

Public Sector Earnings Premiums in Developing Economies

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I. Why study public-private gaps in earnings and non-wage benefits?

- State capacity: The government's ability to effectively implement policies is in large part a function of the incentives and skills of the personnel employed in government bureaucracies.
 - Public sector wages are an important determinant of personnel quality and motivation.
 - If public sector workers are paid significantly less than similar workers in the private sector, the resulting difficulty recruiting and retaining qualified workers could adversely affect the quality of public services.
 - Public sector earnings penalties may lead to widespread corruption.
- Fiscal sustainability: The wage bill is the largest item in public spending.
 - Reforming the public sector will involve changing employment and pay.
- Equity: Large wage premiums for public sector workers may indicate that public sector employees are a privileged group.
 - Large premiums could cause youth and others to queue for public sector jobs, leading to higher youth unemployment rates.
 - Higher than necessary public spending on salaries may crowd out spending on other priorities.
 - Higher public sector salaries are not well targeted toward the poor, and may crowd out more pro-poor spending.

Literature on cross-country variation in public earnings premiums/penalties

- Large literature on public-private earnings gaps in individual countries
- Large literature comparing European countries
 - For example, see a recent review by Gregory and Borland (1999).
 - Especially active recent literature examining transition economies.
 - See reviews in Campos, et al. (IZA Journal of Labor Policy, 2017) and Lausev (2014)
- Fewer cross-country comparisons include developing economies.
- Finan, et al. (2015, 2017) presents data on 32 countries, including Asia, Africa and Latin America as well as Europe
 - using 23 nationally representative household surveys, along with 9 STEP surveys with data only on selected urban areas.

Literature on cross-country variation in public earnings premiums/penalties

- Stylized facts
 - In most countries public sector workers earn a premium.
 - Public sector is also more likely to provide health and pension benefits than are private employers.
 - Public sector earnings premiums cannot be explained by differences in worker characteristics between public and private employees
 - Adjusted for worker characteristics, public sector earnings premiums
 - are heterogeneous in terms of both signs and magnitudes across countries,
 - in Western Europe, U.S. and other developed economies premiums are generally small and near zero.
 - in many transition economies there is a public sector earnings penalty, especially in the initial stages of transition.
 - Across countries, public sector earnings premiums are larger for women, less skilled, and those in the bottom of the earnings distribution.
 - Public sector earnings premiums fall as the percent of employees in the public sector rises.
 - Premiums are highest in low-income and developing economies, “where governance problems are most severe” (Finan et al., 2015).
- Do patterns from Europe and Finan et al. hold when we include nationally representative and harmonized household surveys from more economies?
 - With a focus on developing economies, where the largest knowledge gaps exist.

What we do

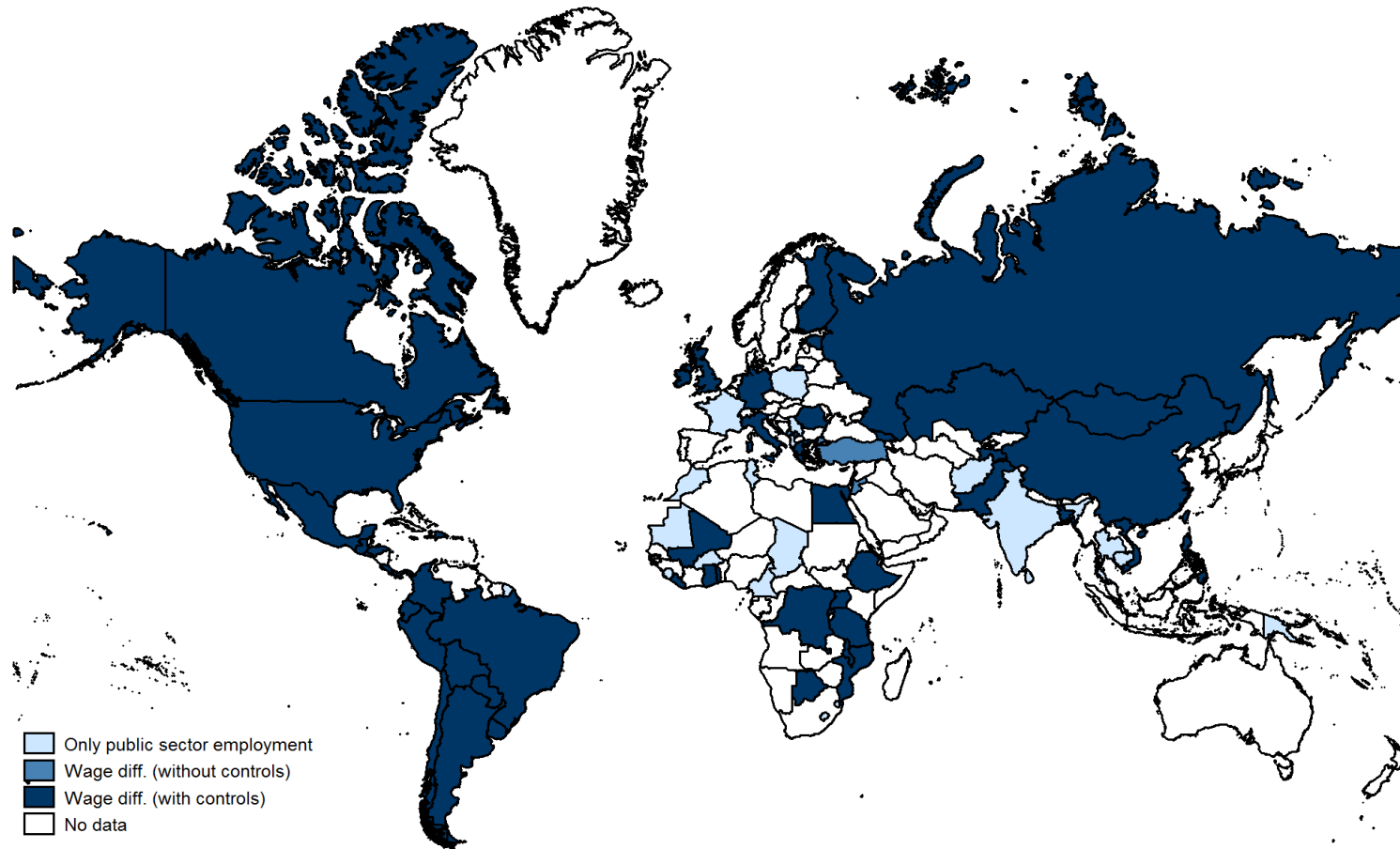
- Use household surveys from the World Bank Global Monitoring Database (GMD, previously referred to as the I2D2), supplemented with the Luxembourg Income Surveys (LIS), to estimate
 - The size and composition of public sector employment for 79 countries, and
 - Public-private earnings differentials for 57 countries.
 - Using the same estimation techniques and variable definitions in all countries, making our estimates comparable across countries.
 - Includes all regions of the world and low, middle and high income countries.
- The resulting database includes country-level estimates of:
 - Size of public sector employment as a percent of all workers, as a percent of wage employees, and as a percent of formal employees.
 - Comparisons of the distribution of public and private employment by: gender, age and education level.
 - Unadjusted public-private earnings gaps (median and mean)
 - Gaps in non-wage benefits (Social Security, insurance and contracts)
 - Earnings gaps adjusted for age, education, gender and urban/rural residence
 - Earnings gaps between public employees and both all private wage employees and all private formal employees
 - Disaggregated earnings gaps by age, education, sex, rural/urban and occupation

II. DATA

Household survey data used to construct the country-level data set

- World Bank Global Monitoring Database (GMD, also called the International Income Distribution Database--I2D2)
 - Harmonized household surveys from around the world.
 - Focus on developing economies, but includes some high income countries.
 - An updated version of that described in Montenegro and Hirn (2009).
 - Our primary database.
- Luxembourg Income Surveys (LIS)
 - Publicly available database of harmonized household surveys collected by the LIS Cross-National Data Centre of Luxembourg from about 50 countries in Europe, North America, Latin America, Africa, Asia, and Australasia.
 - Used to supplement GMD data with additional countries (mostly high income)
 - Where data exist for a county in the LIS but not in the GMD we use the LIS
 - Where data exists for a country in both the LIS and GMD we use the GMD
 - and also use the LIS as a check on the GMD results.

Countries for which we have data



Source: World Bank I2D2 and LIS

The full list of countries in the sample we use, including the database from which they come, is available in the appendix.

III. Public Sector Employment

Table 1: Public employment by region and income group

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		Wage employment (as% of total employment)	Public sector employment			Number of countries
			(%of total employment)	(% of wage employment)	(% of formal private employees)	
Overall weighted average		65.6	21.2	32.2	41.5	79
East Asia & Pacific		84.5	33.4	39.6	40.6	7
	Without China	46.1	8.3	18.0	48.8	6
Eastern Europe and Central Asia		87.5	38.2	43.7	47.0	13
Latin America & Caribbean		63.8	10.6	16.6	24.0	16
Middle East and North Africa		48.6	12.7	26.0	49.7	5
South Asia		47.6	10.7	22.5	60.0	6
	Without India	40.6	6.9	17.0	43.2	5
Sub-Saharan Africa		28.4	10.6	37.2	59.5	21
Western Europe, US, Canada		60.9	12.9	21.3	28.3	11
Low income		35.1	8.8	25.1	49.4	16
Lower middle income		47.5	11.1	23.4	61.4	20
	Without India	39.2	8.3	21.2	49.1	19
Upper middle income		79.2	27.8	35.1	38.1	25
	Without China	62.9	10.8	17.2	24.6	24
High Income		86.0	33.3	38.7	42.7	18

- The public sector is large.
Overall
 - 21.2% all workers
 - 32.2% of wage employment
 - 41.5% of formal wage employment

Public sector employment, region and GDP per capita

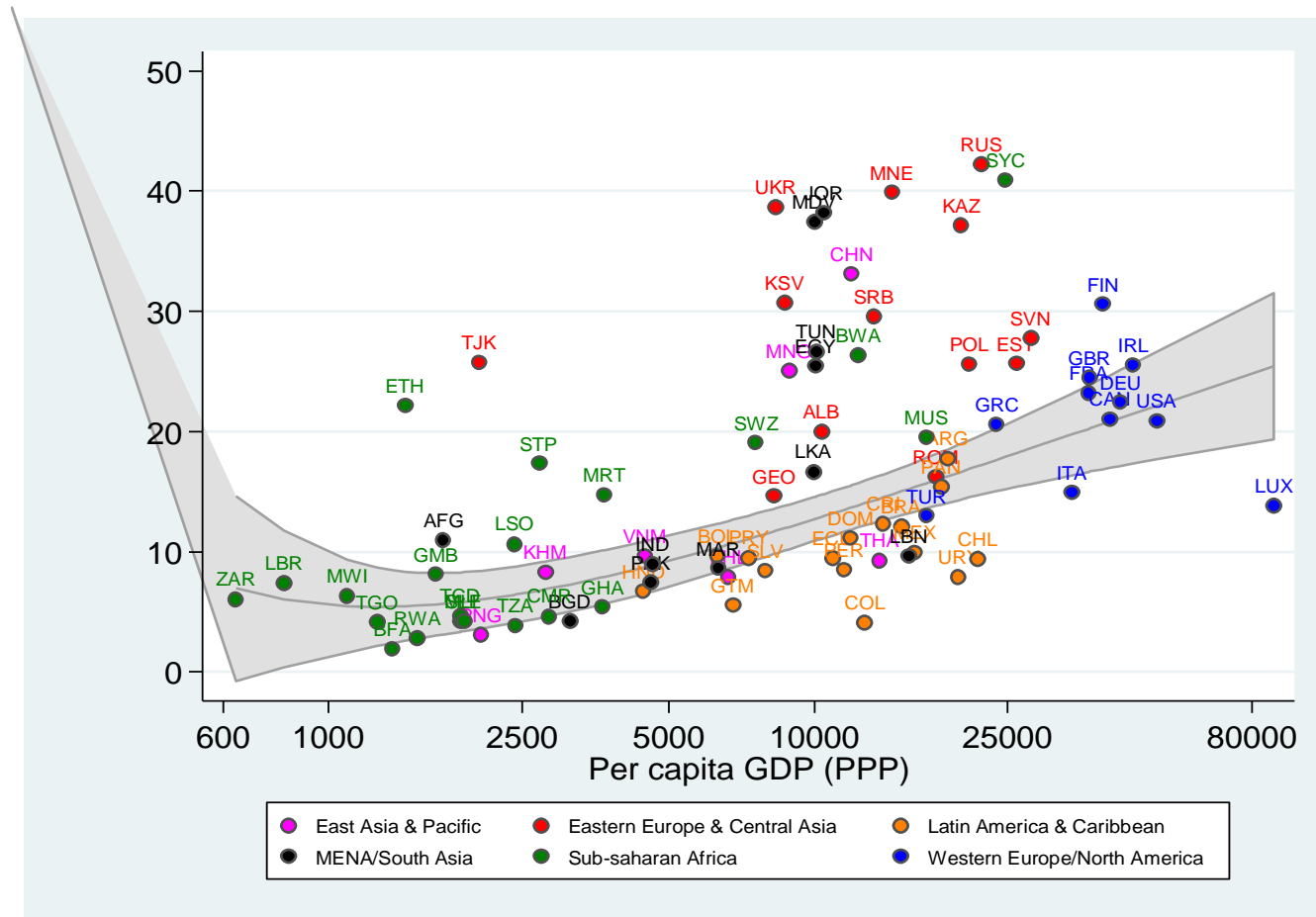
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- By region:
 - Public sector in Latin America is smallest, along with EAP and South Asia without China and India.
 - Public sector in East Europe, Central Asia and China are largest.
- The size of public employment is larger if we compare to wage employment or formal wage employment.
 - Especially in SSA

