

INFORMAL EMPLOYMENT AND INEQUALITY IN AFRICA: EXPLORING THE LINKAGES

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OUTLINE

- Growth, poverty and inequality in Africa
- Nature of employment in Africa – unemployment, informality and vulnerable employment
- Drivers of informality - low access to quality education
- Conceptual definitions and data issues
- Methodological issues
- Results
- Conclusions

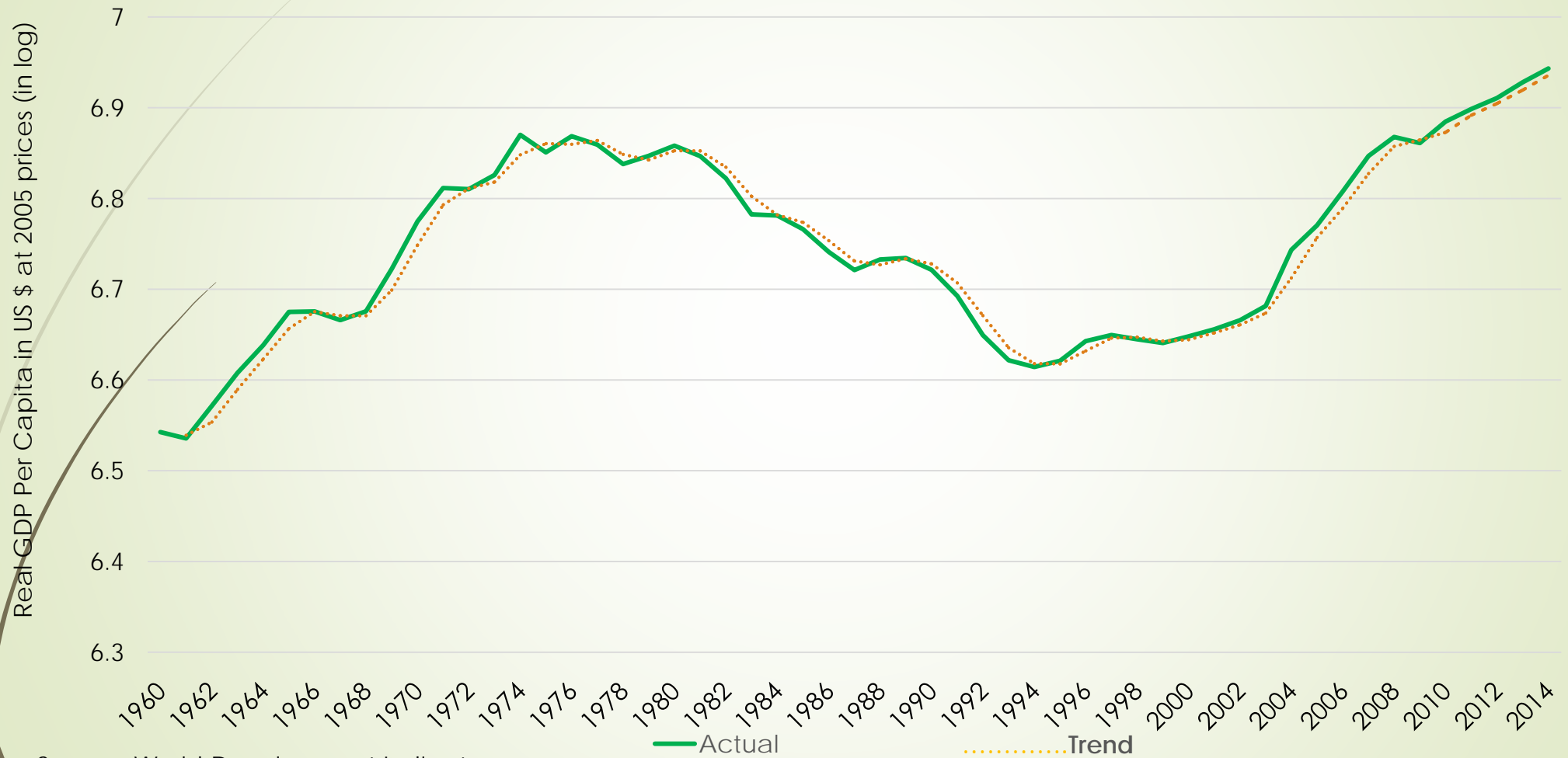
What does the Paper do?

Explore linkages using Tanzania as a case study

- Paper examines extent and nature of informal employment in Africa
- Explores its contribution to fostering inequality
- Examines whether low education outcomes influence wage earnings using an econometric model to establish the linkages between informality and inequality and identify the determinant factors

