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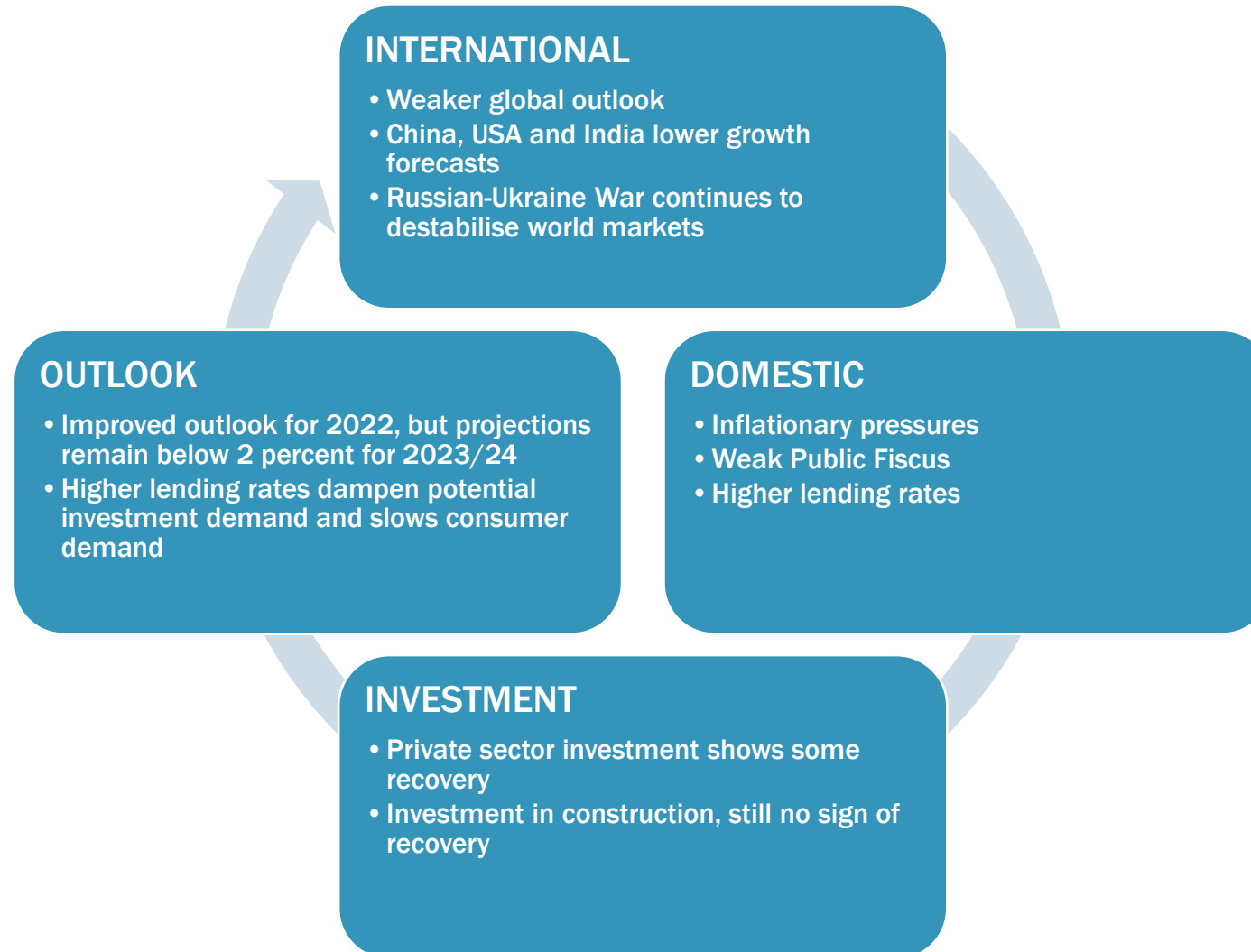
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BI-ANNUAL ECONOMIC AND CAPACITY SURVEY

JANUARY – JUNE 2022

ECONOMIC OVERVIEW



ECONOMIC OVERVIEW

INTERNATIONAL DEVELOPMENTS

- IMF lower global economic forecast again to 3.2 percent in 2022
- Downside risks noted in July are materialising affecting US, China and India
- Emerging economies are facing increased risks to their economic outlook
- SA's growth outlook was lifted to 2.3 percent from 1.9 percent in 2022 and 1.4 percent for 2023
- Risks remain in the form of declining private and public sector investment, lack of structural reforms, higher inflation and the impact of tighter monetary policy leading to higher lending rates.

“Gloomy and more uncertain” – this is how the IMF described the global economic outlook in their July 2022 review. Key factors influencing this perturbed outlook include the materialization of downside risks highlighted in the April 2022 review. Higher inflation worldwide is triggering a sharp tightening in global financial conditions, a sharper than expected slowdown in China and further negative cross-border effects from the war in Ukraine. In the IMF's baseline scenario global growth averages 3.2 percent in 2022 and moderates to 2.9 percent in 2023 (lower than previous projections due to forecast downgrades in US, China and India).

	2018	2019	2020	2021	2022	2023
World	3.6%	2.9%	-3.1%	6.1%	3.2%	2.9%
Advanced Economies	2.2%	1.7%	-4.5%	5.2%	2.5%	1.4%
US	2.9%	2.3%	-3.4%	5.7%	2.3%	1.0%
Eurozone	1.8%	1.2%	-6.3%	5.4%	2.6%	1.2%
UK	1.4%	1.3%	-9.3%	7.4%	3.2%	0.5%
Emerging markets	4.5%	3.7%	-2.0%	6.8%	3.6%	3.9%
Brazil	1.1%	1.2%	-3.9%	4.6%	1.7%	1.1%
Russia	2.3%	1.1%	-2.7%	4.7%	-6.0%	-3.5%
India	7.1%	4.8%	-6.6%	8.7%	7.4%	6.1%
China	6.6%	6.1%	2.2%	8.1%	3.3%	4.6%
Sub-Saharan Africa	3.0%	3.3%	-1.6%	4.6%	3.8%	4.0%
SA	0.8%	0.4%	-6.3%	4.9%	2.3%	1.4%

ECONOMIC OVERVIEW

DOMESTIC ECONOMY

After recovering by 1.9 percent in Q1, economic activity contracted by 0,7 percent in Q2. Real GDP surpassed the average 2019 level (before the onset of Covid-19) for the first time in the 1st quarter. At least seven of the ten sectors shrunk in Q2, with significant declines in manufacturing, agriculture, trade and mining. Key contributing factors include the KZN floods and loadshedding. Investment was lower in the residential sector (down 4,7 percent), and construction works (down 1,4 percent) while the non-residential sector was marginally higher (0,4 percent).

Higher levels of investment by the private sector boosted overall gross fixed capital formation, up 3,7 percent. Investment by government declined for the 4th consecutive quarter (down 4,2 percent) with weaker levels of investment also from SOE's (down 1 percent).

The unemployment rate eased moderately to 33,9 percent in the Q2, from 34,5 percent, while overall employment in the construction sector declined by an average of 2 percent in the first half of 2022. The 7 percent decline in the formal sector was counteracted by a similar increase in the informal construction labour force market.

Producer inflation accelerated to a 14-year high of 18 percent in July 2022, reflecting a sharp rise in input costs, such as fuel, coal and electricity. The Ukraine-Russian war is aggravating global supply chain disruptions. Consumer inflation accelerated to 7.8 percent in July 2022, largely due to rising fuel and food prices.

Business confidence slipped lower to 42 in Q2 from 46, averaging 44 for the first half of 2022, pulled down by a more negative economic outlook in view of increased loadshedding and higher interest rates.

Confidence in the civil sector, fell sharply in the first half of 2022 to an average of 9.5 from 16 in the second half of 2021, as construction activity in the civil industry remains constraint by lack of government projects while the higher rate of postponements are diminishing growth potential expected by the uptick in tendering activity in the second half of 2021. [†] The persistently slow pace of awarding contracts further continues to dampen confidence levels.

Building confidence, by contrast, improved and increased from 34 index points to 40 (a four year high), and while this remains below the 50-neutral level, some activity in the non-residential sector (industrial and renovations market) offered some hope.

The MPC of the Reserve Bank increased the repo rate by 50 basis points in May 2022 and again by 75 basis points in July 2022. Although the MPC continues to regard the current level of the repo rate as accommodative, this stance can be widely debated as the real impact of the bank's more aggressive quantitative tightening, still lies ahead.

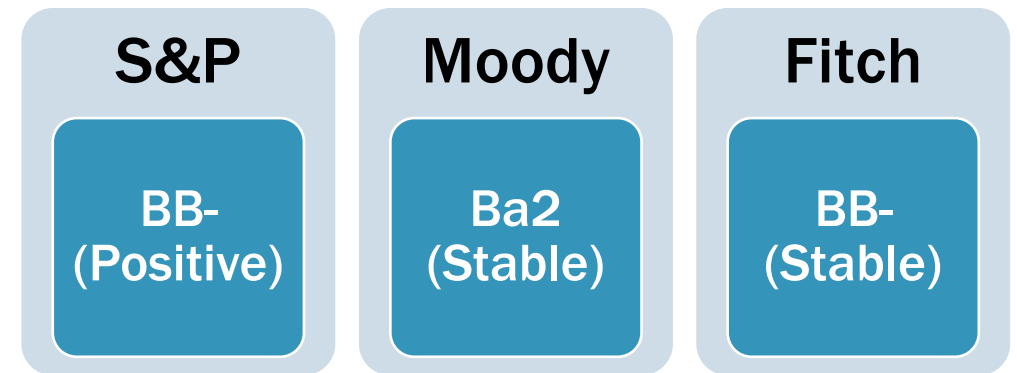
The Reserve Bank expects headline inflation to average 5.7 percent in 2023 and 4.7 percent in 2024.

The repo rate is expected to reach 5.3 percent by the end of 2022, 6.2 by end of 2023 and 6.7 by end of 2024, suggesting several hikes in lending rates in the next 18 months. GDP growth is expected to remain at or below 2 percent for the next three years, assuming oil prices average below US\$100/barrel during this time.

ECONOMIC OVERVIEW

CREDIT RATING AGENCIES

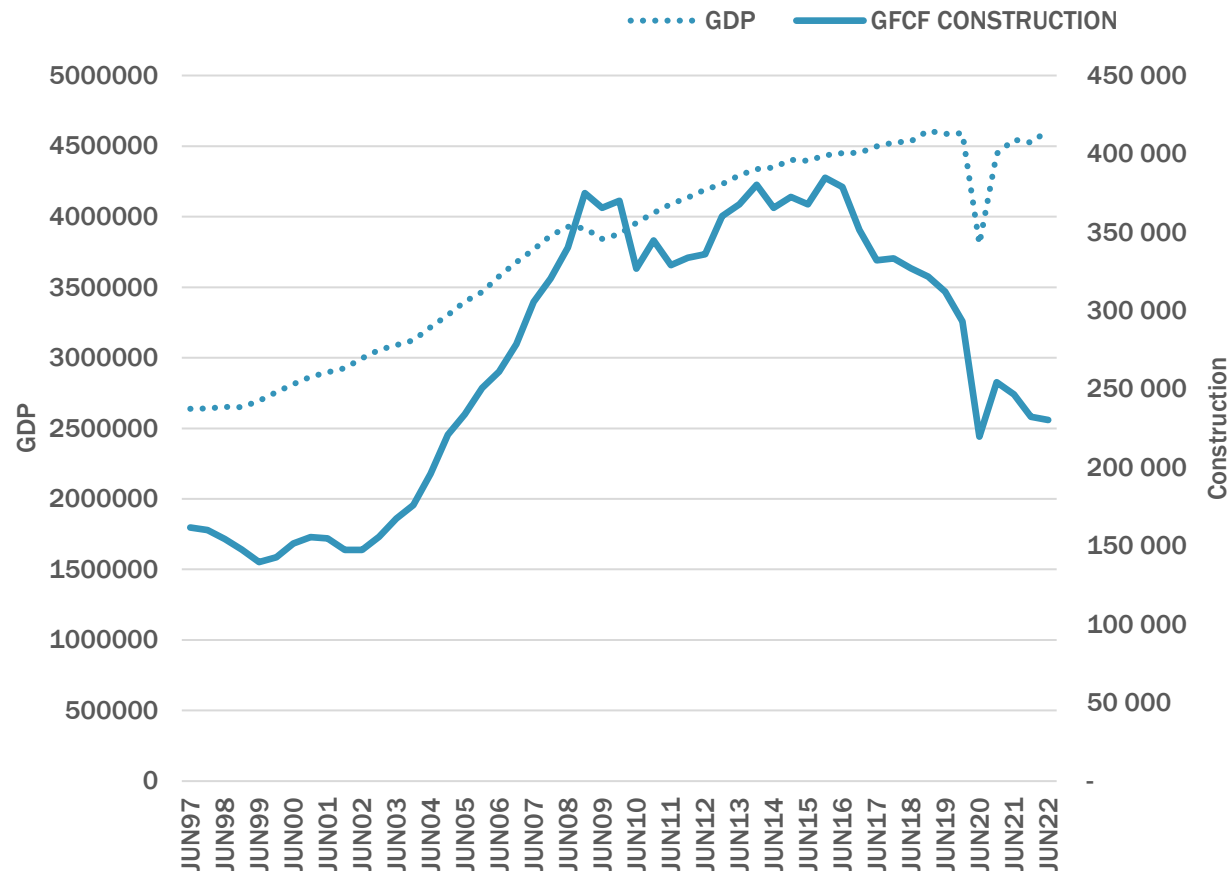
- S&P: upgraded SA's outlook from stable to positive in May 2022
- Moody warns of lack of investment in water and electricity. Says capital expenditure should be between 10 and 20 percent. Most municipalities don't reach that. Revised its outlook from negative to stable in April 2022.
- Fitch upgraded SA's outlook from negative to stable in December 2021.
- Possibility that SA could be grey listed by the Financial Action Task Force (FATF) suggesting the country is a high-risk jurisdiction to transact. FATF identified significant weaknesses in parts of SA's financial regulation resulting in high cases of money laundering and terrorism funding. Government has until October 2022 to address these concerns or face grey listing February 2023.



ECONOMIC OVERVIEW

GROSS FIXED CAPITAL FORMATION

GDP VS INVESTMENT IN CONSTRUCTION
2015 prices, annualised



- **Investment in construction plunged to below R250bn (annualized, 2015 prices) in 2021, from a peak of R384bn in 2016.**
- Apart from a correction in 2020, investment mostly contracted on a quarter-on-quarter basis for the past 34 quarters, since 2014.
- Investment in construction works is currently at 52 percent of its peak in 2013, down to R114bn in Q1 2022 (annualized 2015 prices).
- Investment in residential buildings dropped to R84bn by Q1 (at 62 percent of its peak in 2007), while investment in non-residential buildings declined to R31,6bn (at 36 percent of its peak in 2008).
- Overall investment in construction fell by 1,2 percent y-y in 2021, 0,8 percent q-q in Q1 of 2022 and 2,4 percent in Q2.
- Credit rating agency Moody's highlighted the dire consequence of lack of investment in water and electricity and noted that capital expenditure in most of the municipalities rated by Moody's is below the 10% to 20% of total spending as recommended by Treasury to ensure infrastructure needs are addressed.

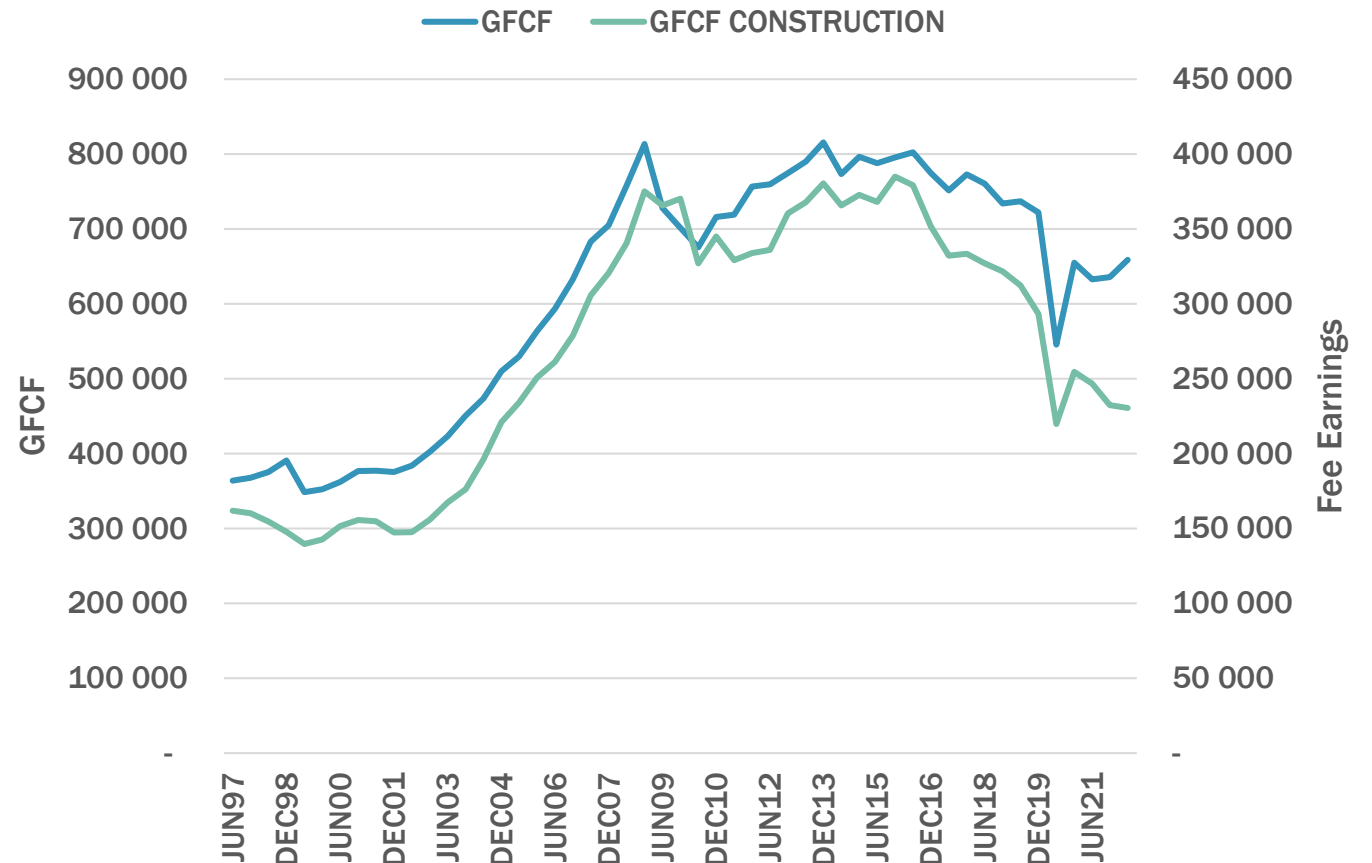
**Municipal Capital expenditure should
be between 10% and 20% of total
spending**

ECONOMIC OVERVIEW

GROSS FIXED CAPITAL FORMATION

- Despite an improvement in overall investment, **investment in construction slipped further in the 1st quarter of 2022**, down 0.8 percent q-q.
- By contrast, supported by higher levels of investment from government and the private sector, **overall investment increased by 3.6 percent q-q**.
- Investment by government increased by 4.9 percent against a 4.1 percent increase in investment by the private sector. Investment by SOE's continue to decline, down 1.4 percent q-q.

FEE EARNINGS VS GROSS FIXED CAPITAL FORMATION
2015 prices, annualised



Source: SA Reserve Bank

ECONOMIC OVERVIEW

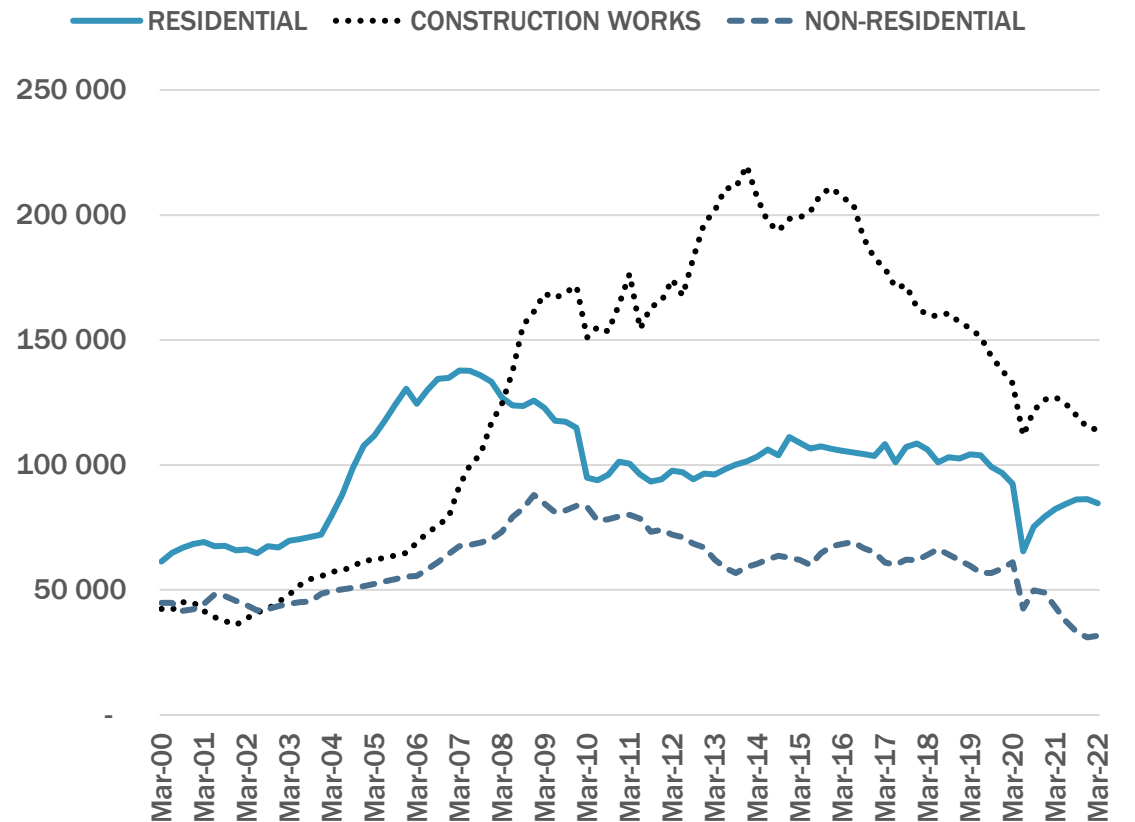
GROSS FIXED CAPITAL FORMATION

- Residential investment decreased by 1.9 percent, and construction works down 0.8 percent. Investment in non-residential buildings, increased by 2.0 percent, likely supported by higher levels of investment in the industrial sector and “office to apartment” renovations.
- Investment levels remain around 25 percent below pre-covid levels.

2021 Rm, current	GOVERNMENT	SOE'S	PRIVATE	TOTAL
RESIDENTIAL	1 011	177	103 325	104 513
NON-RESIDENTIAL	30 369	1 436	29 885	61 690
CONSTRUCTION WORKS	69 417	51 864	41 369	162 650
TOTAL	100 797	53 477	174 579	328 853

GFCF Construction by Type of Asset

2015 prices, annualised



ECONOMIC OVERVIEW

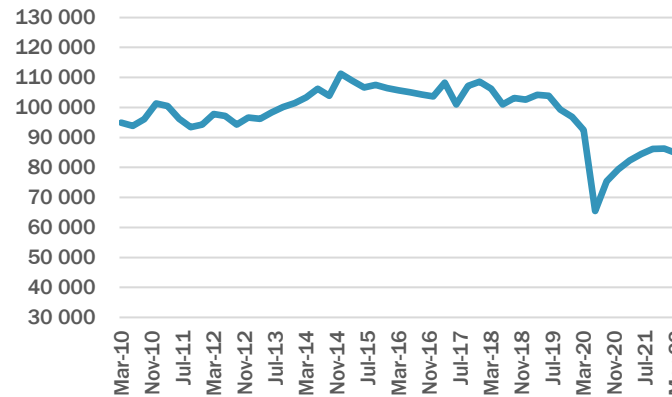
INVESTMENT IN CONSTRUCTION

Rm, 2015 prices, seasonally adjusted annualised

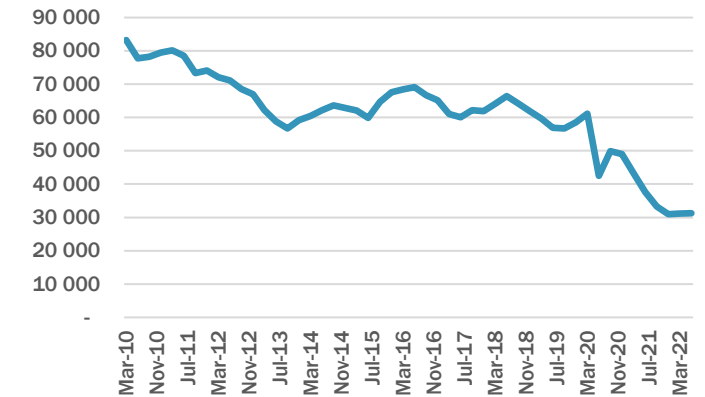
INVESTMENT IN CONSTRUCTION
2015 prices, annualised



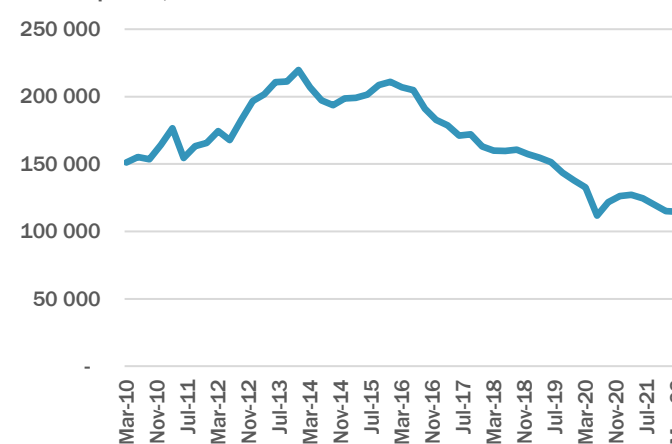
INVESTMENT IN RESIDENTIAL BUILDINGS
2015 prices, annualised



INVESTMENT IN NON-RESIDENTIAL BUILDINGS
2015 prices, annualised



INVESTMENT IN CONSTRUCTION WORKS
2015 prices, annualised



ECONOMIC OVERVIEW

PUBLIC SECTOR INVESTMENT

Slow to just 4 percent of GDP

Public sector investment (including government and SOE's) as a percentage of GDP declined to 4 percent in the Q1 of 2022, from around 6.5 percent between 2007 and 2015. The public sector failed dismally against the NDP target of 10 percent. The strongest decline is seen in investment by SOE's down from R140bn per annum to just R68bn, while investment by government slowed from R170bn to R110bn in Q4 of 2021, and with an improved performance in Q2 rose to R114bn. The exodus of private sector investment, post covid-19, has had a material impact on overall investment in the country, but after a slow recovery in 2020/21, investment increased by 4,1 percent q-q in Q2 of 2022.

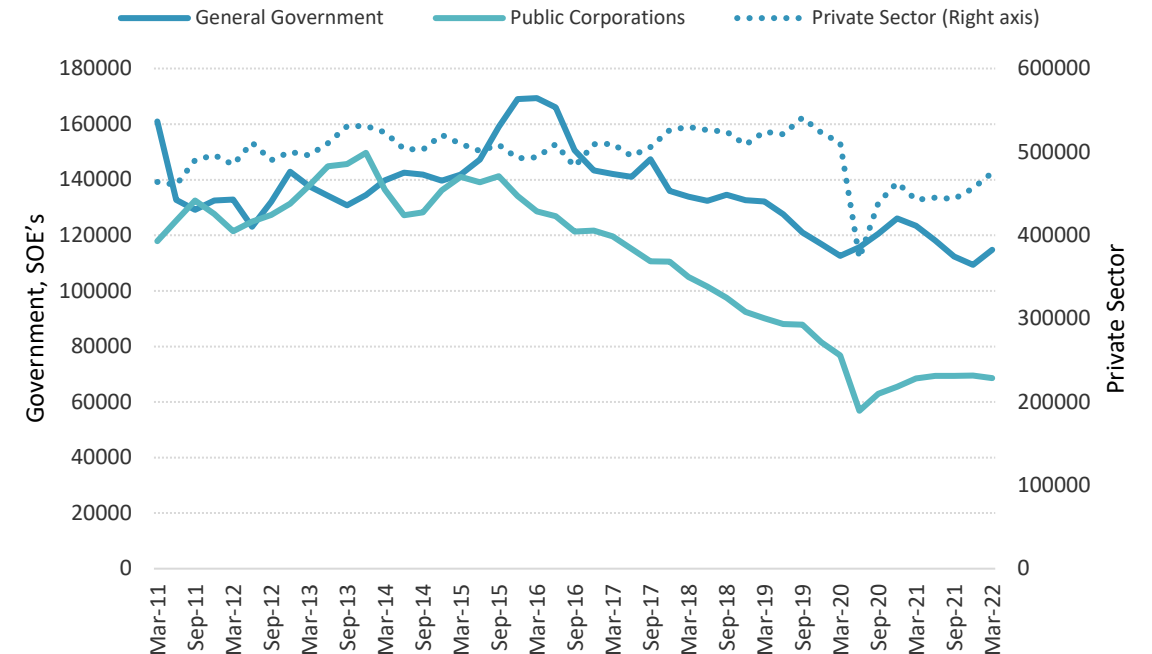
Public Sector (GFCF) % of GDP

Constant 2015 prices



GFCF By Client Type

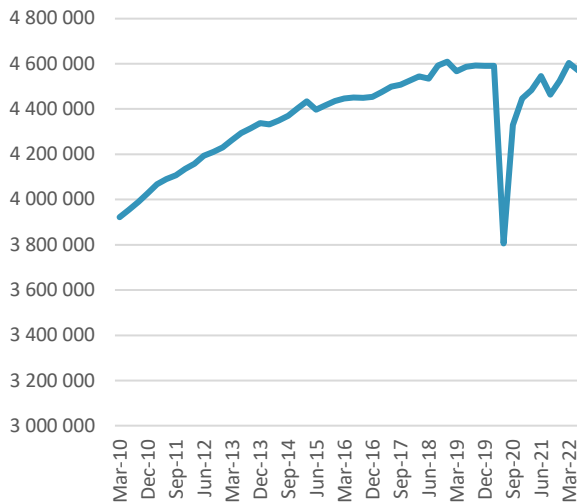
Rm, Constant Sea Adj Annualised rates



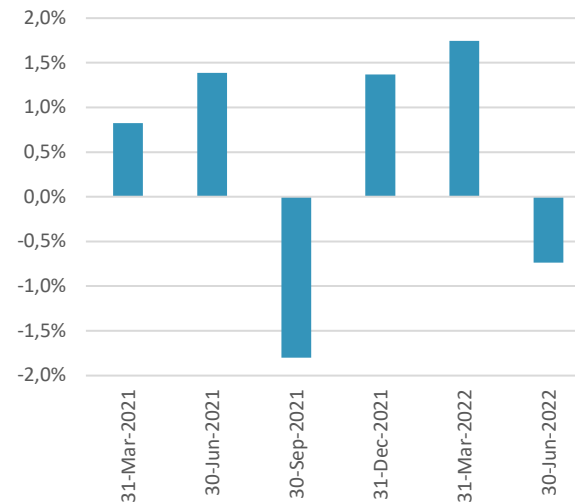
ECONOMIC OVERVIEW

MACRO ECONOMIC OUTLOOK

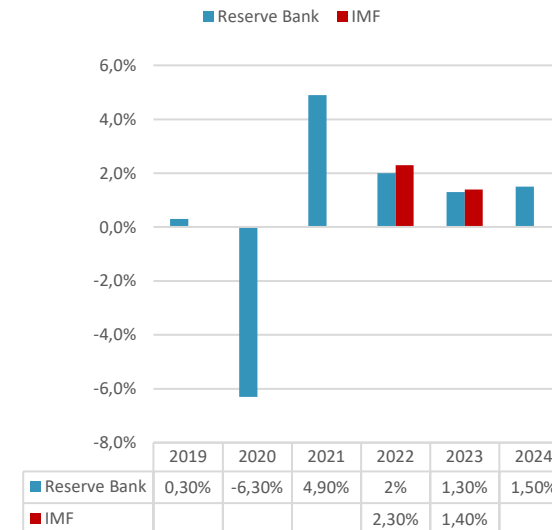
GROSS DOMESTIC PRODUCT
2015 prices, Sea adj. annualised



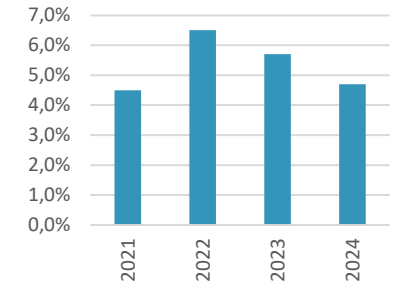
GROSS DOMESTIC PRODUCT
Percentage Change



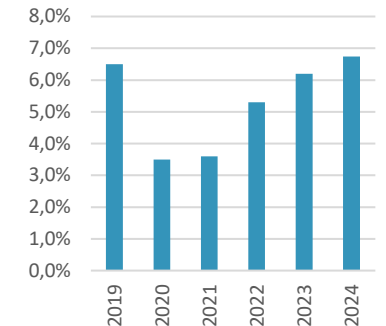
GROSS DOMESTIC PRODUCT



HEADLINE INFLATION



REPO RATE



The IMF raised SA's growth outlook for 2022 to 2.3 percent and 1.4 percent for 2023. These projections are on par (albeit just slightly higher) with projections released by the Reserve Bank in July 2022. Headline inflation is expected to cool off in 2023 and 2024, as monetary policy is expected to tighten further. The local economy is barely keeping its head above water, and the current projections (assuming a much lower and more stable international oil price) is subject to much uncertainty and volatility.

