



Petra Diamonds – Cullinan Diamond Mine

THE SOUTH AFRICAN ECONOMY POST-COVID-19

Bongani MOTSA – Snr Economist
09 December 2020

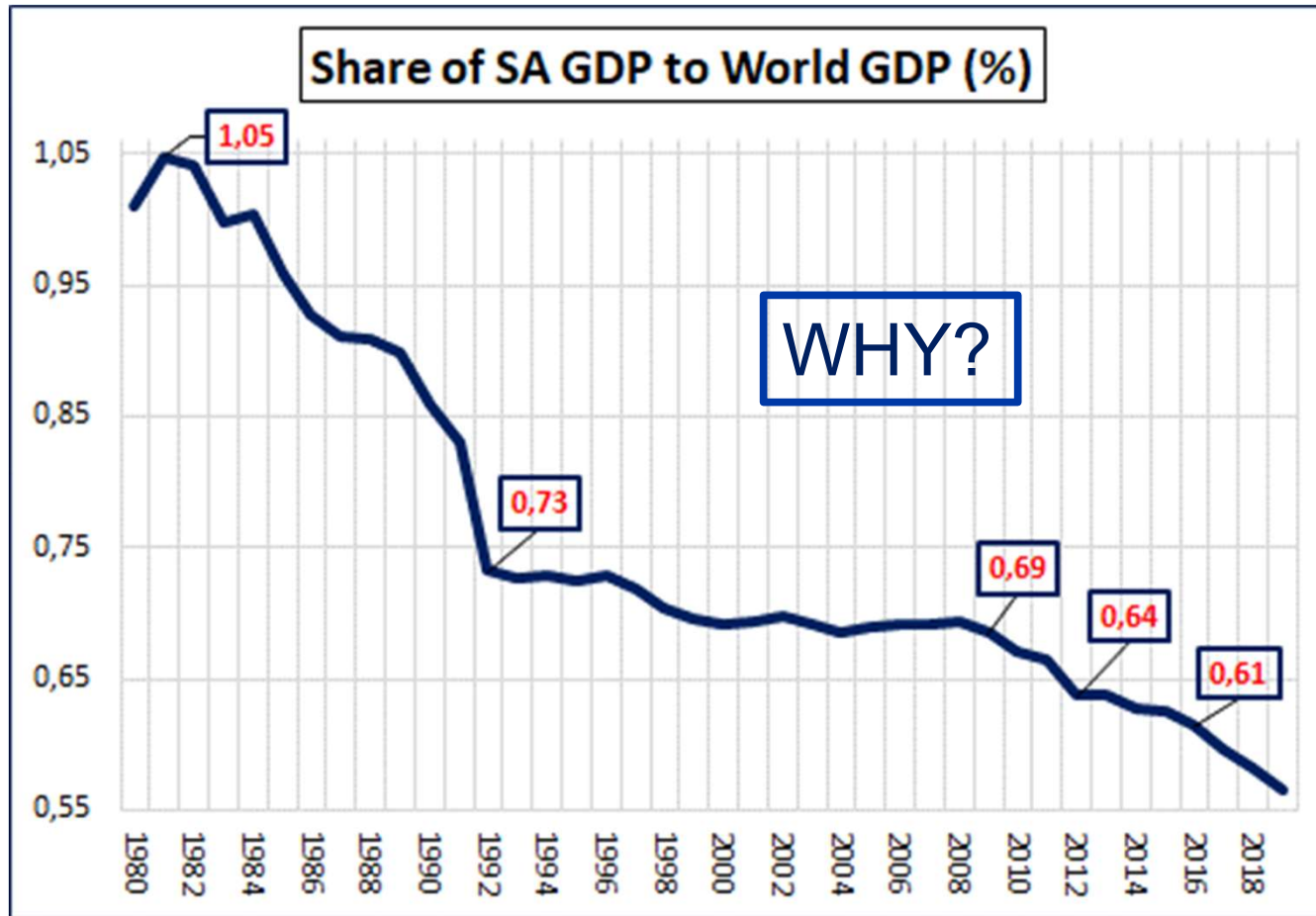


MINERALS COUNCIL
SOUTH AFRICA



THE GREAT DECLINE

SA's share of global GDP – lowest levels in 2000 and 2019



Source: World Bank Economic Indicators

Mining holds the key to growing SA economy

- i) **1960 – 1981**: This is a period of aggressive industrialisation and competitively priced electricity. (It is important to remember that when Eskom was formed the objective was to provide cheap electricity for the country's industrialisation.) In the same period government pursued import substitution industrialisation policies
- ii) **1982-1991**: A period of precipitous decline as political instability intensified
- iii) **1991-1999**: A period of 'uncertainty' emanating from positive political changes
- iv) **2000-2008**: A period of rebuilding the economy which sees SA's economy growing, but no more than World GDP
- v) **2009-2017**: Regulatory uncertainty is the order of the day as institutions are undermined by those in government. SOEs which are the state's organs to catalyse economic growth are used to siphon investment funds to corrupt individuals



WHEN COVID-19 STRUCK SA WAS ALREADY DROWNING

COVID-19 has unravelled much of the progress made over the last 25 years

SA emergesStagnationCOVIDDirection									
	unit	1994	2008		Dec 2019		2020		
GDP	US\$bn	140	x2.1	287	x1.3	368	-10%	330	↓
Debt : GDP	%	49.2%	-21.4%	27.8%	+34.4%	62.2%	+23.4%	82.0%	↑
S&P Rating		BB+	3 notches	BBB+	4 notches	BB	1 notch	BB-	↓
JSE total market capitalisation	US\$bn	260	x3.2	828	x1.5	1,231	-25%	924	↓
Banking assets	US\$bn	97	x3.9	383	x1.1	421	-20%	335	↓
Foreign Direct Investment	US\$bn	0.4	x30	12	x0.6	7.1	↓	n/a	↓
Tax revenue	Rbn	114	x5.5	625	x2.2	1,356	-16%	1,140	↓
ZAR : USD		3.55	+133%	8.26	+69%	14.00	+24%	17.30	↑
Unemployment	%	20%	+3%	23%	+6%	29%	+6%	35%	↑
Gini coefficient	%	59	+4	63	-	63	↑	n/a	↑

Sources: National Treasury, BER, StatsSA, JSE, SARB, SARS, HIS Markit, Fitch Solutions, CapIQ, IMF
 Note: Figures in square brackets, based on expected impact applied to previous level or guidance previously given

From 1994 to 2008 South Africa thrived

- GDP doubled in US\$ terms to \$287bn
- Debt:GDP almost halved to 27.8%
- SA secured an Investment grade rating in 1999
- Foreign Direct Investment grew 30 fold to \$12bn
- Tax revenues grew by 550%
- However growth was not inclusive as unemployment remained a problem and the Gini coefficient grew

Over the last 10 years South Africa has stumbled

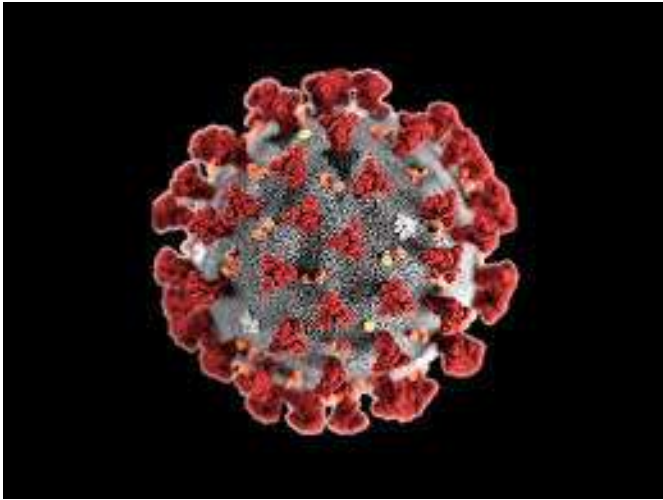
- Debt:GDP has more than doubled record levels
- SA's Rating is now lower than in 1994
- Foreign Direct Investment has declined
- Unemployment and inequality continue to rise
- South Africa entered a recession prior to COVID-19