Public sector employment as a % of total employment is positively correlated with GDP per capita

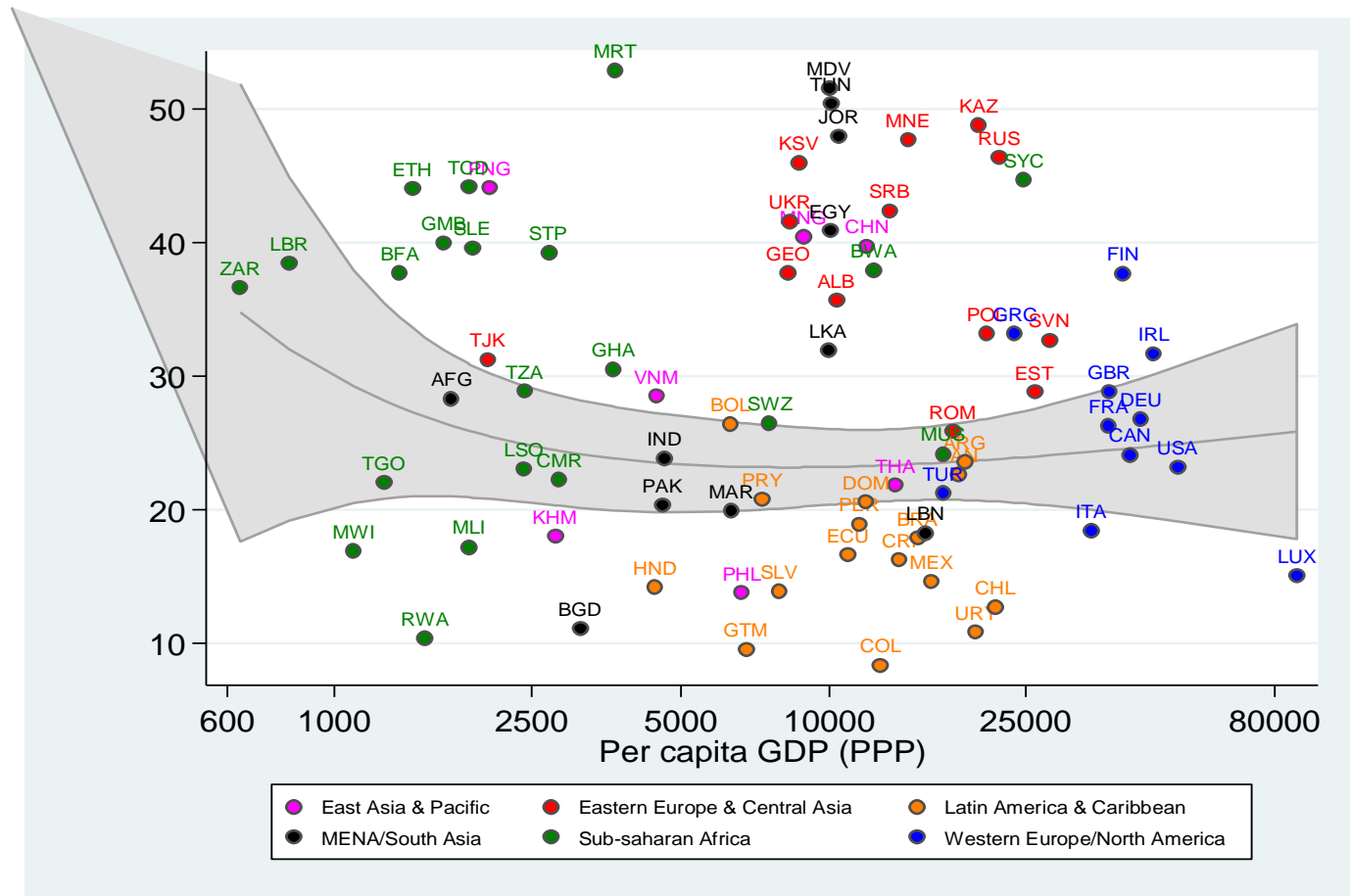
Public sector employment as a share of all workers



- Employment as a percent of total employment increases with GDP per capita.
 - From 7% of total employment in low income countries to 33% in high income countries.
- But there is also substantial variation between countries within income groups and regions.

But public sector employment as a % of wage employment is not correlated with GDP per capita

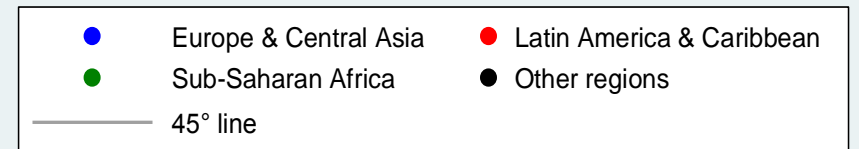
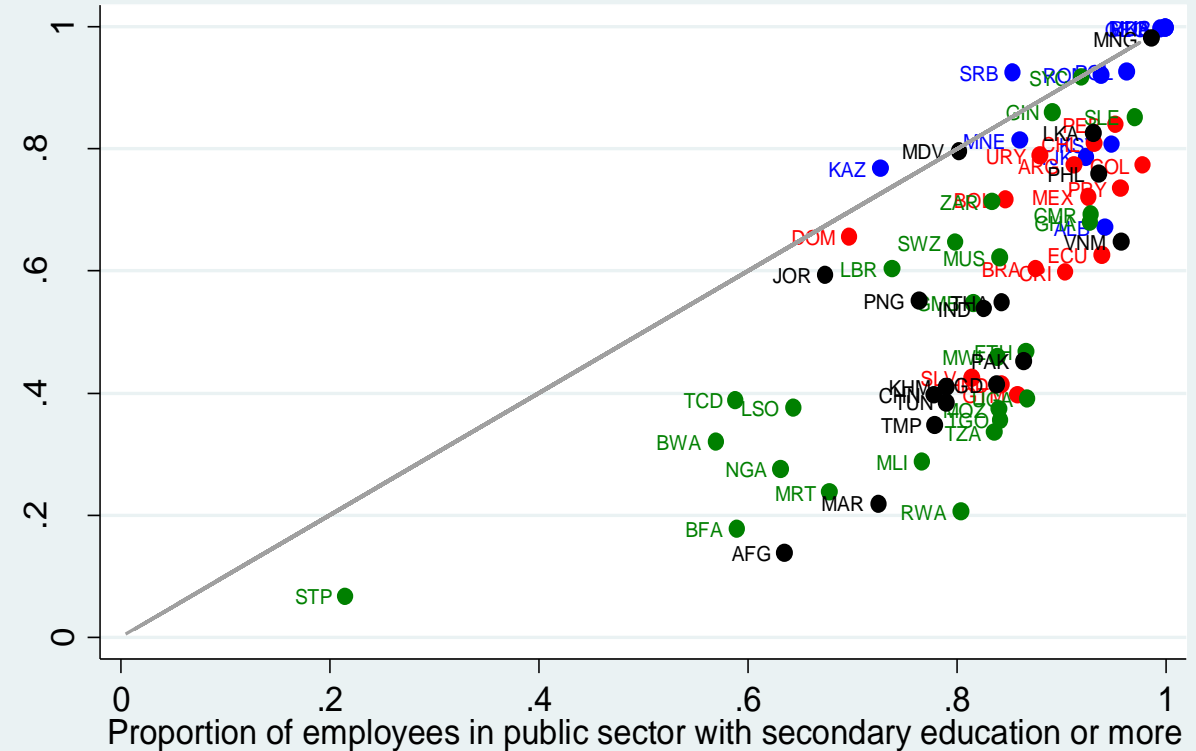
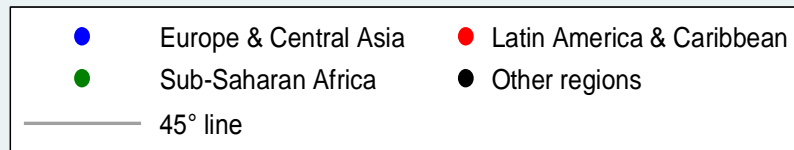
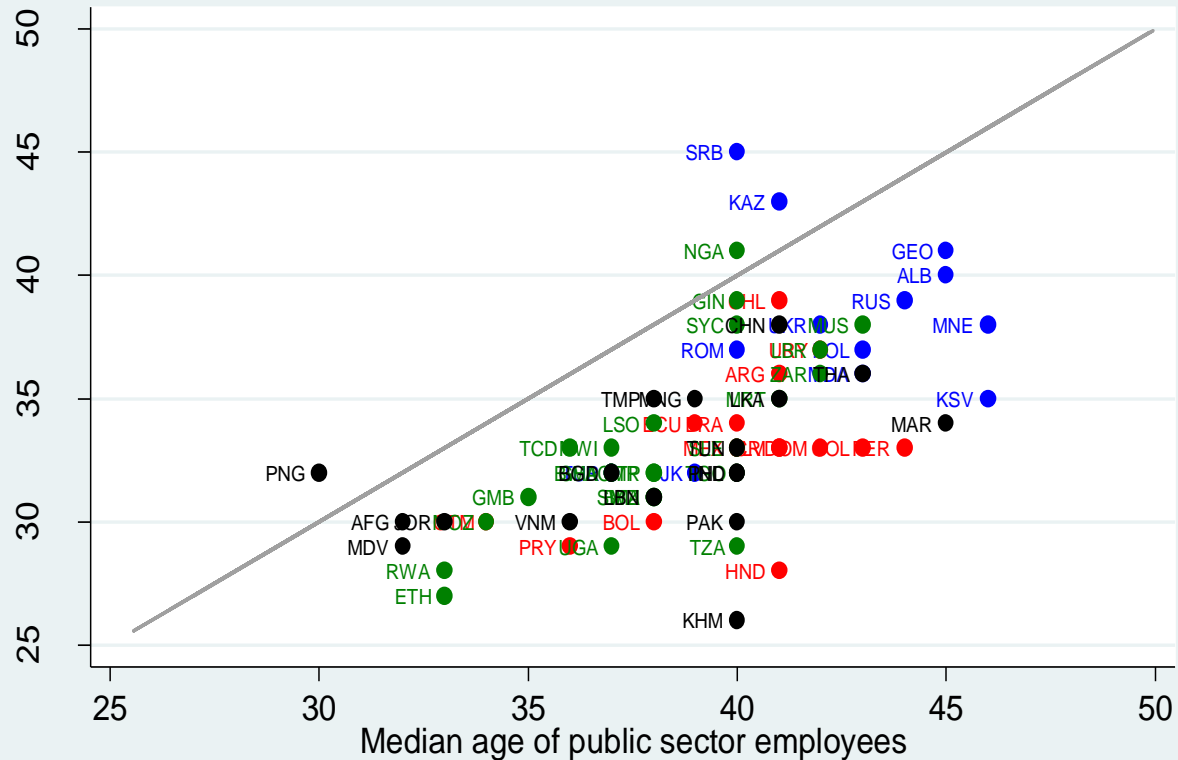
Public sector employment as a share of wage and salaried employment



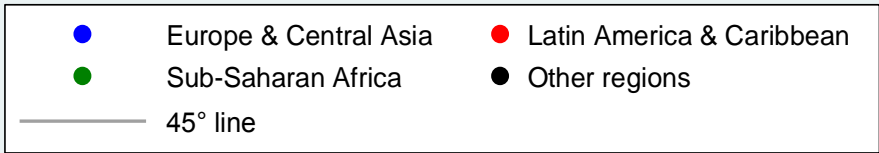
- The public sector share of wage employment increases from 25% of wage employment in low income countries to 39% in high income countries,
 - But there is much more variation within income groups than between income groups.
 - Pattern is similar for public sector as a percent of formal employment.
 - Suggests that the public sector grows along with private formal sector wage employment.
- What is the appropriate comparison for public sector workers?

