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The market for jobs in South Africa – why it performs so poorly and what can be done to improve it

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This FMF Occasional Paper draws upon Brian's latest book, *Get South Africa growing* (Jonathan Ball, 2017),
especially Chapter 5 of the book: *The job market: why it performs so poorly and what can be done to improve it*.

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A dysfunctional labour market

The market for jobs, the labour market, is surely the most important of the markets in South Africa (SA). In 2014, some 71 percent of all household incomes took the form of wages, salaries, and other benefits received from employers.² The SA labour market statistics tell of a highly dysfunctional labour market. One where the supply of potential workers to the formal sector vastly exceeds the demand to hire them. Yet, one where real wages for those working in the formal sectors of the economy have risen consistently over the years, despite the abundance of work seekers.

Clearly, the SA labour market is not working as markets are supposed to work where prices, in this case, wages, or more broadly, employment benefits, adjust over time to match offers to work with demands for workers. This price or wage flexibility helps to clear the market of excess supplies or demands. Prices rise with excess demand and fall with excess supply. It is the way markets work, it is supply and demand in action. Supply and demand meet at a price, or, in this case, a market determined wage. There is, however, no apparent balance of supply and demand for all potential workers in the SA labour market at market clearing rewards.

It is not market failure but policy intentions that explain the outcomes in the labour market

How are these contradictions – the rising numbers of the unemployed and discouraged workers, the slow growth in the numbers employed, coupled with ever rising real rewards for those with jobs – to be explained? We will attempt to explain why the labour market has not been allowed to match the supply and demand for workers at least in the formal sectors of the economy. Why the observed outcomes in the labour market, where a declining proportion of the work force receive the benefits of "decent jobs" as they are described and a growing number of workers and potential workers are unable to gain entry to such favoured employment, are not accidental. Why these are intentional outcomes, the predictable results of judgments and interests that see political advantage in protecting the insiders, those in formal employment, and their employment benefits, from competition for jobs from the outsiders.

The formally employed clearly exercise far more political influence than the unemployed or the under employed or indeed employers over policies and regulations applied to the labour market. The extraordinary legal powers enjoyed by trade unions that serve to reinforce their bargaining power, fully reflect the political interests at work. Like the rules protecting workers from dismissal, they help to realise intentional outcomes of, better paid, well-protected jobs with a surely foreseeable consequence – fewer formal jobs. These facts of economic life in SA need to be well understood regardless of the rhetoric from the unions and the government that these apparently well-intentioned regulations and laws defend downtrodden, underpaid workers against exploitation. Or their claims that the laws of supply and demand do not apply in the labour market and that employment benefits can be ratcheted up by decree without consequences for employment.

The actual, declining number of workers employed by private businesses strongly confirm otherwise – they show how declining offers of employment are the predictable reaction to more valuable employment benefits provided. Employers substitute capital, increasingly productive, computer

Sourced from the Production, distribution and accumulation accounts of South Africa, SA Reserve Bank Quarterly Bulletins and Data Base. The percentage 71% is Compensation of employees/Gross Balance of Primary Income. The balance of household incomes, before taxes or welfare benefits, was mostly derived from dividends and insurance policy payments. All Households in 2014 paid out more interest and rents than they received.

enabled machinery and equipment (robots), for labour generally and introduce more skilled, more carefully selected labour in place of the less skilled or less able. Those who keep their jobs and keep paying their dues to their unions are something of an aristocracy of the labour force, often earning well above average incomes, yet still represent a very low average by the standards of the developed world. The objectively poor in SA are not formally employed, they are not members of trade unions. They are very likely not to be working.

The poor in SA, those in the lowest income deciles, earn very little income from work. They are not served by powerful trade unions or labour market regulations since they do not have jobs, or at least are very unlikely to be permanently employed. They are actively harmed by the rules and regulations that protect those with jobs from the lower wage competition they might be able to offer employers willing to hire them.

The poverty problem in SA has been addressed with welfare benefits, benefits in the form of cash grants for those over sixty, mothers with children under the age of 18, and the disabled. Benefits in kind, particularly the award of free houses, as well as subsidised electricity and water, have greatly assisted the poor as has access to public hospitals and schools. Poverty relief certainly, but a system very poorly designed to foster economic growth that, in time, would lift all South Africans out of poverty.

The growth opportunity for South Africa is to employ many more workers

The growth opportunity for SA is to utilise more fully and productively its potential labour force. For businesses to expand profitably by absorbing large numbers of relatively unskilled workers into more productive employment in the technologically more advanced sectors of the economy they control. The abundance of relatively cheap labour could become seen, not as a threat but rather as a competitive advantage for SA business. A less heavily regulated labour market could make this possible.

Market related entry level wages, wages that would attract employers, can help open the door to improved earnings over time. Experience and skills gained on the job, on the job training, all add to the productivity of workers. Access to regular employment opens the opportunity for young workers to improve their qualifications and reputations for reliable endeavour, advantages that would make them more valuable to their employers. And, most important, reveal qualities that make workers attractive to other employers who would actively compete for their services with the offer of more favourable terms of employment. These opportunities that can add materially to incomes over a life of work are denied the unemployed or underemployed. They are not judged to be worth their hire under current labour market practice.

Faster economic growth, a larger economy, more profitable businesses that would accompany a more flexible labour market, would bring further advantages to all, especially those least well-endowed with skills and education. It would encourage a larger flow of savings and a larger stock of capital as profits are re-invested in expanding businesses. More capital per worker will help raise the value of even the least skilled labour. There can be little doubt that given the encouragement to employ SA labour on more favourable terms, the owners of profit seeking businesses would seize more of the opportunity presented. The SA labour market calls out for more labour intensive innovation.

The share of profits in the economy has changed for cyclical not structural reasons The losers have been those kept out of employment

It should be appreciated, however, that established large businesses in SA have adapted pragmatically (as business can always be expected to do) to the constraints on their freedoms to hire and fire and to the disruptive powers of the unions, should they be confronted with them. These well-established and well-capitalised firms adopt increasingly labour saving, more capital and skill intensive methods and technologies in response to more expensive and less reliable labour that can be made even less reliable by frequent strikes. The general lack of access to formal employment, the desirability of formal, full-time employment well protected against dismissal, and the abundance of available recruits, give firms the opportunity to hire more selectively. This choice of more capital with fewer, but more able workers, has compensated SA business owners for the higher real rewards offered their employees. The conspicuous losers are not the owners but potential workers unable to gain access to employment.

The owners of SA businesses have been able to maintain their share of the output produced. The share of wages, salaries and other employment benefits in total income earned has remained broadly in the same range over the years, though subject to some extent to the business cycle. When the economy grows faster relative to trend, the share of the economy earned by all the other factors of production, land, labour and capital tends to rise with improved profitability. The compensation of employees accounted for 45.6 percent of GDP in 2014, taxes less subsidies for a 12 percent share, and the balance of GDP, the Operating Surplus, for 42.4 percent of GDP. The share of GDP distributed as wages, salaries and other employment benefits has varied between a low of about 43 percent in 2007 and the current high share of about 46 percent in 2013 (See Figure 1 below).

