

Nicoli Natrass is a professor of economics in the Centre for Social Science Research at the University of Cape Town. She has a doctorate from Oxford and is a regular visiting professor at Yale. She has published widely in the areas of economic policy, inequality and the political-economy of AIDS. She is author of 66 journal articles and 7 books.



Jeremy Seekings is Professor of Political Studies and Sociology at the University of Cape Town. His most recent book, co-authored with Nicoli Natrass, was *Policy, Politics and Poverty in South Africa* (2015). He is currently working primarily on the politics of policy-making across East and Southern Africa.



Setting Minimum Wages in South Africa

During his recent trip to South Africa, Thomas Piketty observed that a national minimum wage in South Africa could help reduce inequality if set at the 'right' level. What is the right level?

The ILO's Minimum Wage Fixing Convention (1970) recommends that policy makers consider the following when setting minimum wages:

- a) the needs of workers and their families, taking into account the general level of wages in the country, the cost of living, social security benefits, and the relative living standards of other social groups; and
- b) economic factors, including the requirements of economic development, levels of productivity and the desirability of attaining and maintaining a high level of employment.

Minimum wages are currently set in South Africa at the sectoral level, either through collective bargaining (in bargaining councils, and then 'extended' across the entire sector by the Minister of Labour) or through sectoral determinations by the Employment Conditions Commission (ECC)

Whilst the ILO leaves it up to the national stakeholders to attribute weight to these different social and economic objectives, it has tentatively suggested various 'benchmarks'. In its 2008/09 Global Wage Report, the ILO suggested that a minimum wage of 40% of the mean (average) national wage might be a 'useful reference point' given that many countries clustered around that level, but that the final value should depend on 'country-specific factors' (2008: 47). Other ILO analysts have argued that it is better to set minimum wages in relation to the median wage (i.e. mid-point in the wage distribution) because mean wages are biased upwards by very high wages.

For example, Belser and Sobeck note that a minimum wage 'is most frequently set at about 50 to 60 percent of the median wage' and suggest that these figures 'represent a useful benchmark for minimum wage setting' (2012: 122). A third suggested benchmark is to set the (annual) minimum wage between 30 and 60 percent of GDP per capita (e.g. Saget, 2008).

Minimum wages: South Africa in Comparative Perspective

How do these benchmarks compare with South Africa's existing minimum wages? Minimum wages are currently set in South Africa at the sectoral level, either through collective bargaining (in bargaining councils, and then 'extended' across the entire sector by the Minister of Labour) or through sectoral determinations by the Employment Conditions Commission (ECC). The lowest sectoral determination in 2015 is that for domestic workers in non-metro areas (R1 812 per month) and the lowest bargained wage is R989 per month, in the road freight sector (MacLeod, 2015). According to the National Treasury, the employment-weighted average minimum wage set through collective agreements outside of the public sector and the Metal and Engineering Industries was R3 500 per month and the employment-weighted average minimum wage set through sectoral determinations was R2 704 (MacLeod, 2015). The ILO reports minimum wages for many countries, typically national minimum wages or weighted averages. The ILO reported a minimum wage of R2 475 for South Africa in 2013, which in 2015 prices is very close to the National Treasury estimate for sectoral wage determinations (see Table 1).

Table 1. Estimates of minimum, median and mean wages in South Africa

	Most recent data	Expressed in 2015 prices
ILO minimum wage estimate	(2013) R2 475	R2 740
National Treasury calculation of the average sector determination (weighted by employment)		R2 704
ILO mean wage estimate	(2013) R8 194	R9 077
Arden Finn estimate for the mean wage **	R8 168	R8 544
NMWRI*** estimate for mean earnings		R9 073
National Treasury estimate for median wage *		R3 145
Arden Finn estimate for the median wage **	(2014) R3 224	R3 372
NMWRI estimate for median earnings		R3 347
ILO estimate of minimum wage to mean wage	(2013) 30%	30%
National Treasury estimate of minimum wage to median wage		85%

