
PATHS TO EMPLOYMENT EXPANSION IN A MINERALS ECONOMY

MIRIAM ALTMAN

1. INTRODUCTION

It is not surprising that South Africa has not attracted sufficient foreign investment to induce higher growth rates and absorb its substantial labour surplus. It can be characterised as a minerals economy, primarily attracting resource-based investments and government induced opportunities. The minerals rents enabled the government to by-pass the development of labour absorbing sectors in favour of highly capital intensive energy and chemicals industries: now the cost structure is inappropriate for the mass creation of jobs in labour intensive low productivity exports.

How can SA shift from its current base as a minerals exporter, attracting capital intensive resource based investments, to a more labour absorbing trajectory? It is argued that SA must use its points of leverage as a minerals economy to shift to this path. The path would entail the promotion of high value exports, with substantial transfers into low productivity non-tradeables. The core of higher productivity investments must be promoted to induce the required growth rates, underpin national income and reduce vulnerability in global markets. These investments are difficult to attract to a minerals economy that has weak clusters, low skill levels and a small domestic and regional market. The high value tradeables would be promoted with a targeted technology policy that enables the re-orientation of existing know-how to higher growth applications, cluster development and international joint ventures. The use of government procurement is an important tool in this regard. The high value industries generate income and foreign exchange to support low productivity, labour intensive non-traded goods. A 'social contract' will be required to underpin society's acceptance of large transfers from high to low productivity sectors.

2. THE UNEMPLOYMENT PROBLEM IN SOUTH AFRICA

The unemployment problem in South Africa has been developing over many years and is certainly not a recent phenomenon (Bhorat and Hodge 1999, Edwards 2000, Kaplinsky 1995, Klasen & Woolard 2000, Meth 2001, RSA 1998). Employment numbers in manufacturing have been stagnant since the early 1980s, in a context of high population growth and a net inflow into the labour market. Since 1988, employment has fallen dramatically. Between 1988-1997, approximately 691,000 formal jobs were lost (Edwards 2000). At least 228,000 formal jobs were lost between 1996-9 (Meth 2001).¹ At the same time, the labour market expands on average by about 250,000 net new entrants each year and so, the broad unemployment rate rose from 33.0 percent to 36.2 percent between 1996-99.²

Increasing unemployment has been attributed to a number of factors. Distorted factor costs, and particularly rising black wages over the 1980s is the most common explanation (e.g. Business South Africa, Fallon and Pereira de Silva 1994, Fallon and Lucas 1998, Fedderke et al 1999, South African Foundation 1996). A newer argument, emerging over the 1990s, has attributed much of this problem to globalisation and the increasing openness of the SA economy (Bell and Cattaneo 1997, Bhorat and Hodge 1999). Arguments relying on distorted factor costs and globalisation may be linked, since international trade has led to a shift in the skills composition in the demand for labour. From a policy perspective, these are static arguments.

Slow growth and limited job creation from the mid-1990s has also been laid at the foot of the ANC government's "Growth Employment and Redistribution Plan" (GEAR). The GEAR emphasized the importance of achieving a stable macro-economic environment that would be conducive for investment, achieved with the reduction of the fiscal deficit and tight monetary policy, in conjunction with trade liberalisation: other interventions were of a secondary importance (Weeks 2000).

In stabilising the economy, the GEAR was very successful to the extent of achieving an upgrade of SA's sovereign debt rating to an investment grade by S&P and Moody's. Inflation is relatively low, and interest rates are substantially lower than they have been for years³. This is a major achievement. Under these conditions, it should be expected that investment and therefore employment would rise.

But it hasn't. And this is not really so surprising.

Contrary to the GEAR, which projected employment growth, net employment has fallen, exacerbating the unemployment crisis.

Private investment performance and savings rates have been extremely weak. Gross Domestic Savings has fallen from around 24 percent of GDP in 1983 to about 15 percent in 1999. Growth rates of private capital formation were very poor in 1996 and 1997, while 1998 and 1999 were

characterised by negative growth rates in private capital formation, as seen in Table 1. As compared to rates of around 27 percent in 1983, Gross Fixed Capital Formation as a percentage of GDP has been below 17 percent through the 1990s (SARB 2000). To offer perspective, in 1998, gross domestic investment as a percentage of GDP in SA was about half that in Malaysia or Thailand. Most economies that have sustained real growth rates of 3 percent or more have had investment and savings levels in excess of 20 percent of GDP. Ultimately, SA needs growth rates that are even higher.

While GEAR may have laid a solid macroeconomic *foundation* for growth, it has ignored some of the key elements that drive employment and investment growth in a developing economy plagued by severe distortions and poor 'market' or institutional coordination. GEAR was more a stabilisation plan, not an integrated growth and development strategy.