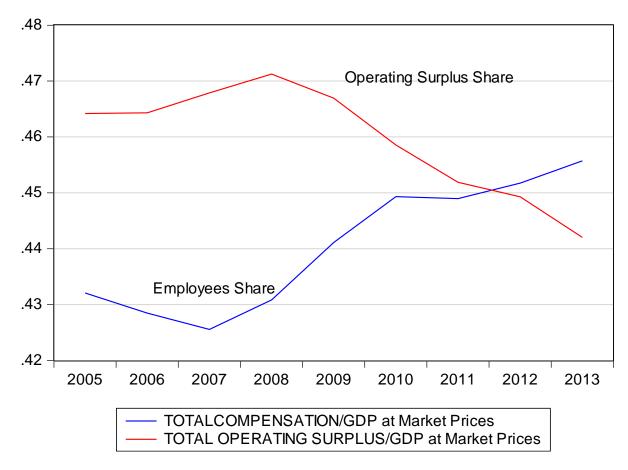


Figure 1: Compensation and operating surplus ratio to GDP at market prices

Source: Stats SA, SA Reserve Bank (employment data) and Investec Wealth & Investment

The weakness of the economy is not represented by a lack of profitable returns on privately owned capital invested, but by the reluctance of privately owned firms in SA to invest in more capital, in more capacity to increase the supply of goods and services, and especially their reluctance to hire more labour.

Established business interests may make them equivocal about opening up the labour market

Larger enterprises can afford a fully staffed, highly specialised Human Resource (HR) Department. One that can lead their business through the complications of labour market laws and regulations. The HR department can represent the firm at the lengthy mediation proceedings that follow many dismissals. This access to a highly specialised, in-house department to manage the complicated regulations that determine the rights of employees and employers, is among the more valuable economies of scale. These are economies denied the small business owner/manager who may well be obliged to spend much of her own valuable time appearing in court rather than more valuably walking the floor or dealing with customers. These considerations make smaller businesses particularly shy to employ labour or further inclined to operate informally under the radar of regulatory and tax burdens of all kinds.

The larger established firms that have adapted to a better rewarded and more expensive labour force are potentially vulnerable to lower wage competition – to being undercut by cheaper labour. They,

therefore, may prefer that their competitors and potential competitors be required to offer similarly attractive employment benefits. In collective bargaining agreements, they may not object to extending the agreements reached to all businesses operating in the same sector, including those that may not have been party to such agreements.

They are also well aware of the dangers to their reputations, especially abroad, of being accused of not paying what is regarded as a "living" wage. Moreover, their managers may feel better about themselves with a well-paid workforce. They might be discomforted by a harsh reality that their workers are still poor, even when employed. The owners and managers of large, well-established, profitable businesses are unlikely to be among the most enthusiastic campaigners for a genuinely more flexible labour market.

A flexible labour market will not mean good wages for all soon – but is to be wished for

It should be appreciated that a more flexible labour market, one better able to match the supply of and demand for labour, could and would have delivered many more jobs, though not necessarily or immediately higher wages and other employment benefits. It might have been full or full employment with minimal benefits earned. A case of the working poor, rather than poor and not working.

There are no quick fixes for poverty but there are better and worse ways of raising incomes over time. The better way would be to encourage more employment and freer entry by young workers into the modern economy. Given the opportunity to adapt to labour market fundamentals in SA, with a large number of potential workers willing to accept relatively low wages in exchange for their time, a new group of entrepreneurs and innovators might well emerge to challenge established firms in the SA and global markets, using more labour intensive methods. Perhaps by successfully adapting modern technology for use by an unskilled and, by global standards, an inexpensive labour force.

The gains of the current outsiders, from a more flexible labour market, would be, to some extent, at the expense of the insiders and their current benefits. The resistance of the trade unions to a more flexible market makes sense, given their own self-interest in better pay, even if they have fewer members, as we discuss more fully later. It explains why the unions actively resist the government's intention to subsidise the employment of young workers. It also helps to explain the unrelenting campaign waged by the union movement to ban labour brokers or employment agencies. The business interest of these intermediaries is in actively finding work for their clients, unlike the unions themselves who do not encourage a larger workforce — only a better paid one. But for those with an interest in a stronger, faster growing economy, wishful thinking about the absence of trade-offs between improved employment benefits for those in work and the numbers employed will not help solve the poverty and economic growth problem in SA. More jobs can, even jobs that provide minimal benefits which job seekers regard as preferable to being unemployed.

The labour market in numbers

The official labour market statistics as estimated by Statistics SA (Stats SA) are shown in some detail below. As may be seen, the unemployment rate remains persistently of the order of 27 percent of the labour force which comprises the employed and those actively seeking work, not the unemployed. If you are not actively seeking work, you are not defined as unemployed or part of the labour force (See Tables 1 & 2 below). It is the less educated and the less skilled who make up the great bulk of the unemployed of all the racial groups, as may be seen in Figures 3, 4, 5 and 14 below. The ranks of the unemployed are highly concentrated amongst the less educated and less skilled. Almost all highly

educated and skilled men and women are working. The rate of absorption into the labour market is highest of the white group, as is their educational and skill attainments. Of white males, 61.8 percent are classified as skilled. Of Black African men, only 13.8 percent of the cohort are classified as skilled (see Figure 4 below). Clearly, employment benefits are highly correlated with skills and education. Not identified in these tables is that the unemployment rate is much higher for young workers, about 50 percent of the ages 16-25 cohort are unemployed.

Table 1: Key labour market indicators

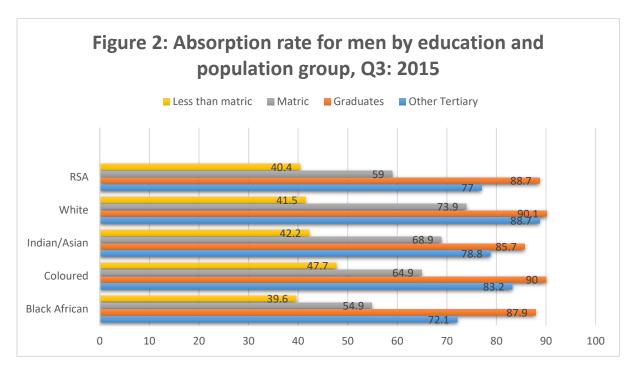
	Apr-Jun 2016	Jan- Mar 2017	Apr-Jun 2017	Qtr-to- qtr change	Year-on- year change	Qtr-to- qtr change	Year-on- year change	
	Thousand			ł			Per cent	
Population aged 15-64 years	36 591	37 061	37 217	157	627	0,4	1,7	
Labour force	21 179	22 426	22 277	-150	1 098	-0,7	5,2	
Employed	15 545	16 212	16 100	-113	554	-0,7	3,6	
Formal sector (non-agricultural)	10 917	11 337	11 193	-144	275	-1,3	2,5	
Informal sector (non-agricultural)	2 507	2 681	2 761	80	254	3,0	10,1	
Agriculture	825	875	835	-40	10	-4,6	1,2	
Private households	1 296	1 319	1 311	-8	15	-0,6	1,2	
Unemployed	5 634	6 214	6 177	-37	543	-0,6	9,6	
Not economically active	15 412	14 634	14 941	306	-471	2,1	-3,1	
Discouraged work-seekers	2 526	2 277	2 361	83	-165	3,7	-6,5	
Other (not economically active)	12 886	12 357	12 580	223	-306	1,8	-2,4	
Rates (%)								
Unemployment rate	26,6	27,7	27,7	0,0	1,1			
Employment/population ratio (absorption rate)	42,5	43,7	43,3	-0,4	0,8			
Labour force participation rate	57,9	60,5	59,9	-0,6	2,0			

Due to rounding, numbers do not necessarily add up to totals Source: Stats SA, Quarterly Labour Force Survey, P0211 (2Q2017)