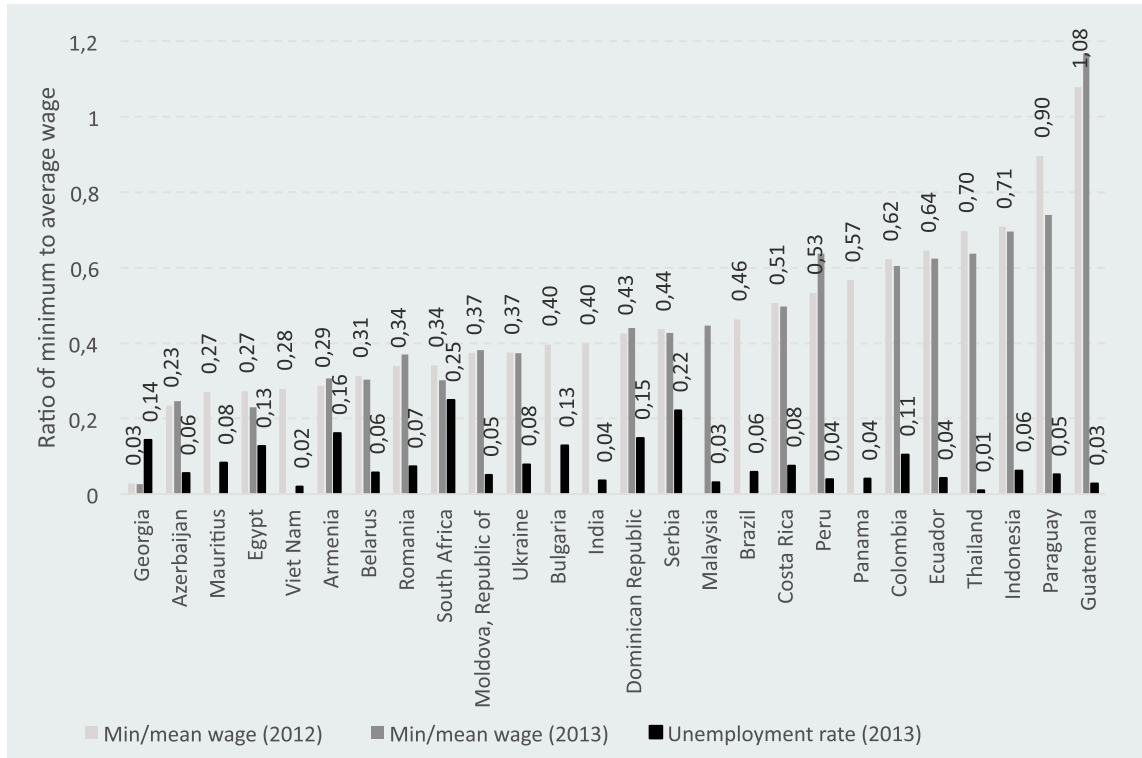
Source: <http://www.ilo.org/ilostat>, MacLeod 2015, Finn (2015: 42); NMWRI, 2015.

* estimated from MacLeod, 2015; ** outliers and zero-earners removed.

*** NMWRI is the National Minimum Wage Research Initiative.

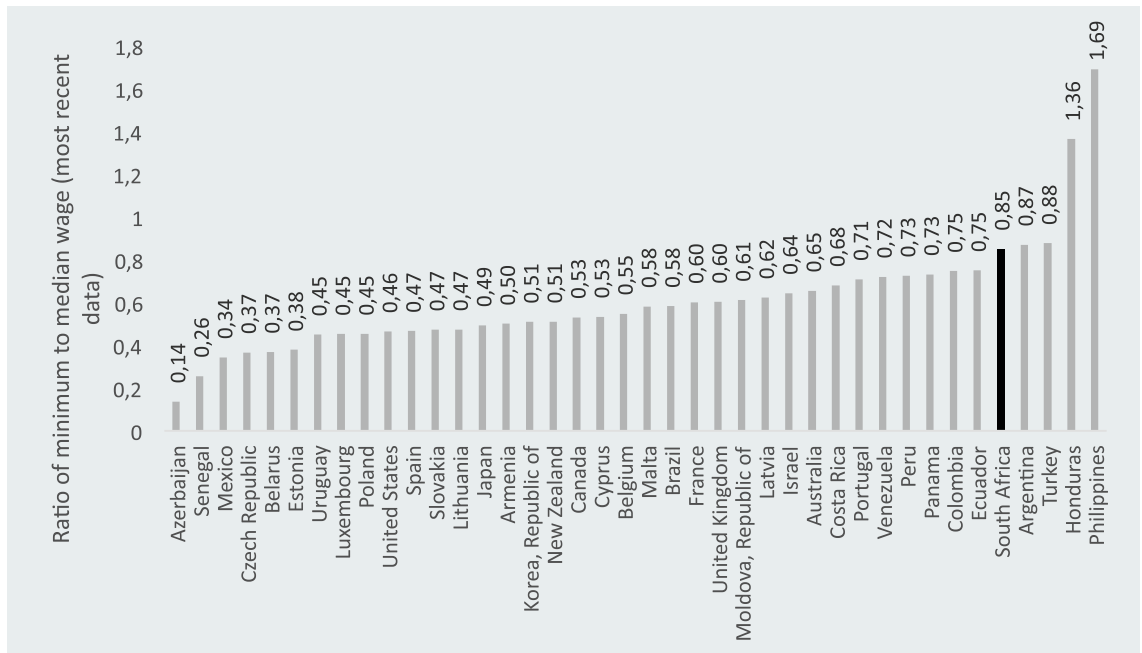
Figure 1 reports data from the ILO for middle-income countries. It shows that South Africa's ratio of minimum to mean wage is below (but not significantly so) the 40 percent benchmark. Figure 2 provides data from the ILO on the ratio of minimum to median wages for all countries for which data are available. It shows that South Africa's ratio of minimum wage to median wage is well above the 50 to 60 percent benchmark suggested by Belser and Sobeck (2012).¹

Figure 1. Unemployment rate and the ratio of minimum wages to mean monthly wages in middle-income countries.



