

Evidence-based Employment Scenarios

Background to Employment Scenarios

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1 Background to employment scenarios

Unemployment is one of the most pressing economic and social problems facing South Africa today. The social impact is particularly severe in the context of a fragile social safety net for the poor and a relatively small informal sector. It is accepted that economic growth will be an important contributor to addressing unemployment and poverty. But so will deepening the employment absorbing capacity of that growth path.

Government has adopted targets to 2014, including the halving of unemployment and poverty. There are a number of important initiatives to reach these targets at all levels of Government, and in cooperation with civil society. ASGI-SA has become a critical coordinating effort in identifying binding constraints to growth, as well as stimulatory activity to promote wider economic participation. ASGI-SA has focused the minds and mobilised stakeholders around an essential set of policy issues, ranging from macro-economic policy, infrastructure & logistics, education & skills, competition, SME regulation, sector investment and state capacity. Additionally, the Deputy President's office has launched JIPSA to address skills gaps and the Jobs for Growth Initiative to promote job creation in the second economy.

National Treasury has also commissioned Harvard to perform a 'growth diagnostic', with the aim of discovering new policy directions (or confirming existing ones) in support of a higher economic growth rate.

There are a number of other policy initiatives across Government, as expressed in the Programme of Action, and in other sectors related to business, labour and other civil society organizations.

Certainly, these actions could make a positive impact on shared growth.

But do we know whether they are correctly targeted, balanced and bold enough to achieve Government's employment and poverty targets by 2014, and ultimately *surpassing* them thereafter?

The objective of the 'evidence-based employment scenarios' project is to develop feasible scenarios of SA's economic structure should minimum targets of halving unemployment and poverty be met. The respective path and policy complements required to achieve any one of these scenarios will be identified alongside their political, financial and bureaucratic implications. These options will be put to policy-makers, stakeholders and experts for dialogue and debate.

It complements other initiatives, in that *it focuses on the employment question*: approaches will be developed to *specifically* understand how market dynamics and policy interventions impact on employment and poverty. This involves the development of integrated economy-wide analysis, as well as consideration of specific policy areas that impact on the whole picture. This enables an analysis of how the separate policies and interventions balance each other: most critically, it is essential to know how, specific policies may seem sensible on their own, but can have unintended consequences when assembled as a whole.

1.1 Project objectives

The objective is to:

- Deepen policy conceptualisation in respect of employment dynamics: this project puts employment centre stage of the analysis.
- Support strategy and decision-making in respect of employment promotion and poverty reduction, as part of a growth strategy.
- Test the potential employment impact of existing central policy thrusts: this may validate current policies and/or identify potential policy gaps.
- Deepen dialogue in respect of employment policy amongst central decision-makers.
- Contribute to employment policy dialogue in civil society.

1.2 Project elements

The employment scenarios project will deliver the following:

1. Evidence-based employment scenarios, offering possible descriptions of the economy in 2014, under conditions where unemployment and poverty are at least half that in 2003. This involves:
 - a. Economy-wide modelling.
 - b. Supportive research to explain specific supply-side and demand-side market dynamics.
2. The identification of policy implications of potential scenarios, including:
 - a. Central policy options and choices.
 - b. Related financial, bureaucratic and political trade-offs.
3. The identification of instruments to monitor and evaluate economy-wide trends in relation to identified employment paths/scenarios.
4. Stakeholder and expert engagements, including:
 - a. Employment scenarios reference and working group roundtables.
 - b. Public seminars to promote debate.
5. Web-based employment policy network and interactive website.

2 Employment scenarios

The Employment Scenarios uses Government's target of halving unemployment and poverty by 2014. According to ASGISA, this will involve halving unemployment from 30% in 2002 to 15% in 2014¹. Poverty would be halved from 1/3 to 1/6 of all households over the same period.

The link between income distribution and employment is important. The overall aim is to expand economic participation and enable families to support themselves to some acceptable level. If employment expands, but associated wages fall, it could lead

¹ Or should this be: 26% in 2004 down to 13% in 2014?

to immiserization: this would not be seen as an acceptable scenario in the spirit of shared growth.

Then we ask what intermediate development points could be reached by 2014, that would take the nation to this income platform. Sustainable development options are sought, so that the country progresses past this intermediate target (of say reducing unemployment to 15%, but then progressing to 10%, and so on).

A set of filters will be identified to reflect assumptions that society and government make about sustainable and acceptable development options. For example, is broad based participation a key goal? If Government could provide substantial welfare transfers to households to underpin incomes would that be acceptable? Or would that pose governance risks and unacceptable marginalisation? What are the minimum acceptable macroeconomic parameters, in terms of both monetary and fiscal policy?

Initially, a small number of archetypal development options will be put forward. These are alternative descriptions of the economy and income sources in 2014 if unemployment and poverty were halved. The options are partly based on the real experiences of economies of high growth developing economies over the past 20 years.

We start with a 'benchmark scenario' which gives a picture of how the economy would look should the broad output relationships stay the same, but at half unemployment and poverty. The other scenarios revolve around different trade orientations, with an emphasis on where demand for employment is sourced (ie. whether it is generated from domestic or foreign demand).

The initial set of options will include:

1. The current economic structure remains, but at higher rate of growth².
2. Most new employment is created through labour absorbing traded sectors.
3. Most new employment is created through the domestic circulation of capital, and as a result of the production of goods and services oriented to the domestic market.³

The project will explore the growth and investment requirements, the constraints, the trade-offs, and other relevant aspects associated with each scenario. The policies needed to reach each scenario will be elaborated; their feasibility technical, political, social and financial perspectives will be assessed. On the basis of this, they will be further developed and honed-in to a set of plausible scenarios of the economy at 15% unemployment.

The scenarios will point to conditions under which the economy might not reach the targets. It will also help to focus debate on the broad targets, by making explicit the assumptions underlying each scenario. Areas requiring further research will be identified as the project progresses.

