | -12.4% | 90.1% | 93.1% | 21.0% | 2.3% | -13.9% | | | | |
| INT'L | 43.3% | 11.5% | 29.0% | 230.7% | 229.6% | 30.7% | -20.6% | -42.7% | | | | |
| Total | 4.5% | -2.1% | 2.6% | 9.4% | 3.7% | -2.2% | -0.7% | 0.9% | | | | |





| Province | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Jun-16 | 5-year average | 2-year average |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------|-------------------|
| EC | 5.3 | 8.9 | 9.4 | 6.5 | 8.4 | 6.5 | 6.0 | 10.50 | 7.1 | 6.9 |
| WC | 17.2 | 11.0 | 19.2 | 17.1 | 12.4 | 14.3 | 13.0 | 14.80 | 15.2 | 14.2 |
| NC | 1.6 | 1.8 | 2.0 | 2.3 | 3.1 | 1.8 | 1.6 | 3.20 | 2.0 | 2.2 |
| FS | 3.0 | 2.4 | 2.2 | 2.5 | 2.7 | 5.5 | 3.6 | 3.20 | 3.4 | 3.6 |
| NW | 1.4 | 1.7 | 2.5 | 2.4 | 2.7 | 2.7 | 1.7 | 3.10 | 2.0 | 2.4 |
| LIM | 2.4 | 1.7 | 1.7 | 2.3 | 3.5 | 2.1 | 3.8 | 2.20 | 2.6 | 2.9 |
| GAU | 38.7 | 40.1 | 35.0 | 31.8 | 24.6 | 28.4 | 23.2 | 18.80 | 33.8 | 27.0 |
| MPU | 7.1 | 4.3 | 2.5 | 3.2 | 3.7 | 3.1 | 4.0 | 6.10 | 3.9 | 3.5 |
| KZN | 12.0 | 21.2 | 10.7 | 9.4 | 12.1 | 14.8 | 18.0 | 28.20 | 13.5 | 13.6 |
| AFRICAN | 8.5 | 5.1 | 10.3 | 13.2 | 15.8 | 13.3 | 16.5 | 8.20 | 11.4 | 14.7 |
| INT'L | 2.8 | 1.8 | 4.5 | 9.3 | 11.0 | 7.5 | 8.7 | 1.70 | 5.2 | 9.1 |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | |

Table 22: Client Distribution Fee income earned, R mill, Real 2000 prices (Annualized)

| Client | Survey period | | | | | | | | | | |
|-------------|---------------|--------|--------|--------|--------|--------|--------|--|--|--|--|
| client _ | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Jun-16 | | | | |
| Central | 497 | 3,176 | 582 | 1,194 | 488 | 632 | 413 | | | | |
| Provincial | 994 | 538 | 1,455 | 1,320 | 1,351 | 2,132 | 1,550 | | | | |
| Local | 2,086 | 1,266 | 2,975 | 2,189 | 2,639 | 2,228 | 2,377 | | | | |
| State Owned | 1,987 | 1,593 | 1,703 | 1,676 | 1,434 | 1,403 | 1,654 | | | | |
| Private | 4,371 | 3,978 | 4,064 | 4,095 | 4,478 | 4,317 | 4,237 | | | | |
| Total | 9,935 | 10,552 | 10,779 | 10,474 | 10,389 | 10,712 | 10,232 | | | | |



Table 23: Client distribution Percentage share of earnings

| Client | Client Jun-13 De | | Jun-14 | Dec-14 | Dec-14 Jun-15 | | Jun-16 | 5-year average | 2-year average |
|----------------|------------------|-------|--------|--------|---------------|-------|--------|-------------------|-------------------|
| Central | 5.0 | 30.1 | 5.4 | 11.4 | 4.7 | 5.9 | 4.0 | 9.2 | 6.9 |
| Provincial | 10.0 | 5.1 | 13.5 | 12.6 | 13.0 | 19.9 | 15.0 | 11.3 | 14.8 |
| Local | 21.0 | 12.0 | 27.6 | 20.9 | 25.4 | 20.8 | 23.0 | 22.8 | 23.7 |
| State Owned | 20.0 | 15.1 | 15.8 | 16.0 | 13.8 | 13.1 | 16.0 | 15.6 | 14.7 |
| Private | 44.0 | 37.7 | 37.7 | 39.1 | 43.1 | 40.3 | 41.0 | 41.1 | 40.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |

Table 24: Economic sector Percentage share of earnings

| Economic sector | Jun-15 | Dec-15 | Jun-16 | 5-year average | 2-year average | Deviation 5-year | Deviation 2-year | Deviation last six months |
|--|--------|--------|--------|-------------------|-------------------|---------------------|---------------------|---------------------------------|
| Water (Full water cycle) | 17% | 17% | 18% | 14.2% | 16.5% | 3.8% | 2.5% | 0.8% |
| Transportation (land, air, road, rail, ports) | 25% | 30% | 33% | 27.2% | 27.8% | 5.8% | 6.2% | 7.9% |
| Energy (electricity, gas, hydro) | 6% | 5% | 5.0% | 8.9% | 6.3% | -3.9% | -2.9% | -0.8% |
| Mining / Quarrying | 2% | 5% | 7% | 7.9% | 4.2% | -0.9% | 2.8% | 4.8% |
| Education | 1% | 2% | 2% | 1.4% | 1.5% | 0.6% | 0.3% | 1.0% |
| Health | 1% | 1% | 1% | 1.4% | 1.6% | -0.4% | -0.8% | -0.5% |
| Tourism/Leisure | 1% | 0% | 0% | 0.7% | 0.5% | -0.7% | -0.7% | -0.8% |
| Housing (residential inc. land) | 11% | 9% | 8% | 8.6% | 8.0% | -0.6% | -1.4% | -2.9% |
| Commercial ⁴ | 26% | 23% | 13% | 19.7% | 24.3% | -6.7% | -10.2% | -12.8% |
| Agriculture / Forestry / Fishing | 2% | 1% | 1% | 1.3% | 1.1% | -0.3% | -0.1% | -0.6% |
| Other | 8% | 7% | 12% | 8.7% | 8.2% | 3.3% | 4.4% | 3.9% |
| Total | 100% | 100% | 100% | | | | | |

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

Table 25: Economic Sector Rm, Real 2000 prices, Annualized



| Economic sector | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Jun-16 | Per. Change last 6 months | Per. Change Last 12 months |
|---|--------|--------|--------|--------|--------|------------------------------------|-------------------------------|
| Water (Full water cycle) | 1,877 | 1,505 | 1,791 | 1,838 | 1,860 | 3.9% | 1.2% |
| Transportation (land, air, road, rail, ports) | 3,027 | 2,920 | 2,611 | 3,221 | 3,411 | 30.6% | 5.9% |
| Energy (electricity, gas, hydro) | 911 | 571 | 600 | 576 | 517 | -13.9% | -10.2% |
| Mining / Quarrying | 406 | 594 | 224 | 545 | 723 | 222.6% | 32.7% |
| Education | 250 | 140 | 102 | 166 | 207 | 102.2% | 24.5% |
| Health | 185 | 241 | 153 | 95 | 103 | -32.3% | 8.4% |
| Tourism/Leisure | 40 | 54 | 82 | 43 | 0 | -100.0% | -100.0% |
| Housing (residential inc. land) | 397 | 908 | 1,134 | 926 | 827 | -27.1% | -10.7% |
| Commercial | 2,799 | 2,325 | 2,684 | 2,492 | 1,344 | -49.9% | -46.1% |
| Agriculture / Forestry / Fishing | 150 | 67 | 167 | 85 | 103 | -38.3% | 21.2% |
| Other | 737 | 1,150 | 841 | 724 | 1,240 | 47.5% | 71.3% |
| Total | 10,779 | 10,474 | 10,389 | 10,712 | 10,335 | -0.5% | -3.5% |





| Survey period | Labour Unit cost (LUC) per hour | Index (2000 = 100) Smoothed | Year on Year percentage change in Index | Annual Average Annual Increase |
|---------------------|------------------------------------|-----------------------------------|--|-----------------------------------|
| 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% |
| Jun-16 | R236.34 | 377.56 | -7.7% | |