Who are public sector workers?

Public sector employees are older and more educated in almost all countries



Public sector employees are more likely to be women

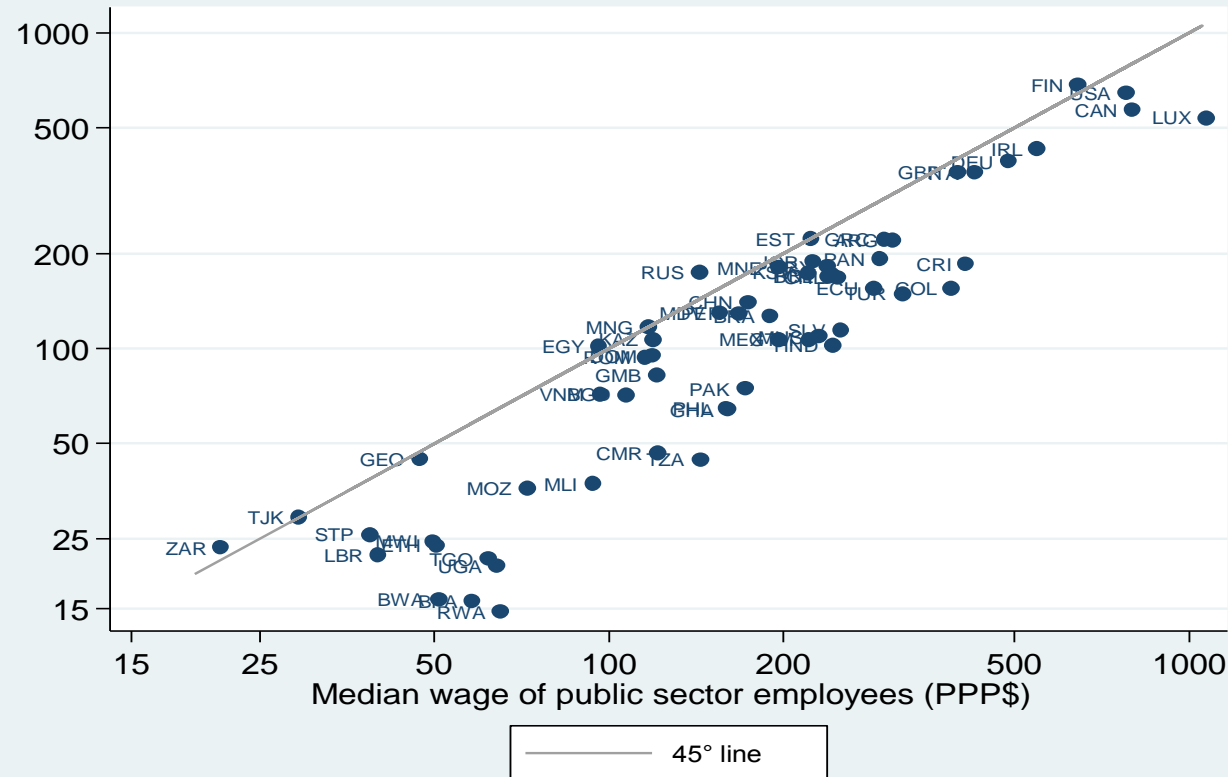


- Not as consistent as age and education differences.
- In several countries in SSA public employment is biased in favor of men.

IV. EARNINGS

Median public sector vs. private sector earnings

Figure 6: Median weekly wages in the public and private sectors

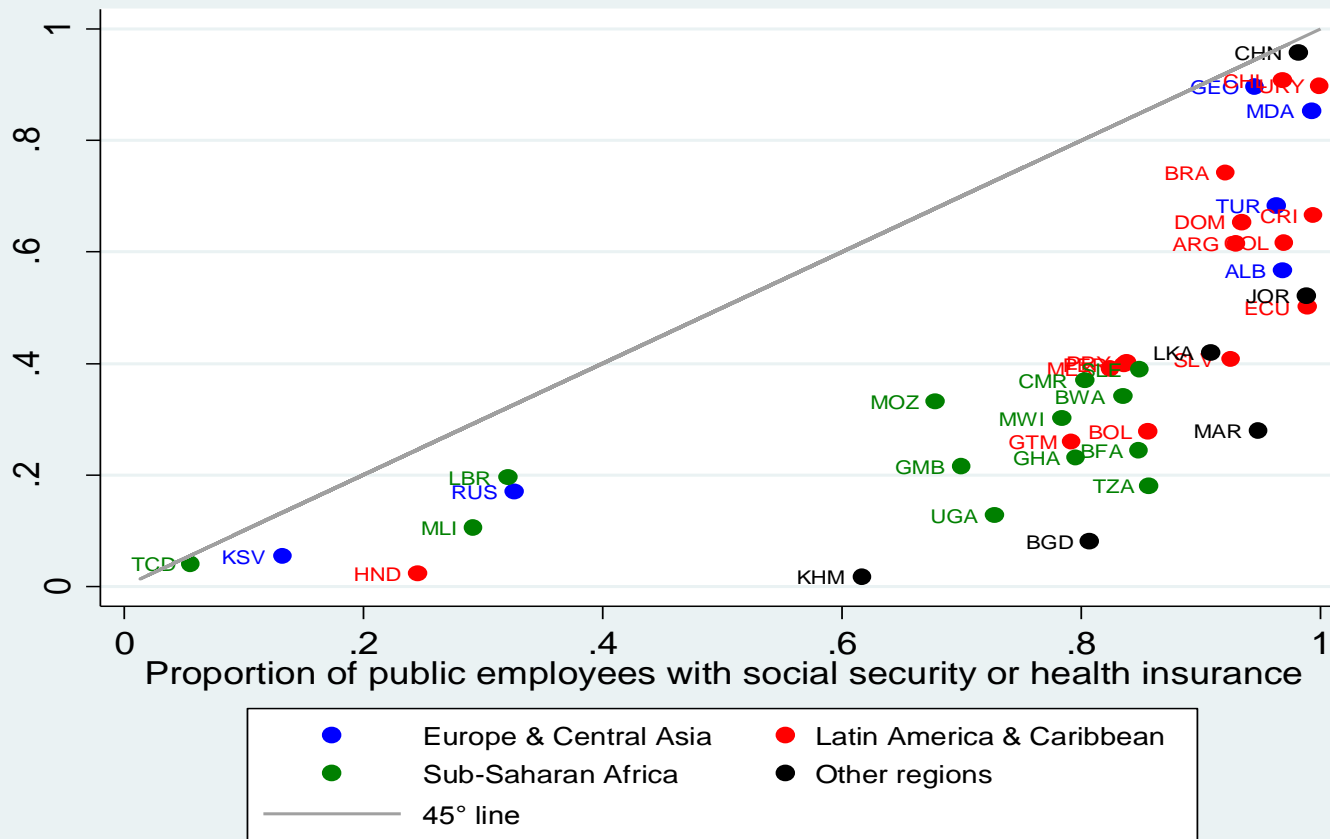


Note: The 45 degree line depicts equal values on the two axes
Source: WWBI

- **Public Sector Earnings Premiums in almost all countries**
 - On average, the unadjusted public sector wage premium in low income countries is 50%, falling to 20-25% in high income countries.

Non-wage benefits amplify the public sector earnings premium.

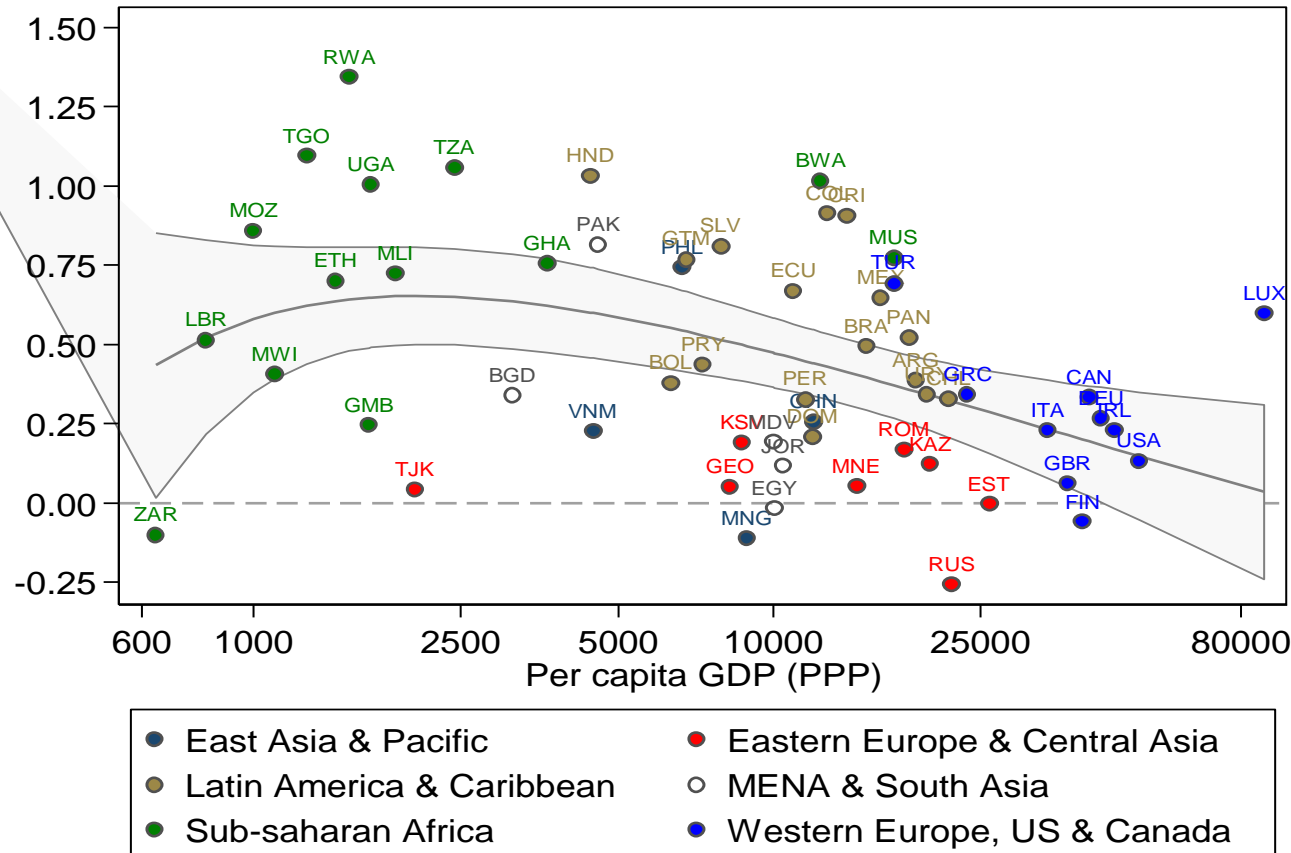
Figure 7: Health insurance or social security of private and public sector workers



- The public sector offers many more of these benefits to workers than the private sector in all countries in our sample.
 - Also true for whether or not a worker has a contract.
- Combined with the public sector earnings premiums, the data suggests significantly higher average total compensation per worker in the public sector compared to the private sector.

