

“Promoting Beneficiation in South Africa”

Presentation to the Parliamentary Portfolio Committee on Trade and Industry, 10 September 2014

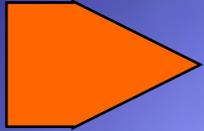
By Mr Roger Baxter, Chief Operating Officer,
Chamber of Mines of South Africa



CHAMBER OF MINES OF SOUTH AFRICA

Putting South Africa First

Presentation outline



The Chamber supports promoting Beneficiation

General principles of beneficiation

Up-stream (procurement) beneficiation

Key drivers of downstream manufacturing beneficiation?

How is South Africa doing in terms of manufacturing beneficiation?

Working collectively and strategically to facilitate beneficiation?

Conclusion & policy implications

The Chamber supports the objective of adding value (beneficiation) to South Africa's minerals

- The Chamber is of the view that adding value to South Africa's minerals is a meritorious objective.
- Of course the key questions include:
 - How much beneficiation is already taking place?
 - How to define beneficiation?
 - Who are the lead agents to drive beneficiation?
 - How to encourage/facilitate beneficiation?
 - How to coordinate the efforts and actions of stakeholders to create this enabling framework?

Downstream beneficiation is significant

- About 94% of RSA's cement is made locally from locally mined products
- 80% of RSA's steel is made locally from locally mined iron ore, chrome, manganese, coking coal
- 30% of RSA's liquid fuels are produced from locally mined coal
- 94% of RSA's electricity is produced from locally mined coal
- Most of our domestic chemicals, fertilisers, waxes, polymers, plastics, etc., are fabricated using locally mined minerals & coal
- 13% of the world's platinum catalytic converters are made in RSA, and so on

Overall another R300 billion in sales value and >200 000 jobs are created in the downstream beneficiation industries. Extra value is being created where the commercial opportunities exist

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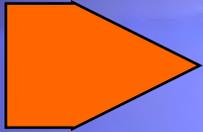
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A workable definition for downstream minerals beneficiation

“The term beneficiation, used broadly to describe the successive processes of adding value to raw materials from their extraction through to the sale of finished products to consumers, covers a wide range of very different activities. These include large-scale and capital-intensive operations like smelting and technologically sophisticated refining as well as labour-intensive activities such as craft jewellery”.

Minerals Policy White Paper, Oct 1998

Defining downstream beneficiation

MINING BENEFICIATION

Mining has competency/skill in the mining and in certain parts of the concentrating/smelting areas.

MANUFACTURING BENEFICIATION

From refining to the fabrication of a final consumer product. Manufacturing companies have core skills and competency in this arena (understanding customer needs, product development, design, skills, markets, distribution chains, technology).

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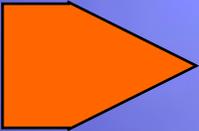
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Up-stream Beneficiation

- Insufficient attention has been given to the significant up-stream beneficiation sectors that exist because of mining. These include financial services, contracting services, heavy engineering, power, transport, manufacturing, etc.
- The multiplier and induced effects of mining more than double the direct contribution of the sector to the economy.
- In countries such as Canada and Australia the up-stream beneficiation industries have been given due recognition and have been supported by their governments.

Mining - The Essential Core Of SA Economy

- Creates 1.35 million jobs (520 000 direct & 830 000 indirect).
- Accounts for about 19% of GDP (9% direct, 10% indirect & induced).
- Critical earner of foreign exchange >50%.
- Accounts for 20% of private investment (12% of total investment).
- Attracts significant foreign savings (R1.4 trillion/ 29% of value of JSE).
- 2012, R20 billion & R5.6 billion in royalties.
- R437 billion in expenditures, +/- R389 billion spent locally.
- R93.6 billion spent in wages and salaries
- 50% of volume of Transnet's rail and ports
- 94% of electricity generation via coal power plants
- 15% of electricity demand
- About 30% of country's of liquid fuels via coal
- R4 billion spent on skills development
- R2 billion spent on community investment

Mining - The Flywheel of the SA Economy

Indirect impact

GDP = R47,9 bn Jobs = 152 831

Mining sector in 2012

GDP = 263 bn

Employment = 524 632

First round impact

GDP = R70 bn Jobs = 230 921

Economy-wide impact
across all sectors of SA
economy

GDP = R527 bn Jobs = 1 365 892

Induced impact

GDP = R146,4 bn Jobs = 479 986

Source: Quantec & IDC

Minerals & Metals in South Africa: A Significant Value Added Cluster

Mining is one of the most extensive and best developed South African industrial clusters

- ◆ Extensive sciences & technology network/research
- ◆ Broad expertise in geoscience
- ◆ Large exploration expertise
- ◆ Large number suppliers of equipment and services
- ◆ World class educational and skills development systems and institutions
- ◆ Sophisticated financial institutions (JSE, banks, legal)
- ◆ Large scale smelting and refining.