COVID-19 unravels much of progress since 1994

- GDP is expected to decline by more than 10%
- Debt:GDP expected to exceed 100% by 2023
- All key metrics have declined in the last 3 months

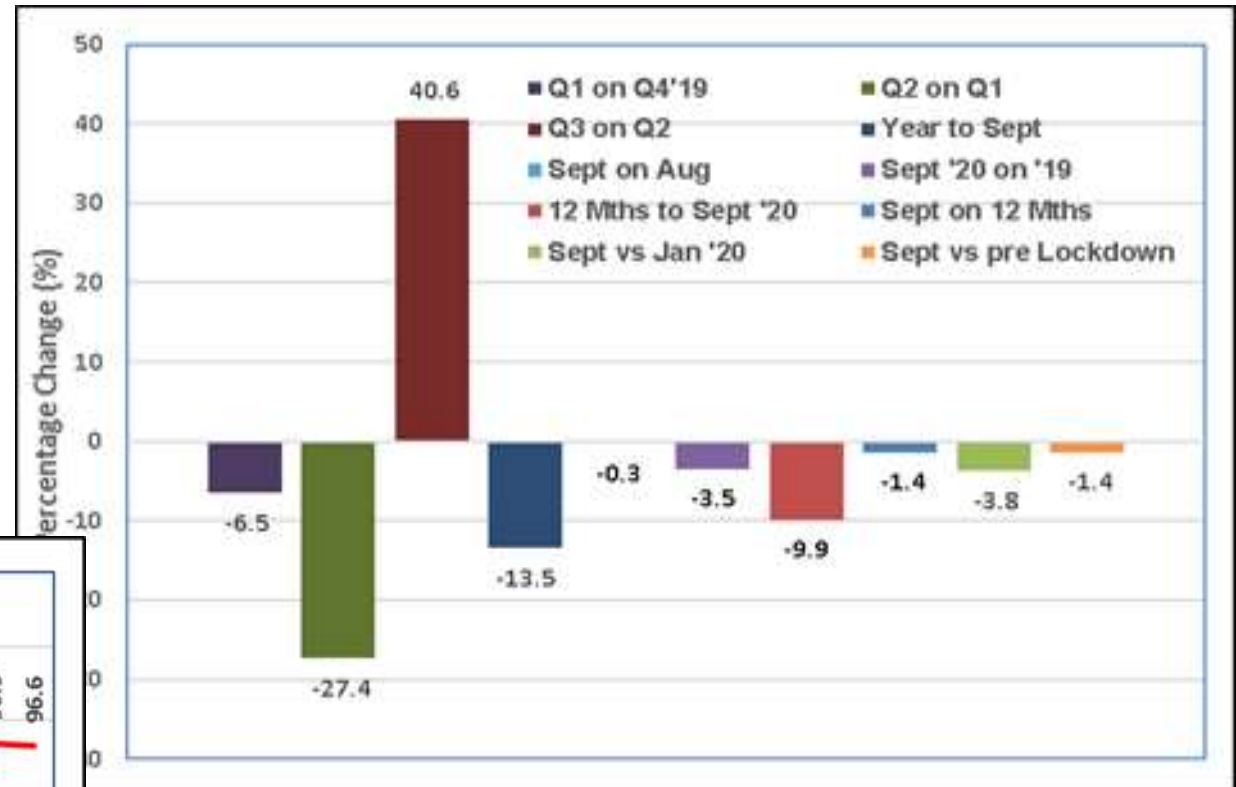
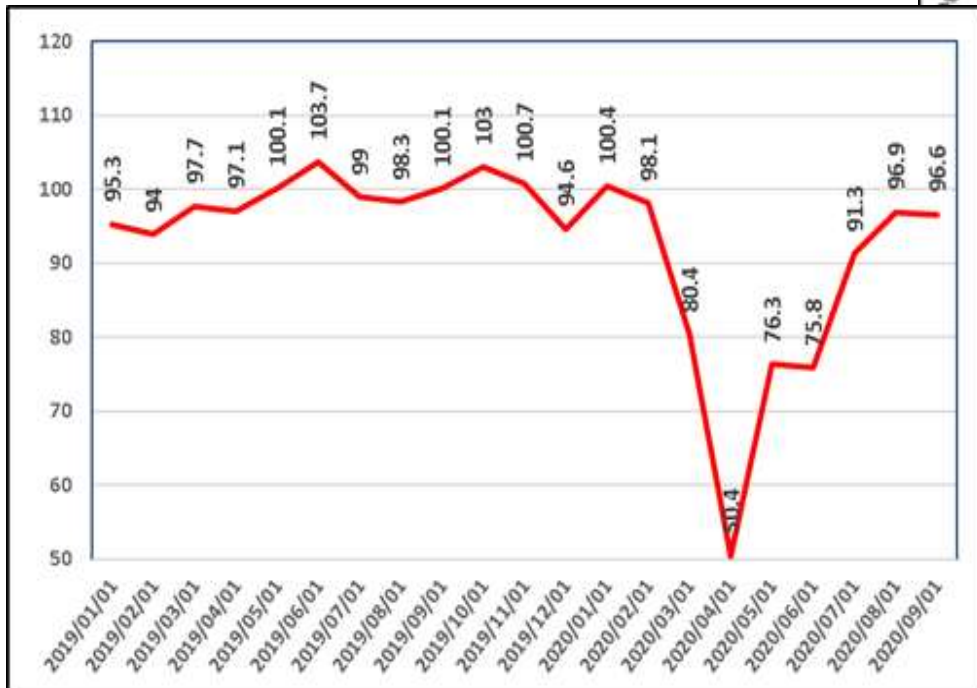
South Africa needs to embrace a more accelerated growth path

