

Working with Regional Labour Force Data in South Africa – How reliable are our estimates?

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Who cares about regional data?

- Development happens somewhere - in a spatial locality.
- Aggregations may hide patterns in the data
 - Within South Africa: the Eastern Cape is completely different to the Western Cape!
 - Within the Eastern Cape: the Eastern region (former homelands) is completely different to the Western region
 - The Cape Town metro is very different from the Buffalo City Metro
- See Example

Who cares about regional data?

| Student | A | B | C | D | E | F | G | H |
|---------|----|----|----|----|----|----|----|----|
| Score | 15 | 18 | 23 | 26 | 89 | 90 | 95 | 97 |

- What is the average test score?
–56.6%

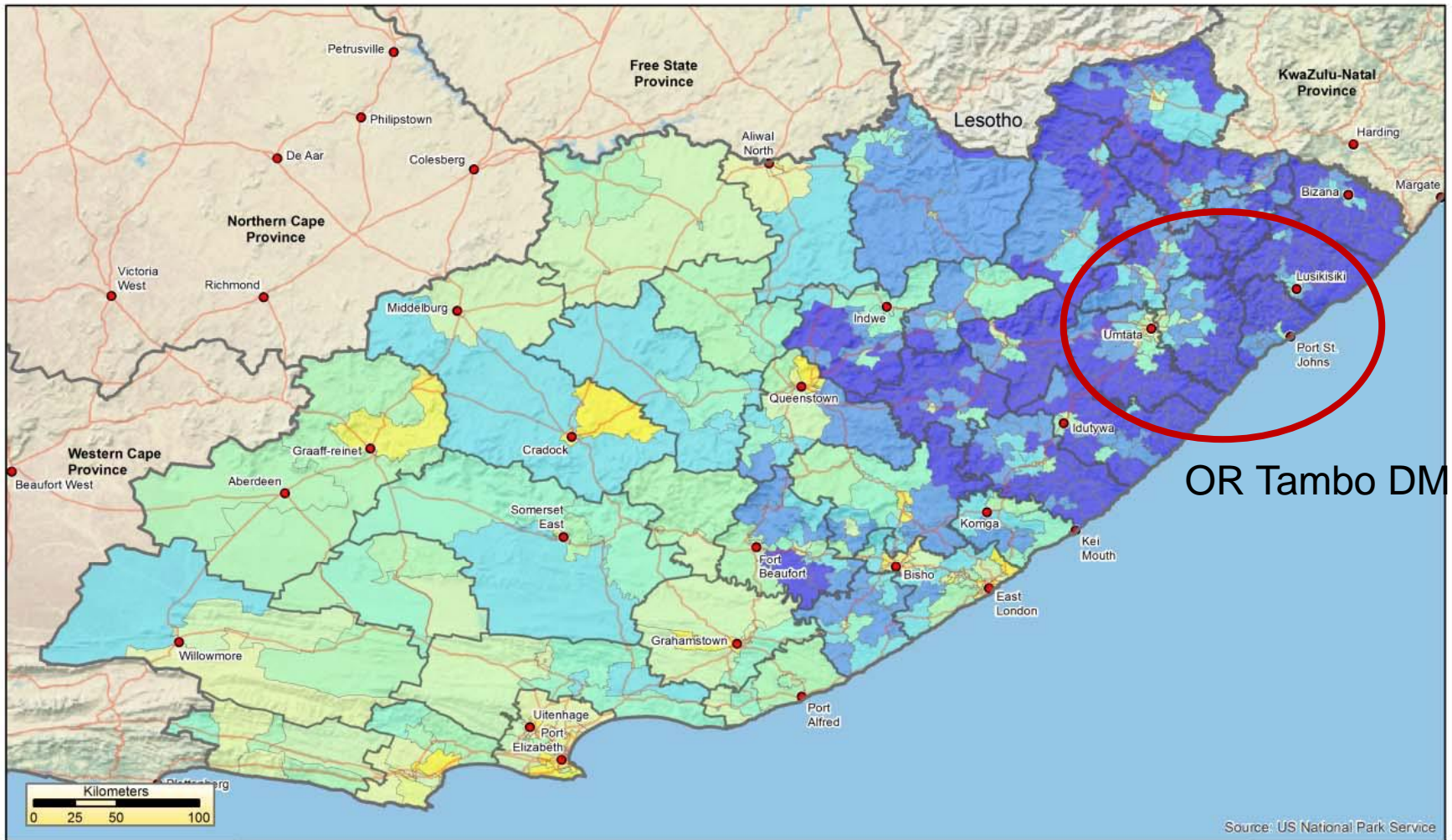


Background

- South Africa is well-resourced with a number of national household surveys that are administered by StatsSA on a regular basis
- Basic descriptive statistics are reported amongst research/policy units at local/provincial/national government (and popularised in the media).
 - But in working for government I have yet to come across any indication of the accuracy of the statistics?
- Service providers who model data down to local level also provide ‘interesting’ numbers. (see example)
 - ultimately largely dependent on StatsSA

