



DEVELOPMENT POLICY
RESEARCH UNIT

Minimum Wages In Africa: A Primer

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Outline

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Introduction

- Most countries in Africa have minimum wage (Wm) laws
- Coverage is poor, given the low rates of formality and urbanisation in the region
- Study remains important because:
 - As number of covered workers grows, wage regulation becomes increasingly significant for economy as a whole;
 - There can be spill-over/lighthouse effects to uncovered sectors;
 - Wage regulation is particularly aggressive in Africa.

A Note on Survey Data In Africa

- **Availability:** Acquiring household survey data with metadata and questionnaires is a challenge
 - **Only 8** SSA countries (excl. South Africa) have had national Labour Force Surveys at least twice since 1990
- **Access:** Researchers (including country researchers) have difficulty accessing micro-data
- **Quality:** Data of Varying Quality
 - Cross-checking data against World Bank I2D2 database (not publically available) and lack of other published material
 - Have made country visits and analysed official publications by national stats offices
 - Income data in particular is problematic and difficult to cross-check
- **Comparability:** Timing and survey questions differ which affects comparability

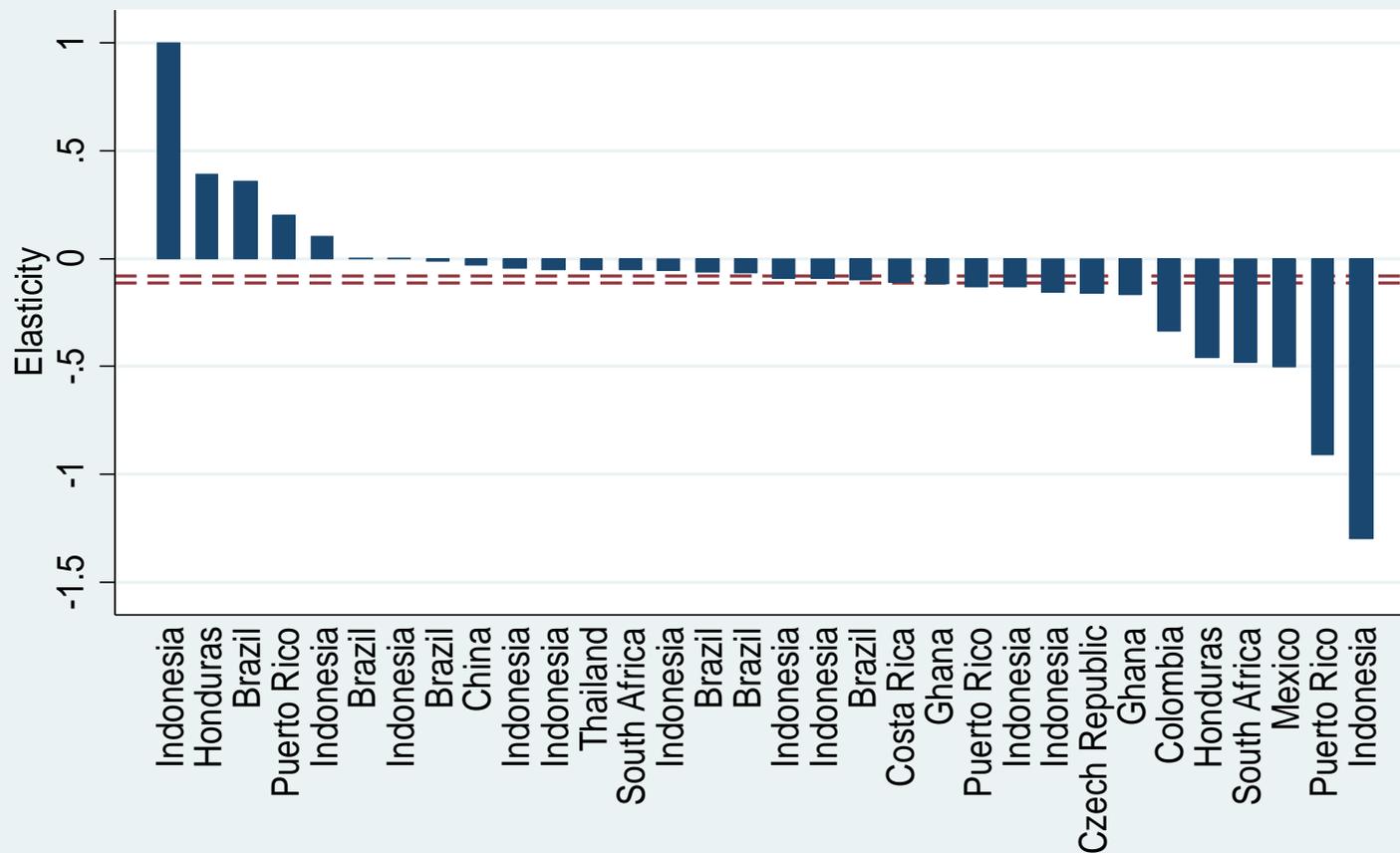
The Impact of Minimum Wages: Global Evidence

- Minimum Wages exist in 90% of ILO member states
- Three broad classifications
 - National, Sectoral/Occupational/Regional, Hybrid
 - Globally 50% have NMW, 50% have complex schedules
- Developing countries have increasingly turned to the use of MW as part of broader welfare policy interventions.
(Brazil, Russia, China, UK, Kenya, Honduras)
- Shift from the Stigler (1946) view of MW to new research that challenges the standard neo-classical economic theory
- The Impact Debate
 - Neumark & Wascher vs. Card & Krueger
 - Growing developing country literature focused on empirical evidence (often specific to a sector or cohort)

The Impact of Minimum Wages: African Evidence

- Literature on Africa – very limited
- Published work existing only for four countries:
 - Ghana (Jones, 1997); Kenya (Andalon & Pages, 2008); Malawi (Livingstone, 1995) and South Africa (Hertz, 2005; Dinkelman & Ranchhod, 2013; Bhorat, Kanbur *et al.*, 2013, 2014; Bhorat, Kanbur & Stanwix, 2014; Nattrass & Seekings, 2014)
- Most comprehensive literature in the region exists for South Africa showing:
 - Negative impact on employment in Agriculture, and to some extent in Clothing industry
 - In all other covered sectors employment contraction not observed

