



CHAMBER OF MINES
of South Africa

MINING SECTOR RESPONSE TO ESKOM'S RCA APPLICATION TO NERSA



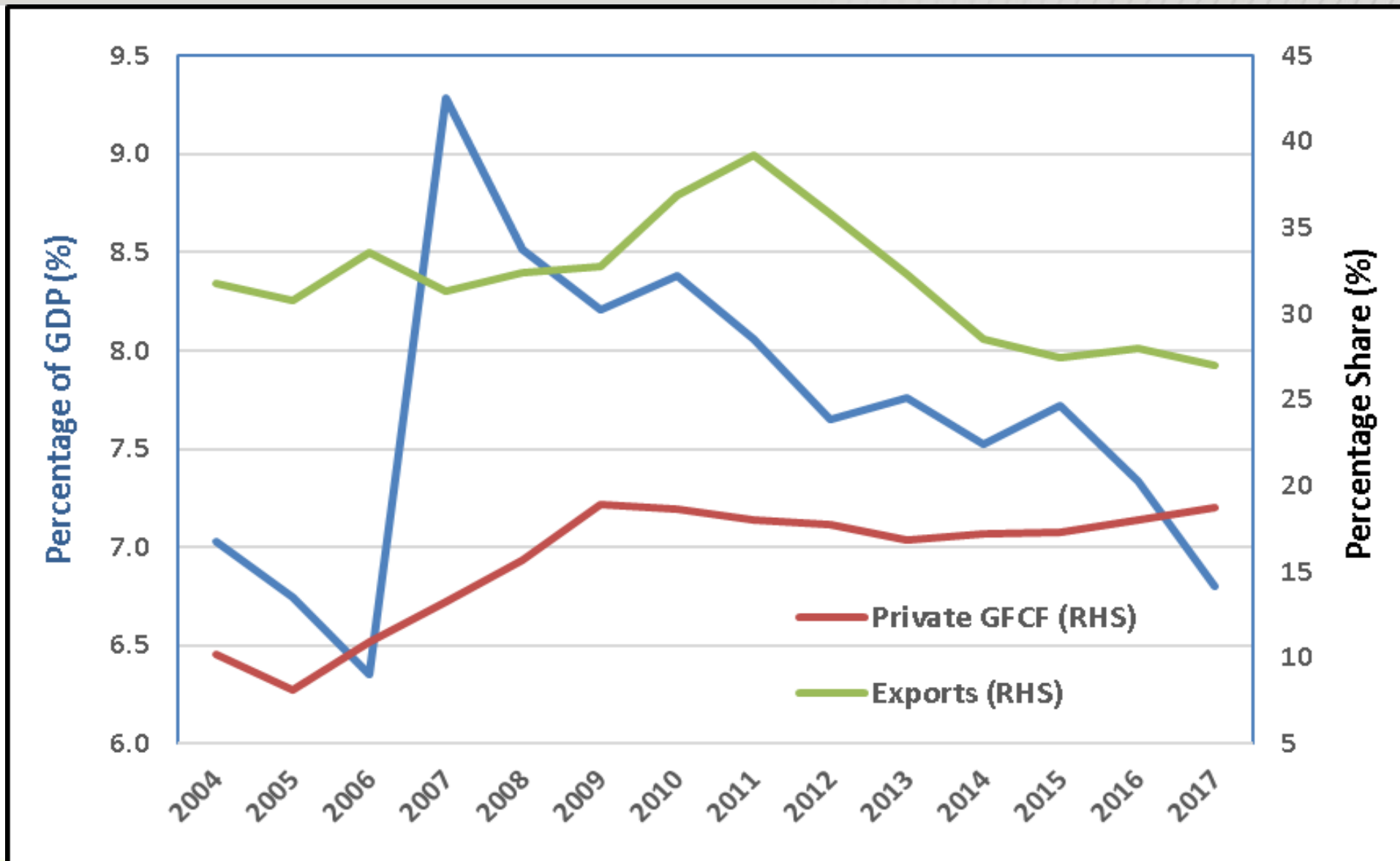
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14 May 2018



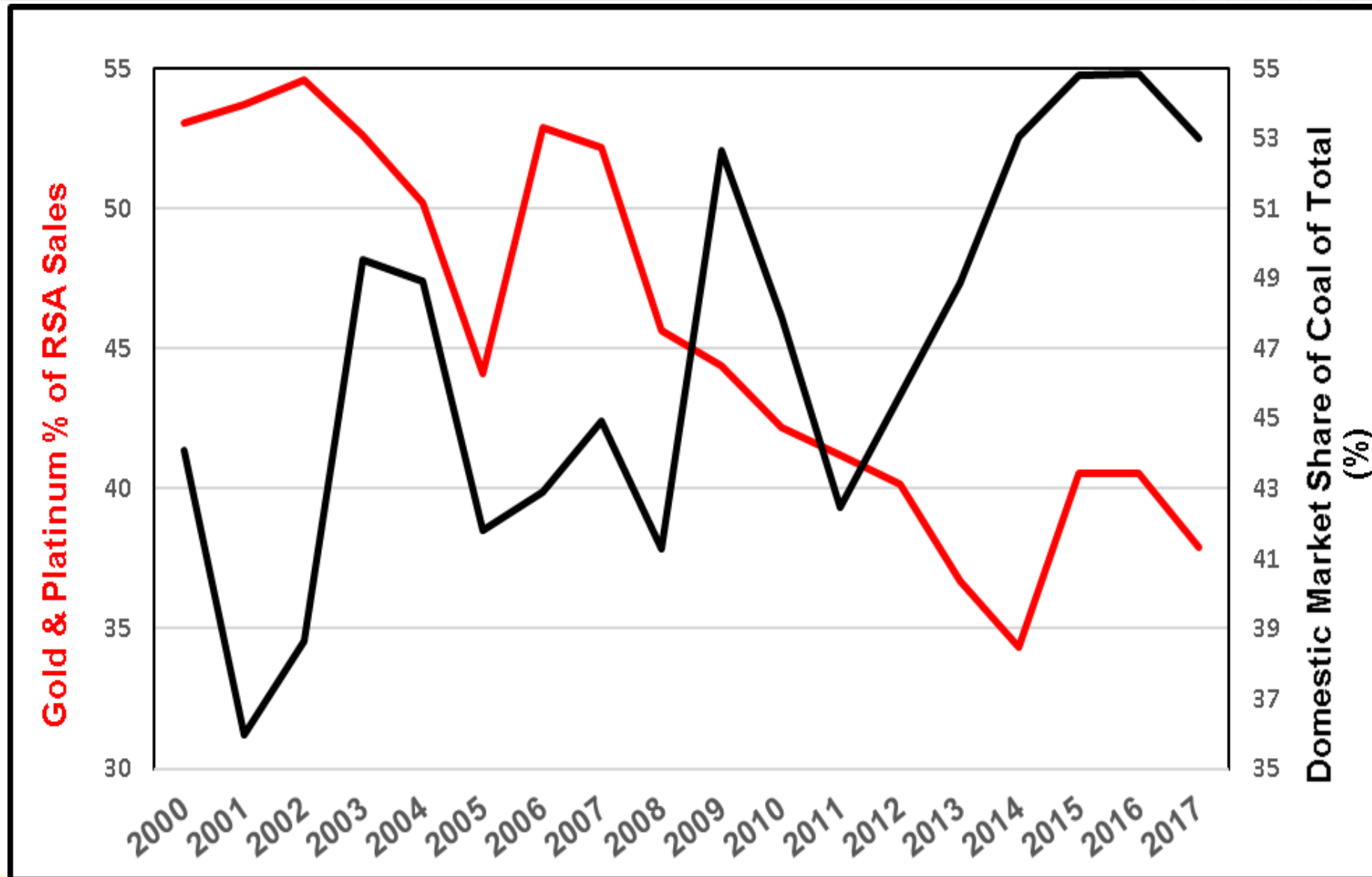
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- Mining sector contribution, and conclusions regarding 20% tariff application
- Eskom's reasons for RCA; (the reasons for not acceding):
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 - Coal/primary energy costs
 - Open cycle gas turbines
- The socio-economic impact on the economy
- Impact on the mining sector
- Conclusions

Mining contribution to the economy



Gold + Platinum vs Coal share of mining sales



Conclusions: 20% tariff application

- Two scenarios (20% increase or government support) are not viable – they are catastrophic
- Without structural adjustment in the electricity sector there is no solution
- Three binding constraints:
 - Over capacity in electricity generation
 - Virtually exponentially rising Eskom debt burden
 - Lower electricity intensity of production
- The ideal opportunity: begin structural adjustment holistically
- Low tariff adjustment with structural adjustment

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Revenue shortfall: Lower GDP growth: - 0,5% growth = R850bn, 450,000 jobs

Administered prices have a total weight of 18,48 per cent in the CPI. They are expected to increase faster than headline over the next two years, rising 7,7 per cent in 2016 and 8,1 per cent in 2017. An important driver of this is higher electricity prices, forecast to grow at double-digit rates in both those years. However, the trajectory for administered prices has been lowered somewhat by anticipated easing in petrol price and education inflation. The decision to freeze university fee increases for next year lowered November's forecast for headline inflation by 0,1 percentage points, relative to the September forecast.