- Requires strategic choices and courageous leadership

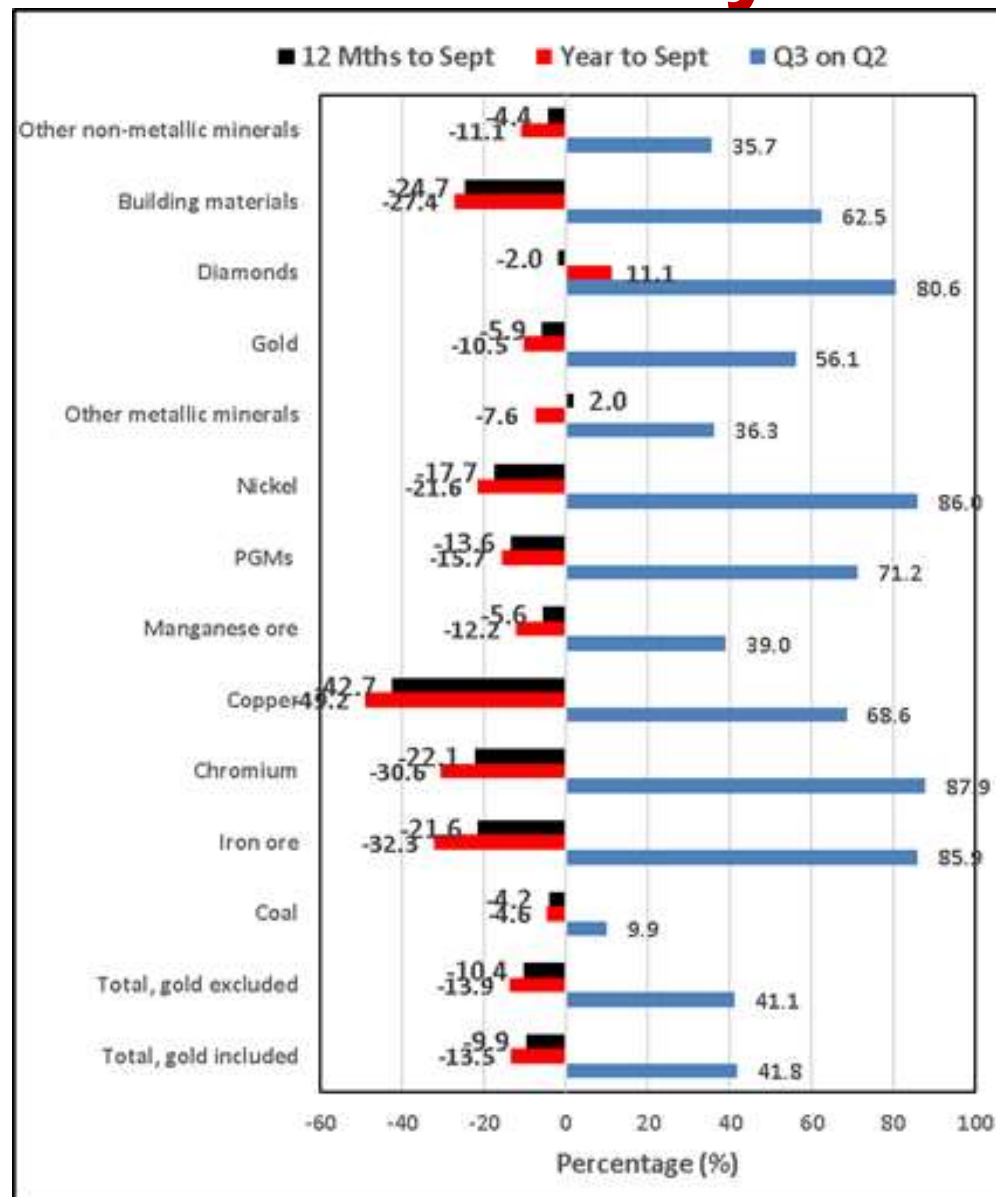


ENTER COVID-19

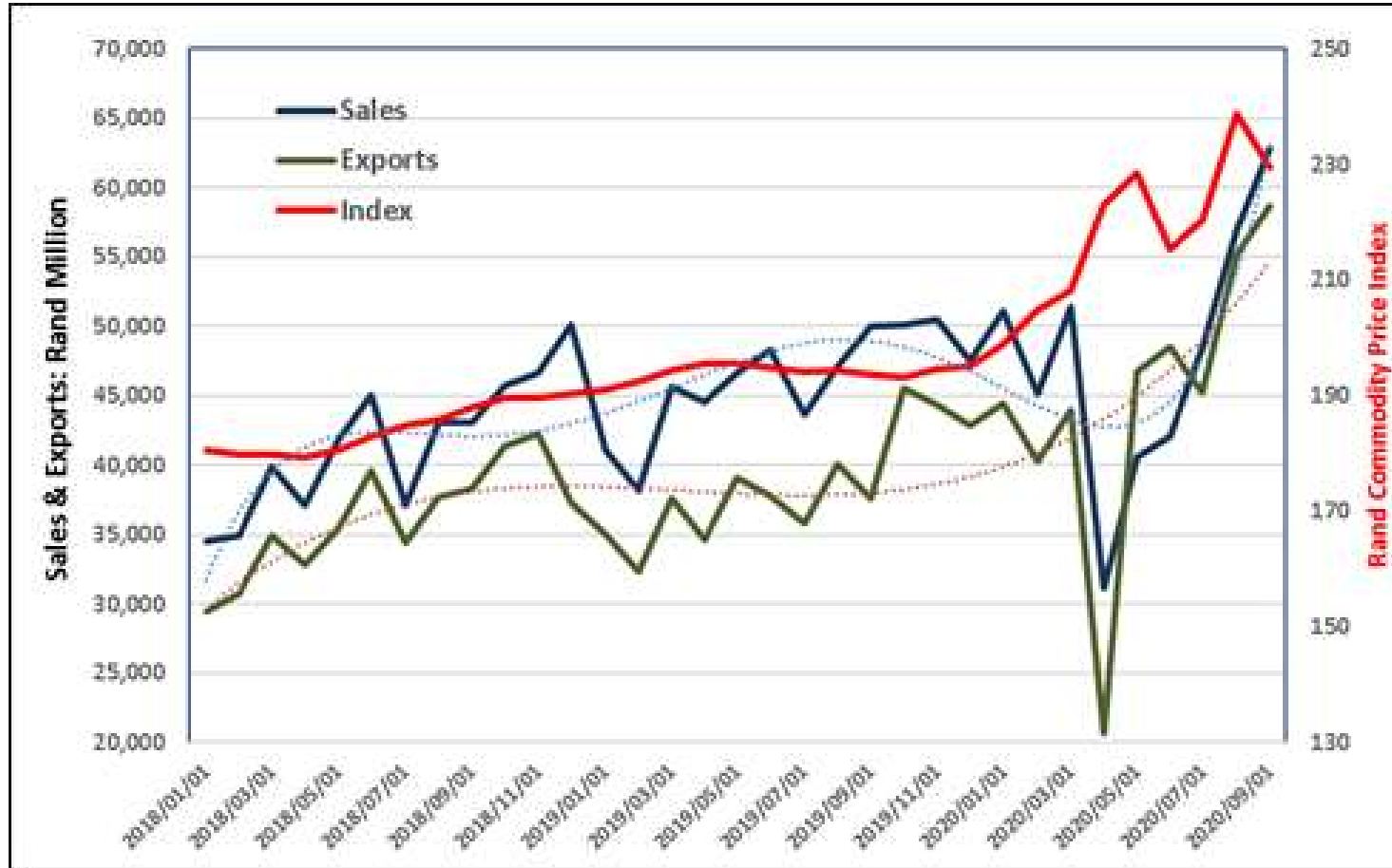
SA mining production trend



Mining sector production performance by commodity



Mining sector export performance

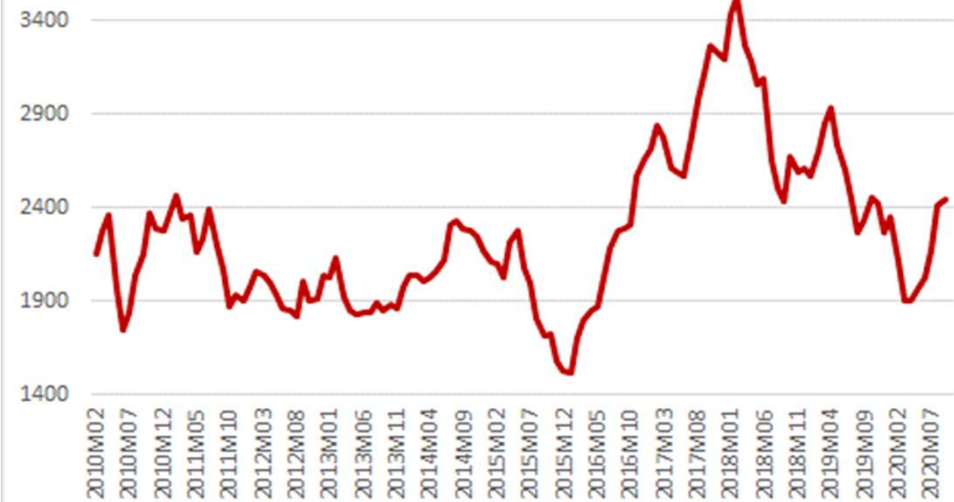


Commodity prices