Both higher economic growth rates and far greater labour absorption rates (ie. jobs per Rand invested) are required to address SA's unemployment problem. Endogenous growth theory puts forward that growth is dependent on technological progress and diffusion, improvements in the labour input (size and quality of labour force), and in the capital input. Subsequent additions to this thinking emphasize the importance of social capital (e.g. strength of institutions, or the extent of corruption) and the orientation of economic policy (e.g. whether it is outward or inward looking).

While macro-economic tools may enable stabilisation, they are blunt when it comes to solving major employment and growth problems. Of course, higher savings rates and lower interest rates would bolster investment; yet, structural unemployment with serious supply constraints for labour and finance are a legacy of the apartheid regime. In this context, a leap of faith is required to believe that savings will flow into productive, job creating investment.

Table 1

GEAR: some projected and actual results

Year	Private investment (% change) ¹		Employment (% change)		CPI inflation ²		Real bank/repo rate	
	Projected	Actual	Projected	Actual	Projected	Actual	Projected	Actual
1996	9.3	7.4	1.3	-1.1	8.0	7.4	7.0	8.4
1997	9.1	4.7	3.0	-1.8	9.7	8.6	5.0	8.2
1998	9.3	-2.9	2.7	-3.7	8.1	6.9	4.0	11.6
1999	13.9	-5.3	3.5	-3.0	7.7	8.0	3.0	14.3
2000	17.0	-	4.3	-	7.6	-	3.0	-

Source: GEAR and SARB Quarterly Reports

Notes:

1. Private gross fixed capital formation, in constant 1995 prices
2. Refers to core inflation.

3. GROWTH AND LABOUR ABSORPTION IN A 'MINERALS ECONOMY'

3.1 Development in "Minerals Economies"

SA is a "minerals economy", with all the attendant complications associated with a 'resource curse' (Auty 1993, 1994, 1994a, Owens and Wood 1997, Davis 1995, and Uwizeye-Mapendano 2000). In general, minerals economies tend to grow and to experience structural shifts more slowly than non-minerals exporters. This can be explained by a number of characteristics that are common to these economies.

Overvalued exchange rates caused by minerals exports earnings, render labour intensive agricultural and manufactured exports uncompetitive. Other developing countries go through a phase of low wage, low productivity manufacturing development that has the impact of mopping up the

Table 2

Macroeconomic Indicators					
Indicators	1980-85	1986-90	1991-95	1996	1997
Real GDP Growth (%)	2.3	1.6	0.8	3.2	1.7
Growth of real GDP per capita (%)	-2.6	-0.7	-1.4	1.1	-0.4
Gross Domestic Investment/GDP (%)	26.1	19.7	16.6	17.2	17.4
Gross Domestic Savings/GDP (%)	25.8	22.2	17.4	16.9	15.2
Consumption Expenditure/GDP					
Private	54.1	56.1	60.5	61.0	61.6
Government	15.3	18.3	20.4	20.4	21.3
Labour productivity (% change)	0.8	-0.1	1.7	4.5	7.1
Unit labour costs (% change) constant prices	0.9	0.0	0.8	-4.2	-6.2
Export Growth, Volume (%) including gold	0.8	2.3	3.5	7.4	5.2
excluding gold	1.6	4.9	6.4	14.9	5.3
Import Growth, Volume (%)	0.8	3.5	10.3	11.5	4.9
Real effective exchange rate Change in %	-25.0	19.5	-0.5	-8.3	0.7
Terms of Trade (Merchandise) (%)					
including gold	-17.7	-4.9	0.3	2.4	-1.3
excluding gold	-9.4	2.6	0.3	0.4	1.0
Real interest rates					
Short term (3 month TB)	1.1	-2.1	2.0	7.7	6.6
Long term (15 year Govt stock)	0.4	0.5	3.8	8.8	5.6

Source: Black and Kahn (1998), sourced from South African Reserve Bank

labour surplus⁴. The pattern of development experienced by labour surplus developing economies usually follows along a familiar path, where under-productive labour moves off the farms, and into labour intensive manufacturing tradeables sectors. As there is a labour surplus, wages are low, and the sectors can therefore be highly competitive internationally. As the labour market becomes tighter, wages rise, and there is a shift to investment in more capital intensive activities. Only once there is a tighter labour market do wages begin to rise and the economy moves into the development of more capital and skill intensive industries. The emphasis on labour intensive tradeables is a necessary step in an economy that is capital and forex constrained. Ultimately, the more successful NICs are those that simultaneously invested in human capital development, so that the skills base developed alongside these structural shifts.

