

Okun's Law: (Un)fit for Low-Income Countries?

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Joint Work with

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Global Labor Markets Workshop

Paris, September 1-2, 2016

Country list

Country	Country
Algeria*	Mongolia
Bolivia (1989)	Morocco* (1995)
Botswana	Myanmar (1998)
Cabo Verde	Nicaragua*
Cameroon	São Tomé and Príncipe
Côte d'Ivoire	South Africa*
Egypt* (1990)	Sudan
Georgia* (1996)	Tajikistan (1992)
Honduras*	Tanzania (1995)
Kenya	Tunisia (1990)
Kyrgyz Republic* (1994)	Uzbekistan (1991)
Mauritius	Vietnam* (1990)
Moldova* (1993)	

Okun's Law: What we estimate

Gaps version

$$u_t - u_t^* = \beta(y_t - y_t^*) + \varepsilon_t$$

$$e_t - e_t^* = \beta^e(y_t - y_t^*) + \varepsilon_{et}$$

$$l_t - l_t^* = \beta^l(y_t - y_t^*) + \varepsilon_{lt}$$

Changes version

$$\Delta u_t = \alpha + \gamma \Delta y_t + \omega_t$$

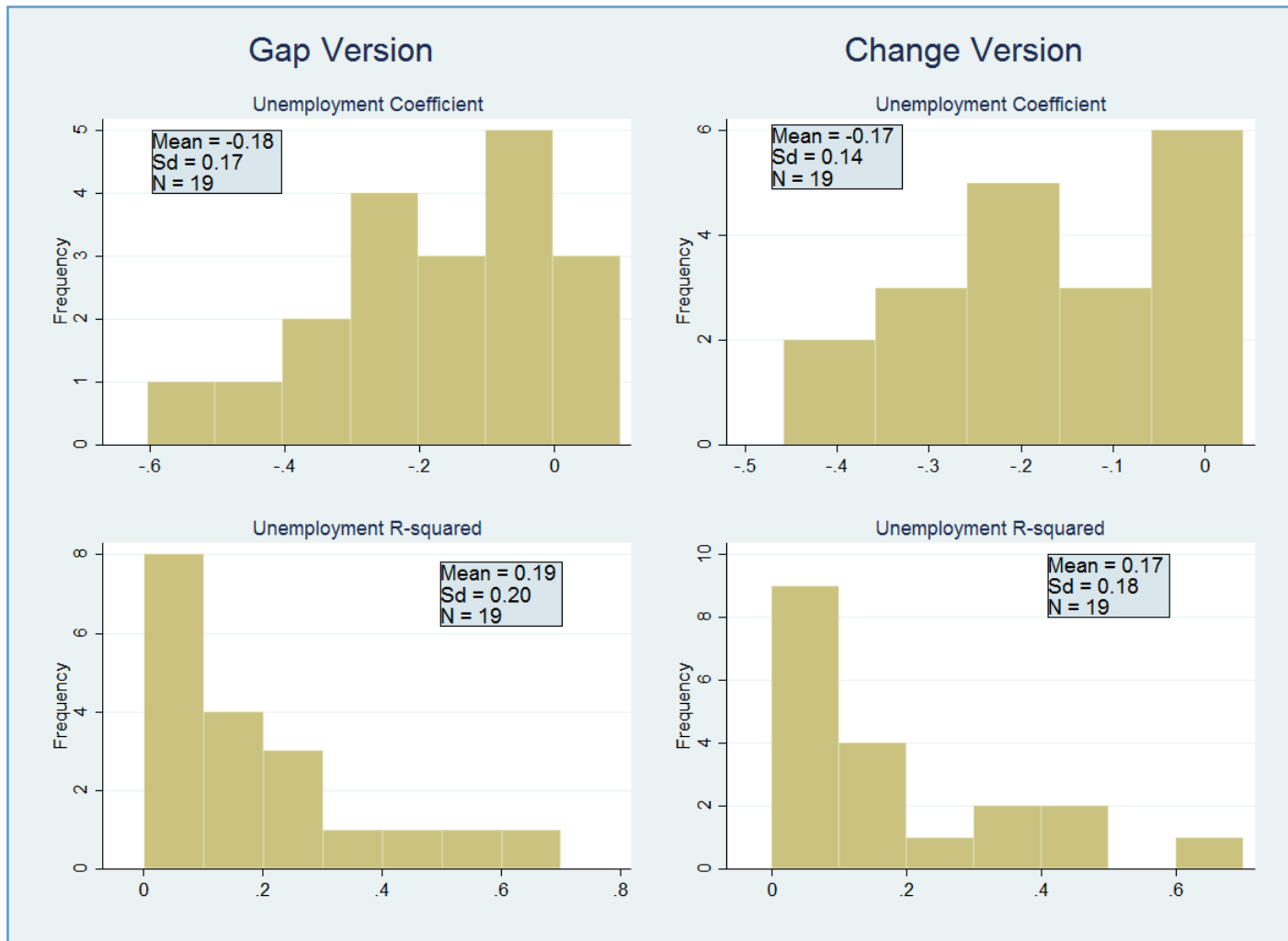
$$\Delta e_t = \alpha^e + \gamma^e \Delta y_t + \omega_{et}$$