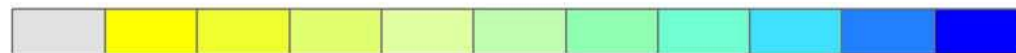


Ward-level SAIMD 2011 Eastern Cape Province



OR Tambo DM

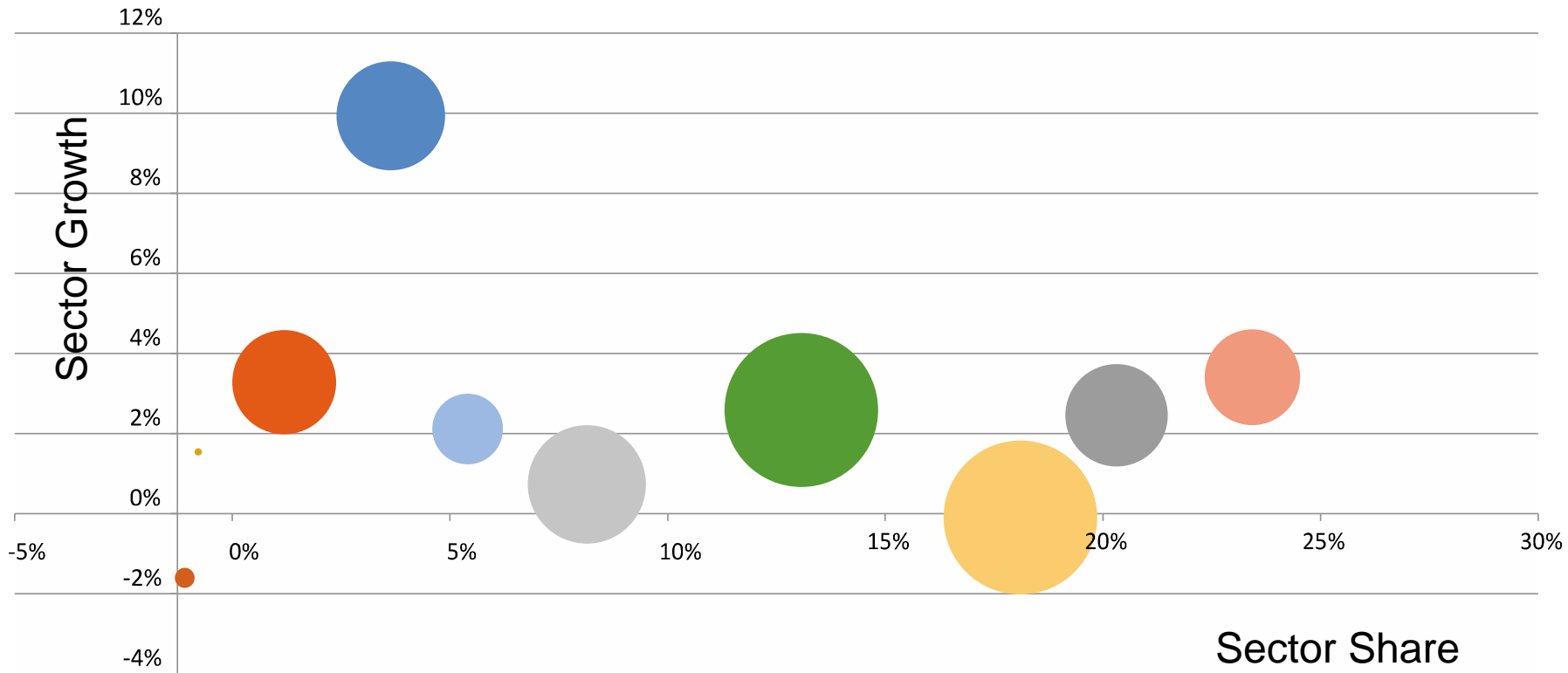
National deciles



Empty
Least deprived

Most deprived

O.R. TAMBO SECTOR CONTRIBUTION



- Agriculture, forestry and fishing
 - Manufacturing
 - Construction
 - Transport, storage and communication
 - Community, social and personal services
- Mining and quarrying
 - Electricity, gas and water
 - Wholesale and retail trade, catering and accommodation
 - Finance, insurance, real estate and business services
 - General government



Methodology

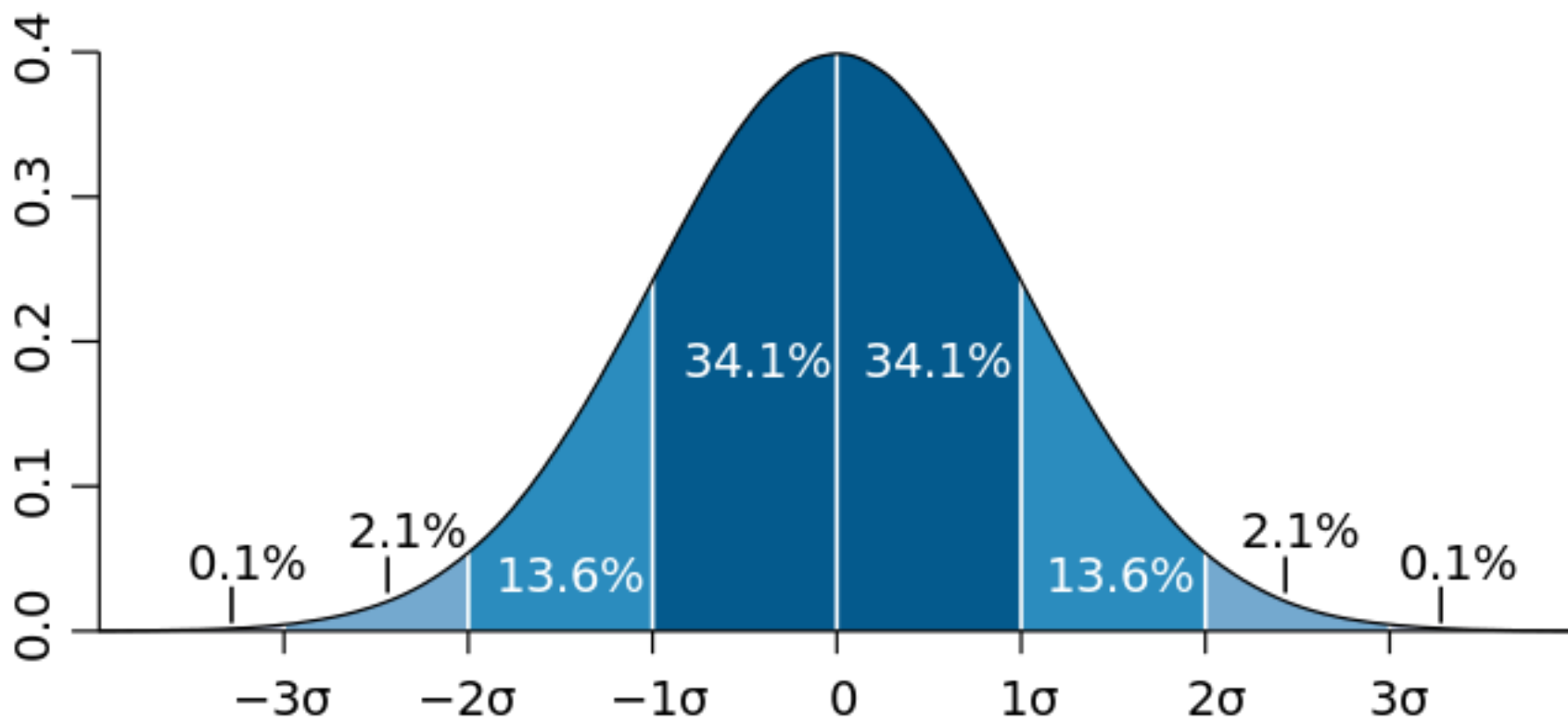
- Make use of the Quarterly Labour Force Survey: 2008 Q4 – 2014 Q4
 - Post 2014 StatsSA introduced new master sample: so this allows for best comparability across time
- Estimate standard errors and related measures of sample variance
- A brief note on statistics:



What is the standard error?

- Any statistic calculated from a sample survey will always be slightly different from the true population estimate.
- The larger the sample, the closer to the true population statistic i.e. the more accurate you are.
- Crudely: The standard error depicts the distribution of sample variance of the estimate