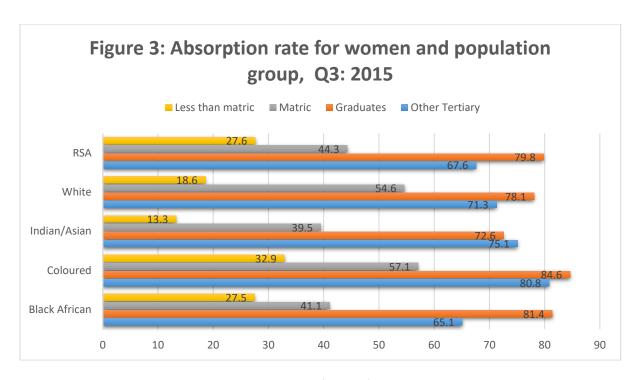
Table 2: Employment by industry

Industry	Apr-Jun 2016	Jan-Mar 2017	Apr-Jun 2017	Qtr-to-qtr change	Year-on- year change	Qtr-to-qtr change	Year-on- year change
Total*	15 545	16 212	16 100	-113	554	-0,7	3,6
Agriculture	825	875	835	-40	10	-4,6	1,2
Mining	447	447	434	-13	-13	-2,9	-3,0
Manufacturing	1 712	1 790	1 799	10	88	0,5	5,1
Utilities	111	145	148	2	37	1,6	32,9
Construction	1 388	1 505	1 395	-110	7	-7,3	0,5
Trade	3 136	3 207	3 265	58	129	1,8	4,1
Transport	862	965	954	-11	92	-1,1	10,7
Finance and other business services	2 220	2 378	2 395	17	175	0,7	7,9
Community and social services	3 544	3 569	3 560	-9	16	-0,3	0,5
Private households	1 296	1 319	1 311	-8	15	-0,6	1,2

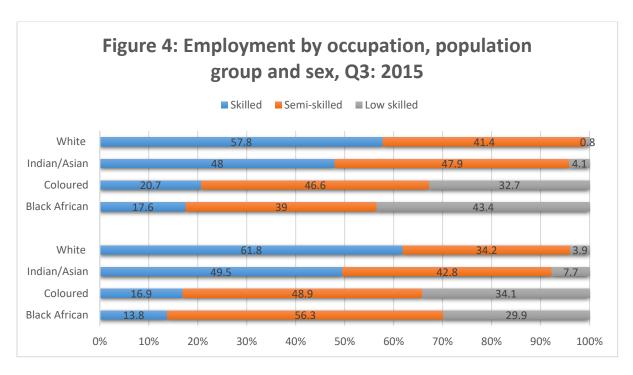
Source: Stats SA, Quarterly Labour Force Survey, P0211 (2Q2017)



Source: Stats SA, Quarterly Labour Force Survey, P0211 (3Q2015)

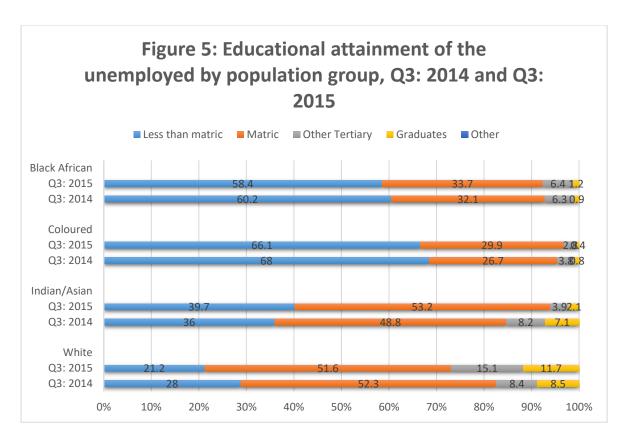


Source: Stats SA, Quarterly Labour Force Survey, P0211 (3Q2015)



Note: 'Skilled' includes Manager, Professional and Technician occupations; 'Semi-skilled' includes Clerk, Sales and services, Skilled agriculture, Craft and related trade and Plant and machine operator occupations; 'Low-skilled' includes Elementary and Domestic worker occupations

Source: Stats SA, Quarterly Labour Force Survey, P0211 (3Q2015)



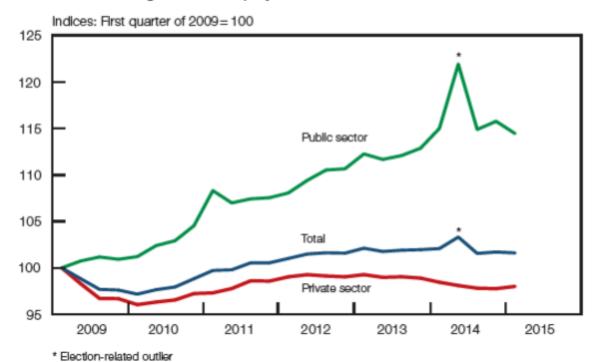
Note: Proportions do not add up to 100% because figures for 'Other education' are excluded from the graph Source: Stats SA, Quarterly Labour Force Survey, P0211 (3Q2015)

The figures below sourced from the SA Reserve Bank identify employment trends, that is to say the minimal growth in the numbers employed since 2008 and also some of the remuneration trends.

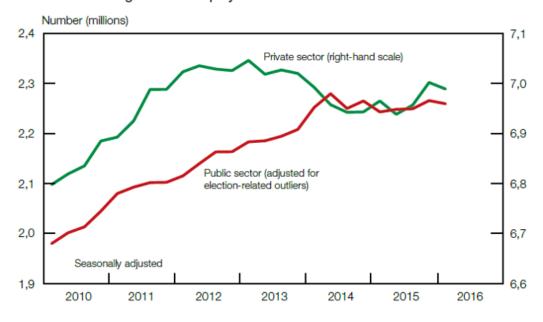
What has remained broadly unchanged over the years is the number of jobs provided by private firms. The number employed in the government sector has increased. The value of employment benefits provided by incorporated businesses in SA (their total compensation bill) has grown consistently and in line with real GDP. Real compensation for government employees, the government sector employment bill, has grown at a more rapid rate than have employment benefits provided by the private sector of the economy. So rapidly as to threaten fiscal stability.

Given a growing, youthful population and the minimal growth in the number of formal sector jobs, a permanent state of excess supply of workers applies. Those unable to find work in the formal sector are unemployed, that is actively still seeking work. Others have withdrawn from the labour market and do not seek work, and therefore are considered not part of the labour market and so not working, not unemployed. Many of these discouraged potential workers might well be very willing to work should an unlikely offer of a relatively well rewarded, formal sector job be made to them. And there are others whose work, temporary work, or work in the informal sector is not recorded or reported by them. When formal sector vacancies are advertised, as they sometimes are for public sector jobs, the number of applicants per job advertised are harrowingly large, hundreds if not thousands apply, hoping to fill a small number of vacancies. Not all of the applicants are necessarily unemployed at the time of asking, but all would be available should they be selected.

