



Evidence-based Employment Scenarios

Employment and Income Distribution Experiences of Minerals Exporters and of Countries Achieving Growth Acceleration

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Abstract

Many but not all minerals-dependent countries have performed badly in spite of the apparent advantage such an endowment gives them. Various institutional weaknesses have been identified in cross-country analyses as contributors to this outcome. Indonesia and Chile have been able to avoid such negative impacts on growth. Indonesia, which invested much oil revenue in smallholder agriculture and later used devaluation and other instruments to become an important exporter of light manufactures, was also able to achieve good employment growth and maintain reasonable equality. Chile, a higher income country, shifted towards non-mineral primary exports at first but then moved increasingly into a higher category of manufactured exports than Indonesia. At the end of the process inequality was higher, although causation is unclear. Venezuela grew successfully for half a century on the basis of oil; although the employment share of agriculture shrank, those of manufacturing and construction rose along with services. But the oil price hikes in the 1970s eventually led to excessive channelling of funds borrowed abroad to capital-intensive public enterprises and to slow growth, during which informal employment increased rapidly and inequality may have risen significantly as well. Nigerian incomes grew rapidly as oil prices rose in the 1970s but per capita income has suffered a net decline since then, with both agriculture and manufacturing suffering Dutch disease effects and with investment going to education (which does not appear to have paid off thus far) and to excessively capital-intensive activities, including large farms. Income distribution appears to have worsened significantly and poverty to have increased. While Venezuela has not been able to leave oil-dependency behind, it has clearly benefited from its oil on balance. Nigeria appears to have lost on balance.

In all these countries the share of new jobs arising in the tertiary sector is high, about 60% to 90% for the most recent periods. Much of the shift towards services appears to be efficient (as in Chile during its rapid growth period and in Indonesia), whereas in Nigeria and Venezuela since the late 1970s it mainly reflects lack of job opportunities elsewhere. In general, policy in such countries should aim to foster activities that have the capacity to contribute to growth, whether tradable or non-tradable, services or goods producing.

An analysis of countries which have achieved significant growth acceleration highlights the fact that they have all raised their investment rates, usually by a large amount, and their savings rates as well. The marginal output/capital ratio usually rises significantly during the take-off. Most accelerations are based on or helped by export booms, and a competitive exchange rate is the near universal instrument involved. Reasonable fiscal balance is desirable to achieve macroeconomic stability, although the rate of inflation has not systematically been low around the time of acceleration. Take-offs tend to increase employment, with wage increases usually following after a few years' lag. Inequality typically does not rise, with the rapid employment creation likely the main reason. Most countries achieving successful accelerations have employed some sort of coherent industrial strategy.

The employment and income distributional accompaniments of acceleration depend, among other things, on the sectors driving the growth (smallholder agriculture in Indonesia is better than capital-intensive manufacturing in post-1970s Venezuela and Nigeria), on the participation of lower income families in savings and investment, and on the performance of the SME sector. The fact that real-world take-offs tend not to worsen inequality suggests that countries where the pattern of growth is too skewed against employment simply do not take off at all.

1 Introduction: nature of the challenge

The economy of South Africa falls into the category of mineral-based economies; the share of minerals in total merchandise exports was over half in 1991 (Davis, 1995, 1771), up from 27.7% in 1970. It has also undergone a lengthy episode of relative economic stagnation covering much of the period since 1980. Partly due to this slow growth and partly for historical and structural reasons (including its being a minerals exporter), the country faces an unusually difficult challenge of creating adequate employment for its population and improving its extremely inegalitarian distribution of income. Given this setting, it is of interest to consider the employment and income distribution experiences of two specific groups of economies – those that are substantially minerals-based and those that have achieved significant growth acceleration in relatively short periods of time. Some of the fast accelerators have been minerals-based and some dependent on other natural resources. Many minerals-based economies, and certainly South Africa, may also be classified as ‘dualistic’ so the experience of other countries falling in this category is also of special interest to South Africa.¹ Such economies systematically, and almost by definition, face major employment and distributional challenges.

There has to date been little organised research into how natural-resource exporting countries have complemented those exports through medium capital-intensity exports or importables, labour-intensive importables produced in small firms where wage expectations do not bear as much weight, or non-tradables. There is probably no clear and simple path to healthy growth with good job creation in a country that starts from a heavy dependency on minerals exports. Each country falling in this category must be analysed in its own right, and the optimal outcome is likely to involve a range of sectors with the capacity for healthy output and/or job creation.

Successfully diminishing a country’s minerals-dependency is one challenge and achieving a growth take-off is a different one, even though in some countries both challenges may be present (as in South Africa), and in some cases both may be conquered at the same time. Leaving minerals-dependency behind involves a reallocation of existing and a channelling of new resources such as to change the sectoral composition of output. It is, in the most direct sense, a matter of resource allocation. Growth acceleration involves growth dynamics, and is thus based on raising the level of resource utilisation, raising saving and investment, and facilitating technological change. Like conquering minerals-dependency, it involves the risk that success on the output front will not be matched by success on the employment and income distribution fronts. Nothing can be taken for granted.

We turn first to the minerals-dependency challenge, then to the acceleration challenge, and finally to an attempt to integrate the two, at least partially.

¹ The term ‘dualism’ has been given a variety of definitions. Here we focus primarily on the use of a set of technologies characterised by an unusually wide range of factor proportions, either for a given type of product or overall. Total factor productivity (TFP) may or may not be higher in one sector than another of such an economy, since relative factor prices may be quite different between or among the sectors. Dualism, so defined, is normally associated with a high level of income inequality. Where one sector not only has more capital per worker than another but also higher TFP, the gap in earnings is likely to be very large.

2 Is mineral-dependency bad for growth, employment and inequality? A broad look

2.1 Growth

A reasonably plausible case has been made that the effect of minerals-dependency on growth is more often negative than positive, and it is quite clear that the range of performance in such economies is greater than among others. The evidence suggests that at best an endowment of natural resources can put the country on a fast track to development but at worst it can do the opposite – condemn the country to a vicious cycle of negative feedbacks. Clearly policy matters a great deal in determining the outcome.

Important insights into the mechanisms that may cause or avert the natural resource curse have been provided by comparative studies, many of which focus on mineral (especially oil) exporters and on the Dutch disease mechanism. In his analysis of six oil-exporting countries, Gelb (1988, 61) finds that the typical country² initially (1974) allocated a large part of the oil windfall³ to savings abroad (trade and non-factor services surplus). Windfall-based investment (in most cases mainly public sector investment) grew faster than consumption and peaked around 1978 at about 15% of non-oil GDP, then tapered off as consumption kept rising through 1981 (when his figures end), by which time it exceeded investment. Around 1978 a deficit had arisen in the balance of payments as countries began to borrow against future oil revenues. About four fifths of the windfall accrued to governments, due to rapid upward adjustment of taxes and royalties. Domestic oil prices were held at or near former levels until the early 1980s. The windfall decade saw a big increase in the weight of the state and the diversification of its role.

Gelb's estimates of real exchange⁴ rate movements (from their 1970-72 base) show some initial appreciation in all cases except Algeria and Venezuela (both of which undertook nominal devaluations during the first oil windfall, backed up by price controls). By 1979-83, net appreciation (again vis à vis the 1970-72 base) was generalised for all of the countries and of huge dimensions in Nigeria and Iran (both over 90% by 1982-83). By 1984, the experience was once again more mixed, with Indonesia and Venezuela by then having achieved net devaluations for the period as a whole.

The 'average' experience of the oil countries studied by Gelb and Associates identifies excessive borrowing abroad (the other side of the coin from inadequate domestic savings), overvalued exchange rates, weak controls on resource allocation and a few other facts to be systematic features of the experiences analysed. Of the seven countries, only Indonesia emerged a clear beneficiary of minerals-dependency.

2.2 Employment and equality

Economies with strong mineral rents might be expected to be more inegalitarian than others because of some combination of effects from the capital-intensity of the export

² Figures are unweighted averages across the countries.

³ The estimates of how the windfall was used are based on a counterfactual projection for each country of how the relevant macroeconomic variables would have evolved in the absence of the oil revenues.

⁴ A country's real exchange rate is defined as the ratio of the domestic consumer price index to the geometrically trade-weighted price index of its major trading partners, converted at the average exchange rates (Gelb, 1988, 79).

sector and the resulting lower-than-normal overall demand for labour, or the possible concentration of the rents in a few hands (the owners, the financial sector, or other successful rent-seekers). Roemer (1979, 187) notes that, “exports of scale-intensive, capital-intensive commodities such as minerals and plantation crops have long been recognised as the genesis of the enclave-dominated, dualistic economy, with its characteristically skewed income distribution...” Adelman and Morris (1973, 160-165) identified natural resource abundance and dualism as two of the four most critical variables (of 31 tested) in determining income distribution. Whether this expectation is valid or not, high mineral (or any other natural resource) rents do widen the range of possible employment and income distributional outcomes – partly just because they widen the range of possible growth outcomes but also because the rents can be channelled either in ways which worsen or improve distribution.

No recent comprehensive analysis has been undertaken of minerals-dependency and income distribution, but a simple look at the available data points to a marked relationship, albeit not a simple or general one (*see Table 1*). For the 45 countries with per capita incomes below US\$2,500 (1991 international or purchasing power parity dollars), the average gap in the Gini coefficient between minerals-dependent countries and others is small – about 0.015 when the comparison is made weighting countries by population. For countries in the \$2,500-\$5,000 income range, this gap is up to 3.5 Gini points. But in the next income range (\$5,000-\$7,500), the gap becomes enormous, nearly 20 Gini points. Possibly when minerals-dependency lasts long enough to contribute to significant increases in per capita income it also produces high levels of inequality, or at least does nothing to lower them. These figures imply that middle-income minerals-dependent countries do need to worry about inequality, which normally implies that they also face a challenge to create adequate employment.