CAPE TOWN 25 March 2015 – Electricity cuts by South Africa's ailing power utility Eskom cost the economy between R20-billion and R80-billion a month, according to a presentation to parliament by the Department of Public Enterprises on Wednesday.

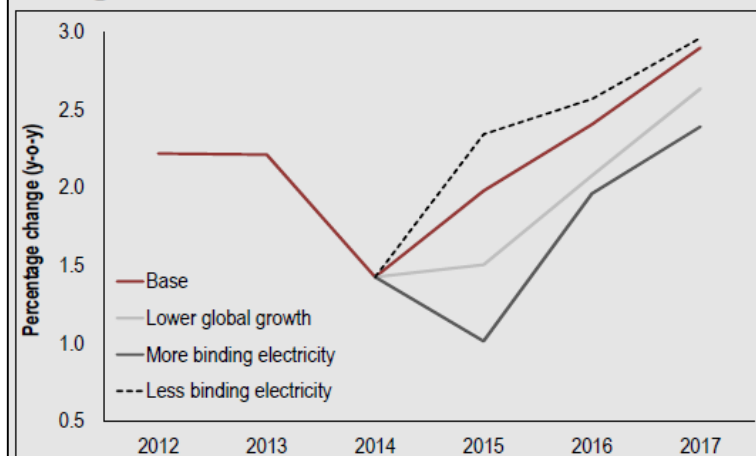
It is estimated that the sector produced R26,5 billion worth of turnover in November and added about R7 billion to the SA economy. Without the constraints, taking the above assumptions into account, it is estimated that R 6 billion worth of output have been lost and R1,5 billion in value added. These figures amount to a 23% loss of production and value add respectively, to the economy. These estimates may be very conservative. (SEIFSA, Dec 2014)

Load shedding could hamper new investment coming into South Africa, but it also has an impact on existing capacity and therefore on current output, he said.

"We estimate this latter factor to be in the order of magnitude of around 0.5 percentage points of GDP.

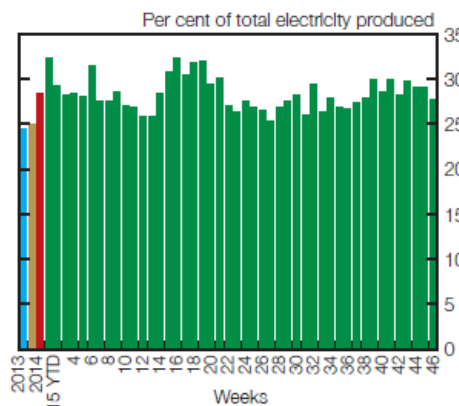
"Load shedding appears to have contributed to a general low level of business confidence, as evident in the various confidence indices, but also evident in the very low growth in private sector gross fixed capital formation." (Francois Groepe, Dep Governor: SARB May 2015)

GDP growth scenarios to 2017



Source: National Treasury

Planned and unplanned electricity outage factor



Source: Eskom

The real output of the mining sector declined in both the second and the third quarters, by 6,4 per cent and 9,8 per cent. This is partly explained by the recent decline in global commodity prices. In particular, world markets are oversupplied with iron ore, causing some producers to cut back on their operations. As a result, production in this subsector – which has been one of the best-performing components of the mining sector in recent years – contracted in both the second and third quarters of the year. The coal subsector, which is the single largest source of mining production in South Africa, at around a quarter of the total, also shrank in both these quarters. The platinum subsector contracted in the third quarter only, owing to maintenance requirements which temporarily interrupted production.

The mining sector was further hampered by the electricity constraint, as was the manufacturing sector. Electricity shortages were particularly serious in the second quarter, with load-shedding occurring on an almost daily basis. Conditions improved somewhat in the third quarter, with only one very brief period of load-shedding after 8 August 2015. This helped manufacturing rebound to 6,2 per cent growth from -6,3 per cent in the second quarter.

Coal cost variances: R14bn

- NERSA agreed with Eskom;
 - Coal burn volumes
 - Benchmark average costs for coal (R/tonne)
- Due to lower demand for electricity coal burn volumes were lower and should result in savings, but
- Eskom decided to change its policy on supply contracts from long term low cost to short term high cost procurement
- The savings on cost of coal therefore should have been R3.2bn (2014/15), R4.9bn (2015/16), and R5.9bn (2016/17) to the total of R14bn
- This is the real opportunity cost of CEO Brian Molefe's decisions to change its coal supply agreements (2015). Eskom announced a reversal of this policy as recently as May 2018 according to Andre van Heerden (integrated planning)

Open cycle gas turbines: R13.7bn

	2014/15	2015/16	2016/17	Total
Eskom MYPD 3 OCGT application (R'm)	3,258	1,788	1,898	6,944
MYPD 3 Approved OCGT costs (Rm)	2,710	1,508	1,599	5,817
Actual OCGT costs (Rm)	9,546	8,960	340	18,846
Variance	6,836	7,182	-1,259	13,678
Cost applied for in line with 2013/14 RCA	1,944	689	-1,259	1,948

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Socio-economic impact on the economy

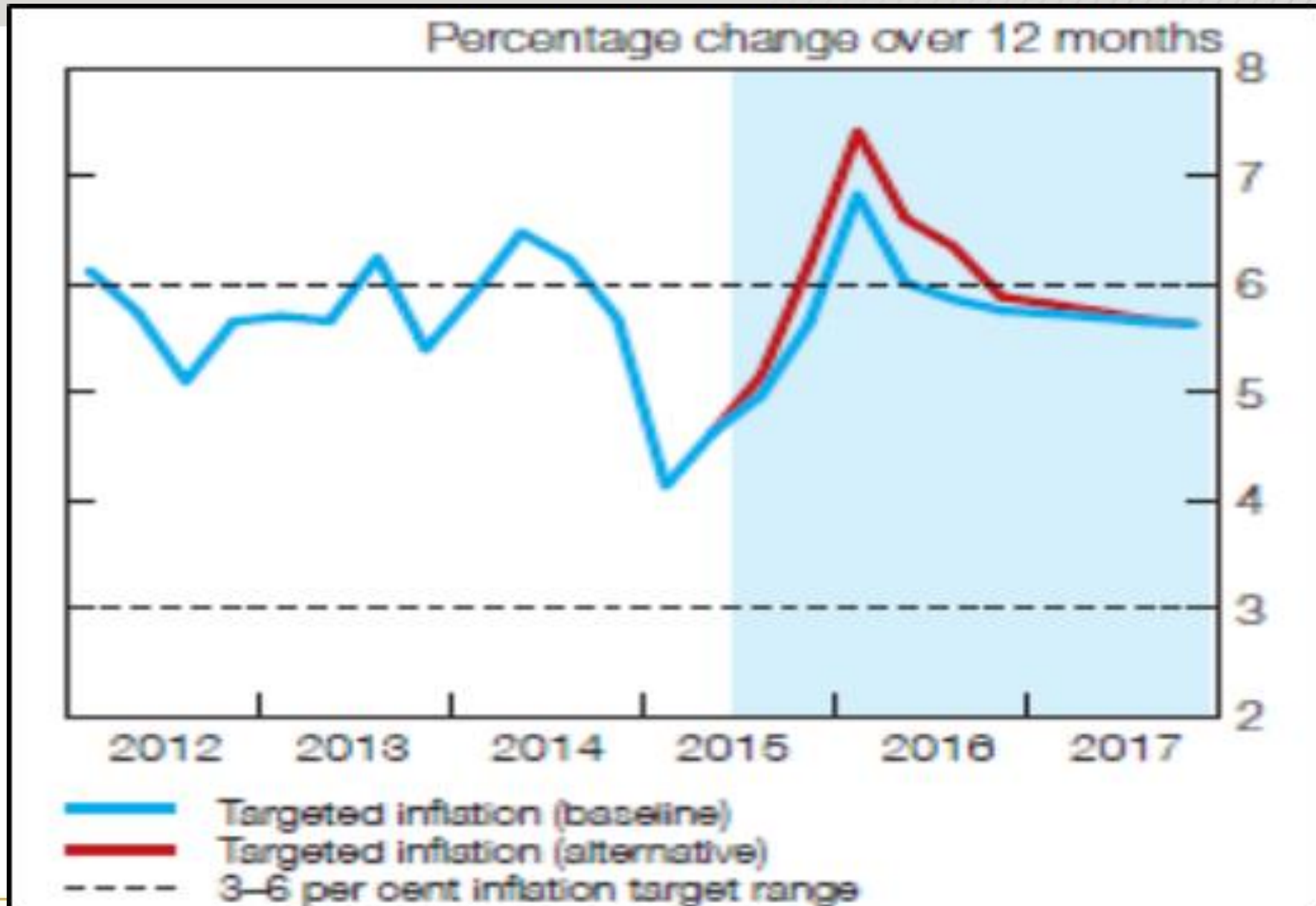
- Production in the economy
- Consumption expenditure (consumers)
- Investment expenditure (companies)
- Government expenditure (products & services)
- Exports
- Imports