Formal non-agricultural employment

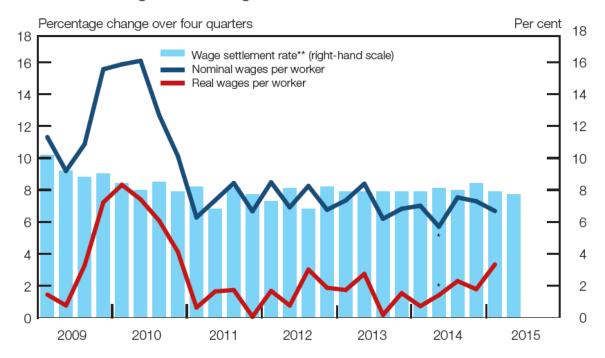


Formal non-agricultural employment



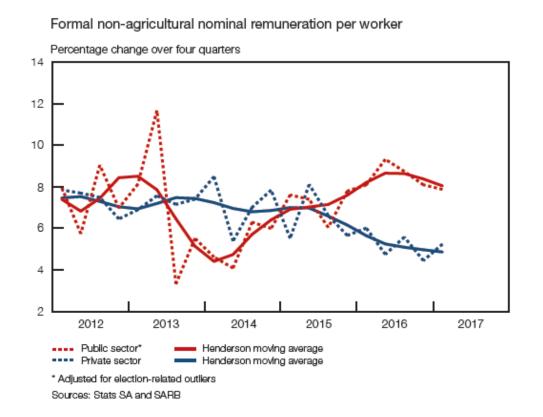
Source: SA Reserve Bank, Quarterly Bulletin; September 2015 September 2017

Remuneration growth and wage settlement rates



^{*} Value in second quarter of 2014 corrected for distortion arising from temporary election-related employment

Source: SA Reserve Bank, Quarterly Bulletin; September 2015



Source: SARB Quarterly Bulletin September 2017

^{**} Quarterly estimates based on cumulative data provided by Andrew Levy Employment Publications

The limits of the surveys and census

It should be recognised that the statistics on employment are gathered through surveys of households and employers. The answers to questions about income earned seem particularly vulnerable to understatement. The 2011 census that attempted to cover the whole population reported no income at all for a large number of households. Not necessarily because no income was actually earned, but because of a clear reluctance by respondents to reveal income details to the enumerators. The inconsistency between income reported and presumably earned is revealed in the census by an unlikely combination of households from higher income neighbourhoods in valuable homes, furnished with comprehensive lists of household assets, including motor vehicles, that report no income at all. So much of an inconsistency that income or income distribution data derived from the 2011 census can provide very little by way of reliable information for analysis. Just another reflection of how the fear of crime influences behaviour in SA.

How does one explain the employment of large numbers of foreign workers?

A further important consideration is that the SA labour market has absorbed into employment large numbers of immigrants, especially from Zimbabwe. How many immigrants are employed is not known with any accuracy. The uncertain legal status of many of these immigrants complicates accurate measurement of their numbers and so too do their responses to the employment surveys or the census. The 2011 census reports just over a million residents of SA born outside the country. This may well be a large underestimate given a natural reluctance of immigrants, perhaps residing illegally in SA, to acknowledge their presence to officials.

What is known about these immigrant workers from other parts of Africa is that they will often be supporting families left behind. They have to work to be able to do so. They are unlikely to qualify for cash grants. Hence the wages they are willing to accept may well be lower than the minimum wages acceptable to their SA born counterparts. Their reservation wage, the wage at which it makes economic sense to work, may well be lower than that of South Africans, making them more attractive to hire and more likely to be working. They may also not enjoy the same protection against dismissal, a further reason for employers to prefer to employ them.

There can be little doubt that the available supply of immigrant labour has helped hold down the rewards of relatively unskilled South Africans. Though this source of labour will have made an important contribution to the SA economy and its growth, even if imperfectly measured and captured in National Income Statistics.

One of the ironies of SA economic policy and its administration, is that the flow from outside the borders of skilled workers or professionals is discouraged by the regulatory burdens that they or their potential employers must carry. They typically will not migrate without a firm job offer and regulatory approval. Yet large numbers of relatively unskilled migrants from Africa have been able to enter the country seeking work and succeeding in doing so. In this way, increases in the stock of skilled human capital available to the SA economy has been restricted, while the supply of unskilled labour has been allowed to increase more rapidly. This has raised the scarcity value of skilled South Africans and their incomes from work, and reduced the wages and employment opportunities of the poor. It has thus widened the differences between the incomes of the most skilled whose skills are in short supply and the poorest, least skilled South Africans of whom a large number are not working.

Explaining the actions of trade unions in SA

Why it is rational to go on strike for higher wages even when employment declines. What are the policy implications?

Every year, a season of outrageous demands for wage increases comes upon the hard-pressed SA economy. It is the season of agreements with well above inflation increases to the work force, usually preceded by strikes and threats of strikes. A protracted ritual that appears to take little account of the hundreds of thousands of workers outside the mine and factory gates who would accept employment for current benefits. Even more unsettling will be the loss of jobs, as managers replace unskilled workers with machines and more skilled and experienced workers productive enough to justify their higher costs of hire. The losers will be the newly unemployed with little opportunity for alternative employment on anything like the same conditions.

How then can one make sense of this seemingly irrational behaviour by the unions making the demands? How can they not be aware of consequential job losses as their (former) members are retrenched in large numbers? Why then do the unions do what they do? They are surely well aware that higher real wages can lead to job losses in the sectors of the economy where they exercise the power to strike?

The answer, given the appropriate presumption that the union leadership is as rationally self-interested as any other economic agency, and as well informed and not ignorant, is that they are fully aware of the economic circumstances and the trade-off between wage gains and job losses. Trade-offs that are considered and made by union leaders for their own good reasons. The observed trade-offs of jobs for higher benefits for those 90 percent or so of the members who retain their jobs must make economic sense for the union leadership and their members.

The unions should not be understood as attempting to maximise employment or employment opportunities. Rather, the objective of the unions is to raise the total compensation paid to their members on which they, the unions and their leaders, draw. The objective they, the leaders and union officials, quite rationally and self-interestedly seek, is to extract the highest possible total compensation bill paid by employers. It is the total wage bill agreed to by employers that forms the basis for collecting dues from members. Therefore (percentage) increases in employment benefits can more than compensate for the (percentage) fewer workers that may be expected to be employed at the higher compensation benefits negotiated. And better paid members may be more willing and able to pay their dues.

It is theoretically and practically possible for the wage bill paid by firms to rise in both nominal and real terms even as employment drops away. Higher benefits can therefore more than compensate the trade union and its officials for having fewer members. The percentage increase in average benefits can be greater than the percentage decline in the work force. This is precisely what has happened in the declining but heavily unionised mining sector and in other sectors of the SA economy. While employment has declined in recent years, total compensation paid to employees has continued to increase, and so presumably have the dues paid to their unions (collected conveniently by the employers themselves). The compensation base of the unions and staff associations from which they collect their fee income, the employers' total cost of hiring the work force, has continued to rise as the unemployment rate continues to remain damagingly high to the economy, but not necessarily to the unions. There is nothing ignorant or irrational in all this, just predictable self-interest at work. It is an explanation that fits the facts of the economy and the labour market well.

The statistics help make the point. The SA economy may well have become less labour intensive – fewer worker hours employed per unit of GDP – but the share of total remuneration in GDP or total value added has changed very little as reported above. The wage (compensation) bill estimated in the National Income Accounts (not numbers employed) has risen more or less in line with output.

The mining sector conforms to the theory that what matters to unions is the wage bill not the numbers employed

The share of mining output accrued by employees has risen in recent years from 35 percent of total output (in current prices) to approximately 42 percent in 2013. In other words, the unions appear to be successful if their objective is (as we infer) to increase the wage bill paid by the industry rather than the numbers employed at the expense of the other claimants – shareholders and creditors – on the value added by the mining sector. The sector has become less profitable and yet has managed to increase its employment costs of production and average benefits per worker. A recipe for an industry in decline.

Thus, while mining employment was at 2008 levels in 2013, employment benefits per worker employed have risen consistently at an over 11 percent average annual rate in money of the day terms and equivalent to an average increase of 4.5 percent in real terms, using the GDP deflator to convert nominal into real growth of employment benefits or rather costs to owners. The average employee in the mining sector came with an average cost to employers of over R220,000 per employee in 2013. Not bad South African work if (big 'if') you can keep it.