The main focus of the project will be on the domestic and regional environment, where policy and action can be influenced. However, the global environment will also

² Naturally, some changes can be expected. For example, continued productivity growth will underpin competitiveness in existing products. This will impact on growth rates required to achieve employment targets. In addition, it is unlikely that mining and agricultural employment would scale up with the rest of the economy.

³ It is worth noting that all these scenarios involve international trade. For example, the scenario that sees a large proportion of jobs created from domestic markets is not a closed economy. Instead, it would mean that trade is mainly comprised of commodities and highly capital-intensive products, while new employment is mainly derived from non-traded goods and services. All scenarios will involve some realistic combination of traded and non-traded goods and services, as well as market and non-market services.

be considered, particularly in assessing the sustainability of alternative scenarios in the face of potential external shocks. This is particularly important for a minerals exporter, in a context of a minerals boom.

The scenarios are not a report on a model, although substantial modelling will be done to manage the complexities. There will be substantial reliance on specific investigations into market dynamics and policy, ranging from macroeconomic (eg. exchange rates) to microeconomic questions (eg. wages, the direction of manufacturing and services, community care jobs, etc). We will also point to global experience, so as to contextualise employment creation in comparator countries.

An economy-wide framework is used to analyse how the parts fit together. Economy-wide modelling has been identified as a central approach due to the current difficulty in drawing from reliable time-series labour data. Our modelling approach is limited in that it uses a SAM, which is essentially a snapshot of the economy. However, the modelling process will involve a commitment to hypothesis testing. Moreover, the economy-wide modelling is quite an appropriate approach for employment research, in its ability to draw out linkages.

An important part of this process will involve stakeholder dialogue: the scenarios will be dialogued with select experts and stakeholders in an ‘independent’ roundtable format.

3 Concepts and approach

Once we have a benchmark scenario, the alternatives partly hinge on different trade orientations: whether jobs are mainly sourced from domestic or foreign demand. Since employment is a ‘derived demand’⁴, the idea is to identify the sources of demand that lead to different employment outcomes. There is considerable evidence to show that the source of demand has an important impact on the shape of employment and labour outcomes.

When employment is put centre-stage, there are a number of, sometimes counter-intuitive conceptual issues that need consideration. The following discussion reviews some of the conceptual thinking required to place employment centre-stage in growth policy.

3.1 Sources of employment, direct and indirect

Employment is really a story about how one thing leads to another. To expand employment, the economy needs to generate direct employment. But it is also essential to deepen domestic linkages, so that the employment generated indirectly is optimised for every Rand invested or spent. It is obvious that an employment policy might want to focus on directly expanding labour intensive activity. But the emphasis on potential linkages is essential. For example, promoting relatively capital or knowledge intensive goods and services may seem counter-productive from an employment perspective: yet, they can sometimes generate substantial linkages through the economy. A rule of thumb is that where the most labour intensive goods and services often have the lowest employment multipliers and the more capital intensive ones sometimes have higher linkages: this is mainly related to the sorts of

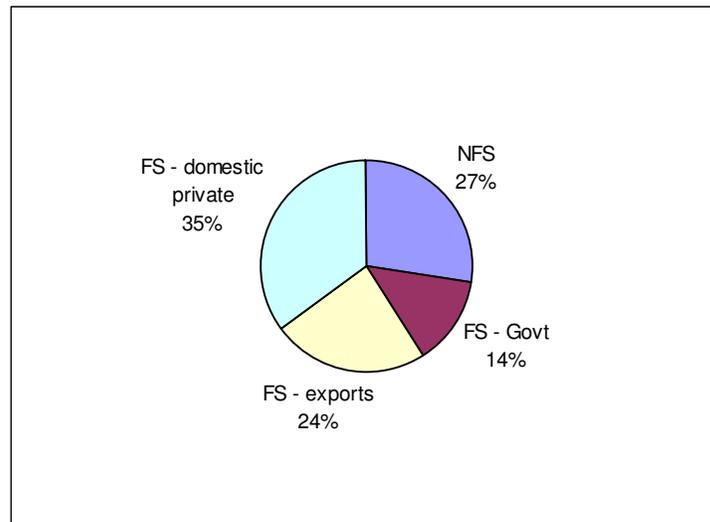
⁴ That is, employment is generated as a result of activities involved in meeting the demand for goods and services. Some ‘employment’, especially that found in parts of the informal sector, might not be a derived demand, but rather survivalist activity that simply reflect expanding labour supply.

inputs required into the production process, and the extent of leakages (import intensity of production). This is not meant to specifically advocate capital intensive production, but rather to identify an analytical approach. The importance of this approach will become increasingly evident, as we try to identify drivers of poorly understood, but growing sectors such as business and/or personal services.

Figure 1 presents how much employment was generated directly and indirectly by source of demand in 2001.⁵ About 27% of total employment is found in the informal sector, including domestic workers: the informal sector is not yet incorporated into the SAM or the economy-wide modelling, but it is possible that a large portion of this employment is generated as a result of domestic demand. Government accounts for a further 14% of total employment. Then 59% of remaining employment is found in the private formal sector.

The importance of including multipliers in our thinking becomes clear. There is strong evidence that SA trade is becoming increasingly capital intensive. This might suggest that employment policy should not be so concerned with expanding international trade. This would be confirmed by the evidence: only 7% of total *direct* job creation was generated by international trade in 2001. However, international trade generates substantial multipliers: almost one-quarter (24%) of total employment is generated as a result of export demand, if both direct and indirect job creation is counted.

Figure 1 - Sources of total employment, direct and indirect, 2001



Source: Calculated from SEE, 2001; based on Van Seventer, 2005

⁵ For example, the majority of gold is exported. So these employment figures would include direct employment in gold mining associated with the amount that is exported, plus related inputs such as mining chemicals, work wear, etc.

Figure 1 also shows that domestic demand for goods and services produced by the private formal sector (directly and indirectly) generated 35% of all employment. Had we only looked at direct job creation, we would have come to the misleading conclusion that domestic demand generates 51% of all employment.

