Anchoring Growth and Employment: The Interaction between Manufacturing and Services in South Africa

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Contextual issues

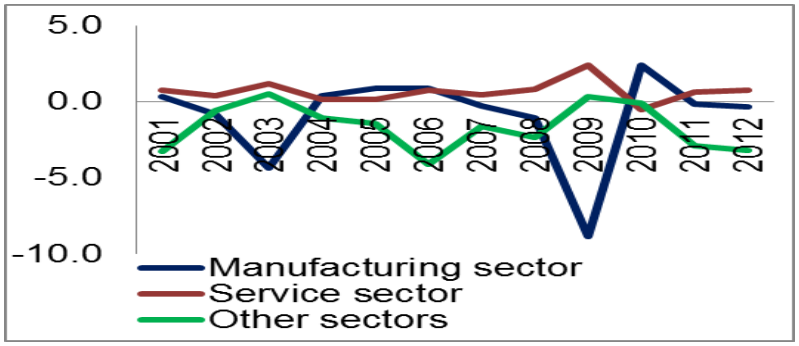
- Since the global financial crisis, SA's growth has lagged, aggravating its structural problems of high unemployment and inequality
- Government has adopted the NDP in 2012 in order to address these structural challenges
- This requires tackling growth constraints and ensuring further coordination of sectoral policies in parallel
- The current industrial policy identified manufacturing as a key marker for growth and employment driver. Yet the sector itself is no longer a major source of employment creation internationally
- The interaction between both sectors has serious implications for the country's industrial development, and would therefore need to be carefully explored
- In this paper, we assess the relative importance of manufacturing and service sectors in achieving long term growth and employment objectives in South Africa
  - In which sectors of the economy will future growth and employment emerge?

Underlying theory

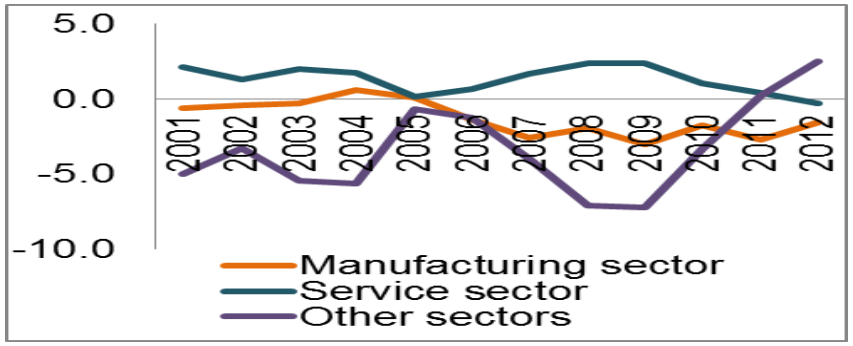
- There are three reasons why manufacturing itself is no longer a major source of employment creation internationally:
  - Final demand will increasingly shift to services as income grows, thereby raising the share of employment in service industries (Colin Clark, 1951)
  - The shift will result in greater productivity growth and competitiveness (Baumol, 1967, 2001)
  - The final explanation of the rising share of employment in the service sector focuses on the inter-industry division of labour; arguing that manufacturing industries increasingly outsource their service activities to firms specialized in the provision of such service
- What is data telling us?