Will a national minimum wage help the poor?³

It is always salutary to be reminded just how dire are the economic circumstances of the average South African and how slowly their economic conditions have been improving. Over 51 percent, some 29,733,210 of our people, live on less than R1,036.07 per month. These and many other shocking statistics are reported by the Panel of Experts appointed to recommend the level of a National Minimum Wage (NMW) and on a process for its effective implementation ("Recommendations on policy and Implementation; National Minimum Wage Panel report to the Deputy President").

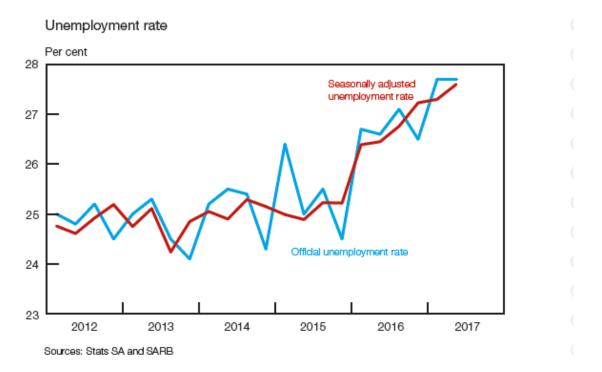
The Panel has no doubts about the helpfulness of an NMW in principle – only reservations about practice

The NMW Panel appointed by Deputy President, Cyril Ramaphosa, seems to have no doubts that a NMW would be a very helpful policy intervention in principle. To quote selectively from its substantial report of 128 pages, "On its own it will not solve all of the challenges we face, but it is an implementable policy which is designed to have a measurable and concrete benefit on the poor. The minimum wage is therefore seen as one of the tools to close the wage gap, including between the genders, and thereby to overcome poverty... Furthermore, under the correct conditions and at the correct wage level, it is possible for minimum wage policies to contribute to improving economic growth...Given that the national minimum wage is essentially a policy to help the poor, it is generally accepted that exemptions and exclusions should be kept to an absolute minimum."

Recommendations on Policy and Implementation, National Minimum Wage Panel Report to the Deputy President

Striking a balance – recognising employment dangers in scenario exercises

The Panel was required by the social partners in Nedlac, who agreed to a NMW, to recommend an appropriate level for the NMW. Since it recognised a relationship between wages and employment, the MNW had to strike a balance between the effects of increasing wages to a higher prescribed minimum level and its consequences for additional unemployment of which SA already has a great abundance. Some 27 percent of the labour force, those in work or looking for work, are currently unemployed, while many more potential workers have been discouraged from looking for work and have fallen out of the labour force. Adding them to the work force would imply a more broadly defined national unemployment rate of 36.6 per cent.



The Panel recommended a NMW of R3,500 per month or R20 per hour to be phased in by 2020 with 90 percent of the NMW to be applied in agriculture and 70 percent in Domestic Service provided to Private Homes. It also recommended annual reviews of the NMW and a gradual move to uniformity across all sectors of the economy. Using a so-called Computable General Equilibrium model of the SA labour market (as described and developed by Professor Harron Bhorat of UCT) that included assumptions (not predictions based on past performance) about the trade-offs between percentage increases in minimum wages and percentage reductions in employment (the relevant employment elasticities in economic speak).

The aggregate employment losses were estimated at between 100,000 and 900,000 jobs lost in exchange for the recommended NMW. Clearly in the view of the Panel, the NMW had to be set high enough to make its contribution to poverty relief and yet low enough to be able to treat the extra unemployment as the acceptable price to the panel members of them doing such good for society. Another argument for breaking eggs to make omelettes from those unlikely to be harmed by the action and who might even benefit from helping to give effect to a new dispensation.

However, the Panel did qualify its judgment. It noted correctly, "...that there is no research or data that can accurately predict the outcome of any policy intervention. It is for this reason that strong

emphasis has been placed on the need for good solid research to support the work of the NMW institution into the future. Any future changes to the level of R3,500/R20 per hour should be based on solid evidence of the impact of the national minimum wage." Would it be unkind to recognise that this would also be more grist for the economist's mill?

The relationship between minimum wages and employment – what may be self-evident to the panel is not so to the society at large

It would have been helpful had the Panel used the report to explain more fully why employment offers are negatively related to the wages or rather employment benefits provided by employers in exchange for hours worked. The relationship is much less self-evident than the Panel may have presumed it to be — especially by members and leaders of trade unions who are inclined to attribute wage differences much more to political forces and bargaining power and even to race - than to the differences in skills and, therefore, of the contributions to output made by the well and poorly paid. And they are inclined to believe that wage gaps can be easily closed with little consequence for economic growth by taking more from the well paid and giving to the poor. And so, for an ever higher NMW.

The Panel is well aware of the obviously important and highly consistent relationship to be observed of the SA labour market between measures of skills and wages earned. And, as statistically significant, the relationship between incomes and employment. The lowest income South Africans have the highest rates of unemployment. The full income and employment details are shown in the table below (Table 5 Household Indicators of the Panel Report).

It may be seen in Table 3 below, that of the 16,306,000 people in Quintile 1, 31.2 percent of the population with the lowest share of income, only 15,9 percent are employed, 25 percent strictly unemployed and the broad unemployment rate of this group is estimated as 65.8 percent. The average wage of those employed in quintile 1 is only R1,017 per month. The second poorest quintile counts for a further 24.6 percent of the population, has a lower unemployment rate, a much higher participation rate in the economy and an average wage income of R1,707 per month. A large improvement but still a very low average wage.

The top income quintiles present very differently. Unemployment rates are much lower and participation rates and average incomes from work of the employed are much higher and well above the recommended NMW. Though it should be noted that the average wage income of R2,651 per month for those employed who fall into Quintile 3, is still well below the R3,500 per month recommended NMW.

Table 3: Household Indicators

Poor Non-poor							
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All	
General	Quilitie 1	Quintile 2	Quintile 3	Quilitie 4	Quintile 3		
Share of							
Households	20%	20%	20%	20%	20%	100%	
Number of							
People (000s)	16 306	12 867	8 979	7 640	6 483	52 275	
Share of							
Population	31.2%	24.6%	17.2%	14.6%	12.4%	100.0%	
Average							
Household Size	5.2	4.1	2.8	2.4	2.1	3.3	
Labour Market							
Participation							
Employed	15.9%	35.9%	52.5%	65.3%	75.0%	44.4%	
Unemployed							
(strict)	25.1%	17.4%	12.3%	9.0%	2.6%	14.9%	
Unemployed							
(discouraged)	5.5%	4.5%	2.2%	1.7%	1.2%	3.4%	
Not							
Economically	53.5%	42.2%	33.0%	24.0%	21.3%	37.3%	
Active							
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Unemployment							
Rates							
Narrow							
Unemployment	61.2%	32.7%	10.9%	12.1%	3.3%	25.1%	
Rate							
Broad							
Unemployment	65.8%	37.9%	21.7%	14.1%	4.8%	29.1%	
Rate							
Wages and							
Labour Market							
Linkages							
Average Wage of							
Employed	R1 017	R1 707	R2 651	R4 751	R13 458	R5 787	
Persons							
Average Number							
Employed per	0.4	0.9	1.0	1.2	1.2	0.9	
Household							
% Working	36.2%	65.8%	71.1%	85.8%	87.8%	69.3%	
Households		30.070		30.070	27.070	35.570	
Average Number							
Non-Employed							
per Employed in	4.1	2.5	1.4	0.9	0.6	1.5	
Working							
Households							
Average							
Monthly	R1 671	R3 125	R4 169	R7 317	R24 090	R8 018	
Household							
Income							
Average	בבכם	כדדם	D1 401	D2 117	D12 F00	D2 611	
Monthly per	R323	R773	R1 491	R3 117	R12 509	R3 611	
capita Income							

Source: National Minimum Wage Panel Report to the Deputy President

The implications of a NMW set so far above average wages – is there precedent that can help us predict the employment effects with any confidence?