$$\Delta l_t = \alpha^l + \gamma^l \Delta y_t + \omega_{lt}$$

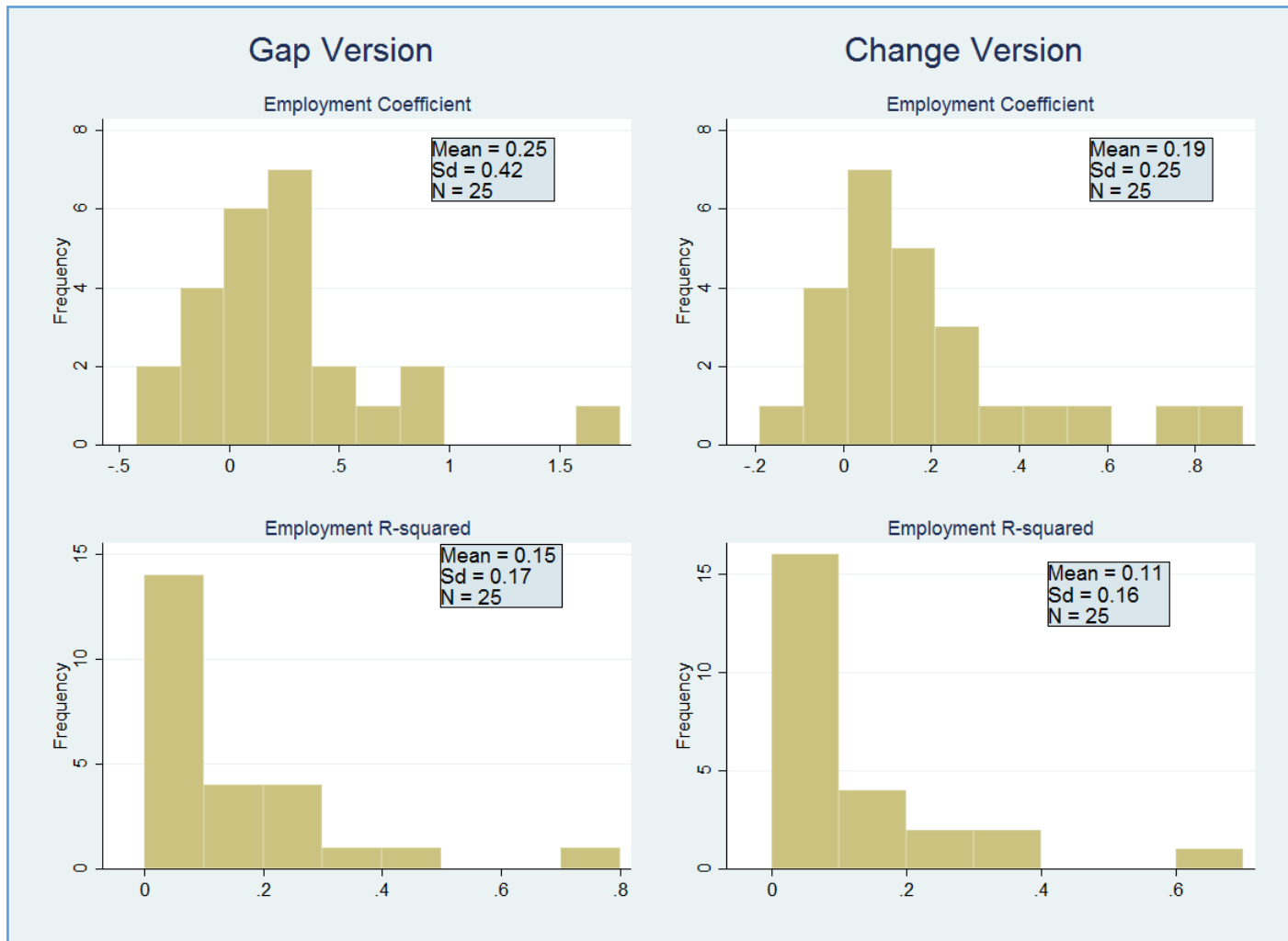
Main results

- Distribution of Okun coefficients in Low-Income Countries
- Probing the cross-country heterogeneity in Okun coefficients