Table 1 - Average Gini coefficients of income inequality, by per capita GDP and whether minerals-dependent or not

(Unweighted averages and averages weighted by population)

1991 GDP per capita in current PPP dollars	Unweighted averages				Weighted averages			
	Non-minerals-dependent	Minerals-dependent	Lower-level minerals-dependent	Higher-level minerals-dependent	Non-minerals-dependent	Minerals-dependent	Lower-level minerals-dependent	Higher-level minerals-dependent
Up to 2,500	0.449	0.469	0.466	0.472	0.404	0.419	0.386	0.491
2,500-5,000	0.443	0.513	0.463	0.575	0.433	0.468	0.462	0.493
5,000-7,500	0.356	0.545	0.550	0.537	0.300	0.586	0.584	0.600
7,500-10,000	0.338	---			0.361			
Over 10,000	0.321				0.331			

Source: World Bank data files

3 Four case studies of minerals-dependence on growth, inequality and employment

For a more detailed look at both success and failure in meeting the minerals-dependency challenge, we next review the experiences of Indonesia, Chile, Venezuela and Nigeria.

3.1 Indonesia: growth acceleration facilitated by oil

Indonesia's phase of mineral-dependency began soon after its growth acceleration and clearly helped to maintain the high growth. Its successful exit from such dependence came later as growth was tailing off and the exit permitted a return to fast growth until the East Asian financial crisis of the late 1990s.

Indonesia made generally effective use of its oil revenues to foster growth, productive employment and reasonable equality. Both agriculture and export-oriented manufacturing, instead of shrinking under the influence of booming oil revenues, grew. In the case of agriculture this was facilitated by the country's being on the edge of a potential Green Revolution as the 1970s began. Success along that path was furthered by various forms of government support – investment in infrastructure, subsidisation of fertiliser to encourage its use, stabilisation of the rice price and others. Agriculture thus became a recipient for oil revenues. On the manufacturing front, government continued to provide protection for various domestic-market oriented industries. But what guaranteed that Indonesia would not get caught without another reliable comparative advantage to turn to as oil's importance waned was its launching a light manufactures export sector. To do this required a well-executed real exchange rate devaluation in the latter 1980s.

Growth acceleration initially manifested itself in the labour market primarily through an increase in employment and a decrease in underemployment that contributed to preventing an increase in inequality. Wages at the time of the initial take-off were not such as to discourage employment or growth – any increases were mainly recovery of ground lost in the previous years of turmoil, stagnation and inflation. With agricultural growth strong at this time the sector contributed significantly (24.2%) to employment growth over 1971-80, even though the composition of employment was shifting rapidly away from it. Industry and services contributed 23.8% and 52.0%, reflecting rapid growth at 6.0% and 5.7% respectively, while that in agriculture was edging up at a modest 1.2% (Manning, 1998, 86). Within industry, both manufacturing and construction employment grew fast. Urban and non-agricultural incomes and productivity were rising faster than those in agriculture, though it is worth noting that the initial productivity disadvantage of agriculture relative to other sectors was smaller than in most other countries.

The overwhelmingly small farm structure of Indonesian agriculture meant that the introduction of new technology would not be a threat to employment in those farm families. But since a high share of households were landless and hence sensitive to changes in the demand for hired labour, and since the level of poverty made marginal activities (from a production point of view) like gleaning (picking up the stalks of grain missed during reaping and left on the ground) very important to the welfare of many poor families, the income distributional impact of the new high-yielding varieties (HYVs) in Indonesia was not straightforward. But Manning (1988, 72) judges that new employment opportunities flowing from the growth of rice production probably largely offset the negative impacts. And government spending based largely on the oil boom, plus indirect income circulation, seems to have brought considerable economic

benefits to a broad spectrum of the rural population. Public sector construction expenditures on roads, irrigation and other forms of infrastructure created much employment. A boom in housing construction contributed as well. Overall, construction accounted for close to 15% of all non-agriculture jobs created for males over the period 1971-95 (Manning, 1998, 93). A substantial share was in self-employed jobs among semi-skilled and skilled *tukang* involved in the construction of private dwellings. Much of the employment was a result of the increased income in middle-income and poor families, especially in rural Java.

Before light manufacturing took over as the motor of rising labour demand, growth suffered a post-oil boom slowdown and the structural shift away from agriculture slowed with it. The success to this point would probably have faded, if not turned into outright failure, had not the government, led by its impressive team of technocrats, taken strong steps, in particular in dealing with the increasingly uncompetitive exchange rate by implementing a massive devaluation accompanied by lower tariffs, a temporary stabilisation of the rice price and liberalisation of foreign private investment and of imports. The reforms made Indonesia competitive in the world market, especially for labour-intensive, footloose industries. Macroeconomic stabilisation underpinned the reforms. The team of technocrats had the authority to cut a number of high-profile projects that were capital- and import-intensive, had political backing and were widely seen as generating particularly large rental/corruption income. The major lesson of the reforms was that entrepreneurs and investors would respond dramatically to a really large change in incentives even if their response to smaller changes were slow and grudging. Indonesia in the middle-1980s was transformed from a risky and quite unattractive place to do business to one of the favourites among low- and middle-income destinations for international investors, including Indonesia's own ethnic Chinese families.

As growth accelerated after the devaluation and other reforms, manufacturing finally registered the most rapid employment growth of the major sectors (Manning, 1998, 107) and agricultural employment started to fall in absolute terms. It was now providing close to half of the new jobs for males outside agriculture (it had previously provided 15% to 20% of such jobs) and probably as great a share for females as well⁵. This exuberant employment growth reflected the labour-intensive character of most of the growing sectors of manufacturing. Only with this surge in manufactured exports did Indonesia's labour market finally tighten up to the point of producing generalised wage increases, though as in the first growth take-off, wages again lagged output growth by a few years.

Indonesia established its rather enviable record of growth with relative equity through a combination of good luck and good management. The main piece of luck was the availability of new agricultural technologies from the 1960s which could raise productivity and create jobs simultaneously. Good management showed up in the maintenance of macroeconomic stability, the investing of much of the oil profits in infrastructure expenditures and other supports for the Green Revolution rather than squandering them on consumption or ill-devised investment projects, and the adoption of the 1986 reform package – most notably the major devaluations, which allowed the country to launch its manufactured exports phase. Another step that contributed significantly to overall growth and to raising the incomes of the bottom half was the extension of the financial system to reach them. The savings of lower income people were probably small until the country was well into the sustained boom. But eventually small rural savings grew dramatically. The Bank Rakyat Indonesia's (BRI's) microfinance operation, including both lending and deposit

⁵ Though manufacturing employment was now growing the fastest of major sectors on a percentage-wise basis, since the tertiary sector accounted for about 40% of all jobs by 1985 (Table 3) and manufacturing for only about 10%, services still provided the bulk of the new jobs even though its employment was growing less rapidly than that of manufacturing.

facilities, is one of the success stories in finance for equitable development (Papanek, 2003). After this public bank was reformed to operate on commercial principles, small rural savings deposits grew from a negligible level after the reforms in 1984 to \$0.5-billion in 1989 and nearly \$2.5bn in 2002. By 1999 all savings accounts, most of which were rural, amounted to 3% of national income.

Through it all, income inequality remained moderate. Official figures show the Gini coefficient of consumption expenditures typically in the range 0.30 to 0.35 (Papanek, 2003, 24) and the corresponding figures for the distribution of income around 0.4 or a little higher. According to the consumption data, urban inequality has changed very little since the mid-1960s (usually around 0.33 to 0.36) while that in rural areas has fallen markedly from 0.35 in 1964-5 to 0.25 by 2002. As the weight of rural areas gradually fell and the rural-urban income gap tended to widen (at least over part of the period), the overall level of inequality did not reflect the falling inequality in rural areas. It appears that neither growth acceleration nor oil dependency had significant effects on the moderate level of inequality.

3.2 Chile's 'high road' out of minerals-dependency

Chile shares with Indonesia the experience of conquering the natural resource curse and recovering growth while moving to a new and broader base of exports. Its dependency on minerals was of much longer duration, however, and those exports had by mid-century propelled it, like Venezuela, into the upper ranks of developing countries in terms of per capita income. Because of its much higher per capita income than Indonesia's when that country made the shift to light manufacturing exports, this option was not open to Chile, especially by the 1980s when China and other large labour-abundant countries entered world markets on a huge scale. As a result the 'new exports' in Chile's case were a mixed bag, involving in the first instance such primary products as salmon, wood/products, grapes and wine, etc.

Extreme dependence on copper exports was ended by the expansion of non-copper exports and an associated economic acceleration, which broke a lengthy pattern of only modest growth, during which the country had channelled copper rents towards human capital formation and manufacturing, among other uses. Corruption and theft were not large by the standards of the oil countries, but copper alone was not destined to provide a high average level of income for Chileans.

Chile broke the dependency on mineral exports through a combination of planning, effective exchange rate management and market support policies. During the 30-year period 1973-2002, growth of Chile's export quantum averaged about 9%, rising to 13.6-fold the initial level. While copper exports grew, non-copper ones grew much faster. By 1991, copper's share was down to 52.2% and by 2000 to under a third. Many new export products have emerged over the years, bringing the number up from 200 in 1970 to 3,900 in 1996 when it more or less stabilised (French-Davis, 2002, 176). The destination of exports has also diversified considerably, with the European Union's share falling significantly since 1970, and Latin America and Asia (except for-Japan) rising between them from 11.9% to 37.8%. As of 1988, Latin America accounted for 55% of manufactured exports. For much of this period the most dynamic category was traditional non-copper (fresh fruit and natural-resource-based manufacturing such as fish meal, wood pulp, etc.) but this category has recently been surpassed by non-traditional items (other manufactures and new resource-based items). Manufactured exports grew at 15% per year from a small base of 2% of exports in 1970 to reach 14% in 1998.