Public sector earnings, region and GDP per capita

Public sector premiums without controls vs. GDP per capita



- Unadjusted public sector earnings premiums fall with GDP per capita
- Public earnings premiums are clearly larger in developing and low income economies.
 - As in Finan, et al. (2015)
- Public earnings premiums are
 - Highest in SSA and LAC
 - And lowest in Eastern Europe and Central Asia, and Western Europe, U.S. and Canada.
- But these measured public sector earnings premiums could be due to different types of workers in public and private sector,

Adjusted public-private earnings differences

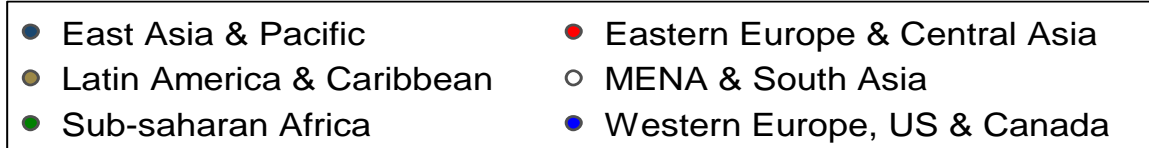
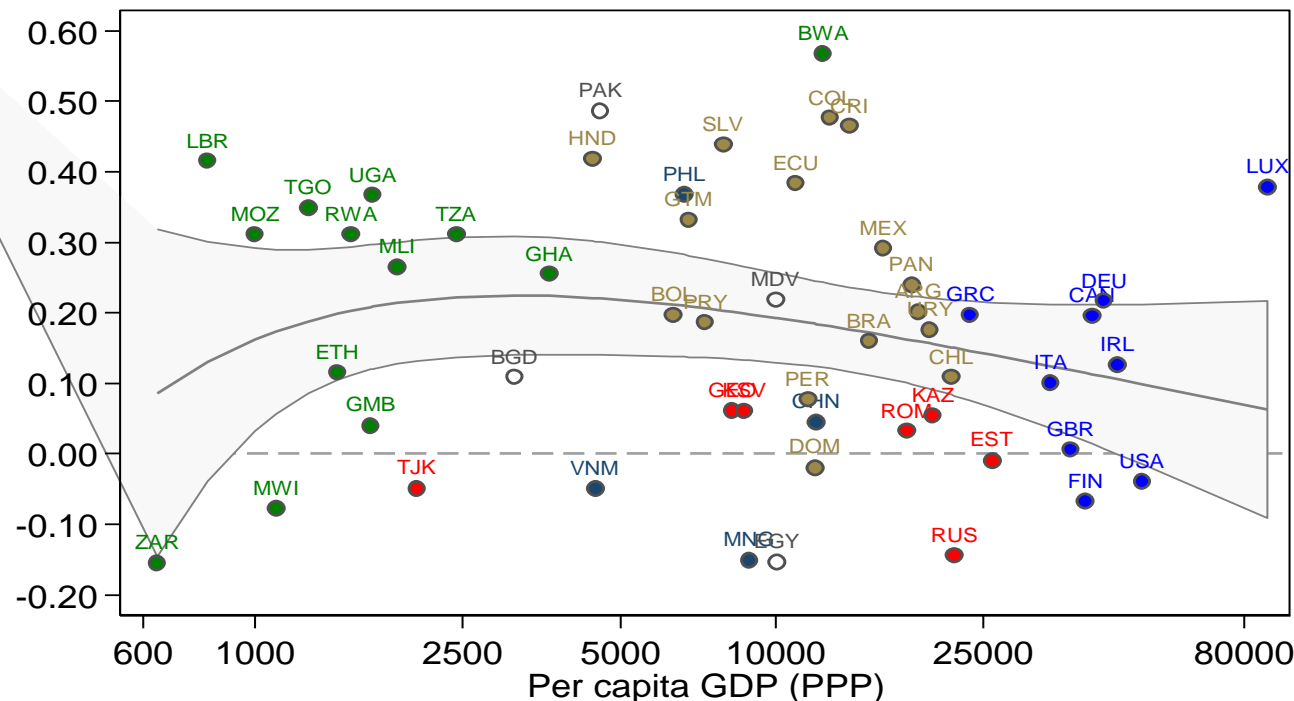
- *We estimate the equation:*

$$w_i = \alpha + \beta \cdot PUBLIC_i + \theta X_i \cdot \gamma + \epsilon_i$$

- β is the adjusted public-private earnings difference; w_i is log(monthly earnings) of employee i ; $PUBLIC_i$ is a dummy=1 if wage employee works in public sector; and X_i is a vector of control variables: age, age squared, level of education (4 levels for I2D2, 3 for LIS), location (urban/rural), and gender.
- We estimate the equation separately for each country using OLS with robust standard errors. Data used include only wage employees with positive wage.

Adjusted public-private earnings gap and GDP per capita

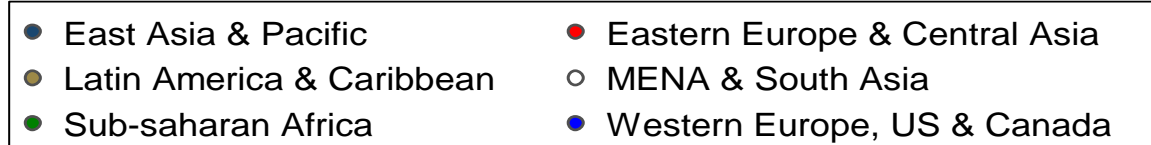
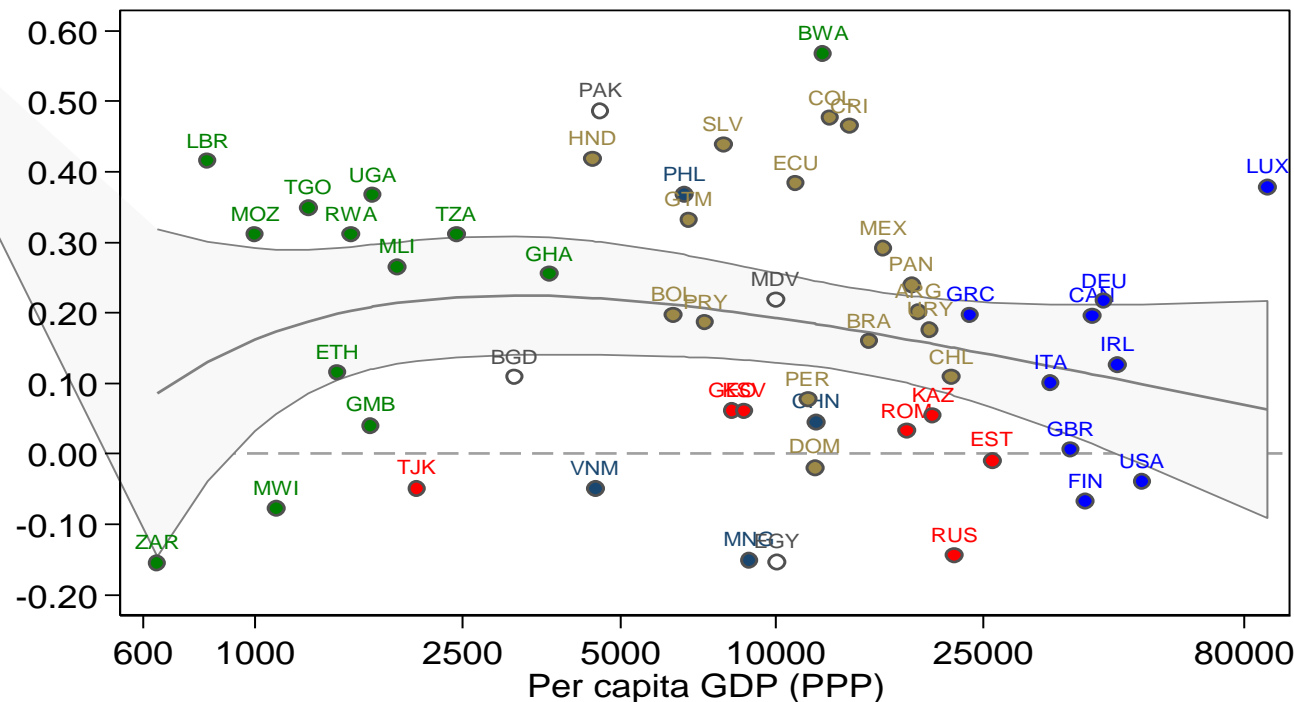
Adjusted public sector premiums with controls vs. GDP per capita



- We still find public sector earnings premiums in most countries.
 - Low income countries tend to have the larger premiums than HIC.
 - High income countries have the lowest premiums or have penalties.
 - But the pattern is not monotonic.
 - Middle income countries tend to have higher premiums than the lowest income countries.
- The negative correlation between public premiums and GDP per capita is not statistically significant.
- Any patterns may be due to regional factors.

Adjusted public-private earnings gap and region

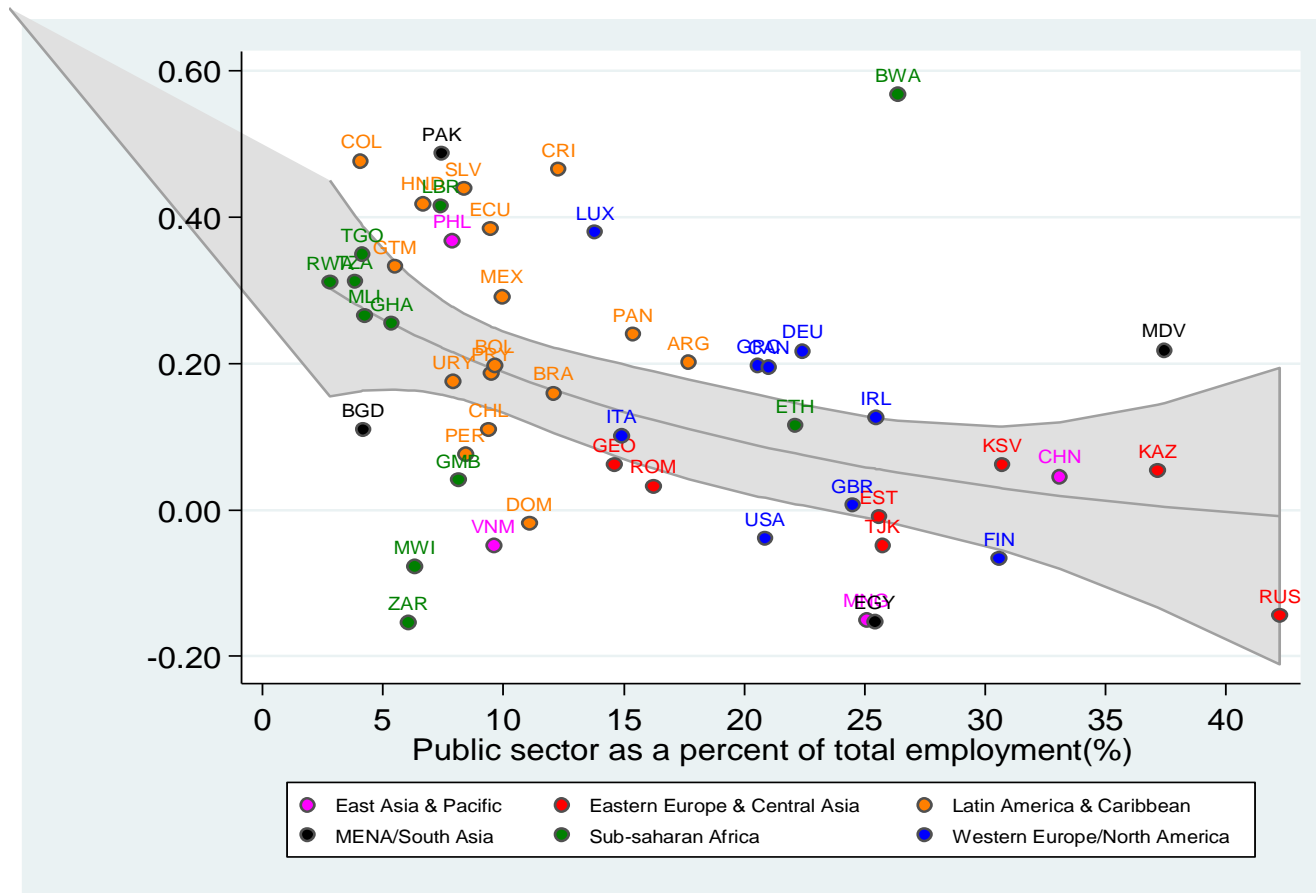
Adjusted public sector premiums with controls vs. GDP per capita



- *In Latin America and the Caribbean, South Asia and Sub-Saharan Africa public sector earnings premiums tend to be large*
- *East Asia and the Pacific and High-income Western Europe, US and Canada, on average, do not have premiums nor penalties.*
- *East Europe and Central Asia: have the lowest premiums, and some countries have public sector earnings penalties.*
- *There is substantial variation within both regions and income groups.*

The public sector earnings premium is negatively correlated with the public employment share