“AFRICA RISING”: TWO DECADES OF SUSTAINED ECONOMIC GROWTH

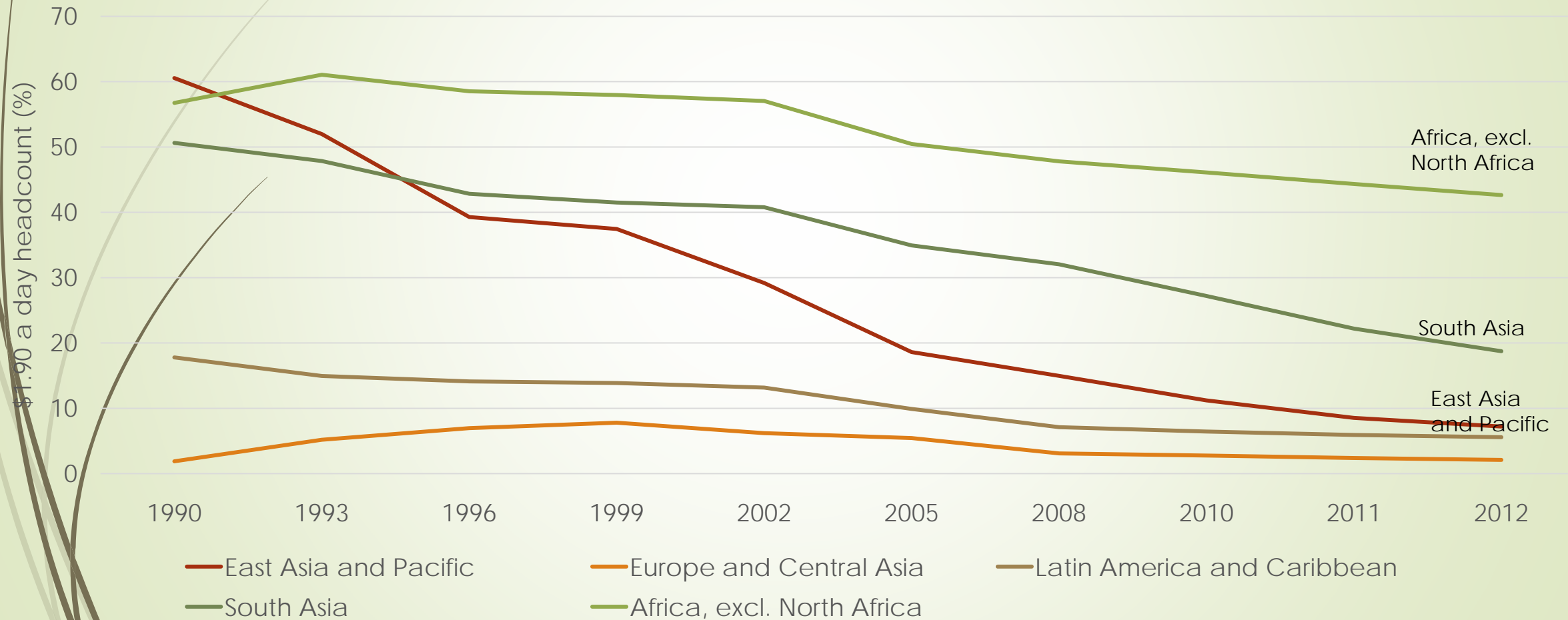
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Source: World Development Indicators

BUT IS IT INCLUSIVE?

AFRICA'S RECENT GROWTH HAS REDUCED POVERTY, BUT NOT BY ENOUGH...



Source: POVCALNET, World Bank

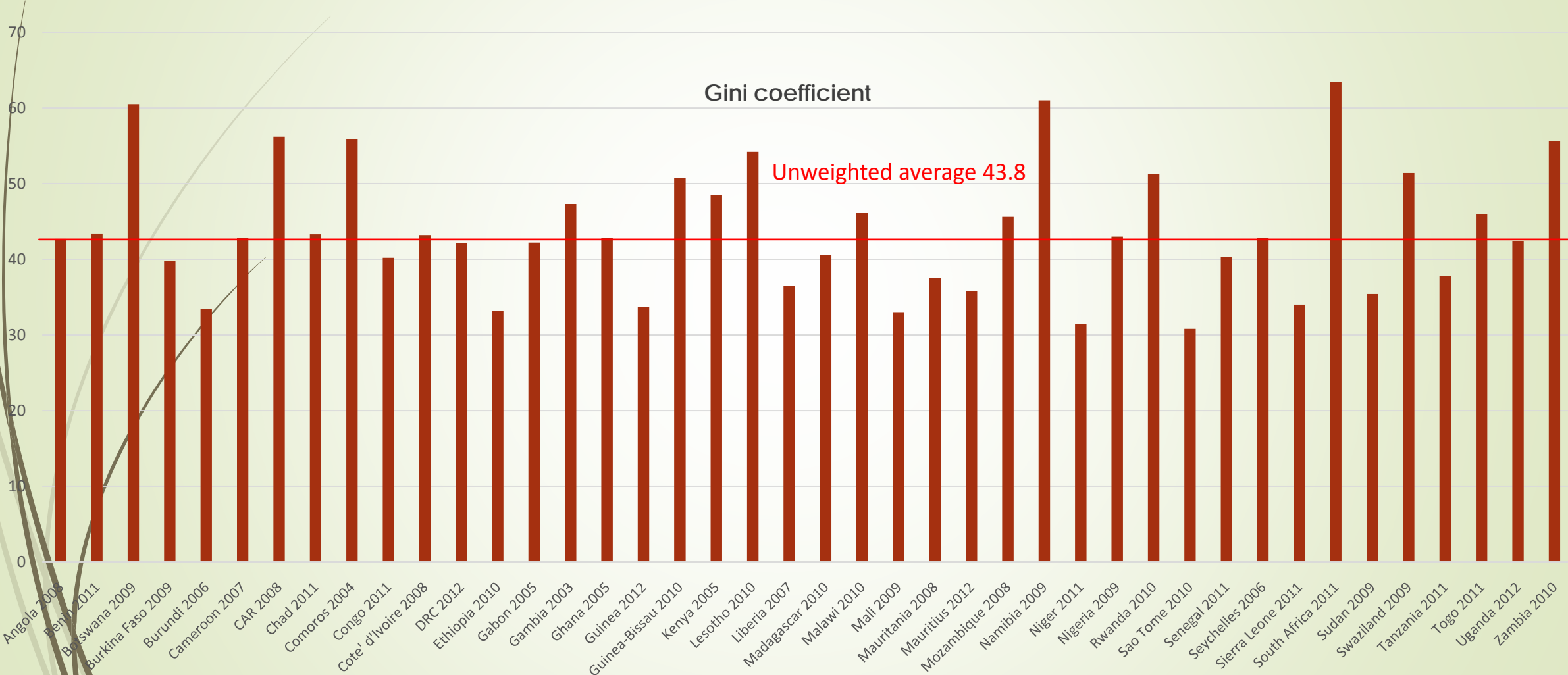


Extent of inequality in Africa

Africa the second most unequal region in the world, after Latin America. (Highest in South Africa, Seychelles, Namibia – in excess of 0.65; Low (~0.35) in Burundi, Ethiopia, Guinea Bissau, Mali, Niger, Tanzania).