The employment scenarios will ask whether a more sustainable employment/growth path might be derived by simply expanding the current pie, or by shifting output distribution towards a more domestic or outward orientation.

Moreover, the scenarios project will investigate a range of potential linkage effects to identify traditional and non-traditional policy instruments. These linkages essentially refer to those arising from backward and forward production linkages, consumption linkages and fiscal linkages.

3.2 Tradables and non-tradables

Typically, open economy policy models distinguish between ‘tradables’ and ‘non-tradables’.⁶ Tradables would include primary (resources) and secondary (manufacturing) goods. Services are normally treated as ‘non-tradables’. Expanding tradables would normally be seen as an important objective since they have more potential to expand output, promote technological learning, contribute to productivity growth, and add to foreign exchange earnings. There is some contention about whether or not the specific sector matters (see Palma 2006), but concerns about terms of trade and income elasticity of demand would mostly lead Government to focus on raising value-added in the economy’s production profile. This is certainly South Africa’s industrial policy approach.

The usual distinction between tradables and non-tradables is no longer appropriate in a context where services are now traded internationally, and are growing faster than trade in manufactures. Moreover, service sectors accounts for a very large portion of foreign direct investment into developing economies (Mayer, 2005; UNCTAD, 2004). In fact, any service sector could be identified as a ‘tradable’, even ones that might seem inconceivably so such as domestic work, construction, or retail.⁷

Instead, it would appear that the trade orientation of secondary and tertiary production is no longer related any inherent product characteristic, but increasingly a set of policy and regulatory considerations.

Services trade is already an important consideration for SA employment policy. Figure 2 shows that 45% and 36% of formal employment is created as a result of domestic and foreign demand respectively (including direct and indirect job creation). Although services account for only 15% of SA exports, they generate 18% of total employment directly and indirectly⁸. Manufacturing accounts for 51% of exports, but this trade only generates 7% of total formal employment.

⁶ This should not be conflated with ‘exports’. Tradables refer to goods and activities that *might* be traded, whether through imports *or* exports. Non-tradables generally refer to services that *cannot* be traded, and circulate or are exchanged in the domestic market only.

⁷ There are four modes of trade. These include:

Cross-border trade: this includes services embodied in goods (such as a software programme embodied in a CD or business process outsourcing).

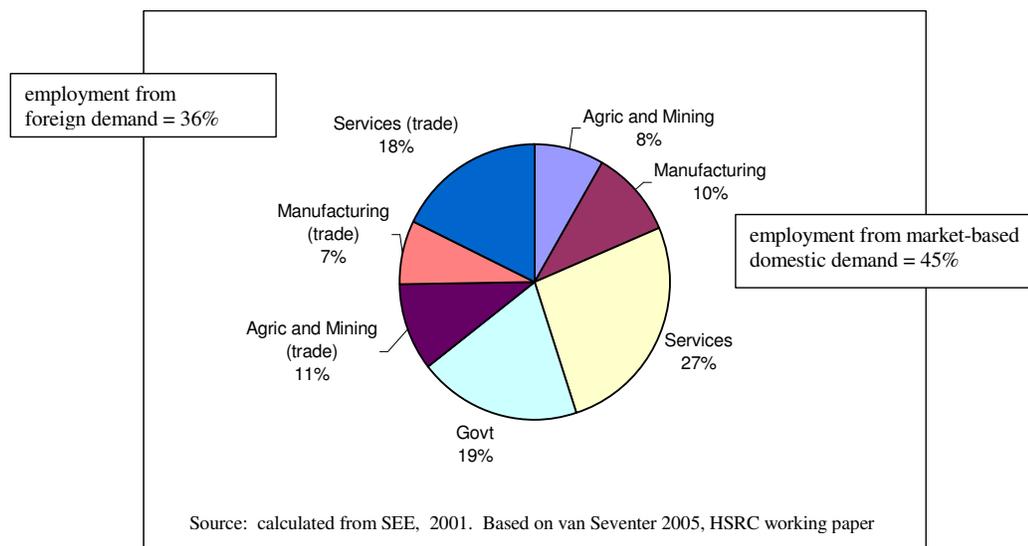
Consumption abroad: this includes all services where the consumer travels to the country of the service provider, as in health, education and tourism.

Commercial presence: this takes place primarily through foreign direct investment.

The temporary movement of natural persons: this occurs when an individual service provider temporarily moves to the country of the consumer to provide a service.

⁸ It is probable that services already accounts for a larger proportion of trade. For example, while there are no reserve bank estimates for specific sectors, Quantec estimates that

Figure 2 - Formal employment from domestic and foreign demand, direct and indirect, 2001



Although trade orientation is a critical question in the employment scenarios, the implication of these points is that our methodology and modelling approach does not distinguish sectors by their trade orientation. Instead, trade orientation is seen as a result of policy choices and private sector responses, rather than as an inherent characteristic of any sector.⁹ This approach opens up the process to a wider set of investigations, particularly in relation to trade promotion opportunities in a whole range of services sectors.

Appendix 2 outlines our approach to sector analysis. We plan to group sectors according to the following 14 aggregations. Some sectors are simply isolated including, agriculture, mining, electricity & water, construction and government. The manufacturing and services sectors are categorised by their labour or skill intensity, and by whether they are investment, intermediate or final products:

1. Agriculture
2. Mining
3. Labour-intensive intermediate goods
4. Labour-intensive consumer goods
5. Labour-intensive capital goods¹⁰
6. Capital-intensive intermediate goods (these are minerals and metals resource-intensive sectors)
7. Capital-intensive consumer goods
8. Electricity & water
9. Construction

construction generates about R71-million in exports, with almost a 0% export intensity in 2003. Yet, Murray & Roberts and Aveng alone generated about R10.9-billion in revenue from foreign projects in 2003. If only 10% of this were for services, these two companies would have generated R1.09bn in construction export revenues (Altman, Van der Heijden, Mayer and Lewis, 2005).

