Infrastructure Barometer

2008

Economic and Social
Infrastructure in South Africa:
Scenarios for the future

DBSA
Development Bank
of Southern Africa

Introducing the Infrastructure Barometer

- AsgiSA identified increased investment in infrastructure as critical
- The Infrastructure Barometer provides an overview of progress and challenges in infrastructure every two years
- The first Barometer appeared in 2006
- This second Barometer
  - Reviews progress in sectors covered in 2006
  - Extends the analysis to new issues and challenges
  - Models the effects and the policy requirements to maximise benefits at the macro level
  - Develops sectoral scenarios

Overall challenges and solutions

- Infrastructure to develop the underlying productive base of the economy is critical
- The international downturn makes it harder
  - More expensive credit
  - Reduced fiscal space
- What we need
  - Unambiguous prioritisation and better planning
  - Innovative financing plans, with a clear sense of who will end up paying and who benefits
  - Maximise the multiplier effects through strong local procurement and targeted beneficiaries

Infrastructure Barometer 2008: sectors

- The detailed sector chapters are enhanced with scenarios for the future, each developed by a small group of sector experts.
- These individual chapters and future scenarios for each were further enriched by a macro-microeconomic model, based on real public sector infrastructure investment. The model assisted the team to test the impact of different policy decisions, such as increased labour intensity, guaranteed public works programmes, etc.
- The detailed sector chapters, combined with the econometric modelling enabled us to recommend to the best policy path to ensure shared growth through infrastructure investment.

What are the prospects for increased infrastructure spending to help achieve faster growth, and radically reduce poverty and inequality?

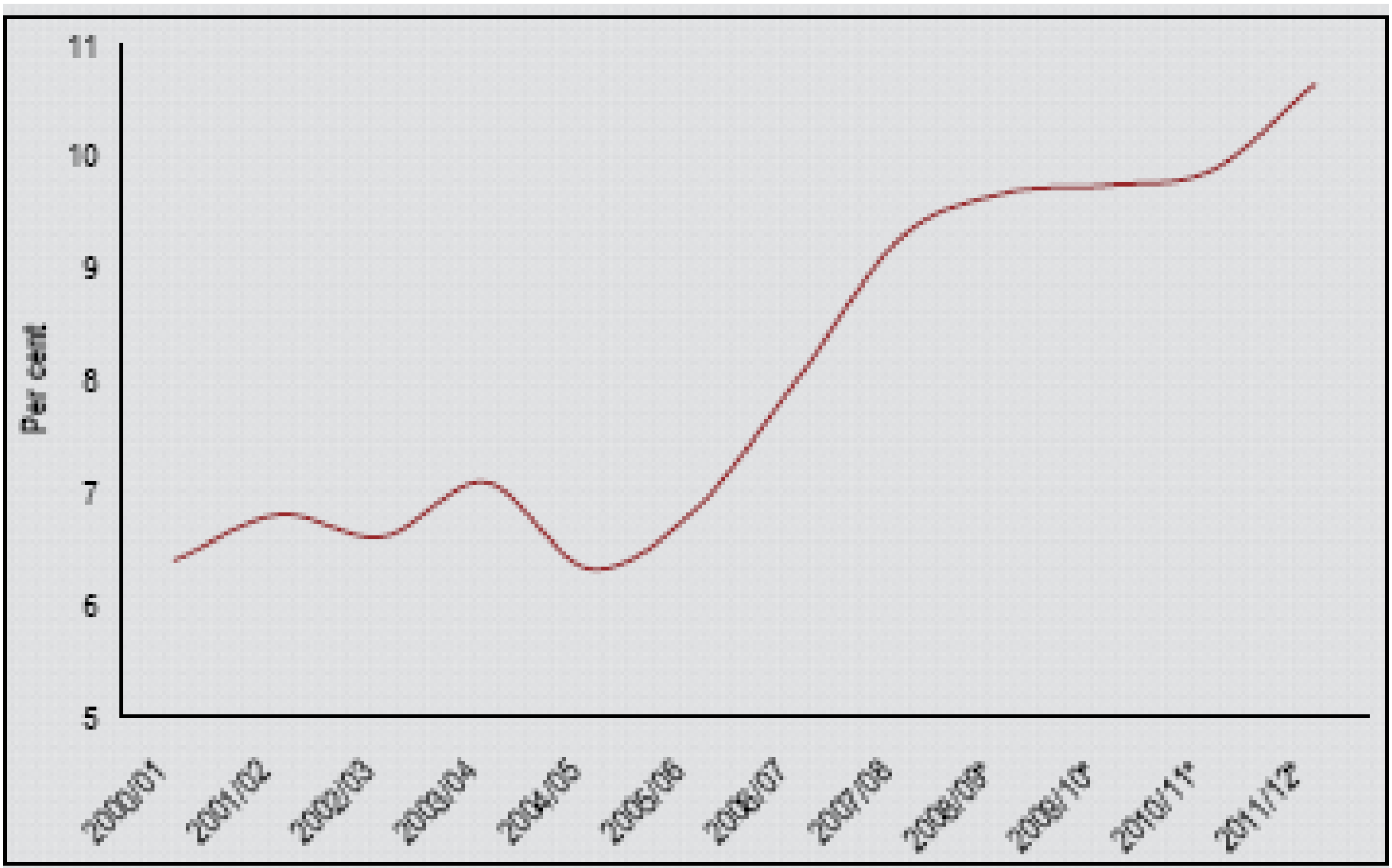
"Economic growth is necessary for sustained reduction of poverty. But how fast poverty will fall in response to growth depends crucially on how far the growth process succeeds in creating productive employment opportunities – wage employment as well as self-employment – for the poor and how equipped the poor are to seize these opportunities."

