PRODUCTIVITY ISN'T THE PROBLEM:

Wages, productivity and labour's declining income share

Philippe Burger investigates suggestions in the media that labour relations are precarious in South Africa, with widespread mistrust between business and labour leaders. This is an edited, non-technical version of his presidential address to the 2014 annual general meeting of the Economic Society of South Africa[1].

Business leaders complain about expensive labour and business-unfriendly labour legislation, while labour leaders complain about persisting inequality. Macroeconomic data indicate that labour's share in gross value added (GVA) has declined significantly during the two decades following the first democratic election in 1994. The question is: "Why did labour's share decrease?"

While GDP calculates national income from the expenditure side of the economy, GVA calculates national income from the production side of the economy. GVA is equivalent to GDP excluding net taxes on production and products. It is comprised of two components: labour remuneration and the gross operating surplus, which is capital's share in GVA.

With the ownership of capital (and thus income from capital) being more concentrated than salary and wage income, one might therefore expect that the falling share of labour and a rising share of capital in GVA contribute to growing income inequality.

International studies indicate that the decline in labour's share is not unique to South Africa. Indeed, it has been a general trend in most OECD (Organisation for Economic and Co-operative Development) and many emerging market economies for the past three decades. In 26 of the 30 OECD countries, labour's share fell. The OECD reports that, while the median labour share in OECD countries was 66.1 percent in the early 1990s, it dropped to 61.7 percent in the late 2000s. The fall in labour's share of income has been more pronounced in emerging market economies. Even China has seen a significant fall.

Why has labour's share of national income decreased?

Various contributors suggest that this shift is partly due to large and significant technological changes, particularly in information technology. These changes increased the productivity of capital relative to that of labour, hence contributing to a decreasing share of labour in GVA and stagnant or slow-growing wages. In OECD countries, about 80 percent of the drop in labour's share can be ascribed to technological change that caused companies to substitute capital for labour.

Another 10 percent originates from increased global competition that sees companies moving parts of their value chains offshore to benefit from low-cost labour in predominantly emerging market countries. The OECD argues that offshoring has undermined the bargaining position of lower skilled workers in particular. This, together with decentralisation in labour market bargaining structures in many countries, contributed to a lower labour share.

Indeed, because the income of the average capital owner in OECD countries exceeds the income of the average wage earner, there is a strong correlation between the advance of inequality and the fall of labour's share in GVA.

However, technology and globalisation are not the only factors. In its empirical analysis, the International Labour Organisation (ILO) considered the impact of financialisation, globalisation,

technology, and labour market conditions such as declining union density and deteriorating collective bargaining mechanisms.

In developed countries, all four contributed to the deterioration in the share of labour, with financialisation contributing 46 percent, while globalisation (19 percent), technology (10 percent) and labour market conditions (25 percent) contributed to a much smaller extent. In developing countries, technology somewhat improved labour's share (the ILO ascribes this to "technological catch-up"), but this was more than offset by the negative effects of financialisation, globalisation and weaker labour market institutions. Again financialisation contributed the largest part.

The discussion below will argue that financialisation and more aggressive returns-oriented investment strategies applied by, for instance, large investment institutions translated into higher required rates of return on capital, which in turn caused an increased implementation of capital-augmenting labour-saving technology that reduces labour's share in income. A falling share of labour in income also means, by definition, that real wages increase at a slower rate than average labour productivity. Contrary to views frequently expressed in the popular media, productivity has indeed increased faster than wages in South Africa.

LABOUR'S FALLING SHARE IN SOUTH AFRICA

In South Africa, the share of labour remuneration in GVA was 56 percent in 1993, while that of capital (gross operating surplus) was 44 percent. Labour's share subsequently declined to 48 percent in 2008, before improving to 52 percent. Prior to 2008, and with the exception of the recessionary period in 1998 and the near-recession in 2003, the real percentage increase in the rand amount of GVA allocated to capital exceeded that of labour. This has turned around since 2008, i.e. after the onset of the international financial crisis. Nevertheless, over the full period, the rand amount allocated to capital increased at a higher rate than the amount allocated to labour.