In contrast, the minerals economies tend to leap-frog from the resource base into heavy and chemicals industries (HCI) development, by-passing the development stage of labour intensive manufacturing: this is made possible by the large resource rents. The mass creation of jobs in labour intensive tradeables is not really viable in a context of high domestic cost structures and overvalued exchange rates. Nor is it a requirement of manufacturing development, as it is in developing economies that don't have ready access to capital and forex. This means that the benefits of the minerals economy do not tend to spread widely and high levels of income inequality and unemployment result, since the HCI sector is capital intensive. Hence, these economies often have limited expansion of domestic demand. Mineral economies, like other resource-based economies, also suffer from volatile export prices and falling terms of trade. This results in balance of payments constraints on growth, unstable national income, a business cycle linked to commodity prices, and relatively lower levels of national income per capita. In addition, these industries tend to have lower employment multipliers and less dynamic linkages (see Auty 1993, 1994, 1994a, 1998).

3.2 SOUTH AFRICA AS A "MINERALS ECONOMY"

The build up of unemployment in SA over the past decades can most accurately be attributed to the demise of jobs in traditional resource based industries in agriculture and mining, without a concomitant employment take-up in more advanced industrial sectors, as would be expected in a process of structural change and development.

The demise of employment in major primary resource based industries can be explained by commodity price trends, technical conditions (in mining) and domestic market deregulation and fear of potential land tenure

claims and labour rights (in agriculture). The slow pace of land reform and protectionist stance of the US and the EU further limit the expansion of new agricultural activity.

SA bypassed the phase of development where large numbers of workers are absorbed into low cost, low skill labour intensive tradeables. The ideal period for this phase arises where there is a labour surplus in a context of low economy-wide cost structures. In other words, the context of a less developed country where labour is cheap, but so is the cost of living. The low cost structures are often maintained by an agriculture sector that supports large numbers of under-employed workers. While labour intensive industries such as clothing have been promoted in South Africa since the 1920s, this was done within a context that severely limited its growth: a closed economy with constrained domestic demand. So, between 1972 and 90, the capital stock in the clothing sector fell by 19%. Similarly, there was only marginal investment in the four most labour intensive industries over this 18 year period, amounting to only R 251mn which is equivalent to the average investment in the basic chemicals sector in less than 3 months (Kaplinsky 1995). Between 1984 and 1990, investment was so low that it did not even cover depreciation, so that the manufacturing capital stock actually diminished. The main investments prior to 1984 were largely directed to capital intensive resource-based projects in basic chemicals and metals.

In fact, there has been fairly substantial restructuring in manufacturing, but towards a capital-using base. Table 3 shows that manufactured exports rose from 5% to 20% of total exports between 1988-1996. Yet, the majority of manufactured exports are still material intensive products such as beneficiated iron and steel, processed chemicals, processed foods, paper and paper products, and non-ferrous metals, constituting 62% of manufactured exports by 1996. Since the mid-1990s, substantial growth in exports of mechanical machinery, motor vehicles, electrical machinery, transport equipment and wine have taken place, although increasing from a small base (Black and Kahn 1998).

These shifts have not translated into net employment gains. This is partly due to the capital intensive nature of these activities. In addition, the shifts have not resulted in increased proportion of value added contributed by secondary production. In fact, the share of gross value added by both primary and secondary sectors fell from 48.3 percent to 34.5 percent between 1975-1999. This partly explains the fall in employment by 40.7 percent and 15.2 percent in primary and secondary sectors respectively, which has mainly taken place in the 1990s (Abedian 2000). The tertiary sectors contributed the greatest growth to gross value added and employment, particularly financial services and community, social and personal services, although most of these gains took place before the 1990s. Table 4 summarises these changes.

Table 3

Composition of SACU's total export basket by Stage of Manufacturing

Category	Percentage of Total Exports			
	1988	1991	1994	1997
Gold	44%	34%	30%	21%
Primary Products	21%	23%	22%	23%
Beneficiated Primary Products	25%	27%	27%	29%
Material Intensive Products	5%	6%	6%	7%
Manufactured products	5%	10%	15%	20%
Exports as % of GDP (incl. Gold)	27%	22%	22%	25%