As interest rates rise, and global factors remain supportive of higher inflation, it won't take much to push the economy into recession, especially as social unrest is likely to rise up again. South Africa has very little leverage to maintain even marginal positive growth. Much will depend on government's ability to steer investor perceptions and support higher levels of private sector investment. For now, the focus is mainly on renewable energy projects and Transnet's private investment drive, and as this provides opportunities for investment by the private sector, government should regain focus on critical infrastructure such as water, maintenance and much needed security to protect existing infrastructure.

- 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 and benchmarked 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 workplace 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.
- A total of **44 questionnaires** were returned via both an on-line and hard copy system. The sample represents a cumulative fee income of R2bn, and 4216 employees for the period Jan – June 2022.

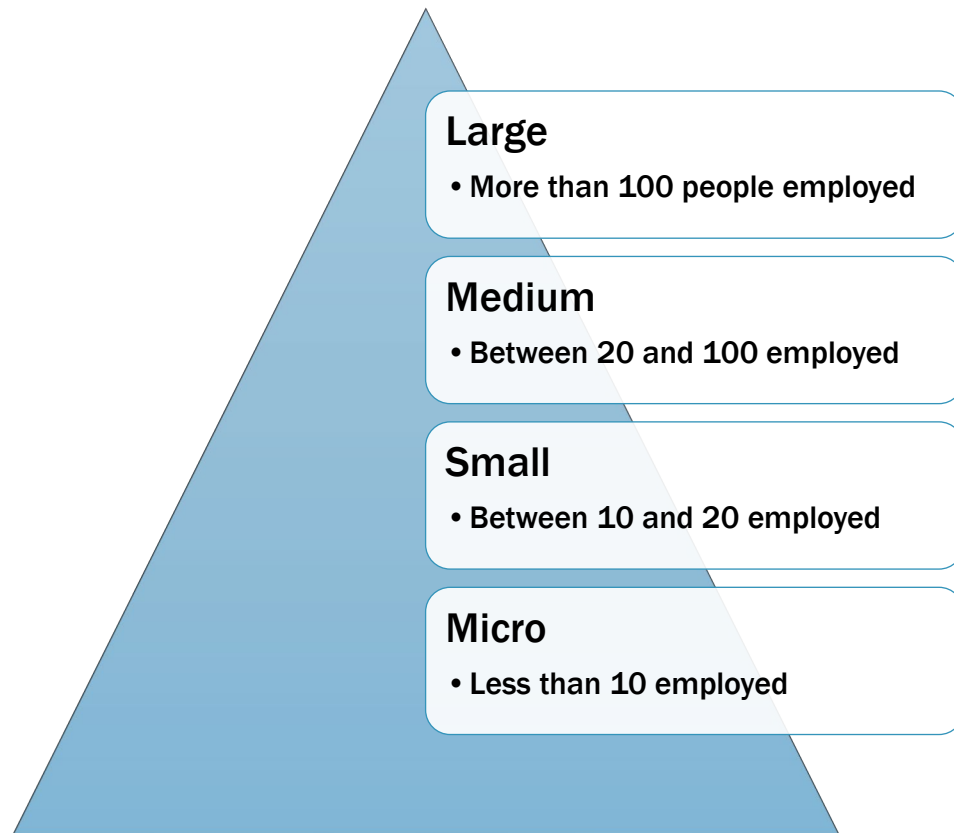
SURVEY RESULTS

Prevailing conditions in the South African consulting engineering industry:

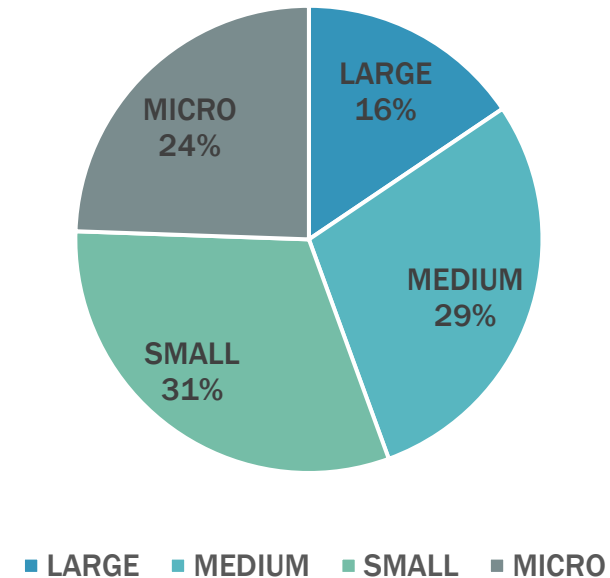
JANUARY – JUNE 2022

SURVEY SAMPLE

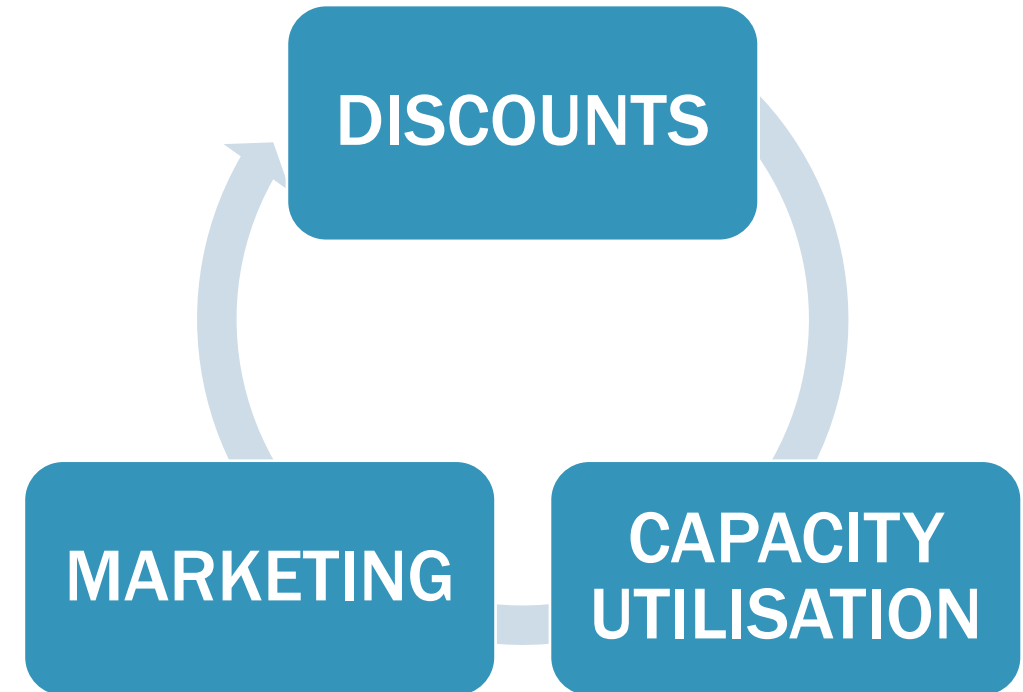
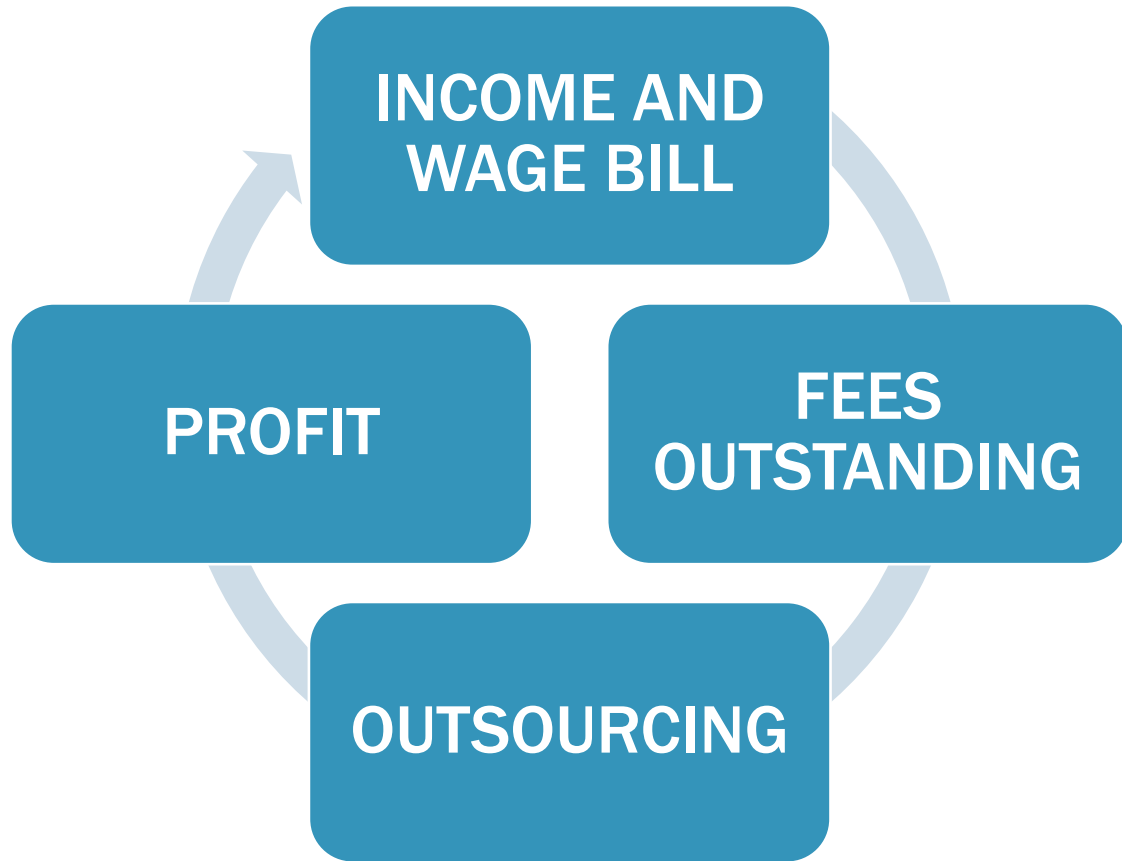
- Number of participating firms: 44



RESPONDENTS



FINANCIAL INDICATORS



FINANCIAL INDICATORS

INCOME AND WAGE BILL

GROSS FEE INCOME

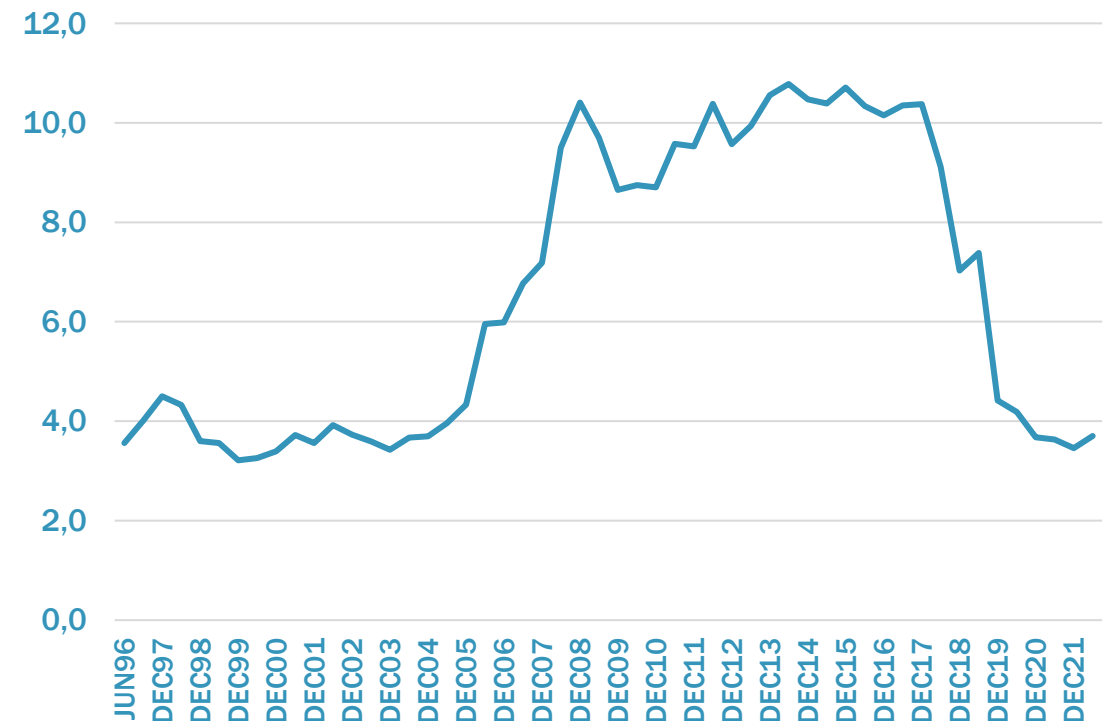
9.7
%

A1.2 What was the total value of the firms' **gross fee income** for the past 6 months (including foreign transaction income, but excluding sub-consultant's fees)?

- Respondents expected earnings to increase by between 10 percent and 12 percent in the first half of 2022, with actual earnings up by 9,7 percent (current prices) since the previous survey, representing a 7,5 percent y-y increase (compared to the June 2021 survey).
- In real terms earnings increased by a moderate 0,5 percent y-y (compared to the same period in 2021)
- Not all firms agreed though, as cumulative earnings for the medium size firms fell 31,6 percent in the first six months. Cumulative earnings for larger firms increased by 15.7 percent, and smaller firms by 37 percent.
- The industry may have reached its lower turning point, considering the pressure on government to not only increase infrastructure expenditure but to include the private sector as a partner. The reality is, that once infrastructure programmes kick off, many of which have been in planning for years, the turnaround in the industry can be swift.
- Earnings are expected to end flat in the second half of 2022 (compared to the first six months), with small and larger size firms particularly concerned about work flow in the latter part of 2022. Medium size firms however do expect some improvement, as earnings fell sharply in the first half that earnings will increase by between 4 and 6 percent.

FEE INCOME

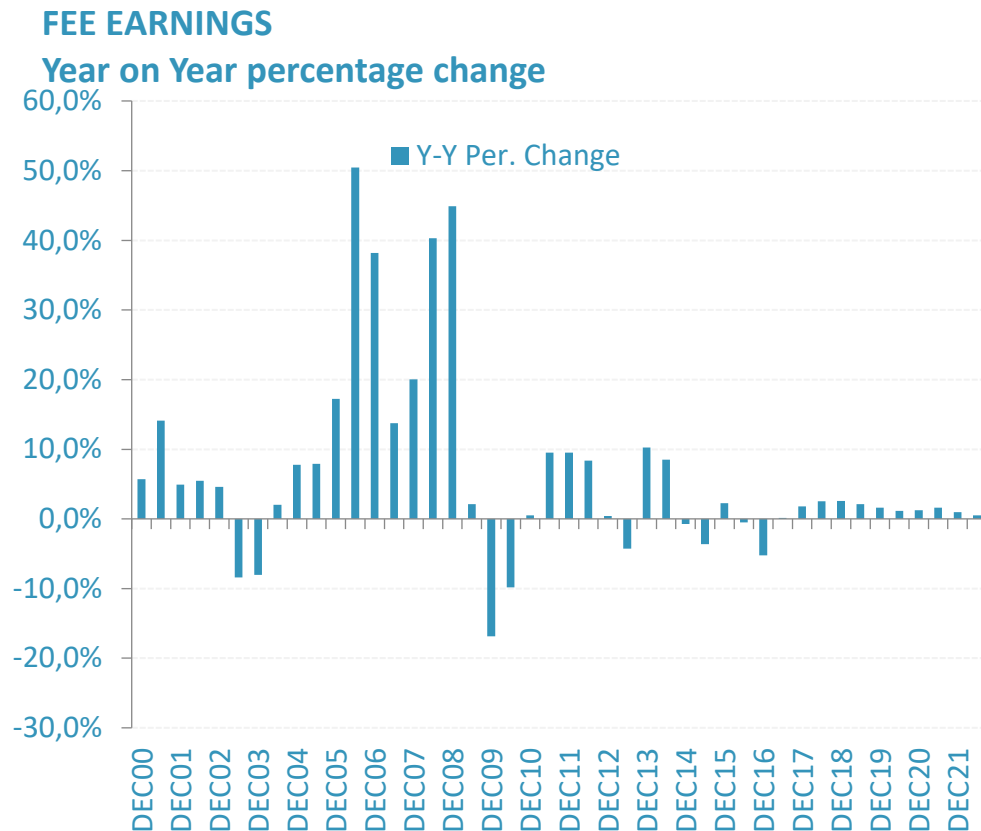
Rbn, Constant prices, Annualised



FINANCIAL INDICATORS

INCOME AND WAGE BILL

GROSS FEE INCOME: Year-on-Year percentage change (Real)



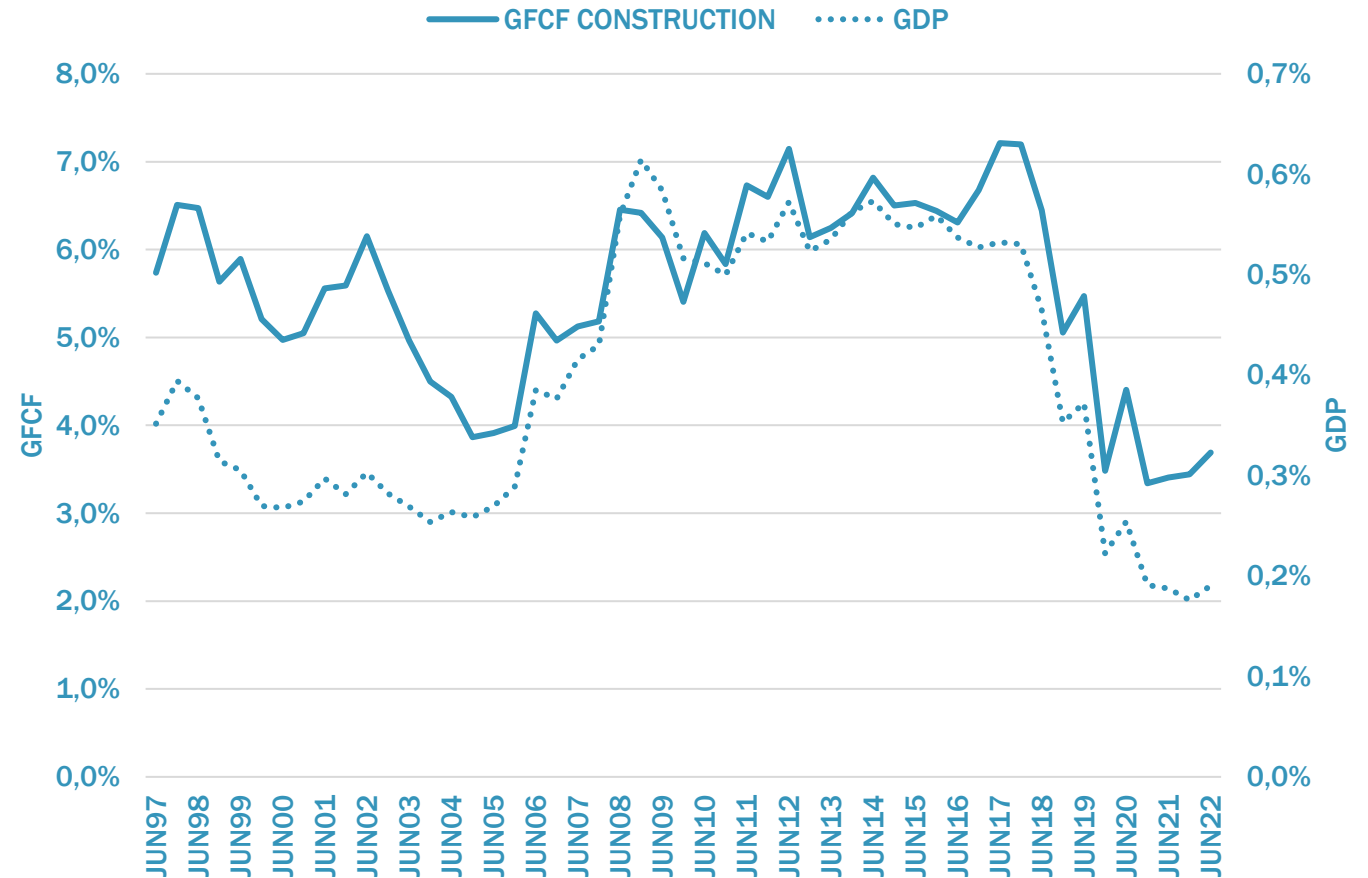
Firm size category	PROJECTED JUN 2022 (June 2022 vs Dec 2021)	ACTUAL JUN 2022	PROJECTED FOR DEC 2022
Large	12.9%	15.7%	0.1%
Medium	-1.8%	-31.6%	4.5%
Small	6.1%	37.6%	-20.1%
Micro	-11.4%	-10.4%	-11.6%
Total	11.6%	9.7%	-0.4%

FEE EARNINGS Ratio's

- Fee earnings as a percentage of GDP stabilized at 0.2 percent, from 0.5 percent in 2017. This is the lowest level dating back to 1997.
- Earnings represented 3.7 percent of GFCF in Construction, up from a record low of 3.3 percent in the previous quarter.

FEE EARNINGS RATIO

Percentage share of GDP and GFCF: Construction



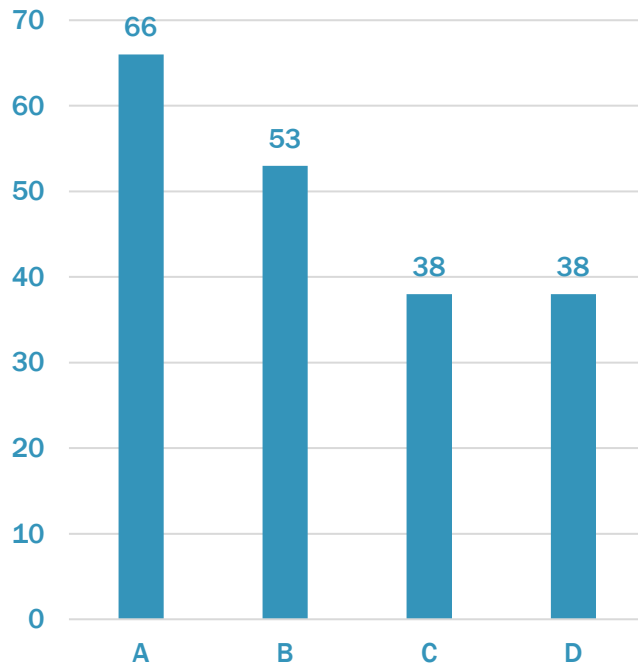
FINANCIAL INDICATORS

INCOME AND WAGE BILL

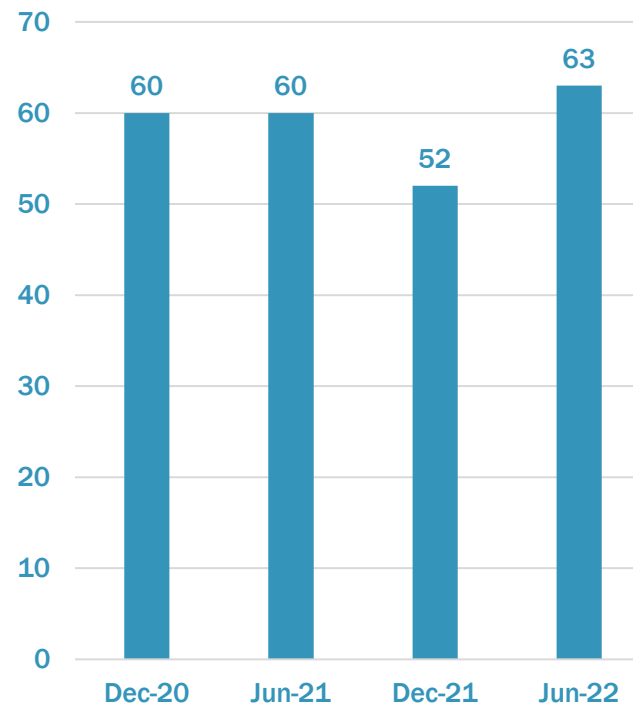
GROSS SALARY BILL

A1.1 What was the firm's **gross salary** bill for the past 6 months, (including directors' fees, monthly partners' drawings, as well as foreign staff)?

PERCENTAGE OF INCOME
Current Survey by Firm Category



PERCENTAGE OF INCOME



- The **contribution of the salary and wage bill to fee earnings** generally averages between 63 percent and 66 percent but fell to 52 percent of total income in the Dec-21 survey, returning to 63 percent in the current survey. There are some disparities in the salary and wage bill in relation to earnings, amongst the different firm size categories. The contribution of the salary and wage bill was the highest amongst larger firms, at 66 percent, slightly above the industry average, while the medium sized firms averaged 53 percent.
- The overall gross salary and wage bill increased by 9.0 percent, with larger firms reporting the highest increase of 11 percent – in line with higher employment. Medium size firms reported a cumulative 4 percent drop in their salary and wage bill, with little movement reported by the smaller and micro businesses.

FINANCIAL INDICATORS

FEES OUTSTANDING

A1.4 What is the total Rand value (please note: no percentages) of outstanding fees payable for work already completed and invoiced? The period outstanding is measured from when payment for services rendered is due.

Firm size category	Total Gross Fee Earnings	Outstanding fee income already invoiced	Proportion of overall income
Large	1,765,957,602	1,445,226,217	82%
Medium	244,768,243	130,234,245	53%
Small	88,175,024	26,166,721	30%
Micro	34,927,282	6,352,930	18%
Total	2,133,828,152	1,607,980,513	75%

- On average 75 percent of earnings already invoiced were still outstanding at the time of the survey. This ratio increased from 45 percent in the last six months of 2021 and 54 percent comparable to the same period last year.
- Overall, the larger firms had the highest value of outstanding fees already invoiced, accelerating from 60 percent to 82 percent of earnings.

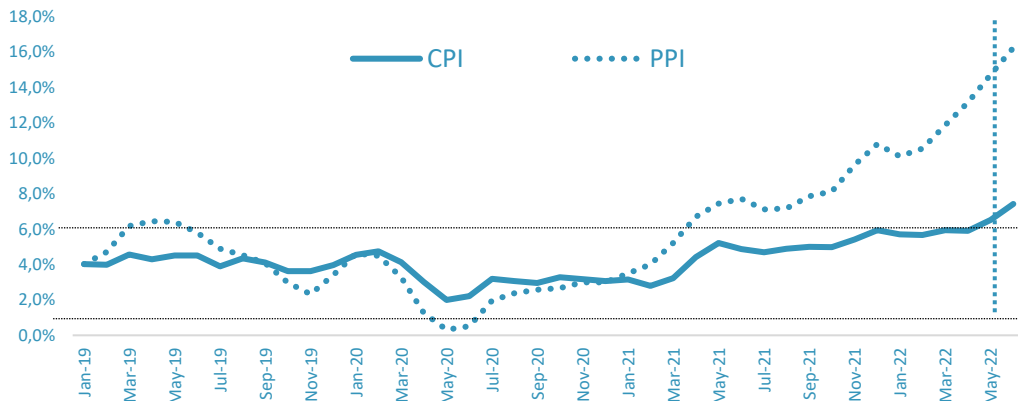
FINANCIAL INDICATORS

INCOME AND WAGE BILL

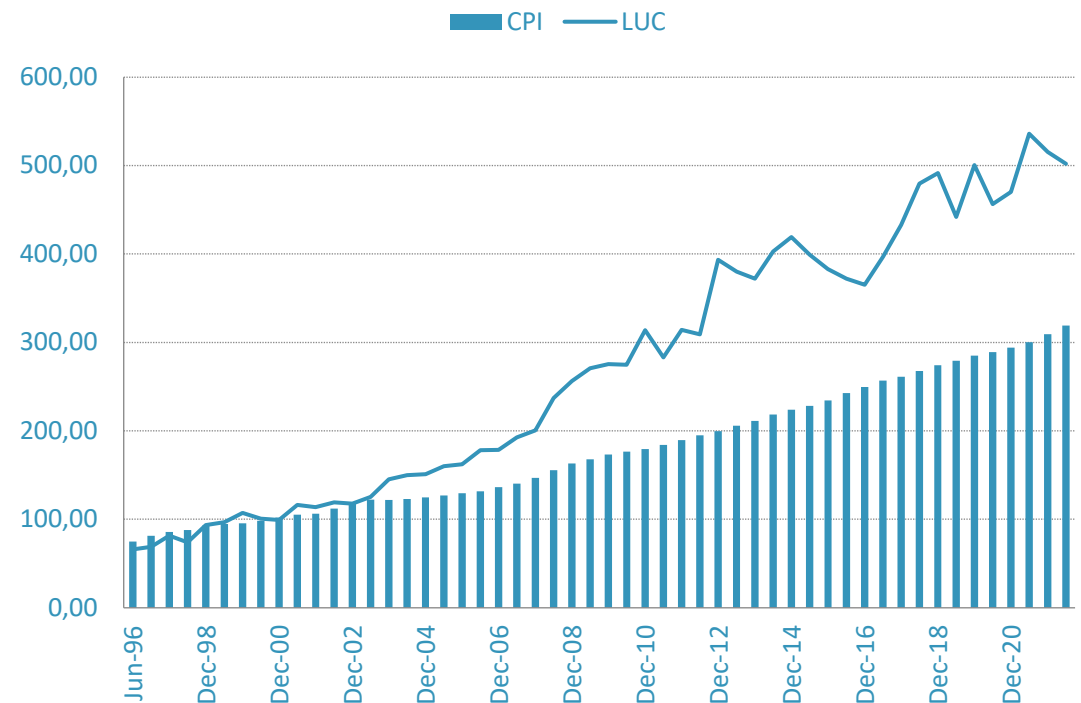
LABOUR COST PER UNIT

- The average **labour cost per unit index** (measured by the average salary and wage bill divided by number of full and part time employees and hours worked), fell by 6.4 percent in the June 2022 survey, following an increase of 9.7 percent in the previous survey, compared to the same period in 2021.
- **Consumer Inflation** averaged 6,3 percent in the first six months of 2022 (from an average of 5.2 percent in the last six months of 2021). Inflation accelerated faster than expected and breached the upper 6 percent target in May 2022.

GROWING INFLATIONARY PRESSURES



CESA LABOUR UNIT COST INDICATOR VS CPI
Index 2000 = 100



FINANCIAL INDICATORS

OUTSOURCE

A1.5 WHAT % OF YOUR TOTAL TURNOVER FOR CONSULTING SERVICES ONLY (GROSS FEE INCOME PLUS SUB-CONSULTANT FEES) WAS OUTSOURCED TO:

External Enterprises or individuals including sub consultants, JV's and contract workers

• 17% (Dec-21 19,1%)

Procurement / Transformation purposes

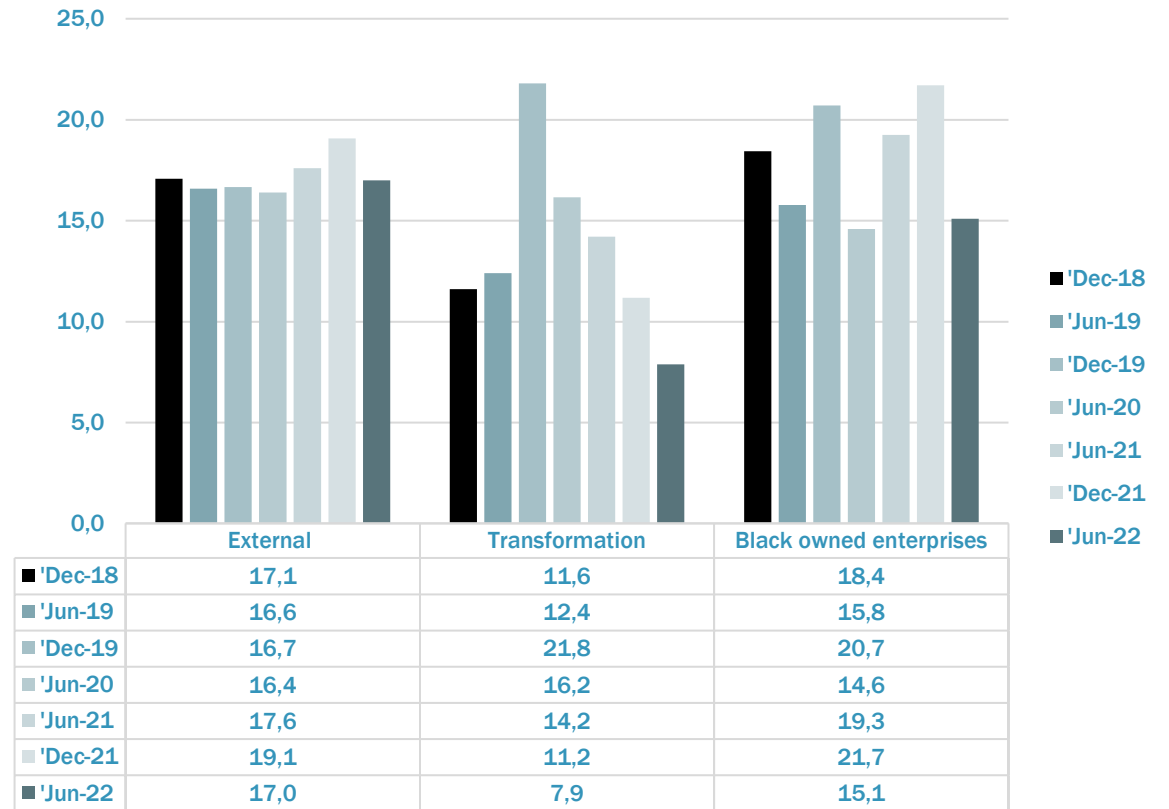
• 7,9% (Dec-21 11,2%)

Black owned enterprises

• 15,1% (Dec-21 21,7%)

Percentage	EXTERNAL	TRANSFORMATION	BLACK OWNED ENTERPRISES
A	19.7	25.6	25.3
B	13.5	5.3	8.3
C	16.1	3.8	19.4
D	20.2	2.2	8.9
TOTAL	17.0	7.9	15.1

PERCENTAGE OF TURNOVER OUTSOURCED



FINANCIAL INDICATORS

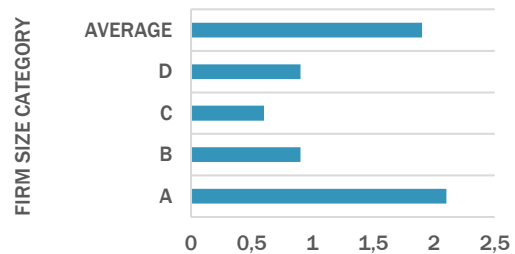
ORDER BOOK

A1.6 What is the value of outstanding (not yet invoiced) fee income for confirmed appointments in your firms' order book, excluding sub-consultants or JV partners?.