There are at least three contending (though not mutually exclusive) views as to what was important in producing the export boom. A traditional view attributes the success to the free market policies that allowed resources to find their most efficient uses and

curtailed the biasing and disincentive effects of excessive regulation and public sector involvement in the economy. A different perspective is that of French-Davis (2002, Chapter 8), who sees the export take-off as mainly due to a sharply depreciated and then relatively stable real exchange rate. The real exchange rate depreciated by almost half between 1980-82 and 1986-89, after which it did not fluctuate much⁶. Part of the success was also attributable to a range of policies in support of exports, especially non-traditional and new ones. Kurtz (2001) maintains that where public intervention to correct credit, information, risk and marketing failures was early and strong – as in the fish and forest products industries – export response was rapid and sustained. While it is likely that trade reform, devaluation and active policy support all played significant roles in Chile's export expansion, the tremendous number of new export items that had emerged by the mid-1990s hints at the special benefits of a devalued currency that simply raised the profitability of a wide range of tradables⁷, acting as a broad non-discriminatory price incentive to producers. Some were probably pulled into the export category by the low exchange rate but then remained competitive even after some appreciation, since they had been engaged in a cost-reducing process of learning by doing.

The Chilean experience in getting out from under an excessive minerals-dependency shows important contrasts to the Indonesia one, both in context and in policy steps. Broadly speaking, this path out of minerals-dependency may be characterised as the 'high road' in that it did not rely on low wages and labour-intensive manufacturing exports, as Indonesia did. Even though the crisis/transition period 1973-1984 saw large adjustments in the labour market, with high unemployment and a sharp fall in wages, those wages were still far above the levels of low-income Asian countries. Human capital was considerably more abundant and the combination of natural resources and technological improvements (as in forestry, fishing and fruits) yielded a number of important new export products. Though human capital availability was a plus, scarcities arose as growth accelerated, and this was likely a factor contributing to the increased inequality of labour earnings over the period.

The patterns of labour reallocation during the transition and subsequent export-based growth are of special interest because one can reasonably assume that the reallocation was a response to rising labour demand in a rapidly growing economy, rather than a last resort search for easy-entry sectors.

With GDP rising by an average of 5.9% per year over the period 1987-2003, agriculture grew slowly (less than 1% per year) and its share of employment dropped from 16.25% to 13.14%. Mining's share also dropped sharply and manufacturing was a major loser, from 17.95% to 13.3%, even though output was rising at 6.0%. Manufacturing employment stagnated, as the sector's labour productivity leapt by 5% per year. Employment-wise the gainers were commerce et al (15.5% to 19.9%), with 28% of new jobs, finance, etc. (4.6% to 6.9%) and construction (6.6% to 8.6%). Interestingly, the share of services in total employment was just constant at about 28% (27.8% to 28.1%). The breakdown of net employment gain shows nearly 60% in commerce et al and services, with another 11% in finance, 10.5% in transport et al, 12% in construction, and 7.6% in agriculture et al. Within manufacturing there were significant reallocations of labour, with large positive contributors to net job change being food, beverages and tobacco (3.94%), wood, wood products and paper (2.72%) and metal products (2.35%). Large losses occurred in labour-intensive industries, mainly textiles and clothing (-2.85%) but also leather products and shoes. Within the broad sector 'commerce et al', retail commerce, because of its dominant weight at the

⁶ The stability of the real exchange rate after the devaluation may have been predictable to business, given that it was a stated goal of the Central Bank – a goal that the Bank did try to telegraph to the public.

⁷ Figures on new import-competing items produced in Chile over the period under discussion are not available to my knowledge.

start, created the bulk of the new jobs (20.8% of the grand total), with restaurants and hotels important (at 4.8%) and wholesale trade less so (2.3%). Over the shorter period 1992-2003 (for which we have three-digit data –see Table 2), employment in hotels just retained its share whereas that in restaurants rose and accounted for a very significant 5.2% of total employment increase. The category of transportation workers, although percentage-wise growing a little less than communications, provided 8.7% of all new jobs (communications accounted for 1.8%). Over 1992-2003, 8% came from land transport services (taxis and other) alone. In finance et al it was real estate and services provided to business which created almost all (8.8 points) of the total 11% contribution from this sector, with financial institutions per se at just 1.4% and insurance at 0.9%. Over 1992-2003, services provided to business contributed an impressive 13.9% of new jobs, while real estate came in at 1.9%, and financial institutions at 1.4%. Within services, public administration was falling in relative size and hence contributed only 2.3%. The two major contributors were social and community services (13.8%) and personal and household services (7.7%).

Table 2 - Evolution of Chilean employment by sector, 1992-2003

(Unweighted averages and averages weighted by population)

Category	Employment in 1992	Percent of employment in 1992	Employment in 2003	Percent of employment in 2003	Percent of employment change, 1992-2003
Agriculture, et al.	775,008	15.76	788,819	13.14	1.27
Mining	104,765	3.17	88,473	1.47	-1.50
Manufacturing	823,235	16.75	798,478	13.30	-2.28
Food	131,812	2.68	165,665	2.76	3.11
Textiles	70,541	1.43	31,884	0.53	-3.56
Clothing	120,348	2.45	78,170	1.30	-3.88
Leather products & footwear	50,429	1.03	19,925	0.33	-2.81
Printing	34,006	0.69	51,441	0.86	1.60
Chemicals	42,341	0.86	49,720	0.81	0.67
Metal products except mach.	75,643	1.54	97,158	1.62	1.98
Machinery (including trans.)	45,357	0.92	51,844	0.86	0.60
Elect., gas & water	37,419	0.76	34,214	0.57	-0.03
Construction	433,107	8.81	514,258	8.57	7.46
Commerce, et al	885,110	18.00	1,197,337	19.94	28.72
Retail	474,410	12.32	923,110	15.38	20.83
Wholesale	46,337	1.20	95,408	1.59	2.28
Restaurants/hotels	74,784	1.94	178,678	2.98	9.56
Transport	341,951	6.96	467,349	7.78	11.53
Finance, real estate & business services	210,449	4.28	412,770	6.88	18.61
Finance	43,950	1.14	73,374	1.22	2.71
Business services	112,373	2.29	264,445	4.40	13.99
Community, social and personal services	1271,195	25.86	1686,436	28.51	38.18
Public admin. & defense	152,650	3.11	228,962	3.81	7.02
Social and community services	467,135	9.50	678,581	11.30	19.45
Education	270,047	5.49	403,702	6.72	12.29
Personal services	574,106	11.58	635,380	10.58	5.64
Total	4,916,191		6,003,507		100.00

Source: World Bank data files

3.3 Venezuela: employment and income distributional fall-out from the end of the long period of oil-based growth

Venezuela's experience from the 1920s reflects clearly both the positive and the negative effects of a large endowment of oil. During the fast growth period, wages appear to have risen more or less commensurate with the growth of output per capita. By the 1960s, inequality of labour earnings was high, but somewhat below the average for Latin American countries. During this half-century the structure of employment changed rapidly. In 1920 the share of agriculture et al was nearly 70%; by 1950 it had fallen to 44% and by 1977 to 17%. This enormous decline can be seen as a combination of the normal fall in agriculture's share as development proceeds, accelerated by the unusually fast economic growth and by the crowding-out effect of petroleum exports on other tradables. The corresponding increases occurred mainly in construction, from probably under 2% to 5.4% by 1950 and 8.8% in 1977; in manufacturing, from 9%-10% to a peak of 16%-17% by 1977; and in commerce et al, from probably about 5% of employment in 1920 to 8.8% in 1950 and over 17% in 1977, on its way on up to 26.7% by 2002. The public sector increased from about 2%-3.5% in 1920 to probably 10%-11% in 1950 and around 18% in 1990. Transport et al grew from 3.5% in 1941 to 6.7% in 1977. Services, other than public sector, recorded a major increase from about 8% in 1920 to 14.6% in 1950 and on to 35% in 2002.

By the 1960s, the last decade before the oil price hikes, both construction and manufacturing employment was doing well. Over 1961-71, the former accounted for 9% of net new jobs, 12.9% of net new jobs for males and probably a somewhat higher share of paid jobs for males. Manufacturing, about which the planners were less optimistic, saw a large increase in employment from 12.9% of the labour force to perhaps 15% in 1971, thereby accounting for over 20% of the new jobs during that decade. This increase was not due to a flooding into informal-level activities, since the share of paid employees also rose (trade protection accounted for part of the growth). Services, meanwhile, were accounting for 70% of new jobs (1950-77) during this generally successful period.

Ironically, it was the oil price hikes of the 1970s that brought this generally satisfactory oil-based development to a halt. Even more ironically, among the factors contributing to the reversal of fortune was an increased recognition of and concern with poverty and inequality in the political process and a misguided belief that employment and growth would be found in capital-intensive exports produced by public enterprises. Things got off to a good start over 1972-78, as the non-oil economy boomed at 8.4%, private consumption at 12% and gross investment at 15%. But much of the windfall was used to raise employment, wages and output in the public sector. Per capita consumption went up by 50% over 1973-82. After some saving abroad in the first years, the country had by 1976 become a net borrower. The die was cast for future problems when the government failed to maintain a cushion of savings abroad and simultaneously began channelling present and future oil revenues to develop a large public enterprise sector, mainly in basic industries such as steel and aluminium (Marquez, 1995, 404). Previously those revenues had gone to general infrastructure and the social sector, the first of which at least could be cut back without great difficulty when revenues shrunk.