24 out of 25 of the worst performers in UNDP's inequality-adjusted HDI are in Africa.

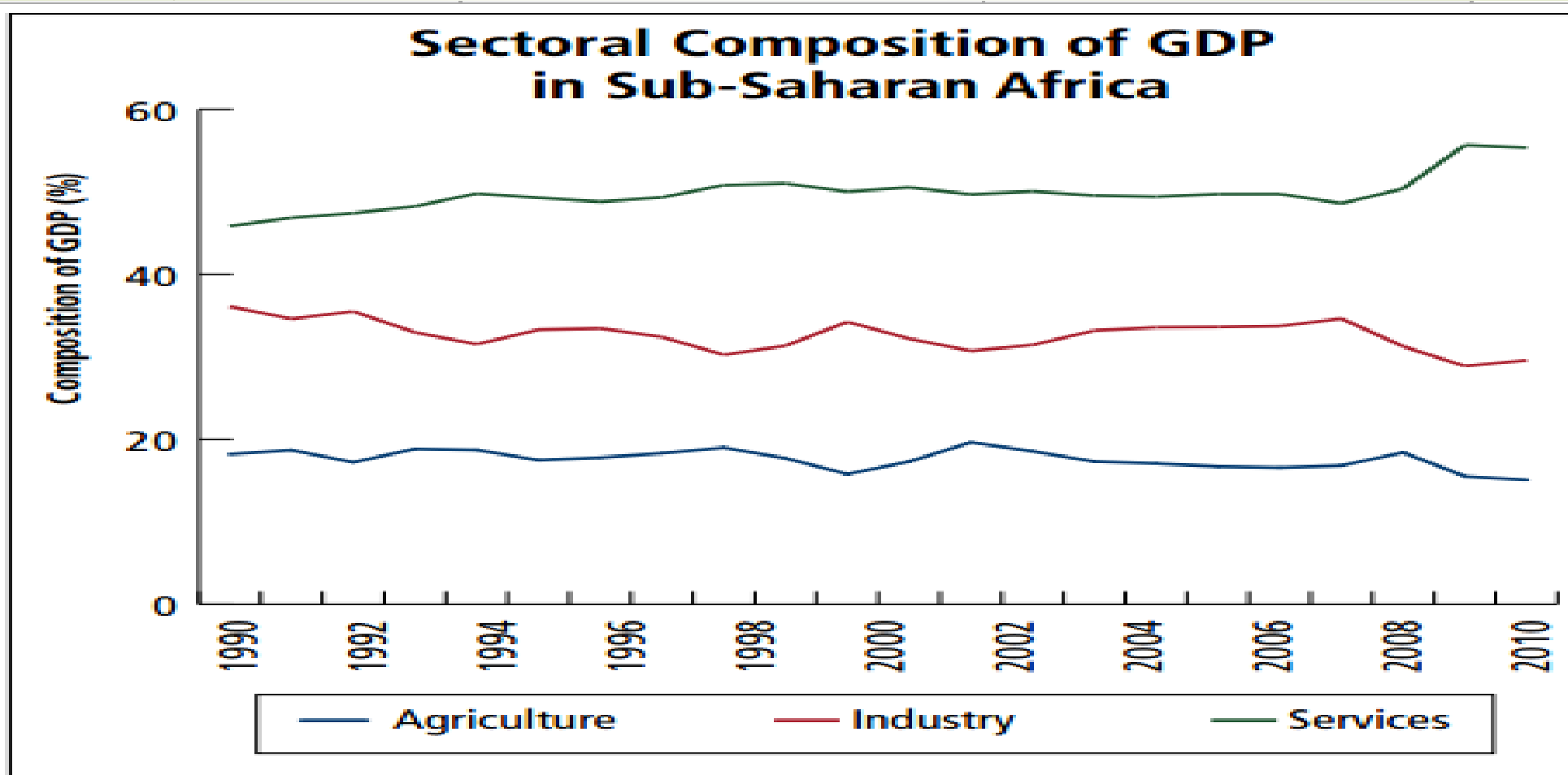
AFRICA IS CHARACTERISED BY HIGH INEQUALITIES...