RBN, CURRENT PRICES

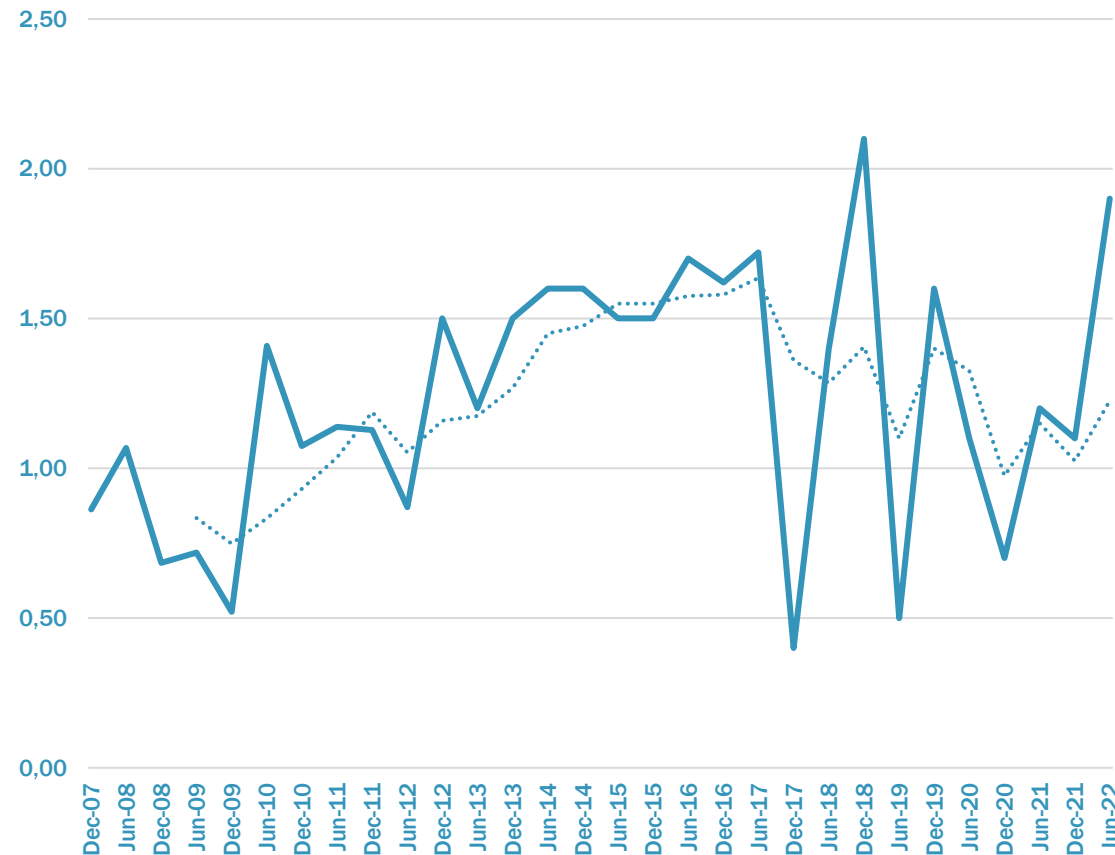


ORDER BOOK TO INCOME RATIO



	A	B	C	D	AVER AGE
ORDER BOOK TO INCOME RATIO	2,1	0,9	0,6	0,9	1,9

ORDER BOOK TO CURENT EARNINGS RATIO



- The order book to income ratio increased to 1.9, the highest level since December 2018 (2.1).
- The ratio for larger firms increased to 2.1, suggesting the value of the confirmed order book was more than double the reported earnings in the first 6 months of 2022.
- Overall the nominal rand value of confirmed appointments increased by 22 percent in the first six months of 2022 compared to the second half of 2021 and this was 47 percent higher compared to the comparable period last year.

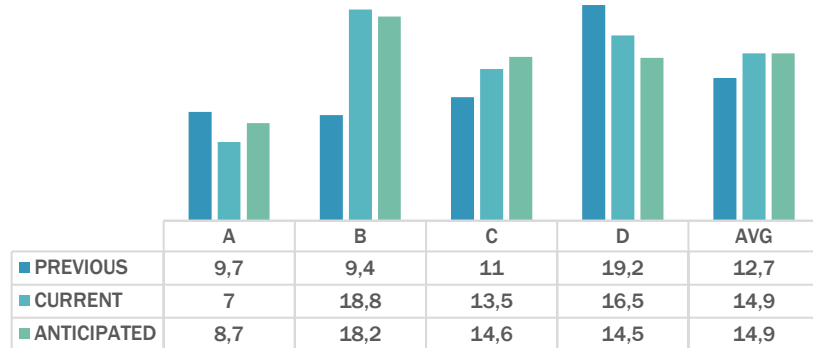
Please note: The analysis includes information from only those participants that have submitted returns consecutively for the past 3 surveys (representing approximately 50 percent of the firms that responded in the current survey) to show comparative trends within a consistent sample of firms.

FINANCIAL INDICATORS

PROFIT

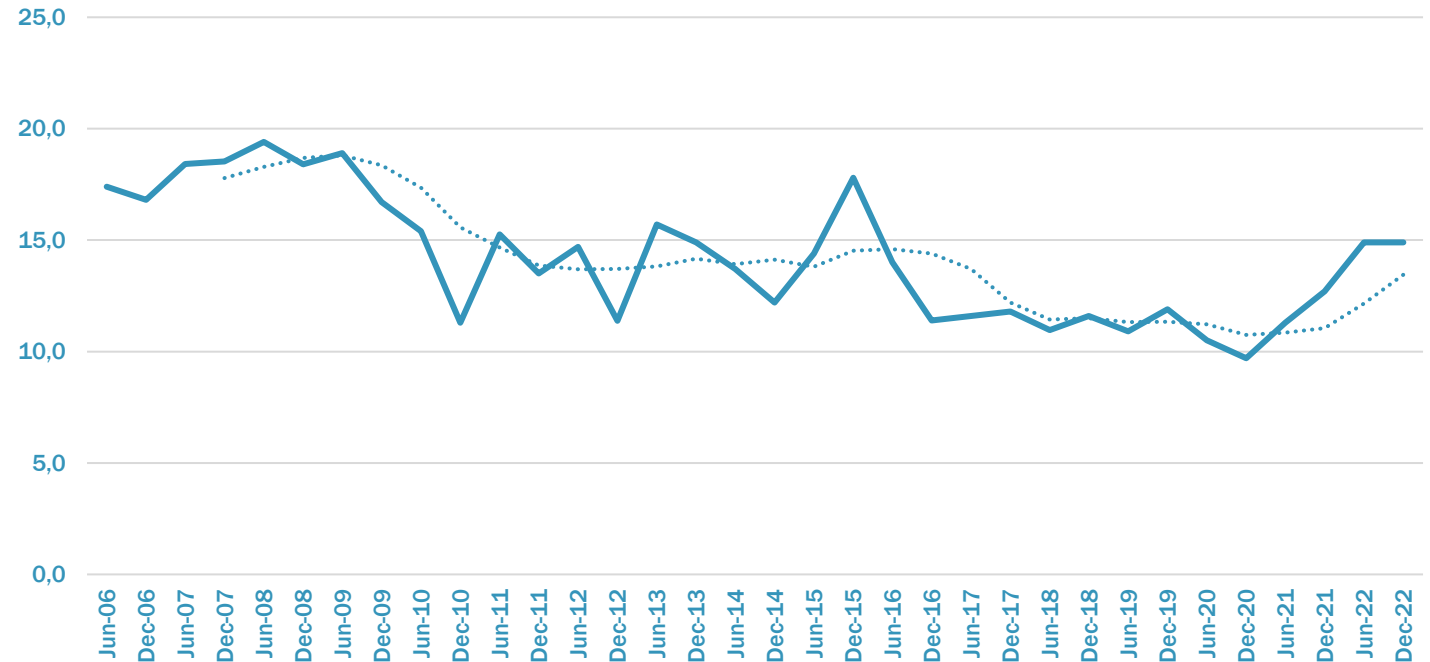
A1.11/12 WHAT WAS YOUR NETT PROFIT (BEFORE TAX) AS A % OF TOTAL TURNOVER OVER THE PAST 6 MONTHS AND YOUR ANTICIPATED NETT PROFIT (BEFORE TAX) FOR THE FOLLOWING SIX MONTHS

AVERAGE NETT PROFIT (BEFORE TAX)
Percentage of turnover



- Nett profit (before tax) as a percentage of turnover improved from an average of 12.7 percent to 14.9 percent with particularly medium to smaller size firms showing the strongest increase.
- Average margins for larger firms moderated slightly.
- The outlook is stable for the next 6 months, with not much movement expected, averaging around 15 percent, with a marginal improvement expected by larger firms.
- Margins are currently at the highest level since 2015, but remains below the peak of 2007/08.

NETT PROFIT (BEFORE TAX)
Percentage of turnover

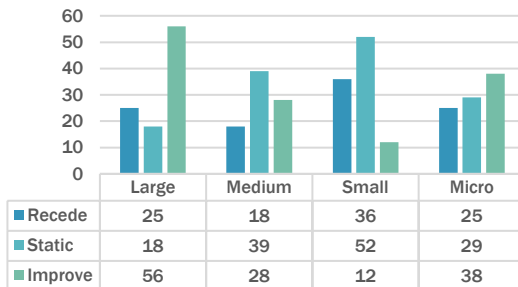


FINANCIAL INDICATORS

PROFIT

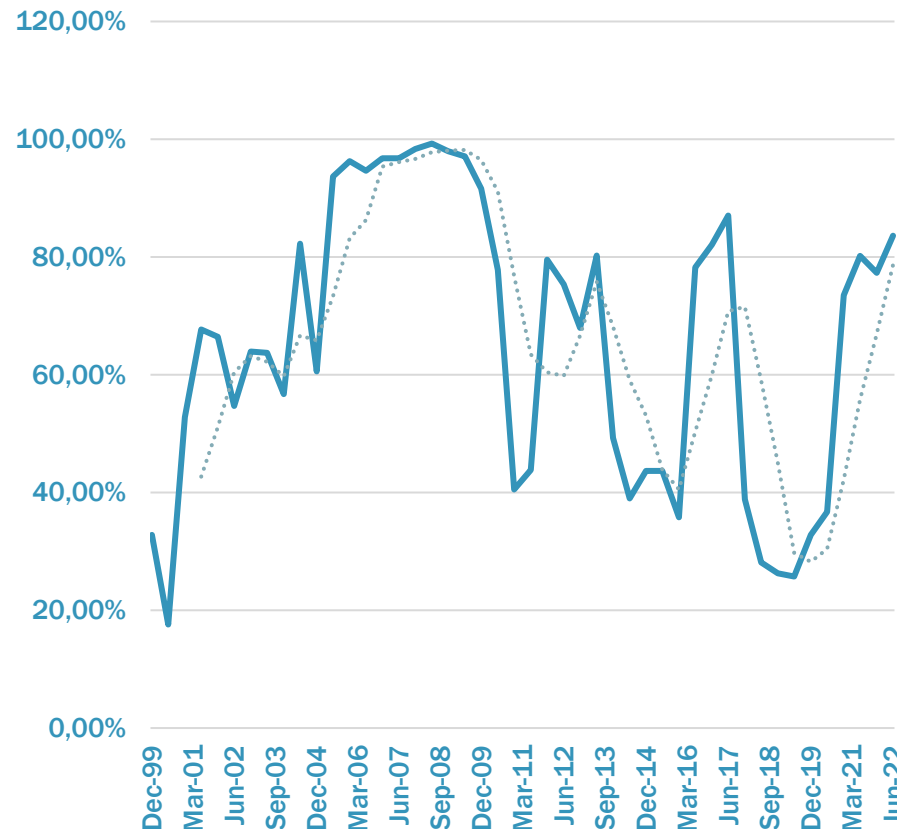
D1.5 During the survey period the developing trend of profit margins were:
Receding, Static, Improving

- The satisfaction rate improved to 83.6 percent in the current survey from 77.3 percent in the previous survey and 80.2 percent in the first six months of 2021 (well above the 5-year average prior to Covid-19 when it was around 47 percent).
- Fewer firms reported unsatisfactory levels, 16.4 percent, the lowest percentage since 2016/17.
- Majority firms expect margins to improve (51.3 percent), with the remainder split between either receding or stabilising.
- Larger firms are more optimistic regarding further improvement margins (considering they also have the lowest average margins), while majority of the medium firms expecting margins to either stabilise or improve.

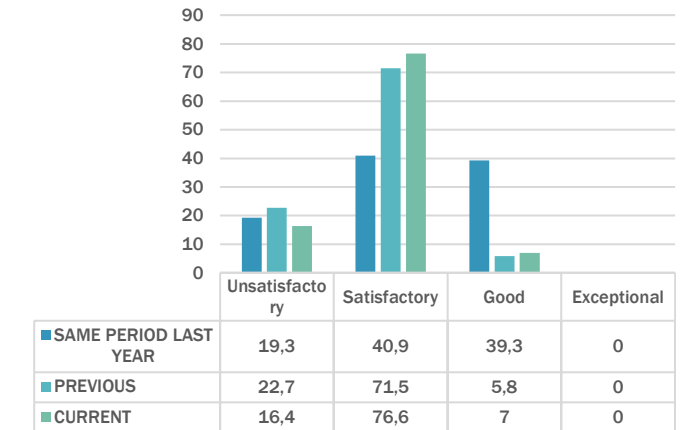


D1.6 During **profit margins** were:
Unsatisfactory, Satisfactory, Good, Exceptional

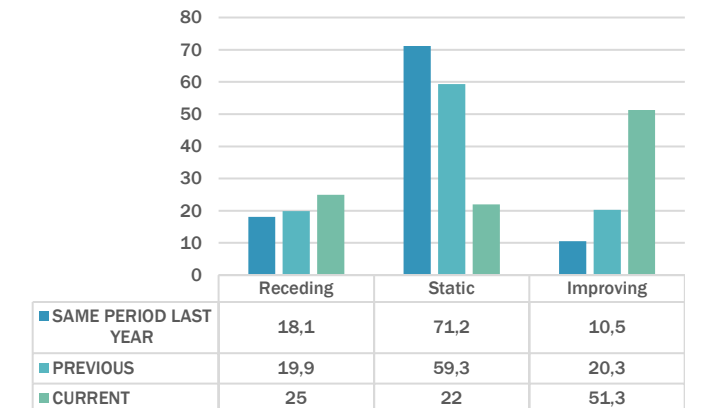
PROFITABILITY: SATISFACTION RATE Including Satisfactory, Good, Exceptional



PROFIT MARGINS SATISFACTION RATES



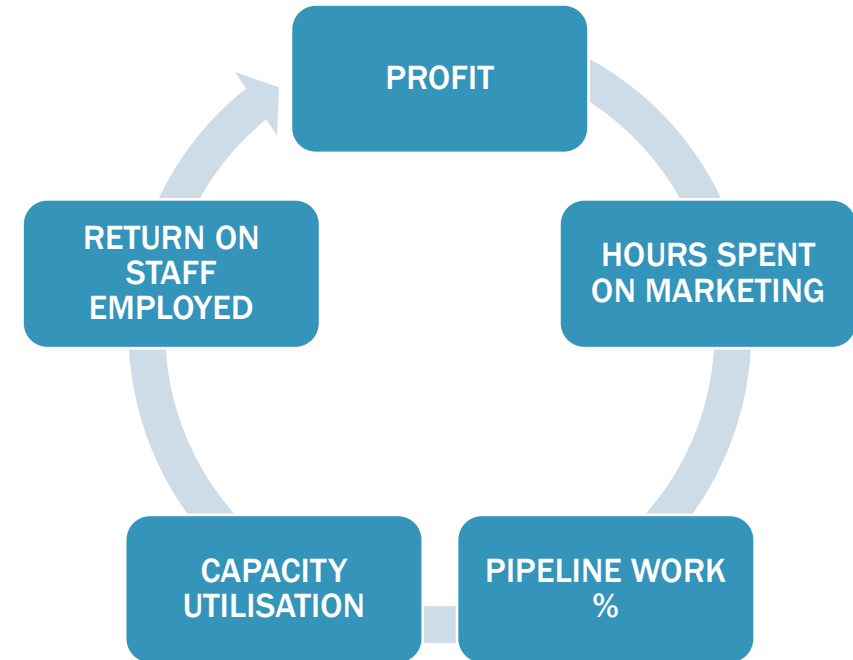
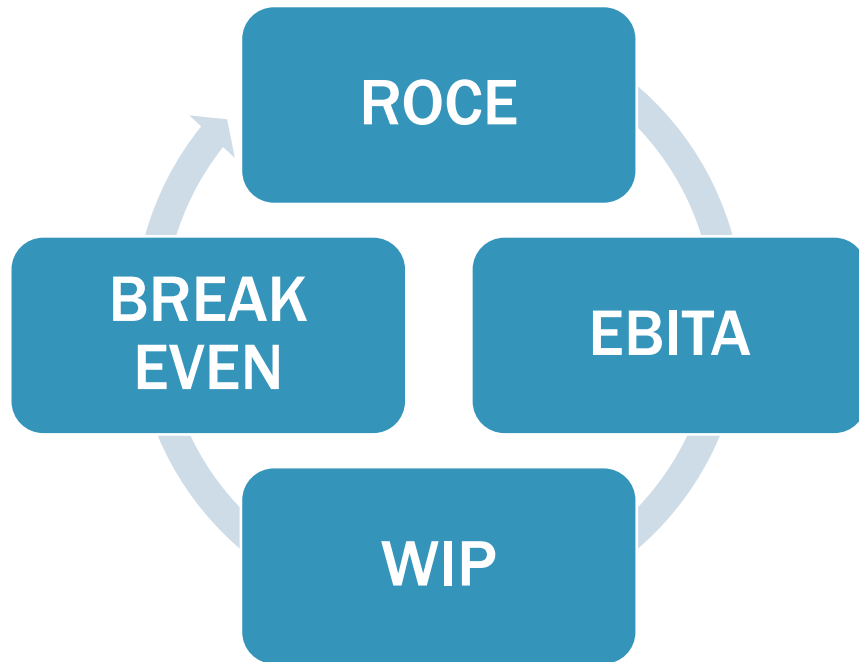
PROFIT DEVELOPING TRENDS



BENCHMARKING INDICATORS

Special Addendum

Firms employing > 100 people



Please contact CESA offices for further information

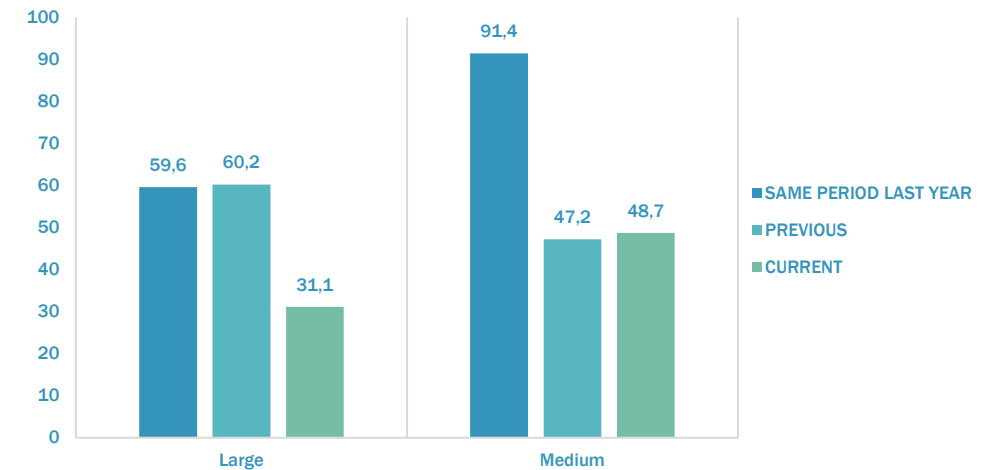
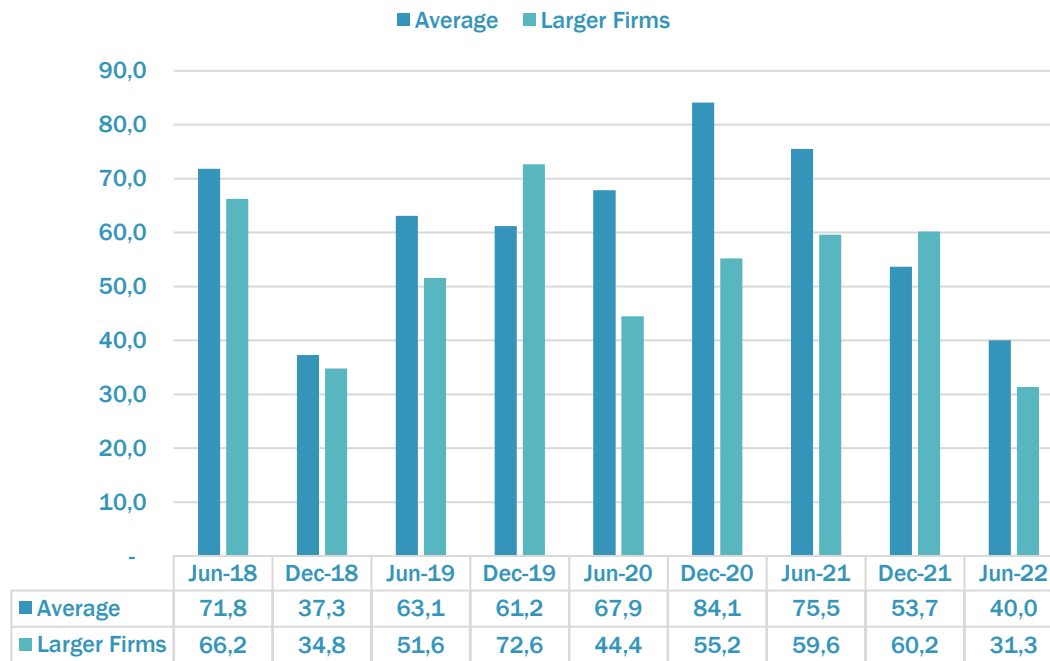
BENCHMARKING INDICATORS

WORK IN PROGRESS

A1.10 Indicate your **Work in Progress (WIP) (days)** for the past six months by using the following formula:
 Work in Progress (days) = (WIP as at date of reporting / (Direct + Indirect Cost) x Reporting days

WIP DAYS

Average (Excluding Small to Micro firms)



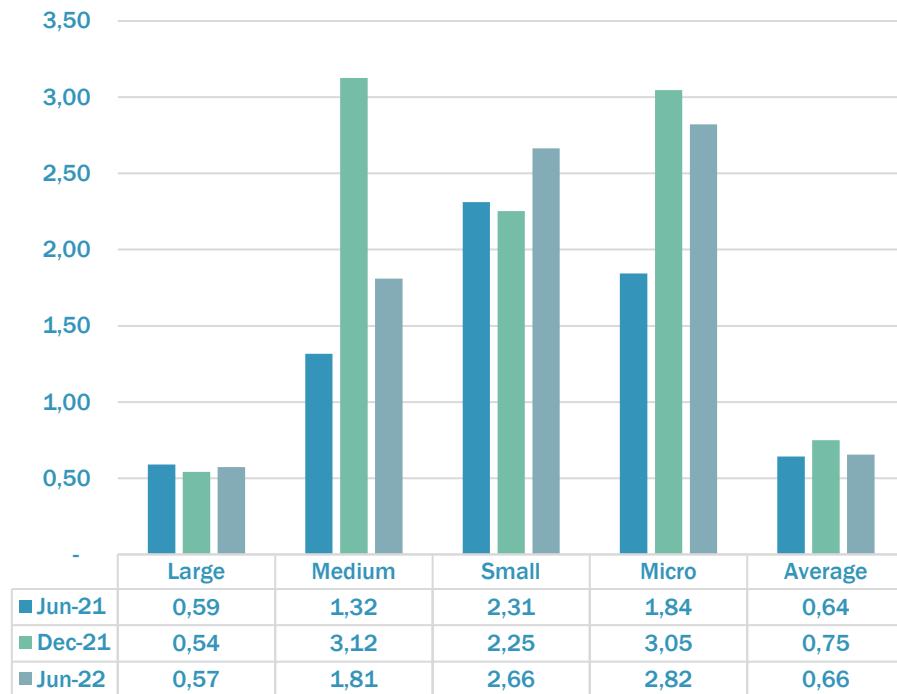
BENCHMARKING INDICATORS

BREAK EVEN REVENUE

A1.11 Indicate your **Break-even revenue (in Rands)** for the past six months by using the following formula: Break even revenue = (Operating expenses/ Gross profit margin %)

A break-even ratio of below 1.0 suggests a company is making insufficient revenue to break even, while a ratio above 1.0 suggests the company is making sufficient revenue to break even (and more). This new question was added to the survey in the previous edition, and as such trend lines are not yet available.

AVERAGE BREAK EVEN RATIO

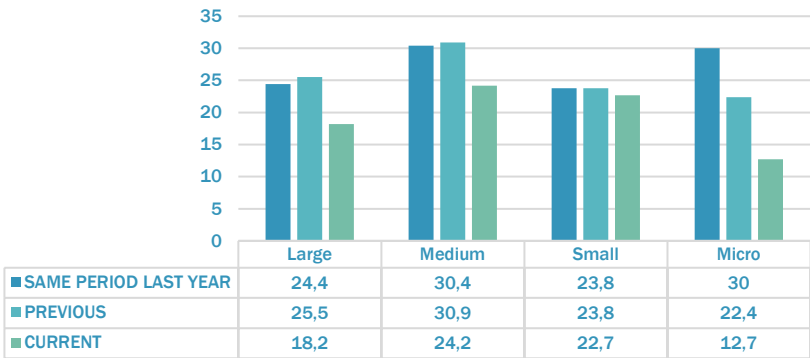


- The cumulative average break-even revenue ratio for larger firms improved slightly to 0.57 from 0.54 in the previous survey. Despite encouraging improvements in the first six months of 2022, conditions remain challenging for larger firms.
- The average break-even ratio for medium, small and micro firms moderated back to levels more on par with June 2021, albeit moderately higher.
- Conditions were more challenging at the higher end of the market (due to economies of scale) where margins are potentially lower as well, with the lack of higher value projects over the last few years, making that segment of the market highly competitive.

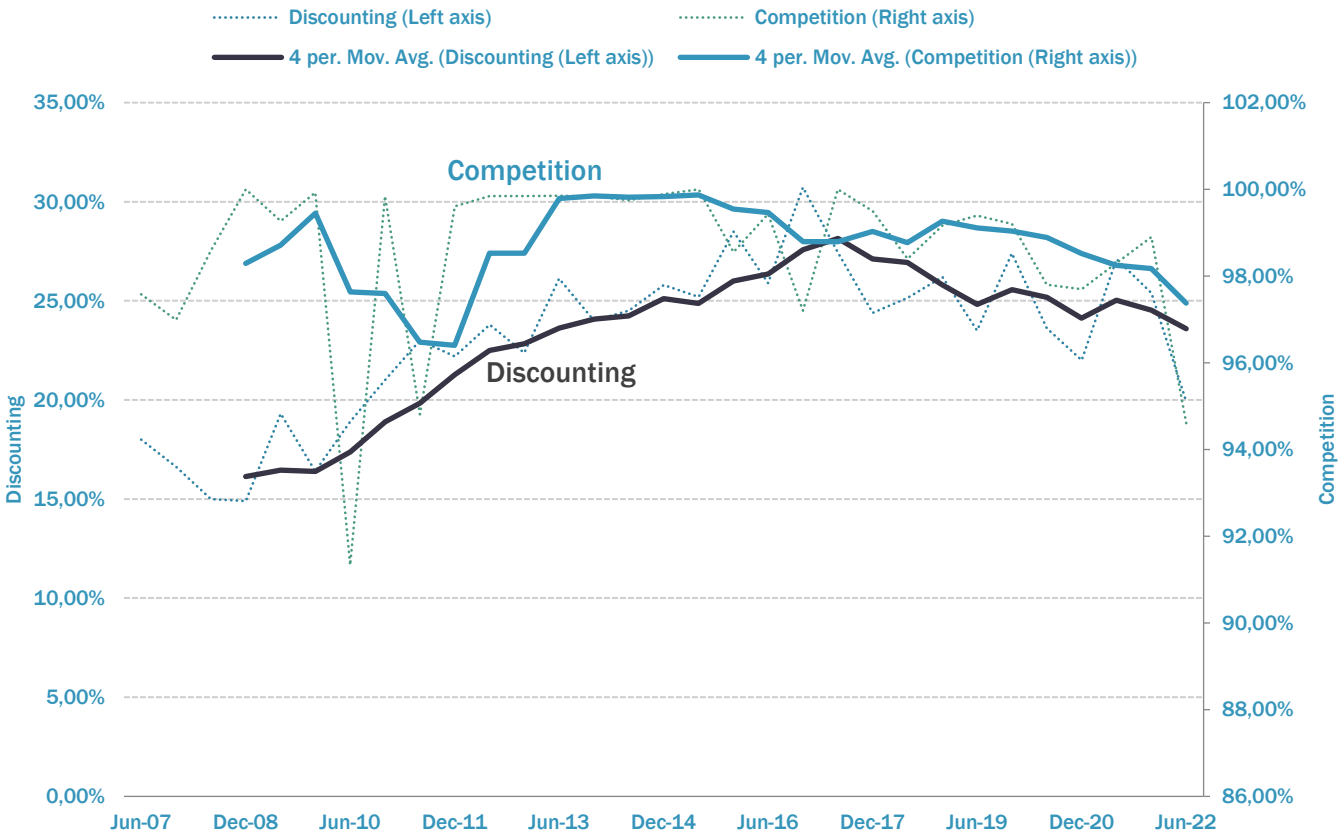
FINANCIAL INDICATORS

DISCOUNTING

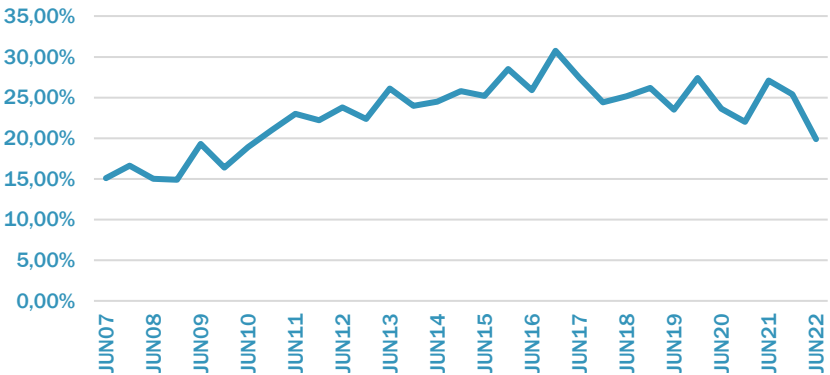
A1.13 What is the prevailing discount being offered in a tendering situation to clients by your firm, benchmarked against the ECSA Guideline Fee Scales?