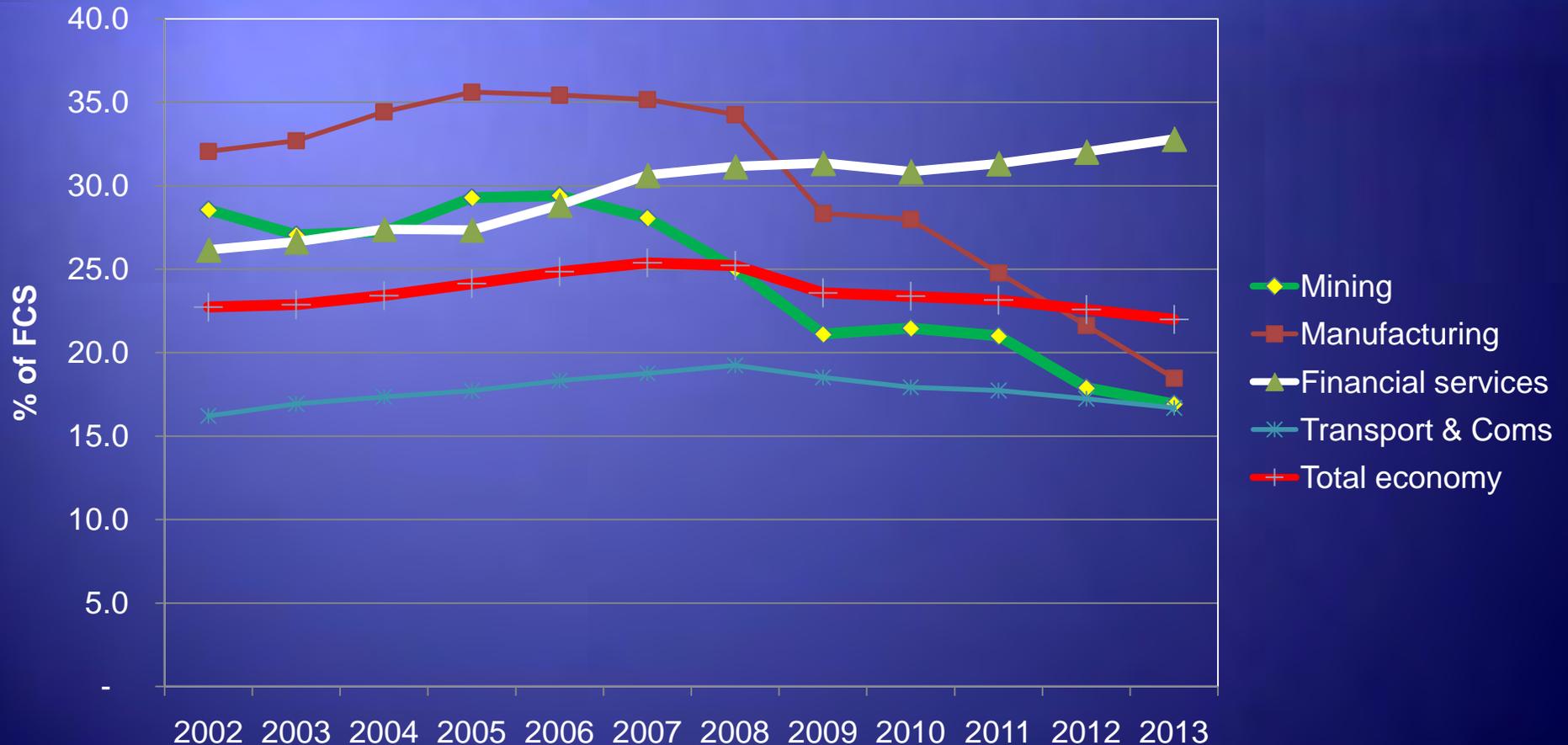


But, SA mining has not met its potential

- RSA mining in real GDP terms is smaller in 2013 than it was in 1994.
- Large shares of the gold & platinum mines are loss-making at current prices.
- The industry has recently been hit by labour market challenges and by the unfortunate Marikana tragedy.
- The industry has faced bouts of policy uncertainty (the nationalisation discussion, the review of mining taxation, carbon tax, etc.) and some licensing challenges.
- The industry has faced binding infrastructure constraints (shortages of electricity, rail and water).
- Declining productivity and rapidly escalating costs have challenged the sector.

Comparative analysis of SA mining sector at local level (SA mining Gross operating surplus falls quickly post GFC)

Real gross operating surpluses as a % of the total fixed capital stock, selected sectors



Mining has to invest 2X capex to generate same revenue as rest of the economy

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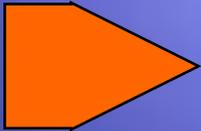
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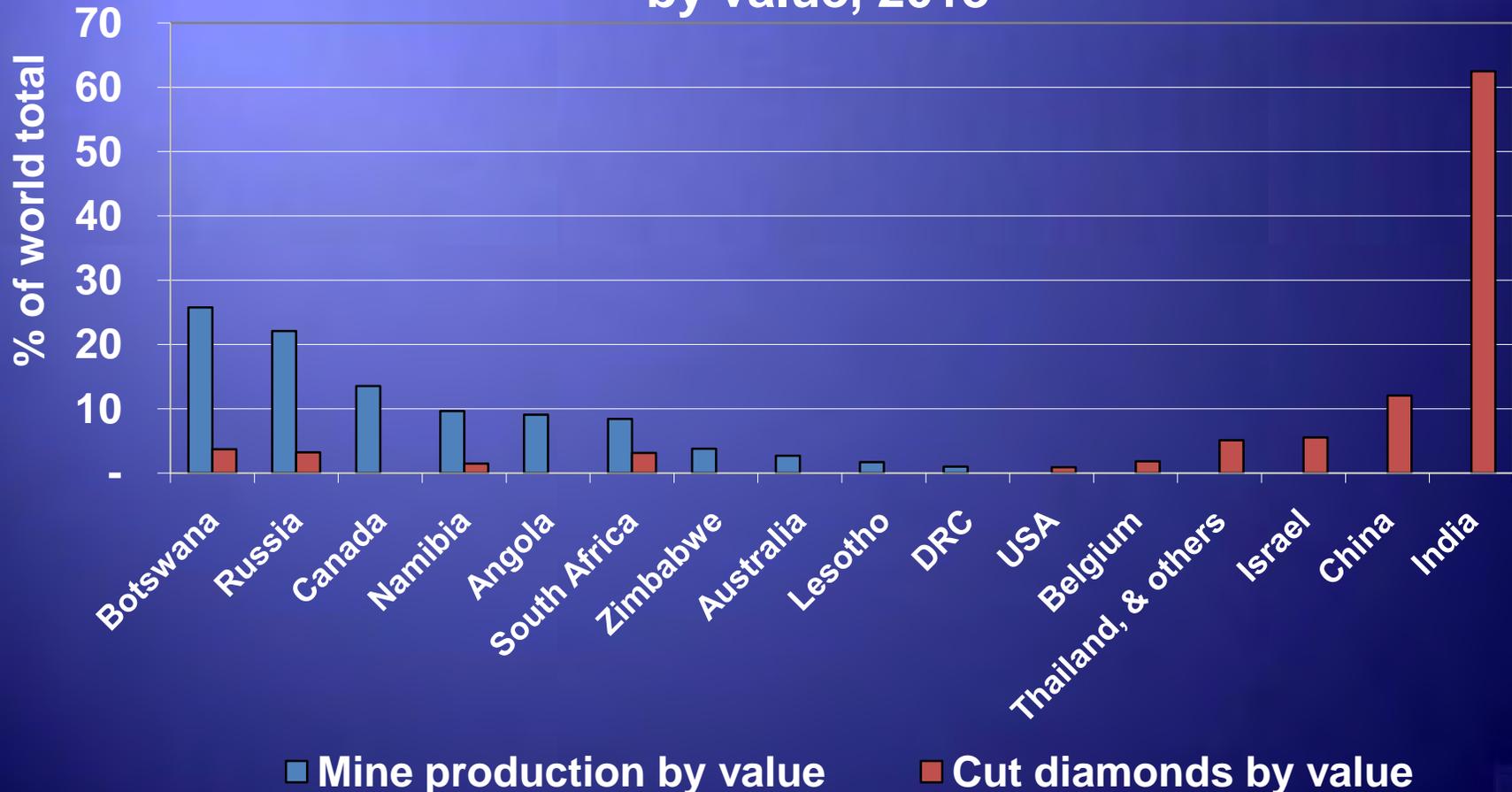