This leads to the question — is there any precedent for a NMW or a sectoral minimum wage determination to be set so far above average earnings? And, if so, what have been the consequences for employment? Or, put in another way, is there reason given the facts of the labour market to think that the employment elasticities in SA are more negative than the range of assumptions considered by the models? Time will reveal the consequences of the recommended NMW and the Panel complacently assumes that, if necessary, adjustments can then be made. But who will care for the unemployed and their dependents in the meanwhile?

How can an NMW help the poor – who are now mostly not employed?

It is very difficult to understand why the Panel should believe that the NMW can be helpful to the poor of SA or reduce inequality. Fundamentally, the poorest South Africans, those in the first and second quintiles, are mostly not employed. And, when employed, the only wages they are able to command will be far below those of the recommended NMW which will still leave them objectively poor.

The recommended NMW will make it even more difficult for them to find work that might, for some, especially young workers, prove a path out of poverty. Thus, the NMW is very likely to increase the unemployment of low skilled potential workers in SA and to widen the gap between the average incomes of the high earners and the low earners, and mostly the no earners of the population. The poor of SA deserve better opportunities to work and, more so, the opportunity for their children to acquire the education and skills that would help them qualify for and find well paid work. They do not need further interference in their search for work.

Employers will make the adjustments that will confuse the observers and the evidence

What will complicate the numerical outcomes to be observed in due course, will be the structural adjustments to employment practice made by employers in response to higher minimum wages. The adjustments will include more reliance on mechanisation and automation that requires more carefully selected and skilled employees. Forces that substitute capital for labour, especially less skilled labour, are already well at work in the economy.

Other adjustments employers will make will be to offer fewer hours of work and significantly less by way of employment benefits, such as food and accommodation, and contributions to pension and medical aid, for example. The cost of these to employers and their value to employees the Panel refuses to recognise in its money wage only determination. Evidence of such reactions so unhelpful to low income workers comes from previous minimum wage adjudications in the agricultural sector. Fewer workers were employed permanently - less accommodation was offered on the farm — and higher transport costs were incurred by workers busing in from informal settlements. And there is also bound to be less compliance with the law given the availability of cheaper labour and additional employment offered to illegal immigrants.

Why does the labour market only work well for the higher income earners? Is it because they are much less encumbered by regulations and collective bargaining?

A further observation of the inconvenient and uncomfortable truths of the SA labour market is that the supply and demand for labour are very well matched for the well paid and very poorly matched for the low paid. A very high unemployment rate — many potential workers unemployed at current wages - is surely evidence of wage levels that are too high rather than too low for the important purpose of providing work for those who would wish to work — at prevailing wage rates.

These are not considerations that receive much attention from the Panel – other than a presumption of "structural imbalances" or why these structural forces that discourage employment do not apply to the most expensive of workers in SA who are so readily employed.

It is to be conceded that employment at low wages for those with limited skills cannot overcome the poverty of the working poor. But then, what can other than them acquiring the valuable skills that are in short supply and well worth hiring? Wishful thinking, waving magic wands in the form high minimum wages un-affordable to potential employers, will not solve their problem.

Unemployment makes their condition more onerous. It denies them the employment and low wage benefits that they would be willing to accept. A willingness demonstrated by their seeking work. Being unemployed prevents the potential worker from acquiring skills on the job and the opportunity to demonstrate the capabilities that could add to their employment credentials. These opportunities are particularly important to young, unskilled, entry level workers whose unemployment rates are regrettably but understandably well above average unemployment rates as is well recognised by the Panel.

The Panel might have sought an explanation for the high rates of unemployment of low income South Africans in the structural impediments to their employment in SA. Barriers to employment offered or accepted in the existing, highly pervasive regulations of their employment contracts. It is not as if minimum wages have not been tried in SA. They are widely practiced and have affected the employment of the lowest paid and least skilled.

The current regulatory barriers to employment in SA

There are, in fact, 124 separate such sectoral minimum wage determinations. They cover approximately 5 million workers and 33 percent of those employed, leaving only 35 percent of workers uncovered, including presumably many of the better paid, without union representation. The lowest such monthly determinations in 2015 ranged from R1,813 for Domestic Workers to R2,844 per month per Contract Cleaner in the lowest grades. The highest sectoral minimum determinations – for more skilled work – were R6,155 for workers in private security and R6,506 per month in Retail and Wholesale businesses.

The newly fashioned NMW is intended to remove all of this administrative complexity – and presumably also the possibility of recognising very different labour market conditions – supply and demand – that may apply in the different sectors and regions of the economy. Conditions that participants in specific labour markets, who, unencumbered by regulations, would be much better informed about than even diligent officials to the advantage of workers and their employers.

The case for best leaving the determination of an employment contract to willing buyers and sellers of labour does not get any hearing from the Panel, while the collective bargaining process in SA that can easily be shown to protect the established interests of employees and their employers – the insiders – at the expense of the employment opportunities of the outsiders, receives nothing but uncritical approval and an appeal for the wider application of collective bargaining arrangements.

The influence of welfare on employment

Nor did the influence of SA's extensive welfare system on poverty and employment receive much more than perfunctory and rather condescending attention from the Panel as shown below. One can only wonder how panel members could have argued that social wage spending could not have some offsetting effects on consumption and, more arguably perhaps, on employment via the willingness to supply labour services at low hourly rates on offer, a consideration taken up below.

5.43. "While wages are low relative to living levels, there are **arguably** (our emphasis) some offsetting effects from the social wage spending by Government. About 35% of South Africa's budget is spent on programmes targeted at the poor, including free basic education, health care, water and electricity, and income support grants for children and the elderly".

They may, as did the Davis Tax Committee (DTC) on Tax Reforms, have referred to a report of the World Bank on the influence on incomes and their distribution of SA of its welfare system. To quote this World Bank study, "But while incomes earned in South Africa may well be the most unequally distributed in the world—the distribution of expenditure is much less unequal. The World Bank shows, in a recent study, that South Africa does more to redistribute income in cash and kind to the poor than its developing economy peers with similar average incomes, Armenia, Brazil, Bolivia, Costa Rica, El Salvador, Ethiopia, Guatemala, Indonesia, Mexico, Peru, and Uruguay." (South Africa Economic Update Fiscal Policy and Redistribution in an Unequal Society, World Bank, November 2014)

As this study also reports, "South Africa ranks as one of the most unequal countries of CEQ (Commitment to Equality Methodologies applied by official statisticians in income measurement) participant countries, if not among all middle-income countries, given its Gini coefficient of 0.69. The proportion of the population living in poverty at 33.4 percent measured by the international benchmark of \$2.50 a day (purchasing power parity, PPP, adjusted) — is also higher than in many other middle-income countries with similar levels of GNI per capita. For example, the poverty rate is 11 percent in Brazil and 4 percent in Costa Rica."