Source: Black and Kahn(1998), from Trade for Growth, IDC, May 1998

Table 4

Summary table of sector changes

Sector	Share of real GVA (%)		Change in share (%)	Growth in real GVA (%)	Change in Employment (%)	Change in real GVA/Empl (%)	Change in capital/labour ratio (%)
	1976	1999					
Primary sector	17.9	10.1	-43.6	14.0	-40.7	89.1	n/a
Agriculture, forestry and fishing	6.7	3.7	-44.8	56.7	-42.7*	173.7	0.8
Mining and quarrying	11.2	6.5	-42.0	-2.9	-36.6	46.7	175.6
Secondary sector	30.4	24.4	-19.7	28.5	-15.2	49.2	n/a
Manufacturing	23.0	18.2	-20.9	41.7	-2.9	46.3	114.0
Electricity, gas and water	2.6	3.3	26.9	163.2	10.9	131.6	75.6
Construction	4.8	2.9	-39.6	-19.8	-52.3	55.2	27.0
Tertiary sector	51.7	65.5	26.7	70.7	16.2	45.3	n/a
Wholesale, retail, catering and accommodation	13.0	13.1	0.8	33.6	21.1	10.8	34.4
Transport, storage and communication	9.2	10.0	8.7	120.5	-31.4	211.5	82.8
Financial intermediation, insurance, real estate, and business services	12.7	19.3	52.0	94.3	84.5	1.9	-23.4,
Community, social and personal services	16.6	23.1	37.5	68.0	19.8	38.0	n/a
Total economy	100	100		47.3	4.6	39.1	65.1**

Source: Abedian (2000), sourced from SARB, Stats SA and the National Productivity Institute (NPI)
 Notes: GVA is Gross valued added, * Using farming employment, ** private economy including agriculture, n/a is not available

Table 5
Education Profile of African Workers

	Men		Women	
	Mean years of education	Proportion of the workforce that has passed Std 10	Mean years of education	Proportion of the workforce that has passed Std 10
Formal (urban)	9.0	27.2	9.7	35.6
Formal (non-urban)	7.3	10.2	8.1	19.1
Informal (urban)	8.0	14.0	8.5	17.1
Informal (non-urban)	7.2	7.3	7.0	8.1
Domestic (urban)	-	-	7.2	6.3
Domestic (non-urban)	-	-	6.9	4.3
Agricultural (formal, non-urban)	6.3	5.2	6.5	6.5
Agricultural (informal, non-urban)	6.5	8.8	6.6	8.0

Source: Meth 2001, calculated from October Household Survey 1999.

Note: Excludes the 8.6% of workers with post-secondary qualifications

The historically slow growth in secondary and tertiary sectors can be attributed to the apartheid minerals economy that restricted international interaction, small business entry, effective demand and labour market functions such as skilling, spatial and occupational mobility, affordable cost of job search, and circulation of market information. These conditions were created by the approach to import substitution industrialisation, international sanctions, legal restrictions on ownership of assets and businesses by the black population, and controls over the labour market and access to education⁵. Table 5 offers one demonstration of the severe gap in skills attainment, with a very small proportion of the African workforce having finished a secondary education.

In other words, most of the elements that underpin growth, and the efficient coordination of factor and product markets were purposefully undermined by the apartheid government. The minerals base made this possible on a sustained basis with the misallocation of mineral rents, particularly in the context of dramatic increases in the gold price in the early 1970s.

Certainly, minerals revenues enabled the spending on defence and on capital intensive projects that marked the former regime. For example, basic chemicals and basic metals accounted for 66.7% of investment made between 1972 and 1990: by 1990, basic chemicals and basic metals sectors accounted for over half SA's capital stock. The politically driven MossGas and Sasol alone accounted for more than half the growth in manufacturing

investment over this period: "all available evidence suggests that calculated on an *ex-ante* basis, these investments in synfuels are economically unviable, requiring an oil price equivalent in excess of \$35/barrel" (Crompton 1995, Kaplinsky 1995). The ANC's Macro-economic Research Group (MERG) recognised this and attributed growing unemployment to the crowding out by the capital intensive Minerals-Energy-Complex or MEC (Fine and Rustomjee, MERG). Kaplinsky (1995) argues that these capital intensive investments did not crowd out labour intensive ones: rather investment was stagnant across the board through the 1980s. However, this view ignores the impact that SA's main exports, namely basic minerals and metals, have had on the economy's cost structure.

Davis (1994, 1995) queries the policy implications of the resource curse thesis. Would minerals economies be better off if they were to restrain the extraction and sale of their valuable resources? Where they are exploited, should this be done in enclaves separate to the rest of the economy? Of course not. The problem lies in the application of the resources.

The misallocation of resource rents has left SA as a highly distorted middle income economy, with a cost structure and domestic market-oriented production sectors that reflect this middle-income status but a human development index, skills level and export profile that is more reflective of a less developed country (Kahn and Black 1998, Klasen and Woolard 2000)⁶.

A strategy to reduce unemployment will need to address these structural problems.