Source: POVCALNET, World Bank



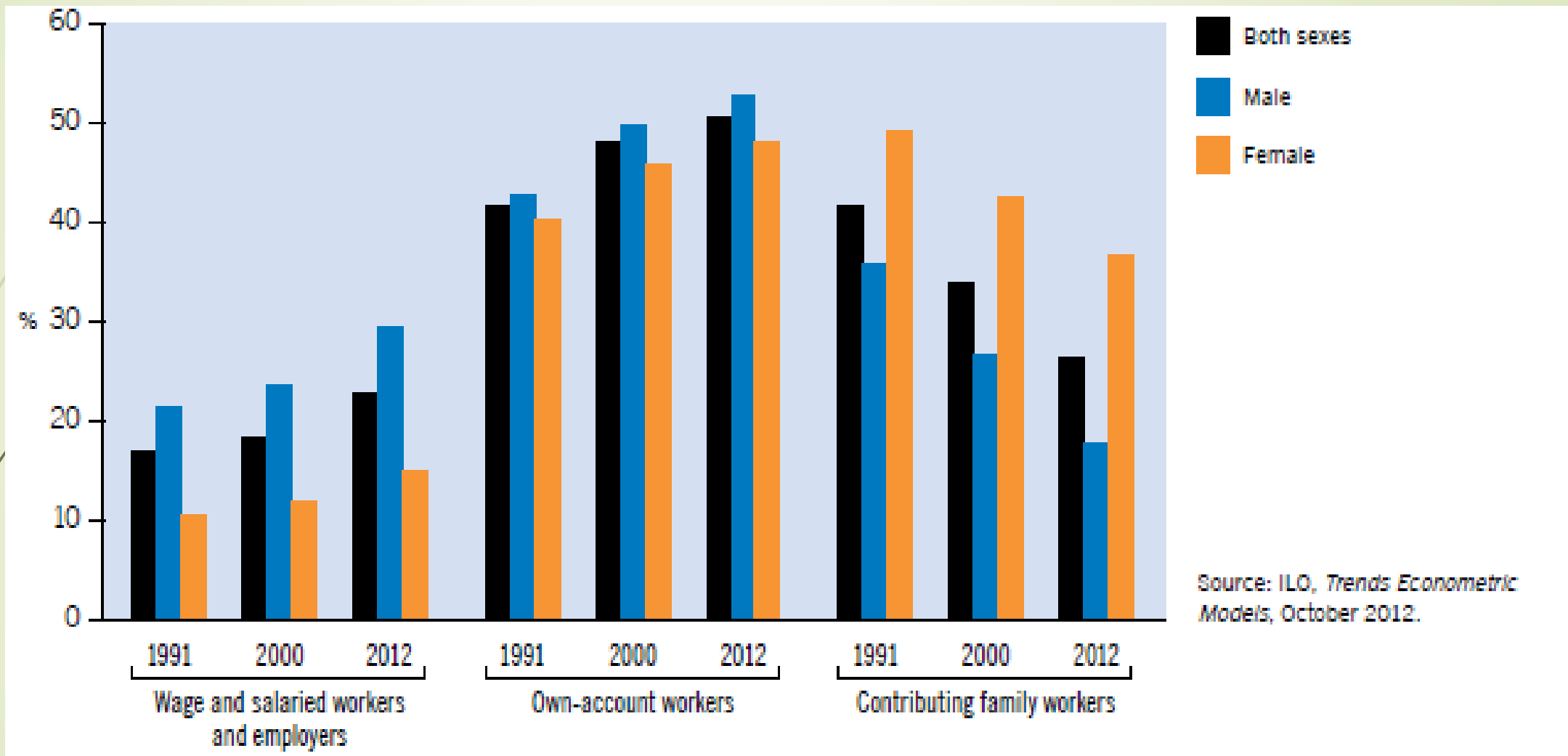
Contribution of Industry to GDP has declined...



Note: Industry comprises manufacturing and other industry.
Source: World Bank.

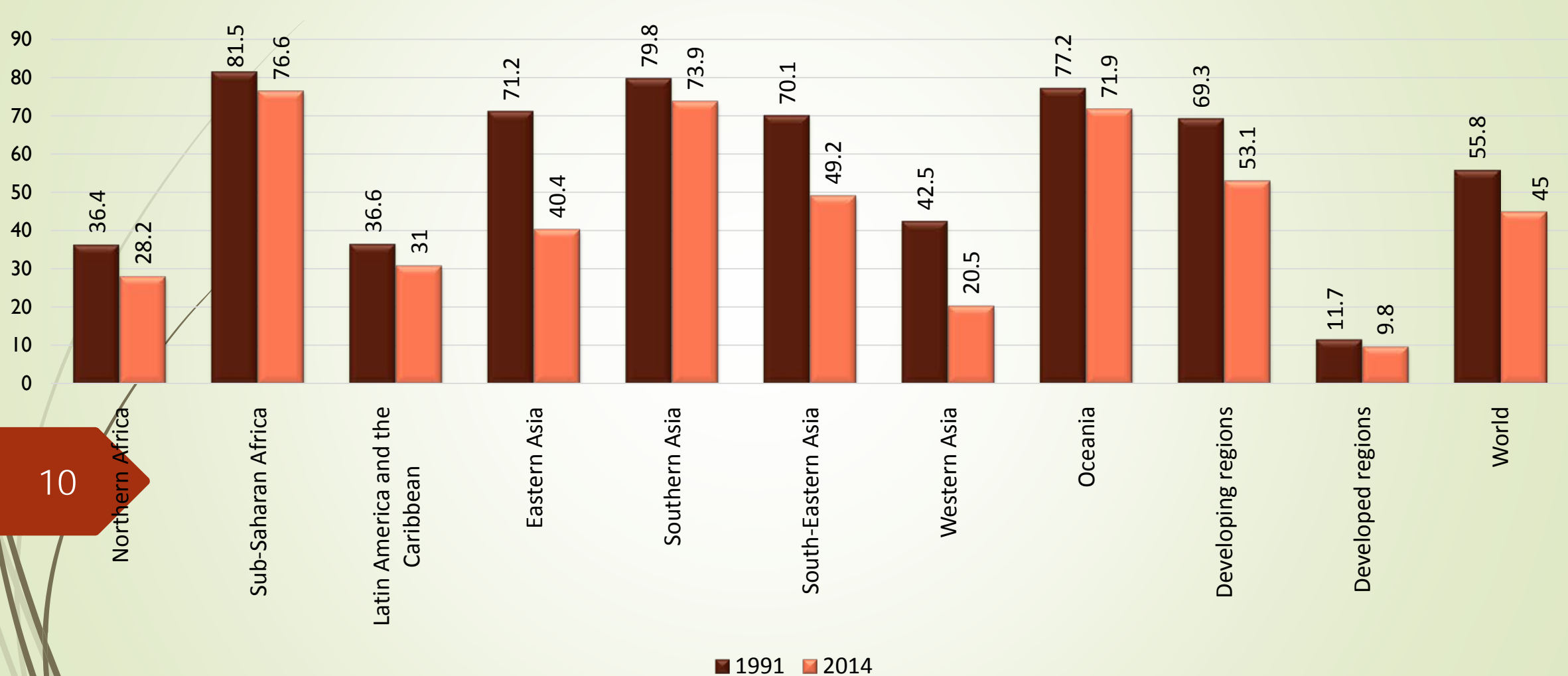
Only about one in five workers in the formal sector