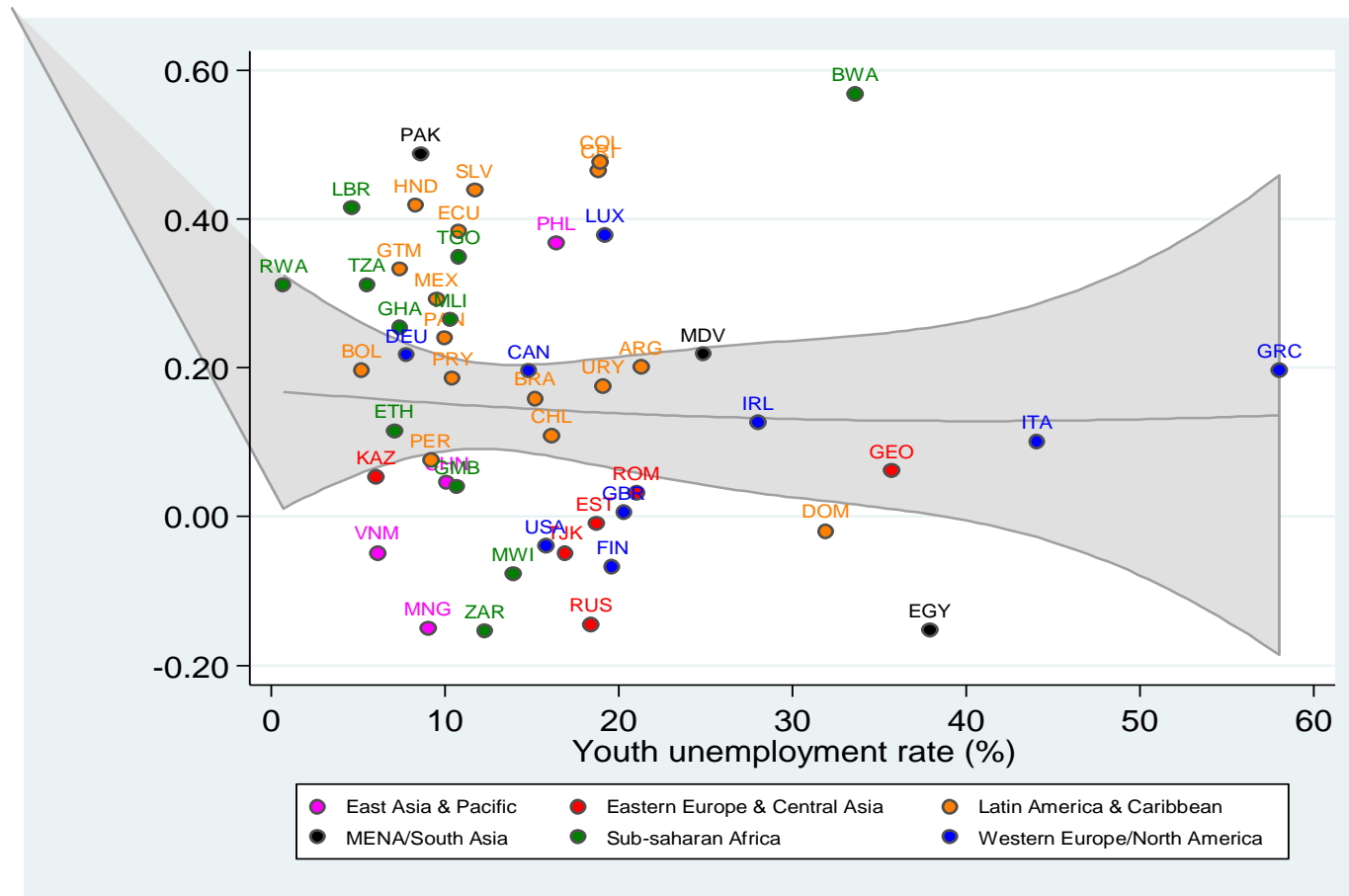
Adjusted public sector premiums with controls vs. % public employment



- **This is the most robust correlation/pattern that we find**
 - True for all measures of the premium and for all subgroup estimates
 - A pattern also found in the literature comparing European countries (i.e. Kollintzas, 2015).

No correlation between public sector earnings and youth unemployment

Adjusted public sector premiums with controls vs. youth unemployment rate



- True for all measures of the public earnings premium and all disaggregations.
- No evidence that youth are queuing for public sector jobs when the public sector earnings premium is higher.

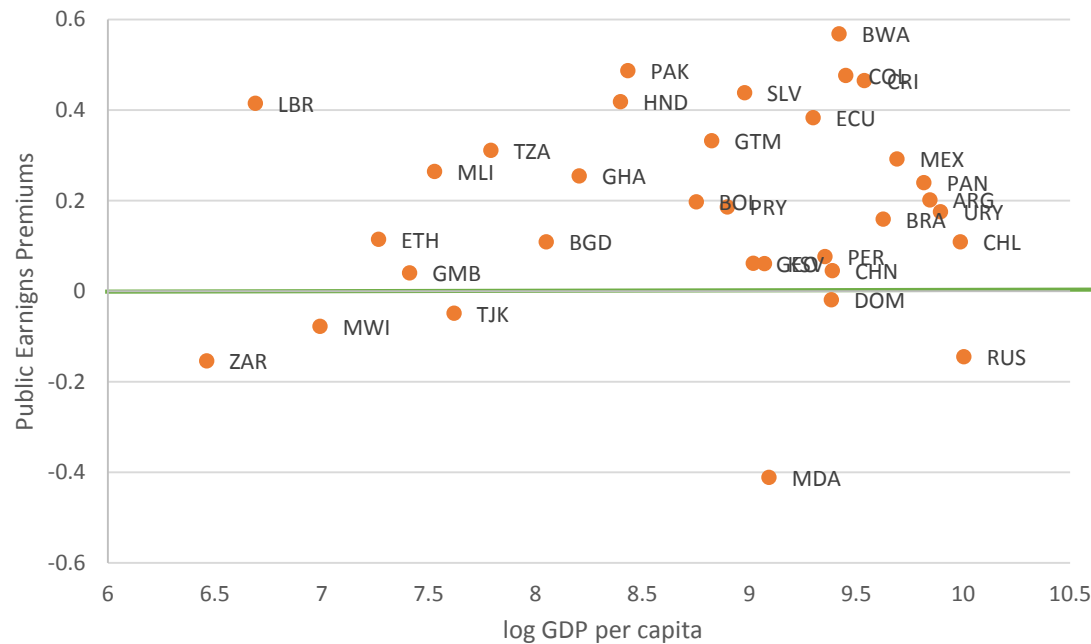
Other approaches to measuring public-private earnings gaps

- **We use what Bales and Rama (2002) call “the worker approach” generally used by labor economists**
- **A different approach is generally used by human resources consultants, the “jobs approach” (Bales and Rama, 2002)**
 - Compares the salary paid in the public sector with the salary paid in the private sector in jobs with similar descriptions (which are usually gathered by the human resource consultants).
 - No literature, conducted individually at request of governments
 - Limitation of “jobs approach”: The private sector comparison salary is generally that paid in large, formal sector firms, often multinationals. But the alternative for many public sector workers in developing countries may be informal sector
 - Implying that the public sector earnings premium using the “jobs approach” is underestimated
 - Especially for less-skilled and lower-paid employees, whose alternative employment is likely to be the informal sector.
- The “jobs approach” often finds public sector earnings penalties, while the “worker approach” generally finds public sector earnings premiums (Bales and Rama, 2002)
- To compare our results to something similar to this alternative measure, we calculate earnings premiums by comparing earnings in the public sector to the earnings of private formal sector employees.
- We identify private formal employees as those who exhibit one or more of the following characteristics:
 - union membership, a formal work contract, or an employer who pays towards social security or health insurance.
- Employees who are not identified as formal are classified as informal.

Most public sector earnings premiums disappear when we compare public sector earnings to private formal earnings.

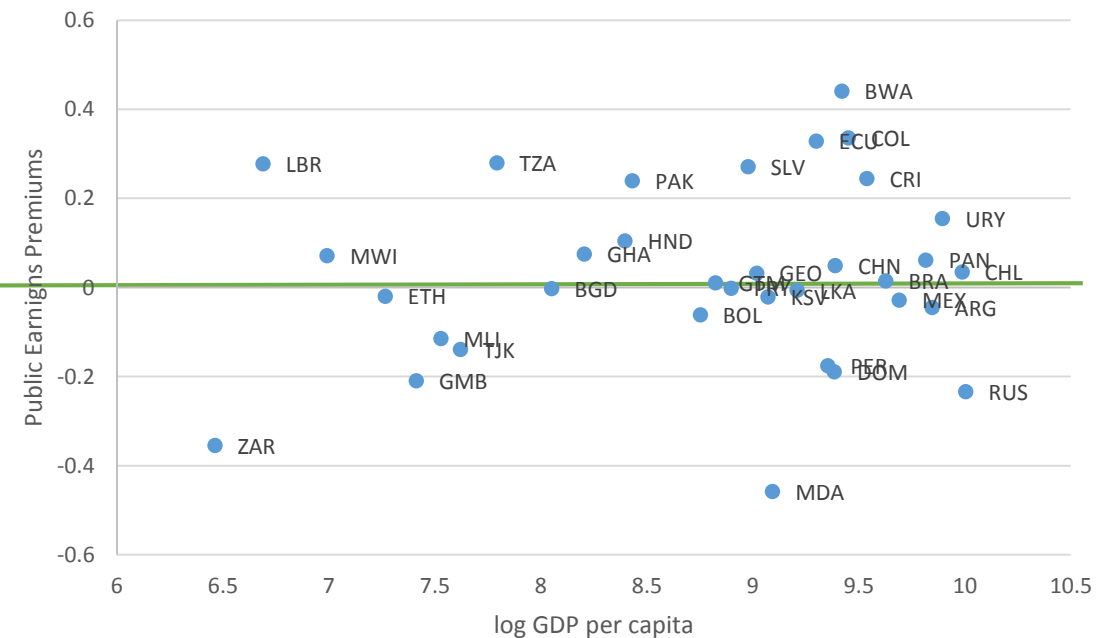
- When public sector earnings are compared to the earnings of all wage employees, 76% of countries exhibit statistically significant public sector earnings premiums.
- When public sector salaries are compared to the earnings of formal employees, only 35% of countries exhibit statistically significant public sector earnings premiums .
 - 40% are not significantly different from zero, 24% exhibit statistically significant penalties.

Public earnings premium vs. all employees



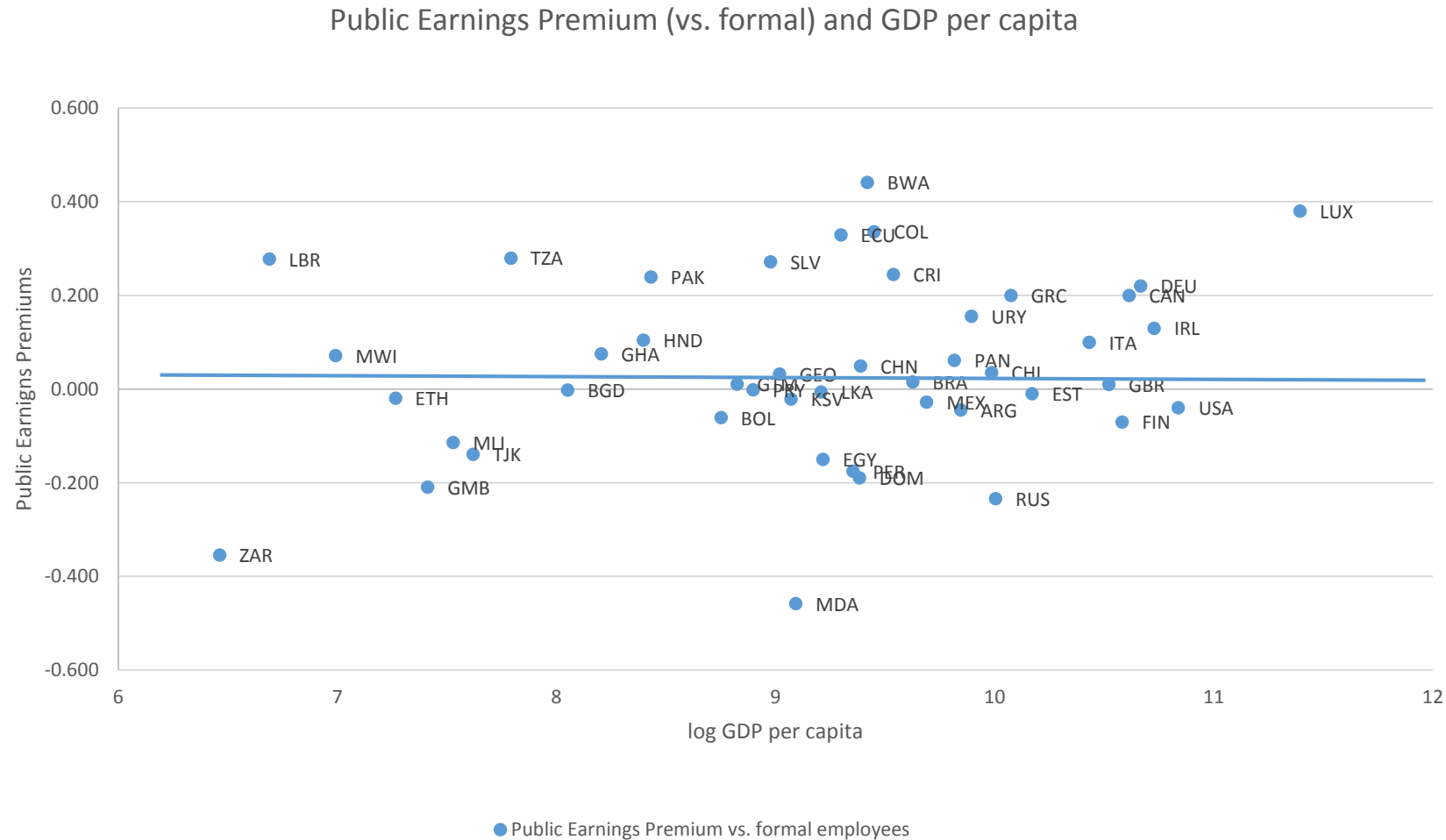
● Public Earnings Premium vs. all employees

Public earnings premium vs. formal employees



● Public Earnings Premium vs. formal employees

No longer true that public sector earnings are higher in developing countries



Disaggregation by demographic and job characteristics

- One reason to doubt the ubiquity of public sector earnings premiums is that they go away if we compare public to private formal
- Another reason is that, even if we compare public earnings to all private employees, only some workers benefit from public earnings premiums.
 - Less skilled and educated workers are very likely to earn public earnings premiums, while more skilled and more educated are not.
 - Women are much more likely to earn public earnings premiums than are men.
 - Older workers tend to earn larger public earnings premiums than younger workers.