Table 27: Fee income outstanding for more than 90 days (including foreign fee income earnings)

| Income distribution | (total fee income = gross fee income + fee income outstanding) | | | | | | | | |
|-------------------------|--|-------------------------|----------------------|-----------------------|-----------------------|--|--|--|--|
| - | Jan-Jun 2014 % | July - Dec 2014 % | Jan-Jun 2015 % | July-Dec 2015 % | Jan- Jun 2016 % | | | | |
| Central government | 2.8% | 37.0% | 13.6% | 6.3% | 3.7% | | | | |
| Provincial government | 8.3% | 10.2% | 12.0% | 5.9% | 17.3% | | | | |
| Local government | 14.2% | 17.4% | 13.2% | 16.3% | 16.1% | | | | |
| State owned enterprises | 13.1% | 6.2% | 6.9% | 6.4% | 7.47% | | | | |
| Private Sector | 16.8% | 13.5% | 32.9% | 35.6% | 11.2% | | | | |
| Foreign (all EX-RSA) | 7.4% | 44.0% | 39.0% | 81.4% | 28.4% | | | | |
| Total | 17.4% | 24.0% | 24.5% | 22.9% | 25.0% | | | | |

Fee income outstanding for more than 90 days as % of total annualized fee income by client

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

| Survey | Bursaries % of salary bill | Bursaries R mill current prices | Training % of Salary bill⁵ | 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 |
| Jun-16 | 0.7% | R111 | 0.7% | R111 |

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

⁶ Revised: Removed outlier questionnaire erroneously included in previous sample.



Table 29: Employment profile of the consulting engineering industry: Percentage contribution: January – June 2016

| Job Category | Black | Coloured | Asian | White | Total | % Share by type |
|--|-------|----------|-------|-------|---------|--------------------|
| Professional Engineer Pr.Eng | 4.1% | 3.2% | 6.2% | 86.5% | 100.00% | 12.55% |
| Professional Architects | 11.1% | 11.1% | 22.2% | 55.6% | 100.00% | 0.24% |
| Professional Quantity Surveyors | 10.0% | 0.0% | 20.0% | 70.0% | 100.00% | 0.27% |
| Professional Other | 6.5% | 1.6% | 4.8% | 87.1% | 100.00% | 1.67% |
| Technologists Pr TEchENg | 11.8% | 4.4% | 9.9% | 73.9% | 100.00% | 5.45% |
| Technicians PrTechni | 25.4% | 18.6% | 5.1% | 50.8% | 100.00% | 1.59% |
| Unregistered technical staff: Engineer | 14.9% | 5.3% | 12.7% | 67.0% | 100.00% | 12.06% |
| Unregistered technical staff: Technologist | 35.6% | 12.0% | 16.8% | 35.6% | 100.00% | 5.59% |
| Unregistered technical staff: Technician | 60.8% | 8.4% | 8.2% | 22.7% | 100.00% | 14.45% |
| Unregistered technical staff: Other | 39.8% | 8.0% | 6.5% | 45.7% | 100.00% | 9.05% |
| Technical Assistants | 49.3% | 10.7% | 5.4% | 34.6% | 100.00% | 5.51% |
| Draughts Persons | 12.8% | 15.5% | 5.1% | 66.7% | 100.00% | 7.98% |
| Laboratory / Survey Assistants | 97.2% | 0.7% | 0.0% | 2.1% | 100.00% | 3.82% |
| Administration / Support staff | 41.2% | 13.9% | 8.2% | 36.8% | 100.00% | 19.77% |
| Total | 33.5% | 8.8% | 8.1% | 49.5% | 100.00% | 100.00% |

Table 30: Employment profile of the consulting engineering industry: Change in contribution

Jan – Jun 2016 vs Jul – Dec 2015

| Job Category | Black | Coloured | Asian | White |
|--|--------|----------|-------|--------|
| Professional Engineer Pr.Eng | -4.8% | 1.1% | 1.3% | -0.6% |
| Professional Architects | 6.3% | 11.1% | 17.5% | 1.6% |
| Professional Quantity Surveyors | -2.1% | 0.0% | 10.9% | 1.5% |
| Professional Other | 0.2% | -0.3% | 1.4% | 7.6% |
| Technologists Pr TEchENg | -3.2% | 1.1% | 2.2% | 1.1% |
| Technicians PrTechni | -23.4% | 8.6% | 2.0% | -0.6% |
| Unregistered technical staff: Engineer | -5.0% | -1.7% | 4.5% | 0.2% |
| Unregistered technical staff: Technologist | 2.6% | 1.1% | 7.7% | 3.9% |
| Unregistered technical staff: Technician | 5.4% | -1.2% | 1.5% | 2.2% |
| Unregistered technical staff: Other | -8.1% | 2.1% | -3.8% | -11.8% |
| Technical Assistants | -6.0% | 1.7% | 1.8% | -4.0% |
| Draughts Persons | 0.8% | 4.3% | -3.0% | 2.1% |
| Laboratory / Survey Assistants | 3.4% | 0.7% | -2.5% | -10.6% |
| Administration / Support staff | -0.3% | 3.4% | 0.8% | -2.0% |
| Total | 0.8% | 1.7% | 1.1% | -0.2% |