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- Only 37 million jobs created in the last decade while 110 million young people entered the job market
- Informal employment is the only alternative for the majority

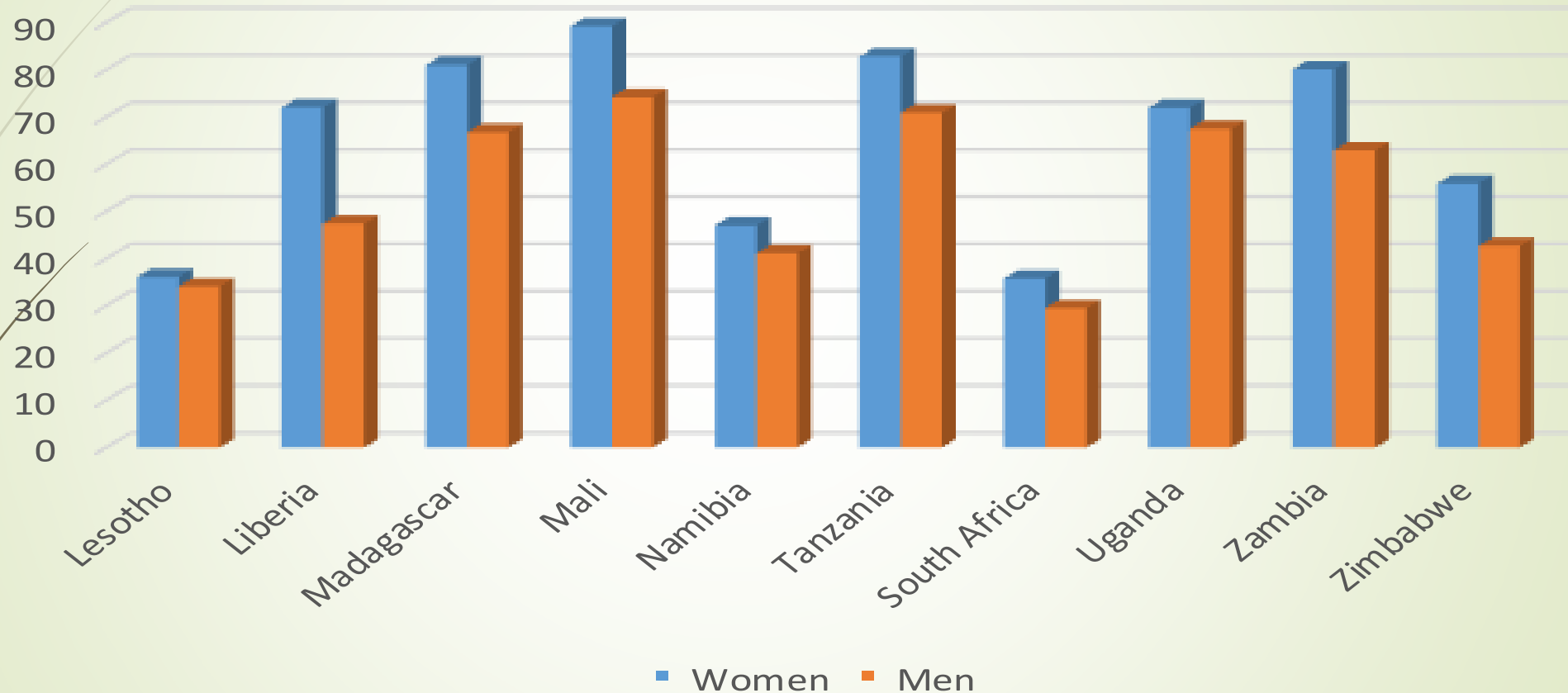
Own-account and contributing family workers (as % of total employment)



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Source : MDG indicators available at: <http://mdgs.un.org>

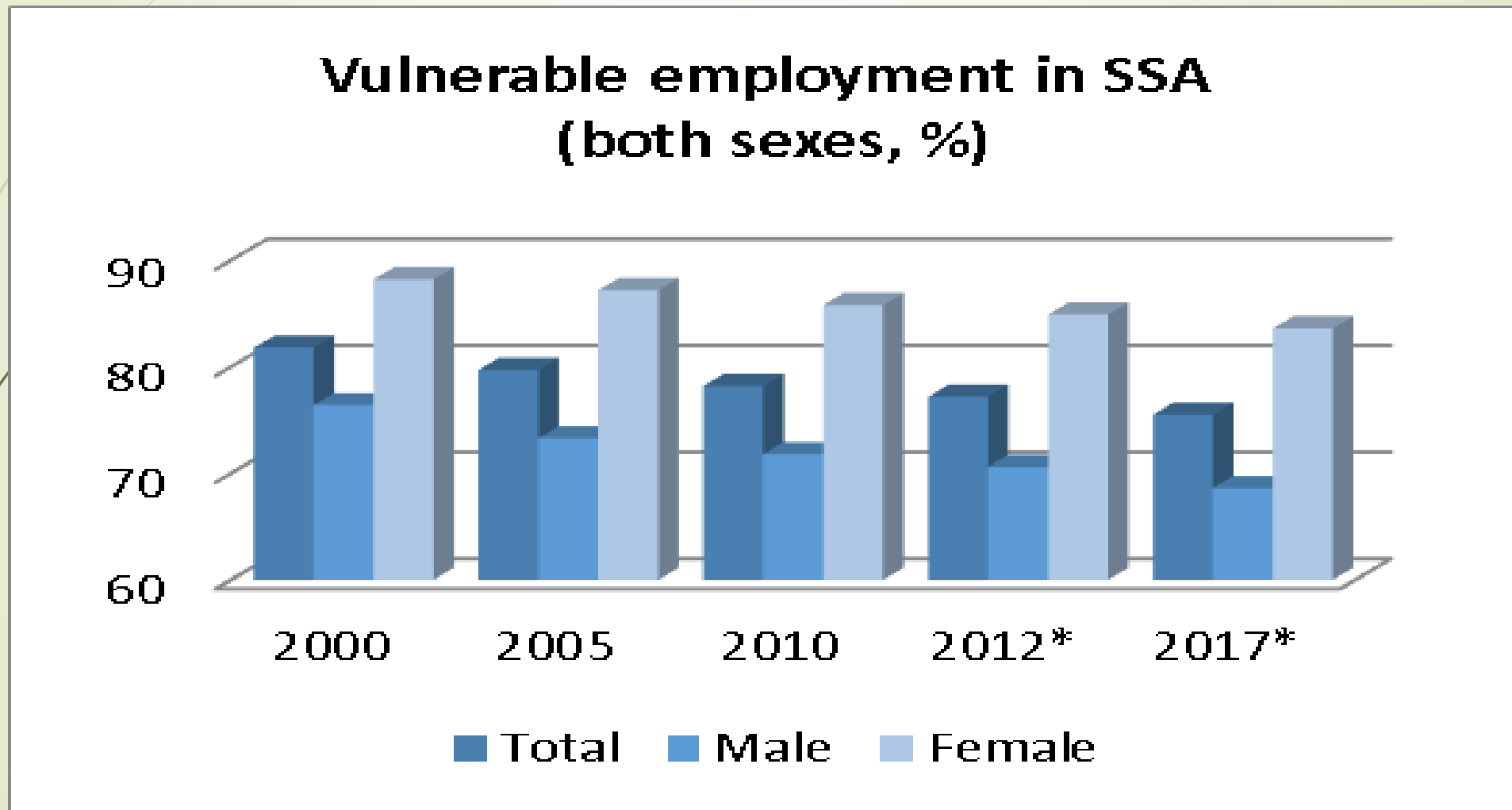
Large share of informal employment in total non-agri employment (for select countries in %)