Does the availability of minerals constitute an advantage for the manufacturing beneficiation sectors?

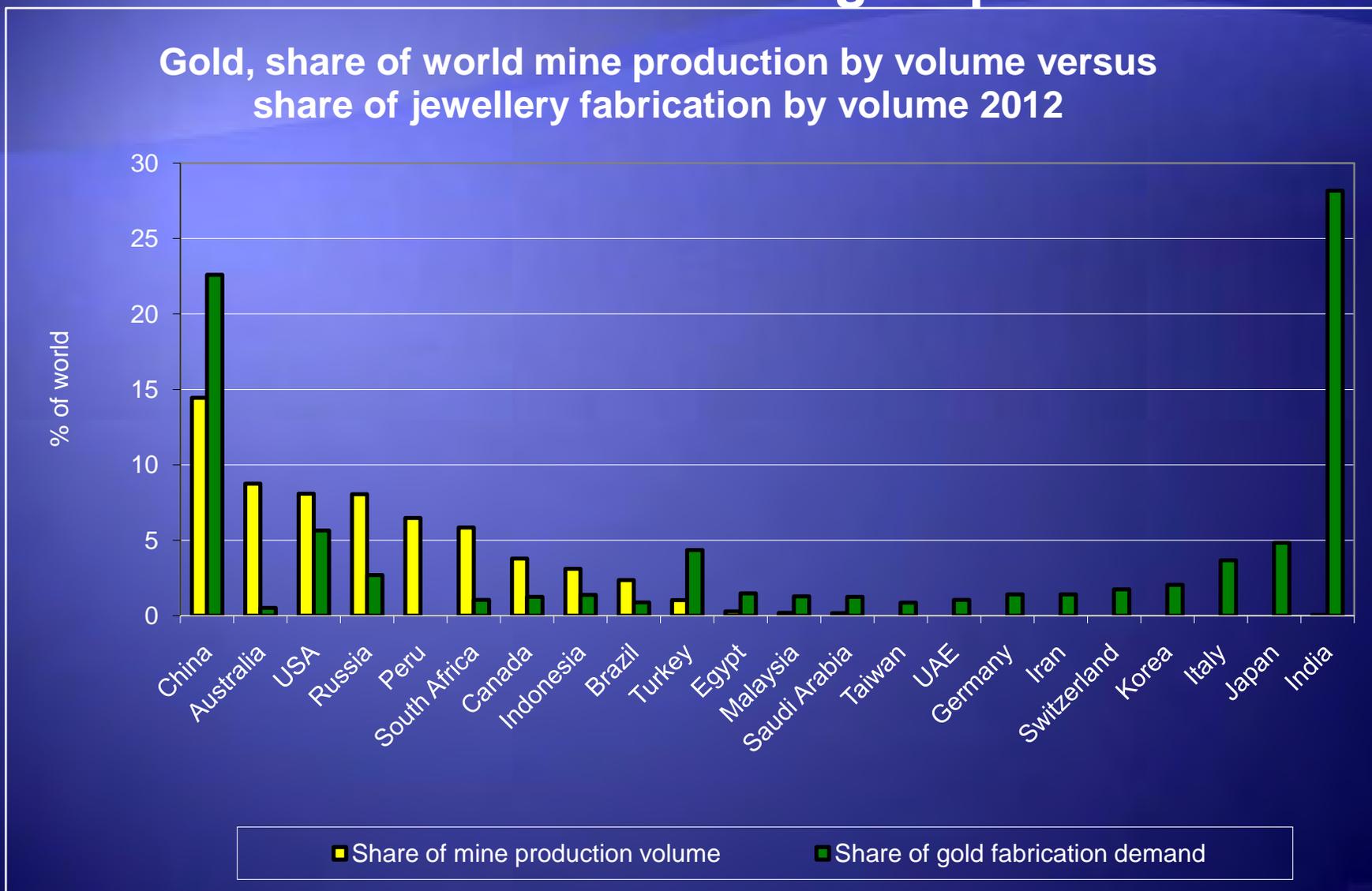
- For precious metals and diamonds the products are generally available in any of the world's markets at internationally determined prices.
- The majority of manufacturing beneficiation (jewellery fabrication & diamond cutting) takes place in countries that have little or no mine production of precious metals and diamonds.
- So the answer is that the availability of mined precious metals and diamonds at world determined prices does not necessarily provide a competitive advantage.
- For bulk mined commodities prices are generally determined at the international level, but most manufacturing processing takes place near the market for the product (such as steel).
- The challenges for bulk commodity beneficiation is the pricing of intermediate products (steel) which challenges final fabrication rather than actual mined commodity prices (iron ore).

The countries that mine the diamonds are not necessarily the countries that cut diamonds

Global share of diamond mine production by value versus global share of diamonds cut and polished by value, 2013



The countries that mine the gold are not necessarily the countries that fabricate gold products



Manufacturing beneficiation is driven by competitive advantage issues & not necessarily by the availability of raw materials

COMPARATIVE ADVANTAGE issues such as natural resources are no longer considered to be a key driver of manufacturing beneficiation investment.



COMPETITIVE ADVANTAGE issues such as cost competitive production, skills and craftsmanship, etc., are now the key drivers of manufacturing beneficiation investment.