4. THE ROLE OF TRADEABLES AND NON-TRADEABLES IN JOB CREATION

Ultimately, the levers by which the SA economy can move from a resource-based exporter with a low labour absorptive capacity to one that exports higher value goods and that generates much greater numbers of jobs must be identified. It is proposed that there are two interconnected legs to this shift, where the state is actively involved in promoting of both higher value tradeables and low productivity non-tradeables. The economic thinking in South Africa has tended to polarise these activities. One rests on the importance of a stable macroeconomic environment and labour market flexibility to encourage the expansion of low-productivity tradeables, most likely through foreign direct investment (GEAR 1996, SAF 1996). The other relies on state financed opportunities, namely public works, mass-housing, and more equitable asset and income distribution to expand domestic demand (MERG 1993, Social Equity 1996). The first stylised approach

ignores SA's structural constraints and the second does not reflect on the source of income to pay for domestic demand expansion. Neither approach recognises the supply constraints that limit the expansionary impact of either programme. An employment plan is needed that identifies sources of foreign and local demand, the ability of the economy to respond, and their contributions to national income, forex or employment.

4.1 Tradeables

Will Low-Productivity Tradeables Generate Sufficient Employment? A low-productivity, low-wage export strategy seems like the obvious strategy in a labour surplus economy with a small market. Examples include a diverse range of manufacturing industries such as commodity apparel, low skill assembly or some metals fabrication. It might also include tourism and some personal services. Here, the idea is that SA has an abundance of un- and under-employed low skill workers, and so a strategy must generate jobs that absorb these people in a realistic way (Nattrass 2000). Intuitively, this makes a lot of sense, while a high productivity, high skill approach appears naïve.

This strategy relies on low wage competition. But it is not realistic to expect a middle income country to compete on the basis of low wages. To maintain this strategy for any length of time, it would be necessary to continuously reduce the cost of living (e.g. price controls on wage goods, generous provision of social wage as proportion of incomes) or reduce real wages (either through exchange rate devaluations or some sort of wage control). Otherwise, it is unlikely that these goods would be competitive in international markets. The "wigs and ashtrays" strategy made sense for the NICs of the 1960s and 1970s, as they did have a lower cost structure. Notice that even Mauritius has pulled out of this approach (clothing and tourism) as soon as it possibly could. South Africa, on the other hand, is a middle-income country with a cost structure to match. In the context of SA's present technological capacity and know-how, a more virtuous cycle could be achieved (and far more easily) by improving know-how than by reducing wages.

There are further limitations to the expansion of low-productivity tradeables such as clothing or agricultural products: the main markets in the EU and USA are highly protected and subsidised. Jobs may well be created, but not nearly to the scale that many seem to implicitly believe.

A third reason to avoid this approach: it leads to a low-level equilibrium from which, as a strategy, it would be difficult to emerge: this is due to the global image that would be created for low value goods (McMillan et al. 1999).

For these reasons, a low productivity strategy, as the *dominant* driver of employment, would preclude the possibility of developing a high value strategy, both because it draws down on the labour force and diminishes SA's product image overseas. In the context of a middle income country, low productivity exports may to some extent rely on strongly segmented labour markets, where higher wage workers do not experience downward pressure from the low wages in certain segments (regionally or sectorally), and so their expansion is not welfare-reducing where net new jobs are created. Traded services such as finance or tourism and non-tradeables such as domestic services are examples.

Do High Value Tradeables Distract from an Employment Generating Path? Workers in a middle-income country must earn wages that reflect the cost of living. Otherwise, the human resource is undermined. In a country with a small domestic market, this requires that the production structure and the export profile reflect this cost structure. The labour market segmentation literature shows that high productivity industries generally pay workers with the same educational attainment more than lower productivity sectors. Ultimately, it is essential that increasing number of investments fall within this category, with high productivity, and strong local linkages.

In the South African economy, a proposal for high value tradeables is often confused with the huge, capital intensive beneficiation projects. It seems obvious: SA has abundant natural resources, and so there should be a focus on promoting local resource-based industries. SA and the region have a small market and has difficulty attracting investment on that basis. One of SA's few attractants is its resource base. Hence, the strategy entails building on this base, with the idea of first attracting investments that result in improving the efficiency and price with which they are offered as inputs to other industries. Particularly in the case of non-renewable resources that are extracted, namely minerals and metals, the idea is to attract world scale production to improve efficiency, enabling the provision of input costs at world prices (or less). The provision of cheap energy underpins this strategy.

Three main concerns arise with this approach⁷: first, many resource based countries have difficulty moving up the value chain. This is partly because of the reliance on basic resource and *slightly* beneficiated exports that have the effect of over-valuing the currency, thereby raising the price of manufactured exports and of domestic wages. This approach also subjects the economy to all the problems associated with a weak terms of trade and balance of payments problems. Second, the lags in this strategy are very, very long. Large beneficiation projects take many years to negotiate and have long gestation periods....and so, many years before the low cost inputs are made available to investments further downstream. Having devoted much administrative and financial resources to encouraging these investments, the scale, scope and timing of expected output and employ-

ment multipliers is uncertain. Investments further upstream take less time to negotiate, have shorter gestation periods and generally cost less to the state in terms of infrastructure and incentives. Third, it is essential that downstream investment projects simply have access to inputs at world prices: it is these projects that enable a shift in the export profile that contributes to a rising terms of trade. While it is useful to have some reliance on local sourcing, this is less important for commodity inputs. Intuitively it seems better to source commodity inputs locally, and avoid imports thereby increasing net foreign exchange earnings. Yet the slow beneficiation strategy may actually preclude the ultimate goal. It may make more sense to start the strategy closer to the goal, that is, further upstream. Once these industries are in place, they may themselves attract the large beneficiation projects.