Informality contributes 55% of Sub-Saharan Africa's GDP and 80% of its labour force. 9 in 10 rural and urban workers have informal jobs (mostly women and youth). Over the next 10 years, one in four youths will find a wage job, and only a small fraction of those jobs will be 'formal' in the modern enterprises.

Most informal jobs are vulnerable

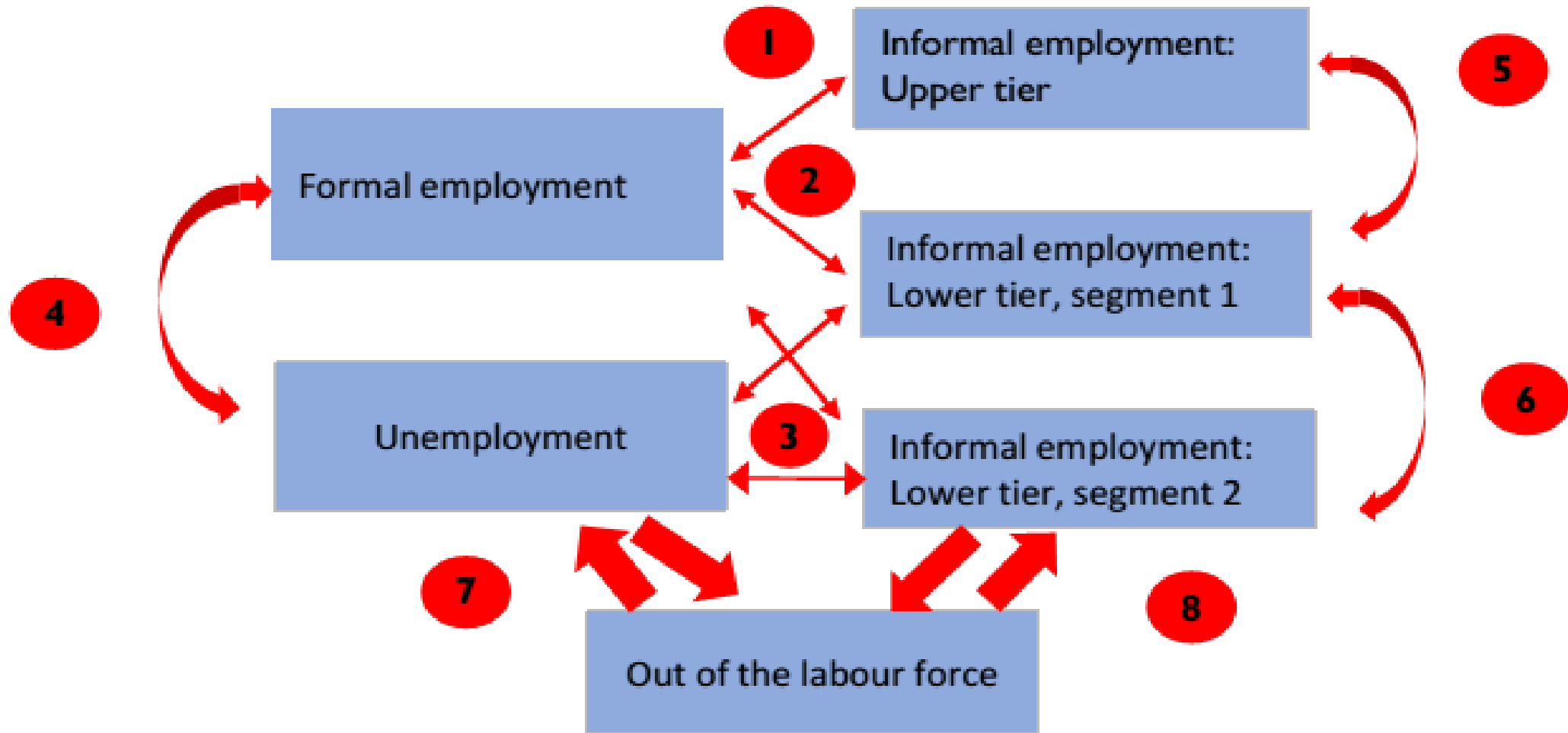
(as % of total non-agri employment)





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Multi-segmented labour market flows



Note: (1) transition between formal and upper-tier informal employment to avoid taxes and regulation; (2) transition between formal and lower-tier informal employment; (3) transition between lower-tier informal employment and unemployment to queue for formal jobs; (4) transition between formal employment and unemployment where appropriate benefit systems are in place; (5) transition between upper- and lower-tier informal employment, for instance due to upskilling; (6) transition between different lower-tier informal economy segments due to a switch in networks; (7) transition between inactivity and the formal labour market; (8) transition between inactivity and the informal economy.