COMPARATIVE ADVANTAGE VERSUS COMPETITIVE ADVANTAGE

Type of advantage	Source	Beneficiary	Description and policy implication
Comparative advantage as traditionally defined	Endowed	All firms in industries, regions	Cheap resources, low cost labour. Endowed advantages remain critically important to South Africa's primary industries. Microeconomic reforms that improve the country's ports, transport and electricity will support the country's comparative advantages in these areas.
Dynamic comparative advantage	Created	All firms in industries, regions	World class human and physical infrastructure, as well as clusters that develop capacities useful to all firms. Here South Africa is weak and policy objectives should be on the enhancing of physical infrastructure, a better educated and skilled workforce, market reforms, support for R&D, etc.
Competitive advantage	Created	Individual firms	The fostering and nurturing of world class firms. Policy issues here include competition law responses to the need for scale in global markets, tax regimes relative to competitors, domestic non-tariff barriers, government procurement, overseas market development support, export facilitation, etc.

Primary industries



Competitive Manufacturing

What are the key drivers of the manufacturing beneficiation industry (E.g. Jewellery fabrication)?

- **Significant entrepreneurial base** looking at opportunities to service markets.
- **Competitive production**, high productivity, low costs vs competitors.
- **Craftsmanship and specific skills.**
- **Access to markets (domestic and foreign).** Most successful jewellery producers have started with a large domestic market.
- **Good market intelligence** (what customers want, the latest designs?)
- **Low costs of doing business** (smart tape - not red tape).
- **Access to raw materials** (security of supply)
- **Low materials funding costs** (i.e. low interest rates).
- **Special economic zones** (duty free, VAT free and low tax rate areas for manufacturing).
- **Quality assurance** (Hallmarking) for final markets.
- **Research & development & innovation** incentives and capabilities.
- **Appropriate and competitively priced & efficient infrastructure.**

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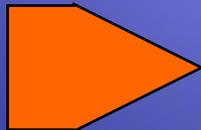
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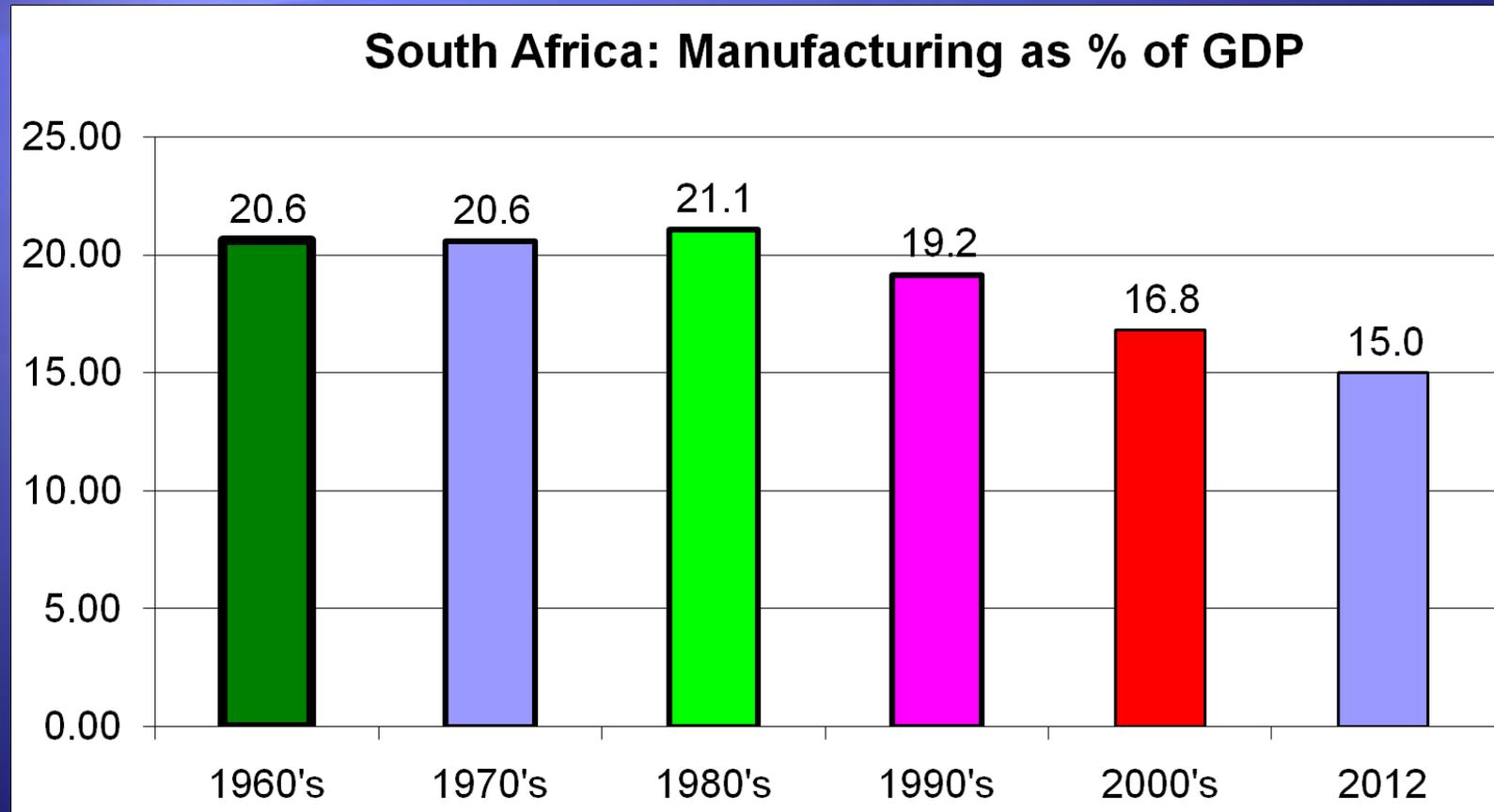
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South Africa's manufacturing sector as a % of GDP has declined