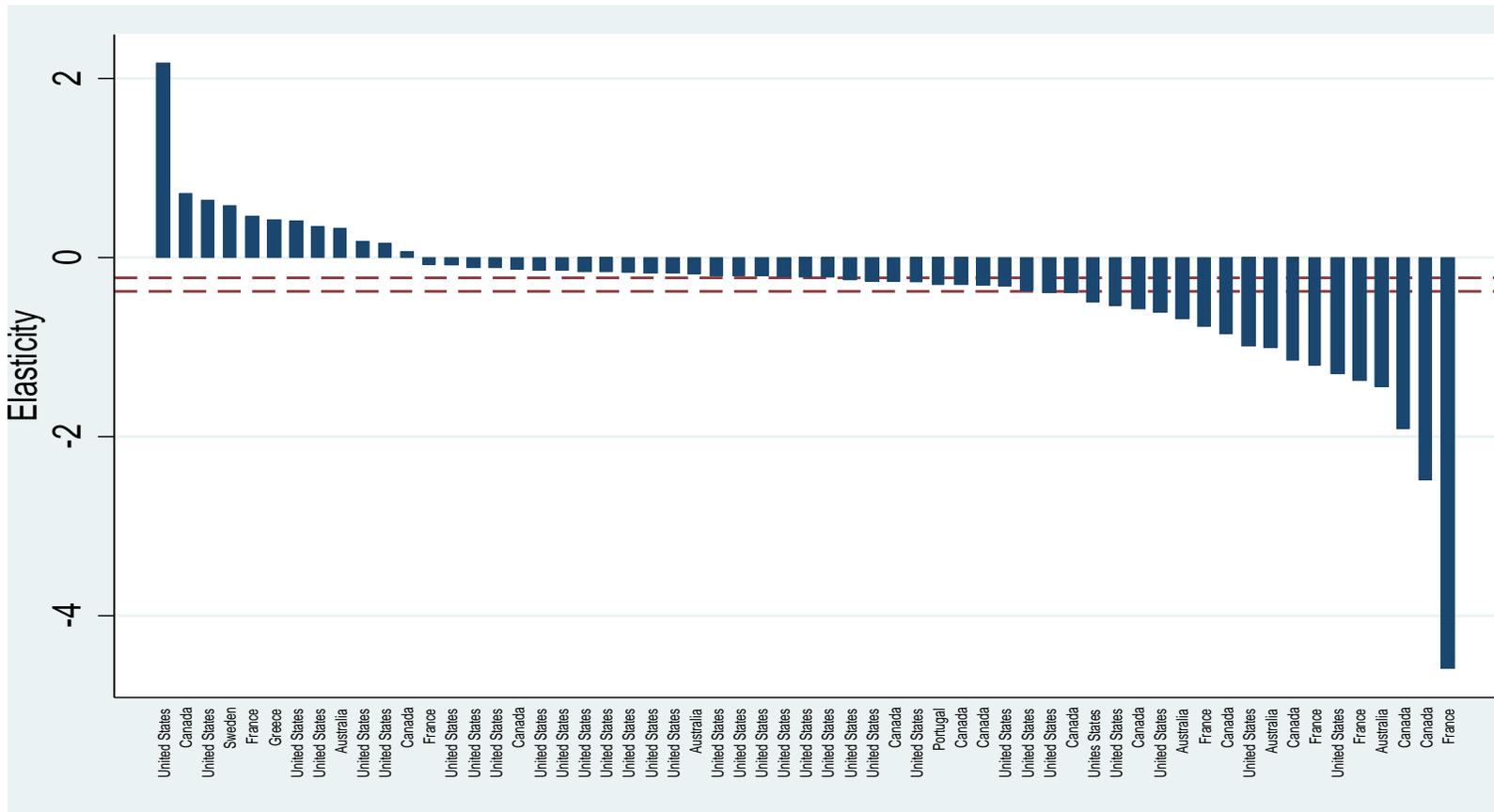
Wage-Employment Elasticities for LMI Countries



- Elasticities are the % change in employment from a given MW increase
- 32 statistically significant estimates from 11 countries
- The median elasticity is -0.08 (upper dotted line)
- The mean is elasticity is -0.11 (the lower dotted line)

Source: Neumark & Wascher (2008) and various other studies on MW impacts

Wage-Employment Elasticities for HI Countries



- The median elasticity is -0.225 (upper dotted line)
- The mean is elasticity is -0.37 (lower dotted line)

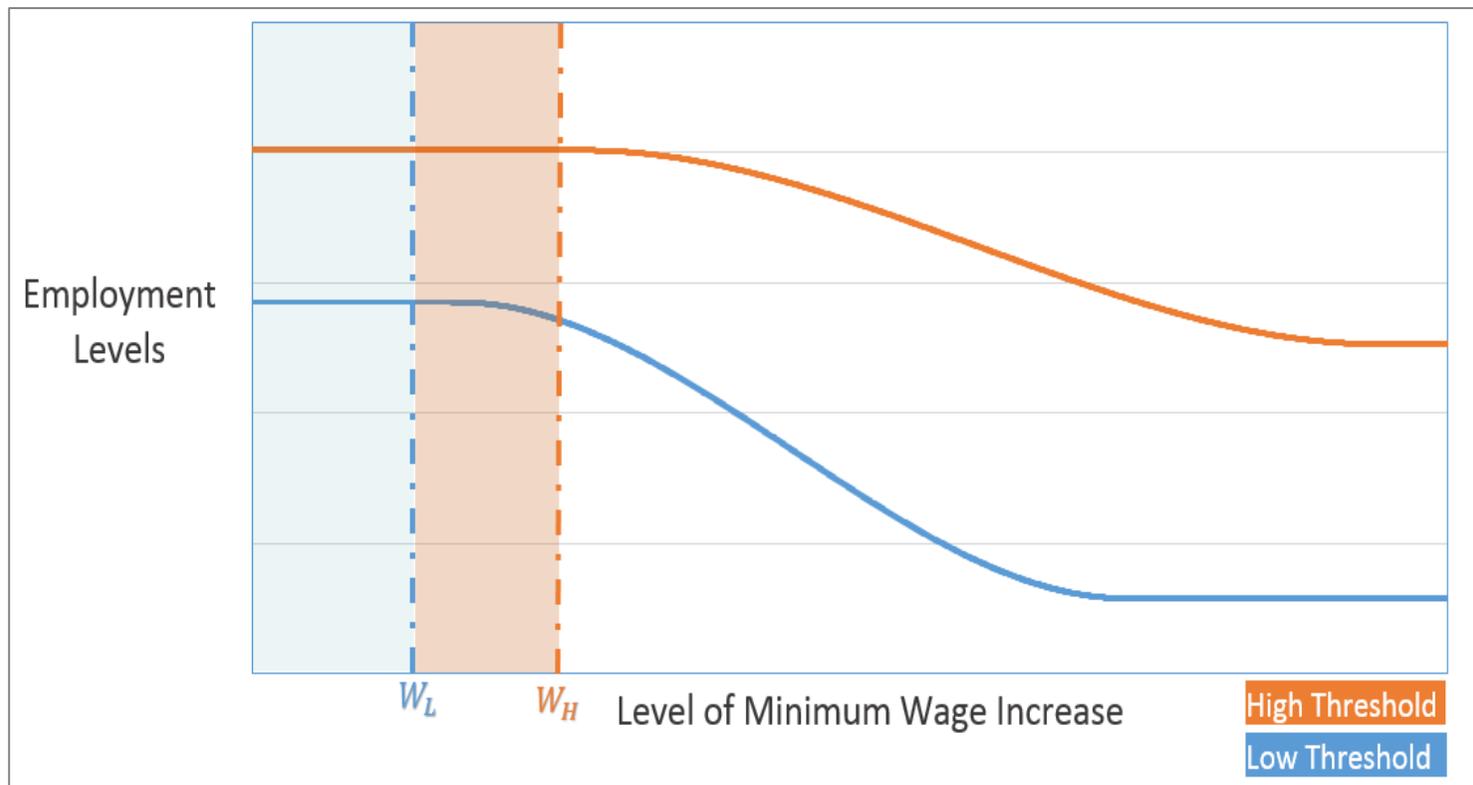
Source: Neumark & Wascher (2008) and various other studies on MW impacts