Source: ILOSTAT (<http://www.ilo.org/lostat>)

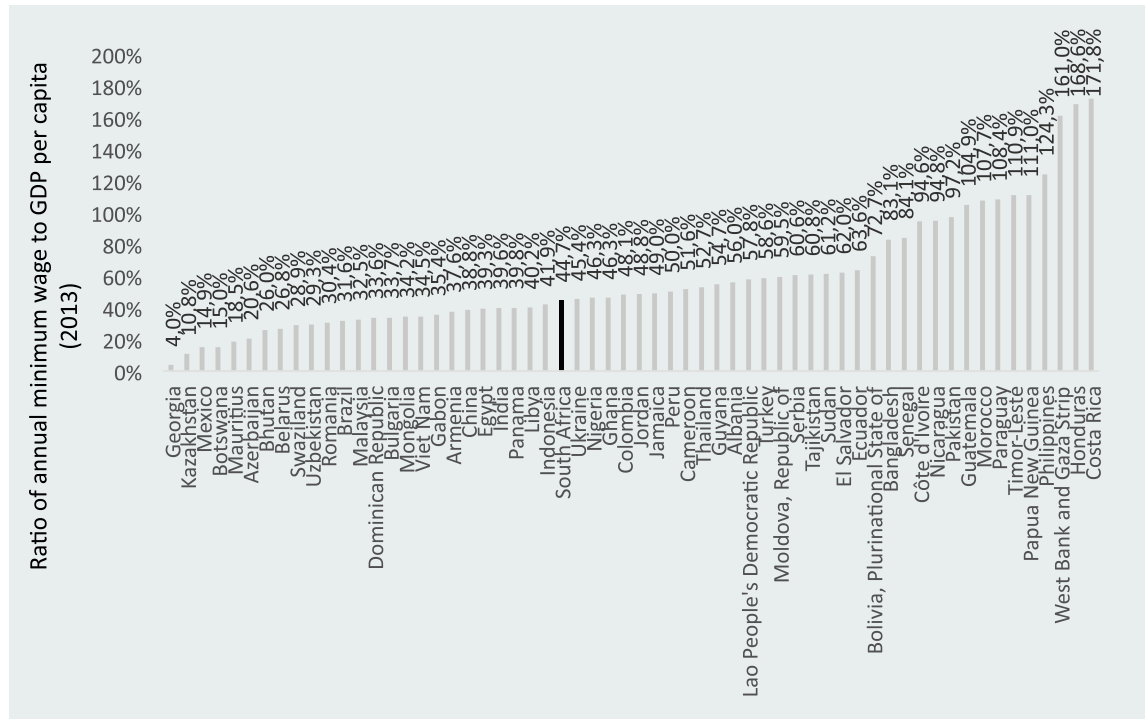
Figure 2. Ratio of minimum wages to median monthly wages (all countries)



Source: ILOSTAT (<http://www.ilo.org/lostat>), Table 1.

Measuring minimum wages against the mean or median wage is not optimal in high unemployment countries because no account is taken of the unemployed. (If the unemployed were included in the wage distribution as zero earners, then both the median and mean wages would be a lot lower). Benchmarking the minimum wage against GDP per capita is a better measure in this respect. Figure 3 presents the ratio of (annual) minimum wages to GDP per capita (2013). According to Saget (2008) countries between 30 and 60 percent are within the normal range. South Africa, at 45 percent, is higher than Brazil and comfortably within Saget’s indicative range.

Figure 3. Ratio of (annual) minimum wages to GDP per capita (2013) for middle income countries.