Source: Adapted from Gagnon (2008)

Main trends of informal employment

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- Africa enjoying impressive growth alongside widespread inequality and poverty, and with low employment intensity
- Economies dependent on primary commodities
- Informal employment (IE) remains an anchor for job creation in Africa
- But predominantly in agriculture and low value service sectors e.g. petty street vending and retail trading
- Most IE is vulnerable with high income inequality and gender disparities
- Labour productivity and skills profile very low in IE
- Lack of social voice (no trade union representation) and absence of social protection
- Intergenerational transfer of poverty from parents to children

Issues of definitions

- Many definitions, sources and typologies including applications of the two concepts (17th ICLS of 2003 provides a broad framework of analysis)
- **Informal sector (IS)** uses production units as observation units while informal employment (IE) uses jobs as units of analysis
- **Informal employment (IE)** - all jobs in the informal sector enterprises during a reference period
 - Self-employed (own-account workers) e.g. cross-border traders, street vendors, plumbers, welders, etc
 - Employers in their own firms
 - Contributing family workers
 - Non-contributing family workers
 - Members of informal producers, cooperatives
 - Informal workers in informal and formal enterprises

Drivers of informal employment

- Poverty (survival strategy for many)
- Lack of inclusive growth (capital intensive sectors)—economies not expanding fast enough relative to demand for new jobs
- High mismatch between skills supply and labour market demands
- Rural-urban migration—IE not a choice for many, new normal
- Stringent regulations, heavy taxation and poor property rights
- **Low quality of numeracy and literacy, poor educational outcomes, and low employable skills** which exclude youth and women from formal labour markets

Methodological and data issues

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We used the Heckman Two-Stage Estimation Procedure based on Tanzania National Panel Survey (NPS) data

- ▶ Round/wave3 (2012-13)-Sample size: 3,924 target households
- ▶ Looked at two specific issues:
 - ▶ The determinants of probability of informal employment

First Stage model

$$P_j = \frac{\exp(Z_j \beta_j)}{1 + \sum_{j=0}^4 \exp(Z_j \beta_j)} \dots \dots \dots \text{(eq. 1)}$$

- ▶ The determinants of formal and informal monthly earnings

Second stage model

A traditional human capital framework is employed in the specification of the wage equations. Log wages ($\ln W$) are explained by personal and human capital characteristics/factors (X) as follows:

$$\ln W_{ij} = \beta_j X_{ij} + \theta_i \lambda_i + u_{ij} \quad j=1, 2 \dots \dots \dots \text{(eq. 2)}$$

- ▶ Heckman Two-Stage Estimation Procedure avoids sector selection bias and controls for unobserved heterogeneity

Presentation of descriptive results (Tanzania)

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- Informal employment account 74% and formal employment 26%
- More males than females in the formal employment but more females than males in informal employment
- Persons in informal employment are more likely with no education or primary level of education (greater share of no education 23%)
- Persons in formal employment have higher proportion of primary and secondary education
- Majority of informal workers in Tanzania are in service and agricultural sectors. Formal workers dominate in the service and industry.
- Average monthly wage in formal employment is six-times higher than the average monthly wage in informal employment

	Informal	Formal	All
All	100.0	100.0	100.0
Gender			
Male	61.91 (72.72*)	65.37 (27.28*)	62.81
Female	38.09 (75.58*)	34.63 (24.42*)	37.19
Age categories			
15-24	34.73	16.30	29.74
25-44	48.84	59.88	51.83
45-64	16.43	23.81	18.43
Education Level			
No education	23.47	12.98	20.72
Primary	63.85	33.37	55.86
Secondary	12.24	38.73	19.18
Tertiary	0.45	14.93	4.25
Employment Type			
Wage employment	38.55	91.16	52.25
Self-employment	5.42	3.48	4.91
Farmers	29.99	3.18	23.01
Unpaid family workers	26.04	2.18	19.83
Sector of economic activity			
Agriculture	32.69	3.32	24.99
Industry	3.19	37.17	12.10
Services	64.12	59.51	62.92
Average monthly net main Job earnings (in TZS) **	214,532	1,285,725	495,343
Male (in TZS)	266,119	1,524,841	609,500
Female (in TZS)	130,698	834,434	302,518
Net main job earnings			
Sample Size	2885	1025	3910

Notes:

* In parenthesis denotes the percentage share of each gender in each employment categories with respective to the total workforce in the respective gender categories.

** For all workers, including self-employed, who reported positive hours worked.

Probability of informal employment

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- Probability of informal employment relatively
 - increases for male workers
 - declines with age (-ve coef.)
 - declines with education - decline in the size of the +ve marginal effect from primary (46%) to secondary level (19.8%)
 - declines more for married workers than single workers
 - Higher in sectors other than industry – e.g. in service sector.