A Note on Employment Elasticities

- For previous figures, estimated elasticities are very low, signalling benign effects
 - In total, 77% of elasticities negative, while 23% are greater than or equal to zero
- These results represent different demographic groups, geographic locations, and sectors, across countries within differing wage systems
- Every elasticity figure based on particular increase in minimum wages, which differ widely
- Literature suggests trend of larger increases having larger impacts on employment so higher increases will produce higher elasticities
- Accurate estimation of a policy change on the economy is challenging and requires careful analysis of context

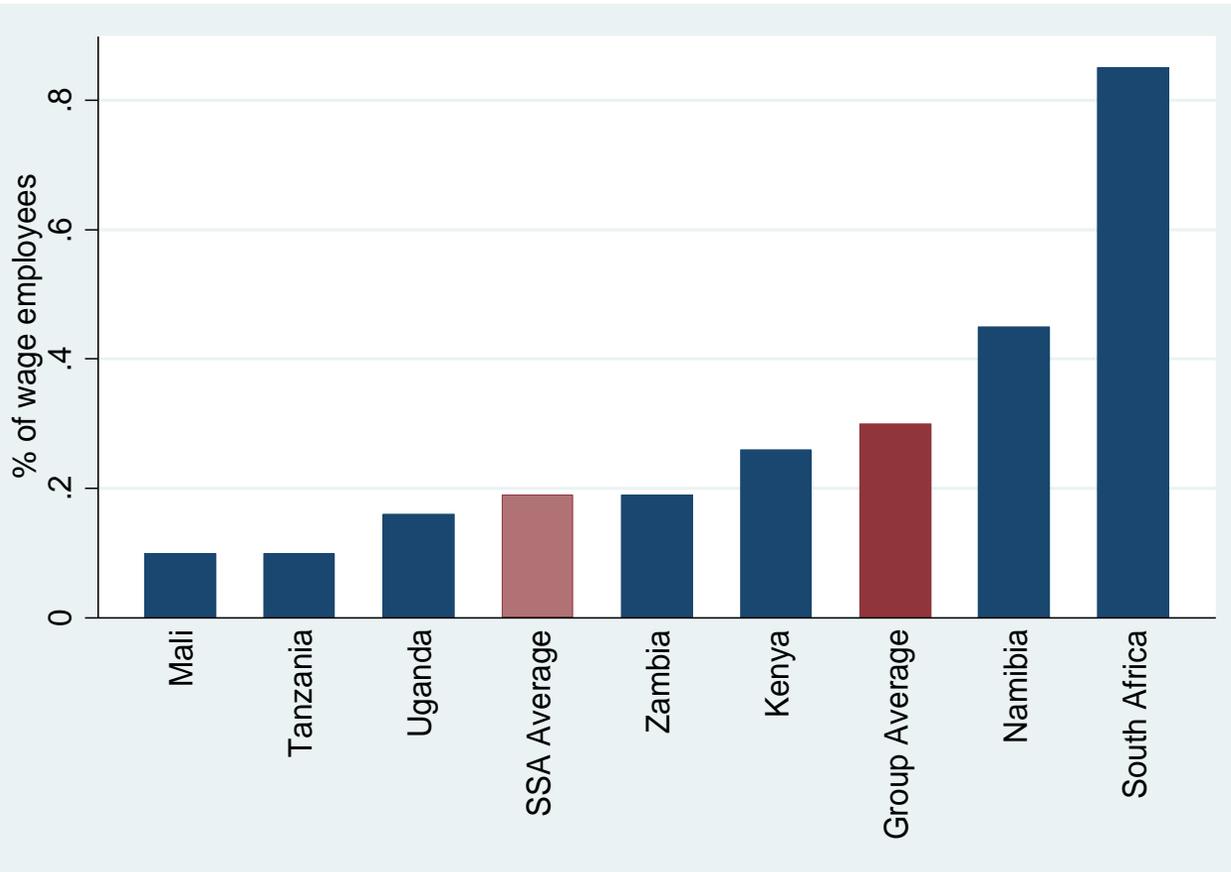
Wm and Employment Consequences: A Theoretical Construct