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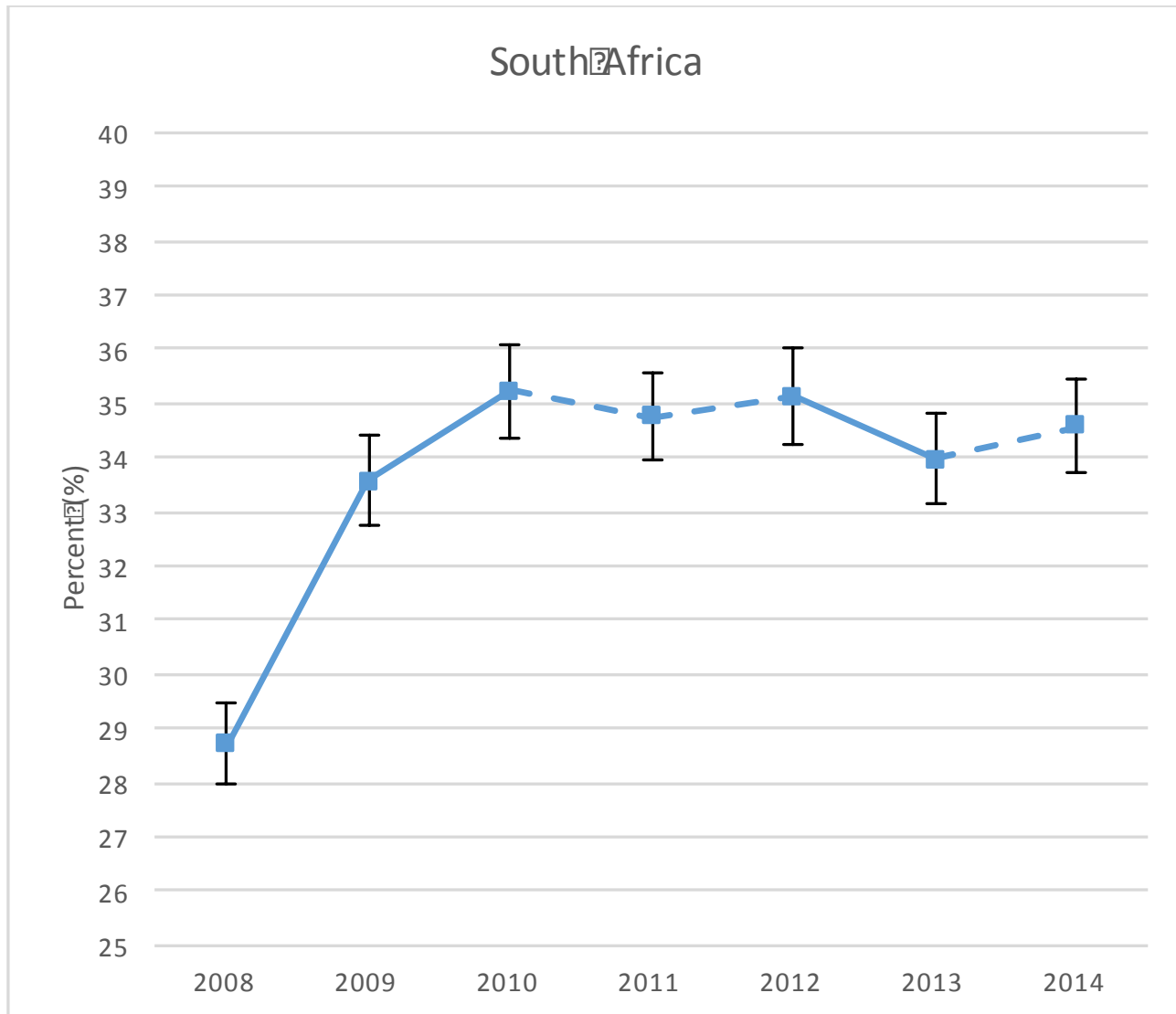
Results – QLFS Data



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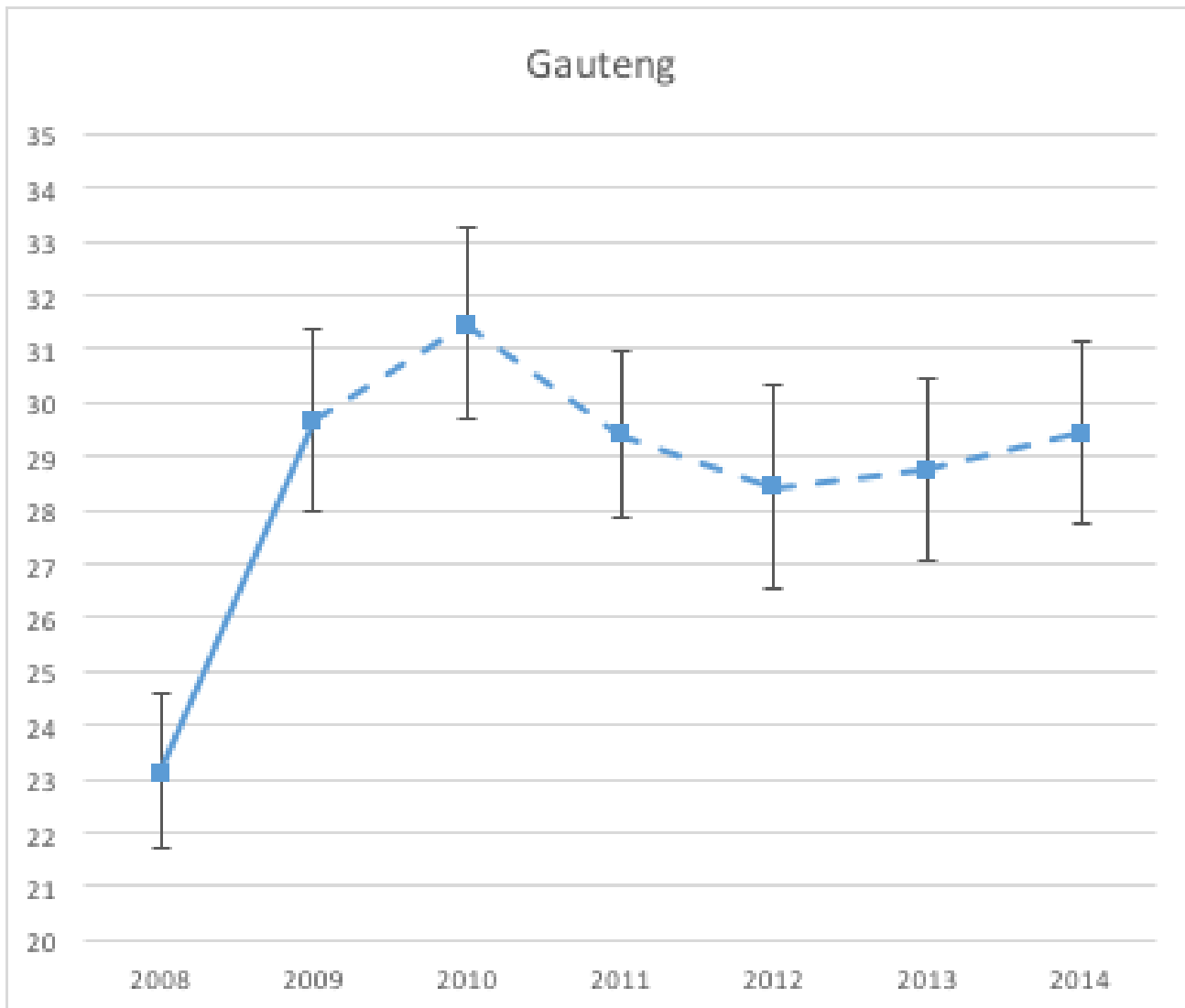
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Unemployment rate