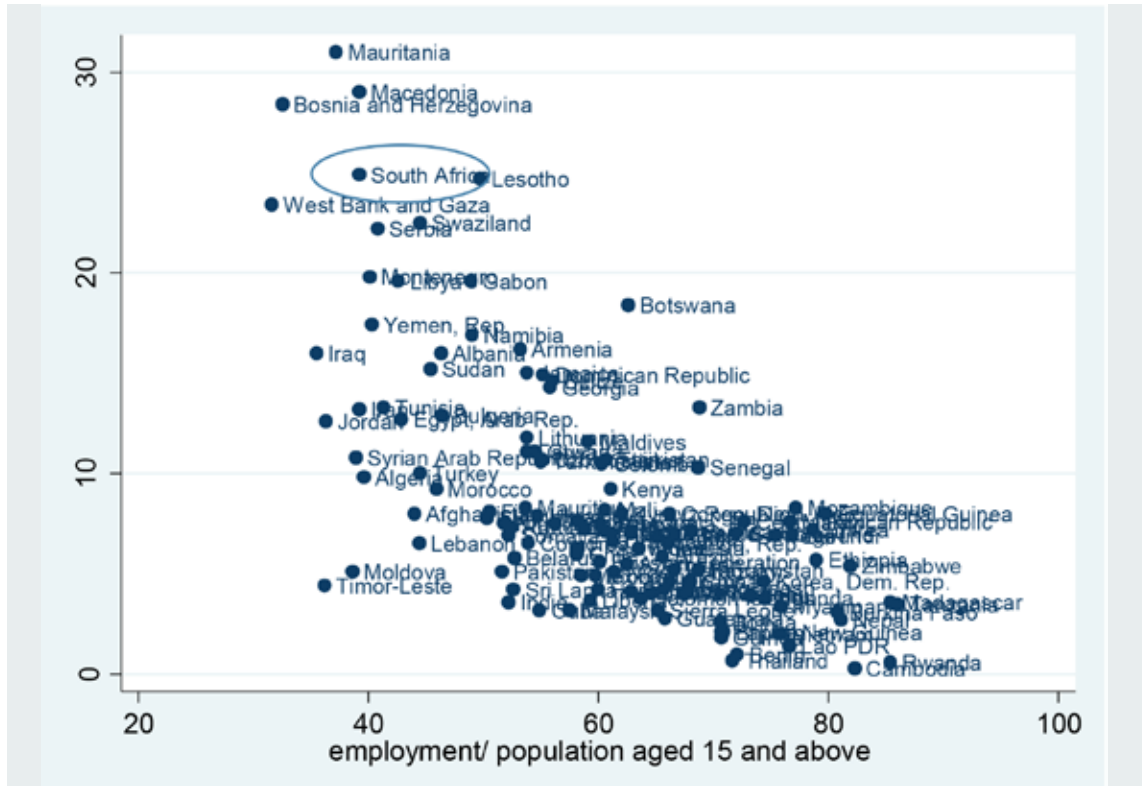


Source: ILOSTAT (<http://www.ilo.org/ilostat>), World Development Indicators.

Minimum wages and jobs: South Africa’s challenge

The ILO suggests various benchmarks for minimum wage setting but is always quick to insist that country-specific factors be taken into account when finding an appropriate balance between social and economic considerations. South Africa’s extraordinarily high rate of unemployment and weak capacity to generate new jobs out of economic growth is the key country-specific economic factor that needs considering when setting minimum wages. South Africa needs to pay special attention to what the ILO Minimum Wage Fixing Convention calls the ‘desirability of attaining and maintaining a high level of employment’.

Figure 4. Unemployment and employment rates for 91 Low- and Middle-income developing countries



Source: World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>).

Figure 4 draws on available data from the World Bank to show that South Africa is amongst a small group of mostly Southern African, post-communist and war-torn countries that have low employment rates (i.e. percentage of adults aged 15 and above who are employed) and high unemployment rates. A low employment rate implies the country is not fully utilizing its available human resources, and a high unemployment rate implies that many of the jobless are frustrated work-seekers. For the small group of countries in the top left hand corner of the figure, job creation is clearly an urgent economic and social priority.

Increasing the capacity of the economy to generate new jobs by encouraging labour-intensive sectors to expand is thus crucial, and would have significant economic and social benefits.

Countries with a relatively high employment elasticity of growth (i.e. strong capacity to generate jobs out of growth) can potentially grow themselves out of the corner. But this is not true of South Africa. Not only does South Africa have a below-mean employment rate and an above-mean unemployment rate, it also has a lower than average employment elasticity of growth. Increasing the capacity of the economy to generate new jobs by encouraging labour-intensive sectors to expand is thus crucial, and would have significant economic and social benefits. The poorest quintiles in South Africa rely predominantly on grants and remittances for their survival (e.g. Finn, 2015: 8-9). Increasing the number of jobs, even at low wages, will have a major impact on poverty. This has important implications for minimum wage setting.

International evidence on the relationship between minimum wages and employment

Higher minimum wages encourage affected firms to shed lower skilled labour in order to improve average productivity and protect profitability. In practice, firms might be able to absorb the increase without generating job losses by improving efficiency in other ways or by tolerating lower profits (though this is likely to be the case only in relatively protected sectors and with regard to relatively small increases in the minimum wage). Other firms will be unaffected (if they are already paying more than the minimum wage) and may even benefit from the increased purchasing power in the hands of workers and enjoy higher sales. Employment overall could even rise if macroeconomic conditions are propitious.

Given that the impact of minimum wages on jobs is thus highly contextual, it is unsurprising that the international empirical literature reports a wide range of findings. Most meta-analyses of the literature conclude that the effect on employment is typically mildly negative (mostly for relatively unskilled workers) or neutral, and sometimes positive (e.g. Freeman 2009, Betcherman, 2014, ILO, 2015: 59). For advocates of minimum wages, this somehow ‘proves’ that concerns about job losses following the imposition of a minimum wage are misplaced. But as Freeman observes:

‘The evidence that employment responses are often negligible does not mean that demand curves do not slope downwards nor that a higher minimum wage cannot decimate employment. Rather, it suggests that governments set minimum wages with due consideration to the risk that minima can cause more harm than good’ (2009: 13).

Such an assessment is consistent with evidence showing that larger employment losses are associated with larger minimum wage increases (see DPRU, 2015) and that the primary losers are lower-skilled workers at and below the level that the minimum wage ‘bites’ (Betcherman, 2014: 8).

The primary losers are therefore young workers and women, the less skilled, and workers in small firms.