Electricity prices have an impact on each of these sectors/groups in the economy

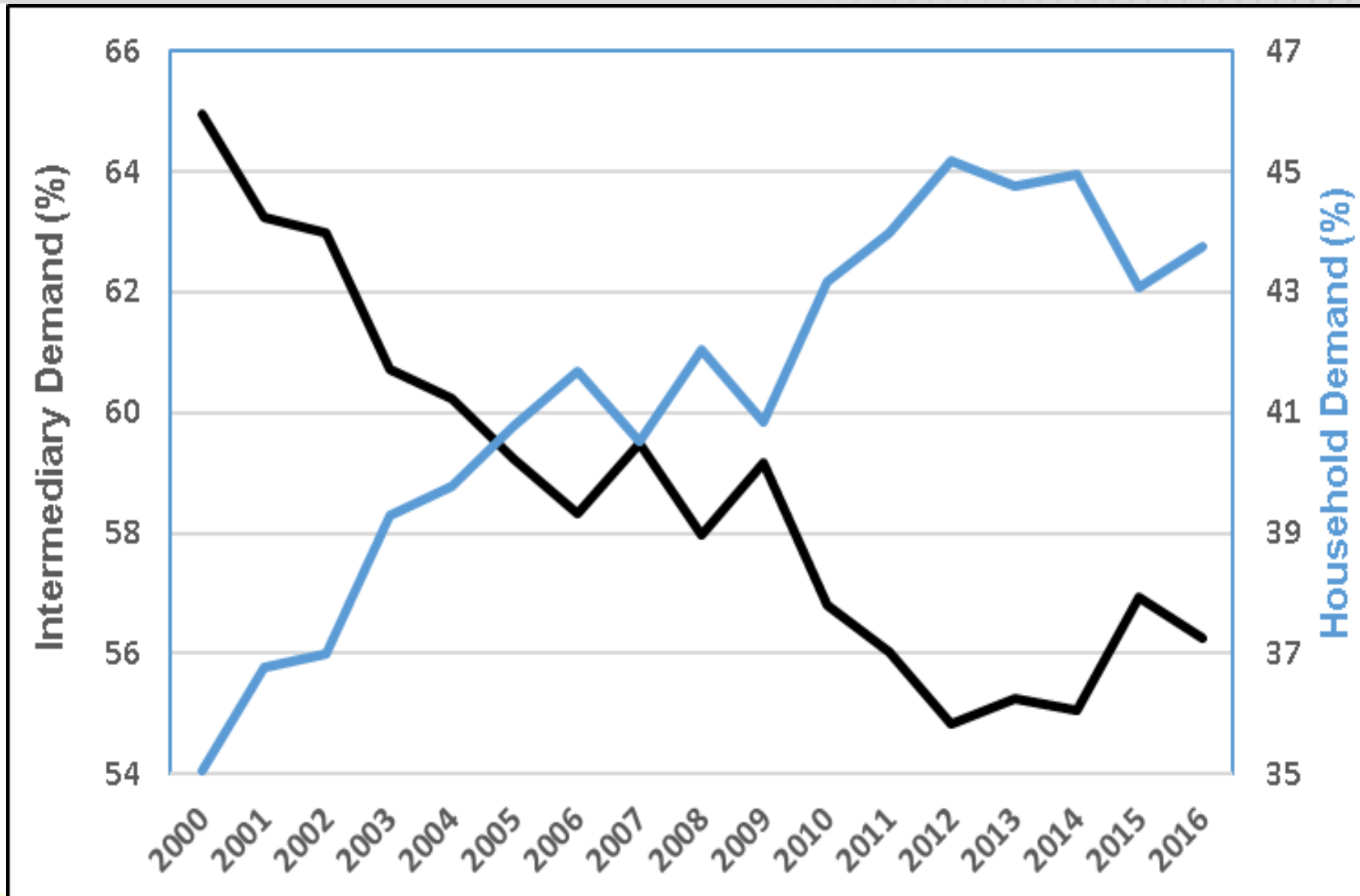
CONSUMPTION EXPENDITURE (CONSUMERS)

- Consumer inflation increases (electricity has a 3% weighting in the CPI basket). A 20% increase will rise CPI by 0.6 percentage points; ($20 \times 0.03 = 0.6$)
- Electricity goes out of reach of poor people (R15bn debt of local authorities).
- Poverty and inequality increase
- Less money available for taxes (e.g. lower VAT)
- Consumers find it harder to protect themselves against electricity increases than companies

Impact of Increases on CPI



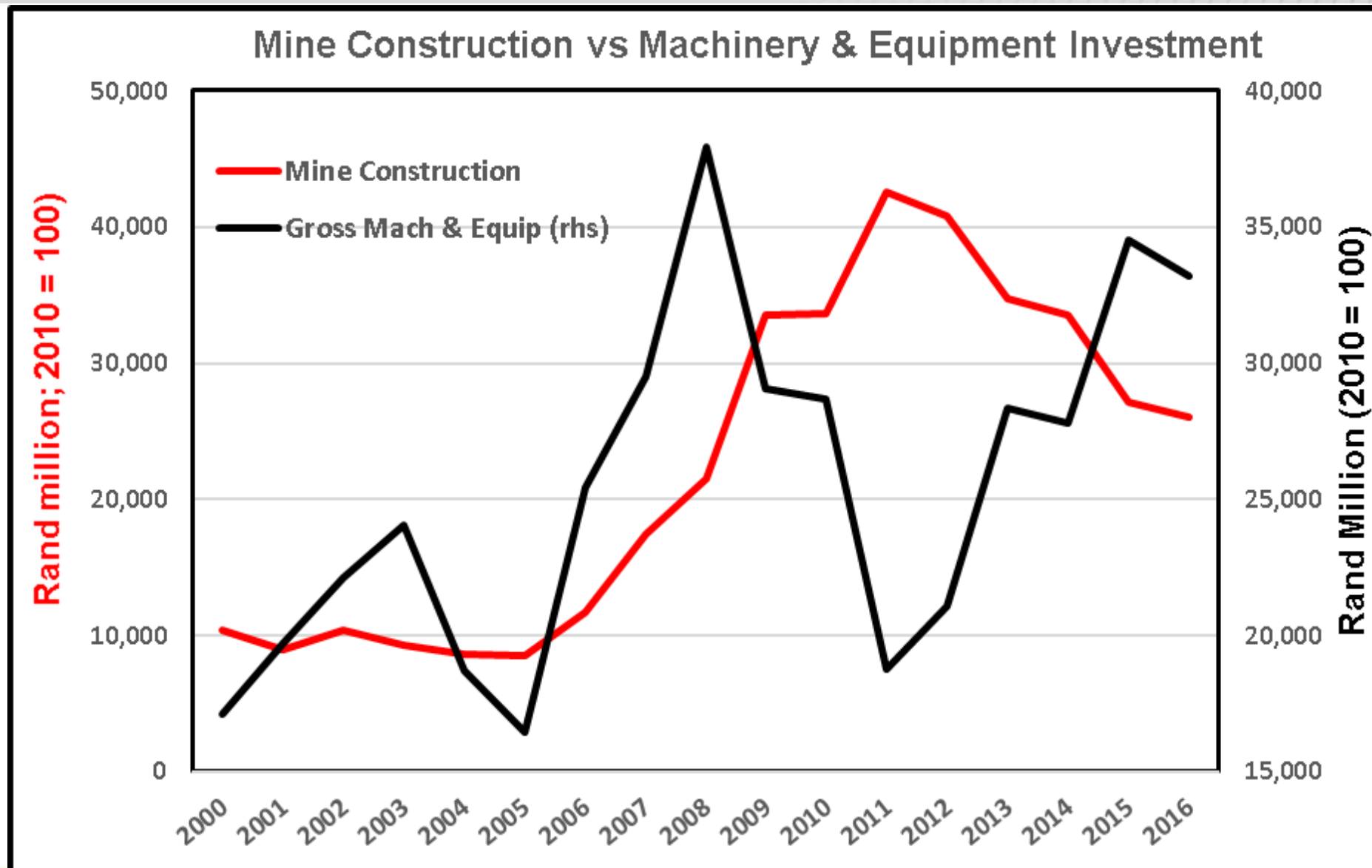
Share of electricity demand



INVESTMENT EXPENDITURE (HOUSES, SCHOOLS, CONSTRUCTION SPENDING BY GOVERNMENT, MACHINERY & EQUIPMENT, TRANSPORT EQUIPMENT, IT ETC)