S. R. Osmani

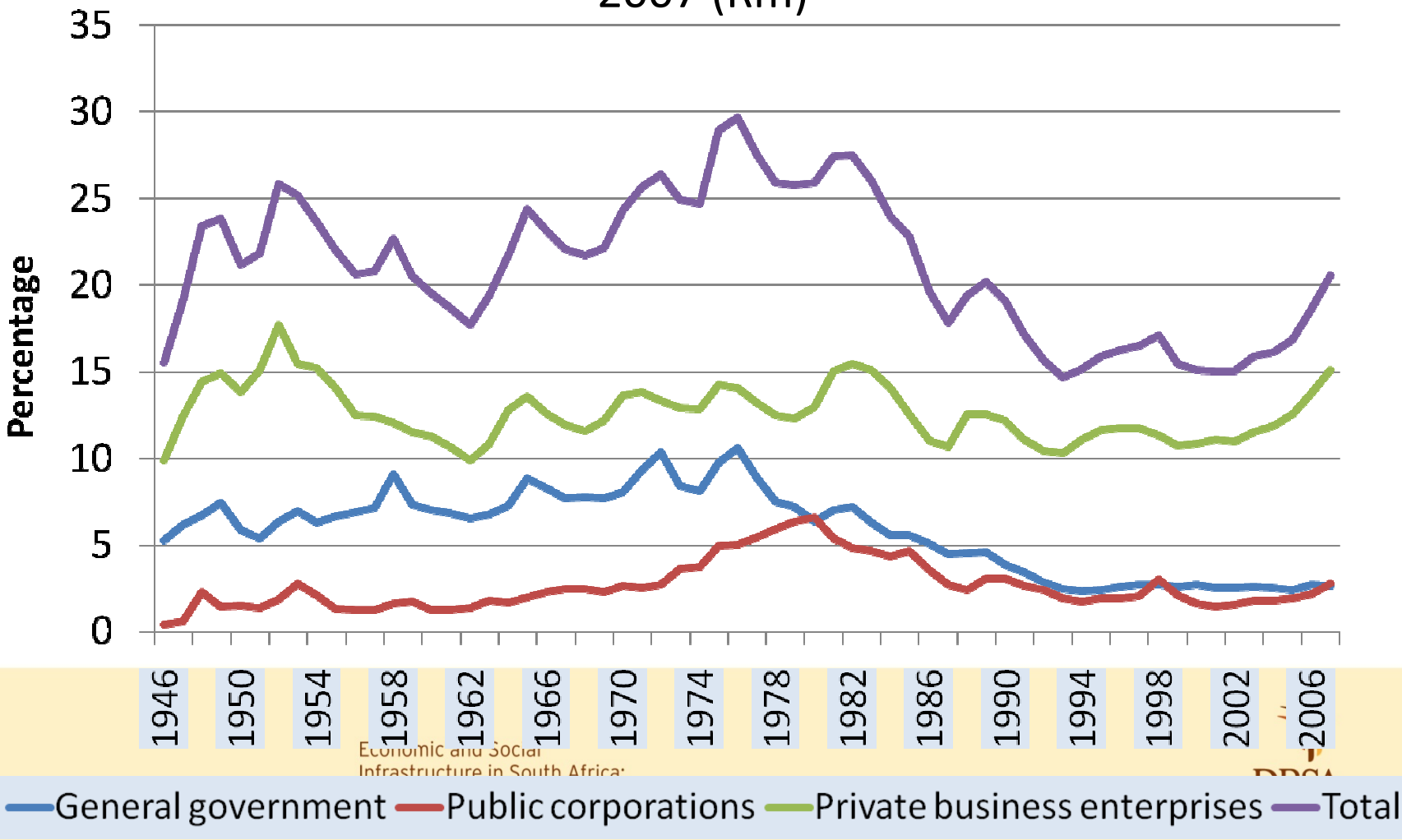
WHY THIS QUESTION?