The Relationship between Minimum Wage Adjustments and Employment



Minimum Wage Levels in SSA: Formal Employment in Africa

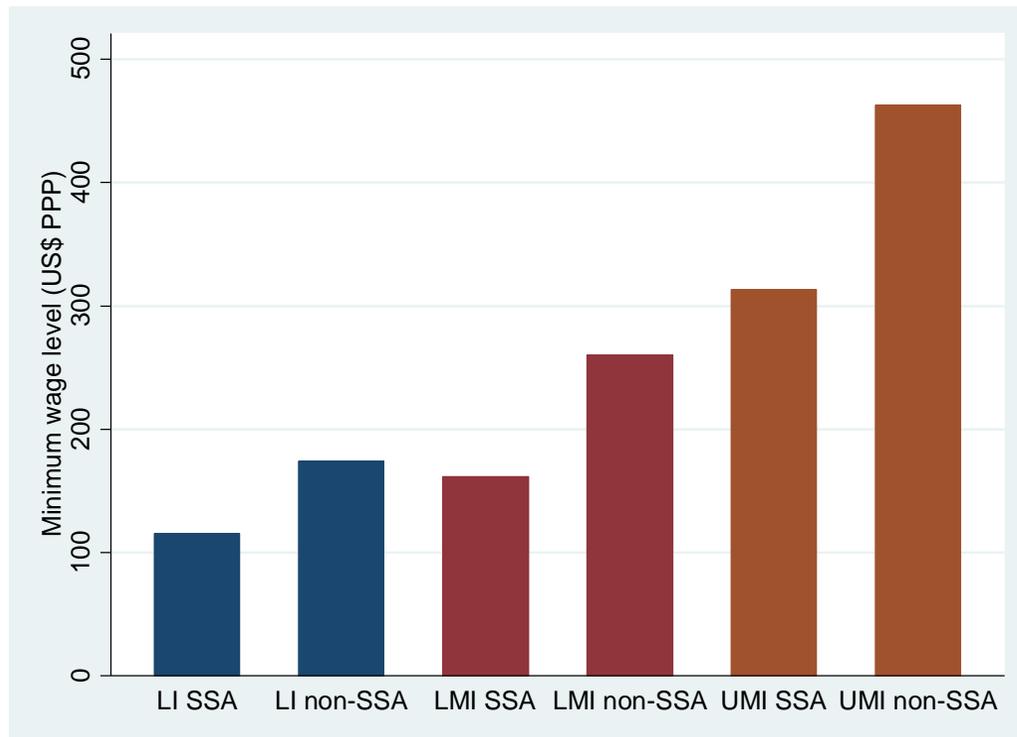
Paid Employees as a Percentage of Total Employment



- Key distinction in most African countries between usually small formal, wage-earning sector, and large informal, non-wage-earning sector
- South Africa: Only country where formal salaried employees constitute majority of labour force
- In 6 other economies represented, salaried employees account for < 50%
- Regional average close to 20%

Sources: South Africa, Labour Market Dynamics Study (2013); Kenya, Kenya Integrated Household Budget Survey (2005/06); Uganda, Uganda National Panel Survey (2012); Mali, Rani et al. (2013); Zambia, Living Conditions Monitoring Survey (2010); Tanzania, Integrated Labour Force Survey (2005/06); Namibia, Labour Force Survey (2012); Borhat, Naidoo & Pillay (2015).

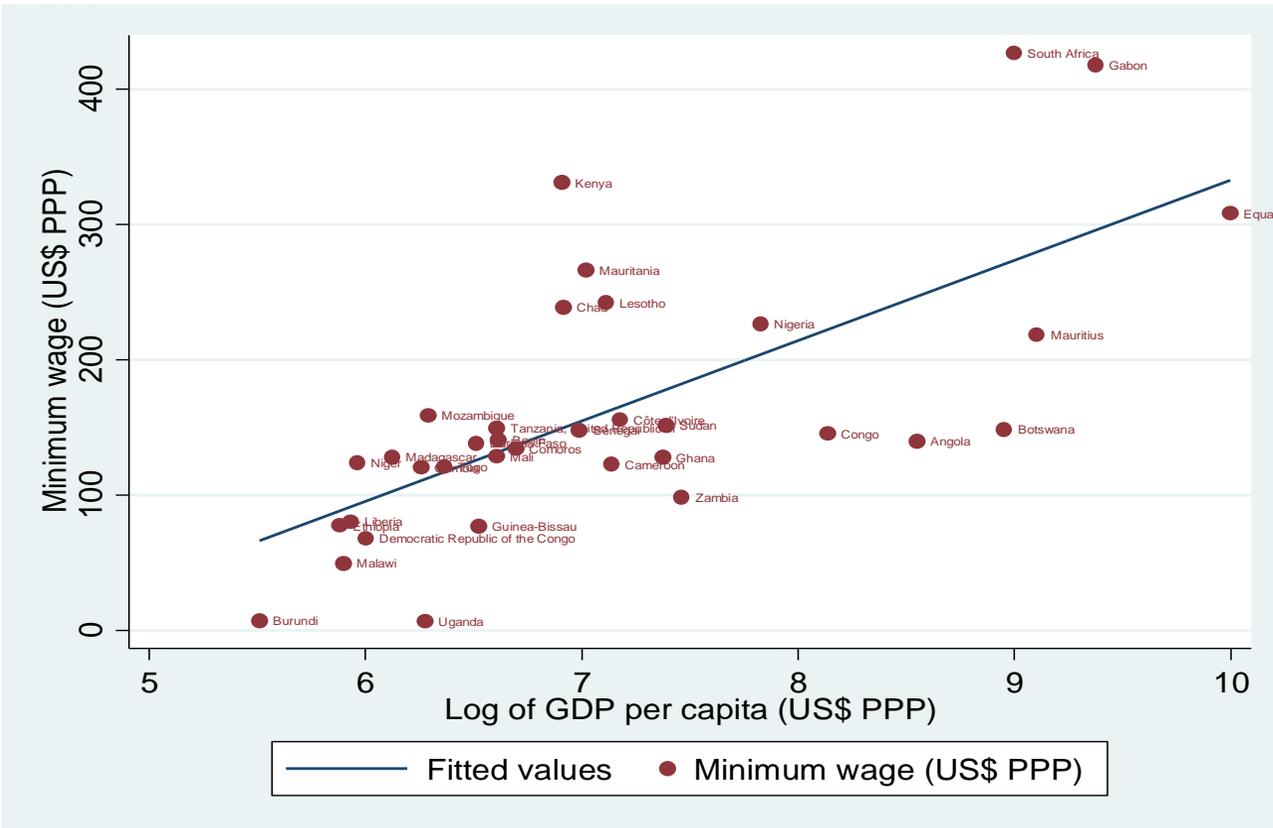
Minimum Wage Levels in SSA: Monthly Wm By Country Income Level



- For LICs in Africa, mean Wm stood at \$119 per month
- Increases by 19% to \$142 for LMI African economies
- And then further by 218% to \$366 for UMI African economies