- Less investment
- Switch of investment spending from productive/expansion to alternative energy (SEIFSA estimated that 20% of investment over the period switched from expansion to electricity standby capacity)
- Economic growth declines
- Less employment

Switch investment from productive to alternative energy: mining



Socio-economic impact on the economy

GOVERNMENT EXPENDITURE (PRODUCTS & SERVICES)

- Lower economic growth means lower Tax income
- Lower Spending on Social Services

EXPORTS

- International demand for Products
- Ability to respond to higher demand
- Cost competitiveness of production impaired

IMPORTS

- Slower economic growth means lower imports

Socio-economic impact on the economy

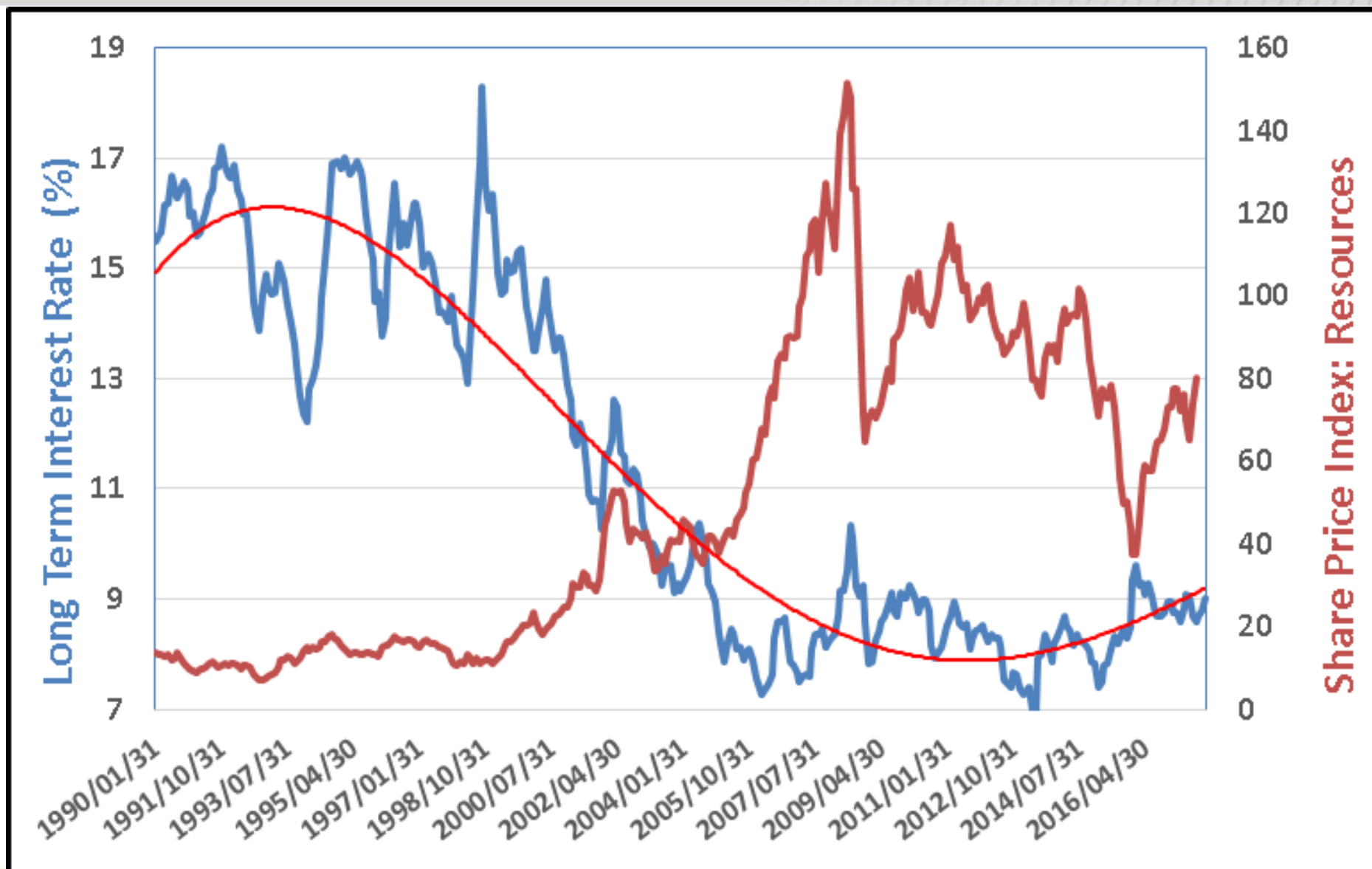
HIGHER INFLATION

- SA Reserve Bank kept interest rate higher for longer for fear of inflation impact of rising electricity cost
- Consumers pay more for mortgage bonds and debt

UNCERTAINTY RAISED THE COST OF CAPITAL

- Lower expected growth
- Lower expected profitability
- Lower return on Investment