- AsgiSA identified inadequate infrastructure as one of the six most important constraints to achieving 6% growth by 2010 and to halve unemployment and poverty by 2014.
- National Treasury allocated R600 billion for infrastructure expansion and maintenance in the current 3yr budget cycle (2008 – 2011)
- This was necessary since public sector infrastructure investment fell from 8.1% of GDP in 1976 to 2.5% of GDP in 2002
- Total fixed investment (GFCF) will rise from a low of 14% of GDP (1993) to 21% (2007) to **24%** by 2010

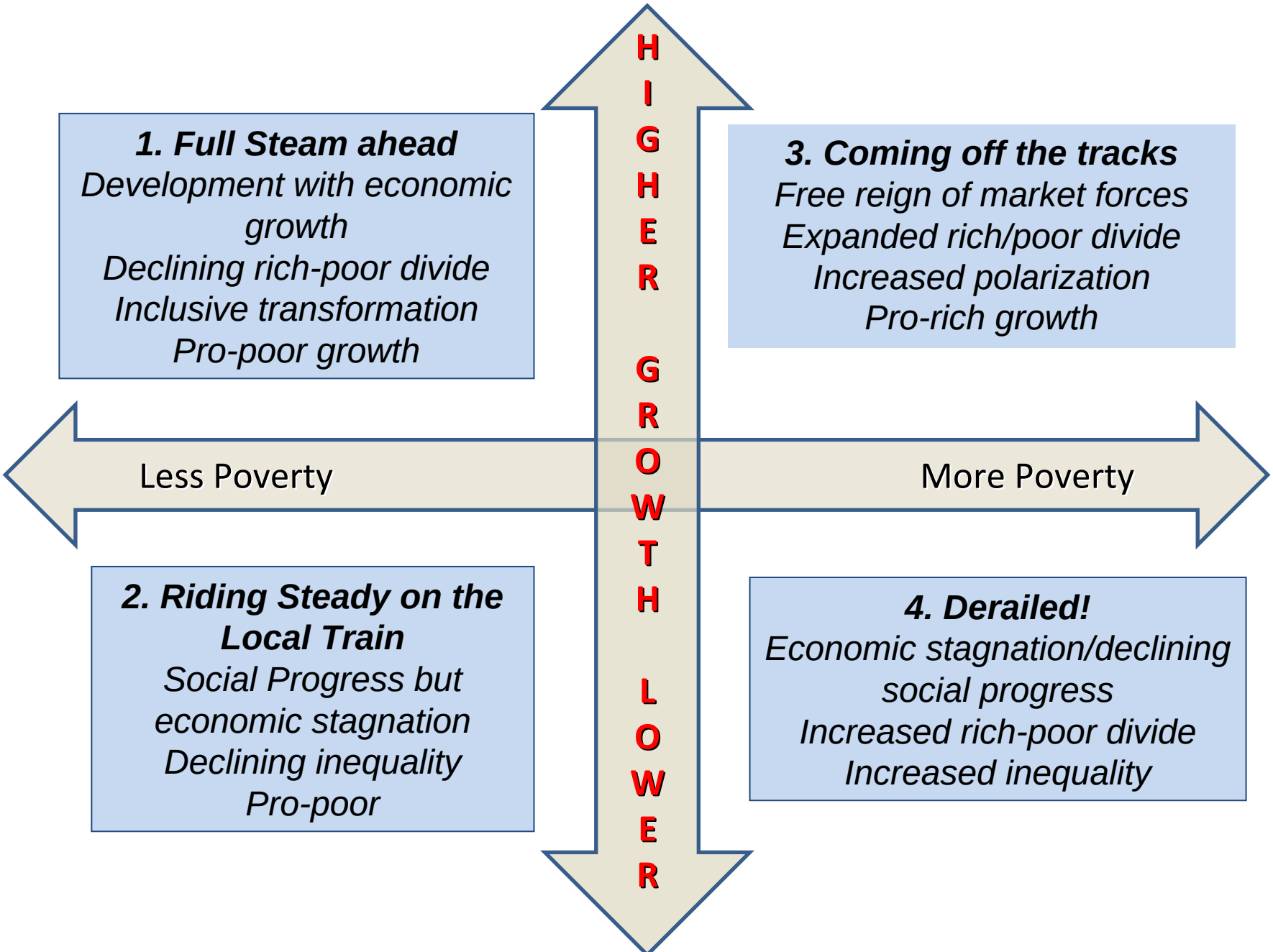
CAPITAL SPENDING AS A PERCENTAGE OF CONSOLIDATED GOVERNMENT EXPENDITURE 2000/01 – 2010/11



Real Gross Fixed Capital Formation by General Government and Public Corporations on Economic and Social Infrastructure, 1946 - 2007 (Rm)