Minimum Wage Levels in SSA: Minimum Wages and GDP per capita in Africa

Monthly Minimum Wages and GDP Per Capita (US\$ PPP), Africa



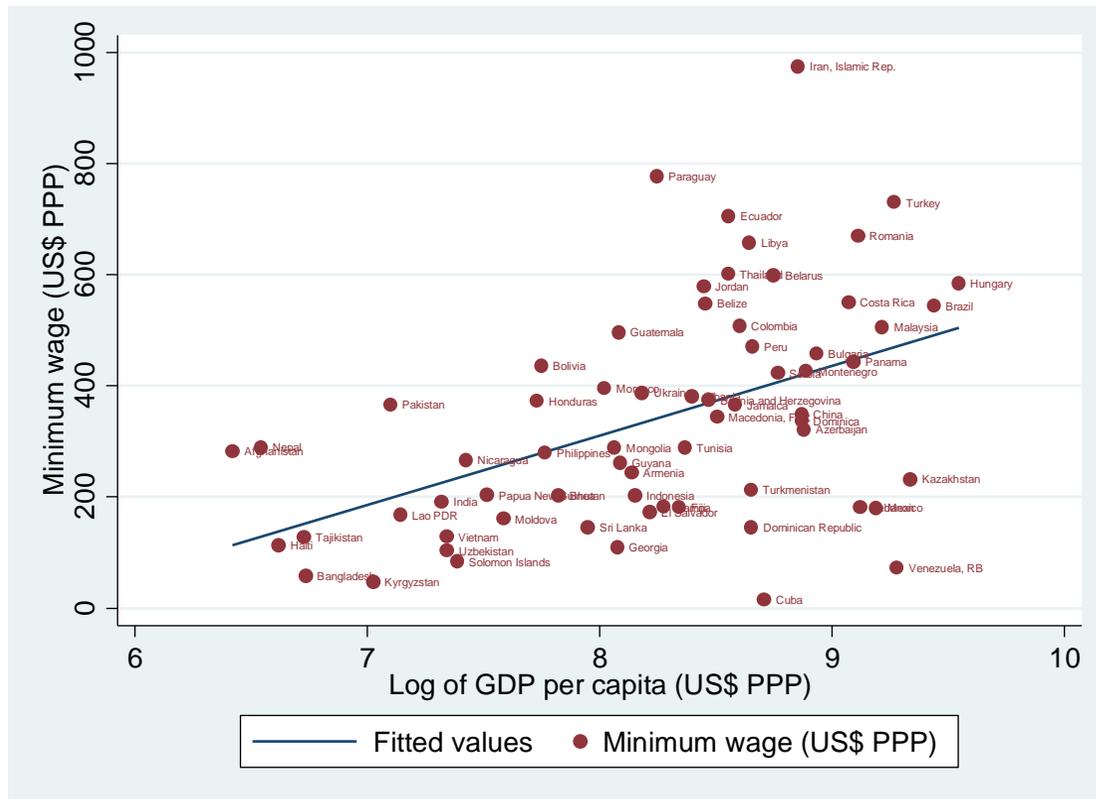
- As with the poverty line, minimum wage levels increase with GDP per capita
- Coefficient on fitted line is 59.42

Sources: ILO global wage database, World Bank WDI

Note: Sample based on 37 African economies, where the latest available data for each country was utilised.

Minimum Wage Levels in SSA: Minimum Wages and GDP per capita in LDCs

Number Minimum Wage Schedules, Developing Countries



- For sample of 67 non-African developing countries, relationship is also positive
- Coefficient is higher, at 125.14 suggesting a stronger minimum wage response to GDP in this sample

Sources: ILO global wage database, World Bank WDI

Note: Sample based on 67 non-SSA developing economies, where the latest available data for each country was utilised.

Country	Minimum wage (US\$ PPP)	Mean wage (US\$ PPP)	Kaitz Index
Low-income economies			
Burkina Faso	138	210	0.66
Burundi	26	256	0.03
Chad	239	371	0.64
Congo, Dem. Rep	68	53	1.27
Ethiopia	77	175	0.44
Madagascar	128	183	0.7
Malawi	49	368	0.13
Tanzania	149	624	0.24
Uganda	65	464	0.01
Group mean	104	300	0.46
Group median	77	256	0.44
Lower-middle-income economies			
Congo, Rep.	145	526	0.28
Ghana	128	469	0.27
Kenya	331	979	0.34
Lesotho	242	377	0.64
Senegal	148	983	0.15
Swaziland	94	815	0.12
Zambia	98	252	0.39
Group mean	169	629	0.31
Group median	145	526	0.28
Upper-middle-income economies			
Algeria	531	1003	0.53
Botswana	148	1287	0.12
Gabon	418	2356	0.18
Mauritius	218	1424	0.15
South Africa	517	1251	0.41
Group mean	366	1464	0.28
Group median	418	1287	0.18
Total SSA mean	188	687	0.37
Total SSA median	145	469	0.28

Minimum Wage Levels in Africa

Monthly Minimum Wage Estimates in Africa

- Mean (Median) Wm in Africa - \$188 (\$145) per month
- Group mean and median for UMI countries more than double those of LI countries
- Much higher Kaitz ratios for LIC economies
- African economies setting Wm at about 58% of average wages
- Country Heterogeneity in Wm levels is crucial to note.

Sources: Global Wage database, World Bank WDI
 Note: Sample based on 21 economies, where the latest available data for each country was utilised.

Wages are monthly and shown in current US\$ PPP.