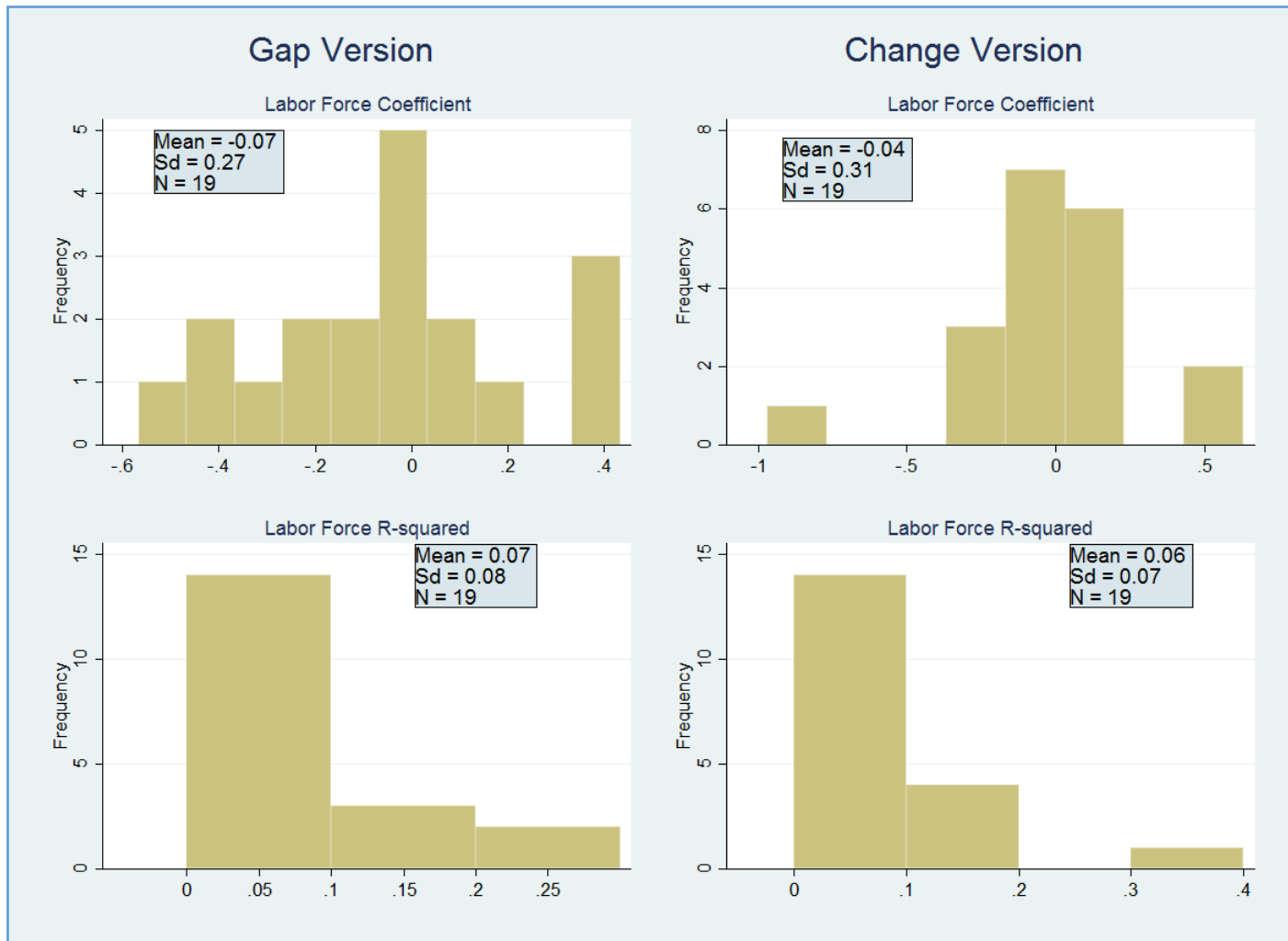
Distribution of Okun Coefficients and R-squared: Unemployment



