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What is the role of manufacturing in boosting economic growth and employment in South Africa?

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There is a widespread view that countries no longer need to industrialise in order to develop. However, in South Africa manufacturing remains the core driver of GDP growth and direct employment while other sectors – particularly many services sectors – are likely to increase employment on the basis of growing demand flowing from a growing GDP. A nuanced understanding of the direct and indirect linkages through which diversified manufacturing growth can boost economy-wide employment is essential.

Introduction

As South Africa ponders its chronic unemployment problem, it is useful to set out a framework for thinking through the contribution of the manufacturing sector to growth and the generation of employment. There is a widespread view – held more strongly before than after the global economic crisis and ongoing recession – that the global economy has achieved a ‘post-industrial’ state in which development does not rely on industrialisation. Evidence cited in support of this view is the large and growing share of production and employment accounted for by service sectors in most advanced and many developing countries.

In this article I argue¹ that, in South Africa, manufacturing continues to be the key driver of rapid economic growth and the associated creation of employment, both directly and indirectly. A biological metaphor may be useful. While the largest human organ is the skin,

¹ The views expressed are the author’s own and not necessarily those of the Department of Trade and Industry.

few would argue that this renders key organs like the heart and lungs of secondary importance. There is considerable accumulated evidence that manufacturing still functions as the heart of the economic development process.

Manufacturing and growth: international evidence

It is useful to consider some long term statistical evidence. The high-profile 2008 Commission on Growth and Development (World Bank & Commission on Growth and Development, 2008) identified common features of countries that have achieved 'episodes of high and sustained growth' since the end of World War II. Such a period is defined as being one of uninterrupted growth, in GDP per capita, in excess of 7% per annum for 25 years or more. Ten of the thirteen success stories were cases of manufacturing-led growth: Brazil, China, Indonesia, Japan, the Republic of Korea, Malaysia, Singapore, Taiwan, China and Thailand. The three exceptions are small, single-commodity exporters (Botswana and Oman) and Hong Kong, a small financial offshore centre. Two additional countries are potentially on track to achieve high and sustained growth: India and Vietnam, both of which having recorded rapid industrial growth up to the 2008 global crisis.

These countries have not achieved rapid industrialisation by chance, but by deliberate policies that oriented their private corporate sectors to rapidly raise the level and diversity of manufactured products. The types of support included protection from foreign competition in the domestic market, incentives to export and the extension of various forms of concessional finance (Amsden, 2003; Reinert, 2008; Studwell, 2013). Interest and exchange rate setting as well as capital allocation policies were frequently geared to promote industrialization; so too were their policies concerning infrastructure and skills development.

Understanding the channels through which manufacturing growth has an impact on economy-wide growth – and employment in particular – is essential for considering how manufacturing can mobilise higher growth and employment creation in South Africa. Nicholas Kaldor – a protégé of Keynes – developed a set of hypotheses or stylized facts to explain the central role of manufacturing in the process of economic development. He argued that manufacturing demonstrates a unique characteristic: the capacity to generate 'dynamic increasing returns'. That is, manufacturing not only has the potential to increase its output more than proportionate to the increase in inputs (i.e. increasing returns to scale), but also: the faster the rate of growth of output in manufacturing, the faster the rate of

growth of both manufacturing and economy-wide productivity (dynamic increasing returns) (Thirlwall, 1983).

A number of researchers have tested Kaldor's hypotheses across and within a range of developing countries, including South Africa (Dasgupta & Singh 2005; Millin & Nichola 2005; Wells & Thirlwall 2003). They find that manufacturing indeed displays a positive correlation with GDP growth while other primary and tertiary sectors generally do not. This implies that manufacturing is the core driver of GDP growth and employment while other sectors – particularly many services sectors – are likely to grow on the basis of the growing demand *derived* from (and resulting from) an increasing GDP. Thus growth and employment in most services sectors *follow rather than lead* growth in GDP.

The highest rates of GDP growth in South African history were achieved between the end of WWII and the mid-1970s, when real manufacturing growth was 2.6% higher than real GDP growth (7.3% versus 4.7% respectively). This period also coincided with rapid growth in employment in the formal manufacturing sector: 4.2% compound annual average growth per annum between 1948 and 1975 (versus 0.5% and -1.5% for the 1976-1993 and 1994-2012 periods respectively).

This means that we ignore the role of manufacturing in South Africa's economic development process at our peril. However, the role of manufacturing in stimulating employment specifically – directly and indirectly – is complex and requires careful analysis. This is particularly so in the light of major changes that have occurred globally and in the domestic economy over the past three to four decades, as well as specific structural characteristics of the South African economy.

Post-apartheid integration into the global economy

South Africa's reintegration into the global economy since 1994 did not occur in the same way as the route taken by many countries that were economically successful after WWII. The latter secured their domestic markets while simultaneously pushing manufacturing firms to export. In contrast, in South Africa it was reasoned that distortions in various product and factor markets were at the core of the poor performance in the late-apartheid period; these necessitated the extensive liberalization of product and capital markets. Hence, trade was heavily liberalized, long-term capital left the country (inter alia through offshore listings) and short-term capital inflows were encouraged to plug the ensuing gap.

However, while the processes of globalisation introduced many opportunities for developing countries to accelerate their development through more rapid integration into the global economy, it also made markets more vulnerable and introduced many economic shocks.