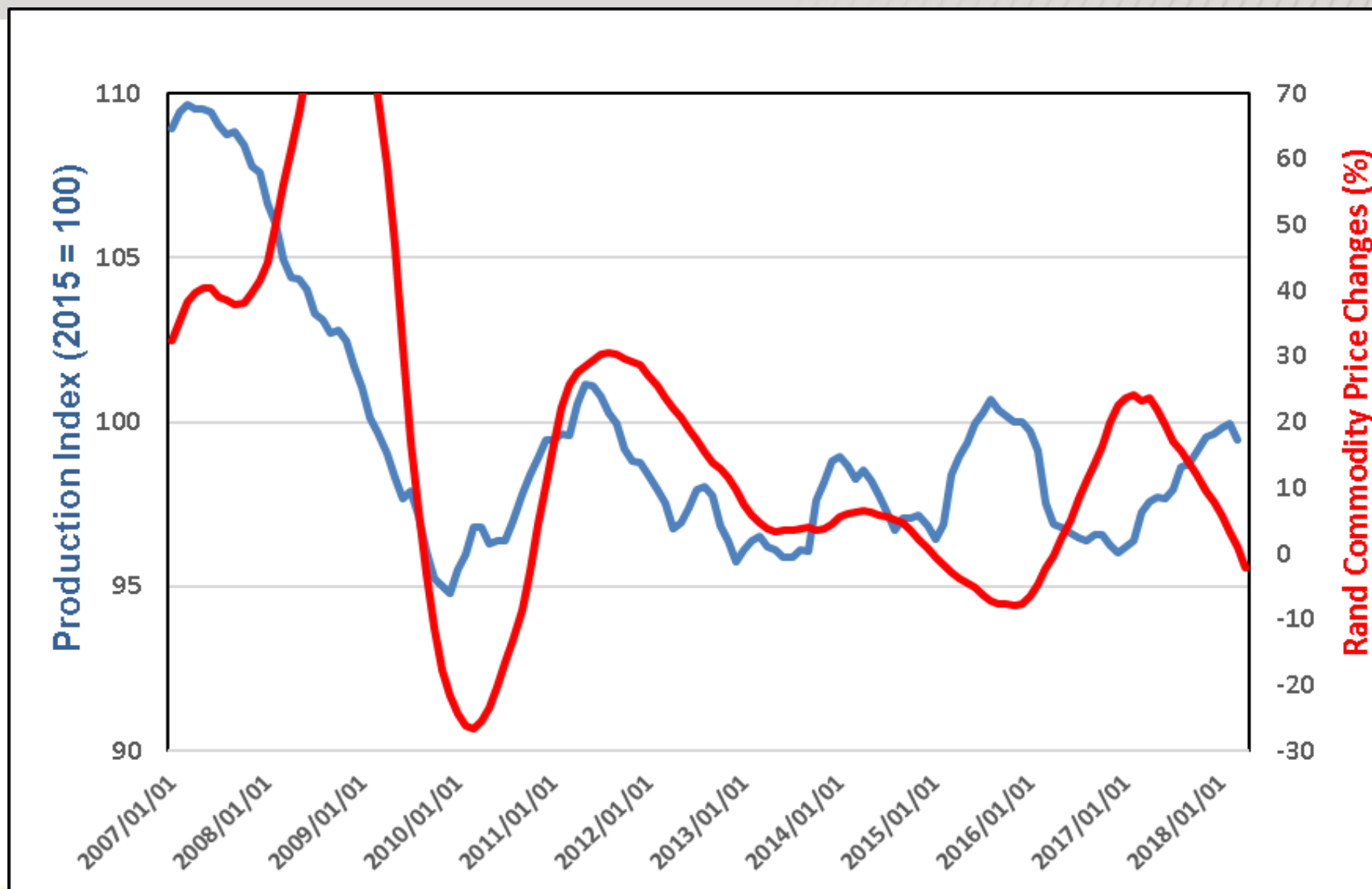
Mine share prices & cost of capital



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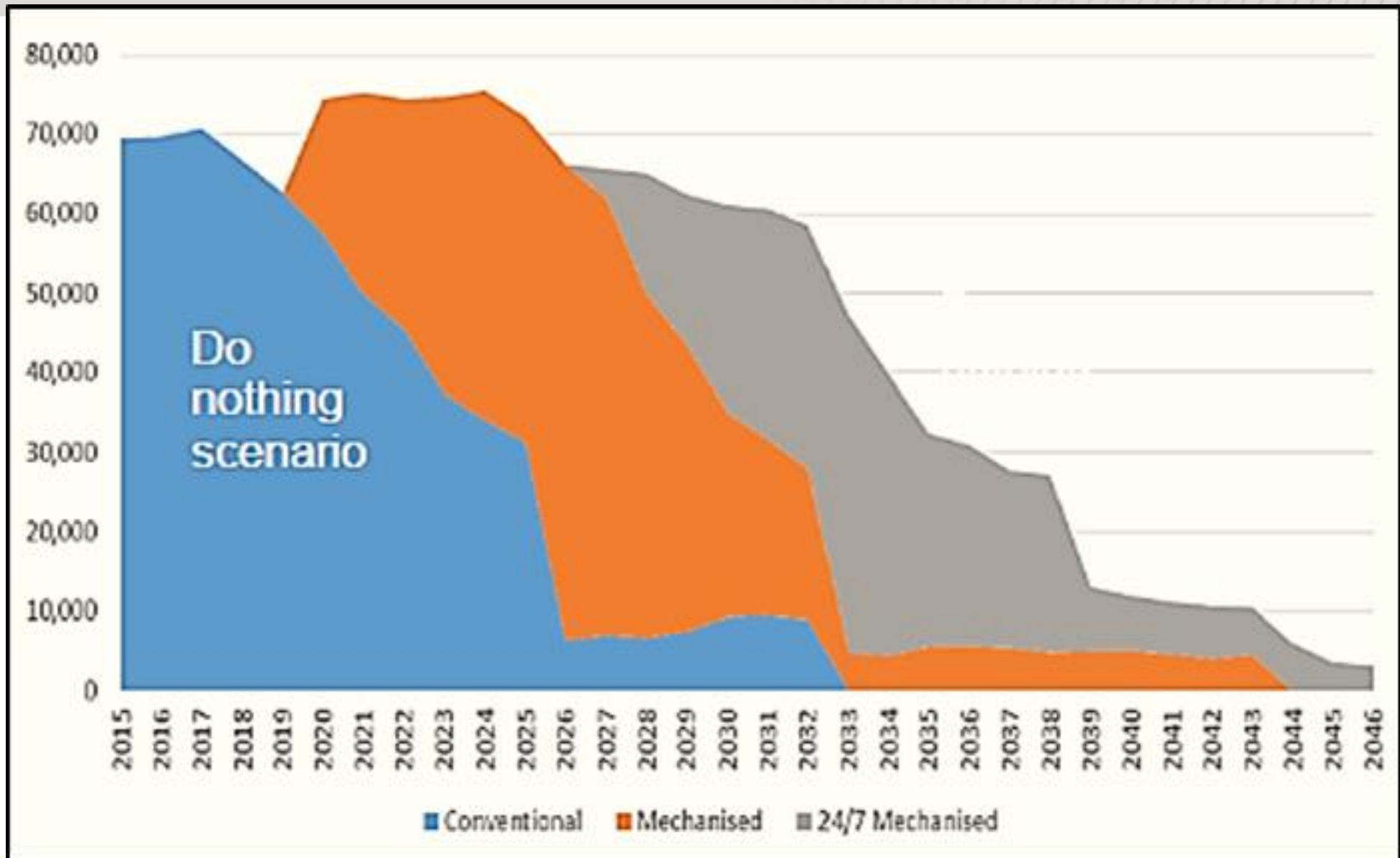
Production vs Rand commodity prices



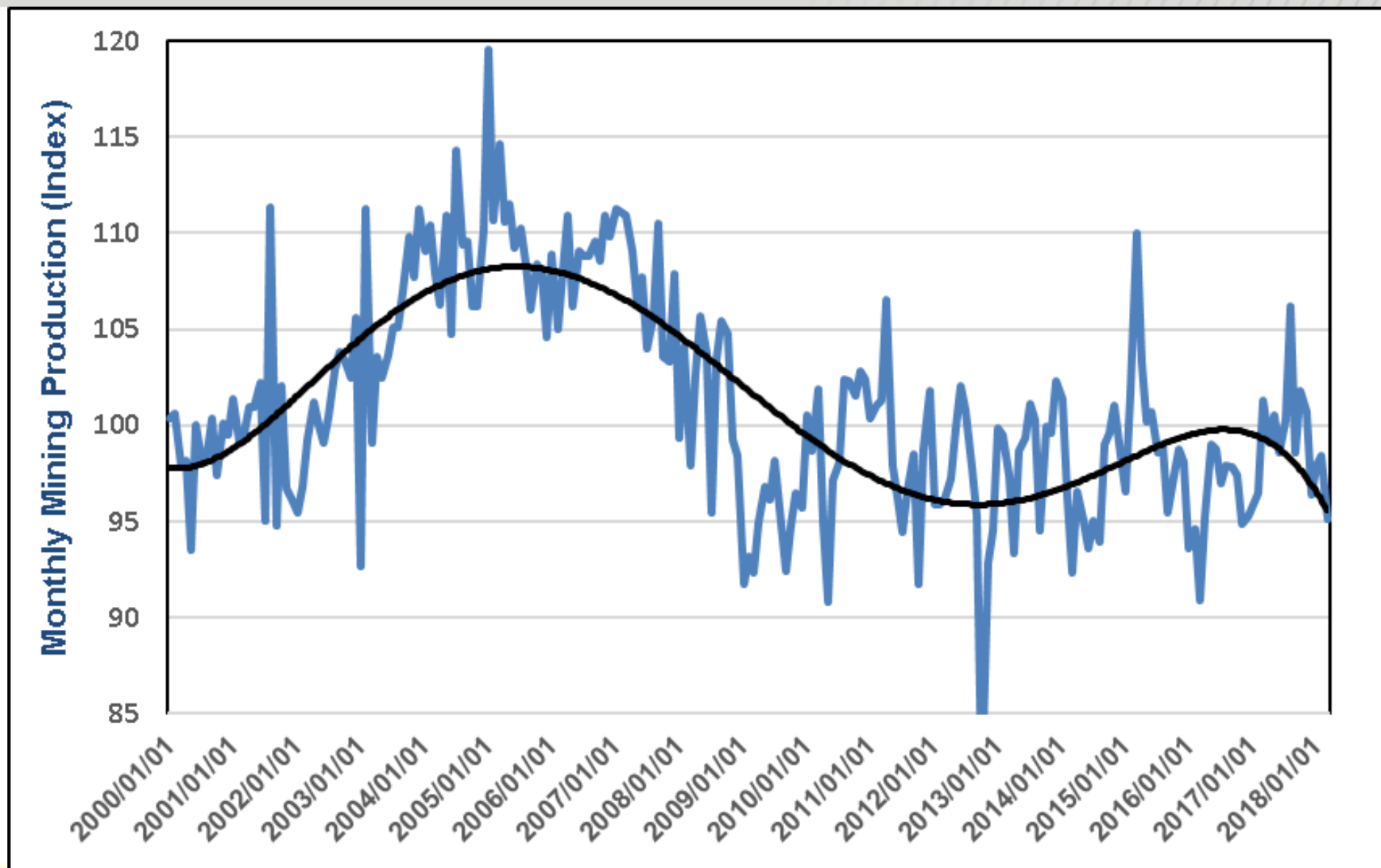
Electricity shortages contributed substantially to lower mining GDP

- Without a doubt causality from shortage of electricity to domestic production slowing down
- During 2015/16 curtailment and load shedding amounted to 26 days (10% of working days); R53bn in revenue, R32bn in value added and net profit before tax loss of R30bn.
- Fixed Investment in machinery jumped by 23% after 2014 and switched from productive to alternative energy.
- Lost on average 16,000 jobs every year since 2013