Table 2: Determinants of probability of informal employment: Marginal effects after probit model estimate for Tanzania, 2012-2013

Informal Employment	dy/dx	Std. Err	Z	P> Z
Male (d)	.0463503	.01936	2.39	0.017**
Age in years	-.0150568	.00415	-3.63	0.000***
Age Squared	.0001222	.00005	2.41	0.016**
Marital Status				
Single (d)	-.1087268	.03853	-2.82	0.005***
Married (d)	-.1139672	.02731	-4.17	0.000***
Divorced/widowed	(omitted)			
Education Level				
Primary (d)	.4639811	.06123	7.58	0.000***
Secondary (d)	.1983162	.03582	5.54	0.000***
Tertiary	(omitted)			
Industry Sector				
Agriculture (d)	-.0229967	.0583	-0.39	0.693
Industry (d)	-.2668065	.03619	-7.37	0.000***
Services (d)	(omitted)			
Employment				
Wage employment (d)	-.3447923	.05071	-6.80	0.000***
Self-Employment (d)	-.2427774	.09544	-2.54	0.011**
Farmers (d)	.0493997	.05215	0.95	0.344
Unpaid family worker	(omitted)			
_cons	1.885277	.4144541	4.55	0.000***
Marginal effects after probit				
Y = Pr (informal emp) (predict)	0.78609629			
Pseudo R2	0.3444			
Number of obs.	3064			

Note:

- The base category is formal employment
- (d) represents dy/dx is for discrete change of dummy variable from 0 to 1
- Sample relates to employees, aged 15-64 years, who reported non-zero earnings.
- Estimation of marginal effects calculated at mean values
- ***, ** and * denote statistical significance at the 0.01, 0.05 and 0.10 levels using two-tailed tests respectively.
- Source: Tanzania 2012-2013 National Panel Survey Data

Determinants of wages - informal employment

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- Male gender, higher level of education lambda affects the monthly wage earnings of informal employees positively and significantly.
- Occupation types (i.e. being unpaid family worker, farmer and wage employment) negatively affects the monthly wage earnings of informal employees.

Table 4: Determinants of monthly wages for informal employees for Tanzania, 2012-2013

Monthly Wage (in log)	Coef.	Robust Std. Err.	t	P>t
Male	.5721269	.0415229	13.78	0.000***
Age in years	.0027736	.0022333	1.24	0.214
Education Level				
No education	(omitted)			
Primary	-.1874396	.0806265	-2.32	0.020**
Secondary	(omitted)			
Tertiary	.1076099	.4392804	2.45	0.014**
Employment				
Wage employment	-.3655669	.1064435	-3.43	0.001***
Self-Employment	(omitted)			
Farmers	-.3967956	.1063716	-3.73	0.000***
Unpaid family worker	-.4414782	.1028653	-4.29	0.000***
Lambda	.3672286	.2068244	1.78	0.076*
_cons	11.68042	.1314234	88.88	0.000***
R2	0.1470			
Number of obs.	2187			

Note:

- Sample relates to employees, aged 15-64 years, who reported non-zero earnings.
- The dependent variable is the log of monthly earnings for informal employees. All explanatory variables except age and lambda are binary variables
- ***, ** and * denote statistical significance at the 0.01, 0.05 and 0.10 levels using two-tailed tests respectively.
- Lambda is significant which empirically explains the correlation of the error terms of the selection and structural equations
- Source: Tanzania 2012-2013 National Panel Survey Data

Determinants of monthly wages-formal employment

- Male gender, seniority (age), being self employed and lambda are factors that determine higher monthly wage earnings in the formal employment.
- But low educational attainment leads to low monthly wage earnings in formal employment.

Table 5: Determinants of monthly wages for formal employees for Tanzania, 2012-2013

Monthly Wage (in log)	Coef.	Robust Std. Err.	t	P>t
Male	.4109871	.0739887	5.55	0.000***
Age in years	.0066564	.0038151	1.74	0.081*
Education Level				
No education	(omitted)			
Primary	-.4464127	.2460038	-1.81	0.070*
Secondary	-.3343407	.1763354	-1.90	0.058*
Tertiary	(omitted)			
Employment				
Wage employment	.2297729	.1506131	1.53	0.127
Self-Employment	.4834005	.2315851	2.09	0.037**
Farmers	.2610818	.2878338	0.91	0.365
Unpaid family worker	(omitted)			
Lambda	.6889735	.1534534	4.49	0.000***
_cons	11.46824	.2424286	47.31	0.000***
R2	0.2950			
Number of obs.	873			

Note:

- Sample relates to employees, aged 15-64 years, who reported non-zero earnings.
- The dependent variable is the log of monthly earnings for formal employees. All explanatory variables except age and lambda are binary variables
- ***, ** and * denote statistical significance at the 0.01, 0.05 and 0.10 levels using two-tailed tests respectively.
- The overall fit of the equation is satisfactory and the included repressors explain almost 30 percent of the total variation in monthly formal employment earnings in 2012-13
- Lambda is highly significant which empirically explains the correlation of the error terms of the selection and structural equations
- Source: Tanzania 2012-2013 National Panel Survey Data

Results

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- 74% of all employed people in Tanzania in informal work and 26% in formal employment
- Probability of informal employment increases for male workers; and declines with age
- Low educational outcomes lead to informal employment
- Higher educational attainment (tertiary level) leads to significantly higher wage earnings in the informal employment whereas primary and secondary level of education leads to lower wage earnings in the formal employment
- The difference in the estimated selection term value (λ) for the formal and informal sectors confirms the inequalities in wages between formal employees and informal employees in terms of monthly wage earnings.
- Wage inequality is evident by a clear difference in monthly wage earnings between formal and informal employees, and across gender:
 - Average wage in formal employment is about six times higher than the average wage in informal employment.
 - Average monthly earnings of males are twice the average monthly earnings of females both in formal and informal employment in Tanzania.

Conclusions

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1. Informality is part of Africa's reality and therefore is not going away! However, its conditions need to change for the better...
2. Structural transformation in Africa will not occur just by formalising the informal sector but by a series of iterative steps:
 - Increasing productivity through training
 - Improving working conditions including providing a social voice to informal workers
 - Extending social protection and social assistance to informal workers
 - Retooling workers with new skills (through TVET, etc.)
3. Improve data collection and quality of statistics, esp. in the informal economy