Table 31: 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-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Dec-15 |
|-----------------|----------------------------|--------------------------|--------|--------|--------|--------|--------|--------|--------|
| (PTY) LTD | Executive Directors | Pr.Eng | 12.1% | 15.5% | 16.3% | 14.0% | 14.8% | 14.5% | 21.5% |
| | | PrTechEng | 41.9% | 37.5% | 33.3% | 33.3% | 36.5% | 33.3% | 31.8% |
| | | Other | 60.0% | 68.6% | 73.0% | 61.8% | 60.9% | 60.3% | 60.0% |
| | | TOTAL | 26.3% | 29.8% | 29.2% | 27.3% | 28.4% | 29.5% | 32.0% |
| | Non-Executive Directors | Pr.Eng | 60.0% | 16.7% | 100.0% | 33.3% | 53.8% | 62.5% | 71.4% |
| | | PrTechEng | 100.0% | 60.0% | 60.0% | 66.7% | 50.0% | 100.0% | 57.1% |
| | | Other | 100.0% | 87.5% | 78.6% | 86.7% | 68.5% | 76.9% | 70.0% |
| | | TOTAL | 90.0% | 58.0% | 82% | 55.0% | 64.0 | 73.0% | 67.6% |
| сс | Members | Pr.Eng | 80.0% | 75.0% | 77.8% | 81.8% | 88.2% | 85.7% | 81.8% |
| | | PrTechEng | 60.0% | 60.0% | 42.9% | 50.0% | 42.3% | 40.0% | 0% |
| | | Other | 83.3% | 50.0% | 80.0% | 87.5% | 93.8% | 92.3% | 85.7% |
| | | TOTAL | 70.9% | 65.0% | 66.7% | 78.2% | 69.5% | 71.4% | 75.0% |
| Partnership | Partners | Pr.Eng | 0.0% | 0.0% | 0.0% | 20.0% | 14.3% | 75.0% | 0.0% |
| | | PrTechEng | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 60.0% | 0.0% |
| | | Other | 50.0% | 66.7% | 75.0% | 75.0% | 75.0% | 50.0% | 50.0% |
| | | TOTAL | 12.5% | 25.0% | 30.0% | 54.5% | 46.7% | 63.6% | 20.0% |
| Total | | | 35.5% | 35.8% | 36.0% | 38.4% | 40.4% | 39.5% | 40.8% |



Table 32: CESA Confidence index: % respondents satisfied with working conditions

| Survey Period | CESA Confidence Index | % Change on previous | % Change on survey same |
|-------------------|-----------------------|----------------------|-------------------------|
| | | survey | time last year |
| 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 | 75.0 | 90.4% | 68.5% |
| Dec-16 (forecast) | 70.0 | -6.7% | 77.7% |
| Jun-17 (forecast) | 65.0 | -7.1% | -13.3% |