Venezuela's response to the 1970s oil price boom involved grave policy errors on the macroeconomic, financial and industrial strategy fronts. Too much was borrowed abroad, too little was saved domestically, and investments were channelled into risky and low payoff (at least in the short run) industries, operated by public enterprises which introduced both inefficiency and rigidity, and with no hope of significant direct employment creation. The combination of a government desirous of making a quick impact on employment and poverty problems but not knowing, positively, how to do

it, or, negatively, what paths to steer clear of, turned out to be a lethal one. A vicious circle of powerful groups from business, government and unions constraining decisions into unproductive channels, together with periodic disruptive shocks, has helped to keep Venezuela off a healthy growth path since the 1970s. Rarely has the 10-year growth average approached 3% over this period.

3.4 Nigeria: a country impoverished by oil?

Nigeria's economic performance has been erratic and on average weak since its short, quick recovery from the civil war of the late 1960s. Over 1970-2001, average growth was just under 2.9%, resulting in a slight fall in GDP per capita. Nigeria has been seen as a prime example of how oil and minerals can exert a negative impact on institutional quality and through that on economic performance. Inequality appears to have increased significantly since the oil bonanza began, which, together with no increase in per capita income, means that poverty has risen markedly.

In Nigeria's case the oil industry appears to have discouraged production both in agriculture, whose share of output and employment has fallen precipitously, and in manufacturing. The oil period ushered in a very rapid process of urbanisation and labour reallocation, parallel to Venezuela's between 1924 and 1940 or so. By 1986 only 48% of the classified labour force was still in agriculture (down from over 70% at mid-century), with manufacturing's share sitting at a paltry 4.4%, commerce et al up to 25.0% and services to 15.3%. At this time only about 19.4% of the employed were in paid positions, with the majority of these in services (60%), presumably principally in the public sector. In manufacturing, only 18.2% of the employed were paid and in commerce et al (dominated by women) the share was just 2.9%. In terms of employment structure, Nigeria thus urbanised in a much more 'informal' way than had Venezuela – few paid jobs appear to have been available outside of government. And employment was strongly skewed towards commerce, as reflected in the eye-catching ratio of about six jobs in the commerce et al sector for every one in manufacturing. This ratio varies widely across developing countries, but even in minerals-dependent countries like the others considered here it did not remotely approach this level.⁸

The contrast between Nigeria and Indonesia is particularly stark, both in terms of what happened to agriculture and of the overall economic performance of the two countries in the decades after the oil boom. Nigeria's development strategy was strongly urban-biased, with emphasis on construction of main roads and on the spread of education, first primary, then secondary and tertiary. Meanwhile, agricultural technology was static. The decision-makers believed that achieving productivity gains in smallholder agriculture would be hard (Gelb, 1988, 256); some observers think much more might have been done in this area. Politics probably favoured spending on education, in part because of a popular feeling that it could be a mechanism of social mobility. Policy-makers believed that urban poverty could be attacked by service delivery whereas that found in rural areas was a much tougher nut to crack. Within agriculture the spending pattern favoured large, better-placed farmers.

Given Nigeria's base of other resources, it is plausible that post-1970 growth might have been reasonably good without the oil. But average non-mining growth averaged just 2.5% over 1972-84 (fast in the first years, then negative), despite the biggest investment splurge in the country's history. A high share of that investment went for physical and social infrastructure but it did not stimulate other economic activities.

⁸ In Chile the ratio reached 1.5 in 2003, after a considerable rise during the previous couple of decades; in Venezuela it was just over one around 1980 and in Indonesia about 1.5 at that same time.

Investment quality was negatively affected by a variety of institutional and administrative flaws.

Of the oil countries studied by Gelb and associates, Nigeria (together with Iran) suffered the highest degree of exchange rate appreciation by the early 1980s. The overvaluation was to a great extent related to the political need/desire to create rents for government officials and their cronies. Thus the exchange rate was not given a chance to be a tool for identifying and inducing into production a wide range of tradables as it seems to have done in Chile – quite the opposite. More generally, Nigeria has not been able to use its oil revenues to energise the non-oil sector and revive overall growth. Like Venezuela, the industries selected for favorable attention were bad choices per se and/or their management was defective.

4 Overcoming the challenges of minerals-dependency

4.1 Are there general recipes with respect to how the sectoral composition of output and employment growth should change?

Depending on the specifics of the country, promising new or strengthened competencies may be expected to emerge in each of the primary, secondary and tertiary sectors. Central to the early success in Indonesia was investment in raising agricultural productivity, especially in rice, the staple crop which could have become a significant import in the absence of that improvement. Not achieving much productivity increase in agriculture contributed to failure in Nigeria. But agriculture was already much less important in Chile and Venezuela by mid-century; in neither case has it played a significant role in employment creation. Agriculture has a potential role in growth and overcoming of mineral-dependence if the country is still largely agricultural, otherwise that role will be correspondingly less. South Africa appears to fit into the latter category.

Mining itself seldom generates more than 2% to 3% of employment in countries of any population size. South Africa has been an exception, although the trend is downward there as well, and much mining employment was of immigrants. As a source of net new job creation for nationals, the sector is a spent force. In Indonesia the mining share of employment was a trivial 0.7% in 1980. In Chile the sector had accounted for 9.9% of employment in its heyday around 1940, but the absolute level of employment grew little through 1970, by which time its share was down to 6.4% (Mamalakis, 1986, 198-205). Since then it has fallen in absolute and relative terms to about 1.5% in 2003. In Nigeria as of 1986, mining accounted for a trivial 0.3% of employment. In Venezuela the peak share of employment was probably around 3% (1950); by 1980 it was down to under 1.5%,

The big debates about potential and desirable sectoral roles in minerals-dependent countries involve services and manufacturing and, of course, sub-groups of these broad categories. Views with respect to the two sectors have a natural symmetry – if one believes it essential for longer run growth that manufacturing play a large role, then one will probably be worried if service-type activities appear to be growing at the expense of manufacturing.

Such a concern with, say, fast growth of service employment should be distinguished from a different concern – the idea that fast service employment growth signals an overall problem in the labour market, which forces too many people into easy entry, low productivity sectors, most of which are in services. Here the idea is not necessarily that overall economic efficiency would be greater if more people were in manufacturing, but rather that their having to locate in services reflects a general problem of low labour demand. These two concerns should be kept in mind as distinct from each other as we review employment trends in the four countries.

The evidence from these four countries and in general implies that in some degree an increase in the share of non-tradables and of services is inevitable and in some degree (not usually the same degree, however) it is desirable. The issue is reminiscent of rural-urban migration. In the course of economic development, much such migration is both inevitable and desirable, but the optimal level is not necessarily the level which will occur under unconstrained conditions, free markets or whatever other scenario one wishes to identify.

Table 3 summarises the record of service employment over relevant phases in the four minerals-dependent countries reviewed above. Both the existing share of employment in services and the share of new jobs falling in that category are higher for the more developed economies, Chile and Venezuela. But even in Indonesia and Nigeria the marginal share for services is high, at or near 60% during the most recent period for which data were available. In Indonesia, even with the export boom in light manufactures leading to many new jobs there, agricultural employment was by this time shrinking, hence the high share (60%) of new jobs in services. But this development cannot be seen as 'supply push' job creation, since wages were rising in virtually all activities during this period.

In Nigeria, people swarmed out of agriculture, even though employment continued to grow there, and manufacturing had quite limited absorptive capacity. Both agriculture and services became sponges as labour supply rose faster than demand, pushed wages down and increased income inequality. Chile's service expansion since the mid-1980s must have been more demand-pulled than supply-pushed as it occurred in a context of fast growth, rising wages and falling poverty. The prior period, 1970-85, which included two major economic crashes and very slow average growth and a dramatic liberalisation, saw nearly all new jobs coming from services, in this case a combined result of a weak labour demand, drastic reforms designed to make the labour market more flexible, and unusually rapid growth of financial and real estate services as the economy saw a speculative boom in the late-1970s.

In Venezuela, the fact that 70% of new jobs were in services over 1950-77 reflected demand pull, but when that share reached about 80% over 1977-2002 it was due to a weak labour market and came in tandem with a rapid process of informalisation, as informal workers rose from 30% to 50% of urban employment and their relative income of informal workers fell from 71% of that of formal ones to 58% (Berry, 2006). The upward trend in this ratio has continued, bringing the share of services in new jobs up to 82% in Chile over 2000-2003 and to 88% in Venezuela over 2000-2002.

Table 3 - Growth of the service share* of employment under the influence of mineral exports

Country and period	Share of services at beginning of period (percent)	Share of services at end of period (percent)	Share of services in net new jobs created (percent)	Annual growth of employment in services (percent)
Indonesia				
1971-85	28.0	32.0	36.8	3.6
1985-97	32.0	40.1	60.6	4.6
Chile				
1940-70	36.1	41.6	50.4	2.1
1970-1985	41.6	55.7	96.0	4.0
1985-2003	55.7	63.4	77.6	3.2
Venezuela				
1920-77	20	56.1	63.5	5.1
1920-50	20	35.2	46.7	4.8
1950-77	35.2	56.1	69.9	5.4
1977-2002	56.1	69.8	79.5	4.5
Nigeria (males)				
1952/3-1986	15.0-18.2	39.3	55.3-57.7	4.9-5.5

* Equivalent to the "tertiary sector" – includes all sectors except agriculture, et al, mining, manufacturing and construction.