IMPACT OF COMPETITION ON DISCOUNTING



DISCOUNTING



BUSINESS CYCLE INDICATORS

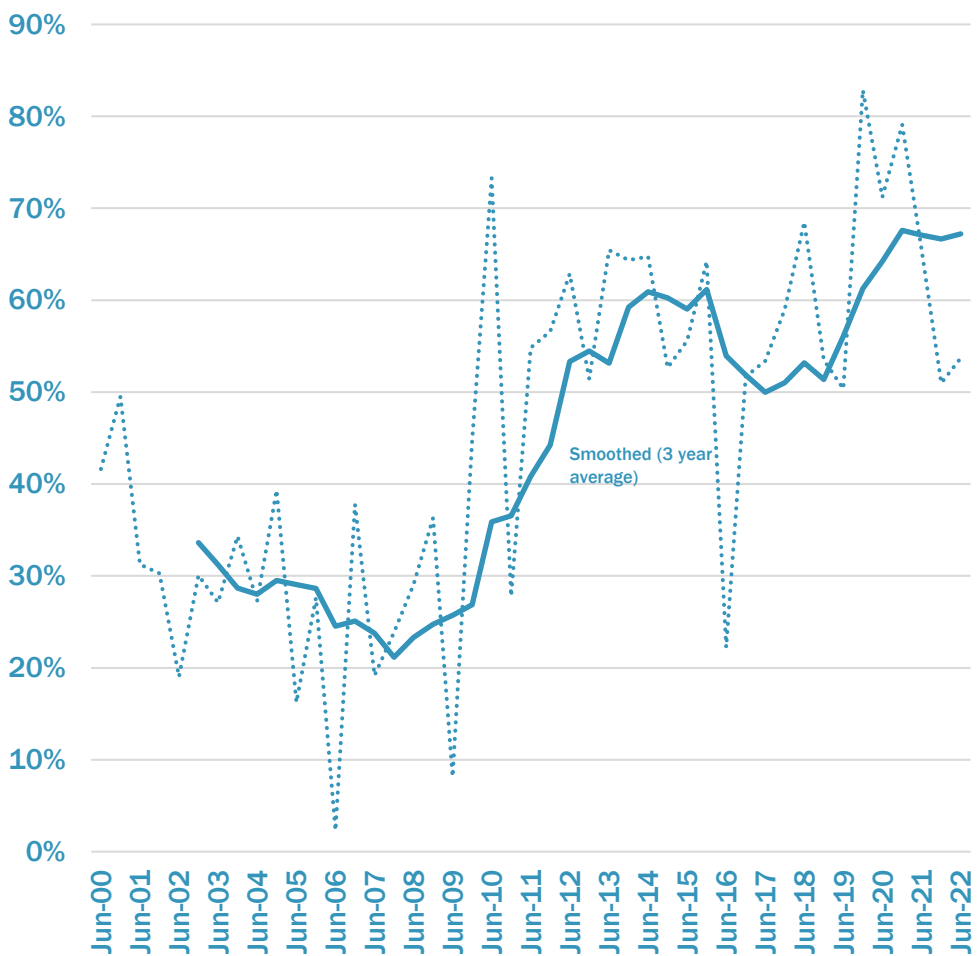
COMPETITION

D1.4 During the survey period **competition** for work was:
Very low, Low, Keen, Very Keen, Fierce

Current Survey	Very low	Low	Keen	Very Keen	Fierce	Very keen to Fierce
Large	0.0%	0.0%	4.1%	34.2%	59.0%	93.1%
Medium	0.0%	0.0%	28.3%	32.5%	24.4%	56.9%
Small	10.1%	17.9%	22.3%	17.3%	32.4%	49.7%
Micro	0.0%	27.7%	30.8%	16.9%	24.6%	41.5%
Industry Average	0.4%	1.2%	7.9%	33.0%	53.7%	86.7%

- Competition in tendering has gradually accelerated since 2018/19 (albeit quite volatile from survey to survey), but after peaking at 82 percent of firms, stating competition as being fierce, in the last six months of 2019, opinions slowed to around 50 percent in the last six months of 2021, gradually increasing to 53.7 percent in the current survey.

Percentage of respondents that reported “Fierce” competition



FINANCIAL INDICATORS

Capacity, Discounting and 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 Very Keen to FIERCE Competition for work during the first six months
Large	75.3%	33.4%	18.2%	93.1%
Medium	89.6%	33.3%	24.2%	56.9%
Small	83.5%	39.7%	22.7%	49.7%
Micro	64.0%	27.7%	12.7%	41.5%
Industry Average	79.6%	33.6%	19.9%	86.7%

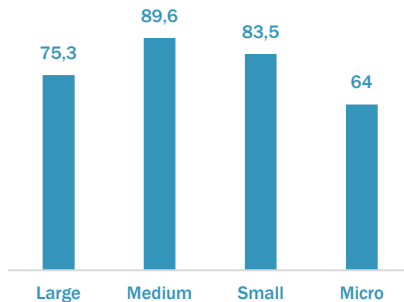
FINANCIAL INDICATORS

CAPACITY UTILISATION

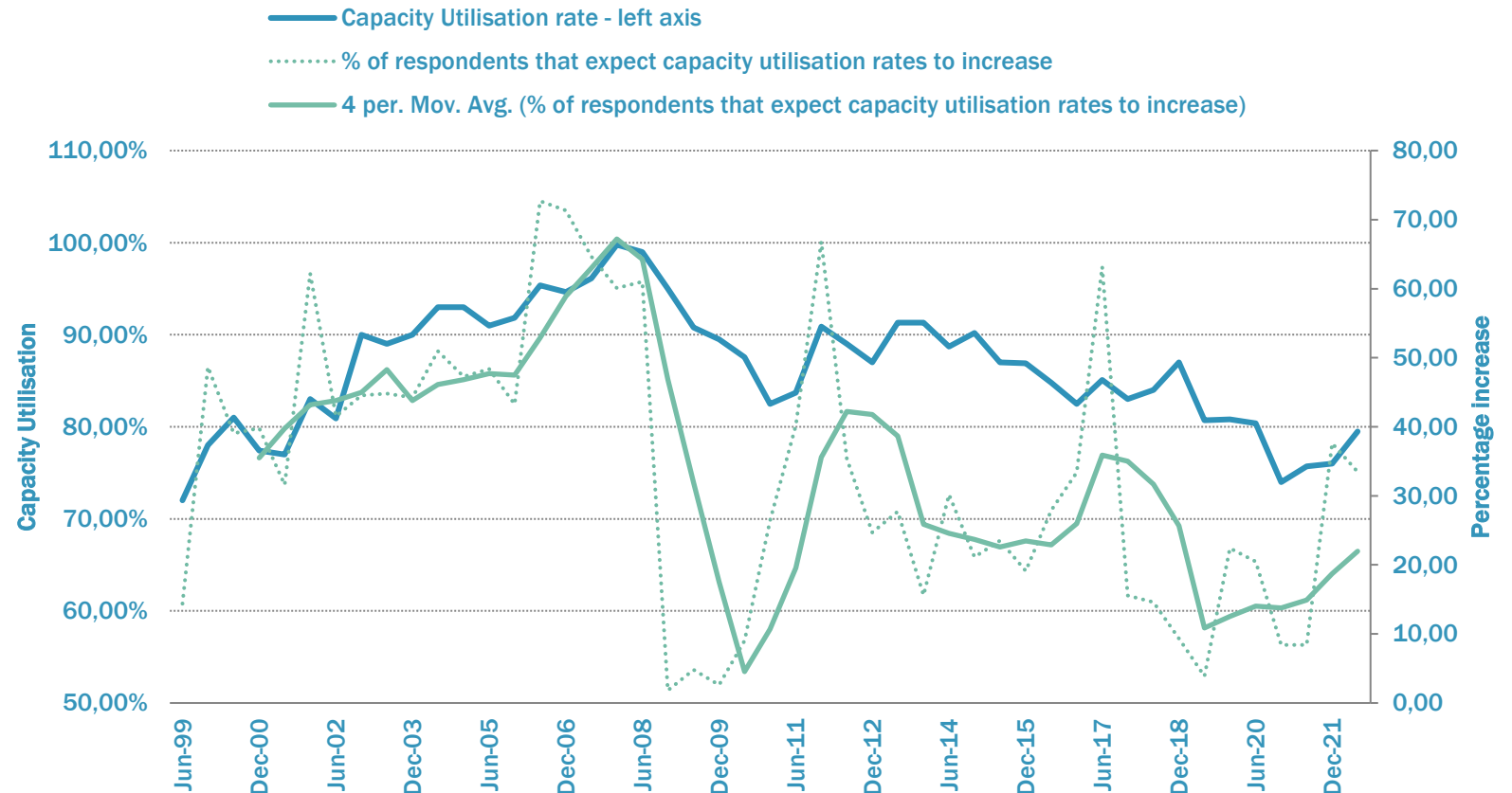
A1.14/15 Capacity utilisation of existing technical staff during the past 6 months and how will it change over the next 6 months?

- Capacity utilisation of technical staff, steadily decreased from 2013 and dropped to its lowest level from 1999 to 74 percent in the Dec 2020 survey. Since then, utilisation has slowly improved reaching **80 percent in the June 2022** survey.
- Over a third of respondents expect utilisation to further increase, slightly lower from the second half of 2021, with majority expecting levels to remain stable.
- Less than 1 percent expect a decrease in the second half of 2022.

CURRENT SURVEY



CAPACITY UTILISATION RATE



FINANCIAL INDICATORS

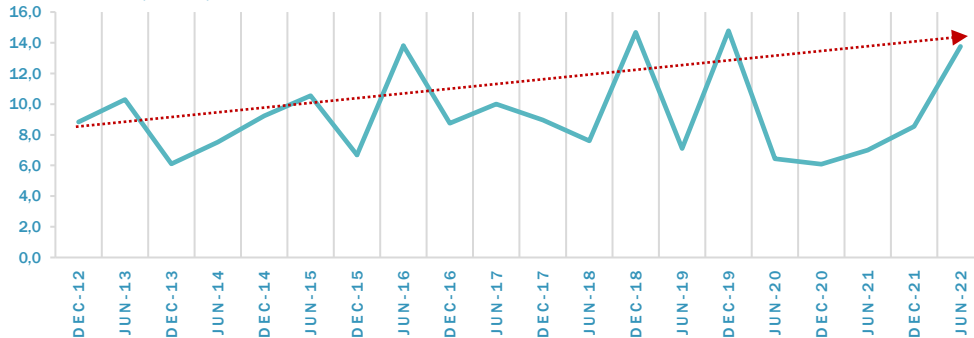
MARKETING / FORECAST PIPELINE

B1.1 Indicate the hours (time) spent on marketing (including bidding and preparation of proposals) as a % of total hours worked

Marketing or proposal time booked

Standard hours – non project time

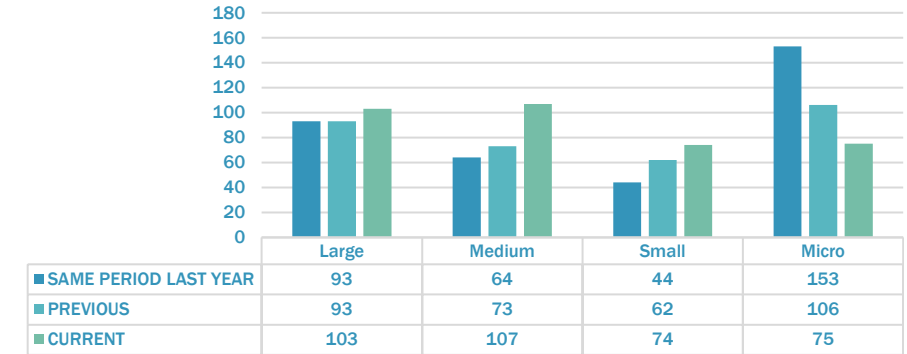
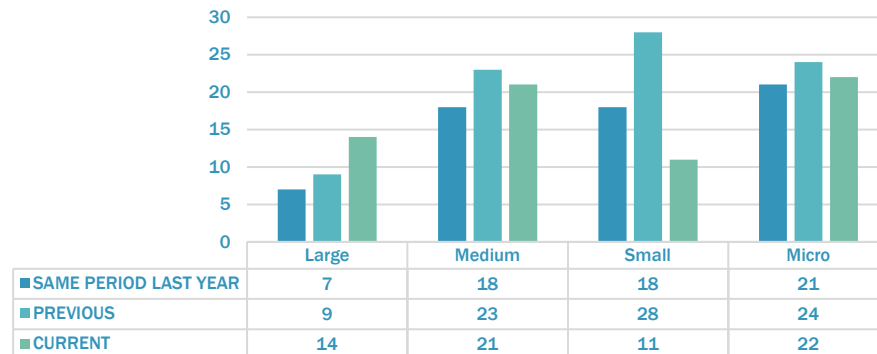
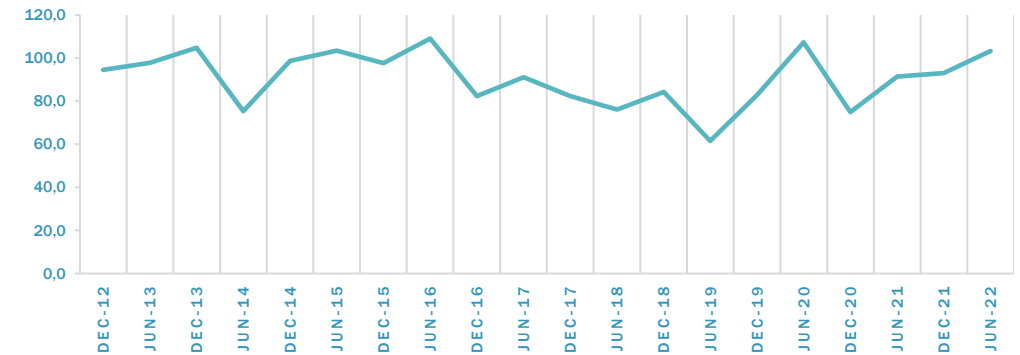
HOURS SPENT MARKETING %
LARGER FIRMS (>100)



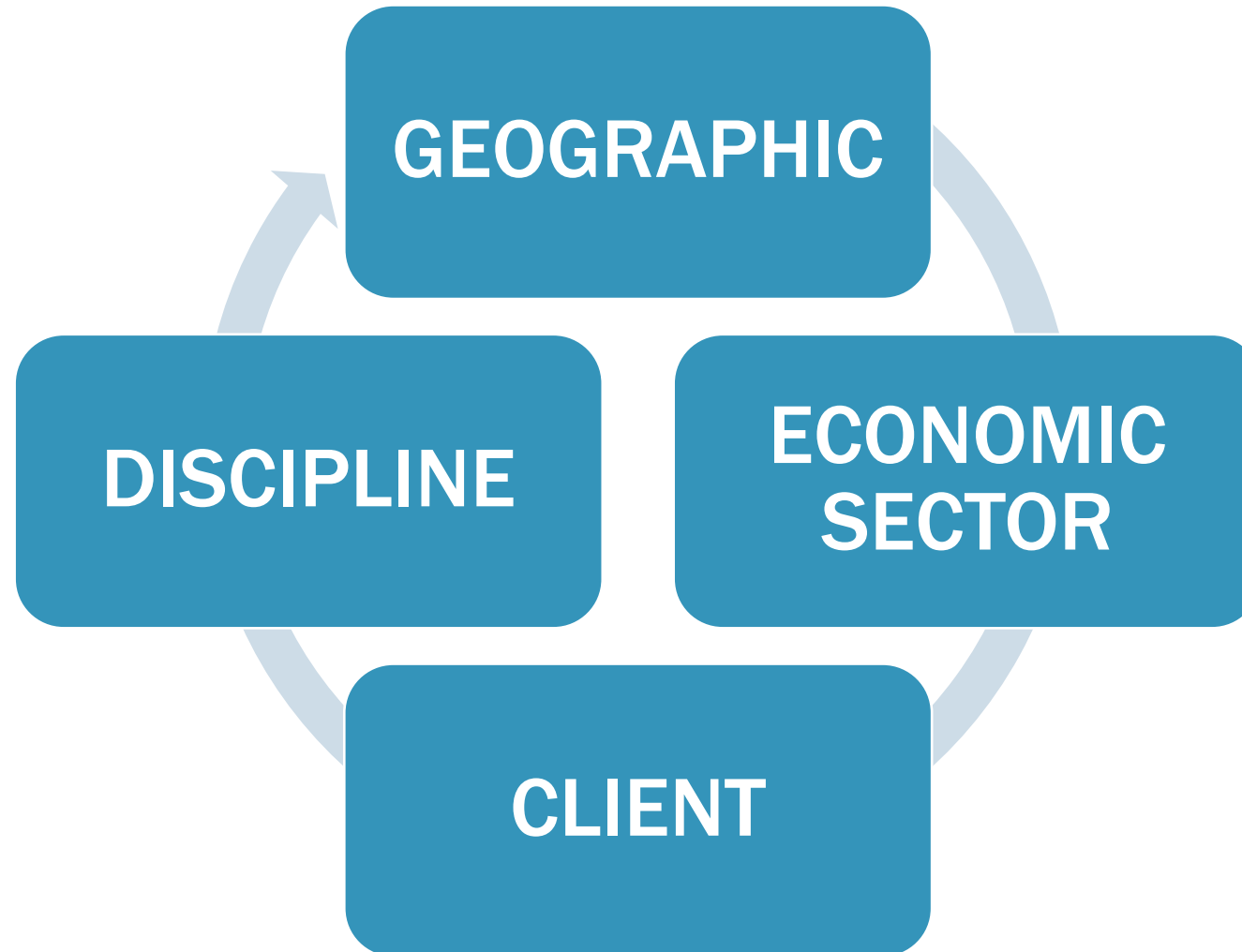
B1.2 What is your forecast of pipeline work

(Fee value secured appointments at END of reporting period / fee value of secured at START of reporting period) *100

PIPELINE WORK



SALIENT FEATURES

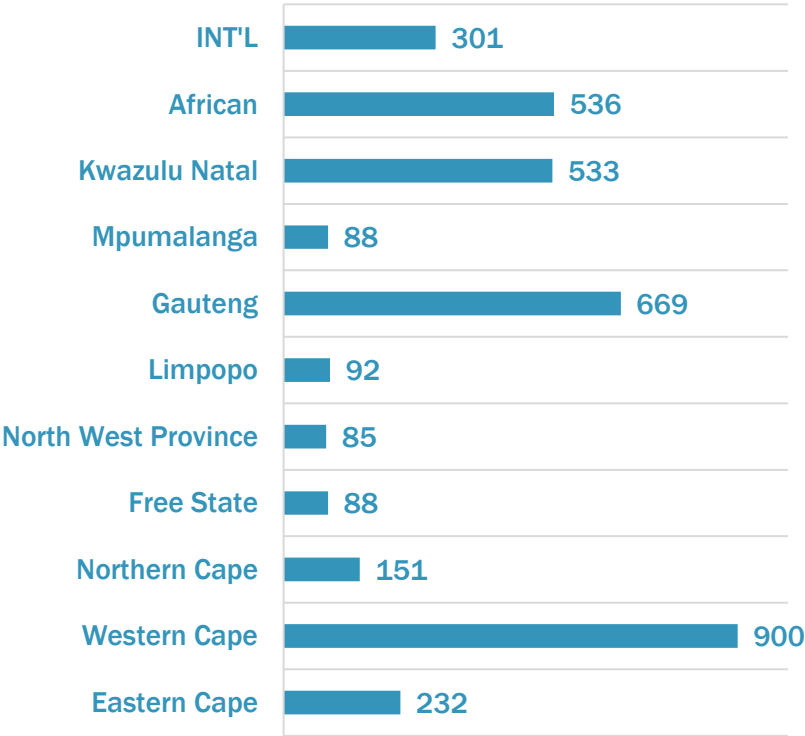


SALIENT FEATURES

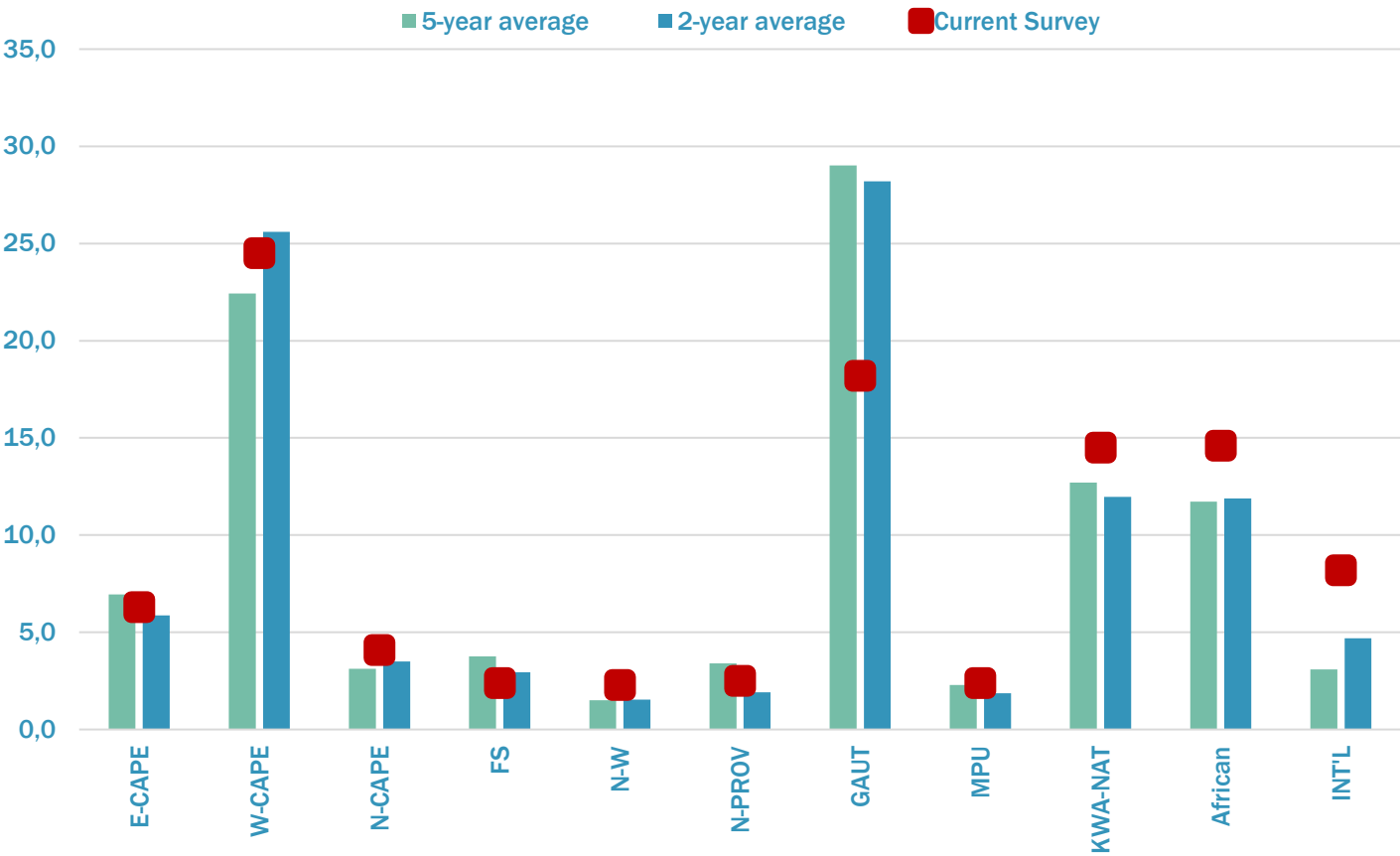
GEOGRAPHIC DISTRIBUTION

C1.1 Income distribution per area, during the past 6 months (note: the **location of the project** defines where income is earned)

ESTIMATED FEE EARNINGS
Rand millions, by area: JAN – JUN 2022



PROVINCIAL DISTRIBUTION OF FEE EARNINGS

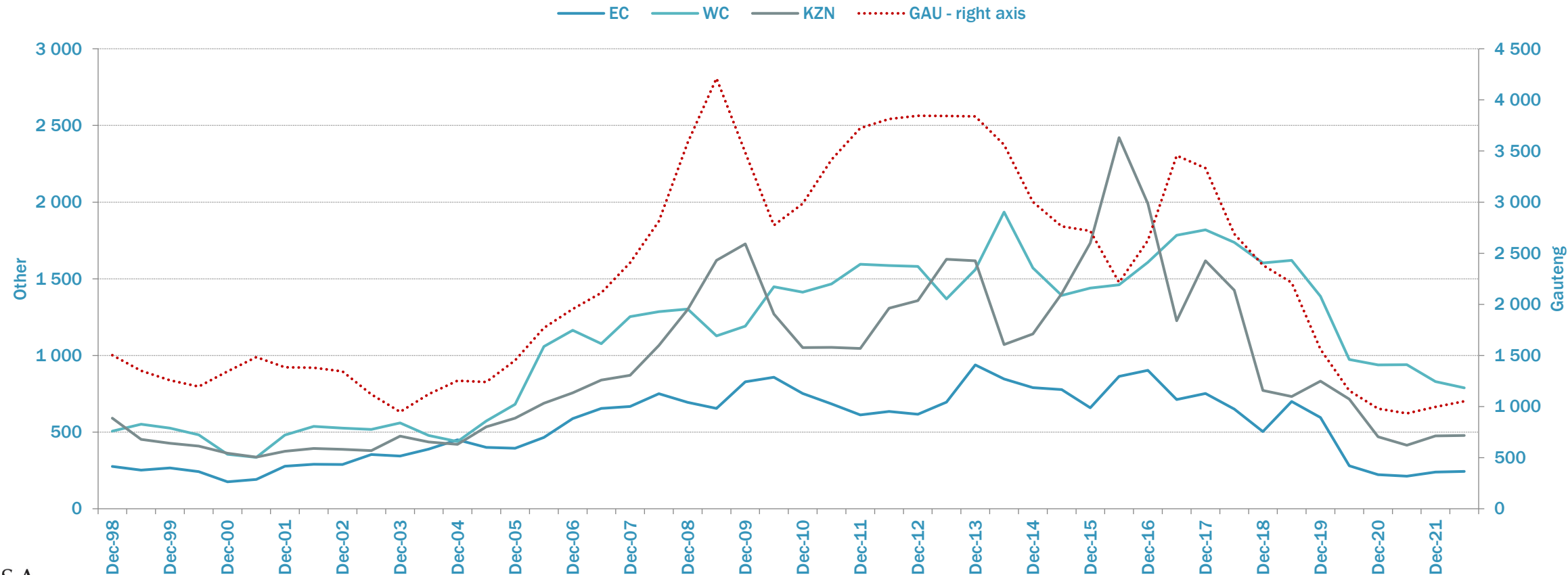


SALIENT FEATURES

GEOGRAPHIC DISTRIBUTION

C1.1 Income distribution per area, during the past 6 months (note: the **location of the project** defines where income is earned)

FEE EARNINGS – HIGH CAPACITY PROVINCES
Rm, 2000 prices (Smoothed, 2 survey period average)



SALIENT FEATURES

GEOGRAPHIC DISTRIBUTION

Distribution of Fee Earnings: Percentage
CURRENT SURVEY

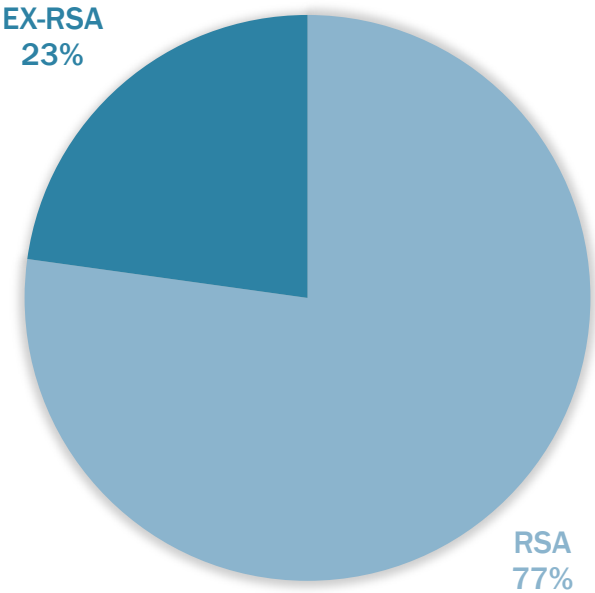
	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22
Eastern Cape	8.4	6.5	6.0	10.5	7.1	6.8	7.7	5.5	7.2	12.1	6.7	6.3	4.5	6.5	6.2	6.3
Western Cape	12.4	14.3	13.0	14.8	16.6	18.2	16.9	18.9	21.1	23.8	23.0	22.3	25.8	19.7	34.6	24.5
Northern Cape	3.1	1.8	1.6	3.2	2.8	1.9	1.4	1.8	2.0	7.2	3.0	2.5	5.1	3.4	3.0	4.1
Free State	2.7	5.5	3.6	3.2	5.4	5.7	5.1	2.5	4.3	4.7	3.5	3.9	3.5	2.3	2.1	2.4
North West	2.7	2.7	1.7	3.1	1.4	1.4	2.0	1.2	1.3	1.4	1.6	1.3	1.5	1.7	1.7	2.3
Limpopo	3.5	2.1	3.8	2.2	4.9	3.1	2.6	13.9	1.9	2.3	2.5	2.0	1.6	2.5	1.6	2.5
Gauteng	24.6	28.4	23.2	18.8	32.6	34.8	29.5	25.4	34.9	26.7	26.0	27.8	34.0	31.3	19.7	18.2
Mpumalanga	3.7	3.1	4.0	6.1	4.1	2.7	3.0	3.5	2.1	1.2	3.0	1.7	1.2	1.9	2.7	2.4
Kwazulu Natal	12.1	14.8	18.0	28.2	10.5	13.4	17.8	11.0	7.7	12.5	16.8	16.5	9.6	12.1	9.7	14.5
South Africa Sub-Total	73.2	79.2	74.9	90.1	85.4	88.0	86.0	83.7	82.5	91.9	86.1	84.3	86.7	81.4	81.3	77.2
African	15.8	13.3	16.5	8.2	12.1	10.9	12.2	13.2	17.0	7.5	8.9	12.7	11.5	12.8	10.6	14.6
International	11.0	7.5	8.7	1.7	2.5	1.1	1.8	3.1	0.5	0.6	5.0	3.0	1.8	5.9	8.1	8.2
International Sub-Total	26.8	20.8	25.2	9.9	14.6	12.0	14.0	16.3	17.5	8.1	13.9	15.7	13.3	18.7	18.7	22.8
Total	100.0	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.1	100.0	100.0

SALIENT FEATURES

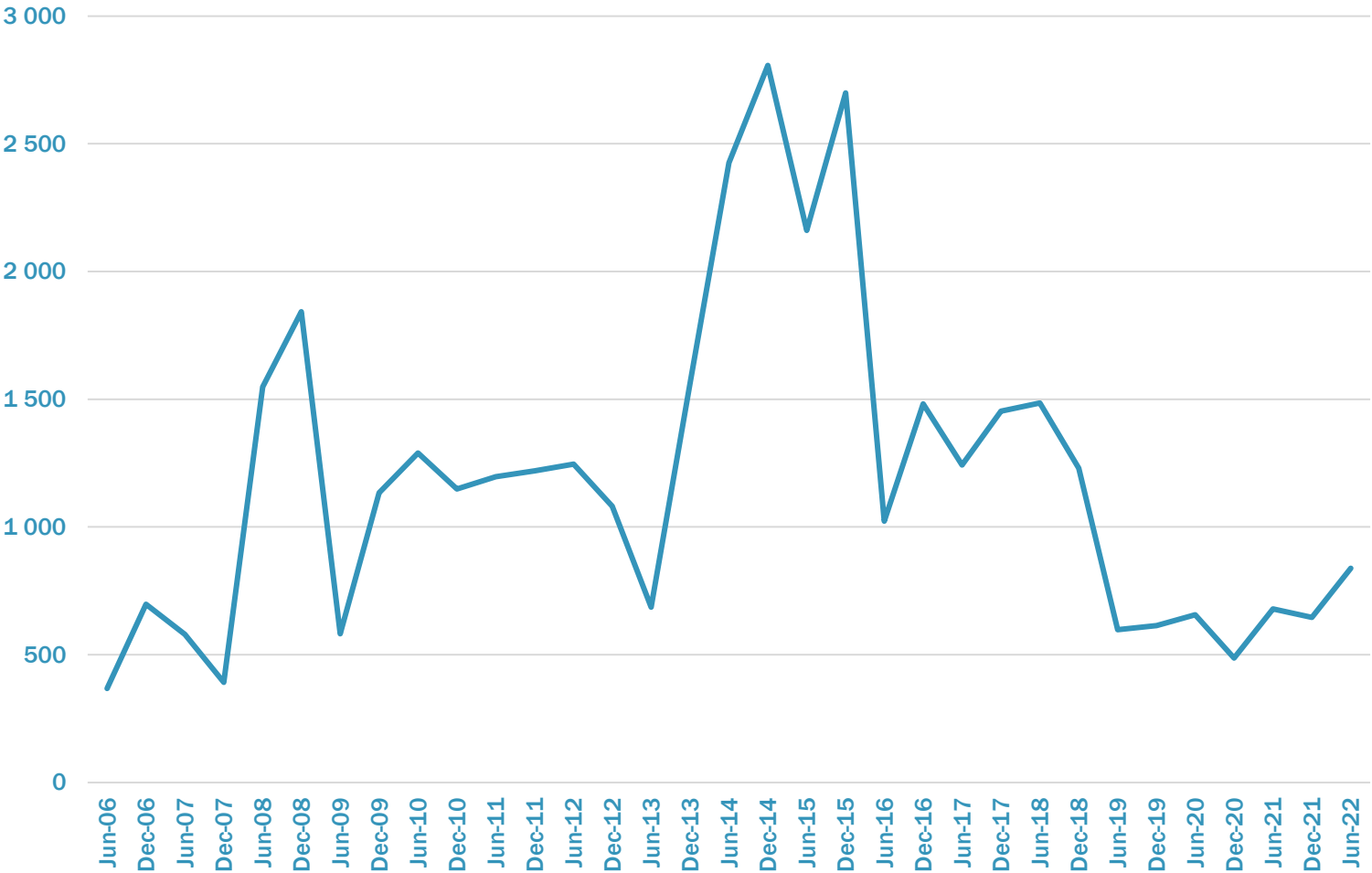
GEOGRAPHIC DISTRIBUTION

EX-RSA

RM, CONSTANT PRICES



FEE EARNINGS: EX-RSA

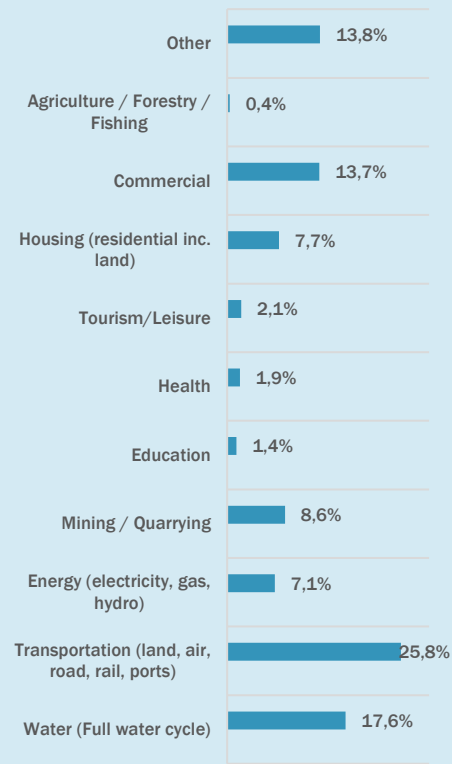


SALIENT FEATURES

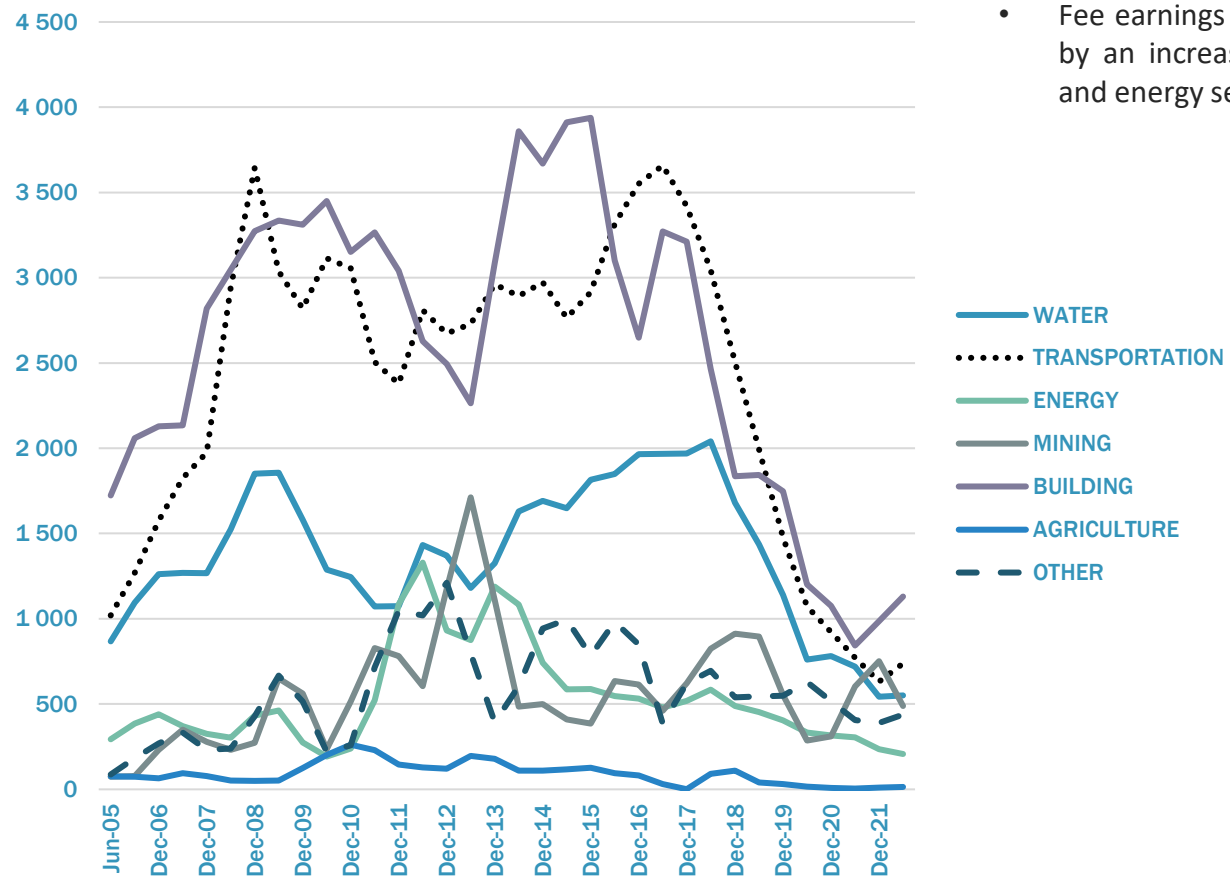
ECONOMIC SECTOR

C1.2 Fee Income distribution per economic sector, during the past 6 months:

Distribution of fee earnings
Rand millions, by economic sector
JAN – JUN 2022



ECONOMIC SECTOR



- Fee earnings in the first six months of 2022, were supported by an increase in the transportation sector, housing, water and energy sectors.