The economy requires at least a critical minimum mass of industries or firms that can earn incomes and forex and drive productivity growth on the basis of technological and product change. Tentatively, it might be said that there are two ideal sorts of investments sought, simultaneously: OEMs (original equipment manufacturers) and domestic products containing some intellectual property. In between these two types are variations that, for example, might entail international joint ventures that also result in technology transfer or improved positioning in product markets, particularly for SMEs.

OEMs are important since they have well-developed global markets, offer potential for technology transfer and learning and, often encourage other suppliers to locate nearby. Not all OEMs fit this strategy: the emphasis is on OEMs that require many separate parts, where the process of global M&As has not led to excessive concentration and where the MNCs have a reputation for developmental behaviour. For example, motor industry or electronics related investments tend to have many parts and prefer to locate within regional clusters of suppliers. Investments in 'white goods' or 'brown goods' may lead to very few multipliers where there is dramatically increasing global concentration and where in some products the technology requires a diminishing number of parts.

An essential part of this strategy to move up the value chain requires that domestic firms hold proprietary knowledge and have as much control over the value chain as possible. In this way, domestic firms garner the most value and profits, underpinning a greater ability to pay higher wages (assuming that workers have bargaining power) and earning more revenue for the state. Generally, the company that holds the 'brand', the technology or of the distribution channels is the one that takes the largest proportion of the revenues. This is partly why developing countries have lower incomes.

Ernst, Ganiatsos and Mytelka (1998) assert that "the key determinant of success in expanding exports has to do with small and medium sized developing country firms' abilities to continuously and iteratively develop new technological capabilities....(this) is less about acquiring or leasing formal

technology per se than it is about mastering the myriad of process innovations which must be made by firms with respect to internal organisation, interaction with foreign buyers and suppliers, production processes, research and development, marketing, etc....". While labour cost advantage may have been important for the initial export success of some NICs, the ability of firms to develop higher value product niches, diversify markets, develop other organisational and design innovations have been extremely important to their continued success.

This would require that policy emphasize the generation of proprietary knowledge and products, taking these to scale in global markets. These industries are essential to encouraging growth, underpinning incomes reflecting SA's middle income status, stabilising national earnings and foreign exchange, improving SA's terms of trade, and augmenting the technological base. This is a serious challenge! It appears that only developed mineral economies such as Canada, Finland, Sweden and Brazil to some extent, have managed to shift into higher value, knowledge based exports: these economies had the benefit of a stronger skills base, access to growing markets, and lacked the acute labour surplus.

A range of *generic* policies are, of course, essential to the expansion of these industries, related to trade policy (e.g. reducing anti-export biases, enabling the purchase of inputs at world prices, efficient logistics, opening access to foreign markets), finance (e.g. access to finance, reducing capital bias, or risk reduction support), policy stability generally, education and skills development. Weak skills levels will particularly act as a brake on the expansion of both high and low productivity tradeables directly and on any spill-over effects that form an important source of growth (Tybout 2000). Some of this problem might be addressed through an active promotion of skilled immigration, thereby expanding the base and reducing the cost.

A minerals economy has *specific* advantages that have been used successfully by countries such as Finland, Canada and Brazil to diversify. In South Africa, these advantages include:

- Mineral rents that enable more autonomous policy making than would be possible in a context of reliance on foreign aid or debt. Examples include:
 - The creative use of government procurement to leverage-in new forms of investment through 'offsets' and countertrade.
 - Financial incentives to attract investment.
 - State investment in critical infrastructure
- Pockets of technological know-how and excellence, that have been generated as a result of the minerals base or related military requisites. For example, Finland has shifted from a reliance on pulp and paper exports to environmentally-friendly technology for the pulp and paper industry. A technique called 'technology roadmapping' has been used effectively in Australia and Canada to identify high growth applications of existing know-how, so that the country is trading on knowledge, not resources.

- Control of state-owned enterprises, that have been used critically in Finland to expand new industries.

4.2 Non-Tradeables

Low-Productivity Non-tradeables It is unlikely that exports will substantially eat into the unemployment problem in SA. Even with an optimistic scenario, the economy faces a net new entry of about 250,000 workers into the labour force each year, and a backlog of about 5.5 million unemployed.