The ILO (2013) is emphatic in concluding that minimum wages have had small or no effects on employment in developed countries, but concludes that employment effects in developing countries depend on the economic context, the level of the minimum wage, enforcement, and the ‘labour market peculiarities and institutions prevailing in each country’ (2013: 49). A World Bank study goes further:

‘The clear majority of developing-country studies find some adverse employment effects, but this is not always the case. ... Not surprisingly, researchers tend to find that employment effects are generally more significant at the segment of the wage distribution where the minimum wage actually “bites”. ... A negative employment effect can extend beyond workers earning around the minimum wage, but it tends to dissipate as one moves up the wage distribution.’ (Betcherman, 2014: 8)

The primary losers are therefore young workers and women, the less skilled, and workers in small firms. This study concurs with the ILO that the effects are often modest either because of non-compliance or because minima are set at low levels, anticipating employment effects. Large increases in minima have tended to have substantial negative effects on employment especially when demand for labour was weak (for example, in Colombia in the 1990s) (ibid: 10).

South African evidence on the relationship between minimum wages and employment

As in the international literature, South African studies of the impact of minimum wages on employment found mostly modest effects on employment when set at low levels. Job destruction has however, occurred when minima were raised dramatically, especially among less skilled workers in tradable sectors (i.e. those sectors exposed to international competition).

It is too early to say how many jobs were lost following the huge increase in the minimum wage in agriculture in 2013, but anecdotal evidence suggests that job destruction was again considerable even over the short-term, especially affecting women.

Workers in non-traded sectors, notably domestic work and retail, face very different wage employment elasticities than those in traded sectors. Hertz (2005) found that the introduction of a minimum wage (in 2002) caused a drop in hours worked but that the increase in pay more than compensated domestic workers and their wage income increased. Subsequent estimates found no impact on hours (Dinkelman and Ranchod, 2012) and a negligible negative impact (Bhorat et al, 2012). This suggests that the ECC (which set the minimum wage after taking into

account potential job losses) broadly got the level 'right'. However, it is worth noting that there may be substantial non-compliance (reported levels of 39%) with regard to the payment of minimum wages to domestic workers, so it is likely that ineffective regulation also helped protect against job losses.

The situation for workers in traded sectors is very different - agriculture being the most notable example. Bhorat et al. (2014) show that the introduction of a minimum wage in 2002 accounted for most (200,000) of the subsequent job losses. It is too early to say how many jobs were lost following the huge increase in the minimum wage in agriculture in 2013, but anecdotal evidence suggests that job destruction was again considerable even over the short-term, especially affecting women. In the (tradable) forestry sector, Bhorat et al. (2012b) found that the sectoral determination did not lead to any observed improvement in total earnings, because higher wages were offset by a reduction in working hours. Non-compliance (53%) was also high in this sector, likely providing some cushioning against job losses.

The clothing sector is also a traded sector, and since the creation of a national bargaining council in 2003, minimum wages have been set nationally through collective agreements. Employers and workers have kept real wage increases modest except in low-wage non-metro areas where minimum wages rose faster. This has undermined the most labour-intensive end of South Africa's last remaining labour-intensive manufacturing sector (Nattrass and Seekings, 2014). If it had not been for continued non-compliance with these wages by many low-wage firms, job losses would have been even worse.

There is thus plenty of evidence that the labour demand curve in South Africa slopes downwards, meaning that higher wages typically translate into fewer hours worked and even job losses. This raises the issue of the impact of a NMW on employment. According to the National Treasury, a NMW of R1,886 would affect 45% of unskilled workers and 43% of farm workers and 52% of domestic workers. Using a slightly different definition of full-time workers, Finn calculates that a wage of R3,000 would affect over 80% of agricultural and domestic workers (Table 2).

Table 2. Where the NMW ‘bites’

	Where minimum wages would bite:
National Treasury: A wage of R1 886 would affect:	45% of primary educated labour, 43% of agricultural workers, 52% of private households
Arden Finn: A wage of R3 000 would affect	About 40% of all full-time workers, about 45% of full-time clothing workers, 82% of full-time workers in the agricultural sector, 87% of full-time workers in domestic services

Source: MacLeod (2015), Finn (2015). NB: MacLeod and Finn are using different data sources and definitions.

The large number of workers affected (by either calculation) is cause for concern. Those who gain extra money and do not lose their jobs will clearly benefit. The problem, however, is that some if not many could become unemployed. The threat of job losses will vary from sector to sector, depending (inter alia) on the level of compliance. Where non-compliance is high and tolerated (i.e. many firms ignore the NMW and the wage is not enforced by the relevant institutions) then the impact of the NMW on both incomes and employment will be lower. Even so, firms remain vulnerable to inspections and legal action, hence the business environment is risky and uncertain for these firms. Non-compliant firms may keep operating, but gradually change their technologies, not replacing unskilled workers when they leave. The result over the longer term is thus likely to be a decline in labour-intensity as firms shed their unskilled labour, mechanise, or move into less labour-intensive sectors. Some, perhaps many workers who lose their jobs might end up getting jobs elsewhere. But this depends on how the economy reacts dynamically and over the longer-term.