⁹ The Government sector is one notable exception to this point, which is inherently non-traded.

¹⁰ There are no capital-intensive capital goods

10. Low skill-intensive intermediate services
11. Low skill-intensive consumer services
12. Skill-intensive intermediate services
13. Skill-intensive consumer services
14. Government services

3.3 Output and Employment: which sectors?

By way of stylised facts, the development process involves structural shifts over time, with labour and output shifting from agriculture, into manufacturing and increasingly services (Palma, 2006). As productivity increases in agriculture, labour is released into labour intensive manufacturing.

These two changes in themselves start generating more demand for inputs. The process of urbanisation, manufacturing and trade expansion, and rising incomes generate more demand for services. In low income, non-minerals exporting economies, labour coming off the farms may be absorbed in low wage labour intensive manufacturing export sectors. If well planned, the labour market will tighten, wages will rise, and investment will increasingly be directed to higher skill, more capital intensive sectors, paying higher wages.

All going well, at some point in the growth and development process, productivity improvements in manufacturing results in what is known as ‘de-industrialisation’: this can refer to a context where manufacturing output grows, but the share of manufacturing employment falls – this may due to a stabilisation of manufacturing employment, or even its contraction¹¹. The actual contraction of manufacturing employment in the context of growing output has been a feature of high income economies since the mid-1970s.

Some countries do not follow this trajectory precisely. Some extreme examples include the trading centres such as Singapore or Dubai. Minerals-exporting economies tend to leap-frog into highly capital intensive sectors that crowd out the labour intensive ones: partly for this reason, these societies tend to have higher rates of unemployment and income inequality (Altman 2001, Auty, 1994).

But there is growing global evidence that these stylised facts may no longer hold and that new thinking is required in respect to industrial strategy and sources of employment growth. Output growth may still be sourced from similar sectors, with the proviso that services sectors are becoming much more prominent in global markets. However, it appears that economies are ‘de-industrialising’ at lower levels of per capital income and service sectors are becoming dominant earlier in the development process. Table 1 shows that manufacturing has become a smaller proportion of total employment in every global region from the 1990s. Moreover, services has accounted for an ever larger share of employment growth in a very wide range of successfully developing economies over the past 15 years.

¹¹ “All going well” here means that this is not de-industrialisation arising from an implosion of the manufacturing sector – which could arise as a result of unfair international competition, trade shocks, domestic firms not responding to competition or alternatively some domestic crisis.

Table 1 - Employment in manufacturing (% of total)

Region	1960	1970	1980	1990	1998
Sub-Saharan Africa	4.4	4.8	6.2	5.5	5.5
Latin America	15.4	16.3	16.5	16.8	14.2
Southern Cone and Brazil	17.4	17.2	16.2	16.6	11.8
West Asia and North Africa	7.9	10.7	12.9	15.1	15.3
South Asia	8.7	9.2	10.7	13.0	13.9
East Asia (w/o China and Japan)	10.0	10.4	15.8	16.6	14.9
NICs	10.5	12.9	18.5	21.0	16.1
China	10.9	11.5	10.3	13.5	12.3
Third World	10.2	10.8	11.5	13.6	12.5
First World	26.5	26.8	24.1	20.1	17.3

Source: Palma, 2006.

Notes:

Calculations made using statistics from the ILO Databank. Regional averages are weighted by economically active population.

Economies included under the heading “**Third world**”:

Sub-Saharan Africa: Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Côte d'Ivoire, Gabon, Ghana, Kenya, Lesotho, Malawi, Mali, Mauritania, Mauritius, Niger, Nigeria, Republic of the Congo, Rwanda, Senegal, South Africa, Togo, Zambia and Zimbabwe.

Latin America: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru and Uruguay (within this category, the subcategory **Southern Cone** includes Argentina, Chile and Uruguay).

West Asia and North Africa: Algeria, Egypt, Morocco, Oman, Saudi Arabia, Tunisia and Turkey.

South Asia: Bangladesh, India, Pakistan and Sri Lanka.

East Asia: Hong Kong SAR, Indonesia, Malaysia, Philippines, Republic of Korea, Singapore, Thailand and Taiwan Province of China (within this category, the subcategory **NICs 1** includes: Hong Kong SAR, Republic of Korea, Singapore and Taiwan (Province of China)).

Economies included under the heading “**First world**”:

Australia, Austria, Belgium, Canada, Denmark, Finland, France, Greece, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, United Kingdom and United States.

The employment scenarios process will have to consider this evidence and what it might mean for SA's growth and employment agenda. There are a number of broad immediate implications:

- Employment and output may not necessarily involve the same strategies: strategies to optimise output, foreign exchange earnings, etc may not always coincide with strategies to promote employment.
- A problem may arise if these strategies compete with each other, and are not complementary. Certain policies may support one set of strategies to the unintentional stagnation of the other. For example, certain exchange rate policies benefit certain sectors and trade-orientations over others, as we have found in our project on exchange rates and employment (reported in Stewart Ngandu's paper presented at this workshop).

As part of the scenarios project, we have commissioned case studies of economies that managed to accelerate and sustain high economic growth rates, and also achieve reasonable employment outcomes¹². The case studies focus on identifying the main sources of employment growth, contributions to income distribution outcomes, and also the main contributors to economic growth. In part, these are meant to help identify some plausible development stories for our scenario building.

The paper presented in this workshop by Prof Berry presents some of these findings. To the extreme, it is surprising that not even China, despite incredible success in promoting FDI and manufactured exports, has managed to sustain growth in manufacturing employment. According to Prof Yu Yongding of the Chinese Academy of Social Sciences, this is explained by productivity growth and technology change. According to a recent study, "the service sector has been China's main source of employment growth since 1990. Of the 96.8 million jobs that the economy created between 1990 and 2003, the sector created 98.3 million jobs.... Industry created 22.2 million jobs in this period, while agriculture lost 23.7 million workers" (Lim, Spence & Hausmann, 2006: 24).