Note: The above economic sectors include all infrastructure associated within that sector including expenditure related to soft issues, feasibility studies etc.

SALIENT FEATURES

ECONOMIC SECTOR

Distribution of Fee Earnings: Percentage
CURRENT SURVEY

	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22
Water (Full water cycle)	14%	17%	17%	18%	20%	18%	20%	22%	19%	21%	17%	18%	22%	17%	13%	18%
Transportation (land, air, road, rail, ports)	28%	25%	30%	33%	36%	35%	31%	32%	30%	25%	25%	25%	22%	20%	15%	26%
Energy (electricity, gas, hydro)	5%	6%	5%	5.0%	5%	4%	6%	6%	6%	6%	7%	8%	8%	9%	4%	7%
Mining / Quarrying	6%	2%	5%	7%	5%	4%	8%	9%	14%	11%	7%	6%	10%	23%	19%	9%
Education	1%	1%	2%	2%	1%	1%	1%	1%	1%	1%	3%	2%	4%	2%	7%	1%
Health	2%	2%	1%	1%	1%	1%	0%	0%	1%	6%	3%	5%	2%	5%	13%	2%
Tourism/Leisure	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0.2%	2%
Housing (residential inc. land)	9%	11%	9%	8%	6%	10%	5%	7%	5%	9%	4%	4%	3%	2%	1%	8%
Commercial	22%	26%	23%	13%	19%	24%	20%	17%	13%	14%	17%	17%	17%	10%	16%	14%
Agriculture / Forestry / Fishing	1%	2%	1%	1%	1%	0%	0%	2%	1%	1%	0%	0%	0%	0%	0.4%	0.4%
Other	11%	8%	7%	12%	5%	3%	9%	5%	9%	6%	14%	15%	11%	11%	11%	14%
Total	100.0%	100.0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

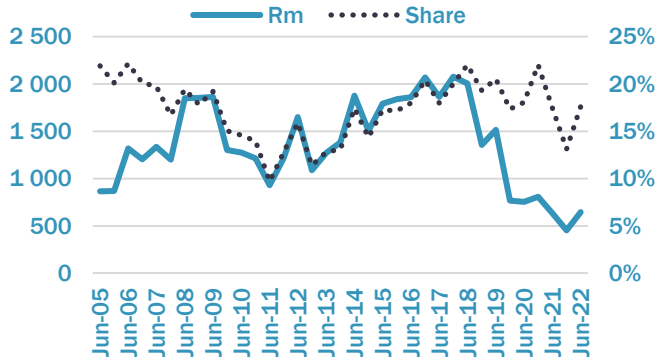
Note: The above economic sectors include all infrastructure associated within that sector including expenditure related to soft issues, feasibility studies etc.

SALIENT FEATURES

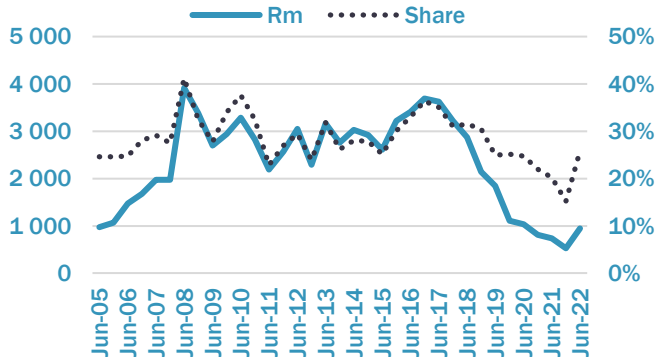
ECONOMIC SECTOR

Distribution of Fee Earnings: Rm Constant 2015 prices
CURRENT SURVEY

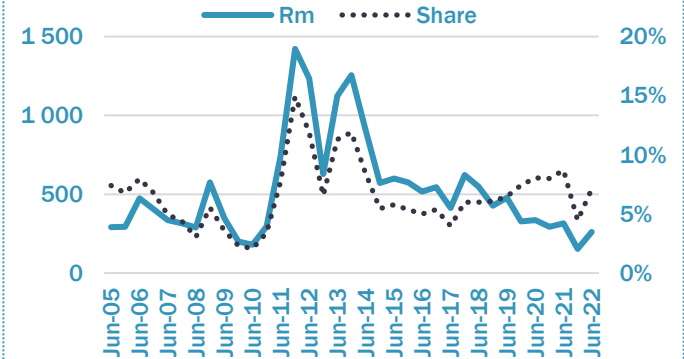
WATER (Full Cycle)



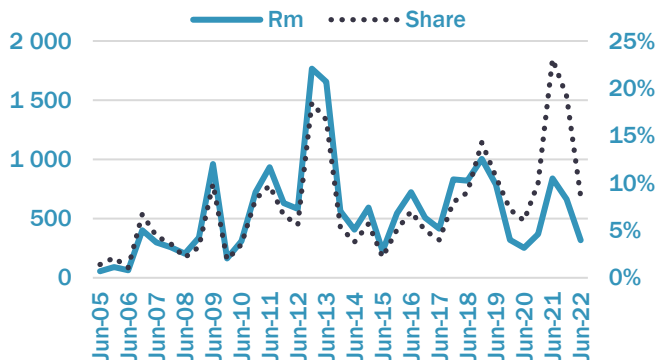
TRANSPORTATION



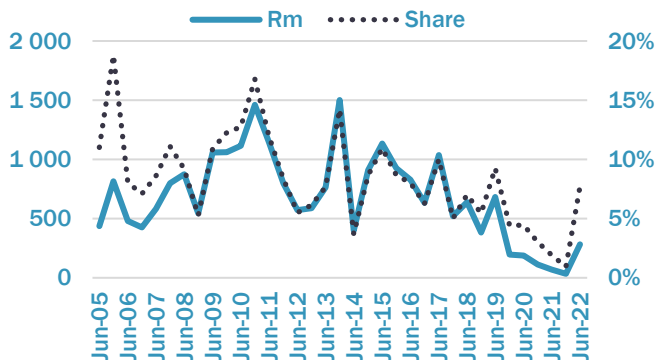
ENERGY



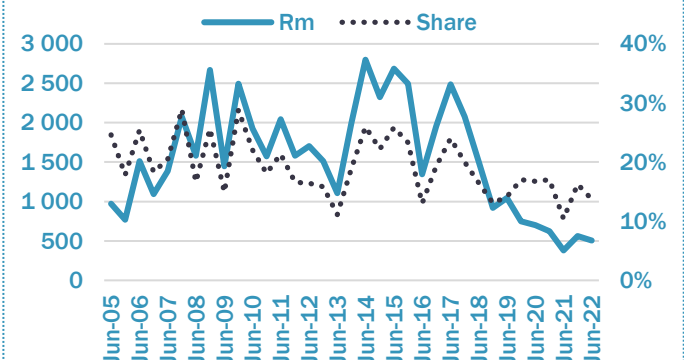
MINING



HOUSING



COMMERCIAL



Note: The above economic sectors include all infrastructure associated within that sector including expenditure related to soft

issues, feasibility studies etc.

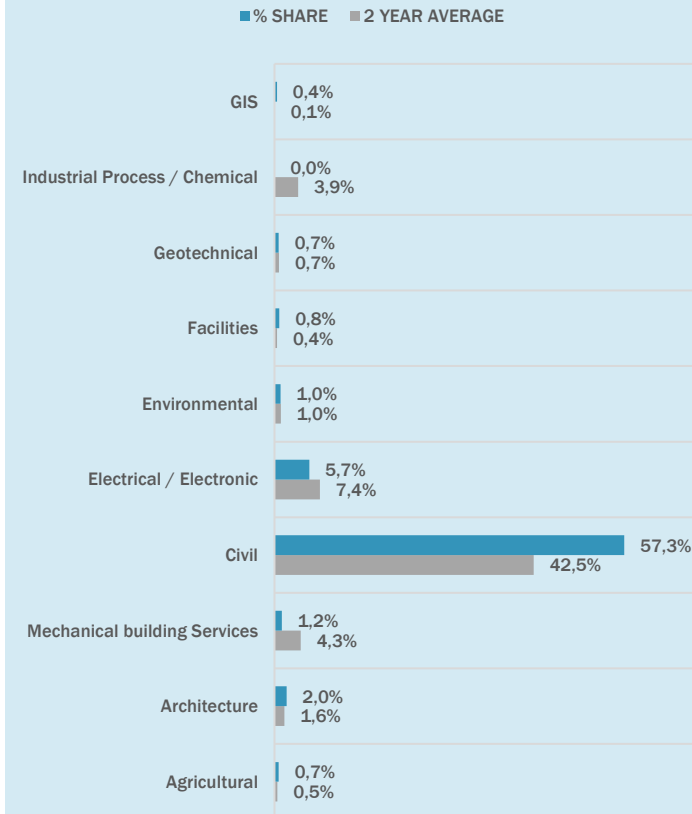
SALIENT FEATURES

TYPE OF WORK

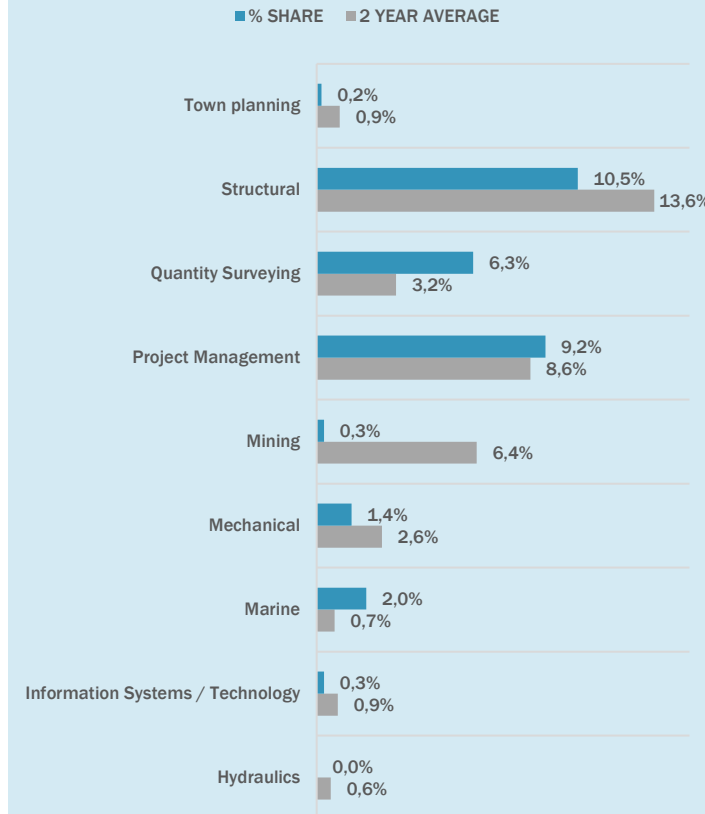
Distribution of Fee Earnings: Percentage
CURRENT SURVEY

C1.3 Fee Income distribution by Type of work, during the past 6 months

Distribution of fee earnings
Rand millions, by project type
CURRENT SURVEY



Distribution of fee earnings
Rand millions, by project type
CURRENT SURVEY

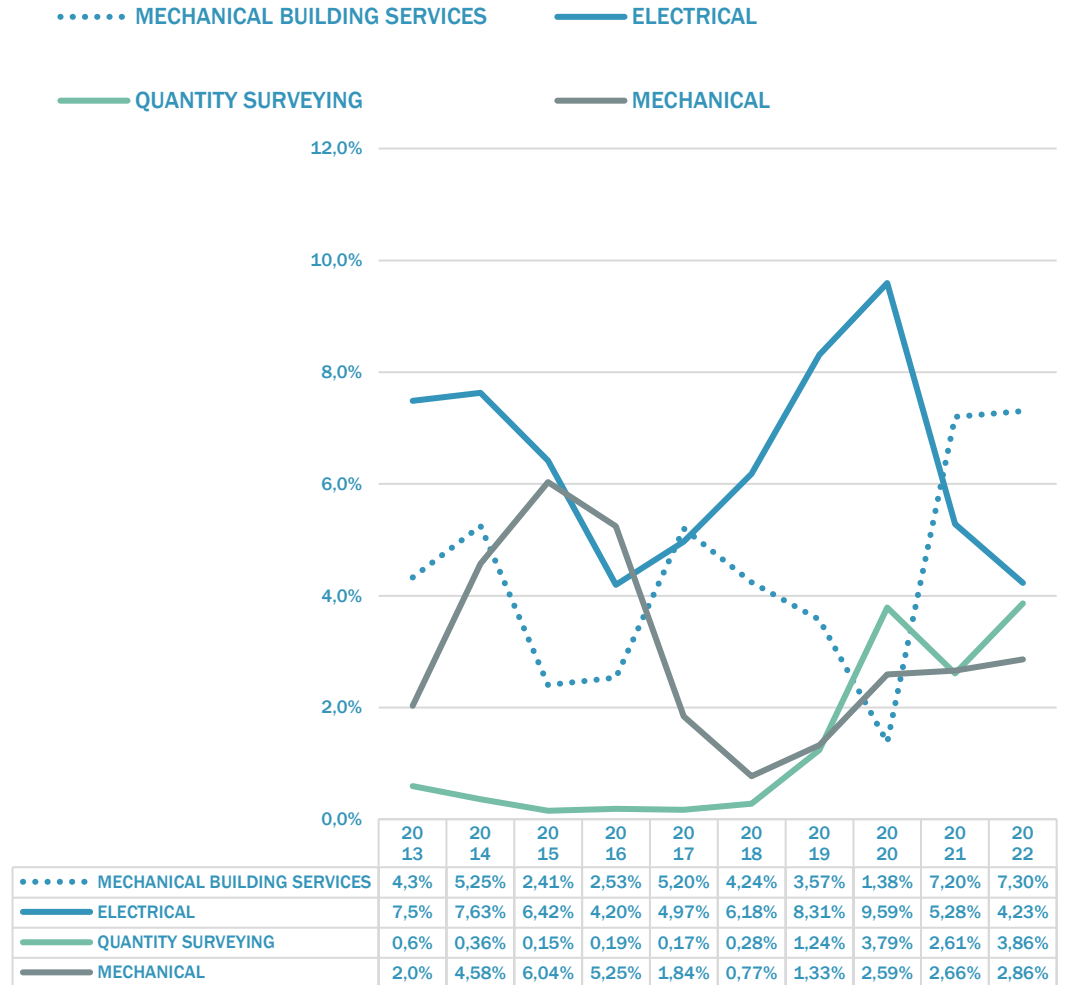
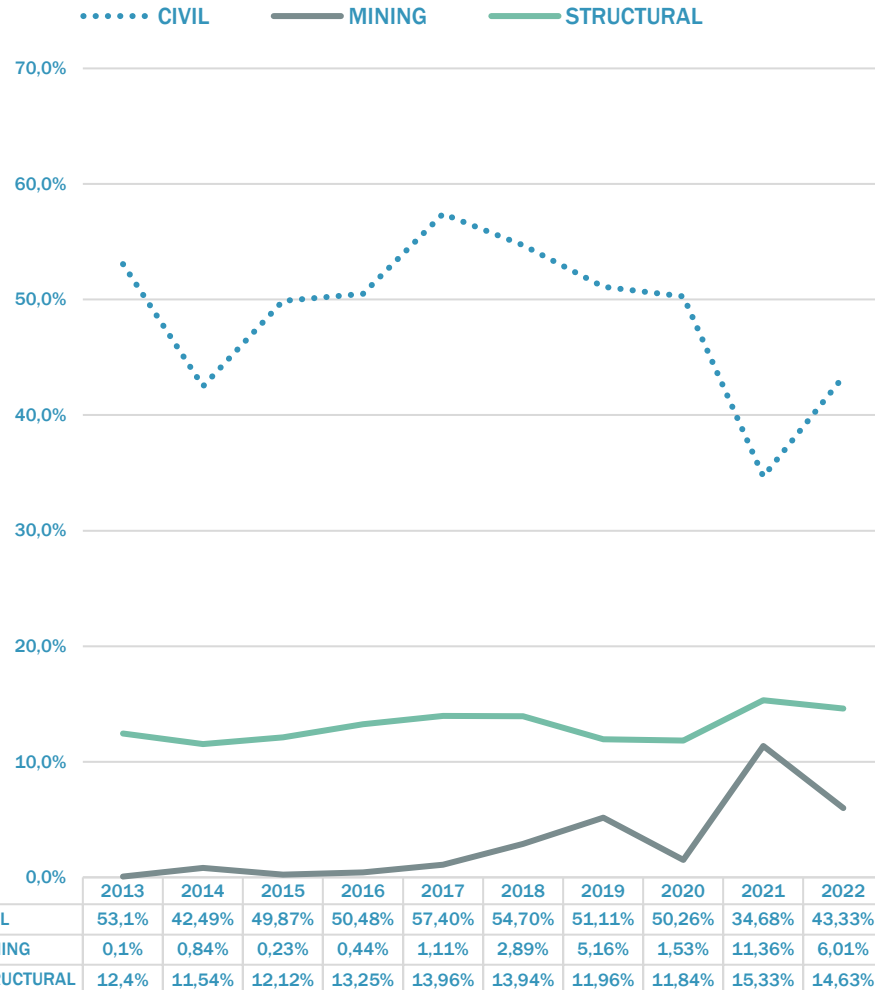


- Fee earnings in civil works increased to a contribution of 57.3 percent in the first 6 months of 2022, from an average of 42.5 percent during the past 2 years, making it the largest discipline for the engineering profession.
- The contribution by structural engineering eased to 10.5 percent (from an average of 13.6 percent) and mining dropped sharply to below 0.5 percent (from 6.4 percent), while disciplines like quantity surveying and project management gained market share.

SALIENT FEATURES

TYPE OF WORK

Distribution of Fee Earnings: Percentage
CURRENT SURVEY



SALIENT FEATURES

TYPE OF WORK

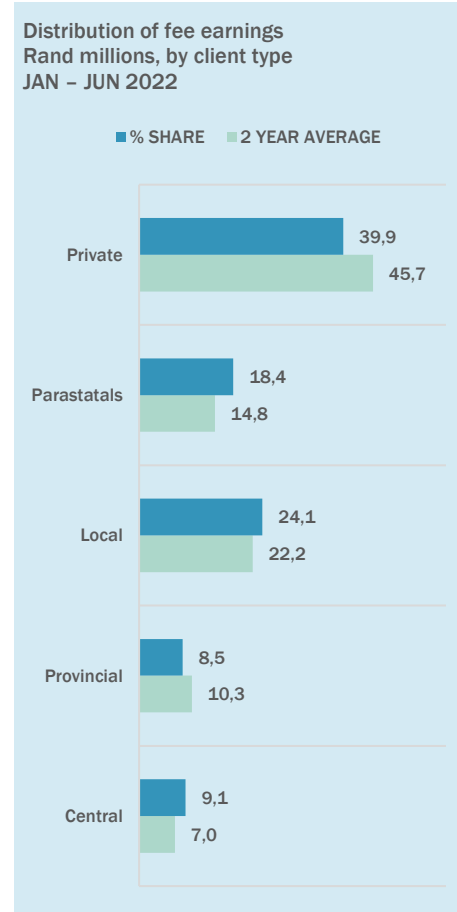
Distribution of Fee Earnings: Percentage
CURRENT SURVEY

	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22
Agricultural	1.5%	0.4%	1.2%	0.9%	0.7%	0.2%	0.9%	0.9%	0.6%	0.7%	0.6%	0.6%	0.9%	0.2%	0.3%	0.7%
Architecture	1.2%	0.8%	0.6%	0.7%	0.3%	0.5%	0.0%	0.2%	0.4%	1.0%	1.7%	1.7%	1.7%	2.3%	0.8%	2.0%
Mechanical building Services	8.2%	3.1%	1.7%	2.3%	2.8%	5.3%	5.1%	1.8%	6.7%	3.1%	4.0%	1.5%	1.3%	1.0%	13.4%	1.2%
Civil	45.0%	50.9%	48.9%	52.5%	48.5%	60.0%	54.8%	55.7%	53.7%	51.8%	50.4%	45.9%	54.6%	40.0%	29.4%	57.3%
Electrical / Electronic	5.1%	7.7%	5.1%	4.3%	4.1%	5.3%	4.6%	7.0%	5.4%	8.4%	8.2%	9.6%	9.6%	7.8%	2.8%	5.7%
Environmental	6.1%	2.0%	4.6%	4.0%	4.0%	1.3%	3.7%	1.4%	8.1%	1.7%	1.9%	1.2%	0.3%	2.0%	0.6%	1.0%
Facilities	0.1%	1.2%	0.0%	0.0%	0.0%	1.5%	0.0%	0.9%	0.0%	0.6%	0.5%	0.4%	0.8%	0.2%	0.3%	0.8%
Geotechnical	1.4%	1.2%	2.0%	1.4%	1.5%	0.9%	1.6%	0.4%	2.0%	0.9%	1.3%	1.6%	0.3%	0.6%	0.5%	0.7%
Industrial Process / Chemical	3.6%	0.9%	3.0%	2.9%	3.7%	0.0%	0.6%	0.1%	0.2%	0.4%	0.1%	2.4%	0.0%	9.9%	3.2%	0.0%
GIS	0.3%	0.4%	0.2%	0.2%	1.9%	0.9%	0.4%	0.1%	1.1%	0.6%	0.2%	0.2%	0.0%	0.0%	0.1%	0.4%
Hydraulics	1.1%	0.8%	0.5%	0.2%	0.5%	0.0%	1.3%	0.2%	1.2%	1.4%	1.4%	1.4%	0.4%	0.4%	0.0%	0.0%
Information Systems / Technology	1.5%	2.0%	3.0%	2.0%	5.6%	3.1%	0.0%	0.0%	0.0%	0.1%	0.1%	1.4%	0.4%	0.3%	1.4%	0.3%
Marine	0.0%	1.7%	0.1%	2.6%	0.0%	0.0%	0.0%	1.0%	0.3%	0.1%	0.3%	0.3%	0.5%	1.1%	1.0%	2.0%
Mechanical	2.1%	6.5%	5.6%	7.1%	3.4%	0.9%	2.8%	1.2%	0.4%	1.3%	1.4%	3.2%	2.0%	1.0%	4.3%	1.4%
Mining	0.7%	0.2%	0.3%	0.3%	0.6%	1.3%	1%	4%	2.3%	8.5%	1.8%	0.7%	2.3%	11.0%	11.7%	0.3%
Project Management	11.5%	6.7%	10.6%	5.7%	7.9%	3.9%	9%	7%	7.2%	5.3%	10.2%	11.1%	9.4%	6.0%	8.0%	9.2%
Quantity Surveying	0.3%	0.3%	0.0%	0.1%	0.3%	0.3%	0%	0%	0.3%	0.1%	2.4%	3.8%	3.8%	3.8%	1.4%	6.3%
Structural	9.8%	11.6%	12.7%	12.6%	13.9%	13.7%	14%	18%	9.8%	11.1%	12.8%	12.4%	11.3%	11.9%	18.8%	10.5%
Town planning	0.5%	1.7%	0.0%	0.2%	0.4%	0.9%	0%	0%	0.4%	2.7%	0.7%	0.7%	0.5%	0.5%	2.1%	0.2%

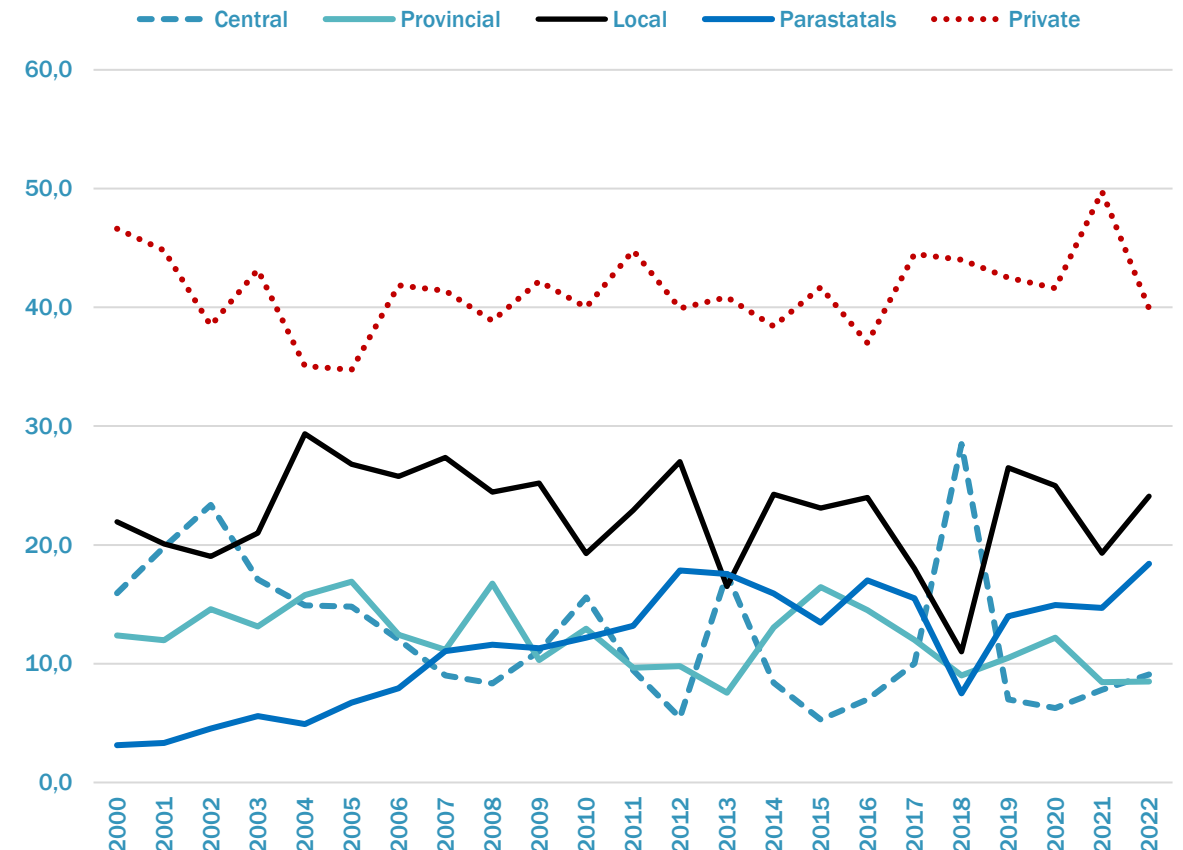
SALIENT FEATURES CLIENT

C1.4 Local Fee Income (RSA) distribution per client, during the past 6 months

- Although the private sector remains an important player, the contribution by the local authorities increased to 24.1 percent of earnings in the first half of 2022 (from 18.5 percent in the previous survey and an average of 20 percent over the last 5 years), thereby contributing the largest share to the increase in earnings during the period under review.
- Earnings in the private sector were lower, as its contribution dropped to below 40 percent, while the contribution by state owned enterprises increased to the highest level since 2013, of 18.4 percent.
- Earnings by the provincial government dropped to below 9 percent for the 3rd consecutive survey.