Future Scenarios for South Africa



Transport infrastructure requirements to achieve the desired future

- The previous slide, for transport, might be articulated as 1) AsgiSA, with an EPWP; 2) RDP; 3) GEAR; 4) Zimbabwe
- AsgiSA transport investments are focused primarily on the first tier of the economy, augmented by 'EPWP 2' and using 2010 as first phase target.
- The first phase has largely been fully financed (e.g. DBSA 10% investments into: ACSA@R1,4 bn; SANRAL @R4bn; Via Rail (locomotive leasing) R100 m; Rail One (sleepers) R64 m).
- Total annual transport infrastructure investment should be circa 5,5% of GDP, with overall 'Transport and Logistics' amounting to 12% of GDP. As with the rest of the World, the trend is towards co-ordinating land use, urban transport and urban energy planning.
- The primary current aim of the South African government is into effective public transport systems, with approved policies and strategies in place for both urban and rural systems. For urban systems, look to rapid rail (Gautrain), commuter rail (the SARCC) and light rail (eThekweni), or Bus Rapid Transit (BRT) systems in Jo'burg, Cape Town, NMMM and Tshwane, these at about R2,2 bn each. Look to PPP's such as 'AB350 Buses' in OR Tambo District, East Cape, for both the rural and urban environments.
- Second aim is regional integration, which extends from regional connectors and into the metropolitan environments such as Dar es Salaam, Maputo, Kinshasa, Lusaka, Harare. Current shift is away from PPP's but this will turn again (OECD).
- **Key aim has to be to create as much employment as possible through a social compact addressing the full delivery chain, from conception through to recycling, particularly including effective asset management and the EPWP.**

Energy infrastructure requirements to achieve the desired future

- SA has sufficient power to meet both base load and peaking power requirements as well as it's export commitments – 20% reserve margin
- New power generation developed and demand is met through a diverse range of technologies, i.e. gas turbines, diesel-fired, renewable energy, imports, etc
- Increased environmental awareness - reduction of carbon emissions
- Regulatory environment encourages new entrants into the industry, i.e. co-generation and IPPs :
  - efficient contracting process
  - cost reflective tariffs
  - private participation – third party access to transmission & distribution
- Customers have a choice of energy technologies plus energy efficient culture
- DME target to electrify 3.4m connections by 2013 met although at higher cost
- Distribution industry – increased investments in capital, maintenance & HR
- Coega refinery just commissioned (2014) to improve liquid fuel requirements and minimize cost of imports

Skills infrastructure requirements to achieve the desired future

Challenges

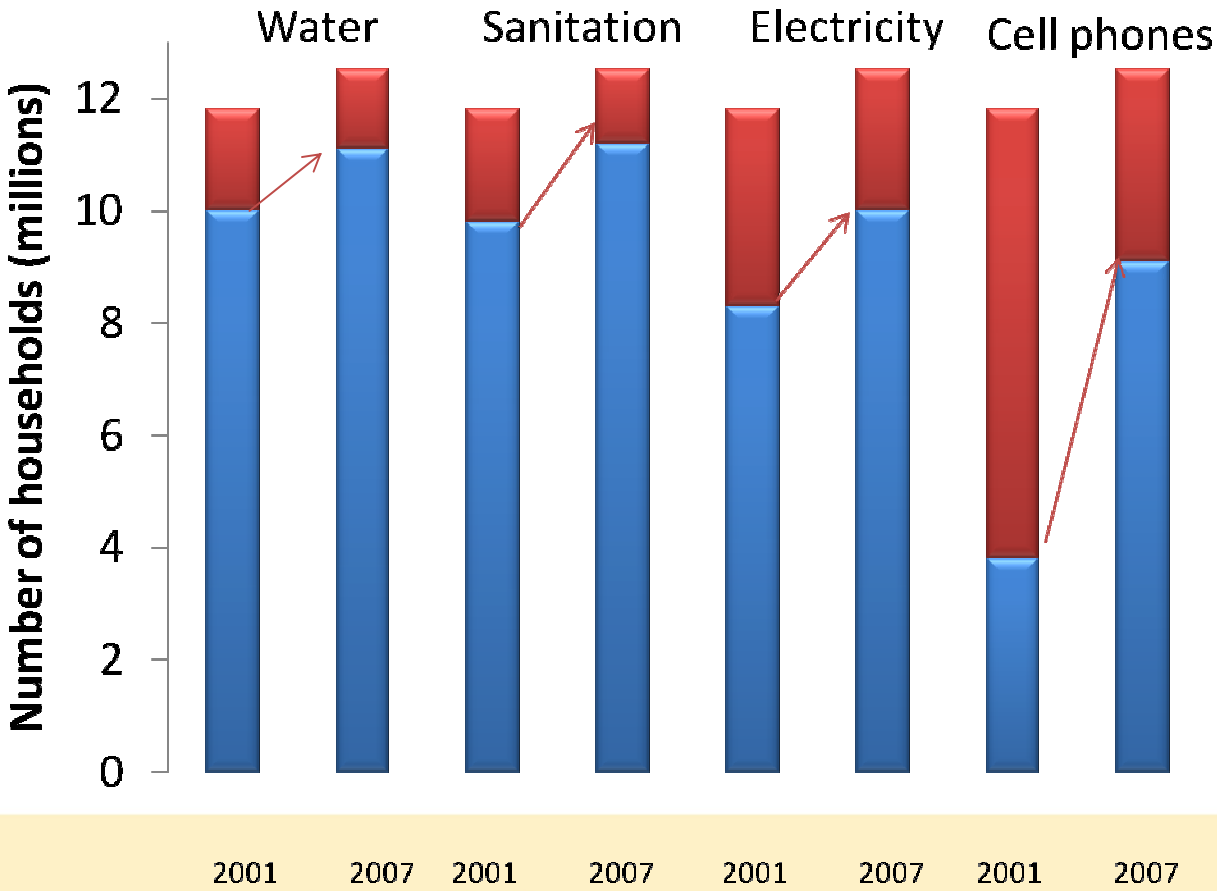
- Human capital development in the context of construction skills development **is not keeping pace with the high demands for skills required** to implement rapid increases in infrastructure expenditure