What does this mean for SA employment scenarios?

- Is it possible that South Africa could generate long-run employment growth in manufacturing, where so many successful manufacturing exporters have not? If so, under what conditions?
- If it is not possible for SA to generate large number of jobs in manufacturing, where else might they be sourced? Already, services account for more than 65% of formal employment.

Services have typically not received the same attention as manufacturing in economic policy: manufacturing has generally been seen as a driving force behind the development process. As noted, services were historically mostly non-tradable, and often internalized within the firm. As local service firms and activities did not compete internationally, there was not substantial concern over their level of efficiency, product range, product quality and rates of innovation. A number of factors have challenged this orthodox approach to the services sector. With increasing externalisation and subjection to international competition, services increasingly have their own markets dynamics, with increasing diversity of market segments, technology change, etc. (Altman, 2005 Mayer, 2005):

¹² The case studies include Brazil, Chile, China, India, Indonesia, Ireland, Malaysia, Singapore and South Korea. To this have been added Nigeria and Venezuela in a comparison of minerals exporting economies.

- Non-traditional service exports, such as business services or construction, have been the fastest growing component of global trade (UNCTAD, 2004). This is partly due to growing global outsourcing and procurement in most services sectors, which enable other countries to offer services independently of domestic goods production. The imminent reduction of barriers to trade in services may further expand opportunities to export services, while exposing the domestic services sector to global competition.
- New forms of domestic business organization can in themselves encourage the establishment of new markets. As domestic firms outsource activities to other domestic firms, they create a market where one may not have previously existed. There would not have been competition for contracts previously, as certain services would have been provided in-house and were therefore simply subject to the internal managerial performance incentives. However, once outsourced, competition is made possible, with firms seeking to acquire business and search for improved ways of delivering services. In itself, this can induce new products and innovations, and create demand for new services.
- Many of the costs that undermine the competitiveness of the South African economy emanate from the services sector: commerce, communications, transport and utilities.
 - In a context of high and growing unemployment, the domestic-oriented services sector provides an important avenue for employment creation. Domestic demand is expanding for commercial, personal, social and community services as a result of growing urbanization, by burgeoning middle and professional classes, and by the business sector. Unlike manufacturing, a large portion of these services must be provided near the consumer.

While we can enumerate the scale and growth of services, there is very weak ability to attribute growth to them. Manufacturing has clearly been important to growth and development; a weakened manufacturing sector is often a characteristic of a weakening economy. There are not a plethora of studies seeking to prove or disprove this for services. New methodologies are needed to investigate potential contributions by service sectors.

The problem in investigating employment in a growth strategy is that employment may or may not be derived from sectors that contribute to growth. Much depends on the character and contributors to that growth. For example, if productivity in resources, manufacturing or services is a major source of growth, it is unlikely that the sectors driving growth will generate substantial employment.

South African industrial policy already recognises the need for different policies and sectors aimed at different objectives. Hence, policy simultaneously promotes heavy chemicals sectors, alongside business process outsourcing and bio-fuels. Yet, these sectors are promoted severally: it may be that a dominant heavy industry crowds out other more labour absorbing ones (Palma 2006). In such cases, the more labour or knowledge intensive one might continue to exist, but would not achieve any real scale economies or growth potential. To understand this dynamic, it is essential not to think about these sectors severally, but rather as a whole. Two broad points can be made here:

- From a policy perspective, it may be necessary to modify the economic environment to shift economic bias towards more dynamic labour absorbing activities; and/or it may be necessary to sufficiently compensate for relative disadvantages caused by the dominant industries. This approach underpinned Indonesia's success in dramatically expanding its labour intensive manufacturing base, while also exporting oil, as seen in Prof

Berry's paper. Berry (2006) explains that, amongst other support measures, a convincing currency depreciation gave non-traditional exports a sufficient boost.

- Some investigation is also required to assess whether more attention should be devoted to expanding sectors that could generate large numbers of jobs, in sectors that are isolated from policies to stimulate relatively capital intensive sectors. Examples of such sectors are those that have few non-labour inputs, are domestically-oriented, and have a high labour absorption – examples range from community care, to domestic care, to urban transport markets, micro-finance, etc. It is notable that these sectors tend to be very low paid and do not really support a growth process: they can be seen as central to active labour market policy and an interim employment policy. If taken as central to a long term employment/growth policy, it is certain to entrench a dualistic economy with small numbers of high paid workers in capital intensive resource and high technology commercial sectors, alongside very large numbers of very low paid workers in these other activities.

3.4 The informal economy

Approximately 27% of all working people are estimated to work in informal economic activity including the informal sector, domestic work and subsistence agriculture. This is a large increase over that found in the mid-1990s, when an estimated 19% of working people were in informal activity.

How might informal activity expand in future? This matters for three main reasons. First, it is very large and so its expansion or contraction can have a big impact on total employment. Second, these sectors have ease of entry, thereby offering some important contribution to social protection of households. Third, a disproportionate growth in the informal economy could cause private and social welfare losses, since informal workers earn about half that of their formal sector counterparts with the same educational attainment.

This last point needs some attention. Countries with very large informal sectors tend to have one or more of the following characteristics:

- They are lower income economies, with small formal sectors (such as India or many other African economies).¹³
- Their formal sectors have shrunk due to some economic crisis or stagnation (as in Zimbabwe).
- their regulatory and tax environment is so onerous that many firms that would otherwise be in the formal sector do their utmost to stay out of the 'loop'.

On the other hand, the informal sector might be smaller than it would otherwise be, due to specific market conditions. For example, concentrated markets can pose barriers to entry or expansion. Trading conditions are difficult where poor households live far from central business districts. It might also be constrained by lack of access

¹³ To give an indication, Amin (2002) estimates that informal sector accounts for an average of 60 to 70% of total employment in low-income South Asian countries, falling to 30 to 50 % in the middle-income the South East Asian countries, falling to below 25 % in the high-income economies such as Taiwan, Japan and Singapore. This differs considerably by country, however, depending on local market conditions.

to commercial credit. In fact, it might be constrained by ‘competitors’ in the formal sector making credit available to consumers.