Minimum Wages In Regions of the World

Region	Minimum Wage (US\$PPP)	National Wage (US\$PPP)	Kaitz Ratio (<i>Ratio to SSA</i>)
Latin America & Caribbean			
Mean	369	937	0.46 (1.24)*
Median	289	859	0.37 (1.32)*
East Asia & the Pacific			
Mean	317	884	0.38 (1.03)*
Median	284	739	0.32 (1.14)*
South Asia			
Mean	233	386	0.63 (1.70)*
Median	255	368	0.59 (2.11)*
Eastern Europe & Central Asia			
Mean	325	1136	0.3 (0.81)*
Median	344	1183	0.28 (1.00)*
Sub-Saharan Africa			
Mean	188	687	0.37
Median	145	469	0.28

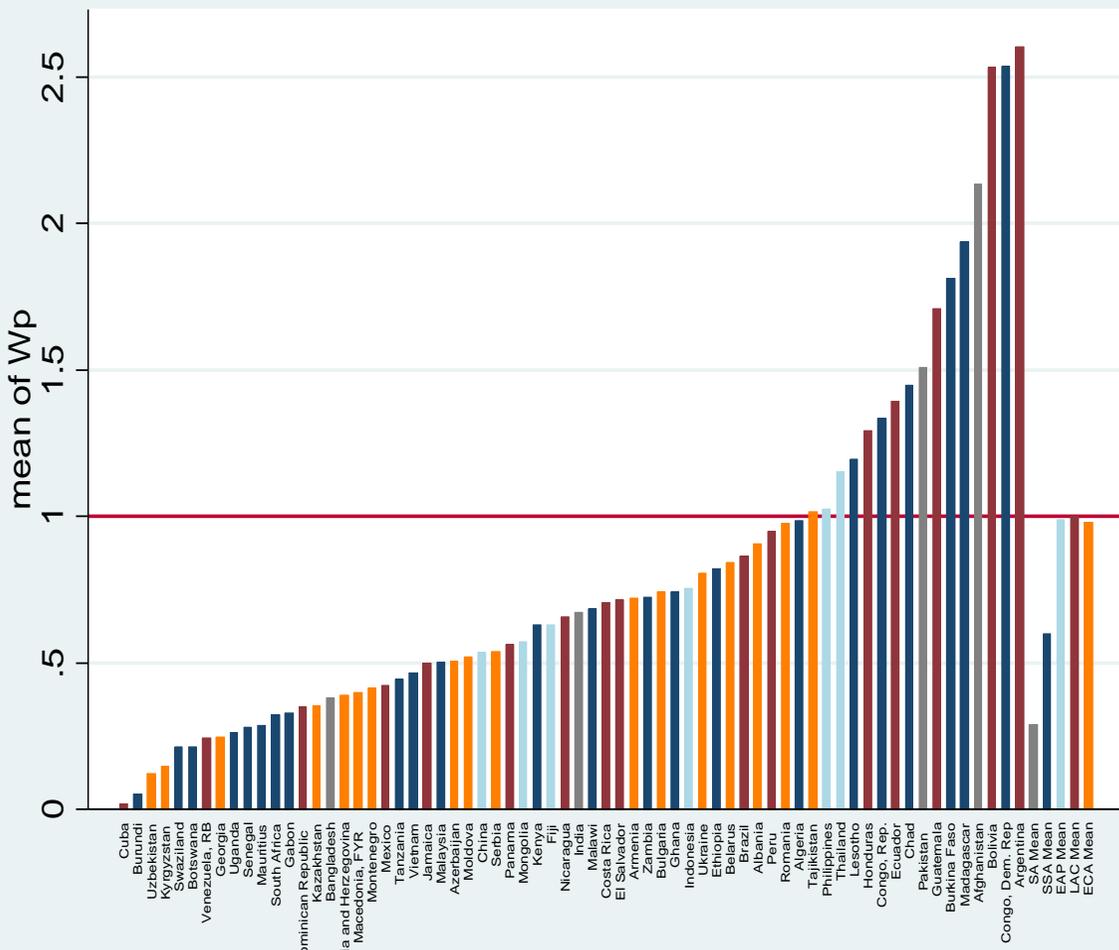
Minimum Wage Levels in SSA: A Measure of Relative Wm Policy Bias

- An interesting manner in which to measure tendency of economy, in comparative context, toward setting a higher minimum wage relative to other economies
- If ratio of W^m in country i to the highest W^m country (W^{mmax}), is higher than the ratio of the mean wage in country i to the highest mean wage country max – then this would reflect a relatively pro minimum wage policy environment, relative to other countries. Simply put we are measuring:

$$W_p = \left[\frac{\frac{W_i^m}{W_{max}^m}}{\frac{W_i^\mu}{W_{max}^\mu}} \right]$$

- where
 - if W_p is >1 : Reflects a relatively pro minimum wage policy environment compared to other economies, whereas
 - If $W_p < 1$: Suggests a minimum wage policy environment which is relatively benign.
- An example from the data: Chad's minimum wage mean is 45 percent of the region's maximum minimum wage. Yet, its mean wage nationally, is only 16 percent of the region's maximum mean wage. This suggests a relatively aggressive minimum wage policy in Chad, when compared with its mean regional wage differential. Put differently, Chad's W_p value is 2.85.

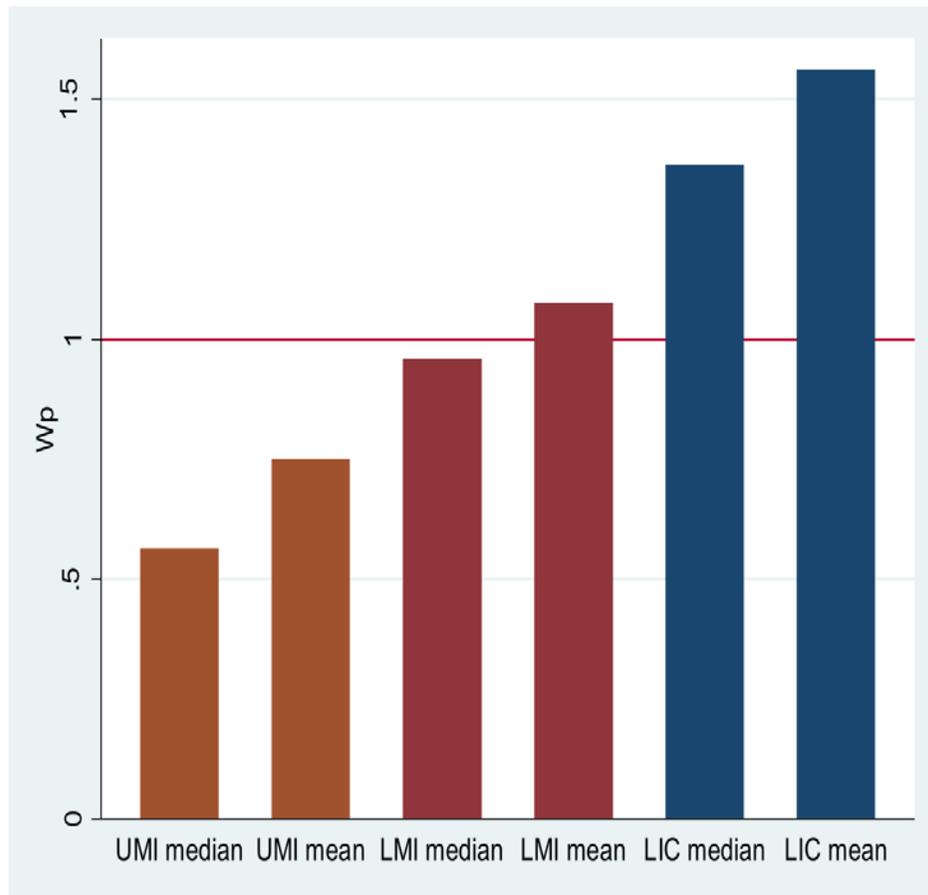
Minimum Wage Levels in SSA: Degree of Relative Wm Policy Bias in Africa vs RoW