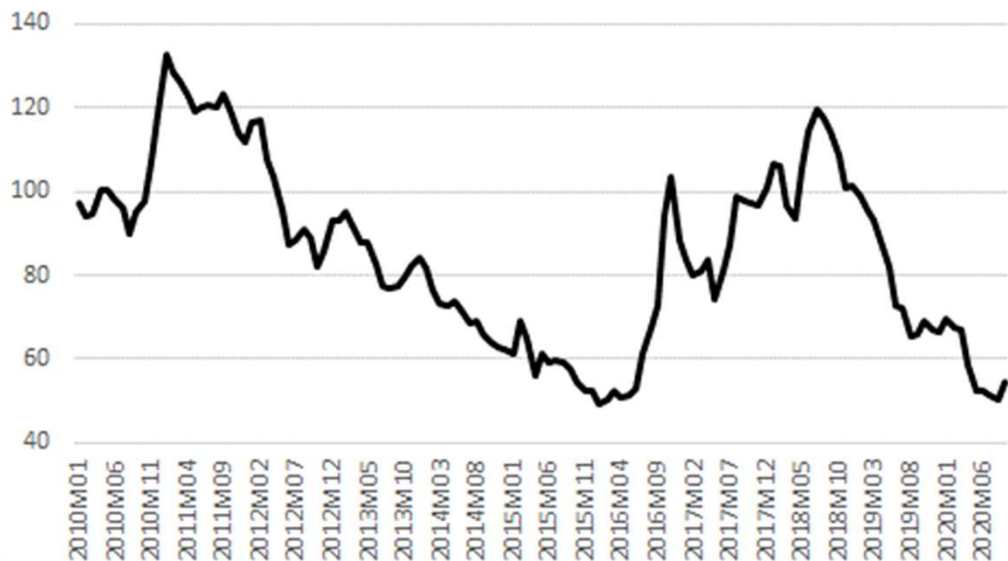
Copper (\$/mt)



Zinc (\$/mt)



Coal (\$/mt)



Gold (\$/troy oz) GOLD Platinum (\$/troy oz) PLATINUM



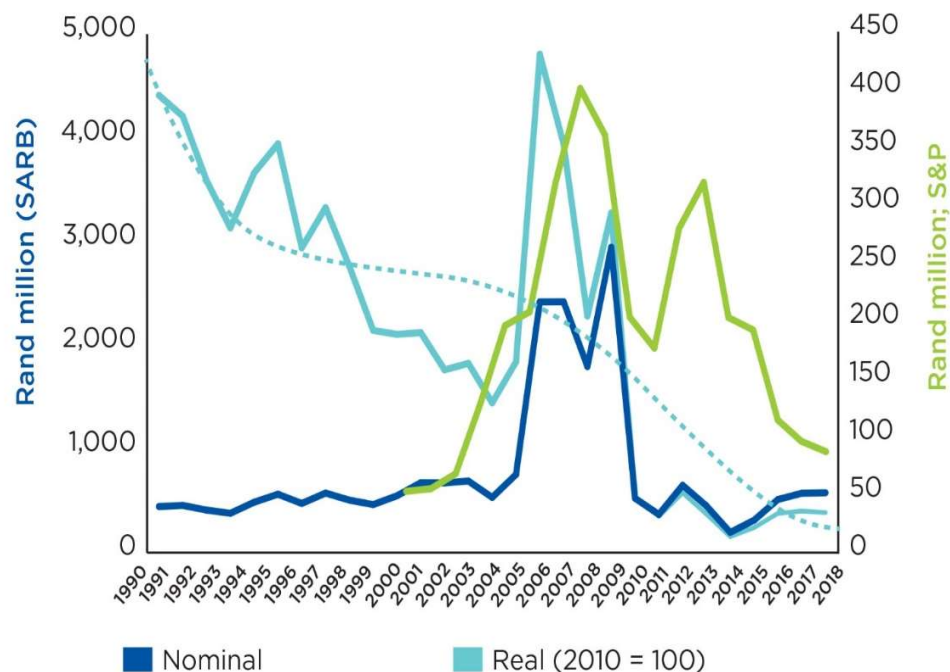


GOING BACK TO BASICS - EXPLORATION

Exploration expenditure decreased since 2005

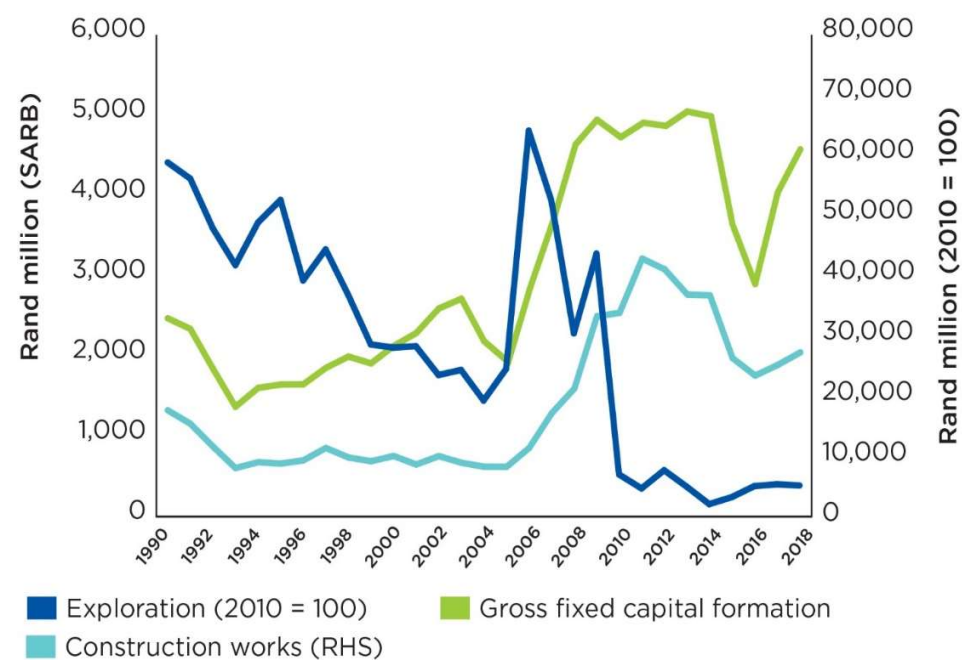
Lag between exploration and construction