The jobs could be created by increasing domestic demand for more employment-absorbing low labour productivity non-tradeable sectors. Intuitively, tradeables would seem the more likely source of *mass* job creation, given South Africa's small market. Yet, it is possible that a focus on non-tradeables and non-traded goods and services may generate more employment due to SA's cost structure. The problem of cost structure is not only related to wages, and so could really only be addressed with either a large real currency depreciation or the introduction of enclave-type export zones, neither of which appear to be consistent with current economic policy⁸. Barriers to trade in major markets forms another major hindrance to the expansion of job-creating tradeables.

The promotion of non-tradeables such as housing construction and public works has long been a part of a Keynesian employment programme. Generally, these are recommendations that are meant to kick-start the economy. In fact, this was a central part of the initial RDP programme: the aim was to create many jobs directly through construction, while useful assets are provided that help the unemployed to access economic opportunities. This was a view put forward by MERG, with an emphasis on housing and social sector assets. Housing in particular was seen to stimulate construction, and provide an essential asset to households, that could be used as the basis for other small business development. Hence, this strategy concentrates on the potential crowding-in of public investment, particularly in conjunction with some small business support measures (Bond 2000, MERG 1993).

The reliance on public works as a *central* strategy has serious limitations. First, unless a construction boom can be sustained, the jobs offer short term relief only. In this way, the emphasis on public works assumes that the problem in SA is primarily cyclical and that these infrastructure projects will generate demand for goods and services, getting an upward cycle of activity going. In fact, the supply constraints are quite severe so that construction booms tend not to set in motion spread effects⁹. While the provision of housing and assets to poor households could assist in promoting much informal activity, it would not generate a forward propulsion of the economy. Bond (2000) quotes a study by Eskom showing that one small business is created for every 100 electricity connections, albeit usually in

retail trade. In addition, it was envisaged that access to housing would increase demand for appliances: yet, the expected demand for white goods does not arise, as household poverty has been underestimated.

Dramatic social and economic dislocation, weak community care for children, the aged, the disabled and HIV/AIDS sufferers, and a dearth of basic services in waste collection, health and welfare amongst others, characterise the South African situation. It is therefore easy to justify the expansion of community goods and services. The expanded provision of community services provides long-term jobs and also contributes to human capital development and social cohesion¹⁰.

In a middle-income minerals economy, demand for labour absorbing low productivity industries can be sourced from:

- domestic consumer demand from income earners in higher productivity sectors (so the larger, the better).
- foreign demand for skilled traded services that have a large complement of lower skill workers.
- sustained increase in income by very poor households, where calorie intake levels are low and the propensity to consume is high
- government demand for goods and services, using fiscal transfers and procurement systems
- More research is required to identify the potential for developing these sectors, but some preliminary thinking would point to a number of key areas:
- The provision of community care for dependents to free women for participation in labour markets and to improve social cohesion and general welfare.
- Generating commercial demand for waste such as alien vegetation and municipal rubbish: the idea is to support recycling projects and networks of small waste collectors.
- The redistribution of land and the provision of basic extension support could dramatically improve productivity and incomes. The promotion of agro-processing itself would lead to increased demand in agriculture. Given the low levels of nutrition, it is possible that greater domestic circulation could result in a virtuous cycle.
- Fiscal incentives to construction firms to adopt extremely labour intensive methods, thereby generating

5. CONCLUSION

This paper is meant to form the basis of a research project to investigate the causes of, and policy solutions to the unemployment problem in South Africa. It is not surprising that SA has not dramatically expanded employment opportunities on the back of export expansion, supported by a much improved macroeconomic environment. SA is a 'minerals economy', with a small and slow growing local and regional market, a weak skills base and

severe structural distortions. It is a middle-income economy, with a human development profile that more resembles a less developed country. So, most foreign investment is attracted to the minerals base or government-led opportunities, with limited spread effects.

Hence, some argue that policy should emphasize labour intensive, and not high value-added, exports. While SA has been successful at expanding its base of manufactured exports, this has not had an impact on employment. While not being export pessimistic, this paper argues that it is unlikely that a middle-income economy characterised by low skills would successfully generate very large numbers of net new employment through low productivity exports. SA has experienced a large proportionate increase in manufactured exports¹¹. This trade is important, but has not led to net new job creation.

Yet, these industries do play an important role in the job creation potential of a middle income minerals economy. While they may not directly result in substantial job creation, they can underpin the demand and incomes that will support the low productivity activities. The mass expansion of low productivity non-tradeables relies on the expansion of the high value exports, due to the latter's contribution to stabilising the business cycle, forex earnings, national income and indirect income that is spent on non-tradeables by higher earning workers and professionals. In addition, the transfer of resources between tradeable and non-tradeables, particularly through fiscal channels would need to be the subject of a 'Social Contract'. Government and the public may have to accept the increasing transfer of funds from high productivity, high income sectors to low productivity, low income activities, as they do in developed countries such as Japan, the US and Europe.