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The agricultural sector is excluded from the GVA, labour and capital shares data below, both because of the volatile, seasonal nature of the sector and because the data used in this analysis exclude it.

In addition, the general government sector is excluded because the profit motive of firms and government differ and to ascertain whether or not the improved share of labour since 2008 was due to the government spending more on labour. Excluding government does not affect the decreasing trend in labour's share prior to 2008 or the slightly improving trend after 2008.

However, the picture changes when considering the implications of data from manufacturing. It would be no overstatement to say that the manufacturing sector has been imploding, particularly since the advent of the 2008 recession. South Africa has been de-industrialising since the mid-'90s, but the speed of this increased significantly since 2003. The real percentage change in the manufacturing sector's gross value addition to the economy turned negative since 2008, while the share of manufacturing in the total GVA of the economy shrank from 21 percent in 1994 to 11 percent in 2013. None of the other sectors in the economy display such deterioration. The South African manufacturing sector is not unique in this instance. Several emerging market economies (including China) suffer from what Dani Rodrik terms "premature de-industrialisation".

The fall in manufacturing's GVA affected its profitability significantly, with its gross operating surplus deteriorating since 2000. Indeed, the rand amount of GVA allocated to the manufacturing sector's gross operating value has been shrinking in real terms by between 10 and 23 percent per annum since 2008.

And yet, the amount allocated to labour in the manufacturing sector remained positive on average. This means that, in real terms, those still employed in the manufacturing sector are better off and labour's share in the manufacturing sector's GVA increased.

However, this is an improving share in a shrinking sector. Once the ailing manufacturing sector is subtracted from the GVA figures, the improved labour share in GVA since 2008 disappears and *labour's share displays a continuing deterioration over the two decades, while capital's share displays a concomitant continuing increase* (Figure 1). ››

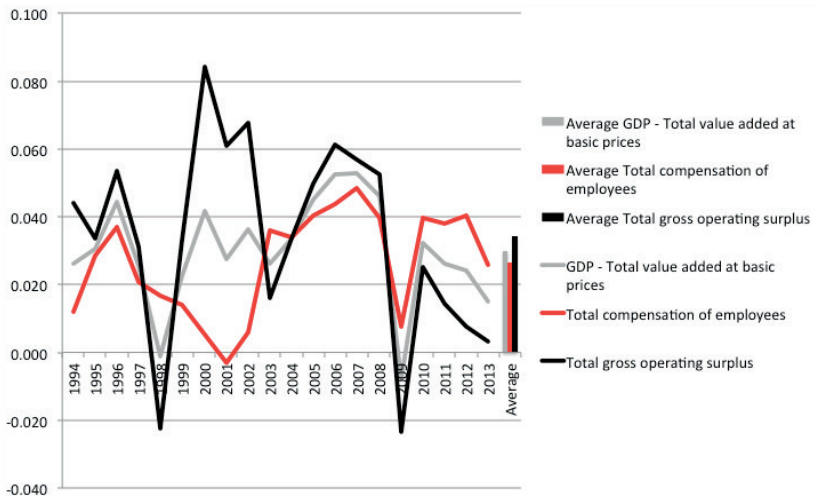

Figure 1. The real percentage increase in GVA and the amounts allocated to labour and capital