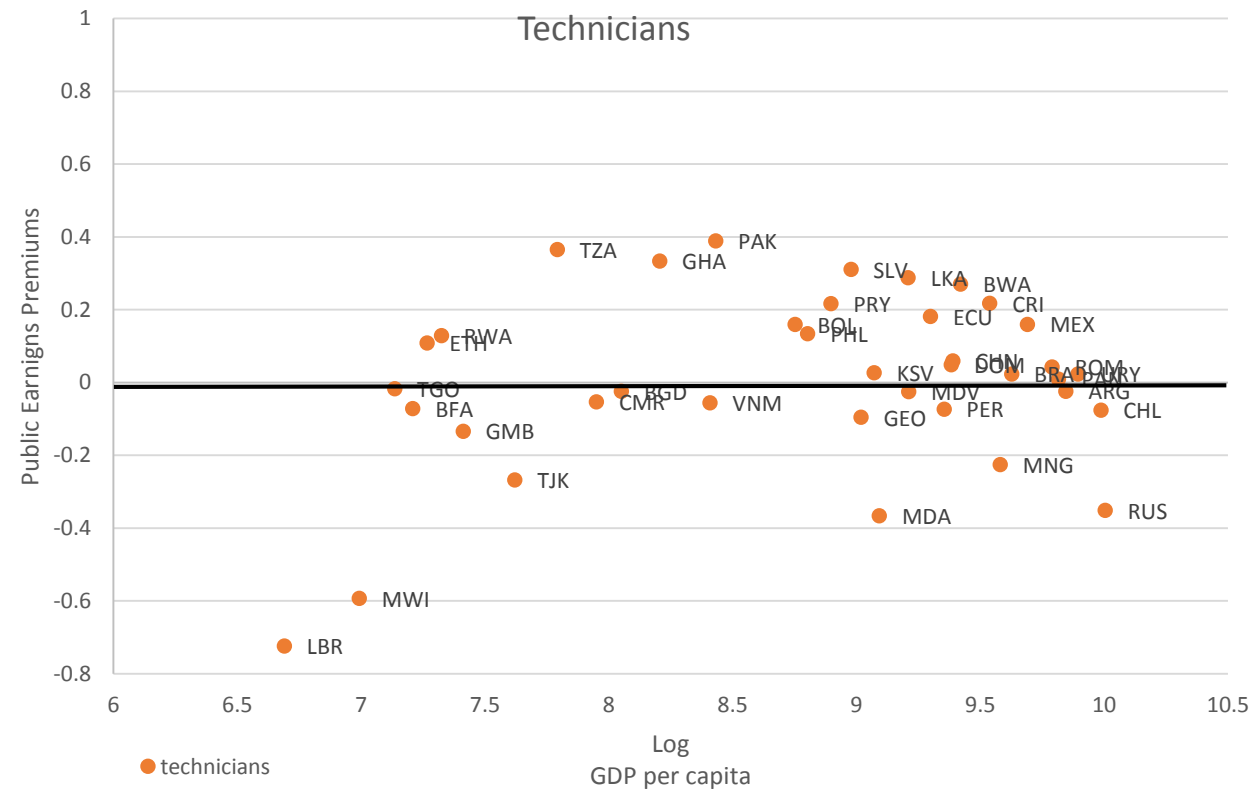
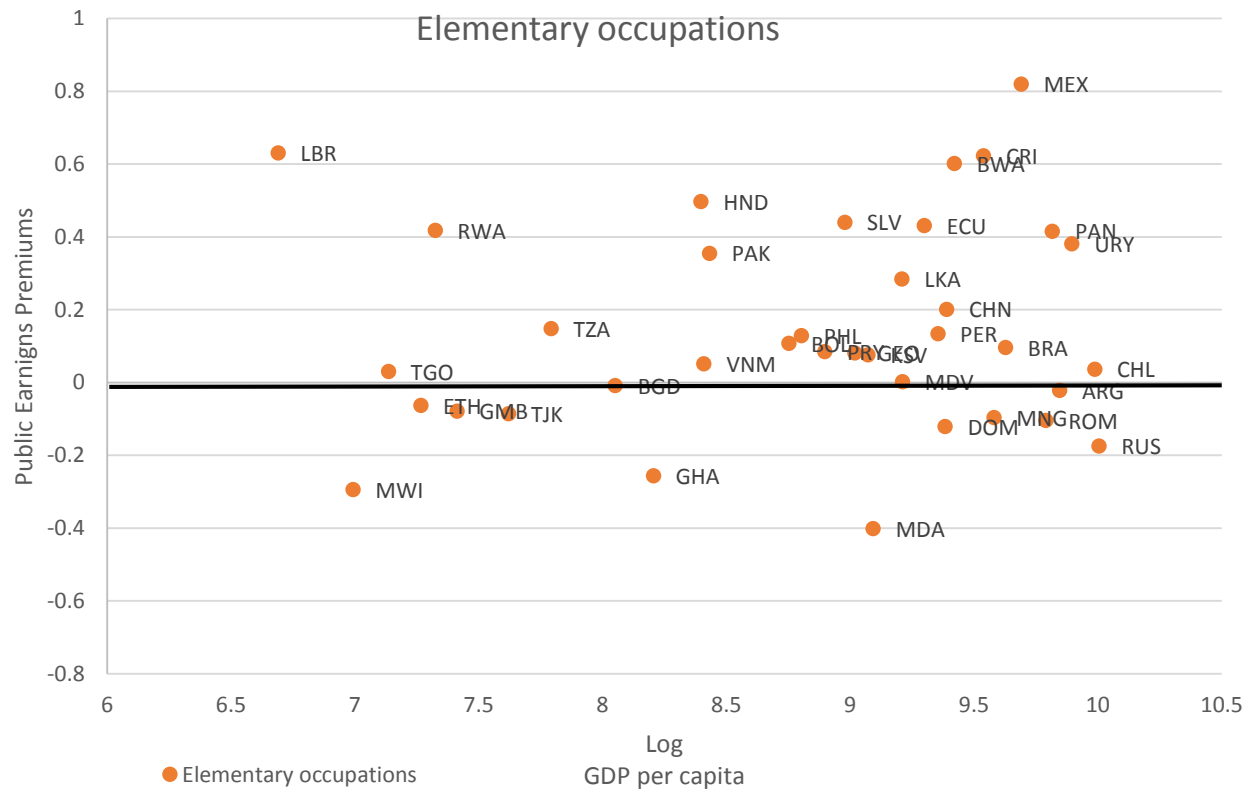
Public earnings premiums by Occupation

Weighted average premium by occupation

Occupation	Premium/penalty	Std error	P-value
Senior officials	-0.154	0.039	0.000
Professionals	-0.009	0.031	0.767
Technicians	-0.017	0.026	0.500
Clerks	0.019	0.023	0.421
Service and market sales workers	0.040	0.020	0.046
Craft workers	-0.065	0.037	0.077
Machine operators	-0.032	0.033	0.322
Elementary occupations	0.085	0.034	0.012

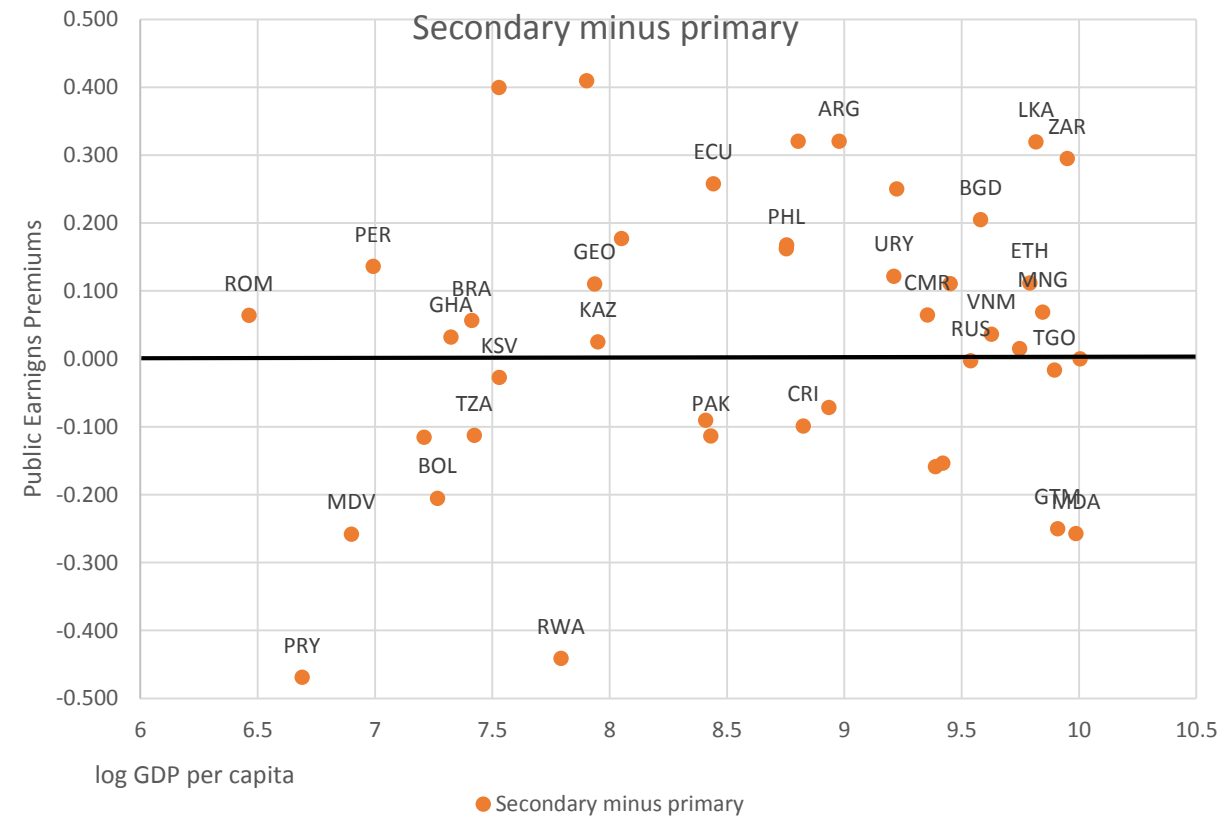
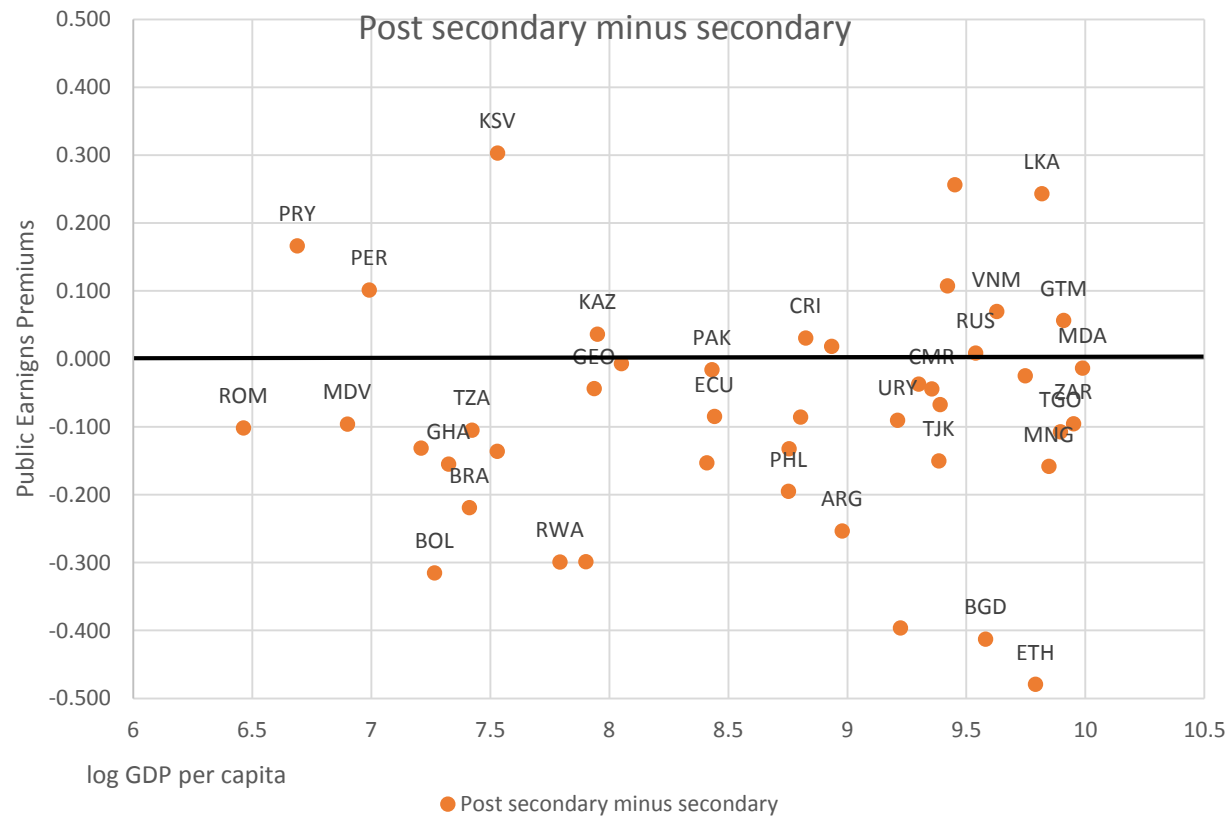
- Employees in unskilled occupations tend to enjoy public sector earnings premiums
 - Elementary occupations
- Employees in skilled occupations tend to face public earnings penalties
 - Senior officials, professionals, technicians, craft workers, machine operators.