CLIENT CONTRIBUTION TO EARNINGS Smooth, running 2-period survey

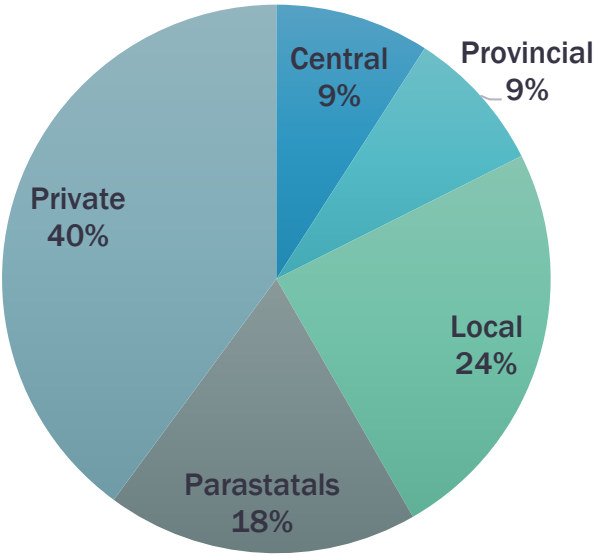


SALIENT FEATURES

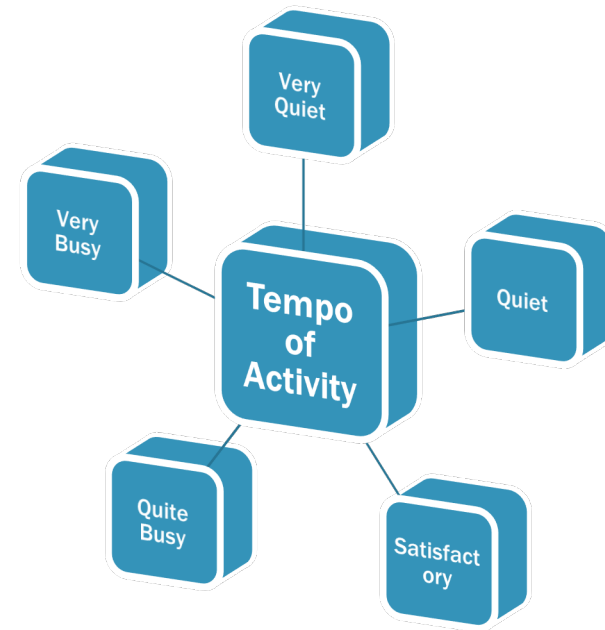
Client

DISTRIBUTION OF FEE EARNINGS: PERCENTAGE
CURRENT SURVEY

	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22
Central	4.7	5.9	4.0	10.0	10.0	10.0	26.0	31.0	8.0	6.0	5.0	7.5	7.5	8.1	9.1
Provincial	13.0	19.9	15.0	14.0	7.0	17.0	11.0	7.0	10.0	11.0	14.0	10.4	8.4	8.5	8.5
Local	25.4	20.8	23.0	25.0	18.0	18.0	12.0	10.0	28.0	25.0	24.0	26.0	20.1	18.5	24.1
Parastatals	13.8	13.1	16.0	18.0	16.0	15.0	5.0	10.0	14.0	14.0	16.0	13.9	14.4	15.0	18.4
Private	43.1	40.3	41.0	33.0	49.0	40.0	46.0	42.0	41.0	44.0	41.0	42.2	49.6	49.9	39.9
TOTAL	100.0	100.0	99.0	100.0	100.0	100.0	100.0	100.0	101.0	100.0	100.0	100.0	100.0	100.0	100.0



BUSINESS CYCLE INDICATORS



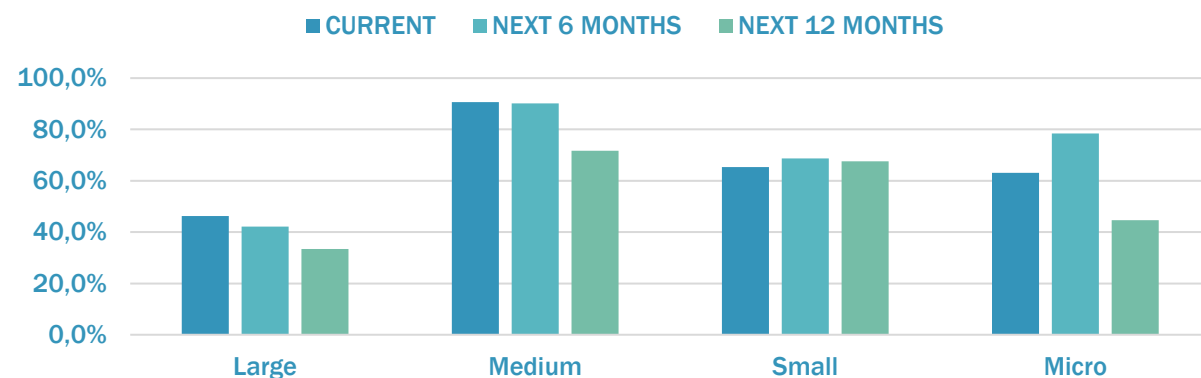
BUSINESS CYCLE INDICATORS

TEMPO OF ACTIVITY

D1.1 During the survey period, the tempo of consulting activity within your firm was
Very Quiet, Quiet, Satisfactory, Quite Busy, Very Busy

Current Survey	Very quiet	Quiet	Satisfactory	Busy	Very Busy
Large	0.0%	53.7%	46.3%	0.0%	0.0%
Medium	0.0%	9.4%	49.7%	25.5%	15.5%
Small	7.8%	26.8%	43.0%	16.8%	5.6%
Micro	16.9%	20.0%	16.9%	27.7%	18.5%

Percentage of respondents
Satisfactory to Quite Busy



D1.2-3 During the next 6 months period, and the following 6-months period, the tempo of consulting activity within your firm is expected to be

Next-6 months	Very quiet	Quiet	Satisfactory	Busy	Very Busy
Large	0.0%	57.8%	39.4%	0.0%	2.8%
Medium	0.0%	4.6%	39.7%	10.2%	40.3%
Small	0.0%	31.3%	57.0%	5.6%	6.1%
Micro	10.8%	10.8%	43.1%	7.7%	27.7%

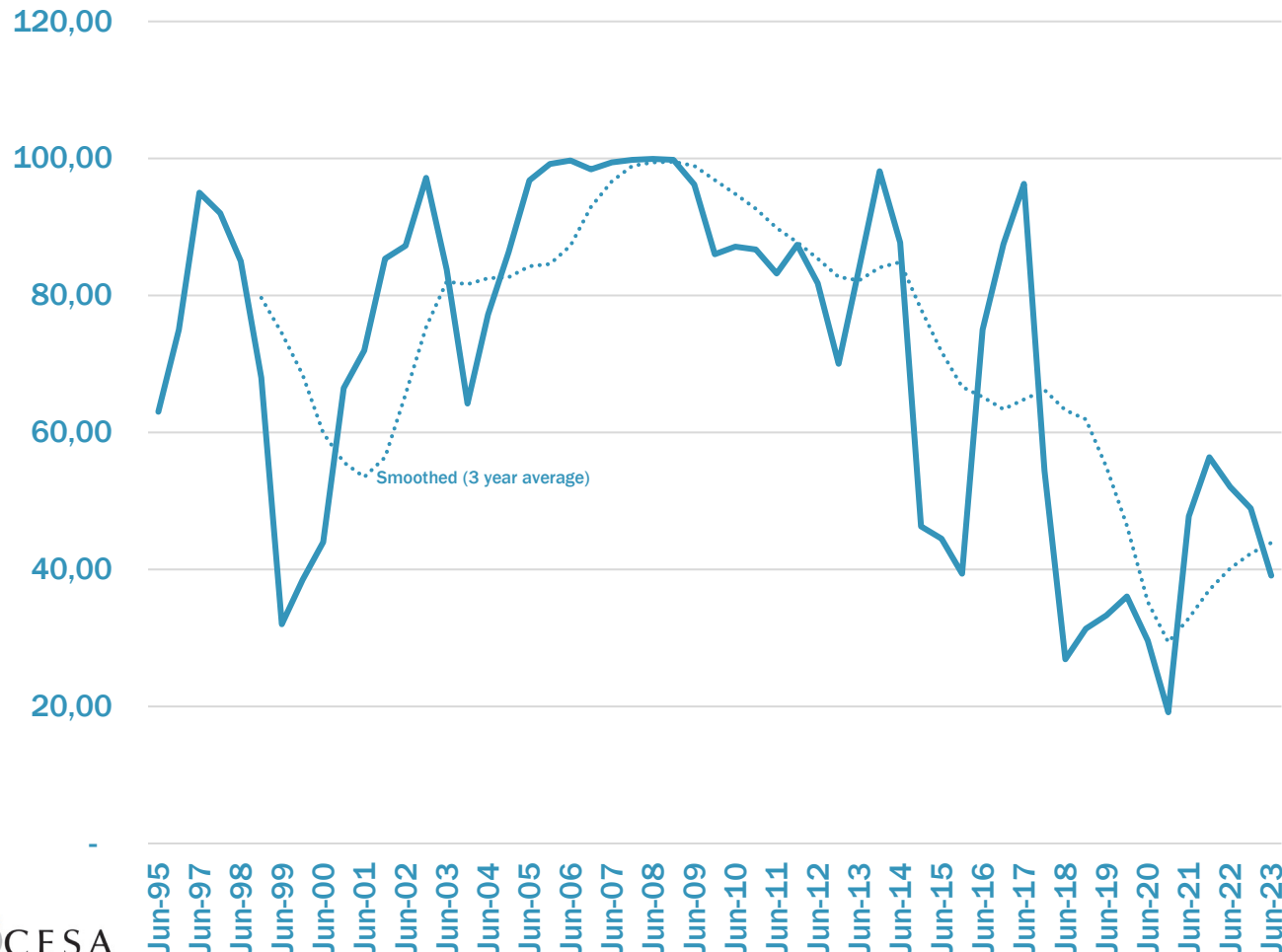
Next-12 months	Very quiet	Quiet	Satisfactory	Busy	Very Busy
Large	0.0%	66.6%	30.6%	2.8%	0.0%
Medium	0.0%	23.1%	35.7%	35.9%	0.0%
Small	0.0%	32.4%	49.2%	18.4%	0.0%
Micro	7.7%	47.7%	9.2%	18.5%	16.9%

BUSINESS CYCLE INDICATORS

CONFIDENCE INDEX

Explanatory note: The confidence index, is an indicator of members' assessments regarding current and future prospects with regard to market developments and is a "weighted" index. The response of each company is weighted according to its total employment, including full and part time staff, and the index represents the net percentage of members satisfied with business conditions. The confidence index is used as a leading indicator to determine a short to medium term outlook for the consulting engineering industry. The net percentage reflects only those members that expect conditions to be satisfactory, quite busy or very busy.

CIVIL ENGINEERING CONFIDENCE INDEX

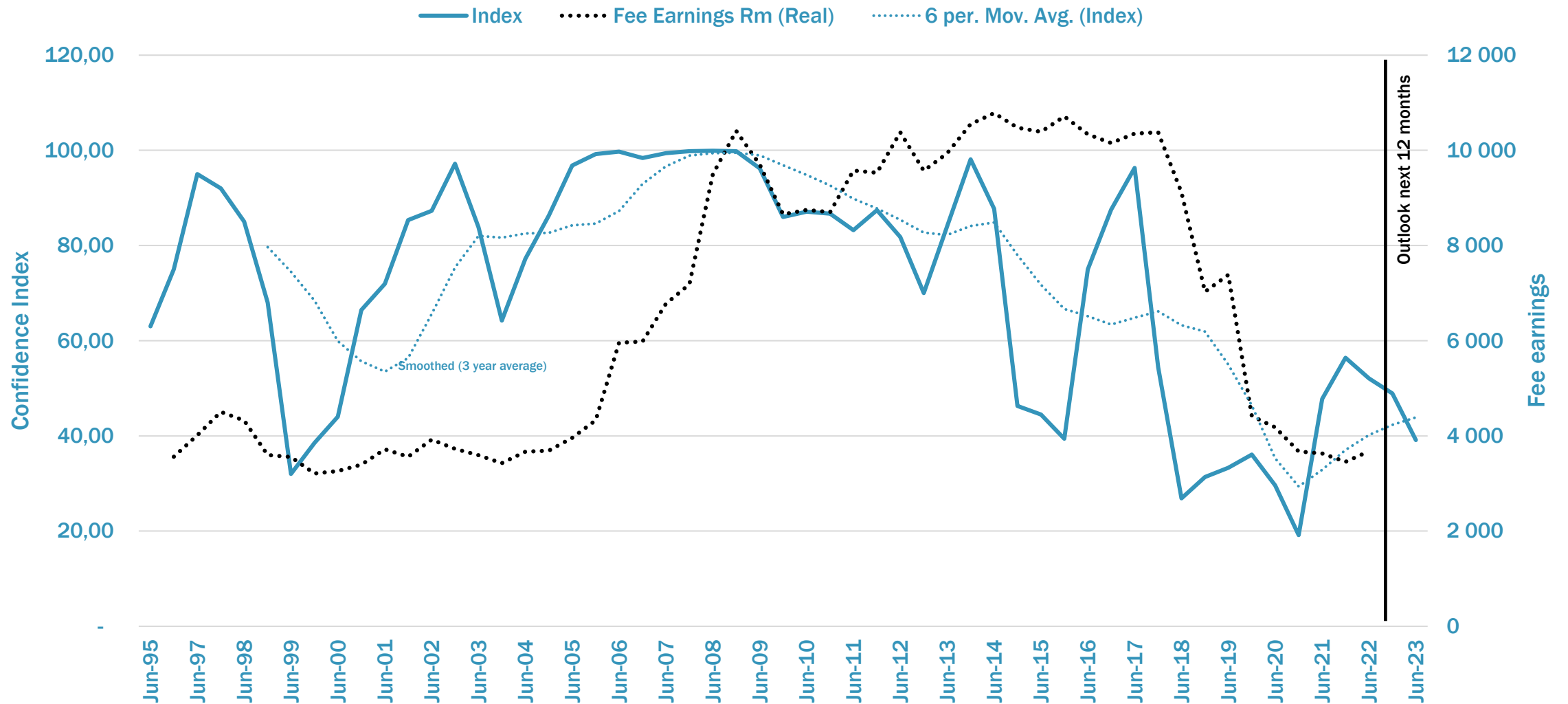


FIRM SIZE CATEGORY	LAST SIX MONTHS of 2021	NEXT 6 MONTHS	NEXT 12 MONTHS
LARGE	46.3%	42.2%	33.4%
MEDIUM	90.6%	90.2%	71.7%
SMALL	65.4%	68.7%	67.6%
MICRO	63.1%	78.5%	44.6%
INDUSTRY AVERAGE	52.1%	48.9%	39.1%

- Confidence levels eased to 52.1 in the first half of 2022, from 56.4 in the last six months of 2021, on par with the average of 52 for 2021.
- Respondents had slightly higher expectations for the first half of 2022, with close to 60 percent expecting improved or satisfactory conditions during this time in the December 2021 survey.
- Confidence levels are weaker for the next 6 months, down to 48 with an even weaker outlook for the next 12 months (first six months in 2023) as satisfactory levels fall to below 40 (39.1).
- The larger firms continue to be the least confident, with a satisfaction rate of 46 percent, while medium size firms were by far the most satisfied with conditions, with a satisfaction rate of 90 percent.
- The outlook for the following six to twelve months is uncertain, with majority of respondents not expecting a major improvement, maintaining satisfaction rates below 50 percent. Only around a third of the larger firms expect satisfactory conditions in the next 12 months.

BUSINESS CYCLE INDICATORS

CONFIDENCE vs EARNINGS



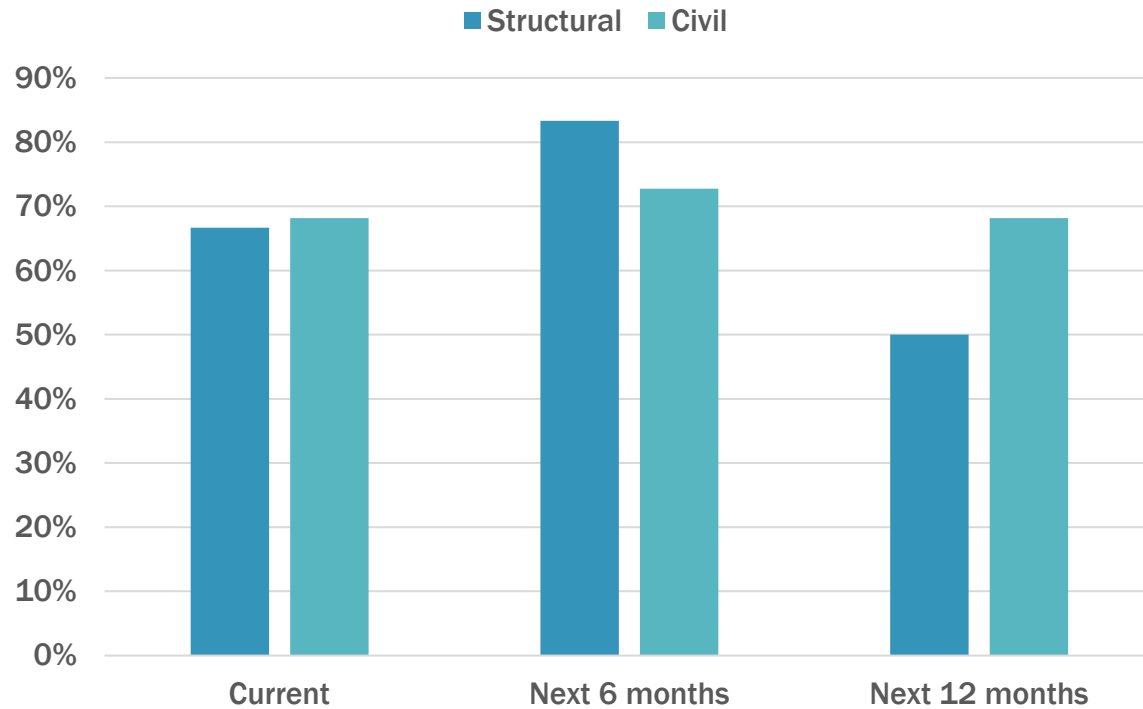
BUSINESS CYCLE INDICATORS

CONFIDENCE

Structural vs Civil

SATISFACTION RATES

Structural vs Civil



- Satisfaction rates extracted for firms where 50 percent or more of fees earned were in structural or civil engineering
- Structural: 14 percent of firms earned 50 percent or more from the structural discipline
- Civil: 50 percent of firms earned 50 percent or more from civils.

STRUCTURAL
>50%

- **14% of firms**
- **Weaker outlook over the next 12 months**

CIVIL
> 50%

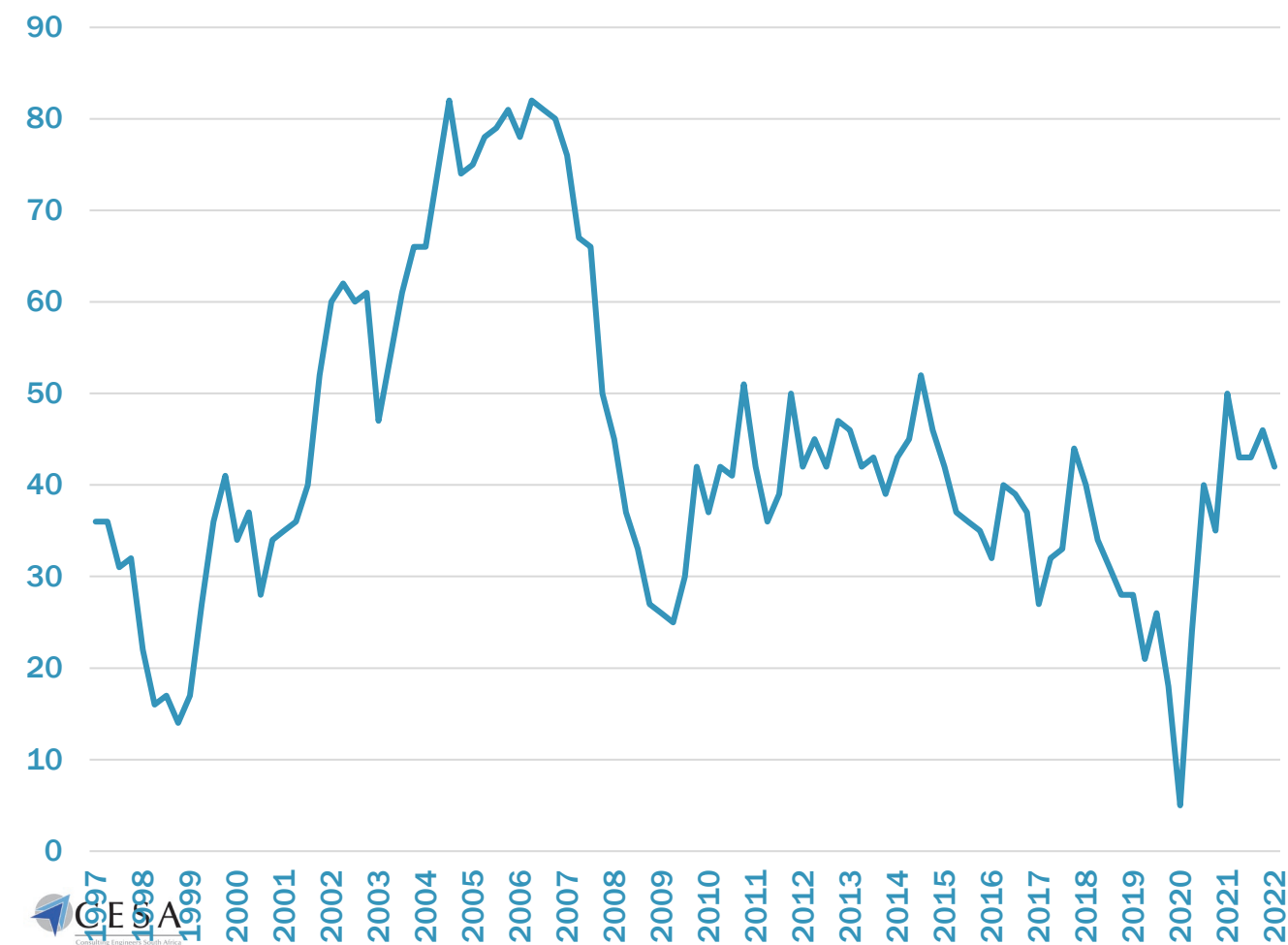
- **50% of firms**
- **Outlook on par with current conditions**

BUSINESS CYCLE INDICATORS

CONFIDENCE INDICES

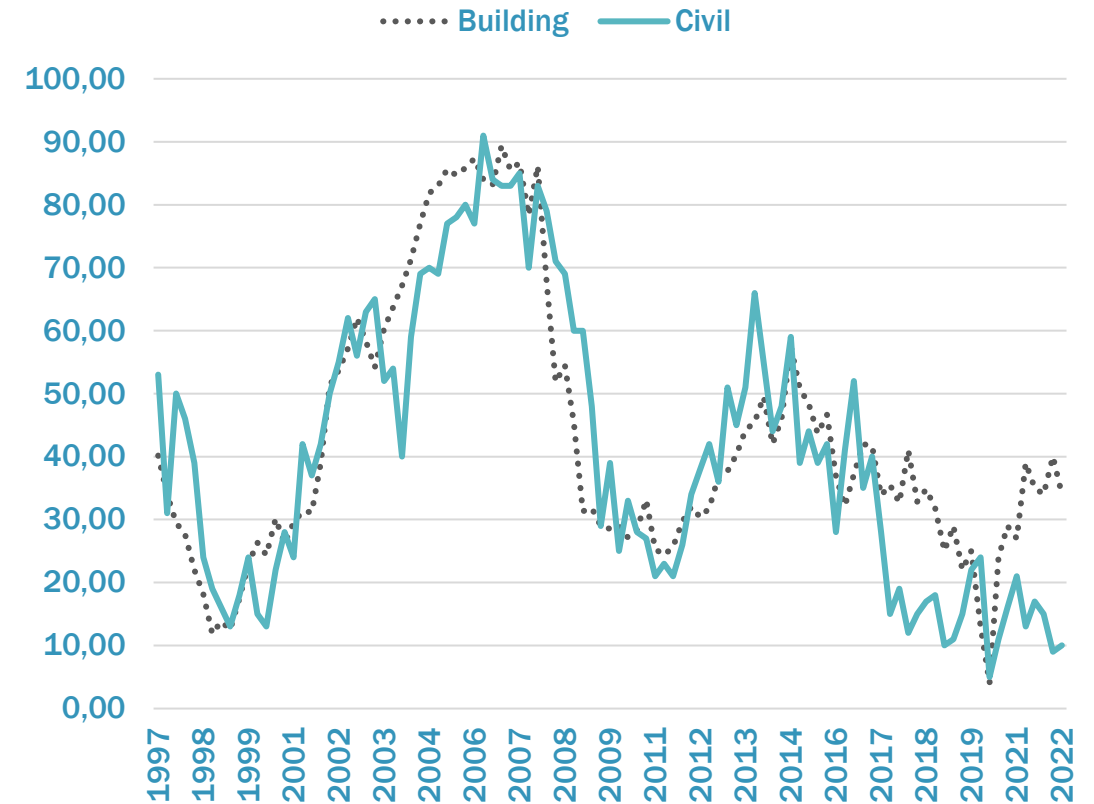
Explanatory note: The confidence index, is an indicator of members' assessments regarding current and future prospects with regard to market developments and is a "weighted" index. The response of each company is weighted according to its total employment, including full and part time staff, and the index represents the net percentage of members satisfied with business conditions. The confidence index is used as a leading indicator to determine a short to medium term outlook for the consulting engineering industry. The net percentage reflects only those members that expect conditions to be satisfactory, quite busy or very busy.

RMB/BER Business Confidence Index



Building and Civil contractor's confidence index

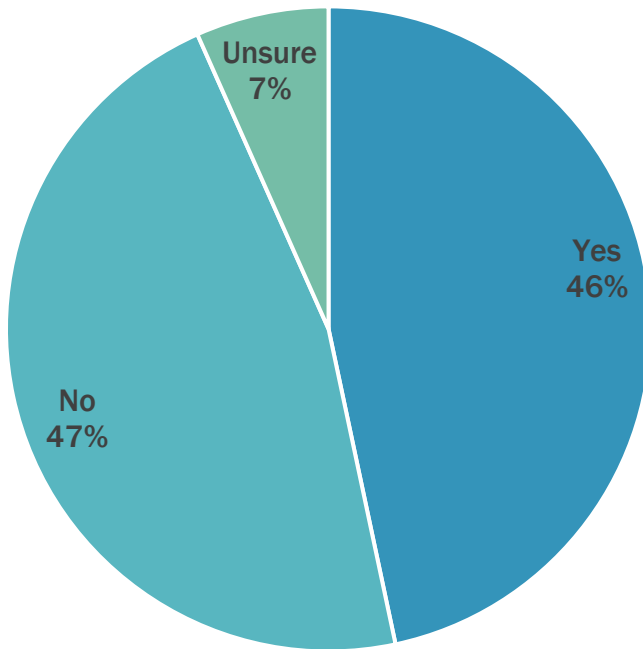
Source: FNB/BER



PROJECT CANCELLATIONS

D1.7 Have you been involved in a tender that was later cancelled during the last six months?

Have you been involved in a tender that was later cancelled during the last 6-months



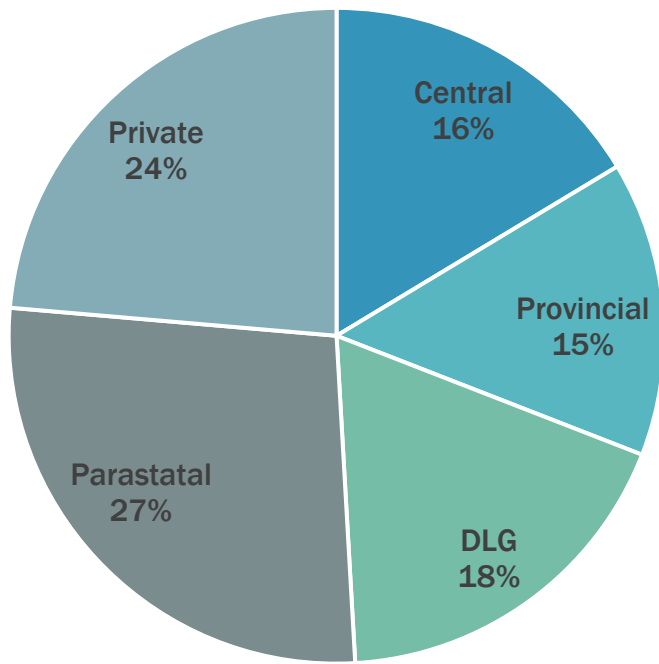
Percentage that said "YES"	Jun-21	Dec-21	Jun-22
Large	67%	48%	57%
Medium	53%	30%	46%
Small	44%	25%	57%
Micro	55%	29%	36%
Total	54%	35%	49%

- An increasing number of respondents reported project cancellations (46 percent) compared to 35 percent in the last six months of 2021.
- Comparison by firm size, shows a higher portion of larger firms (57 percent) experienced cancellations, compared to medium size firms.
- On average, [all firm size categories reported a higher percentage of firms experiencing tender cancellations](#). Medium size firms increased from 30 percent to 46 percent, while 57 percent of the smaller firms also acknowledged tender cancellations.

PROJECT CANCELLATIONS

D1.7 State the origins of the project tendered for in the last six months that was later cancelled
(mark with X, can select more than one)

Origin of project cancellation
Current Survey



	Jun-21	Dec-21	Jun-22
Central	16%	15%	16%
Provincial	19%	19%	15%
Local	33%	31%	18%
Parastatal	14%	17%	27%
Private	18%	18%	24%

Jun-22	Central	Provincial	Local	Parastatal	Private
Large	43%	29%	43%	43%	29%
Medium	31%	23%	23%	38%	46%
Small	7%	14%	21%	36%	36%
Micro	9%	9%	9%	18%	0%
Total	20%	18%	22%	33%	29%

- Parastatals were mentioned by 27 percent of firms to be involved with cancellations, followed by the private sector, and local government.
- Cancellations by the local government was mentioned by 18 percent of the firms in the current survey (from an average of 30 percent over the last two surveys).
- Difficulties within the public sector associated with project management, planning and implementation is well known resulting in an increased tendency of project cancellations, particularly within local governments. This is particularly concerning since local governments have over the last few years been allocated larger shares of the infrastructure budget

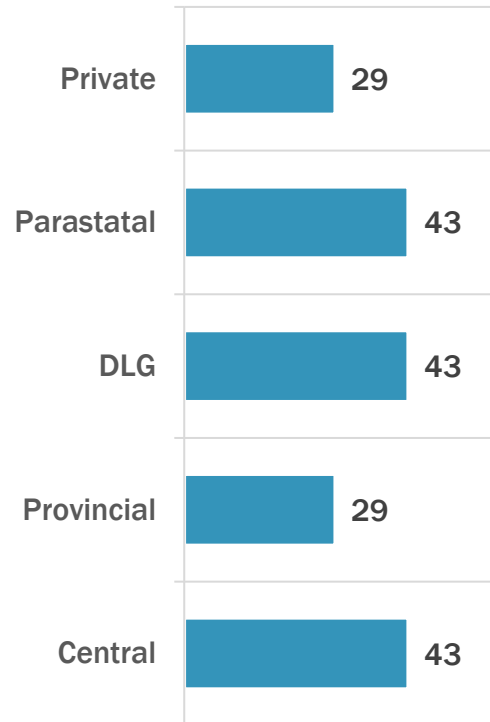
- On average close to 40 percent of the larger firms listed cancellations by origin, with majority listing central and local government, and parastatals.
- A third of the medium size firms reported cancellations, with close to 50 percent listing the private sector and close to 40 percent parastatals.
- Just over 20 percent of the smaller firms reported cancellations, with the majority listing parastatals as an origin (36 percent).
- Less than 10 percent of the smaller firms listed cancellations by clients, with the majority listing parastatals as an origin (18 percent).

PROJECT CANCELLATIONS

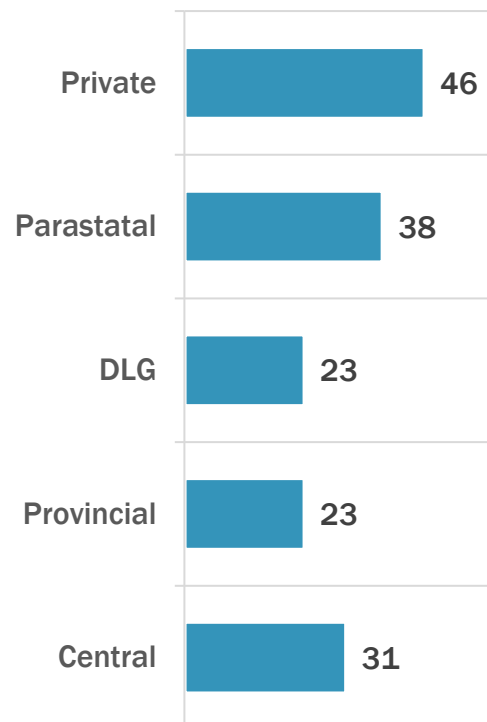
Percentage of respondents by firm size category

D1.7 State the origins of the project tendered for in the last six months that was later cancelled
(mark with X, can select more than one)

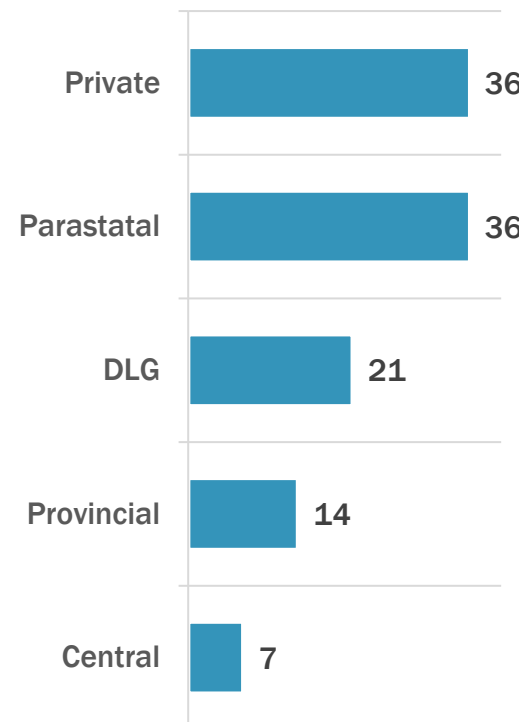
Origin of project cancellation
(Percentage)
Large Firms



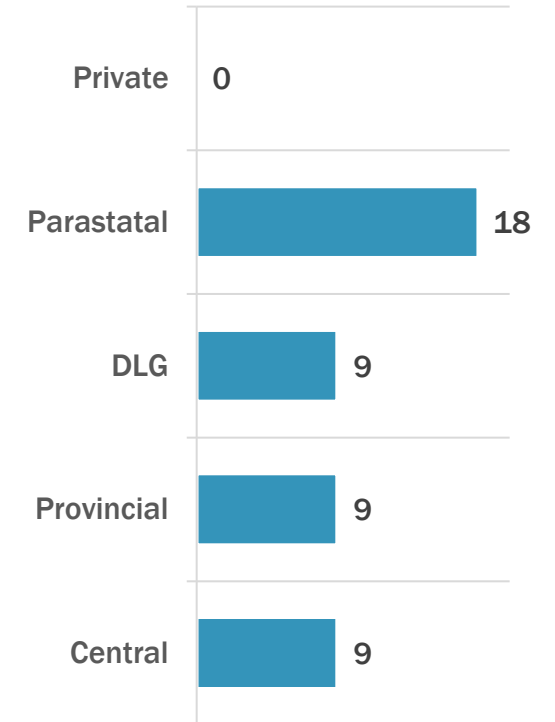
Origin of project cancellation
(Percentage)
Medium Firms



Origin of project cancellation
(Percentage)
Small Firms



Origin of project cancellation
(Percentage)
Micro Firms

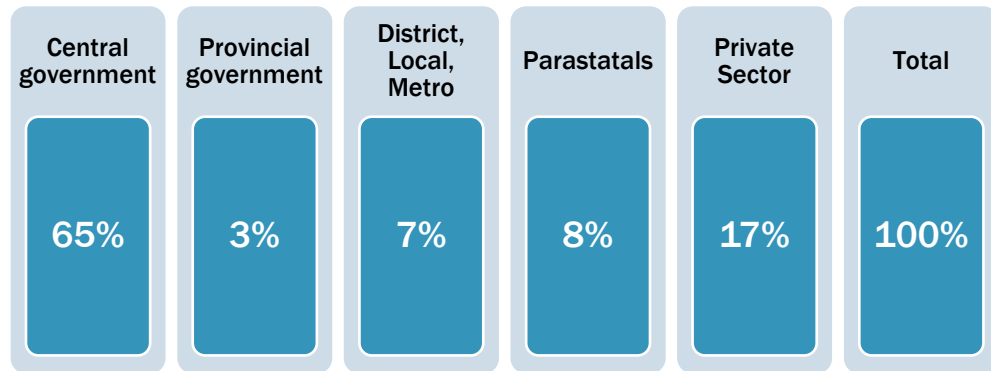


PROJECT CANCELLATIONS

D1.8 State the origins of the project tendered for in the last six months that was later cancelled (mark with X, can select more than one)

Cancellation Costs by Client:

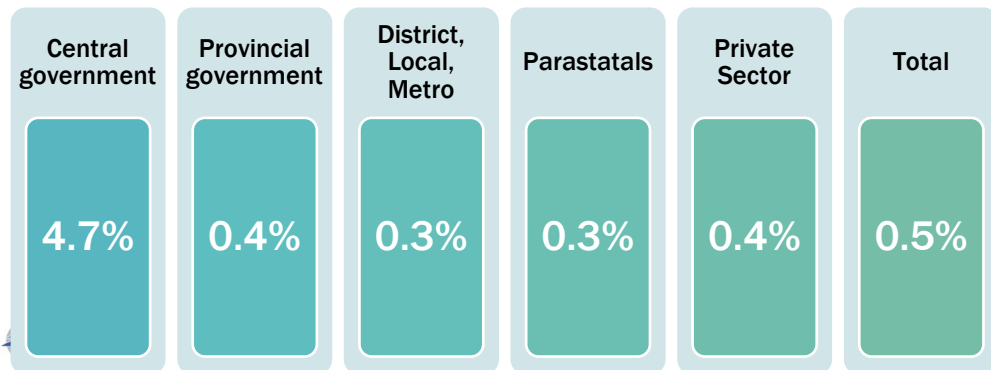
Contribution by client type based on costs linked to project cancellations



- Central government accounted for the largest contribution, based on the costs associated, at 65 percent, followed by the private sector at 17 percent.
- Difficulties within the public sector associated with project management, planning and implementation is well known resulting in an increased tendency of project cancellations, particularly within local governments. This is particularly concerning since local governments have over the last few years been allocated larger shares of the infrastructure budgets.
- Due to the size and scope of central government projects, cancellation costs is higher by comparison to other clients, representing an estimated 4.7 percent of earnings.