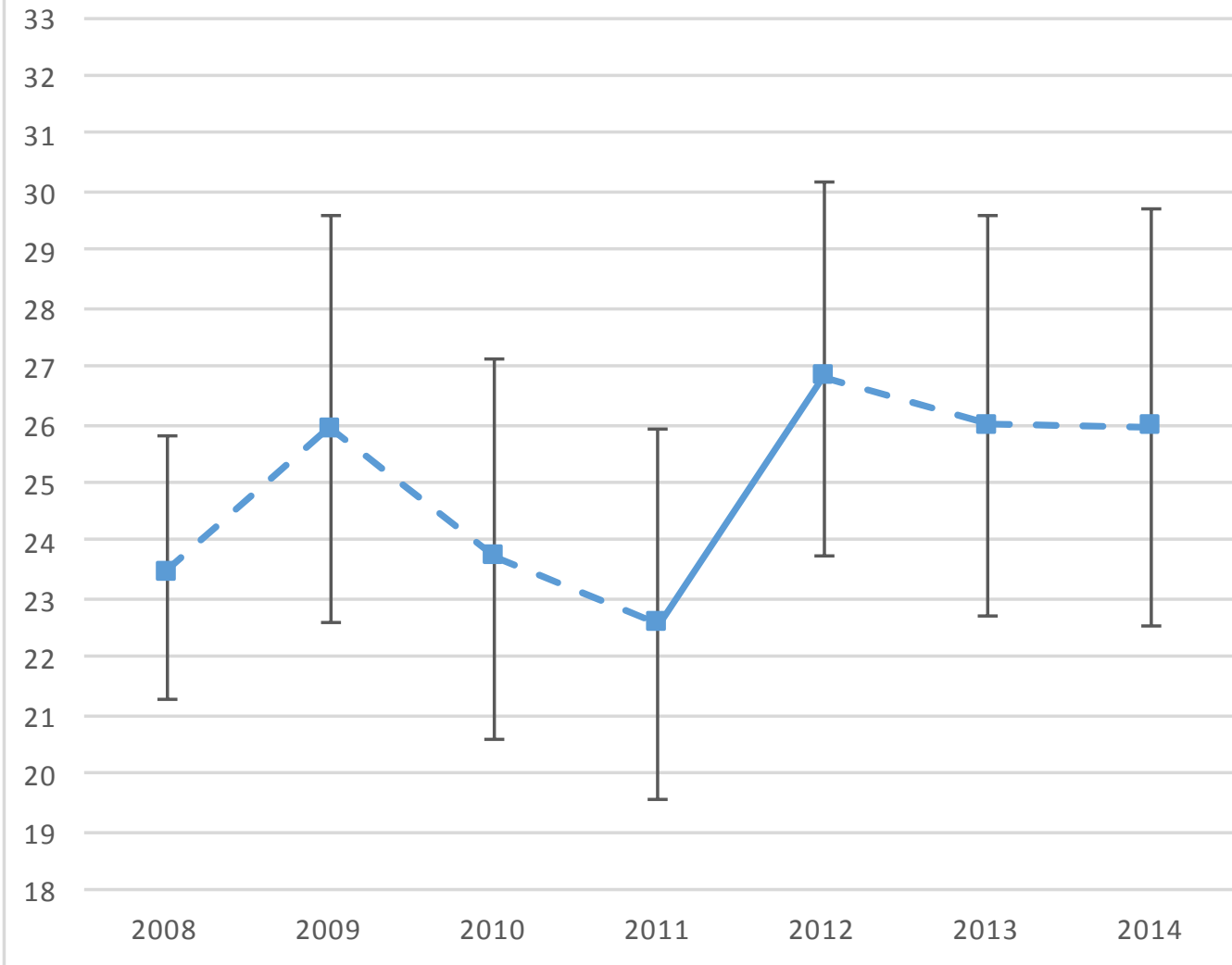
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Unemployment rate

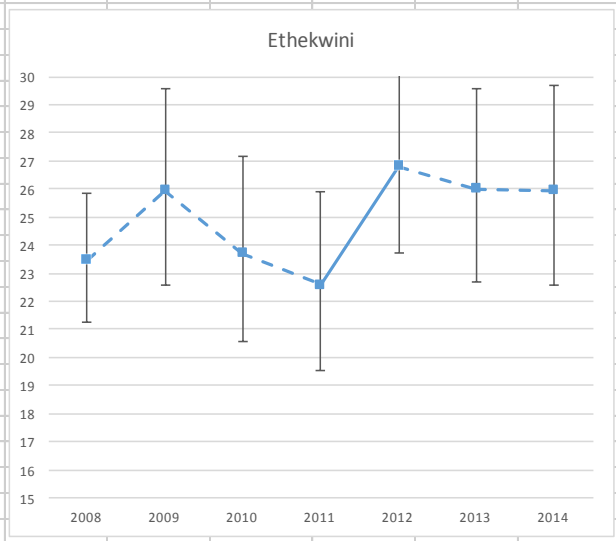
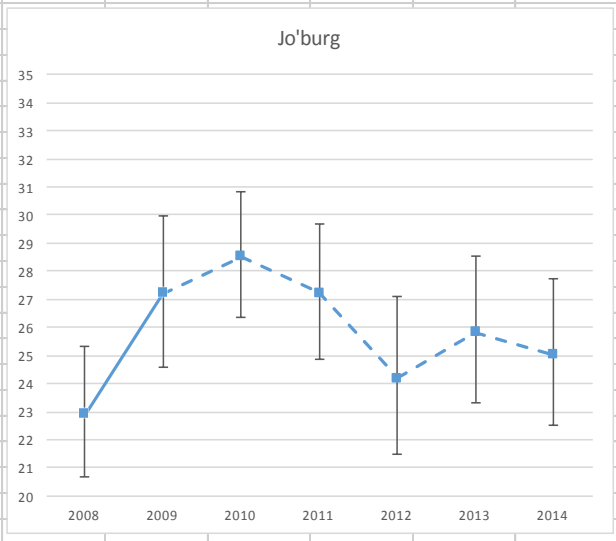