Public earnings premiums by Occupation

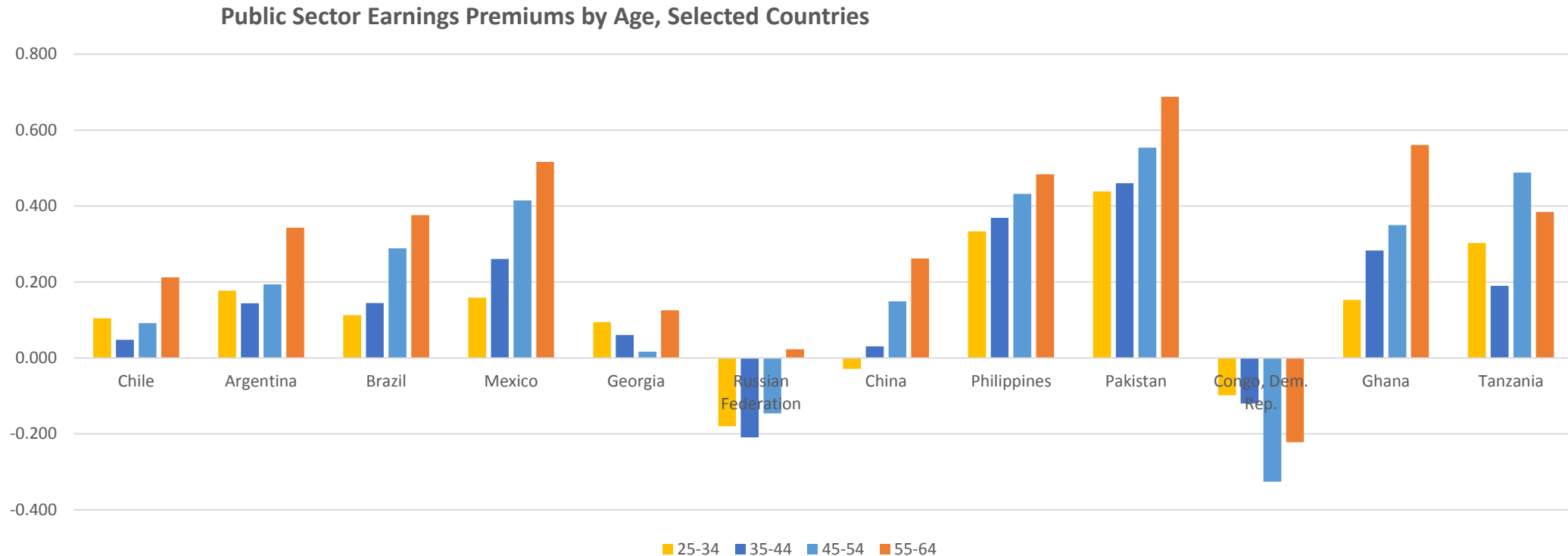


For most countries, public earnings premiums decrease with education.

- Especially from secondary to post-secondary

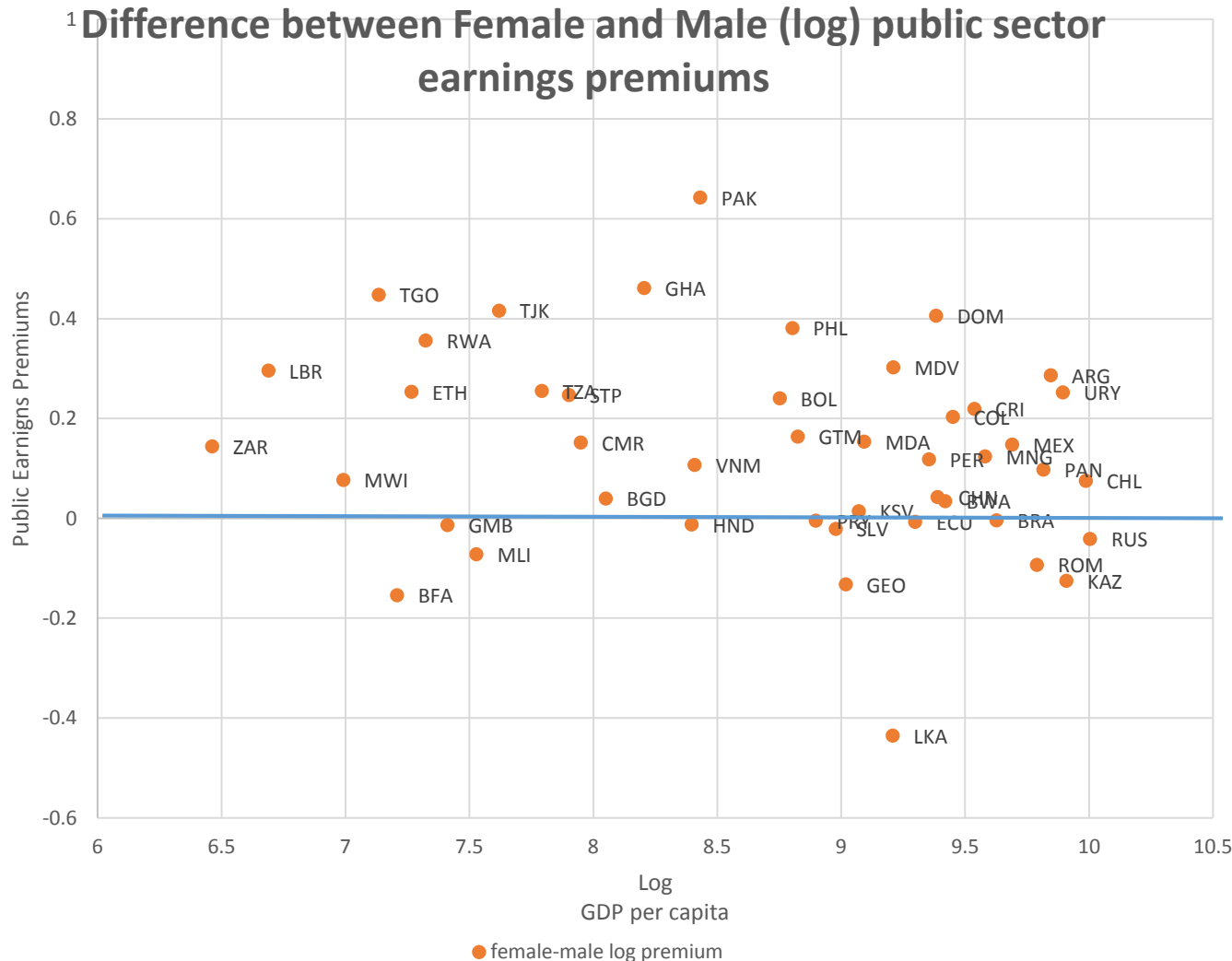


Public earnings premiums by Age



- **Weighted average premiums across countries range from insignificant for 25-34 year olds, to 3% for 35-44 year olds, to 13% 45-54 year olds, and 23% for 55-64 year olds.**

Women vs. Men public earnings premiums



Weighted average premium by location

Sex	Premiums	Std Errors	P-values
Male	0.029	0.012	0.018
Female	0.091	0.015	0.000

- Female public sector earnings premium is almost always higher than that for males.

Conclusions: Public sector earnings premiums in developing economies

- **Are public sector employees overpaid in developing countries?**

It depends

- Public sector employees earn a premium when compared to all (formal plus informal) private employees.
- But the public sector premium disappears when comparison group is private formal employees.
- Not all public sector employees earn a premium over formal plus informal private employees.
- Generally employees at the lower end of the pay distribution earn larger public sector earnings premiums, while employees at the upper end often face penalties.
- This may improve pay equity within the public sector, but is it efficient to offer the largest premiums for workers that are less educated and in low-skill occupations?

Conclusions: Public sector earnings premiums in developing economies

- **Are public sector earnings premiums larger in developing economies than in high income European and North American countries?**

Yes, but

- There is no monotonic relationship between GDP per capita and public sector earnings premiums.
 - Earnings premiums in middle income countries are often higher than those in low income countries.
- This may represent regional differences.
 - Public sector earnings premiums in LAC are higher than those in low income countries
 - Public sector earnings premiums in middle income Eastern Europe and Central Asia are lower than in low income countries.
- When we compare the public sector to the private formal sector, most developing economies have public sector earnings penalties or insignificant premiums, similar to high income countries.

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Appendix: Results for all countries

- Selected results for the full set of countries in our data set are presented in this appendix

Table A1: List of countries with information about employment in public sector					
region	countryname	year	Source	With wage	With wage, age, sex, gender and education
East Asia & Pacific (7)	Cambodia	2012	I2D2		
	China	2013	I2D2	Y	Y
	Mongolia	2011	I2D2	Y	Y
	Papua New Guinea	2009	I2D2		
	Philippines	2014	I2D2	Y	Y
	Thailand	2011	I2D2		
	Vietnam	2010	I2D2	Y	Y
Europe & Central Asia (21)	Albania	2012	I2D2		
	Estonia	2013	LIS	Y	Y
	Finland	2013	LIS	Y	Y
	France	2010	LIS		
	Georgia	2013	I2D2 (LIS also available)	Y	Y
	Germany	2013	LIS	Y	Y
	Greece	2013	LIS	Y	Y
	Ireland	2010	LIS	Y	Y
	Italy	2014	LIS	Y	Y
	Kazakhstan	2010	I2D2	Y	Y
	Kosovo	2014	I2D2	Y	Y
	Luxembourg	2013	LIS	Y	Y
	Montenegro	2011	I2D2	Y	
	Poland	2009	I2D2 (LIS also available)		
	Romania	2009	I2D2	Y	Y
	Russian Federation	2009	I2D2 (LIS also available)	Y	Y
	Serbia	2013	LIS		
	Slovenia	2012	LIS		
	Tajikistan	2009	I2D2	Y	Y
	Turkey	2010	I2D2	Y	
	United Kingdom	2013	LIS	Y	Y