- The impact of local skills shortages on infrastructure delivery, growth and employment creation will depend on the **extent to which South Africa is able to increase supply and import skills to fill the gap.**

Skills infrastructure requirements to achieve the desired future

Key concerns	Suggested remedies
Education and training at various skills levels	***Institutional Arrangements at education and training institutions***
ARTISAN LEVEL Artisans with theory and practical experience	Government and business to work together to ensure that sufficient numbers of artisans obtain the necessary combination of theory and practical experience to pass the trade tests that meet industry requirements
HIGHER EDUCATION LEVEL Qualifications and outputs (numbers) in mathematics and sciences	Higher education institutions improve their throughput rates. Increasing outputs at further and higher education levels depends on the ability of the Department of Education to improve matriculant pass rates in maths and science
Supply and demand for technical skills	***Sourcing and Procurement Arrangements***
DEMAND OUTSTRIPPING SUPPLY	The primary means of meeting excess demand will be through importation (assuming that the required skills are available on the global labour market).

Chasing Moving Targets



	Coverage	Backlog
water	10.0	1.8
	11.1	1.4
sanit	9.8	2.0
	11.2	1.3
elec	8.3	3.5
	10.0	2.5
cell	3.8	8.0
	9.1	3.4

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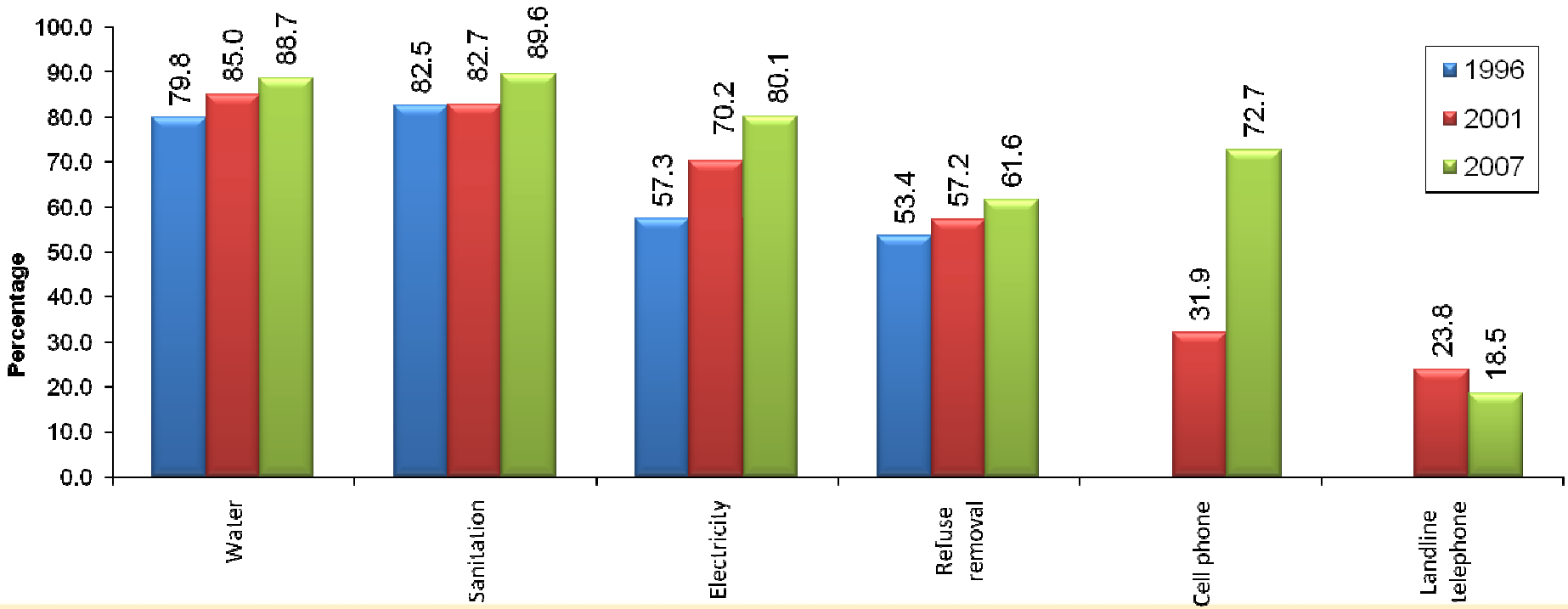
South Africa: Percentage of households with access to services; 1996, 2001 and 2007