Sources: ILO yearbook of Labour Statistics, various issues. For Nigeria, 1952-3, Helleiner (1966, Table 1-8B-2). For Chile, 1940, Mamalakis (1986, 198-9, 204-5). For Venezuela, the sources cited in Berry, 2006).

Good employment policy involves identifying, fostering and supporting those economic activities with the best promise for contributing to a good combination of output and employment growth, whether they be tradables or non-tradables, and whether they be goods or services. Those activities may be newly developed ones or ones that can be improved. In any case, success involves raising productivity and the demand for labour. Effective collaboration between the public sector and private agents is essential in this process. On the latter front, valuable assets are innovative capacity, capacity to take risks effectively, good foresight on market trends, etc. Armed with these skills, private agents will identify ways to raise productivity.

Public policy needs to come in in various ways also. Most obviously, it must supply needed infrastructure, as well as macroeconomic stability. It must also engage in R&D when this is too expensive or otherwise unattractive to the private sector. Perhaps less obviously, it should undertake a combination of support and control functions designed to nudge private decision-making in socially desirable directions. The need for this relates to the presence of standard types of market imperfections (a tendency to monopoly behaviour, incomplete and asymmetric information, etc.) that make the objective of private business – maximisation of profits – non-congruent with the presumed societal goals of maximising output while also keeping employment high and inequality low. Private business responds to the profit motive. Under conditions of perfect competition – no externalities, etc. – pursuit of this motive also maximises output. Under other conditions it does not. In no case does it maximise employment. Thus the role of the state is to lean more heavily in the direction of activities whose employment and output outcomes are relatively better than their profit outcomes, since the private sector will develop such activities less than would be socially optimal.

The growth of any economic activity is the combined result of the private resource endowments, including entrepreneurial skills, available to contribute in that area and the support activities undertaken by the state. Where the social benefits of an activity (e.g. employment creation) are significantly greater than the private benefits, the state should be particularly active in providing those supports that it can, helping to identify

potential markets, undertaking research to find better technologies, etc. Some of the sectors which deserve special attention because of their potential to create jobs fall among the non-tradables (e.g. construction) and many are services. Where the state cannot by the choice of its support instruments sufficiently nudge private agents in the right direction, it may, on occasion, have to use the stick rather than the carrot, i.e. impose penalties on activities because of the lack of societal benefits coming from them.

Hirschman's ideas on economic planning are relevant in this context. He emphasised that the combination of a scarcity of entrepreneurial capacity, risk aversion, externalities and other market imperfections made it advisable for policy-makers to take advantage of ways to make the entrepreneur/investor's job simpler and less risky. One was to provide temporarily guaranteed markets. Thus import-substituting industrialisation had part of its logic in the idea that existing import flows identify potential markets and guaranteeing access to them lowers business risks. But the same general logic can apply to other categories of goods and services as well.

The figures of Table 3 suggest that, except for still very agricultural countries, most employment growth will be in services. The interesting questions are 'just how much', 'which services' and 'which non-services'? The answer depends on the relative demand for services as opposed to manufactured goods and also on the degree of externalities and other non-marketed benefits which the production of various types of services provide relative to that of manufactured goods. This issue can be analysed using either aggregate data or microeconomic evidence, and hopefully both. On the former front one searches for patterns in which, say, too little allocation of resources to services (or to certain services), or too much allocation is related to slower overall growth. On the latter, one looks for positive (or negative) externalities from certain activities to productivity in other activities.

It has often been argued that manufacturing produces disproportionate growth benefits. A cursory look at the evidence from our four countries does provide some evidence consistent with this hypothesis, though by no means demonstrating it. As Indonesia conquered its mineral-dependence and sustained fast growth, its manufacturing sector grew rapidly, first mainly in the protected import-substituting category, and later in the export category. Venezuela achieved a large growth of manufacturing employment, from 9%-10% as the oil-based growth began (with much of this artisan in character) to 16&-17% in 1977, just before the growth momentum faded. Thereafter the manufacturing employment share shrunk as the economy stagnated. The government tried to develop new capital-intensive industries but these were for the most part failures and in any case would have contributed little to employment. Nigerian manufacturing never became a significant source of employment; focus on the wrong industries was, as with Venezuela, part of the reason. Chile was the one country which grew well even as its manufacturing employment share was falling (though the output share was not).

Economic logic suggests that the secret of growing out of minerals-dependency is to use the mineral rents well, in the sense of investing them and other resources in growth-producing activities. To the extent that growing manufacturing employment is correlated with overall economic growth, this could imply that most countries do have considerable growth potential in their manufacturing sectors. But the fact that Chile's trajectory did not follow this pattern may reflect the fact that on average the service activities into which employment was flowing were making good contributions to overall growth. The important puzzle is, as noted above, to identify which activities are growth promoters and which are less so. Activities which are or soon become competitive internationally are, other things equal, more likely to be growth promoters than ones which are not. It is thus easier to believe that light manufactures from Indonesia were growth promoting than import substitutes in Venezuela. Each country probably has a range within which its manufacturing output and employment shares

should lie, and can therefore err in either direction. ISI protection appears to have been beneficial in a number of East Asian countries where it was not excessive but performed its role as the route to subsequent export success. But excessive protection (Chile appears to have been an example, as has India, prior to their liberalisations) can imply too much activity in manufacturing.

The experiences of these countries confirms the risks of focus on capital-intensive industries in labour surplus countries and even in ones like Venezuela which are not as labour abundant as many others, and the risk of lodging such activities in the public sector. It is probably possible to do the latter successfully when the incentives and controls are strong, but especially under the influence of abundant rents, this is unlikely to be the case. Often the choice may be between private sector control (e.g. MNCs) which can involve loss of rents from the country (low 'returned value') and waste of rents by inefficient public enterprises. All four countries have dealt with these problems/challenges in some degree, with Chile and Indonesia paying the lowest price and Venezuela and (especially) Nigeria the highest. Chile has invested fewer rents in related industries of questionable appropriateness and in any case was the best placed of the four to get something out of fairly capital- and technology-intensive activities. Indonesia lost some rents to corruption in the oil industry and more generally, and was at some risk of allocating too many rents in high-tech activities (aircraft was Habbibie's dream) that did not hold much promise of success. But when things started to look 'iffy' in that country, the president turned to his teams of qualified technocrats, which led to a reining in of such policies and to the major devaluation.

Two categories of services with special interest are tradables (tourism, computer services, etc.) and services sold to businesses, and hence logically having the potential to raise productivity in those businesses. Though the role of service tradables has not figured extensively in the above recounting of the four country experiences, this is misleading for at least two reasons. First, some services are clearly important to the development of non-service tradables, but the information at hand did not provide the detail needed to measure this role. The rapid increase in employment in the category 'services provided to business' in Chile during its recent burst of growth suggests that they are making an important contribution. Second, international trade in services is large and for some of them growing fast⁹. Such services would therefore be expected to play a more important role in minerals-dependency exit now and in future than they did a few decades ago. This is clearly an area where a better understanding is high priority.

⁹ Lipsey, Robert (2006, 51) reports that in recent years, services trade has been 25%-30% as large as trade in goods, and appears to have been growing at about the same rate, though because of special difficulties in services trade measurement, there is some uncertainty around this 'best guess' conclusion. Since goods trade has been growing relatively fast, a constant ratio between the two means that trade in services has as well. And that from some developing countries and in some categories has been growing much faster than the average.

5 General patterns of growth acceleration¹⁰

One of South Africa's medium and longer run challenges is to emerge from minerals-dependency through creation of an adequate number of remunerative jobs in other sectors. The successful experiences in other countries give clues as to where those other jobs can and will be found. A short- to medium-run goal of South Africa is simply an acceleration of both growth and employment creation, however that may be achieved. With this second objective in mind, it is useful to review the experiences of those countries which have successfully achieved this goal, whether they were mineral-dependent countries or not. How do countries that have been undergoing a period of stagnation or slow growth make the leap to fast sustained growth? A look at several episodes of growth acceleration in developing countries (plus Ireland) over the last four decades or so reveals a number of common or even universal features to those successes (Berry, 2005). The countries included are Brazil, Chile, China, India, Indonesia, Ireland, Malaysia, Singapore and South Korea. Of these, three have been substantially minerals-dependent. Indonesia's take-off was assisted, though not initiated, by the 1970s oil boom, Chile's acceleration episode coincided with its bringing down the level of mineral dependency by greatly expanding its export base, and Malaysia has had a similar experience. Venezuela and Nigeria, included among the four minerals dependent countries analysed above, did not attain growth acceleration when oil revenues rose due to the price hikes of the 1970s and later, although Venezuela did achieve acceleration earlier in the century on the basis of oil. The experiences of these last two countries are nevertheless taken account of here, since they provide a useful reference point of failure to contrast with some of the successes.

Whether one is analysing output level, output growth in general or output growth acceleration, it is helpful to distinguish the direct or proximate determinants and the basic or underlying causes, including policies. In the case of growth the former include changes in the degree of resource or capacity utilisation, the rate of investment or more generally growth of non-labour factors in relation to labour, and the rate of technological change, including efficiency of resource utilisation.

The direct or proximate determinants of labour demand/employment/inequality include the distribution of factors (capital, land and resources, human capital) among people, technology choice, and the way markets and other institutions function. These direct determinants are, as with those of growth, determined by and interact with underlying causes, which include a variety of policies. Changes in distribution are due to changes in these determinants.

Both with respect to growth and to employment/distribution, the structure of causation naturally varies across groups of countries depending on their characteristics. Mineral-dependent countries would therefore not necessarily follow the same paths or face the same challenges as other developing countries, a fact well established in the large special literature on this set of countries. In this summary of results we thus try to take account of how both the growth and the distribution/employment challenges differ between these countries and others.