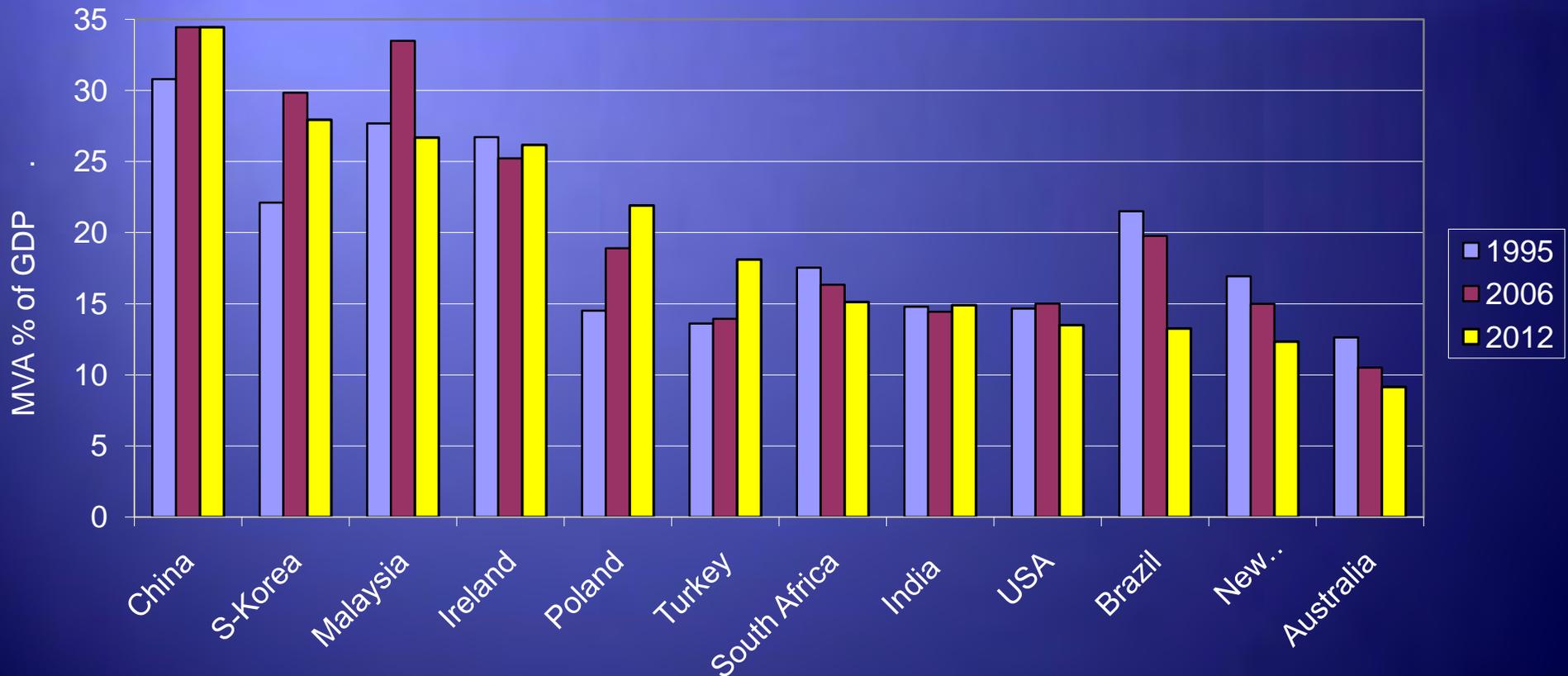
- Manufacturing as a % of GDP at 15% has continued to decline over the past three decades, versus 22% in the 1980's and 19% in the 1990's.
- With the exception of some niche products and the motor industry (because of the MIDP/APDP), most components of the manufacturing sector have battled to become competitive – in the face of a volatile currency and slow progress on improving ***total factor productivity***.
- Manufacturing as a % of GDP at 15% is now just above the comparative number for the USA and compares unfavourably versus a number of countries (China 34%, South Korea 28%, Malaysia 27%, etc.).
- Low growth rates in MVA in South Africa (only 2.9% in 2010-2012) versus high MVA growth in competitors (China 8.8%, Turkey 5.5%, India 5.8%, etc.) means that the competitiveness gap between South Africa and the competitors will continue widening!

South Africa's manufacturing sector's share of GDP continues to fall



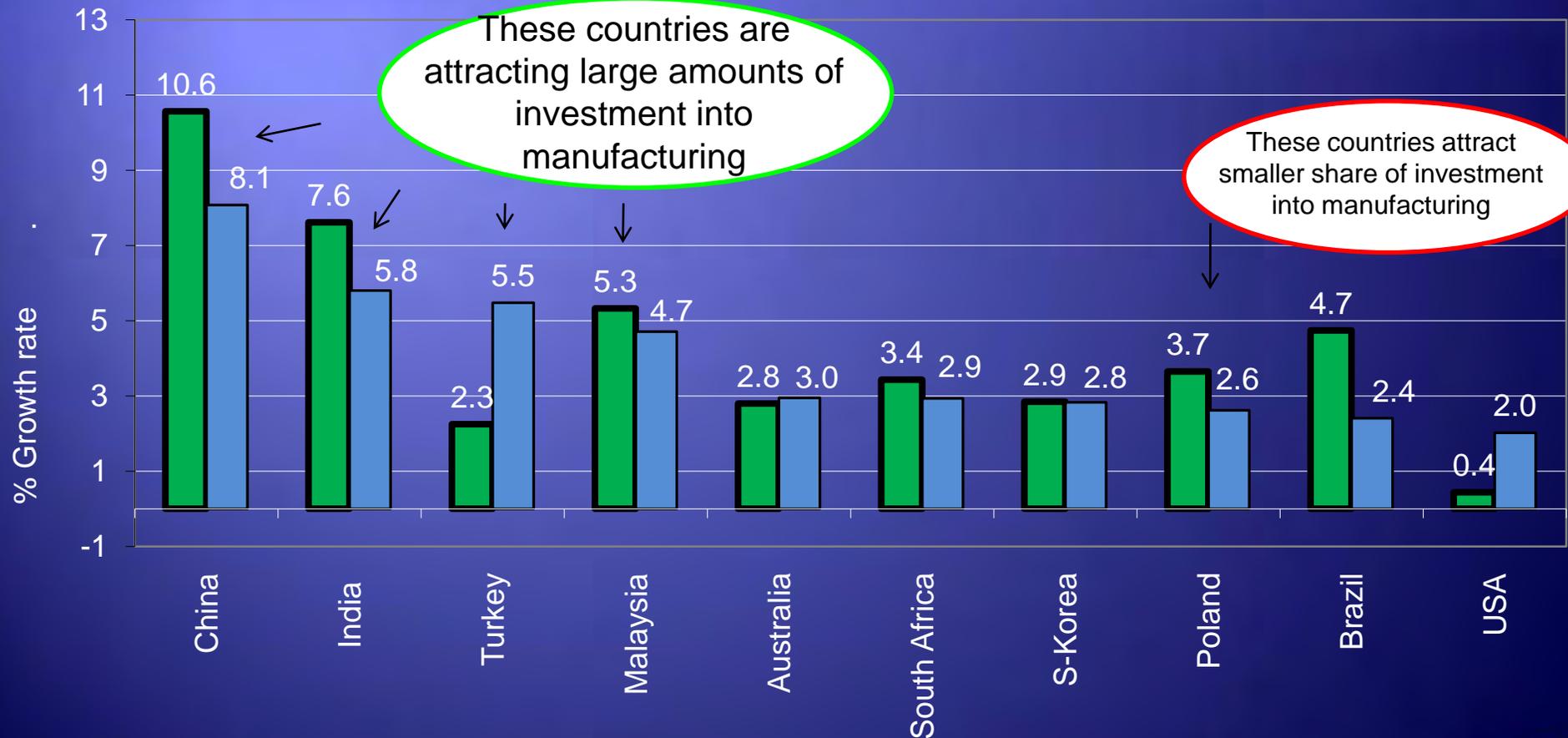
South Africa's manufacturing share of GDP has declined