To quote further from the World Bank report, "Briefly, this Update has two main findings. First, the burden of taxes falls on the richest in South Africa, and social spending results in sizable increases in the incomes of the poor. In other words, the tax and social spending system is overall progressive. Second, fiscal policy in South Africa achieves appreciable reductions in poverty and income inequality, and these reductions are in fact the largest achieved in the emerging market countries that have so far been included in the CEQ. Yet despite fiscal policy being both progressive and equalizing, the levels of poverty and inequality that remain are unacceptably high. South Africa is currently grappling with slowing economic growth, a high fiscal deficit, and a rising debt burden. In this context, addressing the twin challenges of poverty and inequality will require not only much-improved quality and efficiency of public services but also higher and more-inclusive economic growth to help create jobs and lift incomes." (p22)

These income transfers and benefits in kind, moreover, may influence the willingness to supply labour services at prevailing wages – especially when wages on offer are very low. By providing an alternative source of benefits welfare raises the reservation wage – the wage at which it makes good sense to

work or to seek work, work that may well be physically demanding and less than enjoyable for its own sake. The Panel might have paid much more attention to the supply side of the SA labour market to help explain low rates of labour force participation. Also to help explain why immigrants from Africa are much more likely to be employed – at market related wages. They clearly have a lower reservation wage given their limited access to SA welfare and the dependence their families left behind may have on cash remitted to them.

Economic growth and employment – ignoring the evidence

The Panel remarks somewhat self-evidently that, "An additional problem faced by the country is that there is evidence that the growth in the demand for labour in South Africa has not been sufficient to keep up with the much larger growth in labour supply."

The Panel quotes with seeming approval a study that apparently shows growth and job creation are not well correlated. To quote the Panel, "Recent empirical work by Mkhize (2016) finds that the economy's capital intensity undermines its ability to generate jobs in times of economic growth. He finds that, in the long run, growth and job creation are not correlated, although there is some sectoral variation. This points to the broader economic policy challenge facing South Africa, which is that there are structural barriers that exacerbate unemployment, the solutions to which require more than economic growth".

A surprising conclusion it might be thought, given the fact that, in the developed world, incomes (GDP), population and the size of the labour force have grown together, as indeed it has in SA – as we demonstrate in Figure 10 below. Although such work on the relationship in SA between GDP and numbers employed is complicated by the absence of an official continuous, long-time series of numbers employed.

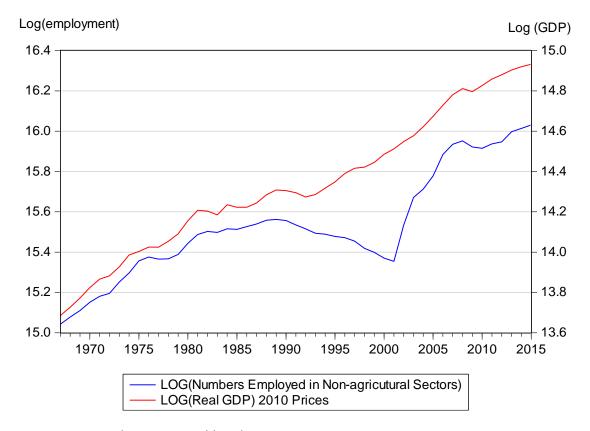


Figure 10: Employment and Output (Real GDP) in South Africa (1967-2015)

Source: SA Reserve Bank, Investec Wealth and Investment

Reserve Bank employment series data used to calculate the figure above, dates from 1967 and refers to employment outside of agriculture and to formal employment only. The numbers employed in these categories amounted to 9.17 million employees in 2015.

A single equation regression analysis can be applied to confirm the strength of the GDP influence on numbers employed between 1967 and 2015. The log of the GDP co-efficient has a highly significant value of 0.715 (t stat=18.66) and the equation has a very good fit with an R-squared of 0.88. The predictions of this model are compared to the employment outcomes in Figure 11 below. As may be seen, the model over estimates employment after 1990 and underestimates employment more recently.

10,000,000 9,000,000 **Employed** 8,000,000 7,000,000 Predicted by GDP 6,000,000 5,000,000 4,000,000 3,000,000 1970 1975 1985 1990 1995 1980 2000 2005 2010 2015 Numbers Employed Numbers Employed Predicted by GDP

Figure 11: Employment and Output in South Africa (1967-2015) Actual and predicted by GDP

Source: SA Reserve Bank, Investec Wealth and Investment

Using earlier sources of information on employment before 1967, we have estimated an employment series going back to 1940. The predicted relationship with GDP (available from 1946) is shown in Figure 12 below. The relationship between GDP and employment over this longer period remains highly significant with the GDP influence a somewhat weaker one. The GDP has a co-efficient of 0.54 while the R squared rises to 0.93 indicating an even better statistical fit between GDP and employment.

The evidence strongly suggests that the relationship between GDP and employment in SA remains as highly significant as economic theory and history would predict. Though clearly there is more to employment than GDP, any increase in GDP growth can be confidently predicted to increase employment – as it did through the boom years of 2004 to 2008 when GDP growth averaged over 5 percent per annum.

The Mkhize study⁴ to which the Panel refers is nothing like a long run study. The data to which it refers extends only to 2000. Furthermore, the study reveals a statistically significant positive relationship between output (GDP) and employment at the aggregate level with a positive output co-efficient of 0.45. The output influence on employment is particularly strong for the service sectors.

The Sectoral Employment Intensity of Growth in South Africa, Njabulo Mkhize, ERSA working paper 631 September 2016

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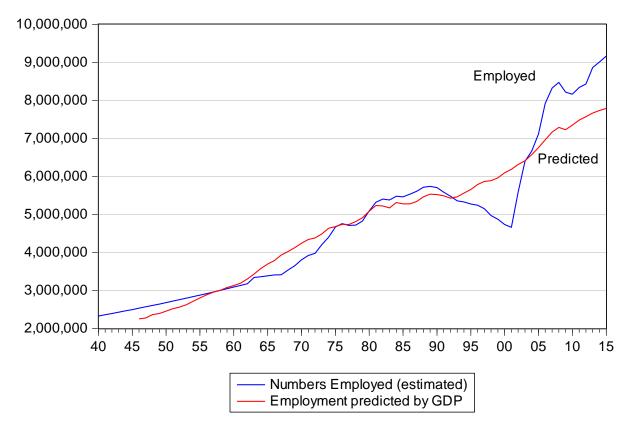


Figure 12: Employment and Output in South Africa (1940-2015) Actual and as predicted by GDP

Source: SA Reserve Bank, Investec Wealth and Investment

Clearly the relationship between population growth and growth in employment has weakened over the long run — as evidenced by a declining rate of participation of the adult population in the labour force. The reasons for this may include a technological bias in favour of capital substituted for labour. But further reasons worthy of serious consideration, in addition to a welfare enhanced higher reservation wage, are surely the plethora of interventions in the labour market including the role played by trade unions willing and able — given regulatory advantages — to trade off less employment for improved benefits for those who retain their jobs.

The recommended NMW represents more of the same lack of faith in market forces that encourage further regulation of the labour market in SA, rather than a very different recommendation to introduce less interference in the market place to generate faster growth and employment. It represents another example of economists, like the governments they usually serve, being part of the economic problem rather than the solution. A question to be asked of all those supportive of regulated minimum wages, who deny their employment consequences, is why are they willing to limit the NMW to levels that many would regard as barely a "living wage"? Why do they not recommend a higher NMW that would indeed provide a satisfactory standard of living for those in employment?

Conclusion

The hope must be that, over time, increased spending on education and training will provide the entrant to the labour force with the skills that command good pay. The further hope is that the economy, helped by a much more flexible labour market, can grow fast enough to cause a shortage of unskilled labour relative to the availability of skilled labour, capital and natural resources. The competition for unskilled workers will then help to provide decent jobs for all. It can be much faster than trickle down — more like a torrent of real wage growth should the economy grow faster. It is certainly capable of doing this with encouragement from a much more functional labour market.