THE SHARED IMPACT OF ACCELERATED INFRASTRUCTURE INVESTMENT

Government investment in infrastructure can support shared growth through:

- the overall fiscal stimulus, and
- the multiplier effect, i.e. the strength of the link between investment and job creation via
  - the forward linkages to employment and improved well being,
  - the backward linkages for increased employment opportunities in construction and suppliers

But

Blockages and trade-offs always constrain the desired outcomes.

- Supply side rigidity may mean that the fiscal stimulus results in inflation and increased imports rather than expanding local production.
- The current credit crunch and high international interest rates will make both Eskom and Transnet investments very expensive, since it relies mainly on international bonds
- The model indicates that a large fiscal stimulus can have a positive growth impact but that the these outcomes will have to be accompanied by microeconomic interventions to ensure that the growth is pro-poor.

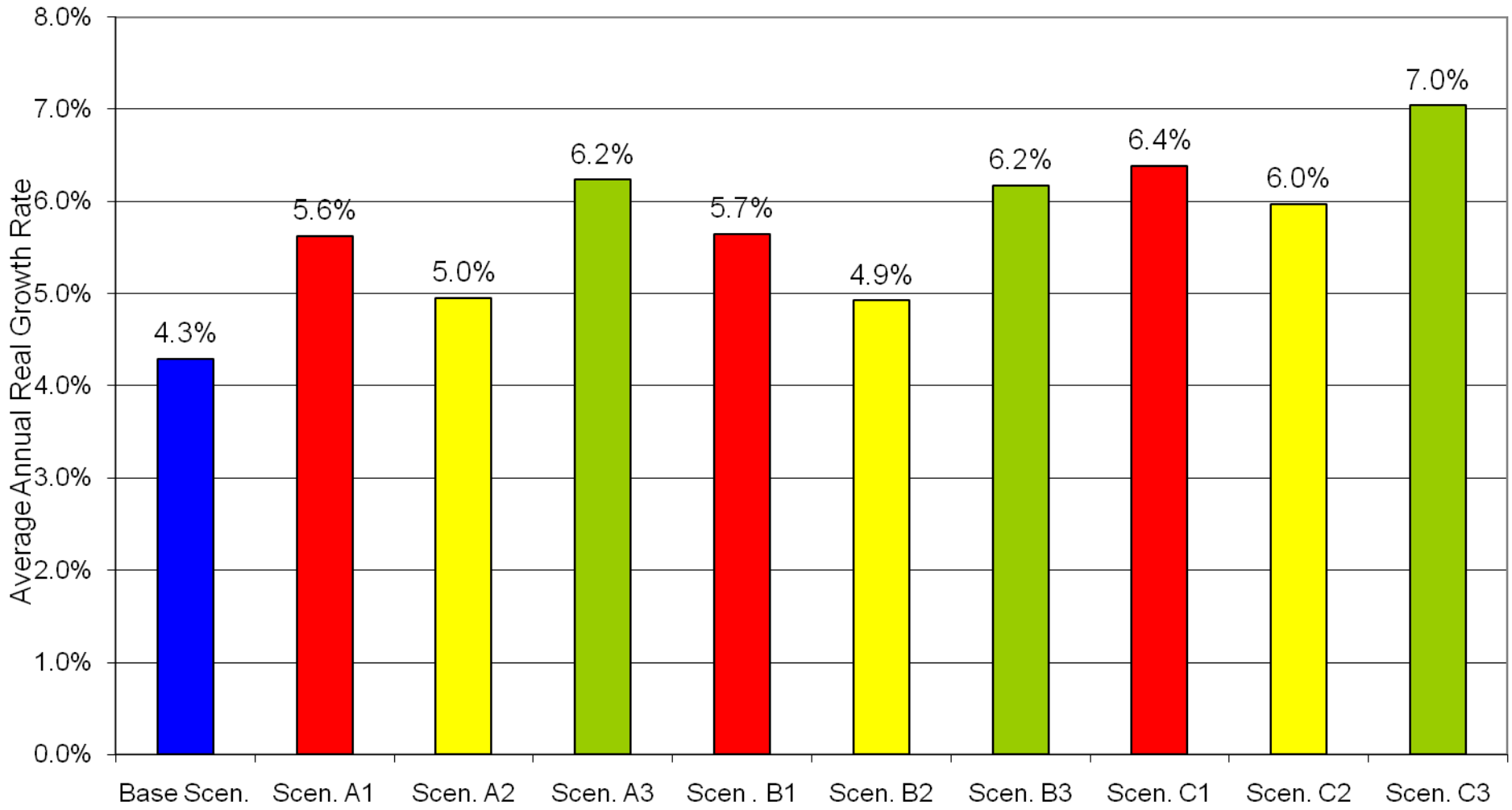
How can government infrastructure investment be pro-poor?
It depends on the strength of the link from investment to employment. It is possible to achieve shared growth via infrastructure investment if:

- The poor and unemployed are directly involved in the construction and maintenance of infrastructure as well as in the delivery of infrastructure services,
- The investment creates infrastructure assets that gives the poor access to markets and lower their production and transaction costs,
- The investment creates social assets, such as schools and health clinics, to improve living standards and productivity
- The investment delivers affordable and accessible services such as housing, transportation and sanitation.

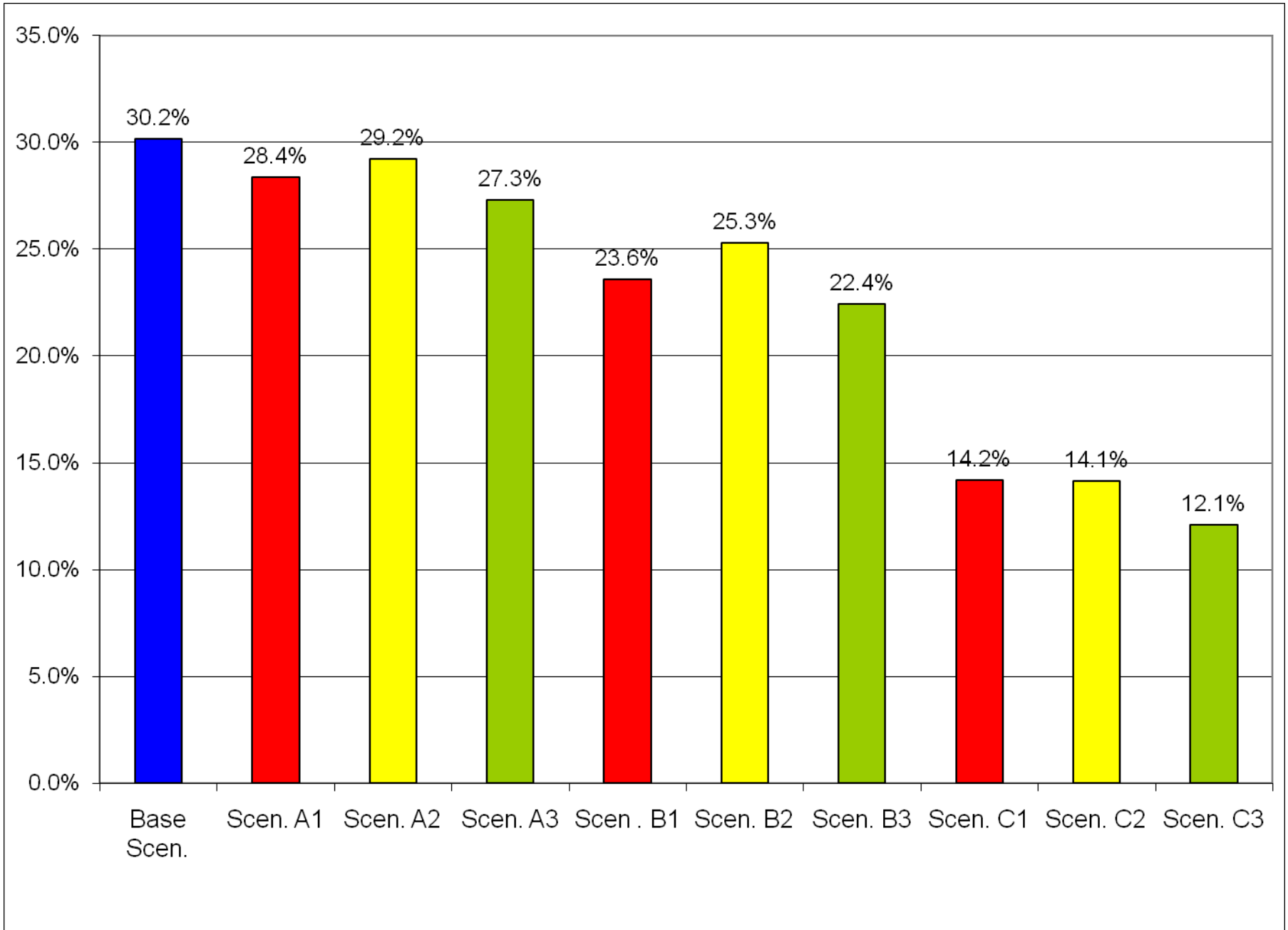
It is possible to achieve the growth path - “Full Steam Ahead” if:

- The strong public investment programme is continued beyond the current MTEF
- Industrial policy is aimed at increasing the employment-creating trust of the growth process
- A comprehensive public works programme is rolled out, in line with the recently approved EPWP 2

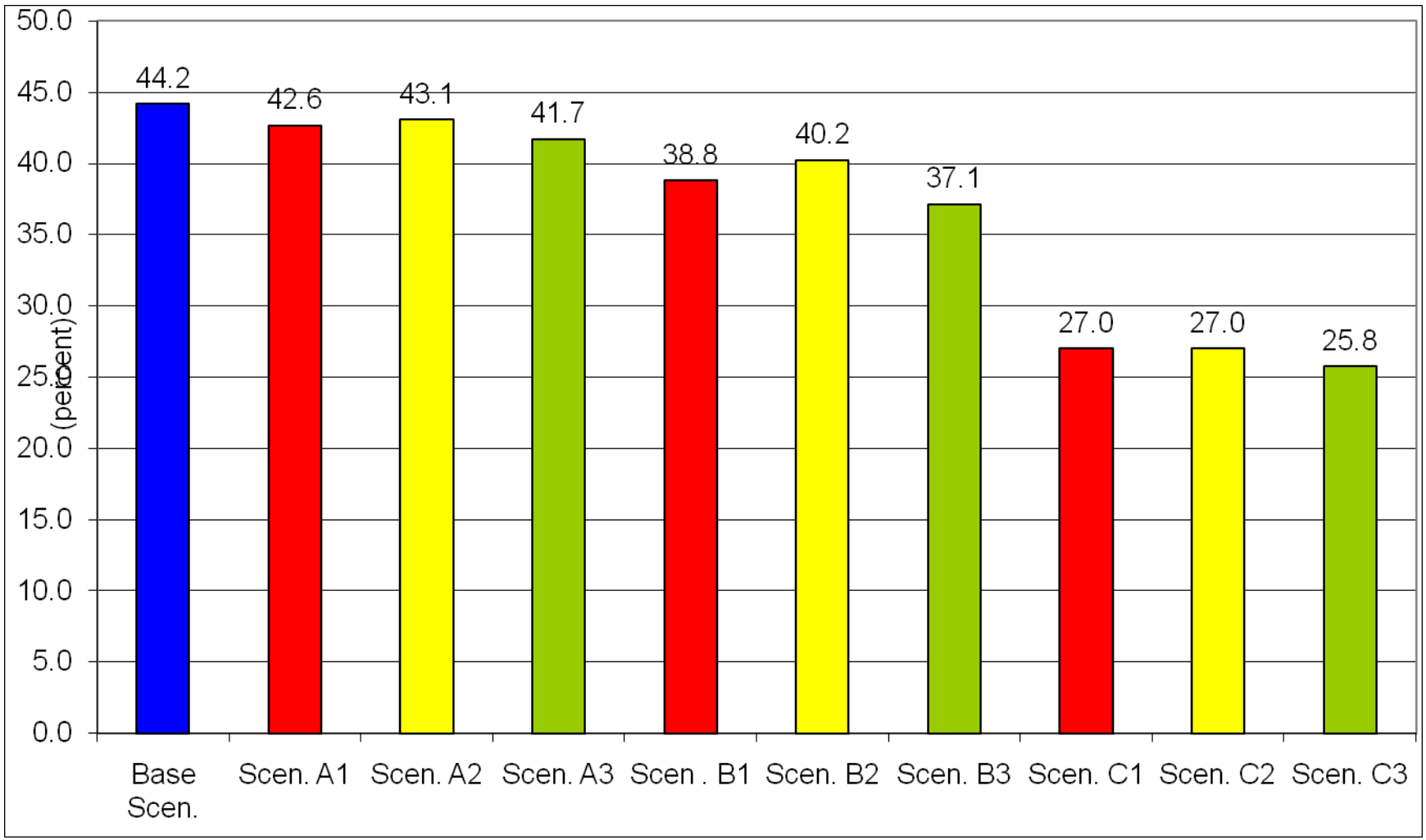
FINDINGS: GROWTH RATES



FINDINGS: UNEMPLOYMENT



FINDINGS: POVERTY RATE



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