Manufacturing value added as % of GDP in real terms,
(source UNIDO)



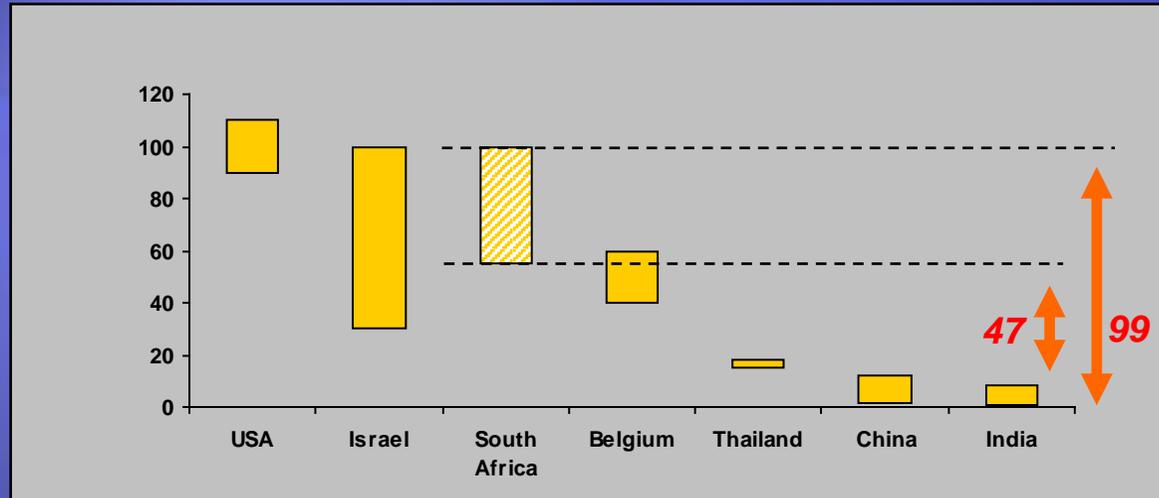
Countries that have high MVA productivity growth attract significant investment into manufacturing

Real growth rate in manufacturing value added for the period 2005-2010, and 2010-2012 (source UNIDO/WBG)



Given the cost differential between South Africa and India...