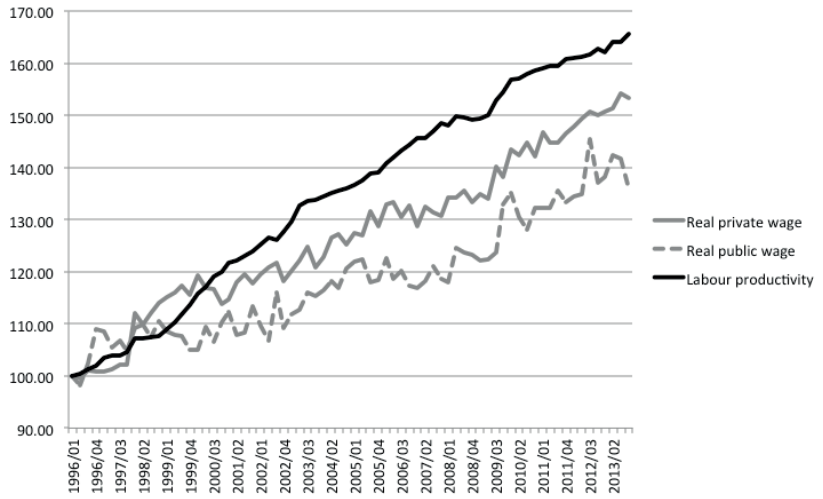

Figure 2. Labour productivity and real wages

The overall fall in labour's share raises a new question: which sectors contributed to the fall? In the mining sector, with its significant labour market turmoil since 2012, there has been negative real growth in the GVA allocated to capital and a positive growth in the allocation to labour. A similar pattern emerges for the recessionary periods in 1997 and 2009, as well as 2003 (when the rand appreciated significantly, thereby undermining mining income and profits).

During the commodity boom years of 2004–8, in contrast, both the amounts allocated to capital and labour increased significantly in real terms, although the amount allocated to capital increased much more. A similar pattern emerges when considering the full two decades. On average, the amount allocated to capital in the mining sector has grown at almost double the rate compared to that of labour.

With the exceptions of the electricity, gas and water, and the finance, real estate and business services sectors, the amount allocated to capital increased faster than the amount allocated to labour in all other sectors, thereby contributing to a falling share of labour and an increasing share of capital in GVA. Electricity, gas and water, even though it is a corporate sector, is dominated by parastatals and hence not subject to the same investor pressure to maximise profit as the other sectors. The financial sector is an exception because it includes highly remunerated individuals, such as portfolio managers, who earn bonuses.

Econometric analysis of the relationship between GVA, labour compensation and gross operating surplus done for this article, confirm the patterns observed above.[3] The analysis shows that a 1 percent increase in GVA leads to a 1.12 percent increase in gross operating surplus. In contrast, the same increase leads only to a 0.68 percent increase in labour compensation. These results confirm the respectively rising and falling shares of capital and labour in GVA.

WAGES, PRODUCTIVITY AND CAPITAL

Economic theory suggests that, when labour's share in GVA is falling, average labour productivity (calculated as GVA divided by the number of workers) increases faster than real wages. Data from the South African Reserve Bank indicate that labour productivity indeed increased faster than both public and private sector wages. Surprisingly, given what is often reported in the press, public sector wages increased slower than private sector wages. In the 18 years depicted in Figure 2, labour productivity increased by 66 percent, real private sector wages by 53 percent and real public sector wages by 47 percent. (Figure 2)

Economic theory also suggests that the combination of a shrinking labour share and wages increasing slower than productivity can be explained by technological change that augments the productivity of the physical capital used in the production process.

There are three types of productivity-enhancing technological progress: capital-augmenting, labour-augmenting,

and total-factor-augmenting (i.e. labour and capital together).

A further distinction should be made between two types of capital-augmenting technology. In the first, physical capital and labour are "gross substitutes", which leads to companies substituting capital for labour and, subsequently, to a falling share of labour in GVA. Such technology is therefore *capital-augmenting labour-saving* technology. In the second, capital and labour are "gross complements" and the augmentation of capital's productivity through technological improvements increases the demand for labour faster than the demand for capital. As a result, labour's share in GVA will increase, even though it is capital's productivity that has been enhanced. In the South African economy, labour's decreased share suggests progress in capital-augmenting labour-saving technology.

Furthermore, average labour productivity will increase faster than wages in this situation. Accordingly, the percentage change in average labour productivity cannot be used as a one-for-one indicator to establish how much real wages should have increased.