Exploration trends



Source: SARB, Standard & Poor's

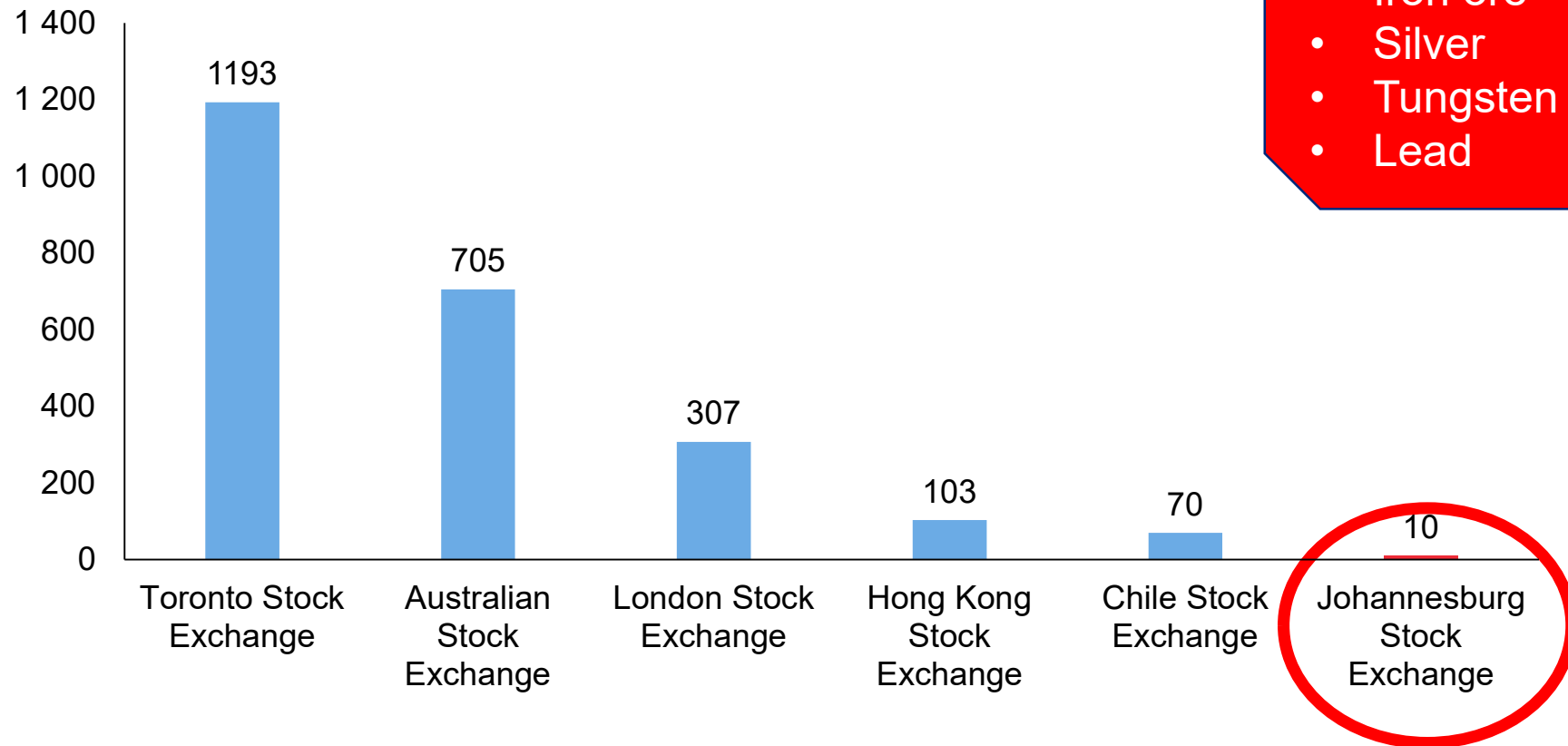
Exploration, mine construction and fixed investment



Source: SARB, Statistics SA, Minerals Council South Africa South Africa

Listed emerging/exploration mining companies

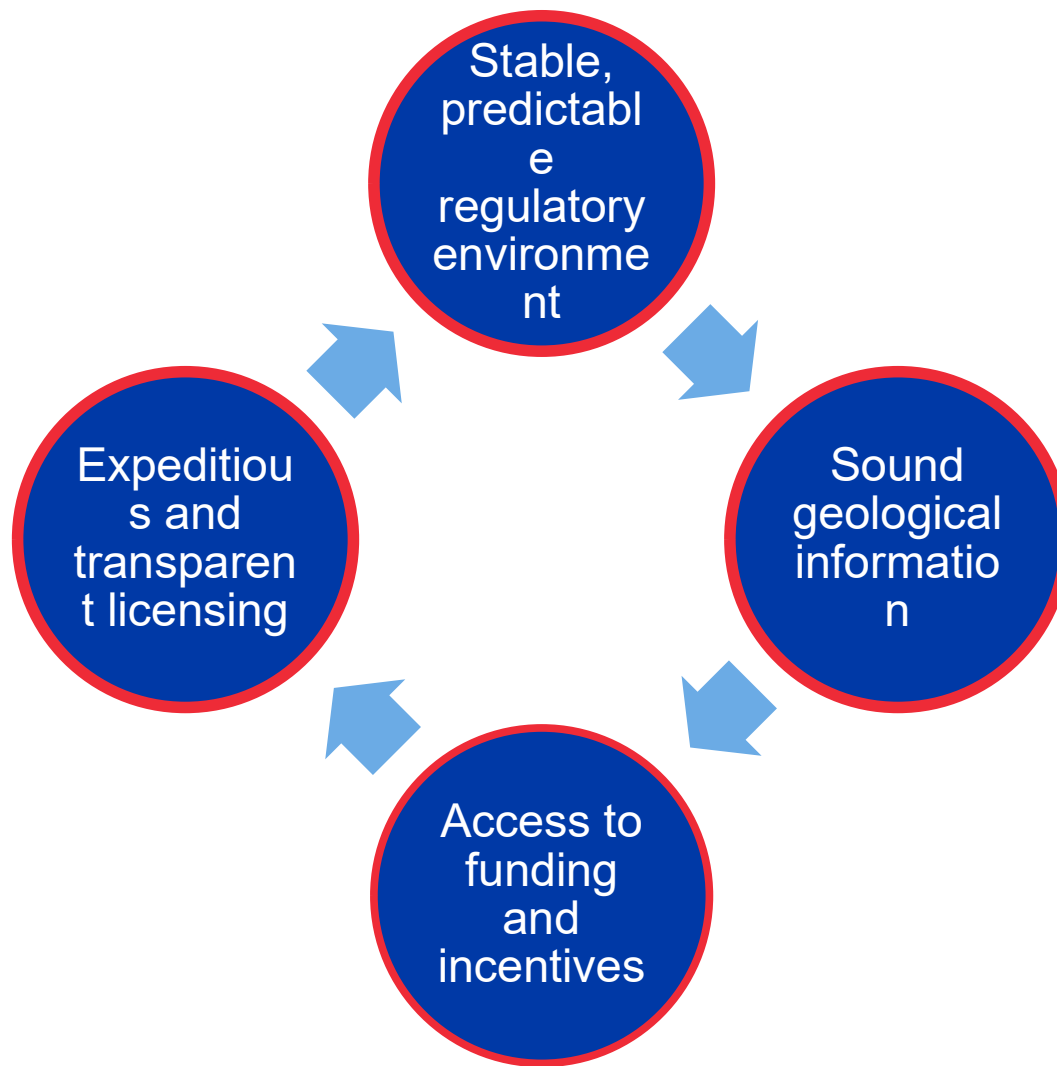
Number of emerging/exploration mining companies listed



Why Hong Kong?