How informal activity might contribute to livelihoods in SA over the coming years is not so clear. There are three obvious directions: it could grow, stagnate or contract. If it does continue to grow, it could become a larger proportion of total employment or it could be surpassed by the formal sector.

The extent to which any of these informal sector trajectories come to be, partly relies on its relationship to the formal sector. The links between the formal and informal sectors in SA are difficult to disentangle over the past 10 years, since so much of informal sector growth could be explained as a post-Apartheid dividend, with loosening regulatory environment, urbanisation, etc. There is considerable evidence from other countries that the movements in the informal sector are linked to those in the formal sector.¹⁴ It appears that this is also true in SA, with preliminary findings discussed in Imraan Valodia’s paper.

The many ways in which they are linked mean that the net relationship can go in either direction: formal growth can either encourage or discourage informal growth. There is also evidence that developments in the informal sector impact on the formal. In particular, the informal sector can act as a form of social protection, which contribute to reducing the cost of social security and safety nets and of the reproduction of the labour force.

The critical point is that success in expanding the formal economy will not necessarily result in an expansion of the informal economy. The employment scenarios project therefore does not take these relationships for granted, particularly that between the formal and informal economies.

To include the informal sector into the employment scenarios, we plan to:

- Produce a background paper conceptualising formal-informal linkages, detailing what the available data tells us.
- Pursue one to two sector studies, initially focusing on retail and construction, to explore possible links. In part, this will enable us to explain how informal activity in any particular sector differs from its formal counterpart.
- Incorporate the informal economy into the economy-wide modelling.

3.5 Identifying a sustainable employment and income distribution path: the role of social protection

Achieving half unemployment and poverty will be a great challenge in an economy that is so skewed as South Africa. This requires some balance between achieving appropriate market incentives, government job creation, and appropriate labour policies. Somehow a middle income country, with an attendant cost of living, but a very large low skill labour surplus, must generate a very large number of low and semi-skilled jobs.

About 65% of working people earn less than the (previous) tax threshold of R 30,000 per annum (Valodia et al, 2006). It appears that real wages for low and middle skill labour has been stagnant since the mid-1990s (Woolard & Woolard, 2006). All things

¹⁴ For example, Edgren (2005) notes that the share of the labour market accounted for by the informal sector in Bangkok and Jakarta fell during the boom of the late 80s and early 90s but rose again back to the 1980 levels during the Asian crisis in 1997-99 (Amin, 2002).

being equal, it may be difficult to exert downward pressure on wages to make low and semi-skill labour sufficiently more attractive.

Moreover, there is growing evidence that a large portion of workers falling below the tax threshold are churning in the labour market: in other words, they are regularly moving between jobs whether remaining in the formal sector, or moving between formal, informal and unemployment (Valodia et al, 2006). High unemployment and precarious low waged work poses substantial risks to households throughout the life cycle.

There are a number of ways to address this problem. Some of them include:

- Reducing the cost of low-skill employment to the firm by offering employment incentives.
- Reducing risk to workers by ‘socialising’ benefits such as health or retirement provisions.
- Reducing the cost of wage goods.

For the foreseeable future, a very large proportion of the population in SA will be living in households that depend on low wage earners and/or grants. This project will review possible scenarios in the balance between private and social wages. Already there is strong evidence to show that a large proportion of current and new employment is precarious, and that socialised benefits may be one important way of reducing pressure on private wages for both the household/individual and for firms. This project will consider a policy package that might have this effect.

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4 Appendix 1: Projects supporting the employment scenarios

The Employment Scenarios will rely on inputs from a set of supporting research projects. These projects contribute in a number of ways:

- They help to improve the underlying information.
- They deepen our understanding of central economic or social relationships.
- They directly contribute to specific policy choices and directions.

These separate projects will also feed into specific policy processes and dialogue forums, as follows:

- Each of these projects will be vetted by experts in the respective fields to ensure quality control.
- Separate roundtables will be run to promote dialogue on specific key subjects, strategically drawing in central stakeholders and experts from the respective project areas.
- Where relevant, these outputs will also feed into other processes to assist in policy design.
- Unless otherwise agreed, papers will be disseminated to stimulate public debate & discourse.
- An interactive website will be established, drawing in communities of research, and encouraging policy dialogue. Each of these policy areas will receive attention on this site.

The projects will roll-out over the coming two years, depending on capacity and funding.

4.1 Studies to deepen understanding of market dynamics that underpin scenario-building

A series of assumptions are required to frame scenarios: the issue-based studies will underpin these assumptions. The issue-based papers are critical in ensuring sufficient depth in the scenario building. Each of these papers will be refereed and/or debated amongst sector experts. In this project, these studies will include:

- *Global case studies of high growth economies:* This offers a backdrop to our thinking. There will be a special emphasis on minerals exporters that have managed to achieve reasonable rates of growth, employment and income distribution. Professor Al Berry at the University of Toronto will assist in this project.
- *Projections of income and poverty.*
- *The emerging character of the 'working poor'.*
- *Labour supply projections:* to project unemployment, we need to have a sense of how the labour force might grow. This project will make labour force projections by skill, race, gender and employment status. Demographic projections will partly underpin these, including that for HIV/AIDS. Professor Charles Simkins, at the University of the Witwatersrand will assist in this project.