Some of the patterns which emerge from the study of growth acceleration episodes are quite unsurprising or even obvious (e.g. the increase in the investment rate) whereas others are not (e.g. the prevalence of a clear industrial policy). The same is true of the employment/distributional correlates of take-off – it is unsurprising that employment generally increases but perhaps surprising that inequality typically does

¹⁰ This section is based on Berry (2005), an ongoing HSRC study of growth acceleration in ten countries, due for completion in late 2006.

not. In the following review an attempt is made to both provide tentative interpretations for some of the findings and to distinguish how the process may differ in minerals-dependent and in other countries.

5.1 Investment, capital productivity (the marginal output / capital ratio) and savings

Perhaps least surprising, an empirically universal feature is **a rising investment rate (the ratio of investment to GDP) which eventually reaches a high level**. In nearly all the countries studied this rate got to 25% or more, typically several years into the fast growth period. The **marginal gross output/investment ratio also typically rises markedly** between slow and fast growth periods.¹¹

Related to the efficiency of (payoff to) investment and to its implications for employment is the provenance of the investment (public sector, public enterprise, private, size of firm, etc.) and what kind of investment goods are involved (machinery, construction, infrastructure and human capital, which, as noted, is unfortunately not included in the figures). Several tentative conclusions emerge for the analyses reviewed here. First, public sector investment has been an important component of total investment in a number of the countries experiencing acceleration, i.e. it has been important in the official figures (it would be more so if those figures included investment in human capital). This appears to have been especially true in minerals-dependent economies, since in recent decades governments have been successful in appropriating a historically relatively high share of the rents.

Second, the productivity and employment generation of public investment appears to have varied more than that of private investment, running the gamut from the extremely productive and employment-generating investment in support of the Green Revolution in Indonesia to very low productivity and job-destroying investment in capital-intensive public enterprises in Nigeria and Venezuela. In experiences of acceleration, public and private investment appear generally to complement and mutually enforce each other, leading to a high average payoff to new investment taken as a whole.

Up to a point, this is an obvious conclusion, since if either public or private investment is seriously misdirected then acceleration is unlikely to happen. Where growth has been weak, as in Venezuela from the late 1970s, the payoff to private investment was bad, along with that to public investment. This is partly due to the fact that when the public sector performs badly enough, this creates economic turmoil, raises the prospect of things like capital flight and lowers aggregate demand. It is probably also related to the fact that successful acceleration experiences tend to be supported by reasonably well-articulated industrial strategies (see below). Such strategies would be expected to both improve the complementarity of investment in different directions and also to reassure private capital that the economic ship is being well steered and that the future is positive and predictable. At the other end of the spectrum, badly designed strategies not only waste resources but foster mechanisms that further detract from potential success.

¹¹ A caveat to these conclusions is necessary, given that investment in human capital is not included in the investment data, although in principle it should be. Fortunately, this component of total investment tends to be less volatile than does investment in physical capital, thus the conclusions reached above with respect to acceleration episodes are unlikely to be greatly affected, even though the figures themselves would be changed if one could add this form of investment.

The job-creating impact of investment varies according to the technologies embodied in it, which in turn tend to be related to the type of firm or individual doing the investing. Large firms, whether public or private, tend to use more modern capital-intensive technologies that therefore create fewer job opportunities per unit of capital than the technologies adopted by smaller firms. This is one of the reasons why South Korea's record stands out from almost all of the other ones here. Soon after that country's take-off, a set of exogenous events (devaluation of the won, because of its link to the yen) together with public policy led to a major shift in the locus of new production towards small and medium-sized firms and helped to assure massive job creation. Indonesia in effect invested a lot of its 1970s oil revenues in smallholder agriculture and later undertook policies which fostered light manufacturing exports. Both of these steps were big job creators, so it is no surprise that inequality in that country is one of the lowest of those considered. Chile's policies before and at the time of the take-off would be more accurately described as 'pro-large' (in fact when not in deliberate design), and this may have played a role in the fact that increasing inequality and sluggish employment creation characterised the decade before take-off, so the take-off occurred in a context where job creation on a big scale was less likely.

High investment requires **high savings**. The ratio of gross national savings to GDP rises between slow and fast growth periods, though usually less than the investment rate. In extreme cases like Korea, Singapore and Indonesia, this ratio increased by up to 20% of GDP to reach 30%-40%. Foreign savings in one form or another can in some cases provide an important boost to the growth process, especially in small economies like Singapore and Ireland. In a number of cases (including Singapore and Chile, but probably several others as well), it was private domestic business savings which registered the most rapid increase as the take-off got moving, presumably reflecting rising profits which made the savings possible and good investment opportunities which increased the incentive to undertake them. The distributional impact of rising savings is most positive when small savers participate, something achieved most notably in Indonesia through the BRI. Improving saving and credit access for lower income families encouraged the growth of smaller labour-intensive firms, whose profits then fed into the growing pool of savings. This virtuous circle contributed to employment, equity and growth. No other country appears to have been as successful on this count, though the pension schemes in Chile and Singapore, together with the rising incomes, did encourage savings farther down the income hierarchy than before.

5.2 Trade and the exchange rate

Both growth acceleration and success in minerals-dependent countries usually involve the tradable sector in one way or another. To begin with, a common component of the acceleration process (though less universal than a jump in investment) was a **significant increase in exports**. Their share of GDP rose by 7% of GDP or more in six of nine cases of acceleration to sustained growth. Exports are the usual instrument of take-off in smaller economies, but can play that role even in some large ones (like China) that started out being very inward-oriented. Systematic data are not readily available on how much the production of importables changed – although there is no reason to doubt that it also rose importantly in a number of countries, the lower price elasticity of domestic than of international demand implies that in most cases such increases could not have been comparable to those of exports.

Export expansion is usually facilitated by a combination of a **competitive exchange rate** (the most common element of the policy package) and other supporting instruments.

The competitive real exchange rate is sometimes brought about through devaluation to correct an overvaluation, while sometimes there is a degree of undervaluation,

reflected in a balance of payments surplus as currently in China and earlier in Korea and Singapore. Such a 'competitive' exchange rate has facilitated the absorption of surplus labour and/or pulled excess capacity into use in cases like China, Chile, Singapore and Ireland. Where the growth acceleration starts from a macroeconomic trough, it is to be expected that the extra increase in aggregate demand generated by the devaluation will raise the level of resource utilisation. Even where underutilisation of resources may be less obvious, there is usually a degree of slack that can contribute to the early stages of a boom. Undervaluation and the associated high level and scope of demand across products are also likely to encourage investment and contribute to growth in this way. In Chile there was a dramatic increase in the range of export items after the exchange rate was devalued.

Achieving a real devaluation that sticks (i.e. is not fairly quickly eroded by domestic inflation) is sometimes difficult to achieve. Both whether it is in fact a key component of a good policy package and what other policies may be necessary to secure its success depends on the country characteristics. The successful devaluation which was central to launching Indonesia's manufacturing export boom was partially 'compensated' in the sense that the domestic price of rice – central to people's welfare, a large element in the cost of living index and a potential source of pressure for nominal wage increases – was carefully controlled around the time of the devaluation.

Having a very competitive exchange rate, which may require devaluation, is especially likely to be important in minerals-dependent countries which aspire to lowering that dependency and/or which need other motors than their current mineral export(s) to achieve growth acceleration. Certainly their devaluations were central to the successes achieved by Indonesia and Chile in these regards. Exchange rate management has been important in most of the other countries as well. China has achieved a striking diversity of exports, together with a dramatic growth rate, in part through its undervalued exchange rate. Because a general feature of minerals-dependent countries is the considerable gap between the comparative advantage of the main export(s) and that of other actual or potential exports, a marginal change in the exchange rate may not be enough to bring new tradables (importables and/or exportables) into production.

The employment/distributional implications of exchange rate policy depend on the country's economic structure. The strongest case for a large devaluation is where that will bring into permanent competitiveness a set of labour-intensive tradable goods, as it did in Indonesia. The benefits, while important, were somewhat less in Chile, since few of the new tradables were labour-intensive. Devaluation is also more beneficial if the country is suffering considerable resource underutilisation through weak aggregate demand; this appears to have been a factor in most of the acceleration episodes studied.

In a number of cases it is clear that **export support policies**, from research and development investment to identify and launch new export items to subsidised credit, import duty drawbacks, etc. have contributed to rapid export growth. This is likely to be especially true in countries without a strong trading history, or with respect to goods which have not previously been exported. Such support was an important aspect of the experiences of Chile, Korea, Singapore, Ireland and others. Sometimes it was a continuation of the support provided when the same items were import substitutes. From the employment point of view, it is especially important that such policies be pursued where the tradables in question can generate significant numbers of jobs.

Whether trade reforms aimed at substantially lowering levels of protection and diminishing their variance across categories of products have played a significant role in the acceleration experiences is hard to judge. Most of the countries did have some sort of trade reform before the growth acceleration. Thus Ireland had moved away gradually from its protectionist policies from the early 1950s

on. Chile undertook a massive reform in the mid-1970s and India a significant one in the early 1990s. In Korea, changes in this policy area are unlikely to have been part of the story since (selective) protection was still quite high as the take-off occurred. In the cases of Chile and India there are adherents to the view that these reforms were important for the subsequent growth successes but in no case is the association as clear as for competitive exchange rates. A best guess at this point is that the role of trade reforms in growth accelerations depends a great deal on the type of reform and on the type of country. It may be especially important in small countries like Ireland and Chile, with high previous levels of protection, and where trade reforms may have been integral to a broader range of reforms. The East Asian experiences suggest that reasonably high and differential rates of protection can be beneficial to growth if well designed and implemented. Whatever the bottom line as to the impacts of trade reforms on growth, employment and inequality, the relationship between that policy and exchange rate management should be a focus of attention, and changes in the one should be co-ordinated with changes in the other.