Manufacturing and service sectors in SA

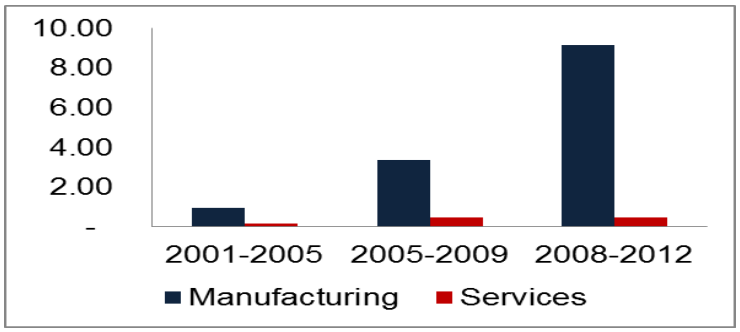
Change in share of GVA



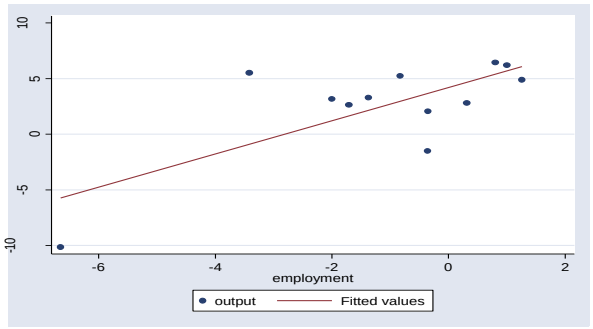
Change in share of employment



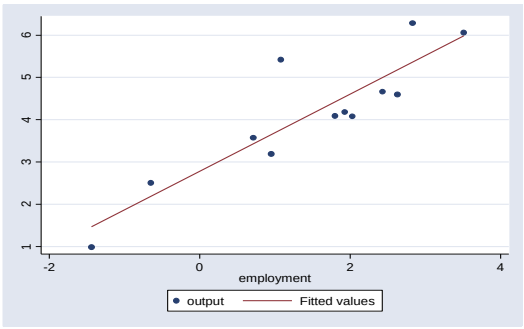
Volatility in GVA



Manufacturing



Services



- There has been a marked shift in the structure of South African economy, driven by the more rapid growth of services sectors, rather than a contraction in manufacturing output
- Evidence suggests that pro-poor growth seems to coincide with low variability in output and vice-versa
- Nonetheless, both sectors exhibited a strong positive correlation in both output and employment

Model specification and data

- We use a reduced form of model of Kaldor's alternative specification of Verdoorn's Law in order to analyse the relationship between output and employment.
- Verdoorn's Law and Kaldor's alternative version of Verdoorn's Law can be specified as follows:

$$p_{ti} = \beta_0 + \beta_1 y_{ti} \text{.....(Verdoorn's Law)}$$

$$e_{ti} = \beta_0 + \beta_1 y_{ti} \text{.....(Kaldor's version)}$$

- We estimate the long run relationship between employment and output in levels instead of growth rates.
- We use quarterly data over the period 2000Q1-2013Q3. Seasonally adjusted real value added from SARB is used as a proxy for real output. Employment is sourced from the Statistics South Africa

Unit root test

- In general, both the ADF and KPSS test indicate that all variables are non-stationary in levels and stationary in first differences, thus confirming that all the variables are integrated of order one (I(1).
- Given the all variables are nonstationary and integrated of the same order; we investigate short run and long run dynamics in a VECM framework

Variable	**ADF**		**KPSS**		**Conclusion:**
	t-statistic (constant)	**t-statistic (constant and trend)**	**t-statistic (constant)**	**t-statistic (constant and trend)**	
Y^m	-1.54	-2.38	0.80**	**0.15****	Non-stationary
ΔY^m	**-4.76***	**-4.77***	**0.12**	0.05	Stationary
Y^s	-1.61	-0.50	0.88**	0.18**	Non-stationary
ΔY^s	**-3.44***	**-3.79***	**0.30**	0.12	Stationary
E^m	-2.66	**-2.06**	**0.59****	**0.18****	Non-stationary
ΔE^m	**-5.71***	-5.85	**0.25**	0.05	Stationary
E^s	**-0.38**	-1.98	**0.86****	0.12	Non-stationary
ΔE^s	**-3.90***	-3.85	**0.058**	0.055	Stationary

Cointegration results

Johansen cointegration tests: Trace test

	Manufacturing			Services		
H_0	Trace statistic	P-value	5% Critical value	Trace statistics	P-value	5% Critical value
$r = 0$	28.43	0.024	25.87	30.30	0.0131	25.87
$r \leq 1$	**7.83***	**0.266**	**12.52**	**6.44***	**12.52**	**0.407**

Manufacturing: $E^m = -0.12 + 1.08Y^m - 0.002t + ec_{t-1}$

Services: $E^s = -1.72 + 1.25Y^s - 0.0018t + ec_{t-1}$

In the long run, employment and real output are positively related in both sectors.

- The elasticity of employment with respect to real output in the services sector appears to be greater than that of manufacturing.
- A 1% increase in real output in the services sector results in a 1.25% increase in employment compared to 1.08% in the manufacturing sector.

- However, employment in the services sector adjusts at a faster rate (i.e. 0.7% per quarter) compared to the manufacturing sector (i.e. 0.4% per quarter). This further suggests that when employment is in disequilibrium due to external shocks, manufacturing employment will take longer to return to its equilibrium level.

Conclusion & Recommendations

- in the long run, employment and real output are positively related in both manufacturing and service sectors
- However, the elasticity of employment with respect to real output in the services sector appears to be greater than that of manufacturing
  - South Africa's widened exposure to the rest of the world has not in itself induced the necessary structural changes in the economy to significantly alter the export basket beyond the range of products that reflect South Africa's static comparative advantage in mineral resources and commodities
  - foster future growth and employment potential of manufacturing, a structural shift towards higher growth in more value adding and higher labour absorbing manufacturing sectors which are more pro-poor is required
  - At the same time, a more rapidly growing community, social and personal services, business services as well as wholesale and retail services sub sectors can unlock the future growth and employment potential of services
- Future research to better understand the direct and indirect channels through which South African manufacturing growth can impact on economy-wide growth, and stimulate employment creation in the services sector

THANK YOU