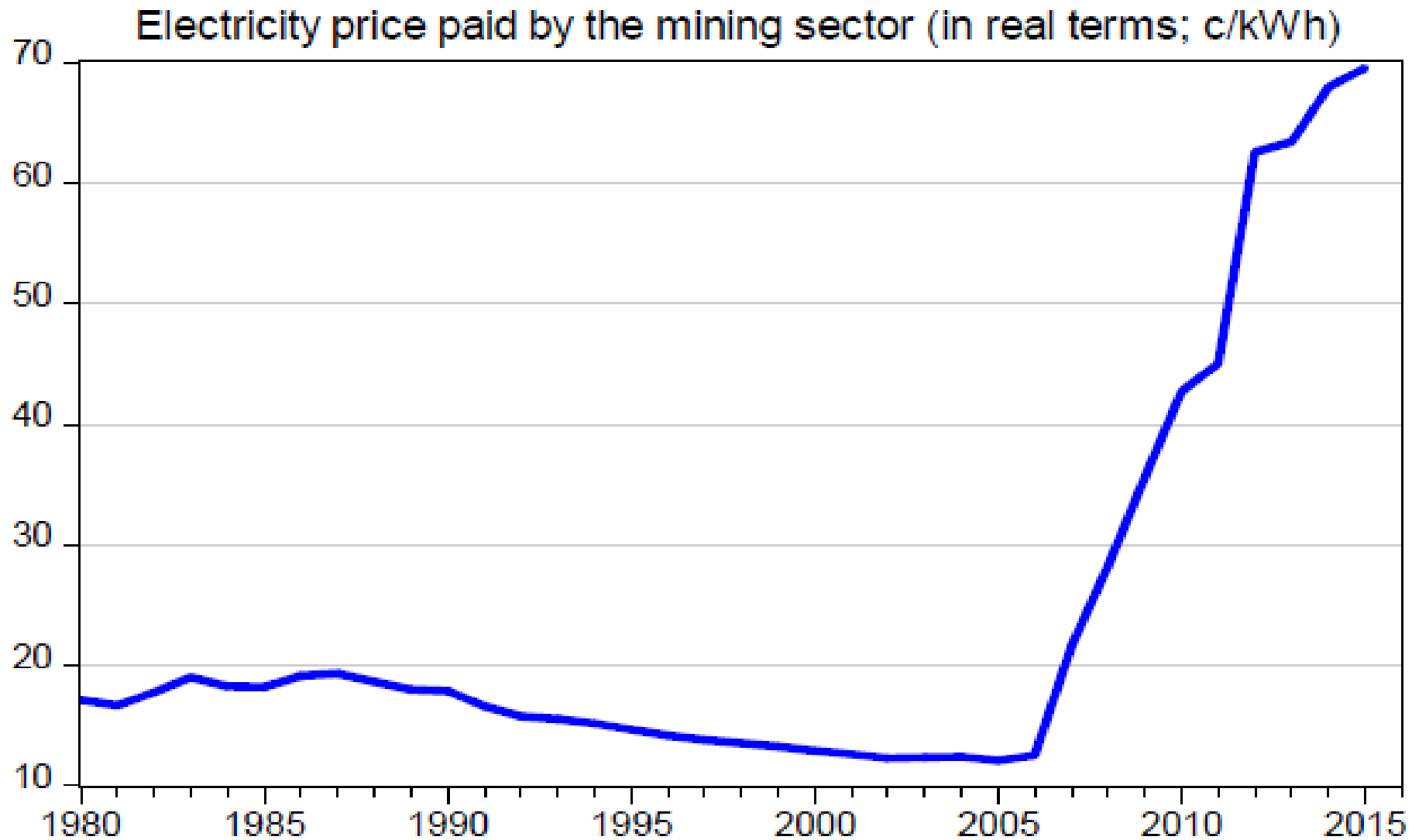
There is a cliff: it is CLOSE BY (gold mining)



Mining production



Electricity price for mining (DOE)



Mining Composite Cost Index

Cost Basket	Total Mining	Coal	Gold and Uranium Ore	Other Mining
Intermediate Cost Basket				
Mining & quarrying	1,22%	0,78%	1,29%	1,26%
Wood & wood products	1,52%	0,44%	8,01%	0,43%
Coke & refined petroleum	1,32%	1,54%	0,83%	1,28%
Basic chemicals	1,85%	1,03%	4,62%	1,45%
Other chemicals & man-made fibers	2,98%	3,20%	4,60%	2,52%
Rubber products	1,41%	2,46%	1,22%	1,08%
Metal products excluding machinery	1,85%	2,12%	3,56%	1,36%
Machinery & equipment	5,11%	5,86%	7,71%	4,30%
Electrical machinery & apparatus	0,93%	1,51%	1,23%	0,63%
Transport equipment	1,39%	1,47%	1,81%	1,20%
Electricity, gas & water	5,79%	3,00%	22,00%	4,37%
Wholesale & retail trade	4,93%	5,90%	7,02%	4,17%
Transport & storage	43,89%	43,04%	1,96%	52,49%
Finance, insurance, real estate & business services	4,69%	4,71%	9,78%	3,59%
Community, social & personal: Other producers	2,22%	2,22%	3,09%	1,97%
Residual	0,00%	0,00%	0,00%	0,00%
Imported Intermediate Inputs	18,92%	21%	21,30%	17,91%
Total Intermediate Costs (Ex Labour)	100,00%	100,00%	100,00%	100,00%
Intermediate Costs	65%	69%	47%	69,5%
Compensation of Employees	35%	31%	53%	30,5%
Total Input Costs	100%	100%	100%	100,0%

Impact on the mining sector

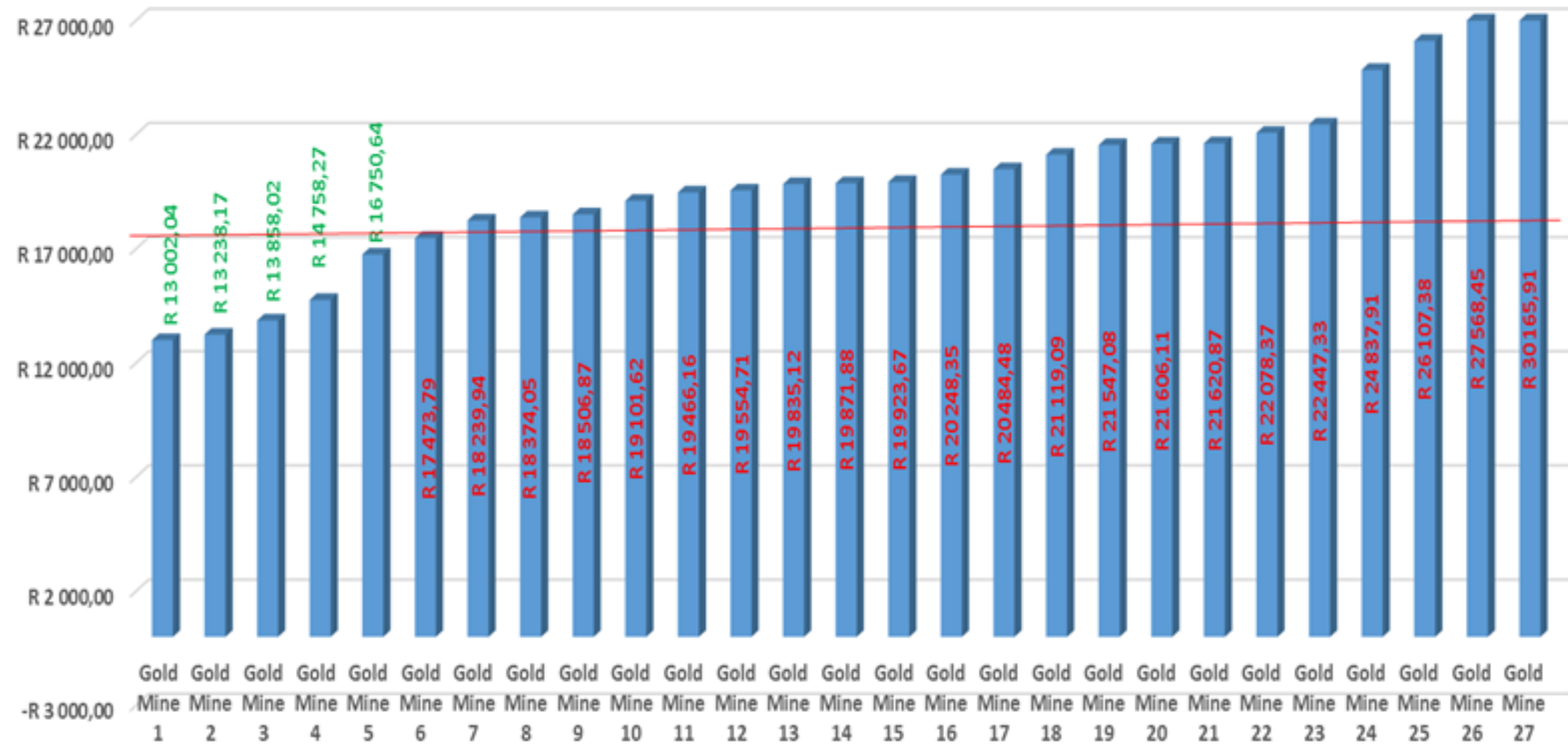
Table 7: Impact of electricity price increases in the mining sector