One such shock was the sudden doubling of the global labour force during the 1990s from around 1.46bn workers to around 2.93bn workers, led by the massive increase in participation in global trade by China, India and the ex-Soviet bloc (Freeman, 2006). This placed considerable strain on the growth of employment in manufacturing elsewhere, particularly in countries that have not meaningfully implemented the kinds of coordinated manufacturing support policies outlined above.

Another example of a shock has been the exponential increase in the stock of global financial assets coupled with the rapidity with which they can be moved between countries and the associated ability to distort prices (such as exchange rates) over sustained periods of time. Long periods of currency overvaluation and volatility have had a deleterious effect on employment potential in low-skilled labour-intensive manufacturing sectors in South Africa.

Tracing the employment linkages from manufacturing: a more nuanced approach

A far more detailed appreciation of South Africa's industrial structure is needed in order to trace the potential for direct employment gains within manufacturing itself, as well as its potential to stimulate indirect employment. The stock observation that, on aggregate, South African manufacturing is capital intensive tends to obscure rather than assist in identifying policy responses to increase manufacturing employment. A better approach is to scrutinise and categorise sectors in ways which uncover the different relationships between capital investment and employment as well as constraints to greater job creation. Three major categories of manufacturing can be identified in South Africa.

First, there are sectors which are by their nature capital intensive. These generally comprise the capital- and energy-intensive 'Minerals-Energy Complex' sectors which convert primary resources into semi-processed ones (Fine and Rustomjee, 1996). These sectors, which include steel, chemicals and aluminium, enjoy considerable monopoly pricing power. Due to economies of scale, there is little scope to substitute labour for capital. The role of these sectors with regard to employment is less to create employment directly as such, but to enable greater employment in sectors that are medium and highly labour-intensive by supplying intermediate inputs to them at competitive prices. This would also ensure that the

underlying advantages of the country's resource endowments are passed on to a broader group of sectors, employees and consumers.

A second group of sectors comprises those in which capital and labour are complements rather than substitutes. For example, in sectors such as the fabrication of metals and plastics or capital and transport equipment there is no contradiction between increasing levels of fixed investment and employment intensity – employment rises as capital investment rises. Substantial parts of the agro-processing sector also exhibit this trait. In addition to promoting greater investment in agro-processing, it is necessary to increase agricultural output and exports. This will stimulate agricultural employment directly *and* provide higher levels of feedstock for further local processing. Parts of the automotive value chain also have significant scope to raise employment in conjunction with increased investment. This includes increasing the volume of the vehicle assembly segment (which is highly capital intensive) while simultaneously increasing the breadth and depth of domestically produced automotive components (which generally are much less capital intensive than assembly). Similarly, the manufacture of components for the renewable energy sector provide opportunities to raise employment.

The third group of sectors under discussion are those which are intrinsically labour intensive, such as the production of clothing and footwear. These are the most challenging sectors in the context of the massive global increase in unskilled labour and hence competition from imported, low-priced labour-intensive goods – coupled with South Africa's pervasive problem of extended periods of currency overvaluation. (One must also note that countries such as China have been able to offer very low wages in industries like clothing because the wages are counterbalanced by the more extensive provision of 'social infrastructure' than in South Africa; this includes cheap housing close to the source of employment, cheap public transport and affordable health care.)

This does not imply that no employment gains can be made in these sectors. Targeting higher quality, reliability and shorter delivery times is one of the strategies currently pursued and which have helped to arrest the decline in employment in these sectors. In the medium to long term, improved public transport and better industrial planning that locates light industry near affordable housing and other amenities are part of the solution. China's recent move to begin 'rebalancing' its economy towards being less reliant on exports and more on the domestic market – including allowing significant appreciation of the currency and rises in wages – has also begun to open up more breathing space for these sectors.

The relationship between manufacturing growth and employment in services

A more rapidly growing manufacturing sector can also play an important role in indirect employment. In addition to the well-known role of stimulating backward linkages to primary sectors, growth in manufacturing also promotes growth and employment in services sectors. The evidence from the testing of the Kaldorian hypotheses suggests that this occurs predominantly through the stimulatory effect on real national income and the associated derived demand that is then generated for the bulk of non-tradable services (whilst recognising that certain tradable services like tourism and IT have stimulatory potential). Rising national income as the driver of services growth and employment is fundamentally more sustainable than when the growth of services is fuelled by increases in household debt levels.

Largely following the pattern in the USA and UK, South Africa's growth since 1994 has not been underpinned by expenditure that is due to rapidly rising incomes (except for the very highest income earners), but by rising levels of household debt, most notably during the 'mini boom' of 2004-2008. The short-term capital inflows that fuelled the overvaluation of the currency during this period were an important part of the credit extended for rising debt-based consumption. The flip side of overvaluation of the currency was that it fuelled a flood of cheap imports which hurt employment in the manufacturing sector. As a result, employment gains in debt-driven service sectors were insufficient to make any serious dent in unemployment over this period.

Further increases in the levels of household debt – currently over 70% – cannot be sustained. Unlocking the further growth and employment potential of services requires the revitalization of the manufacturing sector so that real national income can be raised.

Conclusion

Manufacturing plays an irreplaceable role in driving growth and economic development. South African manufacturing continues to be heavily dominated by resource-processing sectors that are capital- and energy-intensive. A structural shift towards higher growth in more value-adding and higher labour-absorbing manufacturing sectors is essential for South Africa to shift to a development path which generates more growth and higher levels of employment. A better understanding of the direct and indirect channels through which diversified manufacturing growth can maximize economy-wide employment – particularly in relation to the services sector – is essential to inform appropriate policy choices.

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