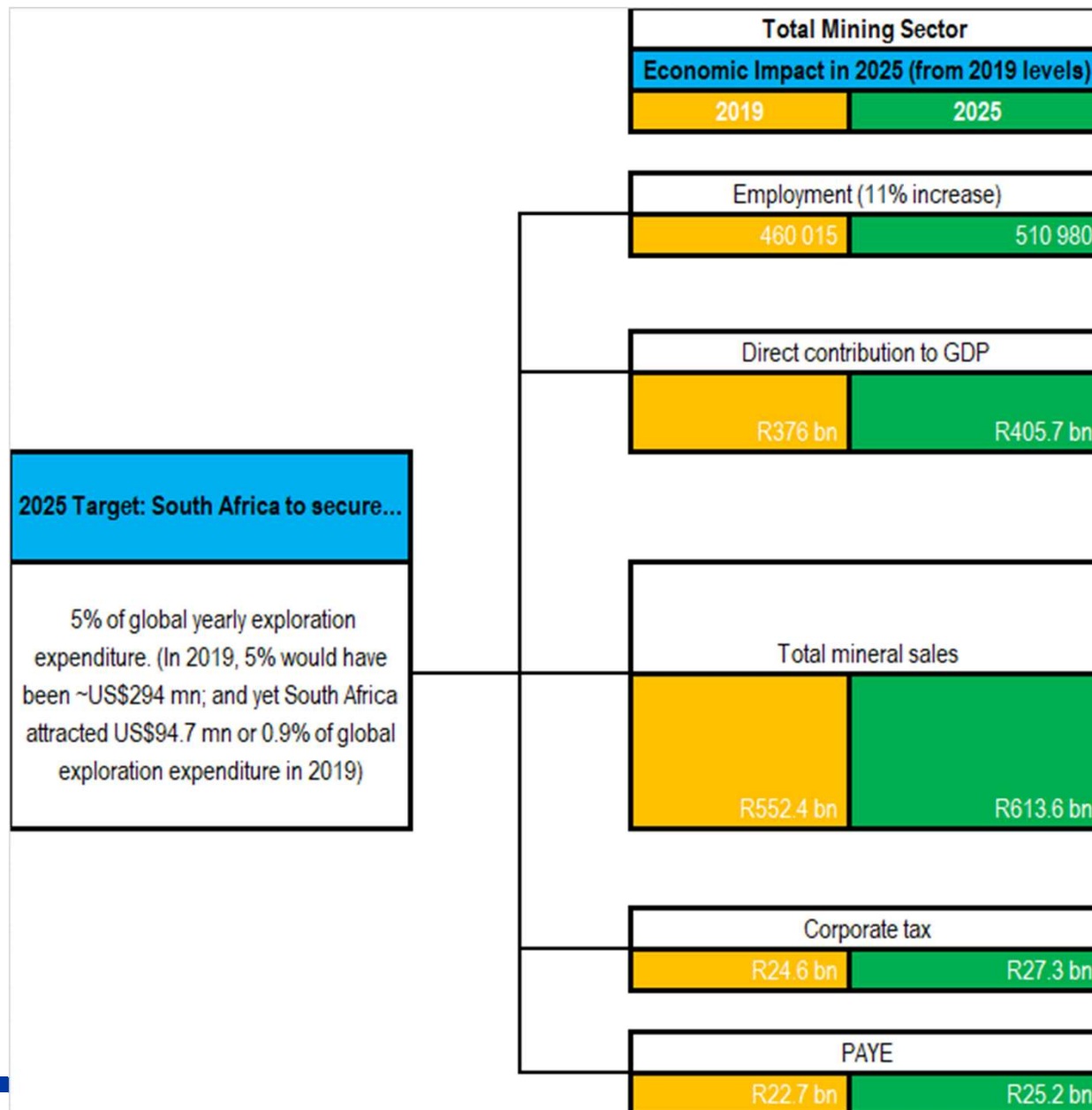
- Iron ore
- Silver
- Tungsten
- Lead

Source: Minerals Council



CREATING AN EXPLORATION BOOM

Benefits of addressing exploration constraints



Six structural constraints to SA mining



Pending electricity tariff hikes: Scenario 1

	MYPD 3 (Year 5)	MYPD 4				Court decision (Government Equity Injection Year 1)	Amounts still pending to Eskom	Tariff After Pending Amounts	Escalation from Pending Increases
	2018/19	2019/20	2020/21	2021/22	2021/22				
Application (R billion)		219 000	252 000	291 000					
%		15%	15%	15%					
Approved (R billion) Standard Tariff		190 939	205 107	214 598					
%		9,41%	8,10%	5,22%					
Approved RCA (Year 2-4 MYPD 3) (R billion)		7 776	7 776	7 776					
Approved Revenue + RCA		198 715	212 883	222 374					
Sales volumes (Mwh)	188082	186 064	184 898	183 856	183 856		183 856	183 856	
MYPD4 Tariff (c/kwh)	93,79	106,799	115,135	120,950					
High Court Decision (c/kwh) - Government Equity Injection Year 1						128,24			
						Court Decision			
Tariff Inflation (%)		13,87%	7,81%			16,4%			
Amounts pending to Eskom Tariff (Total) R billion							46 000		
RCA 2014/15									
RCA 2015/16									
RCA 2016/17									
RCA 2017/18									
RCA 2018/19									
Government Equity Injection (Year 2) (R billion)							23 000		
Government Equity Injection (Year 3) (R billion)							23 000		
Amounts Pending (c/kwh)							25,0		
Tariff (c/kwh) post pending amounts								153,3	
Total Tariff adjustment from pending amounts									35,9%

612.84%
2007 - 2021

Pending electricity tariff hikes: Scenario 2

	MYPD 3 (Year 5)	MYPD 4			Court decision (Government Equity Injection Year 1)	Amounts still pending to Eskom	Tariff After Pending Amounts	Escalation from Pending Increases
	2018/19	2019/20	2020/21	2021/22	2021/22			
Application (R billion)		219 000	252 000	291 000				
%		15%	15%	15%				
Approved (R billion) Standard Tariff		190 939	205 107	214 598				
%		9,41%	8,10%	5,22%				
Approved RCA (Year 2-4 MYPD 3) (R billion)		7 776	7 776	7 776				
Approved Revenue + RCA		198 715	212 883	222 374				
Sales volumes (Mwh)	188082	186 064	184 898	183 856	183 856	183 856	183 856	
MYPD4 Tariff (c/kwh)	93,79	106,799	115,135	120,950				
High Court Decision (c/kwh) - Government Equity Injection Year 1					128,24			
			Court Decision					
Tariff Inflation (%)		13,87%	7,81%		16,4%			
Amounts pending to Eskom Tariff (Total) R billion						72 473		
RCA 2014/15						4 794		
RCA 2015/16						4 274		
RCA 2016/17						274		
RCA 2017/18						3 860		
RCA 2018/19						13 271		
Government Equity Injection (Year 2) (R billion)						23 000		
Government Equity Injection (Year 3) (R billion)						23 000		
Amounts Pending (c/kwh)						39,4		
Tariff (c/kwh) post pending amounts							167,7	
Total Tariff adjustment from pending amounts								47,2%