Table 33: Employment Breakdown, by race, gender and job category Jan – Jun 2016

| 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 | 97 | 26 | 123 | 91 | 6 | 97 | 181 | 6 | 188 | 2,496 | 116 | 2,613 | 2,865 | 155 | 3,020 |
| Professional Architects | 6 | 0 | 6 | 6 | 0 | 6 | 13 | 0 | 13 | 32 | 0 | 32 | 58 | 0 | 58 |
| Professional Quantity Surveyors | 0 | 6 | 6 | 0 | 0 | 0 | 13 | 0 | 13 | 45 | 0 | 45 | 58 | 6 | 65 |
| Professional Other | 13 | 13 | 26 | 0 | 6 | 6 | 6 | 13 | 19 | 252 | 97 | 349 | 272 | 129 | 401 |
| Technologists Pr TEchENg | 142 | 13 | 155 | 58 | 0 | 58 | 116 | 13 | 129 | 925 | 45 | 970 | 1,242 | 71 | 1,313 |
| Technicians PrTechni | 91 | 6 | 97 | 71 | 0 | 71 | 13 | 6 | 19 | 194 | 0 | 194 | 369 | 13 | 382 |
| Unregistered technical staff: Engineer | 343 | 91 | 433 | 97 | 58 | 155 | 213 | 155 | 369 | 1,591 | 356 | 1,947 | 2,244 | 660 | 2,904 |
| Unregistered technical staff: Technologist | 317 | 162 | 479 | 110 | 52 | 162 | 155 | 71 | 226 | 433 | 45 | 479 | 1,015 | 330 | 1,345 |
| Unregistered technical staff: Technician | 1,617 | 498 | 2,115 | 175 | 116 | 291 | 213 | 71 | 285 | 711 | 78 | 789 | 2,716 | 763 | 3,479 |
| Unregistered technical staff: Other | 634 | 233 | 867 | 116 | 58 | 175 | 91 | 52 | 142 | 789 | 207 | 996 | 1,630 | 550 | 2,180 |
| Technical Assistants | 433 | 220 | 653 | 97 | 45 | 142 | 45 | 26 | 71 | 310 | 149 | 459 | 886 | 440 | 1,326 |
| Draughts Persons | 168 | 78 | 246 | 220 | 78 | 297 | 78 | 19 | 97 | 770 | 511 | 1,281 | 1,235 | 686 | 1,921 |
| Laboratory / Survey Assistants | 821 | 71 | 892 | 6 | 0 | 6 | 0 | 0 | 0 | 13 | 6 | 19 | 841 | 78 | 918 |
| Administration / Support staff | 589 | 1,371 | 1,960 | 91 | 569 | 660 | 84 | 304 | 388 | 246 | 1,507 | 1,753 | 1,009 | 3,751 | 4,760 |
| Total | 5,271 | 2,787 | 8,058 | 1,138 | 990 | 2,128 | 1,222 | 737 | 1,960 | 8,809 | 3,117 | 11,926 | 16,440 | 7,632 | 24,072 |



Table 34: Employment Breakdown, by race, gender and job category January – June 2016: 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 | 0.4% | 0.1% | 0.5% | 0.4% | 0.0% | 0.4% | 0.8% | 0.0% | 0.8% | 10.4% | 0.5% | 10.9% | 11.9% | 0.6% | 12.5% |
| Professional Architects | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.2% | 0.0% | 0.2% |
| Professional Quantity Surveyors | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% | 0.2% | 0.0% | 0.2% | 0.2% | 0.0% | 0.3% |
| Professional Other | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% | 1.0% | 0.4% | 1.5% | 1.1% | 0.5% | 1.7% |
| Technologists Pr TEchENg | 0.6% | 0.1% | 0.6% | 0.2% | 0.0% | 0.2% | 0.5% | 0.1% | 0.5% | 3.8% | 0.2% | 4.0% | 5.2% | 0.3% | 5.5% |
| Technicians PrTechni | 0.4% | 0.0% | 0.4% | 0.3% | 0.0% | 0.3% | 0.1% | 0.0% | 0.1% | 0.8% | 0.0% | 0.8% | 1.5% | 0.1% | 1.6% |
| Unregistered technical staff: Engineer | 1.4% | 0.4% | 1.8% | 0.4% | 0.2% | 0.6% | 0.9% | 0.6% | 1.5% | 6.6% | 1.5% | 8.1% | 9.3% | 2.7% | 12.1% |
| Unregistered technical staff: Technologist | 1.3% | 0.7% | 2.0% | 0.5% | 0.2% | 0.7% | 0.6% | 0.3% | 0.9% | 1.8% | 0.2% | 2.0% | 4.2% | 1.4% | 5.6% |
| Unregistered technical staff: Technician | 6.7% | 2.1% | 8.8% | 0.7% | 0.5% | 1.2% | 0.9% | 0.3% | 1.2% | 3.0% | 0.3% | 3.3% | 11.3% | 3.2% | 14.5% |
| Unregistered technical staff: Other | 2.6% | 1.0% | 3.6% | 0.5% | 0.2% | 0.7% | 0.4% | 0.2% | 0.6% | 3.3% | 0.9% | 4.1% | 6.8% | 2.3% | 9.1% |
| Technical Assistants | 1.8% | 0.9% | 2.7% | 0.4% | 0.2% | 0.6% | 0.2% | 0.1% | 0.3% | 1.3% | 0.6% | 1.9% | 3.7% | 1.8% | 5.5% |
| Draughts Persons | 0.7% | 0.3% | 1.0% | 0.9% | 0.3% | 1.2% | 0.3% | 0.1% | 0.4% | 3.2% | 2.1% | 5.3% | 5.1% | 2.8% | 8.0% |
| Laboratory / Survey Assistants | 3.4% | 0.3% | 3.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% | 3.5% | 0.3% | 3.8% |
| Administration / Support staff | 2.4% | 5.7% | 8.1% | 0.4% | 2.4% | 2.7% | 0.3% | 1.3% | 1.6% | 1.0% | 6.3% | 7.3% | 4.2% | 15.6% | 19.8% |
| Total | 21.9% | 11.6% | 33.5% | 4.7% | 4.1% | 8.8% | 5.1% | 3.1% | 8.1% | 36.6% | 13.0% | 49.5% | 68.3% | 31.7% | 100.0% |