In a situation of lower levels of unemployment, basic incomes could be supported by intra-household transfers and welfare or social security transfers. In the US, it has been argued that tight labour markets are the result of demand generated by high productivity industries for (market-generated) low productivity services (Galbraith et al. 2000). But the rate of unemployment and the gap to be filled was much smaller than in SA. At the same time, governments in the EU, Japan and the US do generously support and protect their farmers. What are the comparable sectors in SA, that may be less than efficient, that raise productivity simply by generating some socially useful goods or services from presently unproductive labour?

NOTES

1. A recent review of the recently released October Household Surveys for 1997, 1998 and 1999 shows growth in the agricultural and informal sectors, by 340,000 and 911,000 jobs respectively (Meth 2001). These fig-

ures require investigation: agriculture has been shedding jobs rapidly in the 1990s. The expansion might be explained by improved estimates of informal activity, which may also explain the OHS's doubling of net labour force expansion from 250,000/year to 500,000/year!

2. The strict unemployment rate in 1999 was 23.3 percent. The broad unemployment rate is an important indicator since the majority of discourage workers are 'African'. Of the 5.88 million workers who are unemployed, 2.7 million are discouraged. Only 40.7 percent and 31.5 percent of urban men and women respectively that were defined as strictly unemployed had previously had a job. One-third to one-half of the 'strictly-defined' unemployed had been out of work for more than 3 years. A jobs 'queue' extends into ages 25-34 for 40 percent of the 'African' workforce.
3. Until the middle of 1999, real short term interest rates were considerably higher in SA than in a very wide range of comparable countries, exceeded only by Brazil and Indonesia. Due in part to the contagion of the Asian currency crisis, real interest rates are still far above GEAR projections (see Table 1). Real interest rates fell steadily during the latter part of 1999 to a level which is now, for the first time in many years, in a position which is similar (although still at the high end) to a wide range of middle income countries.
4. There is much evidence showing the positive correlation between GDP per capita and the contribution of manufacturing value-added and supporting functions to production and to exports. There is a particularly strong positive relationship between the contribution of machinery exports and GNP per capita. Conversely, the evidence shows a negative correlation between the proportion of natural resources in exports and GDP per capita. The greater the share of light manufacturing, namely food, clothing and textiles, generally, the lower is the GDP per capita (Syrquin and Chenery 1989, Monitor 1999, Tybout 2000).
5. The concept of "Separate Development" strategy entailed that the black population would be kept out of the central urban areas, and that production become increasingly capital intensive to reduce dependence on black workers. The black population would be moved to outlying (and generally uneconomic) areas, where labour intensive industries were encouraged to move. So, most of the legislation was aimed at saving economic opportunity for the White population. Examples of these controls included job reservation, the Bantu education system, severe limits by race on access to occupation, certification and education, Group Areas Act and Influx Control, and racial applications of labour law. Since the black population could not own neither a business nor property, large parts of the population now lack assets to put forward as collateral. In this context, the idea that low savings rates or high wage rates

- limit investment is a nonsense: these are severe distortions that are related to asset ownership, spatial dislocation, and skills gaps, not factor price distortions.
6. South Africa can be described as a middle income country with an annual *per capita* income of \$2,850 in 1999. Yet, a recent report on poverty in SA shows that 16.5 percent of *households* have expenditure below \$932 per year, and 24.8 percent have expenditure between approximately \$932 and \$1554 per year (SSA 2000).
 7. These concerns are levelled at the metals and minerals beneficiation projects situated relatively far upstream. These concerns would not apply to projects in jewellery. Nor would it apply to agriculture based projects, where high value basic and processed products help to rejuvenate a traditional industry.
 8. It is worth noting that Mauritius had a dual strategy toward the development of its clothing sector: it offered high protection for domestic producers, whilst at the same time attracting foreign firms into EPZs. Ultimately, these 2 grouping do seem to have come together so that local firms are now substantial exporters (Jhamna 2000).
 9. See a forthcoming review of the Spatial Development Initiatives, DBSA, 2001.
 10. Kitson et al. (1997, 1997a) model the cost of such a strategy in the UK to create 1 million jobs: such a study could be emulated in South Africa. These service jobs could result from public sector procurement and do not necessarily entail the expansion of the public service.
 11. Opening up to the rest of Africa has been important in this regard, where two-thirds of manufactured exports are destined. The share of exports, excluding gold, destined for Western Europe has fallen from 50 percent to 41 percent, while Africa's share has grown from 9 percent to 18 percent between 1998 and 1996.

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