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- *Youth labour market dynamics.*
 - *Projections of world prices for commodities, and for terms of trade:* our scenarios are differentiated by the structure of trade. The direction of world prices will be critical to this understanding. Currently, there are highly contested views about the direction of global growth and prices: this paper will set out underlying arguments that will underpin the scenarios.
 - *Export and import trends over the past decade, and possible trajectories based on market information:* this will include projections of scale of exports and imports, as well as their skill and employment intensity. This will take forward an earlier paper prepared for the HSRC by Dirk van Seventer.
 - *Transitions between resources, manufacturing and services:* this paper explores the link between resources, manufacturing and services in the SA economy. There is some evidence to show that services may be the main source of future employment growth. However, there is limited understanding of how services contribute to growth, and what the drivers of demand for services industry output are. In the first year, we will produce a think-piece, that offers evidence where possible.
 - *Productivity growth and returns to scale:* expected growth in productivity will have a major impact on the rate of economic growth required to achieve unemployment targets. In the first instance, this study will consider recent productivity growth, as well as projections, in both goods and services. In addition to the use of official data, this study will draw on micro-economic and industrial studies. More generally, the employment scenarios process will need to incorporate deeper thinking about productivity and returns to scale¹⁵ vis-à-vis growth and employment. The second output in 2006/7 will be think-piece on these relationships in the context of South Africa needing to promote both more rapid economic and employment growth. Economic growth sourced from productivity improvements and/or increasing returns to scale may be complementary or negatively related to employment growth. We envisage that more work will be needed in subsequent years and this will be recommended by early 2007.
 - *Regional trade and investment scenarios:* Africa has been a major outlet for SA exports of higher value goods and services, and an important destination for its new investment. These markets may therefore be extremely important for future growth and employment. This project draws together regional growth scenarios, focusing on SA's major trade and investment partners, and considers associated policy implications.
 - *The non-observed economy:* this project will review the linkages between informal and formal activity, to ascertain how these sectors grow inversely or in alignment. We will also consider approaches to understanding the economic and employment impact of illegal economic activity.

4.2 Policy-oriented studies to identify options

These projects have been framed to support the evidence-base of the scenarios project. They will support more creative but also sound policy formulation in respect of employment. Findings from these projects will be fed back into the core employment scenarios.

- *Macroeconomic policy and employment:* macroeconomic policy can have an important impact on cross-economy employment outcomes. However, as a policy tool it can

¹⁵ For example, the current economy-wide model used by the HSRC and NT assumes constant returns to scale in all sectors. This is quite an unrealistic assumption, and has profound implications for modelling that focuses on employment and growth.

also be quite a blunt instrument. This project area initially focuses on the potential impact of exchange rates, and realistic policy options.

- *Employment oriented sector studies:* these will review and contextualise presently identified lead sectors in ASGISA and the dti's industrial strategy with an employment lens. More significantly, it will identify potential gaps in current policy, where SA could have a competitive advantage and create large numbers of jobs. This will be done through a series of short sector scoping documents which identify sectors and potential policy initiatives, and roundtables with key sector stakeholders. This work will also including support to private procurement strategies that promote local linkages.
- *Creating jobs through Government Programmes: scaling up ECD (0-4):* in 2004, the HSRC found that up to 270,000 new jobs could be created directly if the delivery of ECD for children under age five were taken to scale at a Department of Education approved quality. This project supports programme design to improve the impact of these programmes on child welfare, whilst also creating a large number of jobs.
- *Labour market policy:* there are a number of labour market policy questions that would benefit from deeper investigation. These include:
 - Labour market policy interventions: the first projects proposed focus on potential interventions aimed at labour market entrants such as employment incentives and reviews labour regulation in respect of probation and learners.
 - Regional migration, its impact on employment and the implications for immigration policy.
 - Promoting low skill labour 'exports' from SA: the possible role of remittances in spreading household risk and related policy implications.
- *Social protection:* one important explanation for high unemployment relates to the mismatch associated with a large low skill labour surplus in a middle-income economy. About 65% of working people earn less than the (previous) tax threshold of R 30,000 per annum. There is some view that, all things being equal, it would be difficult to exert downward pressure on wages to make low skill labour sufficiently more attractive. High unemployment and precarious low waged work poses substantial risks to households throughout the life cycle.

There are a number of ways to address this problem. Some of them include:

- Reducing the cost of low skill employment to the firm by offering employment incentives
- Reducing risk to workers by 'socialising' benefits such as health or retirement provisions.
- Reducing the cost of wage goods.

For the foreseeable future, a very large proportion of the population in SA will be living in households that depend on low wage earners and/or grants. This project will review possible scenarios in the balance between private and social wages. Already there is strong evidence to show that a large proportion of current and new employment is precarious, and that socialised benefits may be one important way of reducing pressure on private wages for both the household/individual and for firms. This project will consider a policy package that might have this effect.

4.3 Employment monitoring

Once a set of plausible scenarios are developed, how would we know whether we are on the appropriate path? Immediate information is not always useful in indicating longer term trends.

This project will:

- Monitor employment statistics and their quality.
- Develop and track lead indicators of employment.
- Monitor government budgets and expenditure for their employment impact.

5 Appendix 2: Sector aggregations

Using SIC codes is the most obvious and simplest way of reporting on sector classifications. Indeed, the SAM uses these classifications. However, these classifications do not lend themselves to analytical groupings that enable reporting on how *different groups* of sectors with certain characteristics respond to stimuli. A number of classifications have been proposed before, including:

Black and Kahn's (2002) study on the shift in SA's trade profile away from gold and towards non-traditional exports, included:

- Gold
- Primary products
- Beneficiated primary products
- Material-intensive products
- Manufactured products

Edwards' study on the impact of trade liberalisation on employment included:

- Primary
- Manufacturing
 - Capital-intensive
 - Intermediate capital-intensive
 - Labour-intensive
 - Ultra labour-intensive
- Social overhead
- Services

Gelb's categories for the Cabinet Investment Cluster investment study included:

- Resource-intensive manufacturing
- Scale-intensive manufacturing
- Labour-intensive manufacturing
- Knowledge-intensive manufacturing
- Producer services
- Consumer services

These classifications have been useful in drawing out nuances related to resource and skill intensities, and each contributes to our thinking. We build on these classifications, and further categorise according to employment orientation. Moreover, these studies placed more emphasis on manufacturing, while the employment scenarios project will offer more nuance in relation to the various roles played by the services sector in promoting employment and growth.