| Comp | Owner category | Professional | | Black | | | Coloured | | | Asian | | | White | | Total | | | |
|-------------------|-------------------------------|--------------|-------|--------|-------|-------|----------|-------|-------|--------|-------|-------|--------|--------|--------|--------|--------|--|
| Туре | | Category | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | |
| (РТҮ) LTD | Executive Director | PrEng | 18 | 9 | 26 | 31 | 0 | 31 | 39 | 4 | 44 | 368 | 0 | 368 | 456 | 13 | 469 | |
| | | PrTechEng | 4 | 0 | 4 | 13 | 0 | 13 | 13 | 0 | 13 | 66 | 0 | 66 | 96 | 0 | 96 | |
| | | Other | 31 | 18 | 48 | 22 | 9 | 31 | 13 | 13 | 26 | 61 | 9 | 70 | 127 | 48 | 175 | |
| | Non- Executive Director | PrEng | 13 | 0 | 13 | 9 | 0 | 9 | 0 | 0 | 0 | 9 | 0 | 9 | 31 | 0 | 31 | |
| | | PrTechEng | 4 | 9 | 13 | 4 | 0 | 4 | 0 | 0 | 0 | 9 | 4 | 13 | 18 | 13 | 31 | |
| | | Other | 35 | 18 | 53 | 4 | 4 | 9 | 0 | 0 | 0 | 26 | 0 | 26 | 66 | 22 | 88 | |
| y | Member | PrEng | 4 | 0 | 4 | 9 | 0 | 9 | 26 | 0 | 26 | 61 | 0 | 9 | 101 | 0 | 48 | |
| | | PrTechEng | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 9 | 9 | 0 | 9 | |
| | | Other | 4 | 13 | 18 | 0 | 9 | 9 | 0 | 0 | 0 | 4 | 18 | 4 | 9 | 39 | 31 | |
| Partnership | Partner | PrEng | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 13 | 13 | 0 | 13 | |
| | | PrTechEng | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Other | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 9 | |
| GRAND | TOTAL | | 114 | 66 | 180 | 96 | 22 | 118 | 92 | 18 | 110 | 627 | 31 | 592 | 929 | 136 | 1000 | |
| % distri | bution of exe | cutive staff | 11.4% | 6.6% | 18.0% | 9.6% | 2.2% | 11.8% | 9.2% | 1.8% | 11.0% | 62.7% | 3.1% | 59.2% | 93.0% | 13.6% | 100.0% | |
| % direc | torship only | | 7.1% | 3.6% | 10.7% | 8.9% | 1.2% | 10.1% | 8.9% | 2.4% | 11.2% | 66.9% | 1.2% | 68.0% | 91.7% | 8.3% | 100.0% | |
| Total er | nployment | | 5,271 | 2,787 | 8,058 | 1,138 | 990 | 2,128 | 1,222 | 737 | 1,960 | 8,809 | 3,117 | 11,926 | 16,440 | 7,632 | 24,072 | |
| Executi employ | ve Staff as % o ment | of total | 2.2% | 2.4% | 2.2% | 8.5% | 2.2% | 5.6% | 7.5% | 2.4% | 5.6% | 7.1% | 1.0% | 5.0% | 5.7% | 1.8% | 4.2% | |

Table 35: Executive Staff profile: Employment, company type, race & gender: January – June 2016



End of report

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