Cancellation Costs by Client

Percentage of fee earnings by client

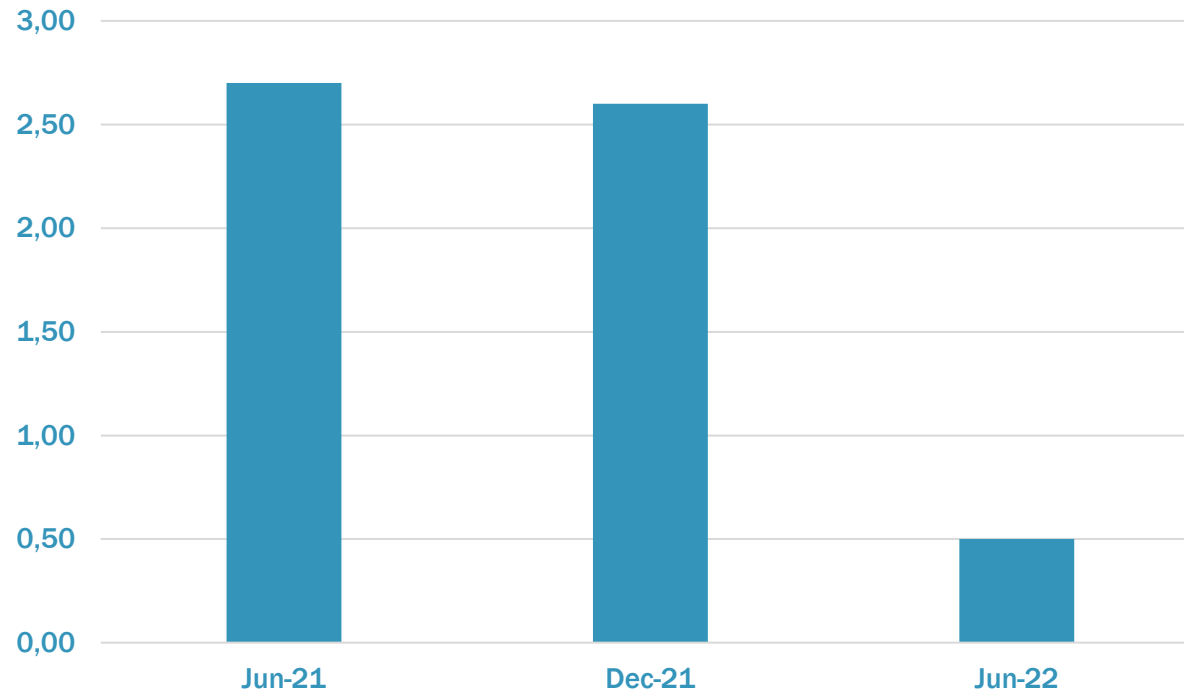


Percentage of earnings	Jun-21	Dec-21	Jun-22
Large	0.5%	3.3%	0.4%
Medium	12.9%	0.3%	0.4%
Small	14.7%	3.7%	1.1%
Micro	52.2%	15.7%	6.2%
Total	2.7%	2.6%	0.5%

PROJECT CANCELLATIONS

D1.9 What would you estimate to be your COSTS over the past six months for responding to tenders that are cancelled relative to the origins of each of these:

**Cancellation Costs as Percentage of fee earnings
National Average**



Firm size category	Percentage of Earnings
Large	0.4%
Medium	0.4%
Small	1.1%
Micro	6.2%
Total	0.5%

Client	Percentage of Earnings
Central Government	4.7%
Provincial	0.4%
Local	0.3%
SOE's	0.3%
Private	0.4%
Total	0.5%

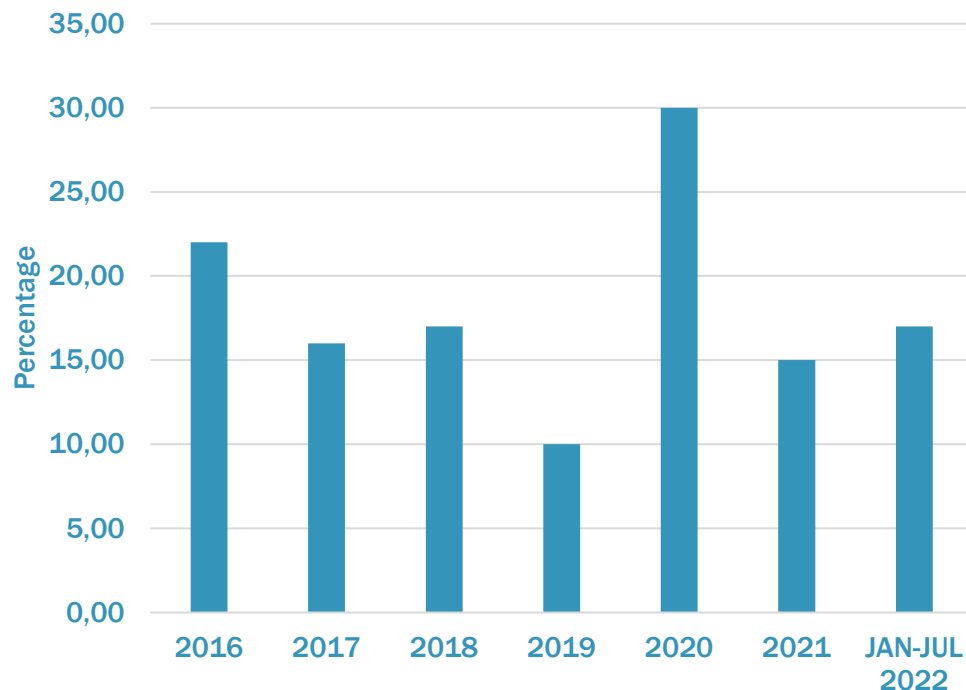
PROJECT CANCELLATIONS

PUBLIC SECTOR

Government and SOE's

Cancellation rate = Number of projects cancelled as a percentage of the number of tenders issued during the same period

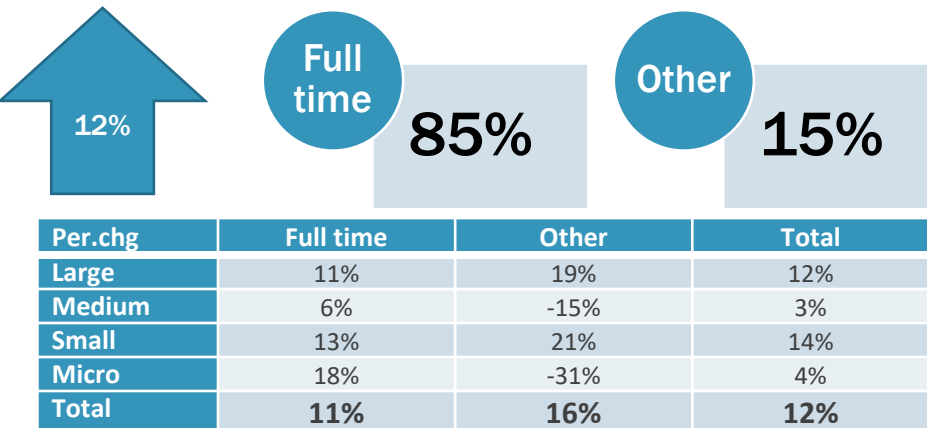
PUBLIC SECTOR CANCELLATION RATE National Average



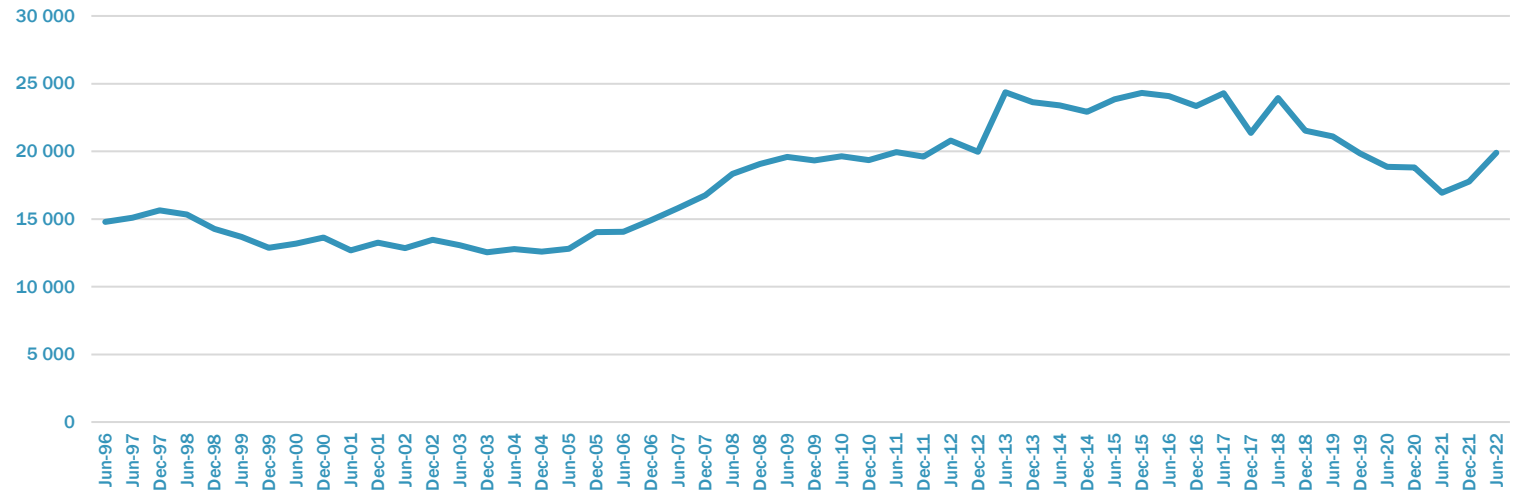
Province	2019	2020	2021	Jan – Jul 2022	Number of projects cancelled Jan- Jul 2022
EC	10%	29%	10%	19%	42
FS	7%	60%	31%	11%	5
GAU	22%	75%	24%	40%	47
KZN	8%	29%	15%	23%	58
LIM	18%	23%	14%	5%	9
MPU	4%	21%	17%	11%	9
NWP	11%	9%	6%	11%	8
NC	6%	19%	14%	12%	5
WC	5%	23%	15%	13%	23
TOTAL	10%	30%	15%	17%	206

HUMAN RESOURCES

F1.1 What is your **total number of employees** (including seconded foreign staff) broken down by:



CESA EMPLOYMENT ESTIMATES



- **Employment increased for the 2nd consecutive survey**
- **Employment increased by an average of 12 percent in the 1st half of 2022** to an estimated **19 893**, compared to the last six months of 2021, following the 4.9 percent increase reported in the previous (Dec-21) survey.
- All firm size categories experienced some increase in employment, the strongest increase being within the smaller size firms, who reported a cumulative increase of 14 percent, while larger firms reported an increase of 12 percent.
- Employment in the medium and micro firms categories increased by between 3 percent and 4 percent.

HUMAN RESOURCES

F1.2 Do you see **employment demand CHANGING** in the following categories over the next 6 months?

Note: Technical staff in each category includes registered and unregistered persons

- A higher percentage of firms reported intentions to increase employment across all types of personnel including engineers, technologists, technicians and other technical staff.
- Demand is highest within the larger firm size category where 83 percent of the respondents are looking to increase engineers and 80 percent technologists.
- Finding appropriate female candidates is more difficult, with overall responses suggesting 45 percent are experiencing recruitment problems (vs 35 percent for male counterparts).

YES	Engineers	Technologists	Technicians	Other Technologist	Support
Large	83%	80%	50%	20%	0%
Medium	46%	31%	23%	15%	15%
Small	33%	25%	18%	0%	0%
Micro	36%	30%	22%	22%	9%
Total	45%	35%	26%	14%	8%

* Unweighted Response due to smaller sample size

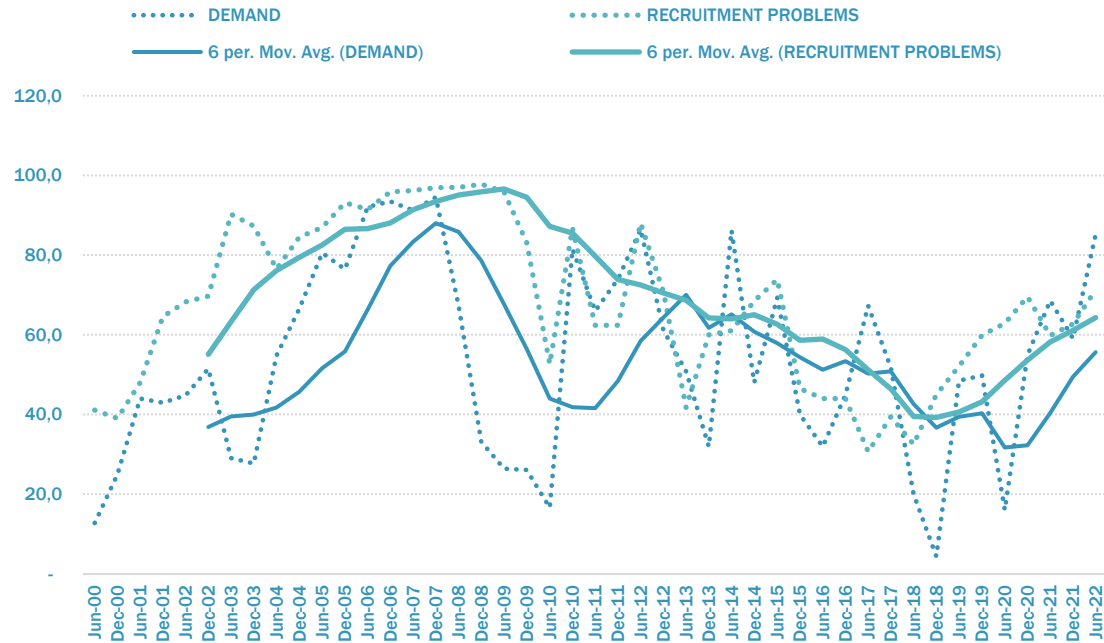
	YES	
	Male	Female
Engineers	35%	45%
Technologists	31%	42%
Technicians	22%	23%
Other Technical Staff	14%	18%
Support Staff	6%	9%
PDI Engineers	40%	45%
PDI Technologists	34%	44%
PDI Technicians	18%	24%

Recruitment Difficulties

F1.2 Do you experience **PROBLEMS** recruiting the right people? (Mark with X)

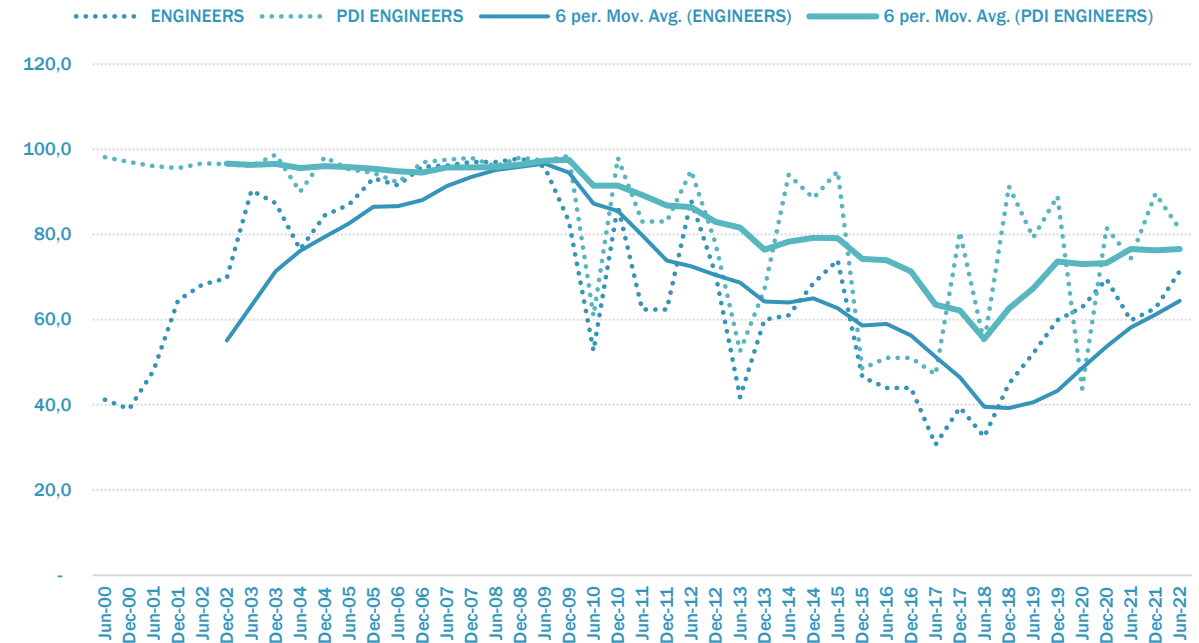
HUMAN RESOURCES Engineer

DEMAND: ENGINEERS



Higher demand for engineers result in an increase in recruitment challenges

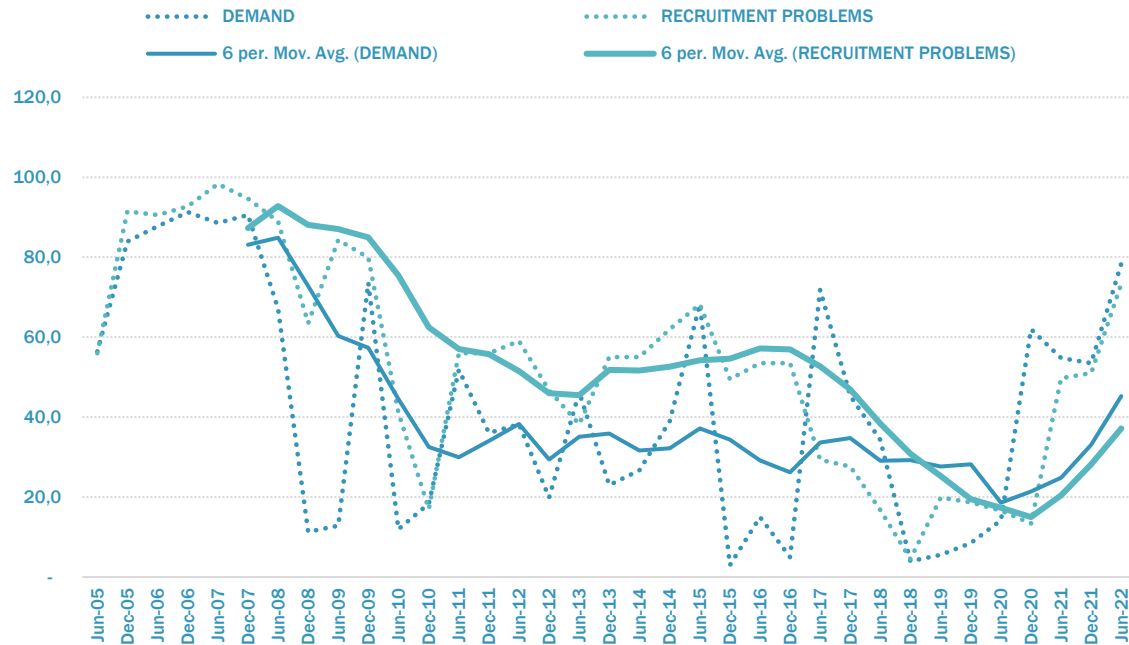
RECRUITMENT PROBLEMS: ENGINEERS



HUMAN RESOURCES

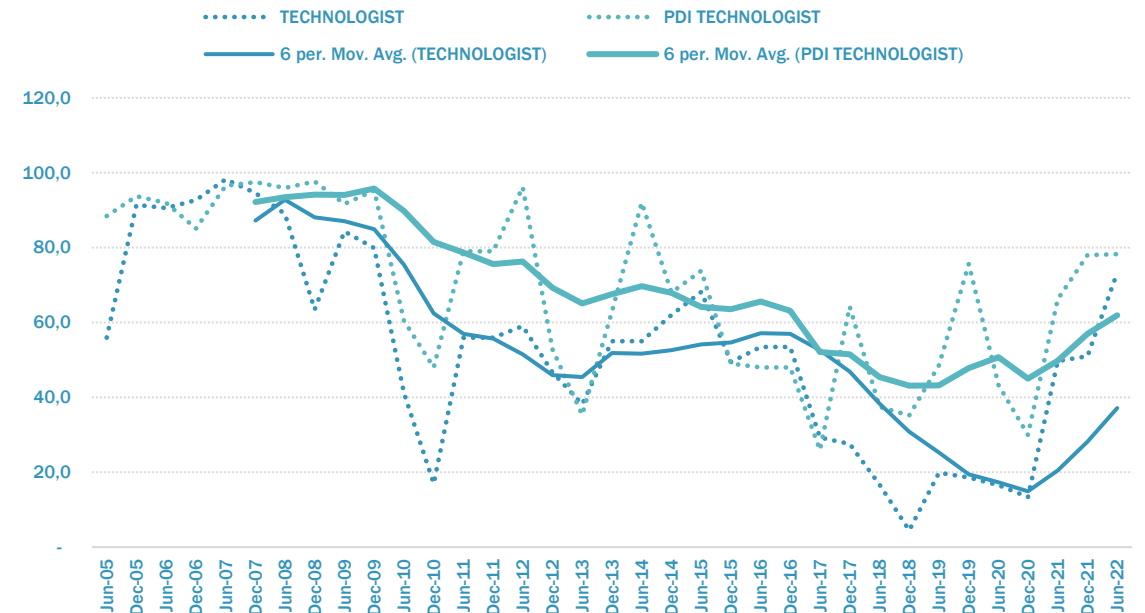
Technologist

EMPLOYMENT DEMAND: TECHNOLOGIST



Demand for technologist increase, although at moderately slower pace compared to engineers

RECRUITMENT PROBLEMS: TECHNOLOGIST



HUMAN RESOURCES

EMPLOYMENT BREAKDOWN

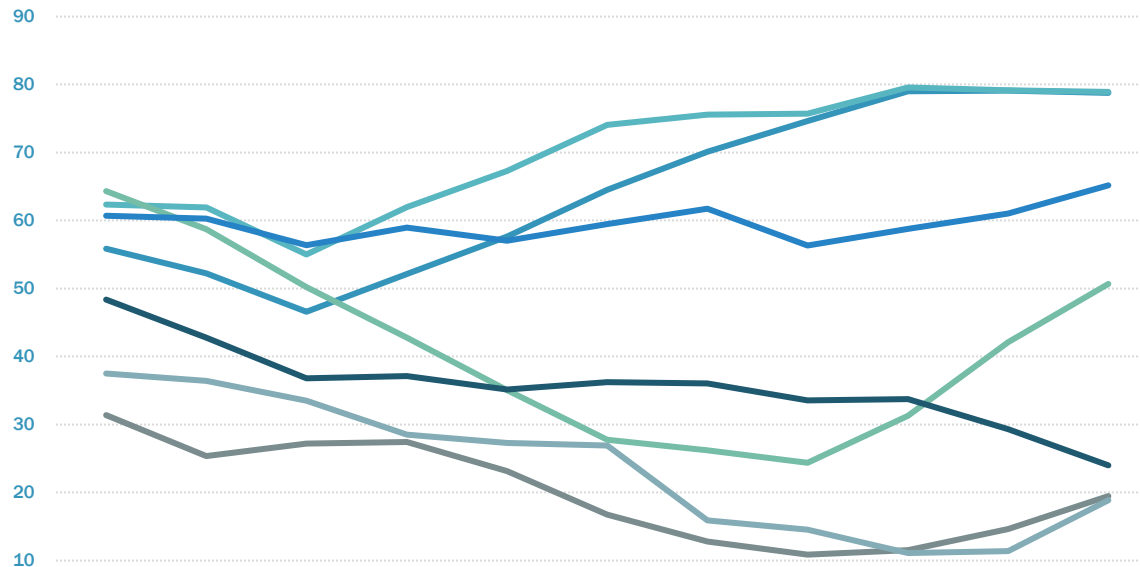
Type of personnel	% of firms wanting to increase staff June 2019	% of firms wanting to increase staff December 2019	% of firms wanting to increase staff June 2020	% of firms wanting to increase staff December 2020	% of firms wanting to increase staff June 2021	% of firms wanting to increase staff December 2021	% of firms wanting to increase staff June 2022
Engineers	48.5	49.8	16.1	54.9	68.6	59.1	85.2
Technologists	5.5	8.5	12.4	2.8	24.3	22.6	46.8
Technicians	10.4	3.3	14.2	62.0	54.8	53.5	78.4
Other technical staff	1.5	4.3	12.7	4.3	25.5	19.8	59.7
Support staff	2.4	1.6	11.3	0.9	0.9	2.1	1.6

* Weighted response

SOURCING FEMALE ENGINEERING STAFF

DIFFICULTY IN RECRUITMENT: FEMALE TECHNICAL STAFF

ENGINEERS PDI ENGINEERS TECHNOLOGIST TECHNICIAN
 OTHER TECH PDI TECHNOLOGIST PDI TECHNICIAN

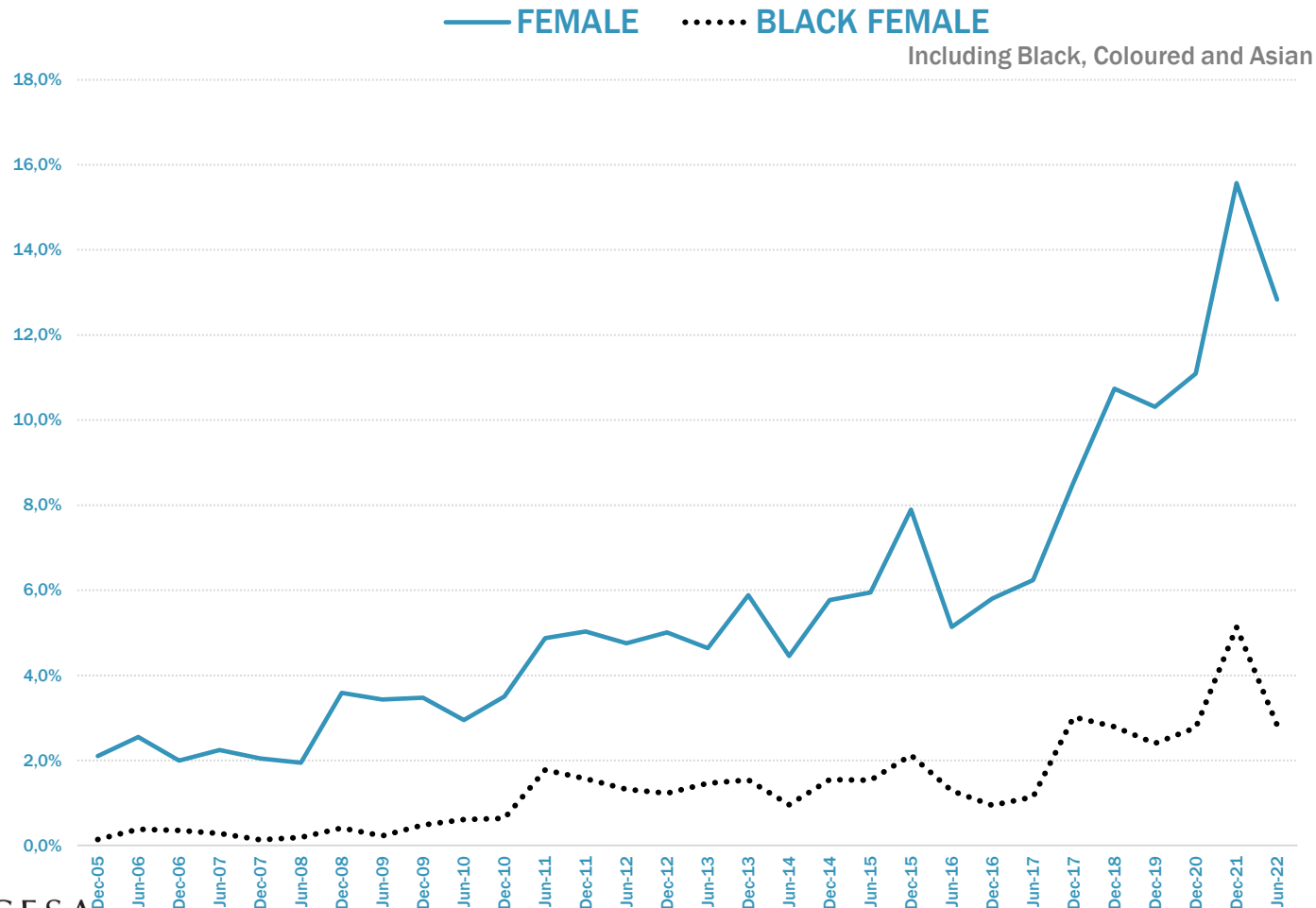


- Finding appropriate female candidates is challenging with a weighted response rate of 80 percent of firms reporting difficulties in recruiting female engineers.
- An increasing number of firms are also reporting difficulties in recruiting female technologists (>50 percent of firms)

FEMALE TECHNICAL EXECUTIVES

86 percent of females in CESA Member companies in executive roles are black

FEMALE ENGINEERS AS PERCENTAGE OF TOTAL PR.ENG



- The contribution of female engineers gradually increased to a peak of 15.6 percent by the December 2021 survey, whereafter it slowed to **12.8 percent** in the June 2022 survey.
- While there has been an improvement in the contribution of black female engineers (including Coloureds and Asian), it has been much lower, peaking at 5.1 percent in the December 2021 survey, slowing to **2.8 percent** in the June 2022 survey
- Females contributed 12.5 percent in an executive role as either an executive or non-executive director, with **86 percent of these** represented by either Black, Coloured or Asian population groupings in South Africa.