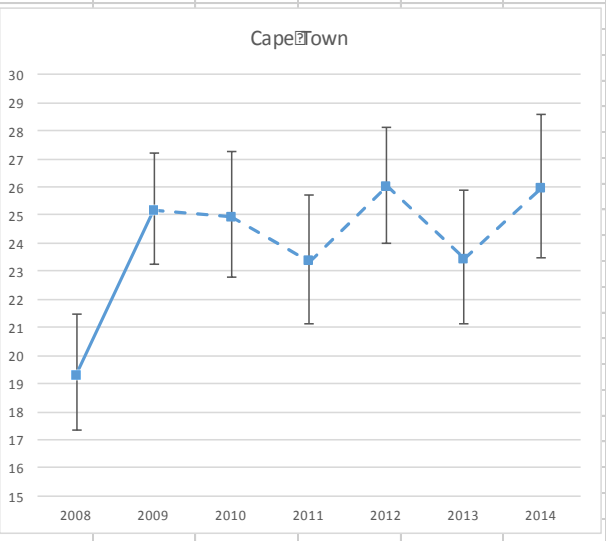
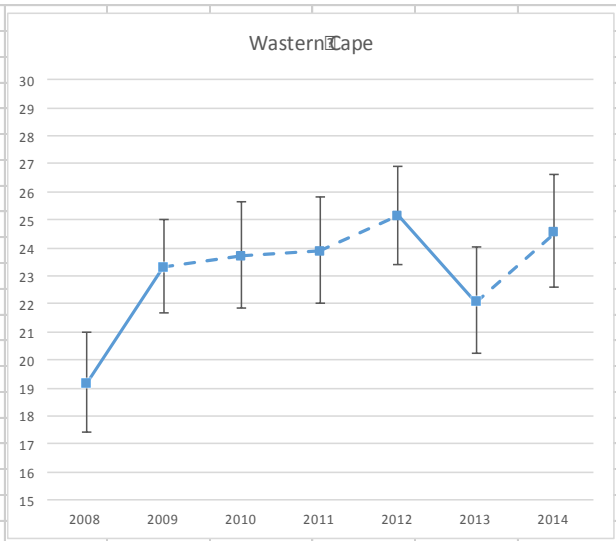
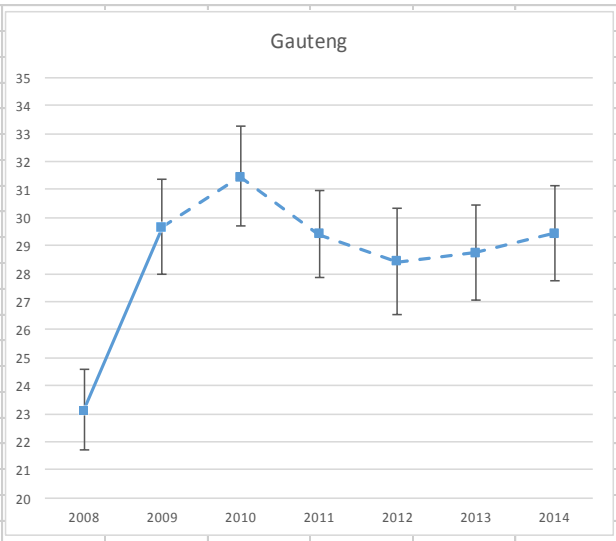
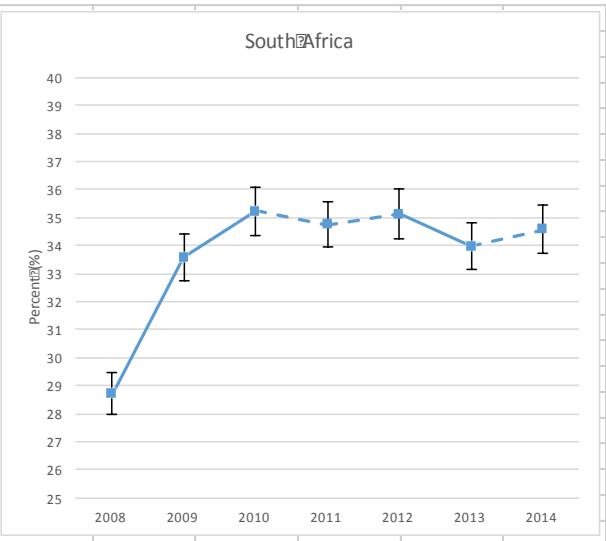
Ethekwini