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This occasional paper draws upon Brian's latest book, "Get South Africa Growing" (Jonathan Ball, 2017) especially Chapter 5 of the book "The job market: why it performs so poorly and what can be done to improve it".

Addendum

The difficulties in measuring productivity: Are we enjoying a better standard of living – or more consumption, than is being estimated?

We are all quite aware of how the micro-processor and its applications in information technology have changed the way we work or play. Robots have changed fundamentally the process of extracting or converting raw materials and distributing the goods and services we consume in ways that astonish and amaze us. We worry about how they appear to replace people like ourselves in the work place. The power of mobile devices to connect us to our customers, colleagues, friends and information and entertainment of all kinds grows continuously, as does our dependence on them. Young people live happily (we hope) almost exclusively in their cyber worlds.

But all this information technology is not showing up in productivity measures – that is output per hour of work – as one thinks it should or would. Those factories, warehouses, cargo liners or railroads and ports with fewer workers, but ever more sophisticated machines and devices that support those with jobs, should surely have raised the ratio of what is produced to the number of person-hours for which employers provide compensation in wages and benefits. The numbers indicate otherwise.

Alan S Blinder, a distinguished academic economist, Professor of Economics and Public Affairs at Princeton University and recent former vice-chairman of the Federal Reserve, wrote in the on-line Wall Street Journal of 24 November 2014 of The Unsettling Mystery of Productivity, with the sub-title: Since 2010 US productivity has grown at a miserable rate. No one, not even the Fed seems to understand why. Blinder refers to the available history of productivity. Over 143 years of records show that the US has increased measured output per person hour employed outside of the farms by an average 2.3 percent p.a. That is, output per worker has increased nearly 26 times since 1870. Clearly the more valuable output workers are expected to produce, the greater real benefits (wages) they may be able to earn from employers competing for their more valuable services. Between 1948 and 1973, described as the golden age of productivity, growth productivity grew by an average 2.8 percent p.a. – yet between 1973 and 1995 it grew by only 1.4 percent p.a. on average. It then picked up again growing by 2.6 percent p.a. between 1996 and 2010, only to slow down to a miserable 0.7 percent p.a. on average for reasons nobody, according to Blinder, seems to know.

In SA, productivity, as calculated by the Reserve Bank, has grown, on average, by a mere 1.02 percent p.a. since 1970 and by 1.92 percent p.a. on average between 2010-2013. But in the seventies, the price of gold doubled and doubled again allowing the mines to profitably reduce the average grade of ore they mined and extend the lives of the mines. More rock was extracted expensively from the bowels of the earth but less gold was produced with more workers – meaning lower productivity and much improved profitability. Since 1995, productivity in SA has grown by 2.8 percent p.a. on average despite the recent slowdown.

The unpredictability of productivity matters to the Fed and the Reserve Bank because their task is to align aggregate demand for goods, services and labour to their potential supplies, using the tools of interest rate settings and money creation at their command. Not too much and not too little demand is called for. Too much means inflation – too little means deflation, which is regarded as equally or even more dangerous to well-being. But knowing just how much means being able to predict potential supply upon which productivity growth would have an all-important bearing. Such productivity forecasting power seems unavailable, greatly complicating the task of monetary policy.

The problem, to my mind, is a measurement problem. The issues involved in converting business revenues, measured in dollars of the day, into equivalent volumes that can be compared over time.

Productivity is the ratio of real output, real volumes of goods and services produced and charged for, to the number of person hours needed to produce them. But how is one to compare the value of a good or service produced 20 years ago with its equivalent today? An aspirin produced then is the same quality as an aspirin taken 30 years ago. But the same could not be said of a life-saving drug available today that was not on the pharmacy shelves 30 years ago. The quality of medical care, given these technological gains, has increased almost immeasurably. What then does the so-called inflation of medical costs included in the CPI mean when what is being paid and charged for are much improved medical benefits? You are not comparing like with like, apples with apples, aspirins with aspirins.

Nor can an off-the-shelf or off-the-internet personal computer or laptop today be compared with those of 30 years ago when access to the internet was first initiated. Today, they have computing power that would have filled a large office with mainframes 20 years ago. And the same could be said of television monitors or motor vehicles and so many other devices that are incomparable in quality with the options available then, and probably infinitely better given that the ordinary of today would have been unimaginable not so long ago. A similar observation can be made of a modern automated machine tool when compared to the machines utilised before.

Therefore, if we are to compare real output over time, we have to allow for changes in quality and acknowledge what the benefits received cost the consumer in order to generate an appropriate series of prices. Prices must be quality adjusted if any sense is to be made of the volume of output produced and measured over time. Volume of output calculated for the purposes of measuring real output for GDP or productivity estimates is revenue in money of the day earned by businesses divided by what is hoped is a realistic measure of prices. If quality has improved dramatically or indeed infinitely in the case of goods or services previously unknown, this price denominator, known by economists as a deflator (deflating nominal values into real equivalents), has surely to take on a very large number with a proportionately large impact on real volumes. The Fed is conscious of the danger of underestimating quality gains and regards the inflation it targets of less than 2 percent per annum as effectively deflation.

Can we have any confidence at all in the numbers attached to deflators that reduce the revenues of businesses to equivalent volumes or convert nominal GDP with its real equivalent? I would suggest that we can very easily underestimate quality gains and hence overestimate the numbers called deflators. Quality adjusted prices may be vastly lower than they are estimated to be. If so, volumes produced would be much higher and productivity gains much greater than estimated. The mystery to be solved is an appropriate deflator especially for goods or services with infinitely higher computing power and value to their users. There may, in fact, be much more deflation about than is recognised. Hence monetary policy may be even tighter than it appears. The closest relevant deflator I could find was for the prices charged by US retailers of appliances and electronic goods. This deflator, designed to measure the volume of these goods sold by the retailers with a base of 100 in 2009, had declined to 68.9 or some 37 percent over four years. In the US, the prices of all retail goods rose by 8 percent since 2009. The closest equivalent deflator provided by Stats SA was for Furniture, Appliances and Electronic goods Retailers that showed a decline of 8.5 percent since 2009 while all retail prices rose by 23 percent over the same period. Are these deflators and all the others that convert value to volume accurate enough to form the basis for productivity comparisons? One must doubt this. There is clearly enough room for error to add an average one or two per cent per annum to measured productivity growth.

But while such uncertainty about the relationship between price and quality changes may bother the economists and the Fed, they will be of little interest to the firms that produce goods and services. They will be hoping to add to profitability by managing, as best they can, the relationship between revenues and costs measured in money of the day, including the link between the money of the day

costs of employing labour and what each employee may be adding to the top line. Employing more, relatively unproductive labour, may well be the more profitable option, depending on their cost of hire even if such employment maximising decisions reduce productivity. The SA economy would do better if firms were hiring more low-skilled, less productive workers rather than making the efforts they do to raise the productivity of much better paid, but relatively few skilled workers with advanced equipment and superior data management.

It is to be noted that while productivity is seemingly in decline, in the US, profits as a share of output are at close to record levels. The impact of innovation on productivity and GDP may be mysterious given the difficulty of devising a suitable deflator. The influence on profitability would appear to be unambiguously helpful for shareholders. And consumers of goods and services (known and unknown in abundant quantity) can be comforted that excess profits tend to be competed away and they will pay no more than it costs to supply them, costs that will include a required return on the capital employed by competing firms. The objective of business and their owners is to maximise profitability, not productivity. Real output, and so real productivity, are artefacts of economists and statisticians, not businesses, for which profits and return on capital are the key measures.