More recently, analysts have pointed to the longer run effect, i.e. taking into account the way that higher minimum wages affect the growth path.

Dynamic considerations: the impact on the growth path

Almost all of the empirical studies of the effect of minimum wages on employment have focussed predominantly on the short-run. More recently, analysts have pointed to the longer run effect, i.e. taking into account the way that higher minimum wages affect the growth path. Sorkin (2015) suggests that the demand for labour might be inelastic in the short-term, but elastic in the longer-term, as employers substitute capital for labour. Meer and West (2015) argue that minimum wages affect employment over time ‘through changes in growth rather than an immediate drop in relative employment levels’. Using data from the US, they found that the negative employment effect peaks three or more years after the relative increase in minimum wages. Aaronson, French and Sorkin (2015) examined the mechanism through which firms substitute capital for labour. They found that existing employers in the fast-food restaurant industry are unable easily to substitute capital for labour in response to minimum wage increases, but new employers – who are typically restaurant chains – can do so. Even over the short-term, industries adjust to changed wages through the exit of more labour-intensive employers and the entry of less labour-intensive ones. In light of this research, The Economist backed away from its earlier endorsement of minimum wages, concluding that evidence of modest short-term effects might be a ‘poor guide’ to the long-term effects of large increases.

There is, however, a rival narrative about the dynamic impact of minimum wages claiming that higher wages could boost growth by increasing domestic consumption thereby encouraging domestic investment and creating jobs. Theoretically, such ‘wage-led growth’ is possible if higher domestic sales generate sufficient profits and funds for investment to compensate domestic firms (for higher wage costs) such that employment and output rise. But this is less likely in an open economy and ultimately depends on what drives profits and investment in any particular economy.

The National Treasury provides several projections for different levels of the NMW (including household poverty lines), with higher wages generating worse economic outcomes especially for the poor.

Two published macroeconomic analyses of the South Africa economy (using macroeconomic simulations and data from the 1990s and 2000s respectively) concluded that wage-led growth was not feasible in South Africa, and that increasing the wage share would actually undermine investment, growth and employment and generate balance of payments problems (Gibson and Van Seventer, 2000; Oranan and Galanis, 2013). A recent simulation by the South African National Treasury comes to the same conclusion – notably that South Africa ‘is profit/investment driven’ rather

than ‘wage/consumption driven’ because profits are the main source of funding for investment and wages, and because a significant amount of consumption (following from wage increases) gets spent on imports (MacLeod, 2015).

The National Treasury uses their macroeconomic model to predict the impact of four different levels for a national minimum wage (NMW). Key results are reported in Table 3. Setting the NMW at 60 percent of the median wage (i.e. R1,886, which is close the minimum wage for non-metro domestic work) is predicted to result in a 2.1% fall in employment and a 2.5% fall in output over the longer term. This would affect 45% of unskilled workers, 43% of workers in agriculture and 52% of workers in private households. The model projects that assuming full compliance, the economy would become less labour-intensive (MacLeod, 2015). The National Treasury provides several projections for different levels of the NMW (including household poverty lines), with higher wages generating worse economic outcomes especially for the poor. This is consistent with the macroeconomic simulation by Pauw and Leibbrandt (2012) which concluded that higher minimum wages hurt the poor and hence was not an appropriate instrument for addressing household poverty.

Table 3. Macroeconomic modelling results (summary) from the National Treasury

% deviation from base-line (i.e. modelled situation before the introduction of a NMW)	Monthly minimum wage (2015 prices)			
	R1 258	R1 886	R3 189	R4 303
Real GDP – short run	-0.3	-0.7	-2.1	-3.7
Real GDP – long run [Investment varies according to the rate of return, skilled labour no longer in short supply]	-1	-2.5	-7.5	-13
Employment – short run	-0.8	-2.1	-6.2	-10.1
Additional scenario: NMW does not apply to informal agricultural and domestic workers				
Real GDP – short run	-0.2	-0.6	-1.9	-3.4
Employment – short run	-0.7	-1.8	-5.1	-8.2
Additional scenario: NMW does not apply to informal workers and those earning below sectoral determinations and collective bargaining agreements				
Real GDP – short run	-0.2	-0.4	-1.5	-2.7
Employment – short run	-0.5	-1.3	-4.4	-7.8