Unemployment rate

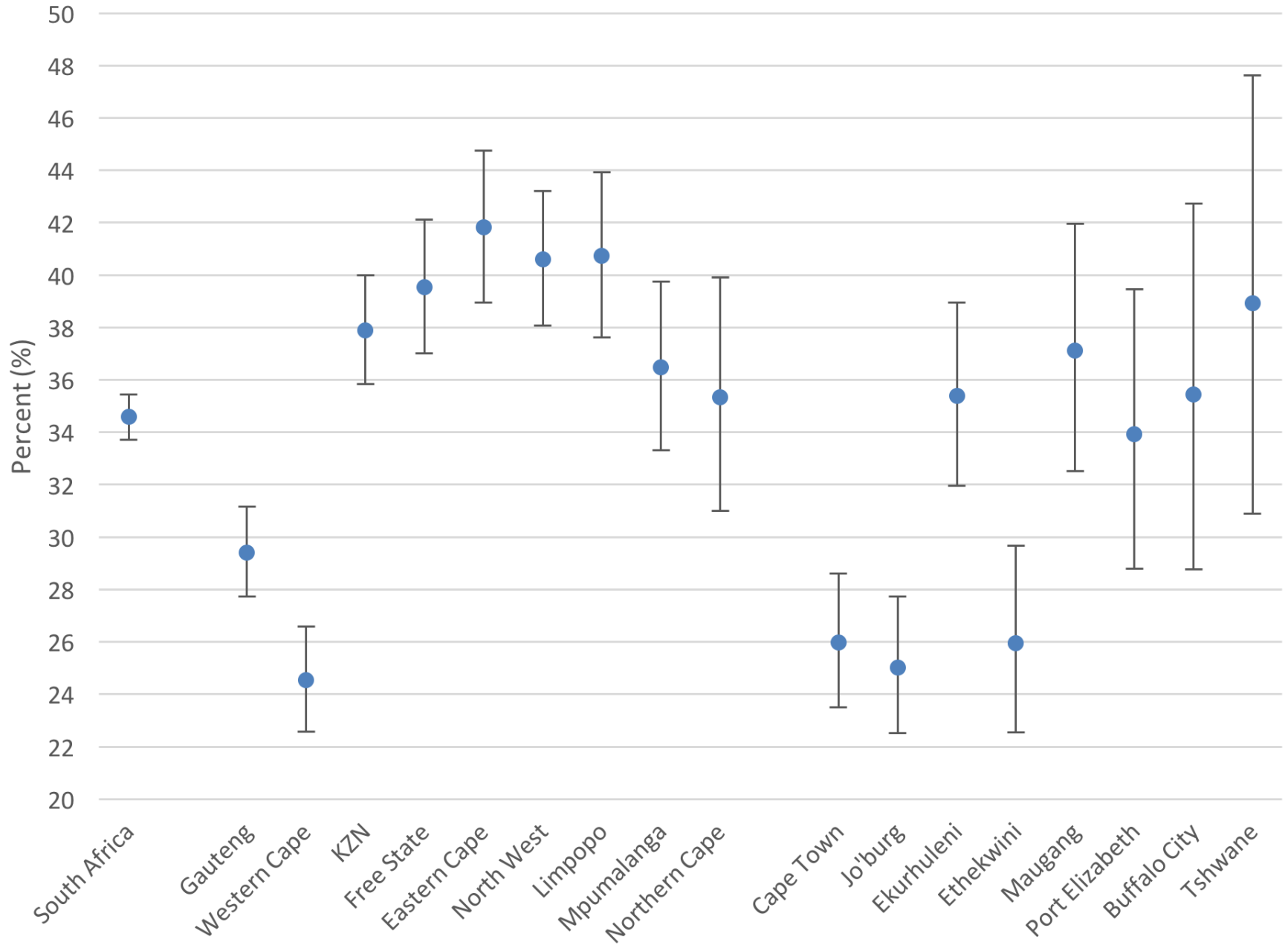


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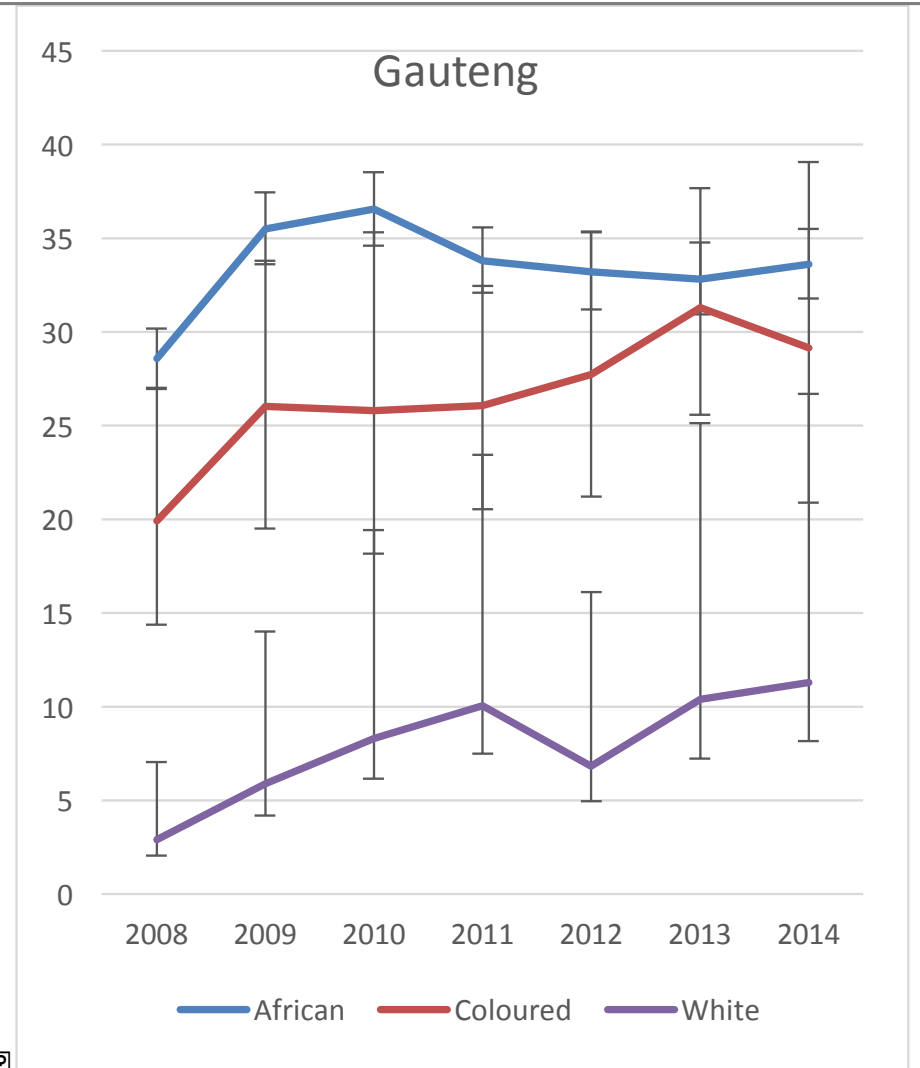
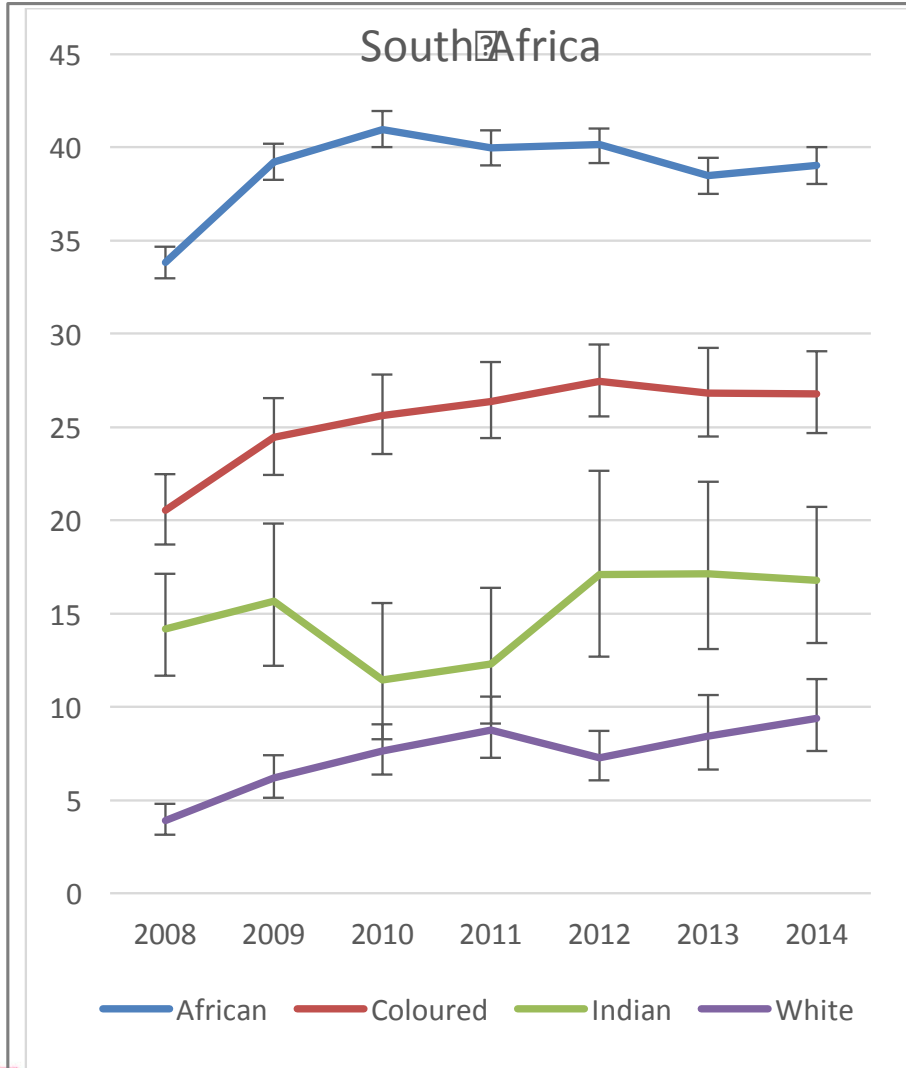