For the purpose of the employment scenarios, we plan to group the 43 sectors in the standard TIPS/IFPRI CGE model into 14 sectors. These are shown in

Table 2, together with the original sectors and the SIC sectors which comprise them¹⁶. These groupings will contribute to the scenarios analysis in identifying clusters that contribute to the economy in different ways.

The rationale behind the 14 sector aggregations is as follows:

1. The resource-base is important and we want to be able to identify how it might grow or contract. There are two resource-based primary sectors, agriculture and mining. They are presented separately since the kinds of Dutch disease issues we want to look at relate to mineral sectors.
2. The manufacturing sector is classified along two dimensions (which creates six main categories):
 - a. Firstly all sectors were classified as to whether they were capital- or labour-intensive.
 - b. Secondly, they were classified according to the dominant destination of domestic sales, whether primarily intermediate goods, consumer goods or capital goods.

While this in principle allows for six sectors, one sector (capital-intensive capital goods) turned out to be empty.

It is worth noting that the main minerals and metals resource-intensive industries are found in ‘capital-intensive intermediate goods’.

3. There are two ‘infrastructure sectors’:
 - a. Electricity and water, which essentially provide intermediate inputs.
 - b. Construction – which provides capital goods.
4. Services were classified along two dimensions (resulting in four main categories):
 - a. First, sectors are distinguished on the basis of skill intensity.
 - b. Secondly, we distinguished on the basis of destination of sales. However, unlike manufacturing, there are no service sectors that are dominated by sales to investment. Therefore we have identified intermediate and consumer services.
5. Finally, Government services are kept separate since employment and output growth is an administrative or political decision and not reliant on market conditions.

Table 3 shows the defining characteristics of the sectors. They appear to be well separated. The data used was for 2003.¹⁷

¹⁶ For both factor intensity and skill intensity, the measure was based on the simple average of the ratio across all the sub-sectors under consideration. Thus we determined the ratio of capital to total labour for all manufacturing sub-sectors, took the simple average of these ratios, and called those subsectors above this average “capital intensive” and those below it labour intensive”. The reason for using simple rather than weighted averages was to avoid large sub-sectors dominating. We used an average since the notion of intensity is relative. For skill intensity we used the ratio of high skilled labour to total employment, and took the simple average across service sectors.

¹⁷ We did investigate to see whether there would be a different outcome if we based the allocations on averages over a number of years, but found that it does not make much difference.

Table 2 – 14 Sector aggregation

	New activity code	Description	Old activity code	Old description	SIC
1	AAGR	Agriculture	AAGRI	agriculture	1
2	AMIN	Mining	ACOAL	coal	21
			AGOLD	gold	23
			AOTHM	other mining	22/24/25/29
			ATEXT	textiles	311-312
			ALEAT	leather products	316
			AWOOD	wood products	321-322
			APAPR	paper products	323
			APRNT	printing and publishing	324-326
			AOCHM	other chemical products	335-336
3	ALIG	Labour intensive intermediate goods	ARUBB	rubber products	337
			APLAS	plastic products	338
			AGLAS	glass products	341
			ANMMP	non-metallic metal products	342
			AMETP	metal products	353-355
			AELMA	electrical machinery	361-366
			ASCIE	scientific equipment	374-376
			AVEHI	vehicles	381-383
			ATRNE	transport equipment	384-387
			AFOOD	food processing	301-304
			AAPPA	wearing apparel	313-315
4	ALCG	Labour intensive consumer goods	AFOOT	footwear	317
			AFURN	furniture	391
			AOTHI	other industries	392-393
5	ALKG	Labour intensive capital goods	AMACH	machinery	356-359
			ACOME	communication equipment	371-373
			APETR	petroleum products	331-333
6	AKIG	Capital intensive intermediate goods	ABCHM	chemical products	334
			AIRON	basic iron and steel	351
			ANFRM	non-ferrous metals	352
7	AKCG	Capital intensive consumer goods	ABEVT	beverages and tobacco	305-306
8	AELW	Electricity and water	AELEG	electricity and gas	41
			AWATR	water	42
9	ACON	Construction	ACONS	construction	5
			ATRAD	trade services	61-63
10	AUIS	Low skill intensive intermediate services	ATRAN	transport services	71-74
			ACOMM	communication services	75
11	AUCS	Low skill intensive consumer services	AHCAT	hotels and catering	64
			AOTHP	other producers	92, 95-96, 99
12	ASIS	Skill intensive intermediate services	AFINS	financial and real estate services	81-82
			ABUSS	business services	83-88
13	ASCS	Skill intensive consumer services	AMAOS	medical and other services	93
14	AGOV	Government services	AGOVS	government services	91, 94

Table 3 - Defining characteristics of the sectors

		Capital-labour ratio	Skill intensity	Dominant use
AAGR	Agriculture	93 723	2.4	
AMIN	Mining	391 117	4.0	
ALIG	Labour intensive intermediate goods	114 395	11.4	74.0
ALCG	Labour intensive consumer goods	67 525	6.0	75.3
ALKG	Labour intensive capital goods	59 591	14.7	54.2
AKIG	Capital intensive intermediate goods	1 743 104	15.0	86.4
AKCG	Capital intensive consumer goods	692 695	13.7	87.3
AELW	Electricity and water	2 824 404	27.1	
ACON	Construction	36 288	5.7	
AUIS	Unskilled labour intensive intermediate services	344 227	12.1	66.7
AUCS	Unskilled labour intensive consumer services	11 469	2.9	59.2
ASIS	Skill intensive intermediate services	405 833	22.6	73.0
ASCS	Skill intensive consumer services	95 706	47.6	91.0
AGOV	Government services	315 565	42.3	

Notes:

1. *The Capital labour ratio is the number of Rand per worker*
2. *Skill intensity is the percentage of high skilled workers in the total employment in the sector.*
3. *Dominant use is the percentage of domestic sales going to the defining use (thus 74% of ALIG sales are for intermediate use, 87.3% of AKCG are for consumption purposes, etc.*