Source: MacLeod, 2015

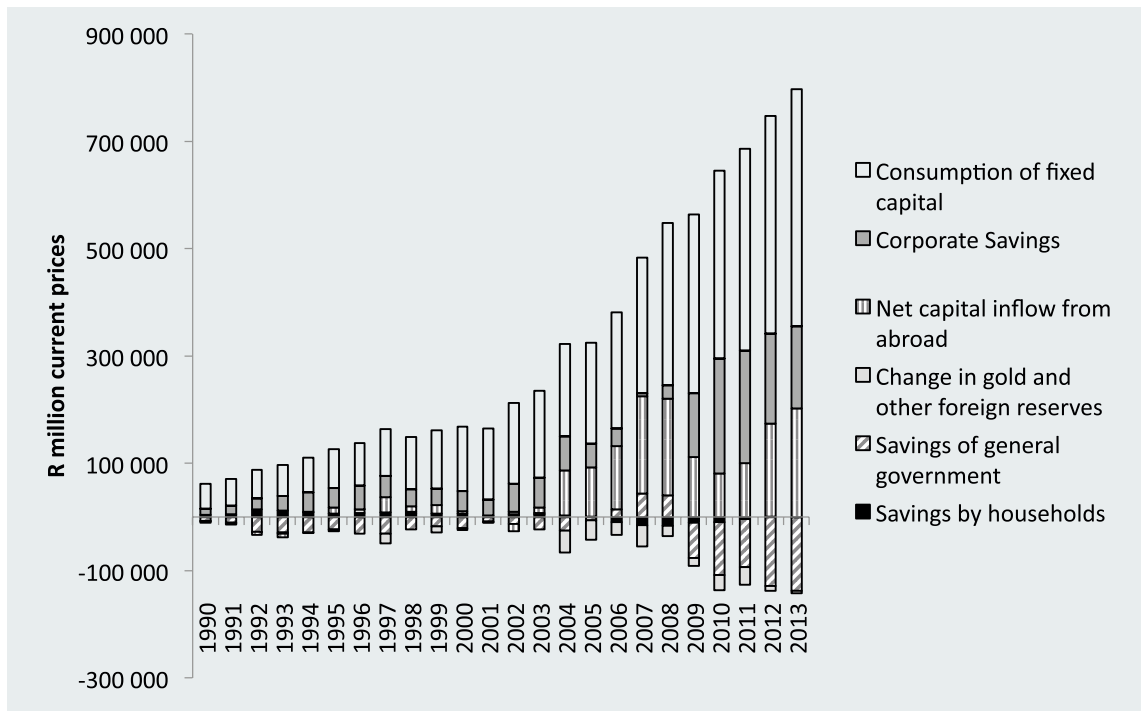
One of the reasons why minimum wages have a generally muted impact on employment in developing countries is because governments tolerate significant levels of non-compliance. South African studies suggest that there are high levels of non-compliance in South Africa: 34% of workers in retail earn below the sectoral determination, 39% in domestic work, 53% in forestry, 47% in the taxi industry, 67% in private security and 55% in agriculture (reported in MacLeod, 2015). The National Treasury provides several additional scenarios assuming that the NMW does not apply (presumably because non-compliance will be tolerated) to certain categories of worker. We report two of these scenarios in Table 3. They show that the employment and output impacts are much lower if informal, agricultural and domestic workers are exempted, and even lower if those already earning below collective bargaining agreements (as in workers in non-compliant clothing firms) are also de facto excluded. Even so, the impact on employment remains negative.

The mechanisms are unclear, but the results are probably driven by the assumption that higher minimum wages will automatically boost productivity and that investment will respond very positively to (wage-fuelled) demand.

The National Treasury's modelling work suggests that a cautious approach to NMW setting is advisable. But models are not infallible and will vary depending on assumptions and data sources. For example, the ADRS macroeconomic model reportedly predicts that higher minimum wages will promote growth and employment (Adelzede, 2015). The mechanisms are unclear, but the results are probably driven by the assumption that higher minimum wages will automatically boost productivity and that investment will respond very positively to (wage-fuelled) demand.

Ideally, a team of independent experts (perhaps drawn from the Reserve Bank and the major universities) should evaluate the rival economic models and test them against what we know about South African economic dynamics. In the interim, however, it is worth pointing out that the National Treasury model is more plausible given that it is consistent with other South African macroeconomic models based on data from the 1990s and 2000s (Gibson and Van Seventer, 2000; Oranan and Galanis, 2013) showing that growth in South Africa is profit-led rather than wage-led. Furthermore, the National Treasury model is consistent with evidence showing that wage increases in tradeable sectors have undermined competitiveness and hence resulted in employment losses. It is also consistent with the fact that the South African economy is not demand-constrained. As shown in Figure 5, capital accumulation in South Africa relies on corporate savings (out of profits) and on capital inflows because the government and household sectors are typically net borrowers. Put differently, South Africa’s economic problem is in large part due to a shortage of savings, not demand. It is precisely because consumption continually runs ahead of production capacity that imports are sucked into the economy, and it is because South Africans are net borrowers rather than savers, that the country needs a constant inflow of foreign savings to accommodate the current account deficit and help finance capital accumulation. Wage-led growth is thus unlikely to be sustainable.

Figure 5. The financing of gross capital formation



Source: Data from the South African Reserve Bank; see www.reservebank.co.za/ .

According to data presented by Finn (2015a, 2015b) and the National Treasury, a very high proportion of low-skilled workers and workers in tradeable sectors like agriculture and clothing would be affected by a NMW in the range of R1,900 to R3,000. This implies that unless additional support (perhaps through industrial policy assistance and the like) are provided to these sectors, these last remaining labour-intensive tradeable sectors are likely to shed even more workers if a NMW is set within this band. Large numbers of domestic workers would also be affected, but as this is not a traded sector and non-compliance is rife, fewer job losses are likely.