| | | Obs | SE | SE factor of RSA | Size of CI @95% | Rule of thumb | Size of CI @75% | Rule of thumb |
|------------|---------------|-------|------|---------------------|--------------------|------------------|--------------------|------------------|
| | South Africa | 33168 | 0.42 | n/a | 1.66 | 1.04 | 0.97 | 0.61 |
| Provincial | Gauteng | 6217 | 0.86 | 2.0 | 3.35 | 2.10 | 1.97 | 1.23 |
| | Western Cape | 4377 | 0.86 | 2.0 | 3.69 | 2.30 | 2.16 | 1.35 |
| | KwaZulu-Natal | 5186 | 1.09 | 2.6 | 4.26 | 2.66 | 2.50 | 1.56 |
| | Limpopo | 3393 | 1.42 | 3.4 | 5.55 | 3.47 | 3.26 | 2.04 |
| | Free State | 3028 | 1.30 | 3.1 | 5.10 | 3.19 | 2.99 | 1.87 |
| | Eastern Cape | 3275 | 1.35 | 3.2 | 5.28 | 3.30 | 3.10 | 1.94 |
| | Mpumalanga | 3132 | 1.42 | 3.4 | 5.56 | 3.48 | 3.26 | 2.04 |
| | North West | 3009 | 1.35 | 3.2 | 5.27 | 3.30 | 3.09 | 1.93 |
| | Northern Cape | 1552 | 1.99 | 4.7 | 7.79 | 4.87 | 4.57 | 2.86 |
| Metro | Cape Town | 2928 | 1.13 | 2.7 | 4.44 | 2.78 | 2.61 | 1.63 |
| | Jo'burg | 2522 | 1.29 | 3.0 | 5.06 | 3.16 | 2.97 | 1.85 |
| | Ethekwini | 2042 | 1.63 | 3.9 | 6.41 | 4.01 | 3.76 | 2.35 |
| | Ekurhuleni | 1511 | 1.76 | 4.2 | 6.91 | 4.32 | 4.06 | 2.53 |
| | PE | 899 | 2.44 | 5.8 | 9.54 | 5.96 | 5.60 | 3.50 |
| | Mangaung | 872 | 2.12 | 5.0 | 8.31 | 5.19 | 4.88 | 3.05 |
| | Buffalo City | 534 | 2.99 | 7.1 | 11.69 | 7.30 | 6.86 | 4.29 |
| | Tshwane | 314 | 3.91 | 9.3 | 15.22 | 9.51 | 8.93 | 5.58 |

Rate of unemployment, 2014Q4

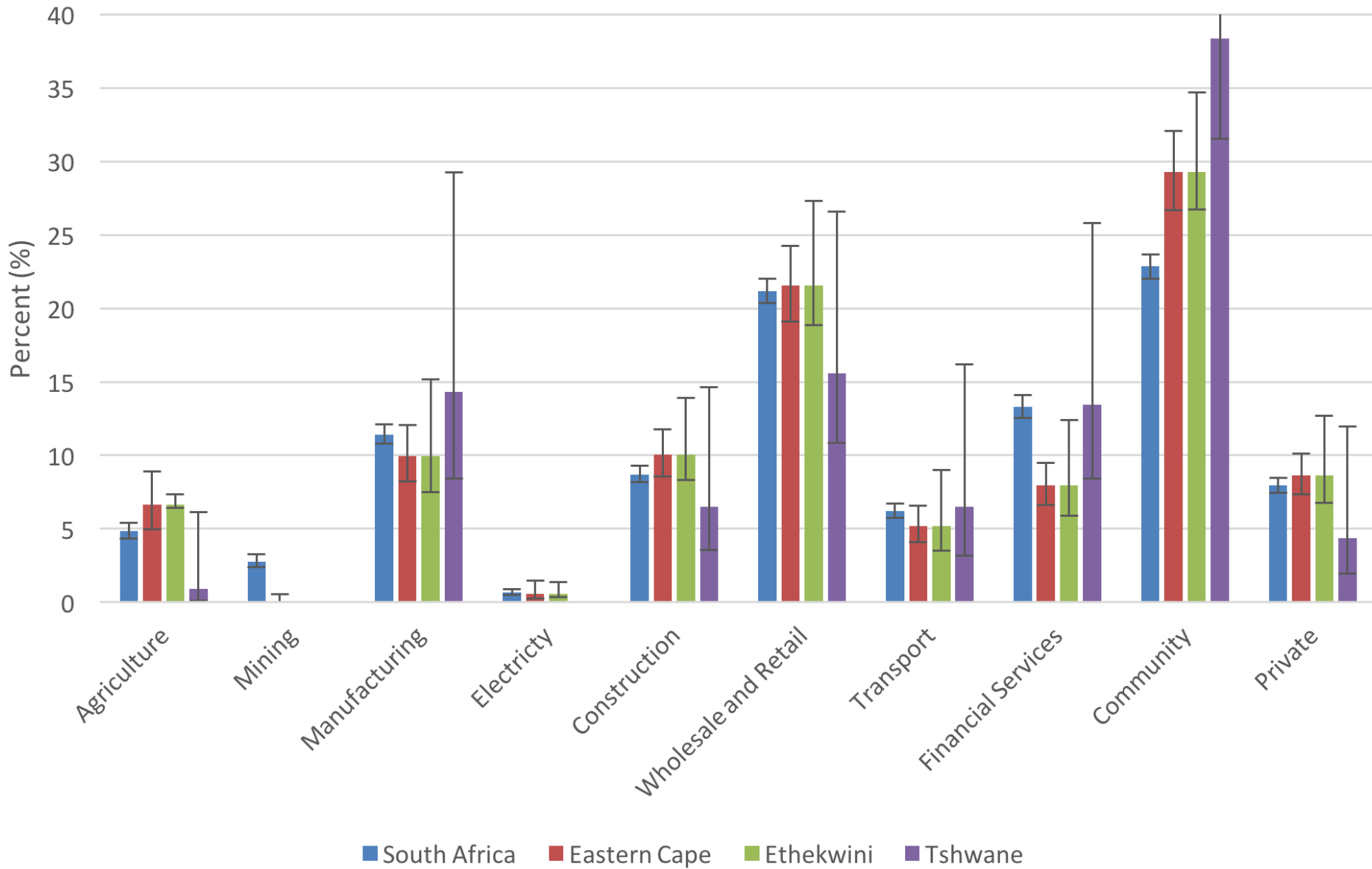


Rate of unemployment by race and region



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Employment by industry, 2014Q4



Handled with care?