Cutting & polishing costs



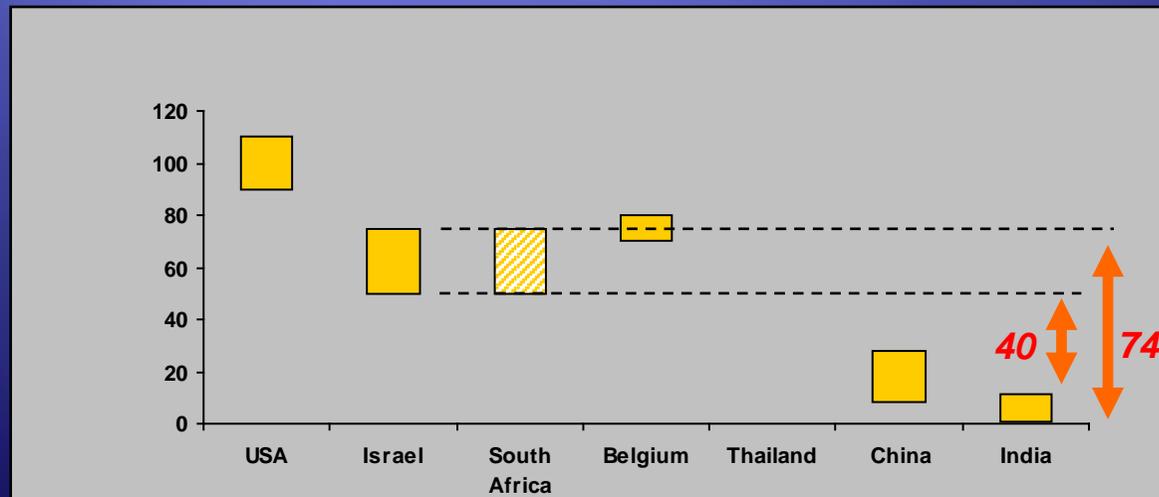
Medium price differential

73 \$/ct

Median estimated price differential between SA and India: 65 \$/ct

Medium price differential

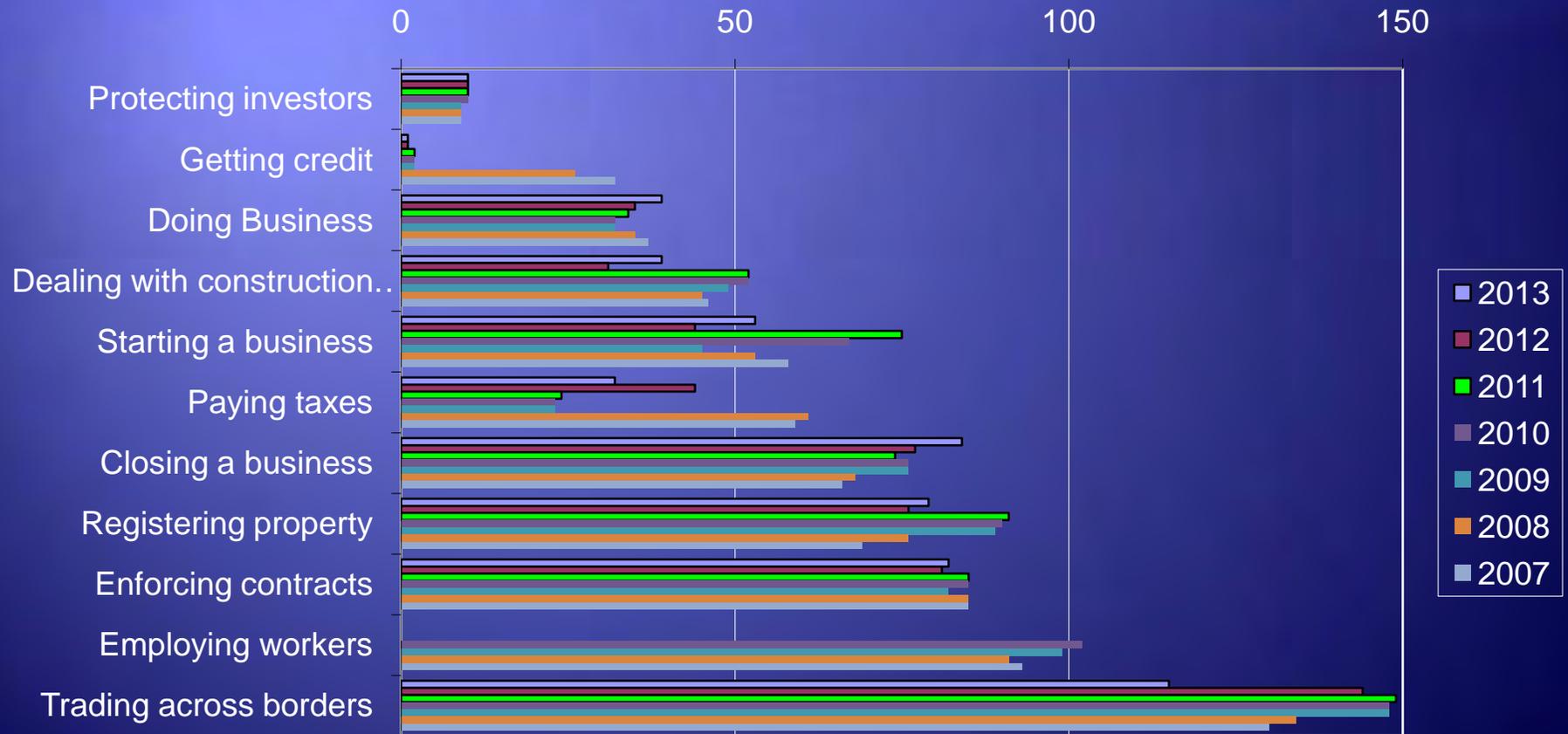
57 \$/ct



Industry estimates

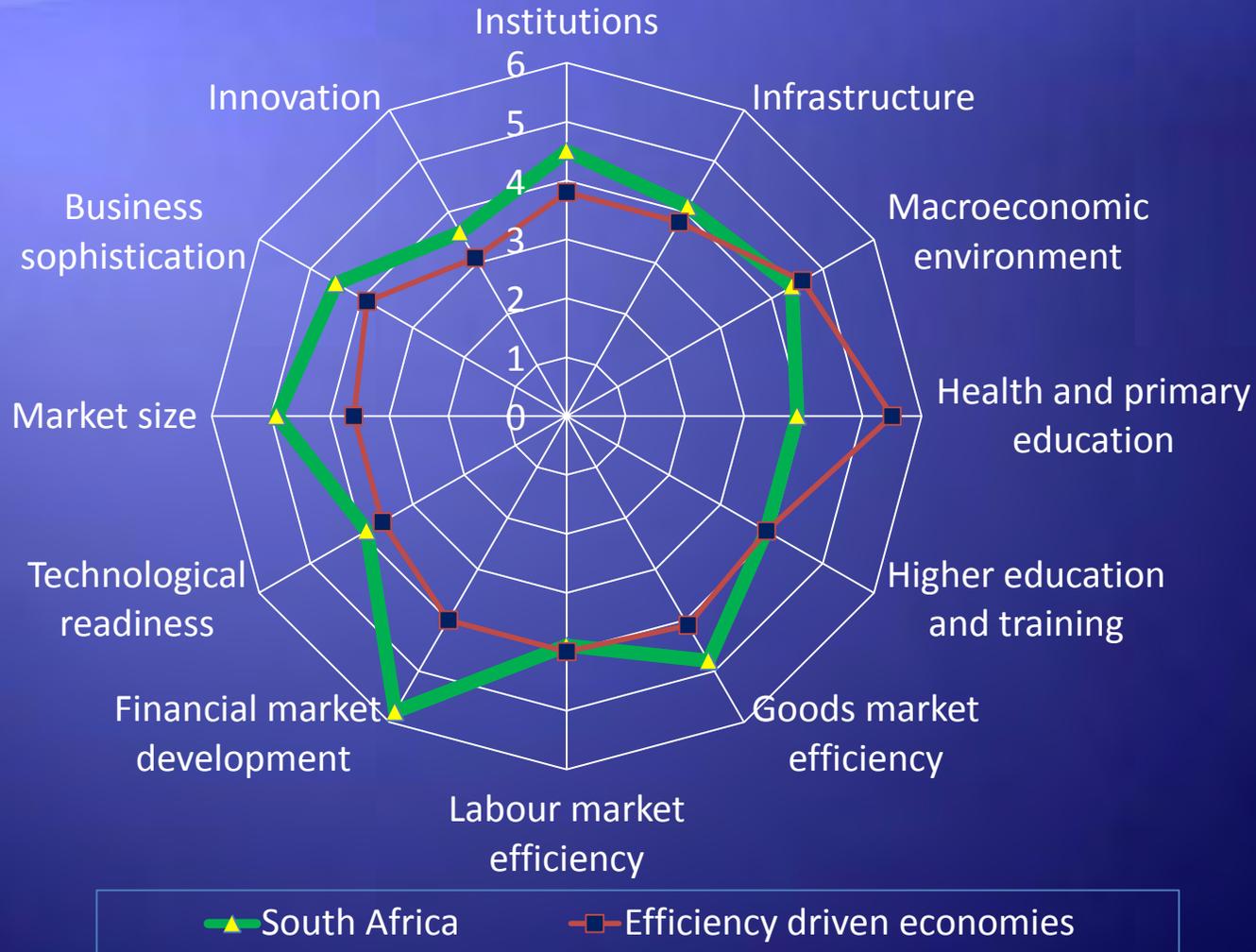
Red tape continues to inhibit entrepreneurship and industrialisation in certain areas