LONG-RUN COEFFICIENTS/ELASTICITIES FOR THE PRICE OF ELECTRICITY IN THE MINING SECTOR				
Sector/industry	The impact of a 10% increase in the electricity price on the mining sector			
	Output/production	Investment	Gross operating surplus/profitability	Employment
Total mining sector	-0.01%	-3.3%	-0.03%	-0.5%
Gold	-4.2%	-5.5%	n/a	-2.9%
Coal	-0.6%	-4%	n/a	-0.1%

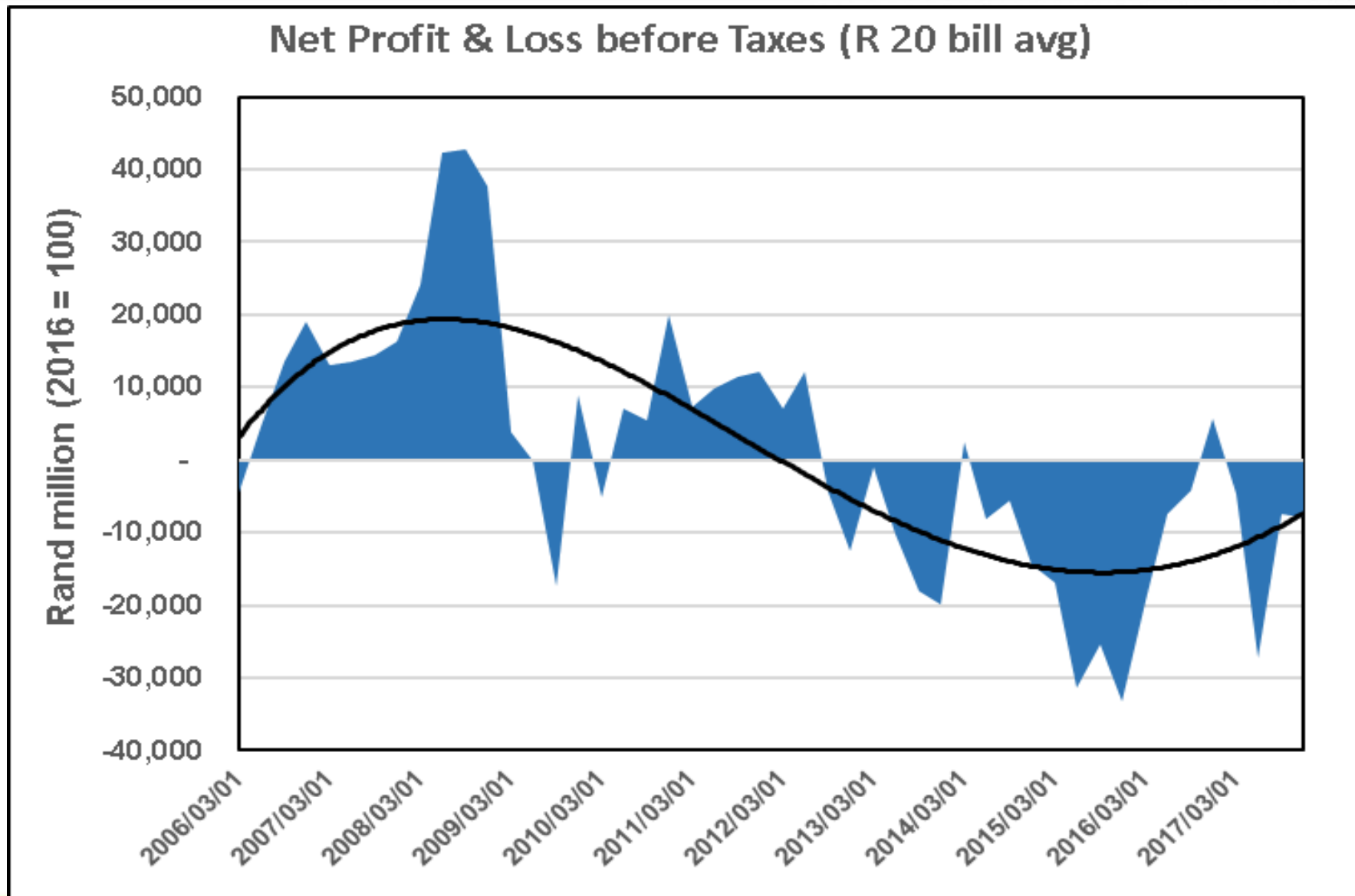
NB: How to read elasticities - For example, a 10% increase in the price of electricity (specific to the mining sector) results in a 0.01% decrease in total mining sector output; 3.3% decline in investment (real gross fixed capital formation); 0.03% decline in gross operating surplus; and 0.5% reduction in total employment.

IMPACT THE MINING SECTOR: R3.21bn costs 66% of gold and platinum mines unsustainable Around 48,000 employees possibly jobless

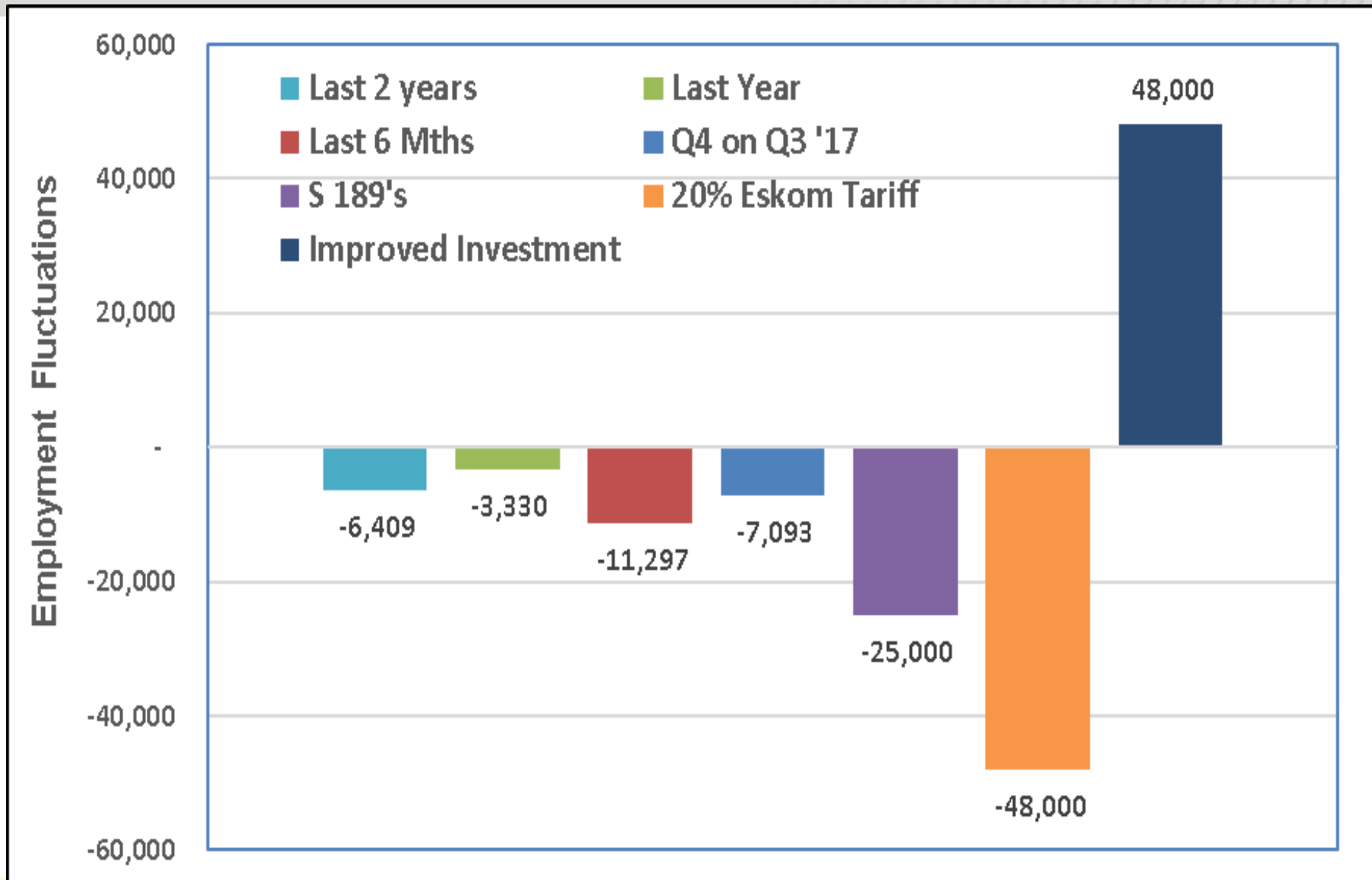
All in Cost (ZAR) - Post 19,9% Electricity Adjustment (22 out of 27 become unsustainable = 82%)