BARGAINING POWER OF LABOUR AND CAPITAL

In addition to the role of technology, changes in labour power can also explain a falling labour share in GVA.

In a 1999 article called "Democracies pay higher wages", which focused on manufacturing, Dani Rodrik showed that wages in democracies are usually up to 50 percent higher than in non-democracies. Political participation and political competition strengthen labour's bargaining position and income is shifted from capital to labour. As a result, labour has a higher share in income. He also cites evidence of wages growing faster than productivity during times of political transition. This has not been the case in South Africa.

According to Rodrik, three factors – apart from labour productivity – determine wages:

- labour's relative bargaining strength (e.g. through unions)
- labour's income options outside the private market economy (e.g. public sector employment and the informal sector, both affecting the lowest wage for which workers are willing to work)
- capital's outside income options (e.g. investing in another country). Should the return on outside options increase, it puts downward pressure on the share allocated to labour.

Globalisation and financialisation – with the latter's associated increase in aggressive returns-oriented investor institutions – indicate stronger outside income options for capital. If financial investors have better outside options, the required rate of return on capital increases. The higher rate of return that shareholders require (or what is the same thing: a lower saving rate at any given rate of return), will result in a reduced capital/output ratio, and put pressure on firms to deliver those higher returns.

Causation then runs from a higher required rate of return to a changing capital/output ratio, and on to capital-augmenting labour-saving technological changes and a fall in labour's share. As such, movements in the capital/output ratio and labour's share will be positively correlated (i.e. if the one increases, so does the other), with a decrease in both reflecting increased investor pressure for higher returns.

The data show that the capital/output ratio and labour's share in South Africa indeed are positively correlated. This suggests that it is a higher required rate of return of financial investors that, via a lower capital/output ratio, puts pressure on firms to implement the capital-augmenting labour-saving technology.

With the capital/output ratio acting as a proxy for the pressure to improve returns and the role of capital augmenting labour-saving technology, it is possible to explore specifically the impact of capital augmenting labour-saving technology on wages.

Figure 3 subsequently shows what the real private and public sector wages would have been had the capital/output ratio remained constant at its value at the start of 1997. It shows that both private and public sector wages would have increased more or less in line with productivity. The empirical evidence therefore supports the notion that the increasing use of capital augmenting labour-saving technology contributed to the reduction of labour's bargaining power (Figure 3). ››

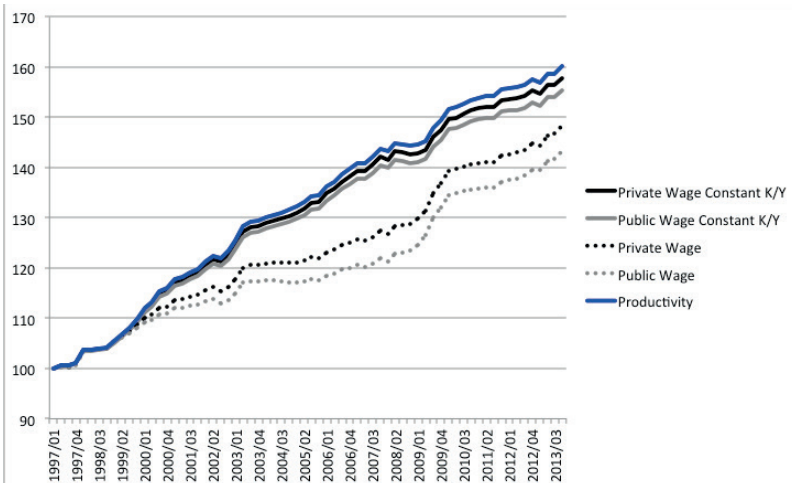

Figure 3. Real wages if the capital/output ratio remained constant

CONCLUSION: POLICY IMPLICATIONS

At 52 percent, the percentage share out of income that labour received in 2013 is significantly lower than in 1994, when it stood at 56 percent. Although this is better than the low of 48 percent in 2008, the improvement results from the profitability crisis in the manufacturing sector and not an improvement in labour's overall position. Indeed, when the manufacturing sector is excluded from the analysis, labour's share displays a continuous decreasing trend in the two decades since 1994, decreasing from 57 percent to 49 percent.