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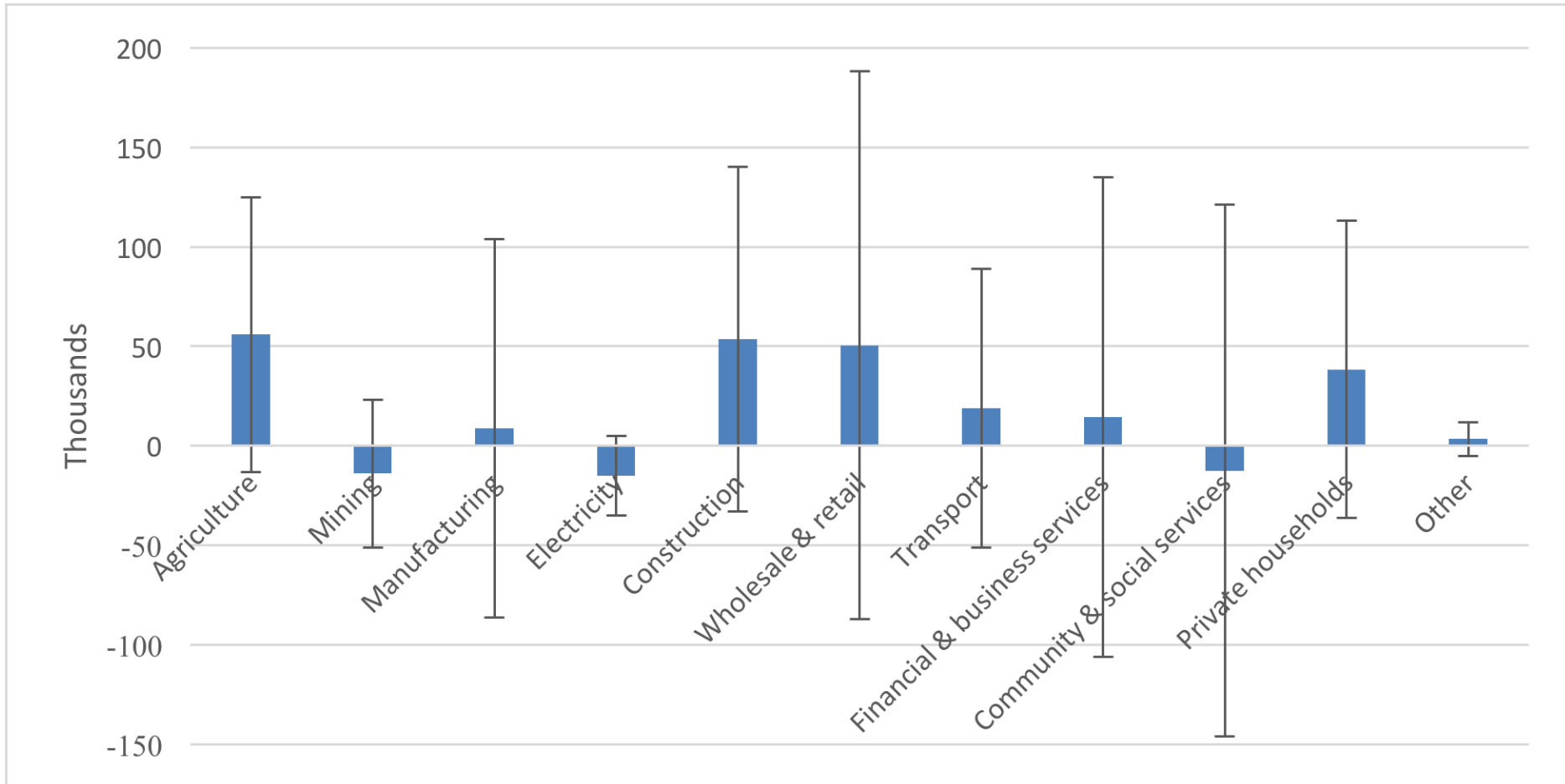
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Statistics South Africa Table: Key Labour Market Indicators – QLFS 2014Q4

| | Jul-Sep 2014 | Oct-Dec 2014 | Abs. change | % change | Statistically significant at confidence level of: | | | | | P- value |
|---------------------------------|-----------------|-----------------|----------------|-------------|--|-----|-----|-----|-----|-------------|
| | Thousands | | | | 95% | 90% | 85% | 80% | 75% | |
| Population aged 15-64 | 35 489 | 35 643 | 155 | 0.4 | X | X | X | X | X | 0.70 |
| Labour force | 20 268 | 20 228 | -40 | -0.2 | X | X | X | X | X | 0.92 |
| Employed | 15 117 | 15 320 | 203 | 1.3 | X | X | X | X | X | 0.30 |
| Formal sector (non-agri) | 10 843 | 10 911 | 68 | 0.6 | X | X | X | X | X | 0.66 |
| Informal sector (non-agri) | 2 407 | 2 448 | 41 | 1.7 | X | X | X | X | X | 0.51 |
| Agriculture | 686 | 742 | 56 | 8.2 | X | X | ✓ | ✓ | ✓ | 0.11 |
| Private households | 1 180 | 1 219 | 38 | 3.2 | X | X | X | X | X | 0.31 |
| Unemployed | 5 151 | 4 909 | -242 | -4.7 | ✓ | ✓ | ✓ | ✓ | ✓ | 0.05 |
| Not economically active | 15 221 | 15 415 | 194 | 1.3 | X | X | X | X | X | 0.35 |
| Discouraged job-seekers | 2 514 | 2 403 | -111 | -4.4 | X | X | ✓ | ✓ | ✓ | 0.15 |
| Other (NEA) | 12 707 | 13 012 | 305 | 2.4 | X | X | ✓ | ✓ | ✓ | 0.09 |
| Rates (%) | | | | | | | | | | |
| Unemployment rate | 25.4 | 24.3 | -1.1 | -4.5 | ✓ | ✓ | ✓ | ✓ | ✓ | 0.01 |
| Labour absorption rate | 42.6 | 43.0 | 0.4 | 0.9 | X | X | X | X | ✓ | 0.22 |
| Labour force participation rate | 57.1 | 56.8 | -0.4 | -0.6 | X | X | X | X | X | 0.29 |



StatsSA Figure: Change in QoQ formal-sector employment by industry, 2014Q4



| News Headline | Source |
|---|-------------------------|
| 10-Feb | |
| SA employment stats improve slightly, unemployment still huge issue | All4Women |
| Unemployment decreases in 4th quarter | SANews.gov.za |
| Construction Industry biggest contributor to y/y increase in employment | SA Construction News |
| Unemployment rate eases | Moneyweb |
| South Africa's jobless rate eases to 24.3 percent in Q4 2014 | Sharenet |
| Unemployment falls in fourth quarter | BDlive |
| Jobless rate eases to 24.3% | News24, Fin24 |
| SA's jobless rate dips | IOL |
| South Africa's jobless rate eases to 24.3% in Q4 2014 | Engin. News, Polity.org |
| SA's unemployment rate dips | iAfrica.com |
| S.Africa's jobless rate eases to 24.3% in Q4 2014 | CNBC Africa |
| Rand extends losses as commodity currencies remain under pressure | BDlive |
| Unemployment rate in South Africa declines 24.3% in fourth quarter 2014 | eProp |
| 11-Feb | |
| Unemployment rate drops to 24.3% | CapeArgus |
| Survey: Drop in Joblessness | The Witness |
| Unemployment rate dips to 24.3% | Daily News |
| 12-Feb | |
| EC bucks Q4 trend and loses jobs | Daily Dispatch |



Final Comments



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Conclusions

- Understanding regional dynamics is very important but regular household survey data is limited (even at national!)
- Identifying patterns between heterogeneous groups may be more fruitful than changes over time
- Longer time periods will be more fruitful than shorter time periods
- StatsSA should consider including error bars etc. in the main section of their survey reports
- A health scrutiny of basic statistics needs to be encouraged



Recommendations

- Census and community surveys should be emphasised as a sanity check (particularly for LMs!!!)
- More training should be done to promote basic statistical awareness amongst policy makers
- A programme of regional data generation should be encouraged:
 - Pooling of household survey datasets?
 - Is there a case for less is more in terms of frequency versus size?
 - Specific regional surveys (e.g. quality of life survey)
 - SARS Anonymised Data
 - **Data Technical Working Group: a host of brilliant projects**
- *New Research Agenda to be driven in exploring patterns and peculiarities for each regional context*





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