On the employment front, one of the risks of freer trade often lies in the fact that one of the most labour-intensive sectors is traditional smallholder agriculture. When corn imports flooded into Mexico in the early stages of liberalisation, a major negative impact on employment occurred there. Indonesia made sure that this would not happen by implementing a rice price stabilisation programme.

5.3 Macroeconomic management

Macroeconomics matters for a country to accelerate its growth, but the relationship between the two appears to be far from simple. That macroeconomic stability is not a sufficient condition for growth acceleration is probably not surprising since one might easily believe that acceleration would mainly occur under conditions of a high and/or rising level of aggregate demand. Buoyant demand may be required to create a good atmosphere for investment. Investment may be fostered by good access to credit and/or low interest rates, but such demand can cause inflation. High aggregate demand may be the result of a fiscal deficit. Overvaluation can be helpful in restraining inflation but very damaging to growth. One might think of the pursuit of growth acceleration as a venture that is, from the point of view of macroeconomic stability, a risky one. The trick is to understand any trade-offs between growth acceleration and macroeconomic stability, and how to achieve the former with minimum risk of damage to the latter. It is essential to get beyond overly simplistic buzz phrases like 'getting the basics right'. The task is to understand what is more basic than what else and what are the real trade-offs among desirable goals.

Among the acceleration episodes studied, **moderate inflation was a fairly frequent accompaniment** to accelerating and fast growth, though this pattern has had a strong regional dimension. Where inflation was very high during the preceding slow growth period it slowed, as in Chile, Brazil and Indonesia. Where it had previously been slow, it accelerated somewhat (China and Malaysia). The usual range for the fast growth period was 15%-25% per year in Latin America and at single-digit levels in Asia. The evidence suggests that to shift from low to high gear, most economies need a strong level of aggregate demand which has the effect of both raising the efficiency of resource utilisation and, over a period of time, inducing a major increase in investment. If it is true that the level of aggregate demand must be kept high, it is not surprising that a moderate level of inflation might be unavoidable.

Although very low rates of inflation are clearly not a necessary condition for growth acceleration, and may in some cases be a deterrent to such acceleration, **reasonable fiscal balance and macroeconomic conditions** are often a precursor, hence perhaps a true prerequisite of take-off. Having the fiscal and monetary situations under control strengthens business and consumer confidence, thereby inducing

investment and consumer spending and discouraging capital flight. It also allows for higher levels of public investment, which are often an important part of the take-off process, and especially in making sure that it can be sustained, and it gives a government degrees of freedom to iron out short-run fluctuations and respond successfully to shocks, which may, for example, call for an increase in public spending in order to maintain the economy's dynamism. What acceptable fiscal balance means varies greatly from country to country. Brazil's inflation rate never got below 25% in the pre-take-off years, although its fiscal deficit was relatively small, but there was a period of 'putting the fiscal house in order' before the Brazilian miracle began. India, on the other hand, could sustain much larger fiscal deficits (over 8% of GDP) without inflation at the Latin American levels, presumably in part because of the absence of an inflation legacy with built-in indexing mechanisms and the like.

If an undesirably high level of inflation appears unavoidable if growth is to accelerate, how much should one worry that this will have negative employment and/or income distributional effects? To the extent that inflation is simply a reflection of an economy heated up by high demand, this condition should by nature be employment-increasing. Inflation that leads to a modest price-wage lag may even be desirable by raising profits and encouraging investment and expansion that will, with a modest lag, be employment-creating. Early in several acceleration episodes, it was business savings (out of recent profits) that mainly fuelled the ascent. When inflation has a more cost-push character, these optimistic conclusions may not hold. But it is revealing that in none of the acceleration episodes studied did inequality appear to increase. Any negative effects of a price-wage lag when it appears (as in Singapore and Brazil) were apparently offset by the rapid increase in the quantum of employment.¹²

5.4 Labour and education/training policy

The fact that growth acceleration requires rising savings and investment signals caution on wage policy. It is important that profits be adequate both to make investment desirable to firms and also to facilitate their undertaking savings to be used to that end. Thus it is probably not a coincidence that **take-offs tend not to begin in the midst of rapid wage increases**; such increases usually come anywhere from a couple of years to five or more after the growth acceleration. This lag notwithstanding, growth **accelerations seldom lead to increasing inequality**, in spite of a reasonable presumption that they might. In cases where wages behave sluggishly but income distribution does not worsen, it is probable, as just noted, that the acceleration is rapidly absorbing previously underutilised labour. Such a pattern may be especially characteristic of and is certainly more important in labour surplus countries like China and Indonesia which are embarking on export booms in labour-intensive manufactures.

Many minerals-dependent countries have fallen into the trap of paying high salaries in the public sector (including public enterprise), as well as in the export-oriented mineral sector itself. The typical volatility of the export price means that, sooner or later, the cost of those high wages in terms of growth is likely to become high through their eating up potentially investable funds. The level of wages/salaries should thus be determined prudently, with a view to the possibility that future resource rents will be less than present ones.

¹² The common view that inflation tends to worsen inequality comes from studies that are too general to shed light on the specific case of inflation that goes with growth acceleration. Often the causality is from bad growth performance to inflation, with the two together perhaps creating negative impacts on inequality.

Effective education and training policy relates to the objectives of accelerating growth and of overcoming minerals-dependency in somewhat different ways. In the former case, the aim is mainly to assure that human capital scarcities do not cause the acceleration to lose steam. Since accelerations are short-run phenomena, this is mainly a matter of responding to looming scarcities with some agility on the training front. In contrast, both education and training are important to almost any strategy to lower minerals-dependency by broadening the base of comparative advantages and by raising the productivity of the non-tradables sector. A minerals-dependent country can widen that base by drawing in low-wage industries, in which case, though it may be a solution to the growth challenge, it may not help as much on the income distribution front. The more attractive solution is to draw in more skill-intensive activities as and when the skills are fairly general across the population.

Neither with respect to training nor education is it easy to learn from the empirical record how much education and training have contributed to acceleration or to overcoming minerals-dependence. Business' frequent complaints about scarcities have to be translated into economic terms since sometimes they are simply statements of preference to be able to get a given skill at the traditional low price, whereas the ultimate social purpose of the acceleration and of all economic growth is to push that price up by making the skill scarce relative to demand. To my knowledge, there have been no convincing empirical attempts to assess the role of human capital either in growth accelerations or in overcoming minerals-dependency. It is reasonable to guess that Chile's relatively good record on education has been a factor in its export diversification and overall growth. It is clear that education has played a role in the growth booms in Ireland and in a very specific sector in India. But these experiences are either too special (Ireland is a small country starting with relatively high incomes and education) or too limited (India) to permit many useful conclusions. In-depth studies are needed in this area.

With respect to growing out of minerals-dependence, those (perhaps few) countries that fall in Indonesia's category – where the opportunity cost of labour is low enough to make them internationally competitive in quite labour-intensive industries and which are effective enough in policy implementation to achieve it – take the route that Indonesia took. In others, like Chile, Venezuela, Malaysia and Nigeria, human capital formation seems by simple logic to be important. So it would be a mistake for a country to skimp in its total spending in that direction. Beyond that, however, the policy conclusions that can be supported by serious empirical analysis appear to be few. The policy-makers' task in that situation might be assumed to be at least a little simpler when there is an industrial strategy that points the way to some future competencies. But it may be unrealistic to expect a country's usually very glacial policy process in the public education and training areas to be flexible enough to 'fit into' an industrial strategy.

The Chilean experience since the mid-1980s suggests a different dynamic. Consistent with the country's free-market ideology, the market was left to select new areas of tradables production in the context of a very competitive exchange rate. Market incentives were allowed some influence in the education/training process through partial privatisation. Perhaps this approach produced a better roster of human capital than would otherwise have been available. And perhaps the fact that the undervalued exchange rate made many products potentially competitive allowed the selection of those for which the composition of the supply of human capital would not be a serious impediment. Only more in-depth analysis than has yet been carried out could throw some light on what happened in that interesting case.

5.5 What is the role of technological change?

As noted above, process and product technological change is unlikely to play a pivotal direct role in the initiation and playing out of growth acceleration, since the latter is a short-run phenomenon. It may often play an indirect role, since new technologies ('new' to the country or to a group of investors) create investment opportunities. Once in a while, a technological innovation may be so basic that it is in fact the prime mover in a growth take-off. Such waves of new technology are infrequent and do not appear to have been prominent factors in the acceleration episodes studied, with the exception of Ireland where the new information/communication technologies were at the heart of the experience. Since the world is now living in the midst of a major technological wave, it is possible that this factor will be more frequent as a source of take-offs in future.

Developing countries tend not to live on the world technological frontier. Thus, when an acceleration occurs there are likely to be more modern and sophisticated technologies available to the country than those currently embodied in the capital equipment that is wearing out. Though the acceleration may not be occurring because of or at the time of a wave of new technology, the upgrading of technology which goes with investment is highly relevant to the employment and distributional effects of the whole process. If a country is lucky, the first stage of acceleration may simply involve raising capacity utilisation, which creates jobs without destroying any. The introduction of new technology may then be gradual as growth proceeds, in which case there may be no net job destruction.

Under the opposite conditions, there may be considerable job destruction and the take-off could worsen income distribution. Indonesia's experience approximated the first situation, with Chile's closer to the latter. Still, the fact that increased inequality was not a normal accompaniment of take-offs gives grounds to believe that successful episodes do not involve such major and rapid adoption of capital-intensive technologies as to have net labour-displacing effects or to worsen income distribution. Where technological choices involve much labour displacement, the countries have tended not to grow (Venezuela after the 1970s and Nigeria).