- The data suggest that the majority of countries in our sample of 66 have a W_p ratio below one
- Countries in SSA do not appear to be large outliers in this regard.
- Indeed, the average figures for each region (presented on the right) suggest that the EAP, LAC and ECA regions all have higher W_p ratios than SSA.

Minimum Wage Levels in SSA: Degree of Relative Wm Policy Bias in Africa

Figure 7: Average W_p values for SSA, by country income group



Sources: ILO Global Wage database, World Bank WDI.

- LIC mean and median values higher than both the LMI and UMI sample of countries.
- LIC African economies more pro-minimum wage in their policy setting.

Minimum Wage Levels in SSA: Some Key Results

- Positive and linear relationship between GDP per capita and minimum wage levels for SSA (and RoW) sample.
- Average Minimum wages in SSA lower than rest of developing world.
- African economies yield upward adjustment in value of MW as the economies in region grow and develop.
- No particular SSA tendency towards progressive MW policy.
- Kaitz ratios: SSA economies overall setting MW at over a third of mean wage, but
 - Kaitz ratios for SSA lower than any other region except ECA.
- Kaitz index: Substantially higher ratios observed for low income SSA countries relative to LMI and UMI SSA economies.

Variations in African Minimum Wage Schedules: A Regional Comparison

Region	National (%)	Sectoral or Regional (%)
Africa	30	61
Asia & Pacific	48	48
Europe & CIS	64	33
Americas & Caribbean	59	38
Middle East	40	20

Source: ILO (2013)

Variations in African Minimum Wage Schedules: A Country-Level Overview

Number Minimum Wage Schedules, By African Country

Country	Number of Wage Schedules
Uganda	1
Mali	1
Ghana	1
Malawi	1
Nigeria	2
Botswana	10
Zambia	10
Tanzania	29
Namibia	32
Kenya	55
Ethiopia (public sector)	57
South Africa	124
Average	27

- 7 of 12 countries sampled yield 10 or more wage schedules (SA is outlier)
- Increasing levels of complexity make wage-setting, enforcement and compliance more difficult
- Wage schedule complexity should be commensurate with country's resource availability: Simpler wage schedules more suitable if few resources dedicated to Wm systems

Minimum Wage Non-Compliance In Africa: Background

- In most developing countries with minimum wage laws, a substantial portion of the wage distribution is BELOW the minimum wage
- Hence, non-compliance with minimum wages are a key aspect of our understanding of Wm dynamics in the LDC and African context
- Borat, Kanbur and Mayet (*International Labour Review*, 2012), introduced a family of violation measures which weight the depth of violation, analogously to FGT poverty measures which weight the depth of poverty

Minimum Wage Non-Compliance In Africa: An Index of Minimum Wage Violation

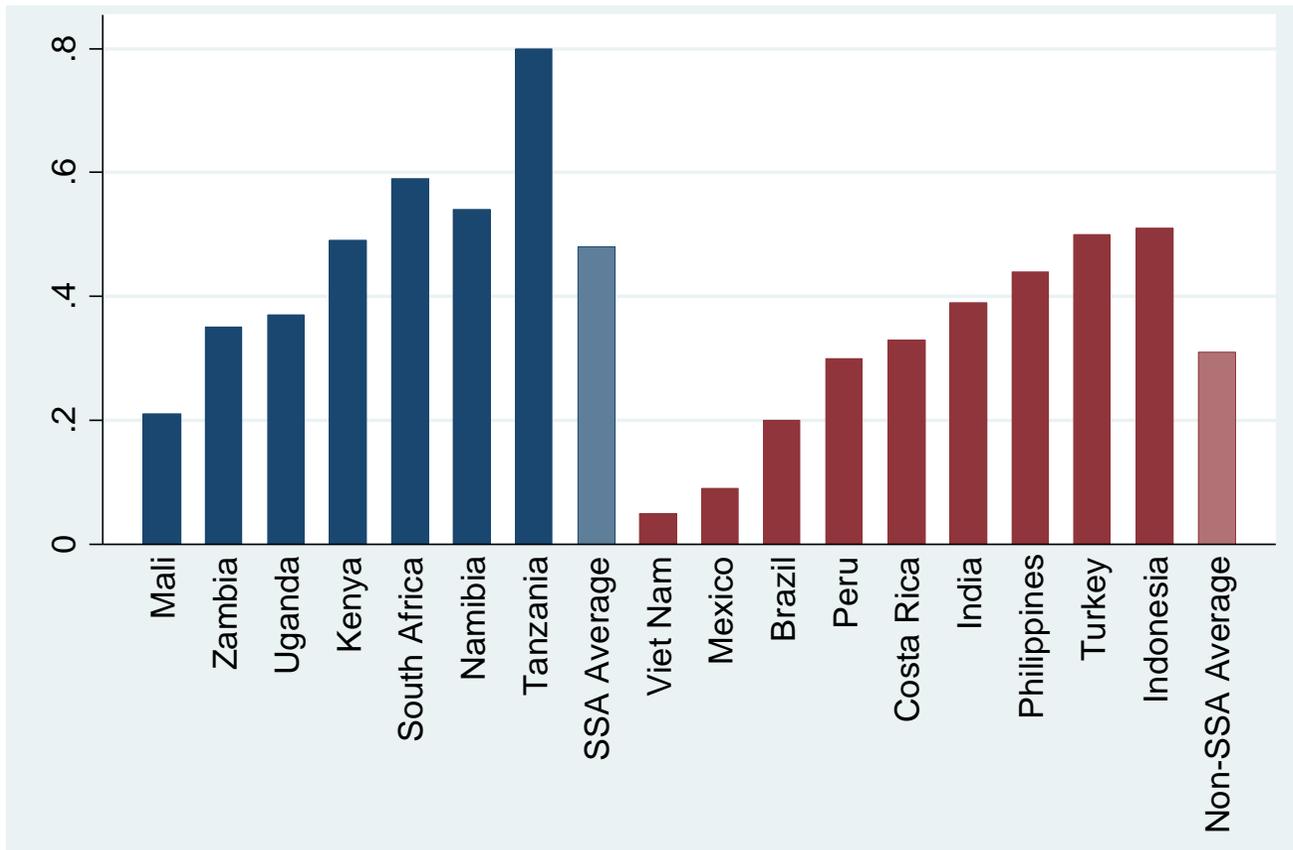
- Builds on Foster-Greer-Thorbecke poverty measurement
- More formally the index of violation is constructed as follows:

$$V(W^m, w) = [(W^m - w_i)/W^m]^\alpha$$

- where:
 - W^m is the official minimum wage in a given year,
 - w captures wages for each individual worker
- When $\alpha=0$ this is simply a 'headcount index' for the population which reveals the proportion of workers earning below the minimum
- When $\alpha=1$, the violation function is a measure of the gap between farmworker wages and the minimum wage
- When $\alpha=2$, V becomes the squared gap and gives more weight to wages that fall further below the minimum

Minimum Wage Non-Compliance In Africa: V_0 Measures in Comparative Perspective

Average compliance rates (V_0), African & Developing Country comparison

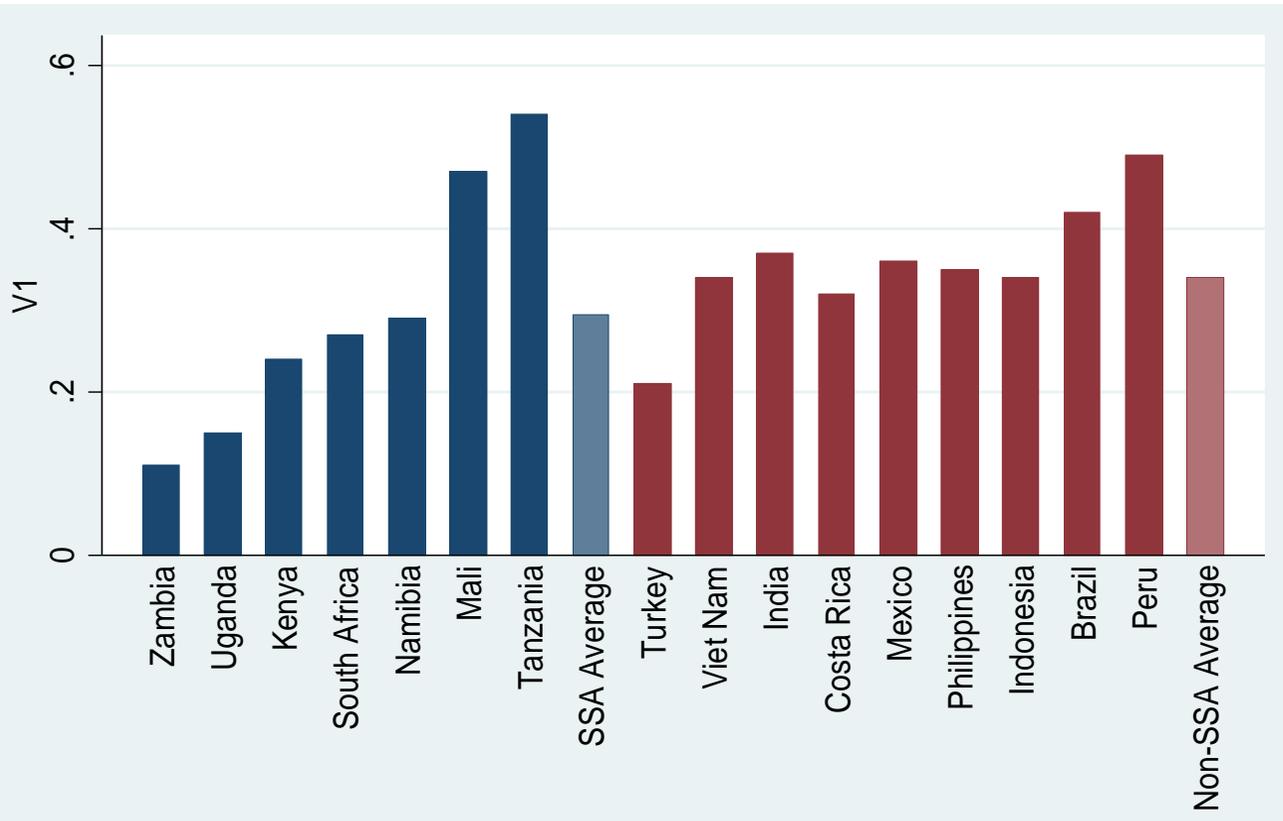


- On average, 58% of African workers earn below the Wm legislated for them
- Average of 30% for non-African countries
- Cross-country differences in levels of non-compliance:
 - Zambia, approx. 36% of workers earn sub-minimum wages
 - Tanzania, rises to 80%
- Reinforce what Kaitz ratios show: Wm rates are set high, relative to average wages

Source: Authors' calculations, and Rani et al. (2013)

Minimum Wage Non-Compliance In Africa: V_1 Measures in Comparative Perspective

Average Depth Of Non-Compliance (V_1), African & Developing Country Comparison



- How far below the W_m are workers on average?
- African regional average V_1 estimate stands at 0.30, and at 0.35 for non-SSA countries
- Interesting switch: whilst absolute non-compliance levels are higher in the African sample, relative levels of non-compliance are in fact higher in non-African developing countries

Source: Authors' calculations, and Rani et al. (2013)

Conclusion

- Employment effect of Wm in SSA: Very few findings consistent with global research:
 - Minimum wage has small negative impact or no measurable negative impact
- Higher country-level Wm levels associated with higher GDP p.c in Africa and large sample of LDCs
- No particular SSA bias towards more aggressive minimum wage policy.
 - More pronounced minimum wage levels for LIC relative to UMI African economies
- Great variation in detail and complexity of minimum wage regimes and schedules in Africa
 - Suggests higher average levels of complexity in Wm setting in Africa
- Wm non-compliance in Africa is high and greater in absolute terms than for sample of non-African LDCs
- Release of country-level earnings and employment data at regular intervals lies at the heart of a future country-focused minimum wage research agenda for Africa.