Number	PR.ENG	Technologists
WHITE	319	29
BLACK	38	19
COLOURED	5	10
ASIAN	48	29
Total	409	86

EMPLOYMENT AND OWNERSHIP PROFILE

EMPLOYMENT BREAKDOWN

Jan – June 2022

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	119	34	153	72	4	76	170	42	212	2 120	285	2 405	2 482	365	2 847
Professional Architects	4	0	4	0	0	0	13	0	13	30	30	59	47	30	76
Professional Quantity Surveyors	4	13	17	4	8	13	30	8	38	76	21	98	115	51	166
Professional Other	55	42	98	4	13	17	25	51	76	336	225	561	421	331	752
Technologists Pr TEchENG	140	17	157	68	8	76	102	25	127	803	25	829	1 113	76	1 190
Technicians PrTechni	72	25	98	30	17	47	4	0	4	140	21	161	246	64	310
Unregistered technical staff: Engineer	489	204	693	178	106	285	251	246	497	875	484	1 360	1 793	1 041	2 834
Unregistered technical staff: Technologist	259	187	446	119	68	187	106	93	200	238	127	365	722	476	1 198
Unregistered technical staff: Technician	501	221	722	102	38	140	55	153	208	153	64	217	812	476	1 287
Unregistered technical staff: Other	174	166	340	119	64	183	68	25	93	319	161	480	680	416	1 096
Technical Assistants	221	166	387	127	93	221	59	51	110	378	306	684	786	616	1 402
Draughtspersons	85	51	136	106	30	136	42	208	251	336	144	480	569	433	1 003
Laboratory / Survey Assistants	8	21	30	4	13	17	21	8	30	17	8	25	51	51	102
Administration / Support staff	459	939	1 398	191	438	629	89	127	217	272	982	1 254	1 011	2 486	3 497
Total	2 592	2 086	4 678	1 126	901	2 027	1 037	1 041	2 078	6 093	2 885	8 978	10 848	6 913	17 761

EMPLOYMENT AND OWNERSHIP PROFILE

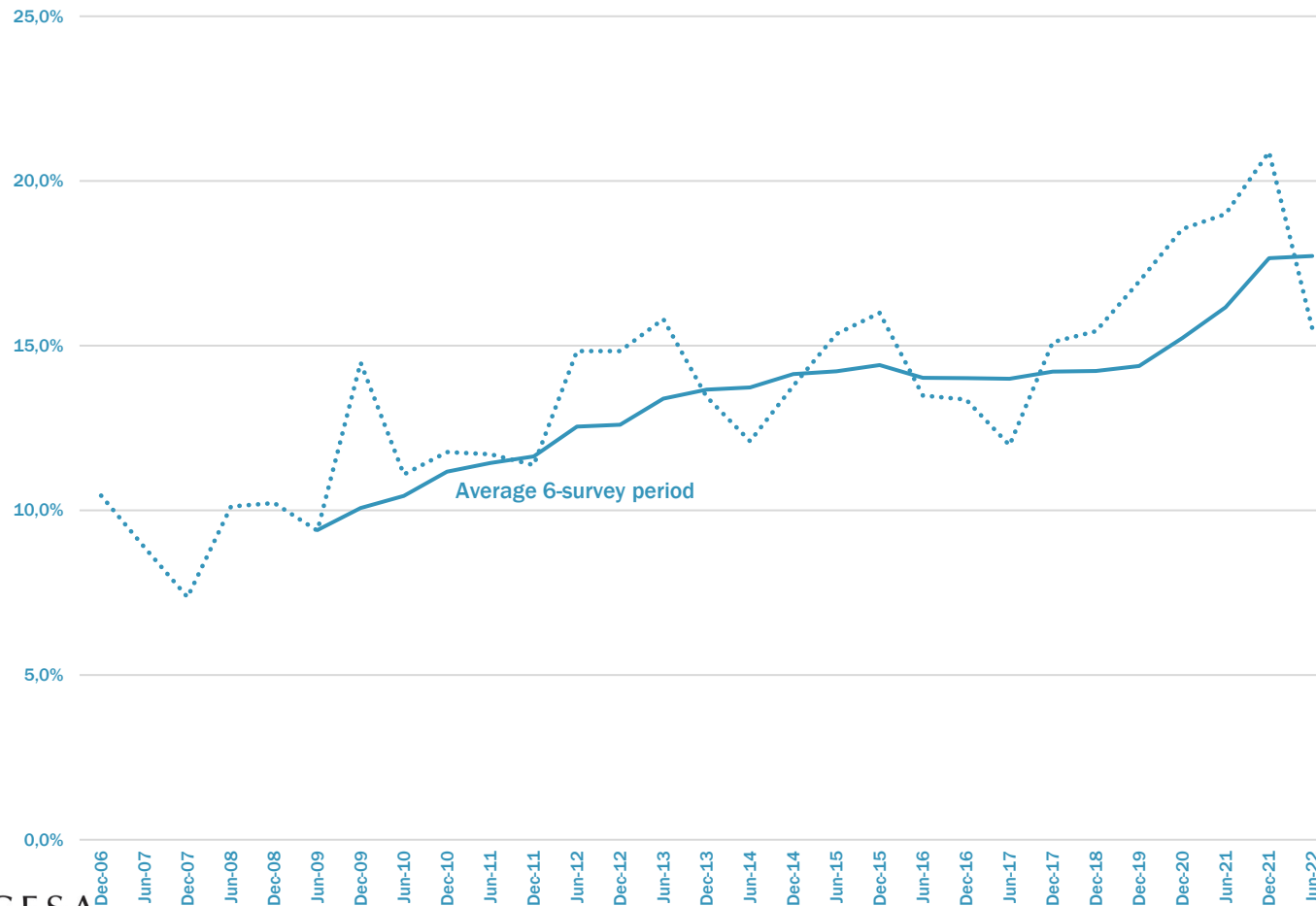
EMPLOYMENT BREAKDOWN

Jan – June 2022

Job category Percentage share	Black			Coloured			Asian			White			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Professional Engineer Pr.Eng	0.7%	0.2%	0.9%	0.4%	0.0%	0.4%	1.0%	0.2%	1.2%	11.9%	1.6%	13.5%	14.0%	2.1%	16.0%
Professional Architects	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%	0.2%	0.4%
Professional Quantity Surveyors	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.2%	0.4%	0.1%	0.6%	0.6%	0.3%	0.9%
Professional Other	0.3%	0.2%	0.6%	0.0%	0.1%	0.1%	0.1%	0.3%	0.4%	1.9%	1.3%	3.2%	2.4%	1.9%	4.2%
Technologists Pr TEchENG	0.8%	0.1%	0.9%	0.4%	0.0%	0.4%	0.6%	0.1%	0.7%	4.5%	0.1%	4.7%	6.3%	0.4%	6.7%
Technicians PrTechni	0.4%	0.1%	0.6%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.8%	0.1%	0.9%	1.4%	0.4%	1.7%
Unregistered technical staff: Engineer	2.8%	1.1%	3.9%	1.0%	0.6%	1.6%	1.4%	1.4%	2.8%	4.9%	2.7%	7.7%	10.1%	5.9%	16.0%
Unregistered technical staff: Technologist	1.5%	1.1%	2.5%	0.7%	0.4%	1.1%	0.6%	0.5%	1.1%	1.3%	0.7%	2.1%	4.1%	2.7%	6.7%
Unregistered technical staff: Technician	2.8%	1.2%	4.1%	0.6%	0.2%	0.8%	0.3%	0.9%	1.2%	0.9%	0.4%	1.2%	4.6%	2.7%	7.2%
Unregistered technical staff: Other	1.0%	0.9%	1.9%	0.7%	0.4%	1.0%	0.4%	0.1%	0.5%	1.8%	0.9%	2.7%	3.8%	2.3%	6.2%
Technical Assistants	1.2%	0.9%	2.2%	0.7%	0.5%	1.2%	0.3%	0.3%	0.6%	2.1%	1.7%	3.9%	4.4%	3.5%	7.9%
Draughtspersons	0.5%	0.3%	0.8%	0.6%	0.2%	0.8%	0.2%	1.2%	1.4%	1.9%	0.8%	2.7%	3.2%	2.4%	5.6%
Laboratory / Survey Assistants	0.0%	0.1%	0.2%	0.0%	0.1%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%	0.1%	0.3%	0.3%	0.6%
Administration / Support staff	2.6%	5.3%	7.9%	1.1%	2.5%	3.5%	0.5%	0.7%	1.2%	1.5%	5.5%	7.1%	5.7%	14.0%	19.7%
Total	14.6%	11.7%	26.3%	6.3%	5.1%	11.4%	5.8%	5.9%	11.7%	34.3%	16.2%	50.6%	61.1%	38.9%	100.0%

EMPLOYMENT BREAKDOWN

BLACK ENGINEERS AS PERCENTAGE OF TOTAL PR.ENG
Including Black, Coloured and Asian



- The contribution of black engineers gradually increased to a peak of 20.9 percent by the December 2021 survey, whereafter it slowed to 15.5 percent in the June 2022 survey.

Number	PR.ENG	Technologists
WHITE	2694	928
BLACK	171	176
COLOURED	86	86
ASIAN	238	143
Total	3189	1333

* Including male and female

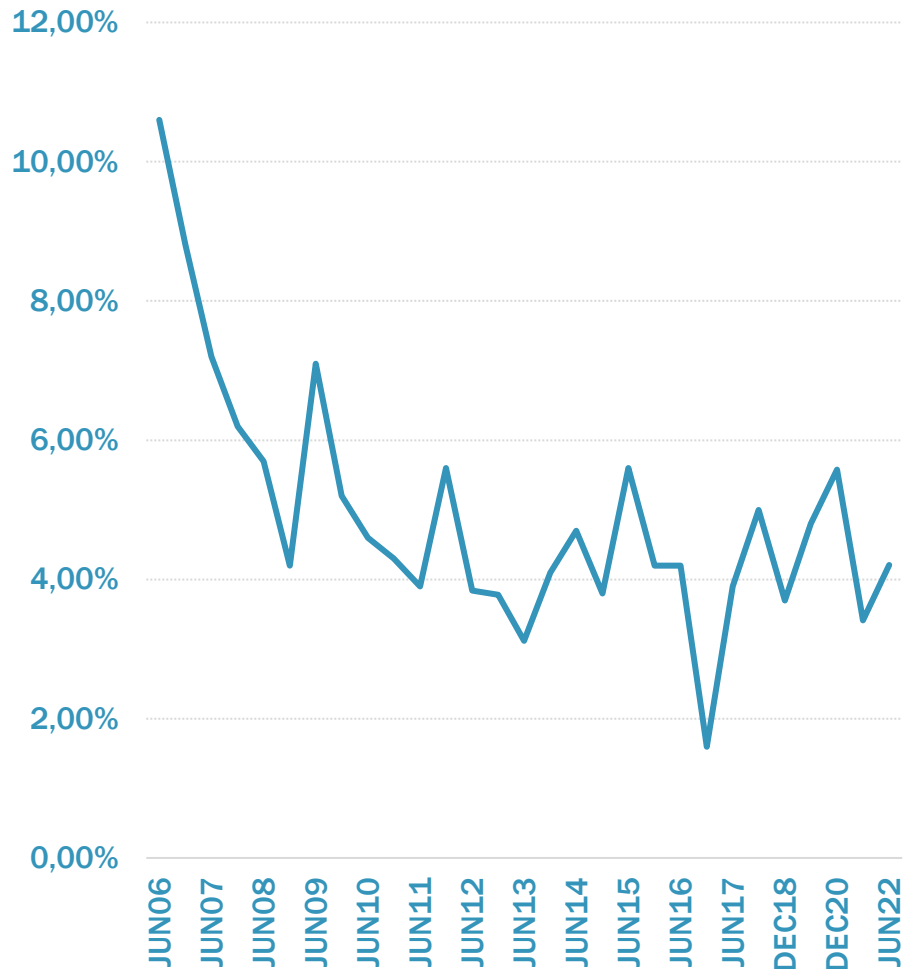
Ownership

Company 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	14	10	24	29	0	29	24	5	29	338	0	338	405	14	419
		PrTechEng	38	0	38	24	0	24	33	0	33	57	0	57	152	0	152
		Other	33	14	48	10	10	19	0	19	19	38	5	43	81	48	128
	Non-Executive Director	PrEng	0	0	0	0	0	0	0	0	0	14	0	14	14	0	14
		PrTechEng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	19	29	48	5	5	10	5	0	5	5	10	14	33	43	76
CC	Member	PrEng	5	0	5	0	0	0	0	0	0	19	0	19	24	0	24
		PrTechEng	0	0	0	0	0	0	0	0	0	14	0	14	14	0	14
		Other	0	0	0	0	0	0	0	0	0	10	0	10	10	0	10
Partnership	Partner	PrEng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		PrTechEng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL			109	52	162	67	14	81	62	24	86	495	14	509	733	105	838

- Woman contributed 12.5 percent in executive or non-executive director roles, of which 86,4 percent were black, coloured or Asian
- Men represented the majority share of 87,5 percent, of which 32,5 percent were represented by black, coloured or Asian
- Ownership / equity roles contributed 4,2 percent of total employment in the current survey

OWNERSHIP

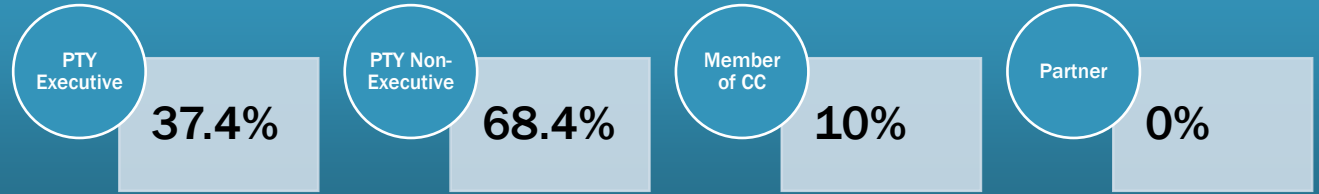
Executive Staff Percentage share of total employment
PTY, CC and Partnerships



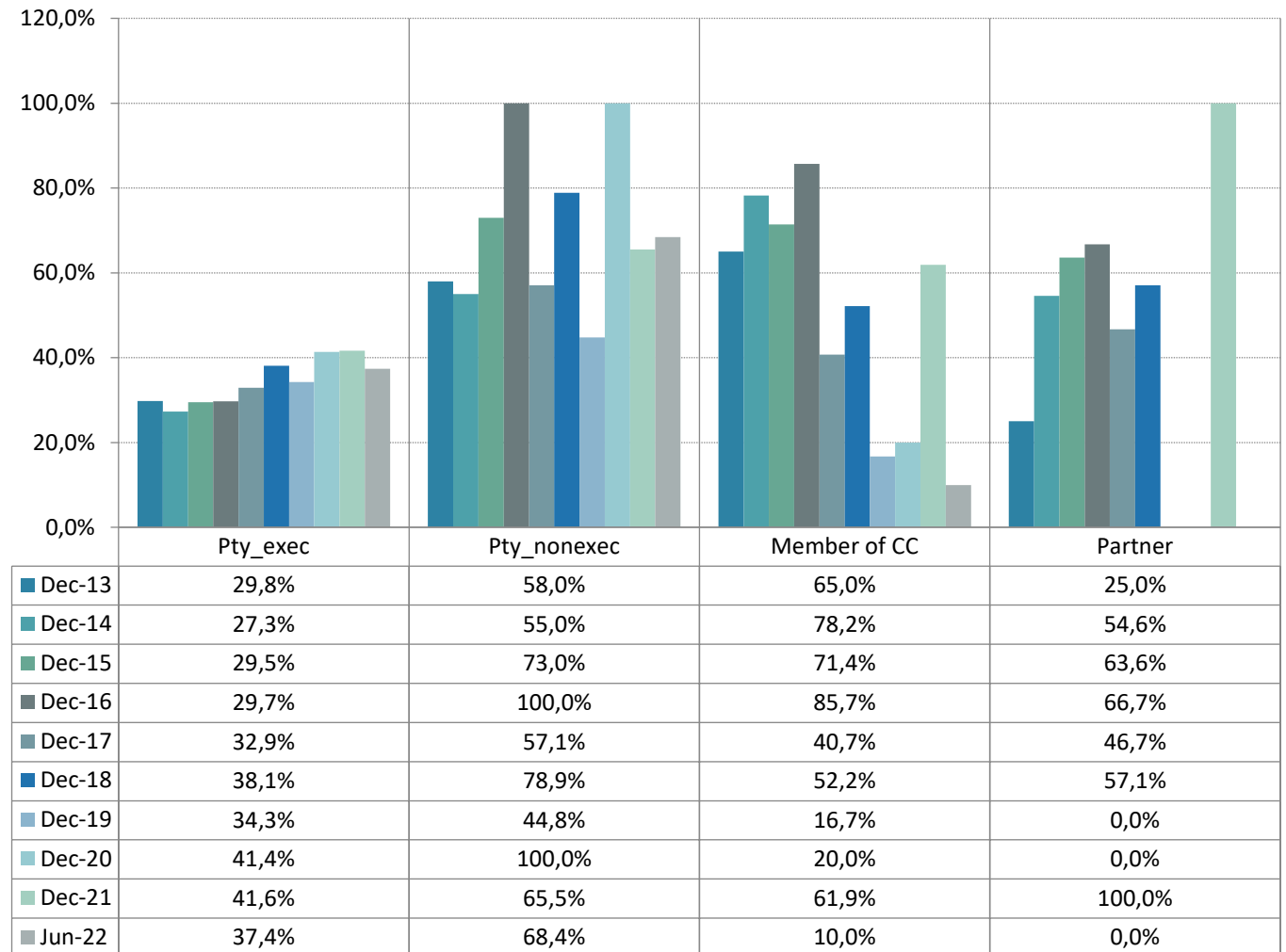
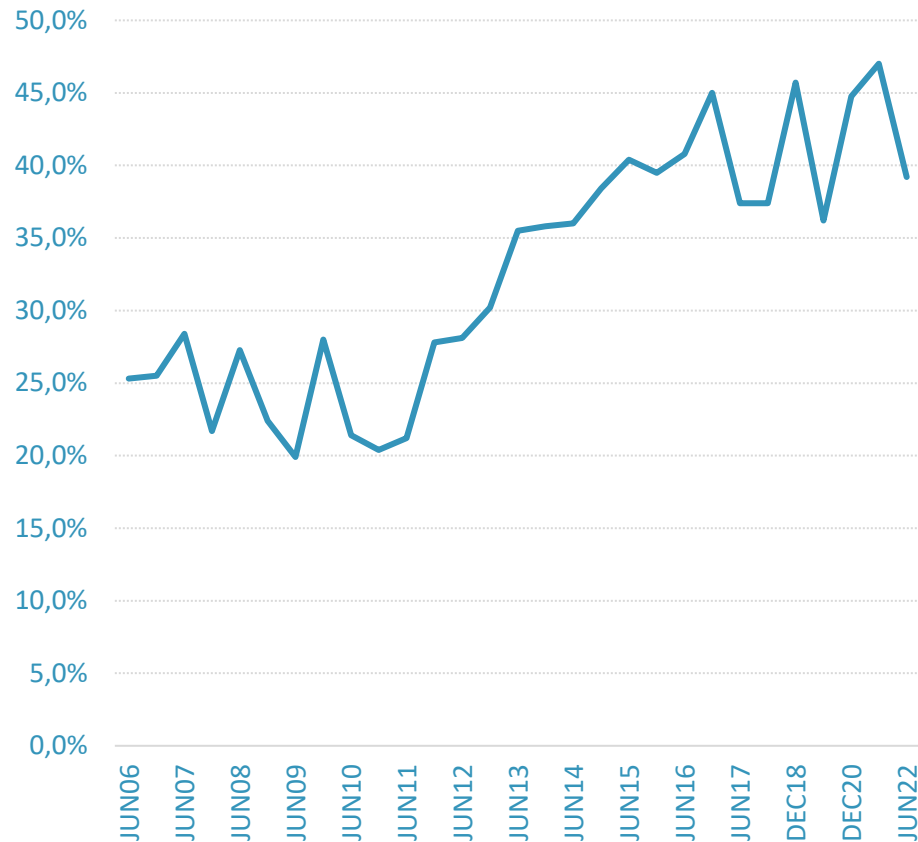
Company Type	Owner category	Professional	Total		
		Category	Male	Female	Total
(PTY) LTD	Executive Director	PrEng	405	14	419
		PrTechEng	152	0	152
		Other	81	48	128
	Non-Executive Director	PrEng	14	0	14
		PrTechEng	0	0	0
		Other	33	43	76
CC	Member	PrEng	24	0	24
		PrTechEng	14	0	14
		Other	10	0	10
Partnership	Partner	PrEng	0	0	0
		PrTechEng	0	0	0
		Other	0	0	0
GRAND TOTAL			733	105	838

Black executive staff

% of total executive staff
Including Black, Coloured and Asian



Percentage share of total executive staff



SURVEY PERIOD	EMPLOYMENT	SALARIES/ WAGES	FEE INCOME RM, ANNUALISED			COST DEFLATOR	
			CURRENT PRICES	CONSTANT 2000 PRICES	CHANGE PREVIOUS SURVEY	CPI	CPI Y-Y CHANGE
Jun-14	23 389	7 006	23 557	10 799	8.5%	218.2	6.2%
Dec-14	22 921	6 808	23 439	10 474	-0.7%	223.8	5.9%
Jun-15	23 838	6 857	23 697	10 389	-3.6%	228.1	4.4%
Dec-15	24 315	6 748	25 119	10 712	2.3%	234.5	4.8%
Jun-16	24 072	6 511	25 068	10 335	-0.5%	242.6	6.3%
Dec-16	23 349	6 699	25 319	10 150	-5.2%	249.4	6.4%
Jun-17	24 283	6 522	26 585	10 352	0.2%	256.8	5.9%
Dec-17	21 369	6 226	27 117	10 377	2.2%	261.3	4.8%
Jun-18	23 934	6 288	24 405	9 113	-12.0%	267.8	4.3%
Dec-18	21 540	4 851	19 280	7 030	-32.3%	274.3	5.0%
Jun-19	21 002	5 109	20 687	7 384	5.0%	279.4	4.3%
Dec-19	19 843	2 756	12 584	4 414	-40.2%	285.1	4.0%
Jun-20	18 851	2 859	12 081	4 182	-5.3%	288.9	3.4%
Dec-20	18 813	2 498	10 800	3 674	-12.2%	294.0	3.1%
Jun-21	16 932	2 434	10 908	3 632	-1.1%	300.3	4.0%
Dec-21	17 761	2 281	10 690	3 456	-4.9%	309.3	5.2%
Jun-22	19 893	2 352	11 727	3 675	6.3%	319.1	6.3%

General financial indicators

Sub-discipline	Jun-21	Dec-21	Jun-22	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Agricultural	0.2%	0.3%	0.7%	0.6%	0.5%	0.2%	0.2%	0.4%
Architecture	2.3%	0.8%	2.0%	1.0%	1.6%	0.4%	0.4%	1.2%
Mechanical building Services	1.0%	13.4%	1.2%	4.3%	4.3%	-3.1%	-3.1%	-12.2%
Civil	40.0%	29.4%	57.3%	49.6%	42.5%	14.8%	14.8%	27.9%
Electrical / Electronic	7.8%	2.8%	5.7%	6.9%	7.4%	-1.7%	-1.7%	2.9%
Environmental	2.0%	0.6%	1.0%	2.2%	1.0%	0.0%	0.0%	0.4%
Facilities Management (New)	0.2%	0.3%	0.8%	0.5%	0.4%	0.4%	0.4%	0.5%
Geotechnical	0.6%	0.5%	0.7%	1.0%	0.7%	0.0%	0.0%	0.2%
Industrial Process / Chemical	9.9%	3.2%	0.0%	1.7%	3.9%	-3.9%	-3.9%	-3.2%
GIS	0.0%	0.1%	0.4%	0.4%	0.1%	0.3%	0.3%	0.3%
Hydraulics (New)	0.4%	0.0%	0.0%	0.8%	0.6%	-0.6%	-0.6%	0.0%
Information Systems / Technology	0.3%	1.4%	0.3%	0.7%	0.9%	-0.6%	-0.6%	-1.1%
Marine	1.1%	1.0%	2.0%	0.5%	0.7%	1.3%	1.3%	1.0%
Mechanical	1.0%	4.3%	1.4%	1.8%	2.6%	-1.2%	-1.2%	-2.9%
Mining	11.0%	11.7%	0.3%	4.4%	6.4%	-6.1%	-6.1%	-11.4%
Project Management	6.0%	8.0%	9.2%	7.7%	8.6%	0.6%	0.6%	1.2%
Quantity Surveying	3.8%	1.4%	6.3%	1.6%	3.2%	3.1%	3.1%	4.9%
Structural	11.9%	18.8%	10.5%	13.4%	13.6%	-3.1%	-3.1%	-8.3%
Town planning	0.5%	2.1%	0.2%	0.9%	0.9%	-0.7%	-0.7%	-1.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%			

Sub-disciplines

Provincial distribution

Province	Survey period								5-year average	2-year average
	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22		
EC	7.8	12.3	6.7	6.3	4.5	6.5	6.20	6.3	7.0	5.9
WC	22.4	23.7	23.0	22.3	25.8	19.7	34.60	24.5	22.4	25.6
NC	1.7	7.1	3.0	2.5	5.1	3.4	3.00	4.1	3.1	3.5
FS	4.6	4.6	3.5	3.9	3.5	2.3	2.10	2.4	3.8	3.0
NW	1.3	1.5	1.6	1.3	1.5	1.7	1.70	2.3	1.5	1.5
LIM	2.1	2.6	2.5	2.0	1.6	2.5	1.60	2.5	3.4	1.9
GAU	36.8	26.5	26.0	27.8	34.0	31.3	19.70	18.2	29.0	28.2
MPU	1.2	1.7	3.0	1.7	1.2	1.9	2.70	2.4	2.3	1.9
KZN	7.9	12.3	16.8	16.5	9.6	12.1	9.70	14.5	12.7	12.0
AFRICAN	14.1	7.3	8.9	12.7	11.5	12.8	10.60	14.6	11.7	11.9
INT'L	0.2	0.5	5.0	3.0	1.8	5.9	8.10	8.2	3.1	4.7
Total	100%	100%	100%	100%	100%	100%	100%	100%		

Client distribution

Client	Survey period							5-year average	2-year average
	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22		
Central	8.0	6.0	5.0	7.5	7.5	8.1	9.1	11.9	7.0
Provincial	10.0	11.0	14.0	10.4	8.4	8.5	8.5	10.4	10.3
Local	28.0	25.0	24.0	26.0	20.1	18.5	24.1	20.0	22.2
State Owned	14.0	14.0	16.0	13.9	14.4	15.0	18.4	13.3	14.8
Private	41.0	44.0	41.0	42.2	49.6	49.9	39.9	44.5	45.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Economic Sector

Economic sector	Jun-21	Dec-21	Jun-22	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Water (Full water cycle)	17%	13.1%	8.6%	11.1%	14.6%	-2.5%	-6.0%	-10.6%
Transportation (land, air, road, rail, ports)	20%	15.2%	1.4%	2.3%	3.6%	-0.9%	-2.2%	-5.5%
Energy (electricity, gas, hydro)	9%	4.5%	1.9%	3.4%	5.9%	-1.5%	-4.0%	-10.8%
Mining / Quarrying	23%	19.2%	2.1%	0.3%	0.5%	1.8%	1.6%	1.9%
Education	2%	6.9%	7.7%	5.1%	2.6%	2.6%	5.1%	6.8%
Health	5%	12.7%	13.7%	16.5%	15.1%	-2.8%	-1.4%	-2.6%
Tourism/Leisure	0%	0.2%	0.4%	0.4%	0.2%	0.0%	0.2%	0.0%
Housing (residential inc. land)	2%	0.9%	13.8%	9.4%	12.0%	4.4%	1.8%	3.1%
Commercial	10%	16.3%	8.6%	11.1%	14.6%	-2.5%	-6.0%	-10.6%
Agriculture / Forestry / Fishing	0%	0.4%	1.4%	2.3%	3.6%	-0.9%	-2.2%	-5.5%
Other	11%	10.7%	1.9%	3.4%	5.9%	-1.5%	-4.0%	-10.8%
Total	100%	100%	100%					

Confidence Index

Survey Period	CESA Confidence Index	% Change on previous survey	% Change on survey same time last year
Jun-13	84.0	20.0%	2.7%
Dec-13	98.1	16.8%	40.1%
Jun-14	87.7	-10.6%	4.4%
Dec-14	46.3	-47.2%	-52.8%
Jun-15	44.5	-3.9%	-49.3%
Dec-15	39.4	-11.5%	-14.9%
Jun-16	75.0	90.4%	68.5%
Dec-16	87.5	16.7%	122.1%
Jun-17	96.3	10.1%	28.4%
Dec-17	54.4	-43.5%	-37.8%
Jun-18	26.8	-50.6%	-72.1%
Dec-18	31.3	16.6%	-42.4%
Jun-19	33.2	6.1%	23.8%
Dec-19	36.1	8.4%	15.0%
Jun-20	29.6	-17.9%	-11.1%
Dec-20	19.2	-35.3%	-46.9%
Jun-21	47.8	149.4%	61.4%
Dec-21	56.4	18.1%	194.5%
Jun-22	52.1	-7.7%	9.0%
Dec-22 (forecast)	48.9	-6.1%	-13.3%
Jun-23 (forecast)	39.1	-20.0%	-24.9%

Employment profile

Job Category	Black	Coloured	Asian	White	Total	% Share by type
Professional Engineer Pr.Eng	5.4%	2.7%	7.5%	84.5%	100.00%	16.0%
Professional Architects	5.6%	0.0%	16.7%	77.8%	100.00%	0.4%
Professional Quantity Surveyors	10.3%	7.7%	23.1%	59.0%	100.00%	0.9%
Professional Other	13.0%	2.3%	10.2%	74.6%	100.00%	4.2%
Technologists Pr TEChEng	13.2%	6.4%	10.7%	69.6%	100.00%	6.7%
Technicians PrTechni	31.5%	15.1%	1.4%	52.1%	100.00%	1.7%
Unregistered technical staff: Engineer	24.4%	10.0%	17.5%	48.0%	100.00%	16.0%
Unregistered technical staff: Technologist	37.2%	15.6%	16.7%	30.5%	100.00%	6.7%
Unregistered technical staff: Technician	56.1%	10.9%	16.2%	16.8%	100.00%	7.2%
Unregistered technical staff: Other	31.0%	16.7%	8.5%	43.8%	100.00%	6.2%
Technical Assistants	27.6%	15.8%	7.9%	48.8%	100.00%	7.9%
Draughts Persons	13.6%	13.6%	25.0%	47.9%	100.00%	5.6%
Laboratory / Survey Assistants	29.2%	16.7%	29.2%	25.0%	100.00%	0.6%
Administration / Support staff	40.0%	18.0%	6.2%	35.8%	100.00%	19.7%
Total					100.00%	100.00%

Employment profile

by Race, gender and job category

Current Survey

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	0.7%	0.2%	0.9%	0.4%	0.0%	0.4%	1.0%	0.2%	1.2%	11.9%	1.6%	13.5%	14.0%	2.1%	16.0%
Professional Architects	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%	0.2%	0.4%
Professional Quantity Surveyors	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.2%	0.4%	0.1%	0.6%	0.6%	0.3%	0.9%
Professional Other	0.3%	0.2%	0.6%	0.0%	0.1%	0.1%	0.1%	0.3%	0.4%	1.9%	1.3%	3.2%	2.4%	1.9%	4.2%
Technologists Pr TEChEng	0.8%	0.1%	0.9%	0.4%	0.0%	0.4%	0.6%	0.1%	0.7%	4.5%	0.1%	4.7%	6.3%	0.4%	6.7%
Technicians PrTechni	0.4%	0.1%	0.6%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.8%	0.1%	0.9%	1.4%	0.4%	1.7%
Unregistered technical staff: Engineer	2.8%	1.1%	3.9%	1.0%	0.6%	1.6%	1.4%	1.4%	2.8%	4.9%	2.7%	7.7%	10.1%	5.9%	16.0%
Unregistered technical staff: Technologist	1.5%	1.1%	2.5%	0.7%	0.4%	1.1%	0.6%	0.5%	1.1%	1.3%	0.7%	2.1%	4.1%	2.7%	6.7%
Unregistered technical staff: Technician	2.8%	1.2%	4.1%	0.6%	0.2%	0.8%	0.3%	0.9%	1.2%	0.9%	0.4%	1.2%	4.6%	2.7%	7.2%
Unregistered technical staff: Other	1.0%	0.9%	1.9%	0.7%	0.4%	1.0%	0.4%	0.1%	0.5%	1.8%	0.9%	2.7%	3.8%	2.3%	6.2%
Technical Assistants	1.2%	0.9%	2.2%	0.7%	0.5%	1.2%	0.3%	0.3%	0.6%	2.1%	1.7%	3.9%	4.4%	3.5%	7.9%
Draughts Persons	0.5%	0.3%	0.8%	0.6%	0.2%	0.8%	0.2%	1.2%	1.4%	1.9%	0.8%	2.7%	3.2%	2.4%	5.6%
Laboratory / Survey Assistants	0.0%	0.1%	0.2%	0.0%	0.1%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%	0.1%	0.3%	0.3%	0.6%
Administration / Support staff	2.6%	5.3%	7.9%	1.1%	2.5%	3.5%	0.5%	0.7%	1.2%	1.5%	5.5%	7.1%	5.7%	14.0%	19.7%
Total	14.6%	11.7%	26.3%	6.3%	5.1%	11.4%	5.8%	5.9%	11.7%	34.3%	16.2%	50.6%	61.1%	38.9%	100.0%

CESA Contact Details

Email CESA at general@cesa.co.za

Telephonic Contacts:

Tel: +27 (011) 463 2022

Fax: +27 (011) 463 7383

Physical Address:

Building 9, Kildrummy Office Park,
Cnr Witkoppen & Umhlanga Roads, Paulshof
Johannesburg. South Africa

Postal Address:

PO Box 68482
Bryanston, Johannesburg, South Africa
2021

Thank you