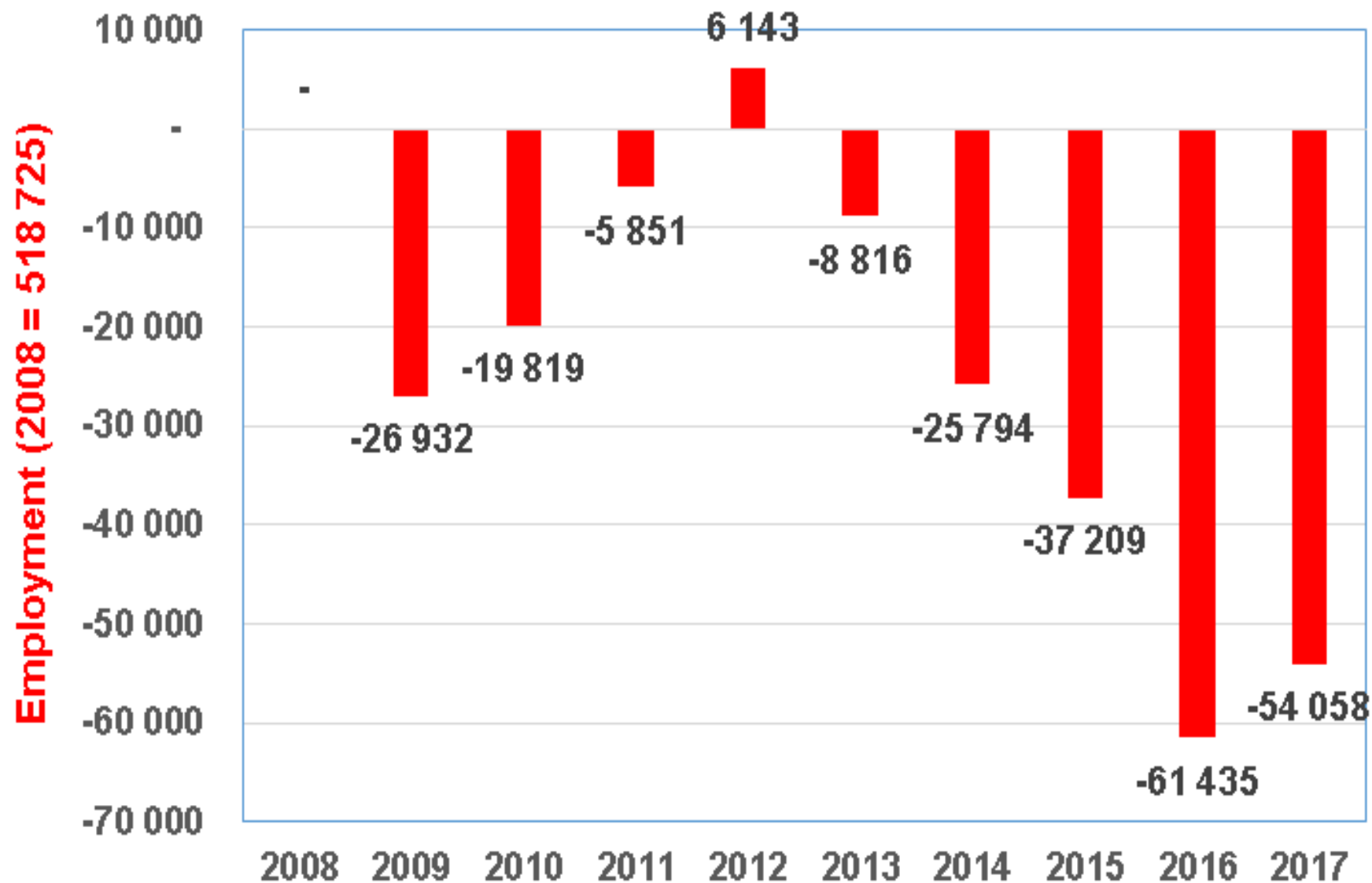
Mining sector profitability



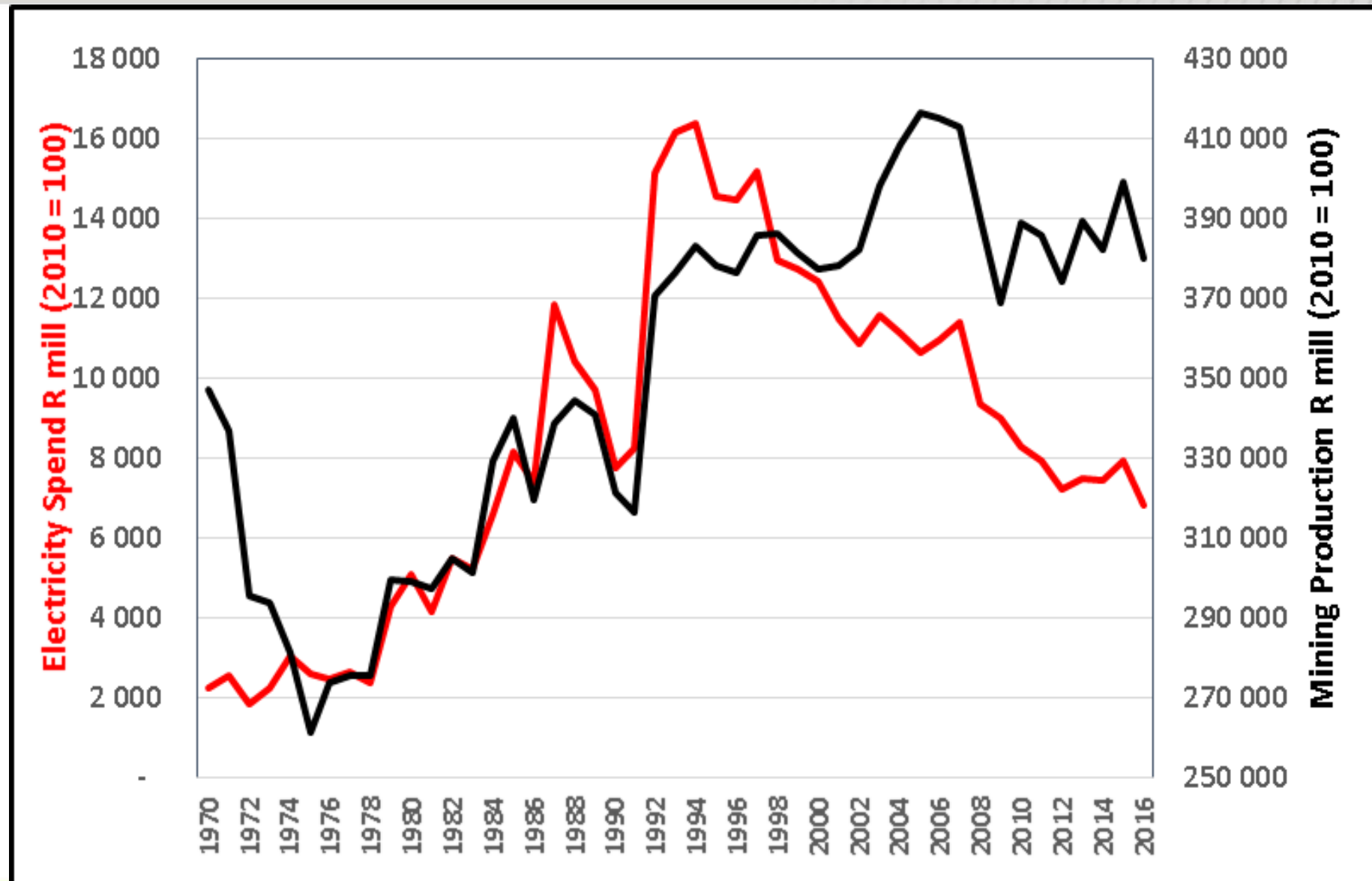
Mining sector employment changes



Mining sector employment changes



Mining electricity spend vs production



Impact on the economy & mining sector

PRICE INCREASE(S) OF 20% OR 35% OR PHASED IN

ECONOMIC GROWTH -0.1% on 0,6% points
= 17% decline

Cumulative *employment* -600 000

MINING GDP CONTRIBUTION: -5% to -9% decline

Employment: -25 000 to -41 000

Economic decline and hardship

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1. Conceding to a substantial portion of the RCA will condone Eskom's mismanagement of the utility
2. Eskom has to change model from recouping costs to living within its income
3. It is beyond doubt that the economy is becoming more energy efficient; perverse market signals of electricity savings leading to higher prices cannot continue
4. It is beyond doubt that coal will play a smaller part in the energy mix in future, with IPP's and alternative energy progressively a larger role - buy coal prudently as recently indicated
5. The mining sector need not be a 'sunset' industry; these increases are making it dangerously so



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THANK YOU