The analysis shows that, for every 1 percent increase in the real amount of GVA, real gross operating surplus improves by 1.12 percent, while the real amount of labour remuneration only improves by 0.68 percent. Economic theory suggests that the increasing use of capital-augmenting labour-saving technology caused labour's share to decrease. In addition, in the two decades since 1994, the percentage increase in productivity outstripped the percentage increase in both private and public sector wages. More specifically, over the period 1996–2013, productivity increased 66 percent, while real private and public sector wages increased 53 percent and 47 percent.

The analysis suggests that the bargaining power of labour decreased significantly over the two decades since 1994. The increased use of labour-saving technology and higher levels of globalisation and financialisation (the financial sector is the largest sector in the South African economy) all contribute to the weakening of labour's bargaining power since 1994. The declining labour power thus contributed to a lower share of labour in GVA.

Because capital income is more concentrated than labour income, a falling labour share contributes to a deteriorating income distribution. Hence, the policy-related question would be whether the decrease in labour's share can be arrested *without undermining economic growth* and, if so, how it can be arrested.

Merely passing legislation that redistributes income from capital to labour might arrest the falling trend, but, if designed and implemented without care, it can also undermine economic growth. Nevertheless, recent studies indicate that measures such as minimum wages, welfare benefits that encourage human capital creation, and more progressive income taxes do not necessarily undermine economic growth. Thus, these measures deserve attention as possible candidates to arrest the falling labour share.

Economists such as Laura Tyson also argue that stagnating wages (which is linked to a falling labour share) contribute to stagnant aggregate demand and hence "secular stagnation". She recommends that workers share in corporate profits, citing studies that show a positive correlation between profit sharing and productivity.

Furthermore, when under pressure to improve profitability, firms may prefer to implement capital-augmenting labour-saving technology. If this is implemented with capital and labour being gross substitutes (e.g. ATMs that replace human bank tellers), capital captures a larger share of income. For labour's share not to decrease, capital and labour need to be gross complements, not substitutes, in the implementation of such technology.

Alternatively, firms can implement labour-augmenting technology. To arrest the decline in labour's share might require improvements and changes in labour's skill levels that would complement capital. For instance, what labour skills are needed to complement the increasing use of IT and related technology?

Lastly, with the advent of large, aggressive and global returns-oriented investment institutions that focus on short-term (quarterly) profits, firms face more pressure to produce higher profits.

Probably the most difficult question to resolve from an ideological point of view is the question of what constitutes a *socially fair* rate of return on capital that nevertheless compensates owners of capital for the risk that they bear. Likewise, the question remains as to what constitutes *fair* remuneration for work that was done.

What complicates these questions is that finding and implementing the answers is not just an intellectual exercise, but, as Rodrik shows, is tied up with existing national and global institutional arrangements that define the bargaining power of both labour and capital. A resolution would depend on a broader public debate and, indeed, a sufficient public consensus on the contents of society's social contract. At present, that contract seems incomplete – but whether the national and global institutions will allow for the completion of the social contract remains to be seen.

NOTES

1. The full article, "Wages, productivity, and labour's declining income share in post-apartheid South Africa", with figures and references is available online at www.essa.org.za or http://www.standpunte.co.za.
2. While GDP calculates national income from the expenditure side of the economy, GVA calculates national income from the production side of the economy. Gross value added (GVA) plus net taxes on production and product equals gross domestic product (GDP). Thus, GVA is equivalent to GDP excluding net taxes on production and products.
3. The analysis was done for the public and private corporate sectors, thus excluding agriculture and general government. It also excludes the manufacturing sector, due to its peculiar nature. The period analysed in from the third quarter of 1996 (after the approval of new labour legislation in 1995) to the fourth quarter of 2013. NA

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