612.84%
2007 - 2021

Pending electricity tariff hikes: Scenario 3

	MYPD 3 (Year 5)	MYPD 4			Court decision (Government Equity Injection Year 1)	Amounts still pending to Eskom	Tariff After Pending Amounts	Escalation from Pending Increases
	2018/19	2019/20	2020/21	2021/22	2021/22			
Application (R billion)		219 000	252 000	291 000				
%		15%	15%	15%				
Approved (R billion) Standard Tariff		190 939	205 107	214 598				
%		9,41%	8,10%	5,22%				
Approved RCA (Year 2-4 MYPD 3) (R billion)		7 776	7 776	7 776				
Approved Revenue + RCA		198 715	212 883	222 374				
Sales volumes (Mwh)	188082	186 064	184 898	183 856	183 856	183 856	183 856	
MYPD4 Tariff (c/kwh)	93,79	106,799	115,135	120,950				
High Court Decision (c/kwh) - Government Equity Injection Year 1					128,24			
			Court Decision					
Tariff Inflation (%)		13,87%	7,81%		16,4%			
Amounts pending to Eskom Tariff (Total) R billion						121 972		
RCA 2014/15						11 424		
RCA 2015/16						15 824		
RCA 2016/17						16 024		
RCA 2017/18						5 400		
RCA 2018/19						27 300		
Government Equity Injection (Year 2) (R billion)						23 000		
Government Equity Injection (Year 3) (R billion)						23 000		
Amounts Pending (c/kwh)						66,3		
Tariff (c/kwh) post pending amounts							194,6	
Total Tariff adjustment from pending amounts								68,2%

612.84%
2007 - 2021



Industrial revolution and cheap energy

Cheap energy was the catalyst to the Industrial Revolution

Coal production in England, Wales, and Scotland ('000 tonnes)

	1560s	1700-9	1750-9	1800-9	1850-9
England	177	2 200	4 295	11 195	51 650
Wales	20	140	220	1 850	13 400
Scotland	30	300	715	2 000	9 000
Total	227	2 640	5 230	15 045	74 050

Energy consumption, England and Wales (petajoules)

Draught animals	21,0	32,8	33,6	34,3	50,1
Population	14,9	27,3	29,7	41,8	67,8
Firewood	21,5	22,5	22,6	18,5	2,2
Wind	0,2	1,4	2,8	12,7	24,4
Water	0,6	1,0	1,3	1,1	1,7
Coal	6,9	84,0	140,8	408,7	1 689,1
Total	65,1	169,0	230,8	517,1	1 835,3
Total less coal	58,2	85,0	90,0	108,4	146,2

Coal as a % of total energy
consumption

10,5 49,7 61 79 92

Source: E A Wrigley (Energy and the English Industrial Revolution)

- As a source of heat and illumination energy, firewood was the main source before prices rose
- Between 1580 and 1610 the price of firewood had risen by more than 80% while coal prices had scarcely altered
- Coal was cheap and abundant and provided heat energy for industrial processes in the late 1600s
- Industries that benefitted from cheap coal were brewing, lime burning, salt production, dye industries, brick and tile making, glass making, alum boiling, sugar and soap production, smithying etc.
- The most notable invention as a result of the new energy source, coal, was the steam engine by Thomas Savery in 1698
- The 1st steam engine enabled mines to draw water out of flooded mines



MINERALS COUNCIL
SOUTH AFRICA

NO COUNTRY HAS EVER MANAGED TO INDUSTRIALISE WITH ENERGY/ELECTRICITY PRICES GROWING THAT FAST

Solution:

Sell all coal power stations to private players. They will run them efficiently. (National Treasury)

AFFECTED COMMODITIES:

- All (gold, PGMs, Cr & Mn beneficiation, train services use electricity)

Government policy - IRP

GAZETTED 2019 IRP: Eskom's projected coal requirements and employment employment						
	Coal consumed by Eskom (Mt)	Jobs in mining as a result of coal power	Direct Eskom employment in the electricity industry	Total coal mining industry employment and Eskom	Eskom installed coal capacity (MW)	Electricity sent out/generated (TWh)
2018	115	43 030	38 292	81 322	37 149	209
2030	105	39 289	34 962	74 251	33 847	202
2040	50	18 709	16 649	35 358	16 200	108
2050	57	21 328	18 980	40 308	18 300	119

SOURCE: DMR&E, ESKOM, MINERALS COUNCIL CALCULATIONS

AFFECTED COMMODITY:

- Coal
 - Communities that depend on coal value chain
 - >240k people employed by coal value chain



Infrastructure: Overvaal Tunnel



- Expansion of the Overvaal Tunnel set to increase coal export capacity from 81Mt to 132Mt.
- In 2008, it would have cost R11 billion to increase the capacity of the tunnel (~R24 bn in 2020)

AFFECTED COMMODITY:

- Coal
 - Exports sales volumes plateaued and could not respond to higher prices

Logistics infrastructure: rail and port capacity



- Capacity has not increased even as Cr exports increased from ~5 mn in 2010 to ~14 mn/yr.
- Every year around June/July Cr exports come to a stop because the tow tipplers at PE port are being service/ under maintenance
- Cable theft between Rustenburg and Pretoria a major problem for Transnet which affects Cr exports
- Example: Transnet's target in transporting ore from Rustenburg to Richard's Bay is 168 hrs/wk. However, they're currently doing 251.3 hrs/wk because of challenges along the route.
- Also, target is 75 wagons per train, but currently doing 62.8 i.e. 80%



AFFECTED COMMODITIES:

- Chrome
- Manganese

Transnet charges R1,909 (~\$123) to handle a 20-foot equivalent unit container. This is higher than most East Asian port charges incl. Shanghai.
Solution:

Government must pursue concessionary model to improve efficiencies and drive down costs e.g. RBCT

AFFECTED COMMODITIES:

- All bulk commodities

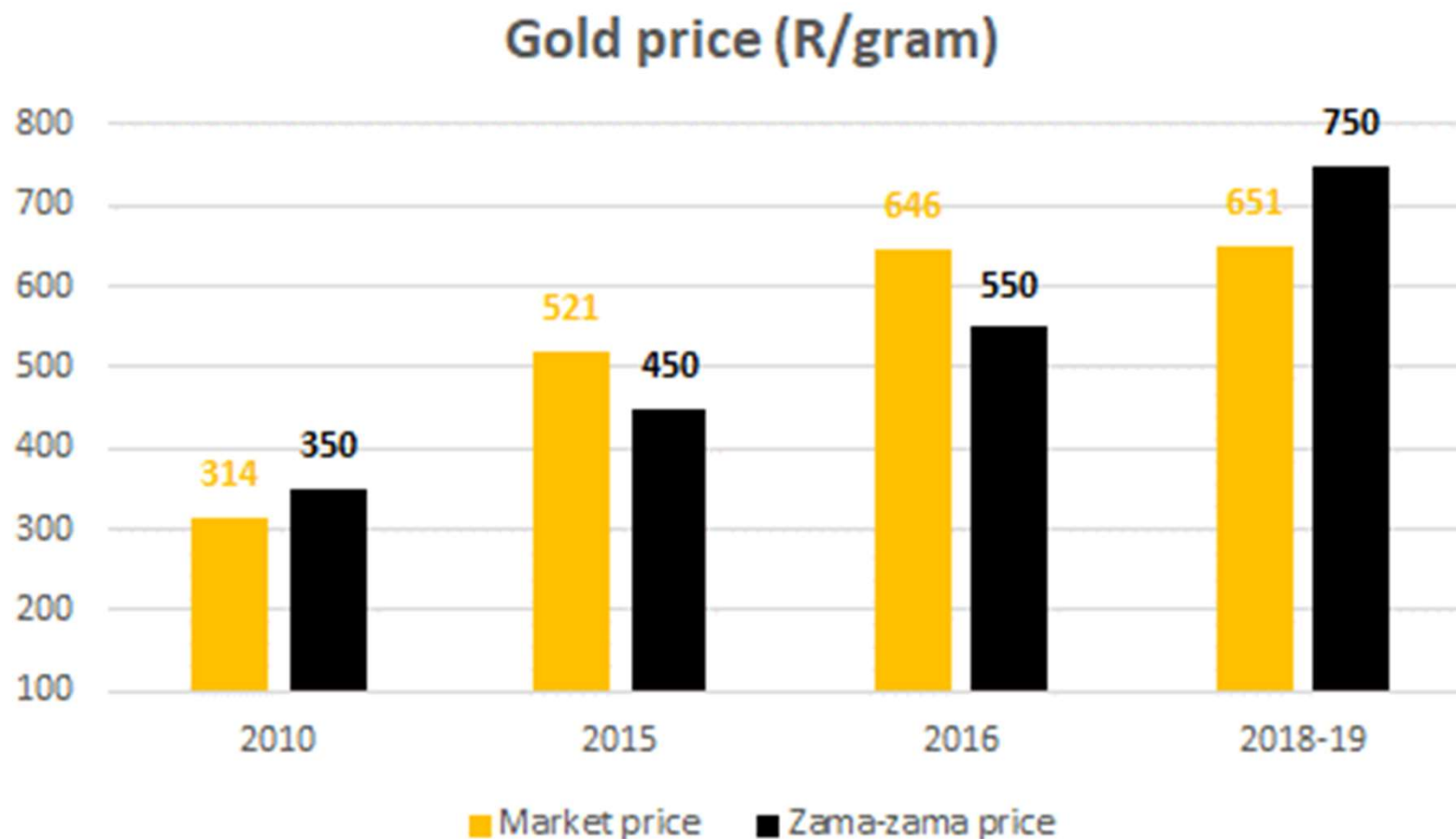
Illegal mining

- Illegal mining
 - No specific legislation that classifies this activity as a crime (Proxy: Trespassing; Illegal possession of the mineral; Illegal immigrant)
 - For gold-bearing metal, it takes time to prove it because it requires laboratory testing which takes months
 - 7 000 kg of gold mined illegally every in SA (~R4.2 billion). The higher the price/oz the more attractive it is for zama-zamas to take the risk
 - One company has arrested >4 000 zama-zamas in the past two years
 - Increase in unemployment will further exacerbate the problem

AFFECTED COMMODITIES:

- Gold, chrome, coal etc.

THREATS TO THE GOLD INDUSTRY: ILLEGAL MINING



Source: Reserve Bank SA, Global Initiative

The country's development must be above politics

Major projects that were aborted		
Mineral	Description	Alleged reason
Coal	It was a SASOL coal-to-liquids project aimed at producing 80 000 bbl/day. The project was to be sited at the Waterberg region in Limpopo. Planning was at an advanced stage.	The project collapsed as a result of the transition from the President Mbeki to the President Zuma Administration. It seems that the Zuma Administration de-prioritised the project resulting in SASOL reallocating the capital to the ethane cracker and derivatives project in Louisiana, USA.
Platinum	In the early 2000s SA developed an electric car – the Joule. It was to use, among other domestically sourced inputs, platinum. The Joule had a range of 150km and a top speed of 135km/hr.	The project collapsed just as there were plans for mass production. The reason the project closed shop was because government demanded a controlling stake in the company. The company folded in 2012. Could it have been today's Tesla?
Uranium	After growing to be one of the largest nuclear reactor design team in the world, PBMR ceased to operate in 2010 because government stopped funding it.	This project was supposed to place SA at the frontier to this technology. What is left at Pelindaba is a fraction of the intended scale of the project.

Common denominator with these projects:

- Ground-breaking technology

Lessons from South Korea's development:

- Cheap power was a priority

Concluding remarks

- COVID-19 should be a wake-up call
- There is no way the country will develop unless policymakers understand the importance of cheap power (examples: Japan, S Korea, England etc)
- Most key enablers are in government's hands e.g. power and logistics. When government runs out of money it stops to invest leading to stunted growth. Yet if these industries were predominantly in the hands of the private sector the appetite to invest is always there e.g. RBCT is ranked top in the world

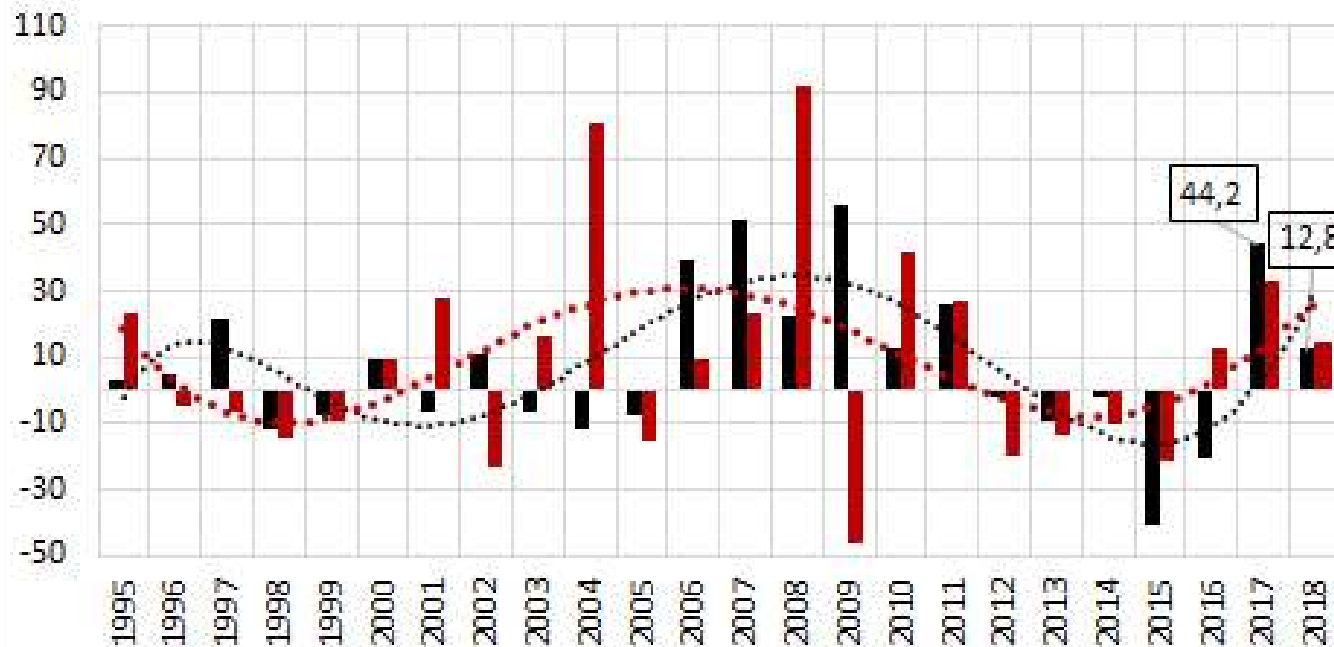
Thank You



MINERALS COUNCIL
SOUTH AFRICA

Changes in export prices is a predictor of new mine construction

SA coal mining: Buildings and construction works & SA international coal price (% y/y change)



In 2018 Exxaro started a R3.3 billion coal mine in Belfast, Mpumalanga province. In 2019 Sasol started a new coal mine in Mpumalanga which cost R5.6 billion.

SOURCE: STATISTICS SOUTH AFRICA, WORLD BANK, MINERALS COUNCIL CALCULATIONS

- A clear and strong correlation between changes in coal export prices and 'building of new mines'.
- From 2012 to 2016 no new major coal mines were constructed



MINERALS COUNCIL
SOUTH AFRICA