While few growth accelerations have relied much on a country's technology policy, overcoming minerals-dependency may. The objective is medium- and long-run in nature and involves raising productivity in a variety of new and existing activities. This objective naturally entails an attempt to identify activities that are candidates for such productivity improvements as to allow them to grow fast. Even in the partial exceptions to this rule, where a new comparative advantage is based on some resource abundance, like unskilled labour, the growth benefits from deploying that resource in the production of tradables (clothing exports from East Asian countries) or non-tradables (construction activities in China several decades ago) eventually run out and sustaining growth further then calls for productivity increase.

Chile is the prime example of a country whose growth acceleration coincided with its leaving minerals-dependency behind, with success on both counts owing a good deal to its pre-take-off technology policy of R&D in promising sectors. These technological advances were big enough to play an important role in growth acceleration by adding important new products to the roster of exports. If one includes improvements in management efficiency under the umbrella of technology, that variable has no doubt played a more important role than can be readily discerned, a role reflected in the rising marginal output/capital ratio that does go with most growth accelerations. Its precise contribution to take-off remains hard to measure.

5.6 Industrial strategy and growth synergies

Growth acceleration has typically been associated with an **economic or industrial strategy that the government pursues vigorously through a variety of instruments**. Traditionally, trade barriers have figured prominently among those instruments, but credit allocation, R&D for new exportables, investment in infrastructure and training, export subsidies and many others make up the typical package. In most cases this industrial strategy also involved a large role for markets and the incentives they provide. Even in Chile, widely regarded as an example of free-market economics at work, the new products that produced the export boom were part of an industrial strategy pre-dating the reforms undertaken by the Pinochet government. That government also provided substantial subsidies to economic agents to encourage export activities.

Accelerations typically involve positive synergies among growth itself and the key contributing factors to it – savings, investment and export expansion. Positive inertia built around those synergies explains much of the pattern in which growth – once it begins to accelerate substantially – continues, unless interrupted by strong negative shocks or impeded by weak policies.

6 Summarising the evidence on employment and inequality fallouts from growth

Because employment and distributional outcomes tend to reflect everything about the associated growth processes, it is convenient to summarise last the evidence on where the new jobs come from and what happens to the levels of inequality and poverty during accelerations or falling minerals-dependency.

A first, perhaps surprising, conclusion is that rather frequently **sectors which act as growth motors do not dominate in anything like the same degree when it comes to job creation.** This is true, par excellence, in the case of mineral exports. After 50 years of determining the course of Venezuela's economy, the oil and closely related sectors still only accounted for perhaps 5% of all employment. Employment in mining per se fell from 10% in Chile in 1940 to 6.4% in 1970, before diversification of exports began in earnest. In Nigeria, oil has accounted for nearly all of exports (96% in 1991) and up to 40% of GDP but less than half of 1% of employment (1986).

While the fact that mining is not a job-creator is well known and easily attributable to its normally high capital intensity, one might expect that export booms in other products would be more likely to play a major or dominant role in job creation. But in a range of experiences ranging from the rising competitiveness of Indonesia's biggest tradable – rice – through Chile's, China's and Mexico's fast growth of manufactured exports in recent decades, the accompanying employment fallout has been much less. Thus, as Chile's manufacturing output grew at 6% over 1987-2003, while employment stagnated and the sector's employment share fell significantly.

These superficially anomalous outcomes are in part the result of a natural aspect of the growth process, an aspect that is most marked when growth is occurring through expansion of exportables and/or importables. One reason, often the main reason, that a sector grows faster than the rest of the economy is that its productivity is riding faster, giving it a leg-up in the ongoing competition for space in the market. Investment in technological upgrading is high, old-technology firms are dropping out, etc. Often the increase in productivity is most notable in labour productivity. In any case, the predictable result is that when a sector grows atypically fast, there will also be an atypically large gap between its output growth and its employment growth. There is no general reason to believe that this combination of outcomes is an inefficient or undesirable one. But it is important because it suggests that, sectorally speaking, output growth does not translate into employment growth of comparable dimensions. The majority of employment growth may not come from the sectors driving economic growth. In the common case of accelerating growth episodes or countries growing out of minerals-dependency, this general feature of differential growth across sectors tends to follow a pattern in which much of the output growth occurs in the tradables sector but much of the employment growth occurs in the non-tradables sector. This constitutes the most general reason why the employment challenge is not the same as and must not be confused with the growth challenge.

It is perhaps especially infrequent that agriculture be both a motor for output growth and a large generator of additional jobs. This is due in part to the income inelasticity of demand for agricultural output as a whole. When productivity increases, it is predictable that employment will either decrease (as it does in the long process of economic development) or will grow much less. Although the dynamism of smallholder agriculture in Indonesia was a fine thing and raised the incomes of many low-income families, its positive impact on employment was indeed much less and did not last very long. In more typical cases like Paraguay, where soya exports have risen rapidly in the last couple of decades, this item comes from large capital-intensive

farms whose expansion is on balance very employment-reducing. This pattern tends to hold in most cases where exports come from large farms.

Growth of manufactured exports can be faster than is the norm in agriculture since income elasticity of demand is higher, but as noted, fast growth is frequently associated with rapid increases of productivity. The rapid expansion of light manufactures from various Asian countries like Taiwan and Korea is a partial exception to this rule, but one which appears to be limited to low-income, low-wage countries. It has not happened in Chile, Mexico, Malaysia or other middle-income countries.

Sectorally, then, one must recognise that there are good general reasons why employment growth will be concentrated in services in all but a very unusual set of countries. In minerals-dependent economies it is inevitable that employment will be increasingly concentrated in services. And even during exit from that state, when one might guess that this would be less true, it does not appear to be significantly so. Once in a while, a significant part of that employment growth will occur in service tradables, as with the software industry in India and off-shore accounting in a number of countries. Sometimes it is associated with temporary emigration, as with maids from Sri Lanka and the Philippines. In the former case the impact on women's wages in Sri Lanka seems to have been very positive.

7 Some possible implications for South Africa

South Africa is both minerals-dependent and in need of acceleration to sustained high pro-poor growth. It should not be satisfied with a GDP growth of 4% but should aspire to 5% and preferably 6%-7%. Drawing useful lessons from the experiences of either other minerals-dependent countries or growth-accelerating ones requires taking into account their similarities and differences with South Africa. Of the cases discussed above, Indonesia and Chile are success stories both in terms of achieving fast growth and of growing out of excessive minerals-dependency¹³, while Venezuela and Nigeria are failures on both counts.

South Africa's 2001 per capita GDP of 4,208 (1990 international dollars¹⁴) places it well below Chile (10,001) and Venezuela (8,507), a distance above Indonesia (3,256) and far above Nigeria (1,157). Its levels of inequality and dualism are probably greater than in any of the four. Its human capital and entrepreneurial base, while narrow for historical reasons, probably puts it closer to the two Latin countries than to Indonesia. The quality and stability of its macroeconomic management and the development of the financial system are closer to Chile than to any of the others. These various considerations should be borne in mind as one tries to draw the lessons for South Africa from the experiences outlined above. Other relevant considerations to bear in mind include the facts that:

- i) South Africa is a middle-sized developing country, distinguishing it clearly from cases like Singapore and Ireland on the one hand and from China and India on the other.
- ii) As is commonly the case in highly dualistic economies, South Africa has a well-developed modern economy and a sizeable informal economy but lacks a large and vibrant middle sector of small and medium firms. One of the greatest challenges will be to rectify this imbalance gradually.
- iii) The country is a regional economic power, whose trade with its lower-income neighbours is expanding. While this will foster some modern sectors in South Africa, it will probably work against high levels of employment creation in labour-intensive industries.

7.1 Considerations in drawing lessons for South Africa from other-country experiences

The timing of growth accelerations achieved in the past is a matter of interest since the conditions, opportunities, mechanisms and policy instruments available change over time. Globalisation, defined in terms of rising trade to GDP ratios, should *ceteris paribus* increase the opportunities of countries to use export booms as the vehicle for economic acceleration. On the other hand, countries which employed infant industry protection to good effect in the past, either together with strong export promotion (as in Korea) or with only moderate export promotion (as in Brazil) would have greater difficulty in doing so now, if indeed they could do so at all. The exchange rate takes on added interest as a tool for acceleration in countries currently looking for export-based take-offs given that trade policy as a component of such a growth strategy is hampered by the declining policy space countries now have under the WTO rules and

¹³ A few of the other growth accelerators also significantly increased natural resource dependency in the process, e.g. Brazil.

¹⁴ That number of a country's currency units that have the same real purchasing power as a dollar had in the US in 1990 is said to be equivalent to a 1990 international dollar.

the tariff reductions which they have accepted. The exchange rate can still be used as a broad tool to encourage the production of tradables and as a way to increase aggregate demand and overall resource utilisation. Whether it is a tool with much potential undoubtedly varies from country to country depending on key aspects of economic structure, but there are probably few countries in which its potential does not warrant careful study. Other instruments of industrial policy have also taken on greater importance as the trade instruments have waned.

South Africa must look to increased exports as one of the most likely sources of a growth take-off. But South Africa cannot count on an export expansion to provide an easy answer to its employment challenge. In light of the cautionary messages of the experiences reviewed, it cannot assume that regardless of the form it takes, the benefits of such an export boom will quickly 'trickle down' through the population. The more the exports can be tied directly to employment-creation the better. To the extent that this cannot be achieved, other policies will need to channel some of the export-based income gains in other employment-creating directions.

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