Ultimately, it is impossible to predict precisely the employment impact of any particular level of the NMW. There is no substitute for empirical investigation on a sector by sector basis. One option is to request the ECC to make a sectoral determination to cover any workers not already covered by existing collective agreements or sectoral determinations and otherwise leave the system of sectoral minimum wages intact. If this is politically impossible, then the ECC should be tasked with conducting an evidence-based assessment of the likely employment effect of various minimum wages and then make recommendations. Expanding welfare provision for the unemployed should also be considered as an anti-poverty measure.

REFERENCES

- Aaronson, D., French, E., Sorkin, I., & Michigan, U. 2015. Industry Dynamics and the Minimum Wage: A Putty-Clay Approach. Federal Reserve Bank of Chicago (May 25).
- Adelzadeh, A. 2015. Potential impact of introducing National Minimum Wage in South Africa, Presentation to the NEDLAC Technical Committee, 19 October.
- Belser, P. and K Sobock. 2012. 'At what level should countries set their minimum wages?', in International Journal of Labour Research, vol.4, no.1: 105-127.
- Betcherman, Gordon (2014), 'Labor market regulations: what do we know about their impacts in developing countries?', World Bank Research Observer, published online, version 'ku005'.
- Bhorat, H., Kanbur, R., & Mayet, N. 2012a. The Impact of Sectoral Minimum Wage Laws on Employment, Wages and Hours of Work in South Africa. Cape Town: Development Policy Research Unit.
- Bhorat, H., Kanbur, R., & Stanwix, B. 2012b. Estimating the Impact of Minimum Wages on Employment, Wages and Non-Wage Benefits: The Case of Agriculture in South Africa. Cape Town: Development Policy Research Unit.
- Dinkelmann, T., & Ranchold, V. 2012. Evidence on the Impact of Minimum Wage Laws in an Informal Sector: Domestic Workers in South Africa. Journal of Development Economics, 27-45.
- DPRU. 2015. Exploring Minimum Wage Impacts: Global Evidence and South African Considerations. A Presentation to NEDLAC, 29 June 2015.
- Finn, Arden. 2015., 'A National Minimum Wage in the Context of the South African Labour Market', National Minimum Wage Research Initiative Working Paper no.1 (Johannesburg: University of the Witwatersrand, August).
- Finn, A. 2015b. A National Minimum Wage in the Context of the South African Labour Market. Powerpoint presentation, 17 August 2015.
- Freeman, R. B. 2009. Labor regulations, unions, and social protection in developing countries: market distortions or efficient institutions? (No. w14789). National Bureau of Economic Research.
- Gibson, Bill, and D. van Seventer. 2000., 'Real wages, employment and macroeconomic policy in a structuralist model for South Africa', Journal of African Economies 9,4: 512-546.
- Hertz, T. 2005. The Effect of Minimum Wages on the Employment and Earning of South Africa's Domestic Service Workers. Kalamazoo: Upjohn Institute Working Paper No. 05-120.
- ILO. 2008. Global Wage Report 2008/0. Minimum Wages and Collective Bargaining: Towards Policy Coherence. ILO Geneva. Available: <http://www.ilo.org/global/research/global-reports/global-wage-report/lang-en/index.htm>
- ILO. 2013. World of Work Report 2013 (Geneva: International Labour Organisation).
- ILO. 2015. Global Wage Report, 2014/5: Wages and Income Inequality, ILO Geneva. Available: <http://www.ilo.org/global/research/global-reports/global-wage-report/lang-en/index.htm>
- MacLeod, Catherine. 2015. Measuring the impact of a National Minimum Wage, National Treasury, October.
- Meer, J., and J. West. 2013. Effects of the minimum wage on employment dynamics (No. w19262). National Bureau of Economic Research.
- NMWRI (presented by G. Isaacs). 2015. National Minimum Wage Research Initiative: Presentation of Research Programme. NEDLAC, 15 June.
- Nattrass, N. and J. Seekings. 2014. Job Destruction in Newcastle: Minimum Wage Setting and Low-Wage Employment in the South African Clothing Industry', in Transformation, 84: 1-30.
- Onaran, Ozlem, and Giorgos Galanis. 2013. 'Is aggregate demand wage-led or profit-led? A global model', in Marc Lavoie and Engelbert Stockhammer (eds), Wage-led Growth: An Equitable Strategy for Economic Recovery (Basingstoke: Palgrave Macmillan): 71-99.
- Pauw, K., and Murray Leibbrandt, 2012. 'Minimum wages and household poverty: general equilibrium macro-micro simulations for South Africa', World Development 40,4: 771-83.
- Saget, Catherine. 2008. 'Fixing minimum wage levels in developing countries: Common failures and remedies', in International Labour Review, vol.147, no.1: 25-42.
- Sorkin, Isaac. 2015. 'Are there long-run effects of the minimum wage?', Review of Economic Dynamics 18,2: 306-33.