Latin America & Caribbean (16)	Argentina	2014	I2D2	Y	Y
	Bolivia	2014	I2D2	Y	Y
	Brazil	2014	I2D2 (LIS also available)	Y	Y
	Chile	2013	I2D2	Y	Y
	Colombia	2014	I2D2	Y	Y
	Costa Rica	2012	I2D2	Y	Y
	Dominican Republic	2013	I2D2	Y	Y
	Ecuador	2014	I2D2	Y	Y
	El Salvador	2014	I2D2	Y	Y
	Guatemala	2011	I2D2	Y	Y
	Honduras	2011	I2D2	Y	Y
	Mexico	2012	I2D2 (LIS also available)	Y	Y
	Panama	2012	I2D2 (LIS also available)	Y	Y
	Paraguay	2012	I2D2 (LIS also available)	Y	Y
	Peru	2014	I2D2 (LIS also available)	Y	Y
	Uruguay	2014	I2D2 (LIS also available)	Y	Y
Middle East & North Africa (5)	Egypt, Arab Rep.	2012	LIS	Y	Y
	Jordan	2010	I2D2	Y	
	Lebanon	2011	I2D2		
	Morocco	2009	I2D2		
	Tunisia	2011	I2D2		
North America (2)	Canada	2010	LIS	Y	Y
	United States	2013	LIS	Y	Y
South Asia (5)	Afghanistan	2011	I2D2		
	Bangladesh	2015	I2D2	Y	Y
	Maldives	2009	I2D2	Y	Y
	Pakistan	2014	I2D2	Y	Y
	Sri Lanka	2012	I2D2		
Sub-Saharan Africa (23)	Botswana	2009	I2D2	Y	Y
	Burkina Faso	2009	I2D2		
	Cameroon	2014	I2D2		
	Chad	2011	I2D2		
	Congo, Dem. Rep.	2012	I2D2	Y	Y
	Ethiopia	2014	I2D2	Y	Y
	Gambia, The	2010	I2D2	Y	Y
	Ghana	2012	I2D2	Y	Y
	Lesotho	2010	I2D2		
	Liberia	2014	I2D2	Y	Y
	Malawi	2013	I2D2	Y	Y
	Mali	2010	I2D2	Y	Y
	Mauritania	2014	I2D2		
	Mauritius	2012	I2D2	Y	
	Mozambique	2012	I2D2	Y	Y
	Rwanda	2013	I2D2	Y	Y
	Sao Tome and Principe	2010	I2D2		
	Seychelles	2013	I2D2		
	Sierra Leone	2014	I2D2		
	Swaziland	2009	I2D2		
	Tanzania	2014	I2D2	Y	Y
	Togo	2011	I2D2	Y	Y
	Uganda	2012	I2D2	Y	Y

Table A2: Selected results by country										
							Has Contract		Has SS or Insurance	
					Adjusted public sector eanings premium or penalty compared to private employees	Adjusted public sector eanings premium or penalty compared to formal employees				
		Income Group	Public sector share of paid employment	Unadjusted public sector eanings premium (+) or penalty (-)			% Public sector workers with contract	% Private sector workers with contracts	% Public sector workers with Social Security or Insurance	% Private sector workers with Social Security or Insurance
Country Name	Region	Income Group								
Afghanistan	South Asia	LIC	0.28							
Albania	East Europe & Central Asia	UMIC	0.36						0.97	0.57
Argentina	Latin America & Caribbean	HIC	0.24	0.39	0.20	-0.05			0.93	0.62
Bangladesh	South Asia	LIC	0.11	0.34	0.11	0.00	0.85	0.30	0.81	0.08
Bolivia	Latin America & Caribbean	LMIC	0.26	0.38	0.20	-0.06	0.92	0.35	0.86	0.28
Botswana	Sub-Saharan Africa	UMIC	0.38	1.02	0.57	0.44	0.88	0.67	0.84	0.34
Brazil	Latin America & Caribbean	UMIC	0.18	0.49	0.16	0.02			0.92	0.74
Burkina Faso	Sub-Saharan Africa	LIC	0.38				0.84	0.22	0.85	0.24
Cambodia	East Asia & Pacific	LIC	0.18				0.68	0.20	0.62	0.02
Cameroon	Sub-Saharan Africa	LMIC	0.22				0.87	0.40	0.80	0.37
Canada	North America	HIC	0.24	0.33	0.20					
Chad	Sub-Saharan Africa	LIC	0.44				0.60	0.36	0.06	0.04
Chile	Latin America & Caribbean	HIC	0.13	0.33	0.11	0.04	0.95	0.86	0.97	0.91
China	East Asia & Pacific	UMIC	0.40	0.26	0.05	0.05	0.77	0.21	0.98	0.96
Colombia	Latin America & Caribbean	UMIC	0.08	0.91	0.48	0.34	1.00	0.57	0.97	0.62
Congo, Dem. Rep.	Sub-Saharan Africa	LIC	0.37	-0.10	-0.15	-0.36	0.74	0.46		
Costa Rica	Latin America & Caribbean	UMIC	0.16	0.91	0.46	0.25			0.99	0.67
Dominican Republic	Latin America & Caribbean	UMIC	0.21	0.21	-0.02	-0.19	0.83	0.58	0.93	0.65
Ecuador	Latin America & Caribbean	UMIC	0.17	0.67	0.38	0.33	1.00	0.74	0.99	0.50
Egypt, Arab Rep.	Middle East & North Africa	LMIC	0.41	-0.02						
El Salvador	Latin America & Caribbean	LMIC	0.14	0.81	0.27		0.95	0.35	0.93	0.41
Estonia	East Europe & Central Asia	UMIC	0.29	0.00						
Ethiopia	Sub-Saharan Africa	UMIC	0.44	0.70	-0.02	-0.02	0.93	0.43		
Finland	Western Europe	HIC	0.38	-0.06		-0.07				
France	Western Europe	HIC	0.26							
Gambia, The	Sub-Saharan Africa	UMIC	0.40	0.24	-0.21	0.04			0.70	0.22
Georgia	East Europe & Central Asia	UMIC	0.38	0.05	0.03	0.06			0.95	0.90
Germany	Western Europe	HIC	0.27	0.27		0.22				
Ghana	Sub-Saharan Africa	LMIC	0.31	0.76	0.08	0.25	0.85	0.26	0.80	0.23
Greece	Western Europe	HIC	0.33	0.34		0.20				
Guatemala	Latin America & Caribbean	LMIC	0.10	0.77	0.01	0.33	0.88	0.28	0.79	0.26
Honduras	Latin America & Caribbean	LMIC	0.14	1.03	0.11	0.42	0.96	0.41	0.25	0.02
India	South Asia	LMIC	0.24				0.61	0.10		
Ireland	Western Europe	HIC	0.32	0.23		0.13				
Italy	Western Europe	HIC	0.18	0.23		0.10				
Jordan	Middle East & North Africa	UMIC	0.48	0.12			1.00	0.59	0.99	0.52
Kazakhstan	East Europe & Central Asia	UMIC	0.49	0.12		0.05				
Kosovo	East Europe & Central Asia	LMIC	0.46	0.19	-0.02	0.06	0.99	0.73	0.13	0.05
Lebanon	Middle East & North Africa	UMIC	0.18							

Lesotho	Sub-Saharan Africa	LMIC	0.23							
Liberia	Sub-Saharan Africa	UMIC	0.38	0.51	0.28	0.41	0.49	0.42	0.32	0.19
Luxembourg	Western Europe	HIC	0.15	0.60		0.38				
Malawi	Sub-Saharan Africa	LIC	0.17	0.41	0.07	-0.08	0.81	0.13	0.67	0.12
Maldives	South Asia	UMIC	0.52	0.19		0.22				
Mali	Sub-Saharan Africa	UMIC	0.17	0.72	-0.11	0.26			0.29	0.11
Mauritania	Sub-Saharan Africa	LMIC	0.53							
Mauritius	Sub-Saharan Africa	UMIC	0.24	0.77						
Mexico	Latin America & Caribbean	UMIC	0.15	0.65	-0.03	0.29	0.87	0.36	0.82	0.39
Mongolia	East Europe & Central Asia	UMIC	0.40	-0.11		-0.15				
Montenegro	East Europe & Central Asia	UMIC	0.48	0.05			1.00	0.97		
Morocco	Middle East & North Africa	LMIC	0.20				0.92	0.19	0.95	0.28
Mozambique	Sub-Saharan Africa	LIC	0.25	0.86		0.31			0.68	0.33
Pakistan	South Asia	LMIC	0.20	0.82	0.24	0.49	0.96	0.19		
Panama	Latin America & Caribbean	UMIC	0.23	0.52	0.06	0.24	0.12	0.77		
Papua New Guinea	East Asia & Pacific	LMIC	0.44							
Paraguay	Latin America & Caribbean	UMIC	0.21	0.44	0.00	0.19			0.84	0.40
Peru	Latin America & Caribbean	UMIC	0.19	0.33	-0.18	0.08	1.00	0.45	0.84	0.40
Philippines	East Asia & Pacific	LMIC	0.14	0.74		0.37				
Poland	East Europe & Central Asia	HIC	0.33				1.00	0.93		
Romania	East Europe & Central Asia	UMIC	0.26	0.17		0.03				
Russian Federation	East Europe & Central Asia	HIC	0.46	-0.26	-0.23	-0.14	0.99	0.88	0.33	0.17
Rwanda	Sub-Saharan Africa	LIC	0.10	1.34		0.31				
Sao Tome and Principe	Sub-Saharan Africa	LMIC	0.39							
Serbia	East Europe & Central Asia	UMIC	0.42							
Seychelles	Sub-Saharan Africa	HIC	0.45							
Sierra Leone	Sub-Saharan Africa	LIC	0.40				0.88	0.45	0.85	0.39
Slovenia	East Europe & Central Asia	HIC	0.33							
Sri Lanka	South Asia	LMIC	0.32						0.91	0.42
Swaziland	Sub-Saharan Africa	LMIC	0.26							
Tajikistan	East Europe & Central Asia	LIC	0.31	0.04	-0.14	-0.05	0.64	0.30		
Tanzania	Sub-Saharan Africa	LIC	0.29	1.06	0.28	0.31	1.00	1.00	0.86	0.18
Thailand	East Asia & Pacific	UMIC	0.22							
Togo	Sub-Saharan Africa	LIC	0.22	1.09		0.35				
Tunisia	Middle East & North Africa	UMIC	0.50							
Turkey	Europe & Central Asia	UMIC	0.21	0.69					0.96	0.68
Uganda	Sub-Saharan Africa	LIC	0.16	1.01		0.37	0.79	0.13	0.73	0.13
United Kingdom	Western Europe	HIC	0.29	0.06		0.01				
United States	North America	HIC	0.23	0.13		-0.04				
Uruguay	Latin America & Caribbean	HIC	0.11	0.34	0.16	0.18			1.00	0.90
Vietnam	East Asia & Pacific	LMIC	0.28	0.22		-0.05				

Conclusions: Employment

- The public sector is a large employer
 - But there is substantial heterogeneity between countries, public sector employment shares range from 2 percent to over 40 percent of total employment, and from 10 percent to 50 percent of wage employment
- Public sector employment as a share of total employment increases with GDP per capita, while public sector employment as a share of wage employment does not.
 - Because of high levels of self-employment in low income countries
- Public employees are demographically different from their private sector counterparts
 - Public employees are more likely to be women, older and more educated.

Conclusion: Earnings premiums compared to all private sector employees

- As is common in the labor economics literature, in most countries there is a public sector earnings premium when public sector earnings are compared to the earnings of all private sector employees.
 - Across countries, public sector earnings premiums fall as public employment increases as a percent of wage employment.
 - No correlation between public sector earnings premiums and GDP per capita or youth unemployment rates
 - By region
 - Public sector earnings premiums are largest in Sub-Saharan Africa, Latin America and the Caribbean
 - Public sector earnings premiums are lowest in East Europe and Central Asia, Western Europe and U.S.
- Public sector workers throughout the world are more likely than private sector workers to receive non-wage benefits such as health insurance and pensions.
 - Suggesting that all of our measures underestimate public sector pay premiums.
 - Public sector benefit premiums are larger in low and lower-middle income countries than in high and upper-middle income countries.
- But there is substantial variation between countries, even within income groups and regions.

But not all workers face public sector earnings premiums

- But when we change the comparison group or look at different demographics and jobs, it is no longer true that public sector workers in most countries earn an earnings premium.
 - When public sector earnings are compared to private formal sector employees, public sector earnings premiums are mostly insignificant, and in some countries public sector employees face earnings penalties.
 - Even when the comparison is to all private sector employees, not all public sector workers earn an earnings premium:
 - Young workers (25-44) earn small premiums or penalties while older workers (45-64) generally earn large premiums.
 - Women tend to earn larger premiums than men.
 - Less skilled workers (less educated and elementary occupations) generally earn large premiums, while
 - More skilled workers (more educated and skilled occupations) often face public sector earnings penalties or insignificant earnings gaps.