World Bank Ease of doing business, South Africa's country ranking per category (doing business 2013)



RSA is competitive in some areas, but uncompetitive in some of the drivers of manufacturing beneficiation

WEF global competitiveness scores, South Africa vs other Efficiency Driven Economies, 2014-2015



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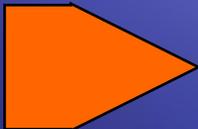
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South Africa has a number of competitive strengths that need to be built on to support manufacturing (2013-2014 WEF competitiveness report SA ranked 53rd)

- RSA is the second highest ranked BRICs economy (behind China).
 - Auditing standards/efficacy of boards/protecting minority shareholders (rank 1)
 - Soundness of banks (rank 3) and security exchange regulation (rank 1)
 - intellectual property protection (rank 18th),
 - Protection of investors (10th)
 - Protecting property rights (rank 20th) and
 - the effectiveness of resolving legal disputes (13th).
 - RSA has high accountability in private institutions (rank 2), that support the institutional framework.
 - Quality of our management schools (rank 23rd)
 - Effectiveness of our competition policies (rank 8th)
 - Availability of financial services (rank 2nd)
 - Regulation of stock exchange (rank 1st)

For South Africa to promote greater manufacturing beneficiation what is required?

- Collaborative problem solving partnerships between the key stakeholders.
- Provide an enabling environment that attracts the **manufacturing fabrication companies** to invest in SA. This includes:
 - Improving access to foreign markets for manufactured products.
 - Enabling faster growth in total factor productivity (promoting competition).
 - Focus on cost competitive production.
 - Stable and peaceful industrial relations environment.
 - Develop special economic zones for manufacturing beneficiation (duty free, VAT free, US\$ based accounts, tailor made infrastructure, etc.)
 - Lowering the cost of capital in SA (prudent macroeconomic policies, etc.)
 - Access to intermediate inputs at world determined prices (e.g. steel)
 - Providing the right types of skills for such projects.
 - Improving infrastructure (cost, efficiency, reliability, etc.).
 - Incentives for R&D and a greater focus on encouraging innovation.

A stronger focus on up-stream (procurement) beneficiation

- The mining sector has played, and continues to play a critical role as a foundation industry, which helps the development of other industries (especially the up-stream input industries).
- The economic health of the mining sector will materially affect the economic health of these up-stream industries (as clearly demonstrated during the PGM strike).
- The industry started a project with government to identify the top ten manufactured inputs that could be fabricated in South Africa (instead of being imported). This could create the space for further localization of production and growth in manufacturing.

Working collaboratively to promote beneficiation

- The RSA mining sector is currently struggling.
- There are suggestions that mining should subsidise downstream manufacturing by supplying product at less than market pricing.
- This will materially undermine the investment case for mining and prejudice the supply of these minerals from South Africa.
- The Chamber's view is that:
 - A comprehensive strategy on addressing all the key issues that affect the competitiveness of manufacturing is required.
 - If government wants to subsidise manufacturing this should be done on budget and in competition with other national needs and priorities as debated in Parliament.
 - A collaborative approach to promoting up-stream and downstream beneficiation is required.

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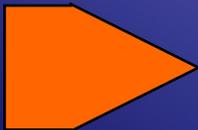
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- The mining sector is so much greater than just the sum of its direct contribution to the economy.
- While business supports the concept of growing the downstream mineral beneficiation sector, we all agree that this can only be achieved by creating a facilitating investment environment that attracts **manufacturing companies** to invest or expand in South Africa.
- The contribution of mining to up-stream beneficiation has traditionally been overlooked.
- The Chamber and its members looks forward to engaging with government, Parliament and other stakeholders in this important process.

Conclusion

- **What can mining companies do?**
 - Focus on being successful as mining companies, to grow investment and production in mining (big contribution to the NDP).
 - Work collaboratively with other key stakeholders to support the upstream and downstream beneficiation processes.
 - Invest in R&D and innovation (which will also help manufacturing).
 - Adopt new technologies that encourage local manufacturing (e.g. platinum fuel cell technology).
 - Provide inputs to the domestic fabricators at world determined prices.
 - Invest in training (mining has 10 000 student in higher education in key areas engineering/sciences/finance, etc.).
 - Support market development.

Conclusion

- **What can government do?**
 - Provide a stable, predictable and competitive policy, legislative and regulatory environment that encourages investment, growth and transformation in mining) – help mining to be successful.
 - Not burden mining with further imposts (e.g. trying to force mining to subsidise manufacturing) as this will undermine investment in mining.
 - Create a more conducive environment for manufacturing to be competitive (a much greater focus on the competitive advantage drivers) – these are listed on slide 34.
 - Work collaboratively with mining and the manufacturing sectors to facilitate investment in up-stream suppliers to mining.

We have a Vision of a

**Vibrant, growing, transforming “SUNRISE”
mining sector that helps contribute substantively
to growing the economy, reducing unemployment
and making South Africa a better place for all**

Conclusion

Mining and minerals matters for the growth, development and transformation of South Africa