Distribution of Okun Coefficients and R-squared: Employment

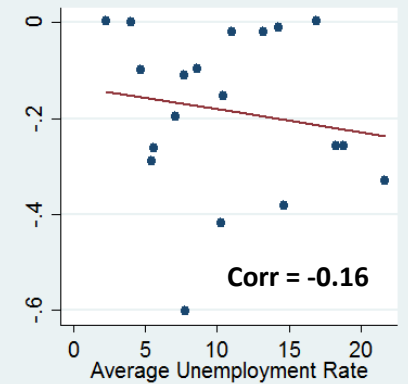
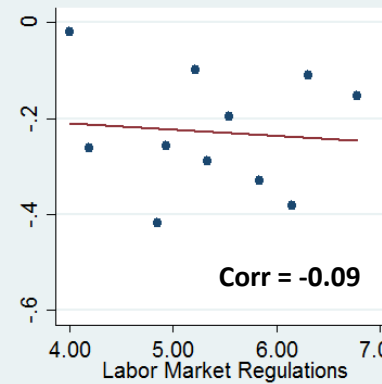
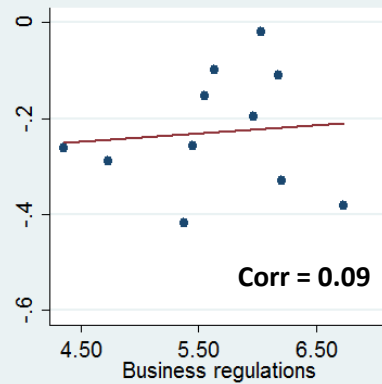
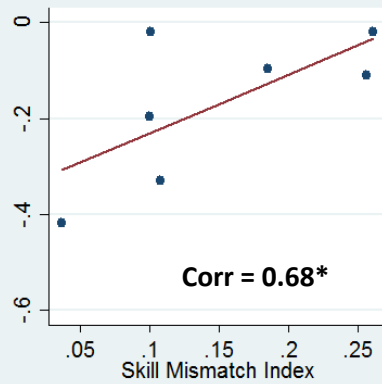
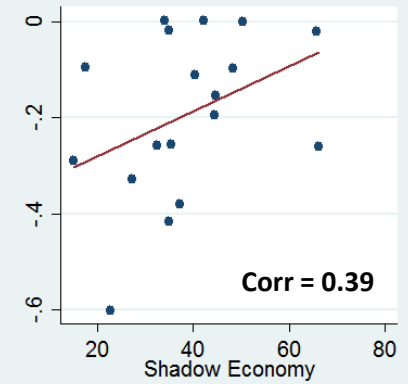
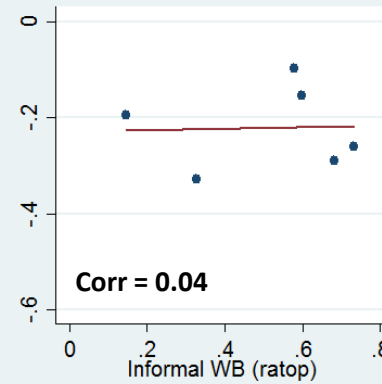
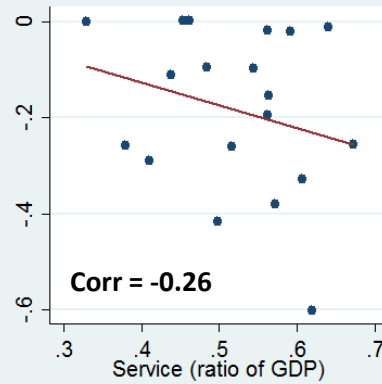
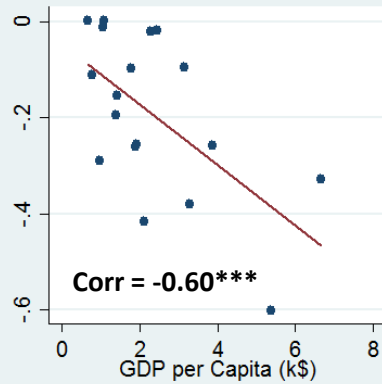


Distribution of Okun Coefficients and R-squared: Labor Force



Potential Determinants of Okun Coefficient

Okun Coefficient: Unemployment, Gap



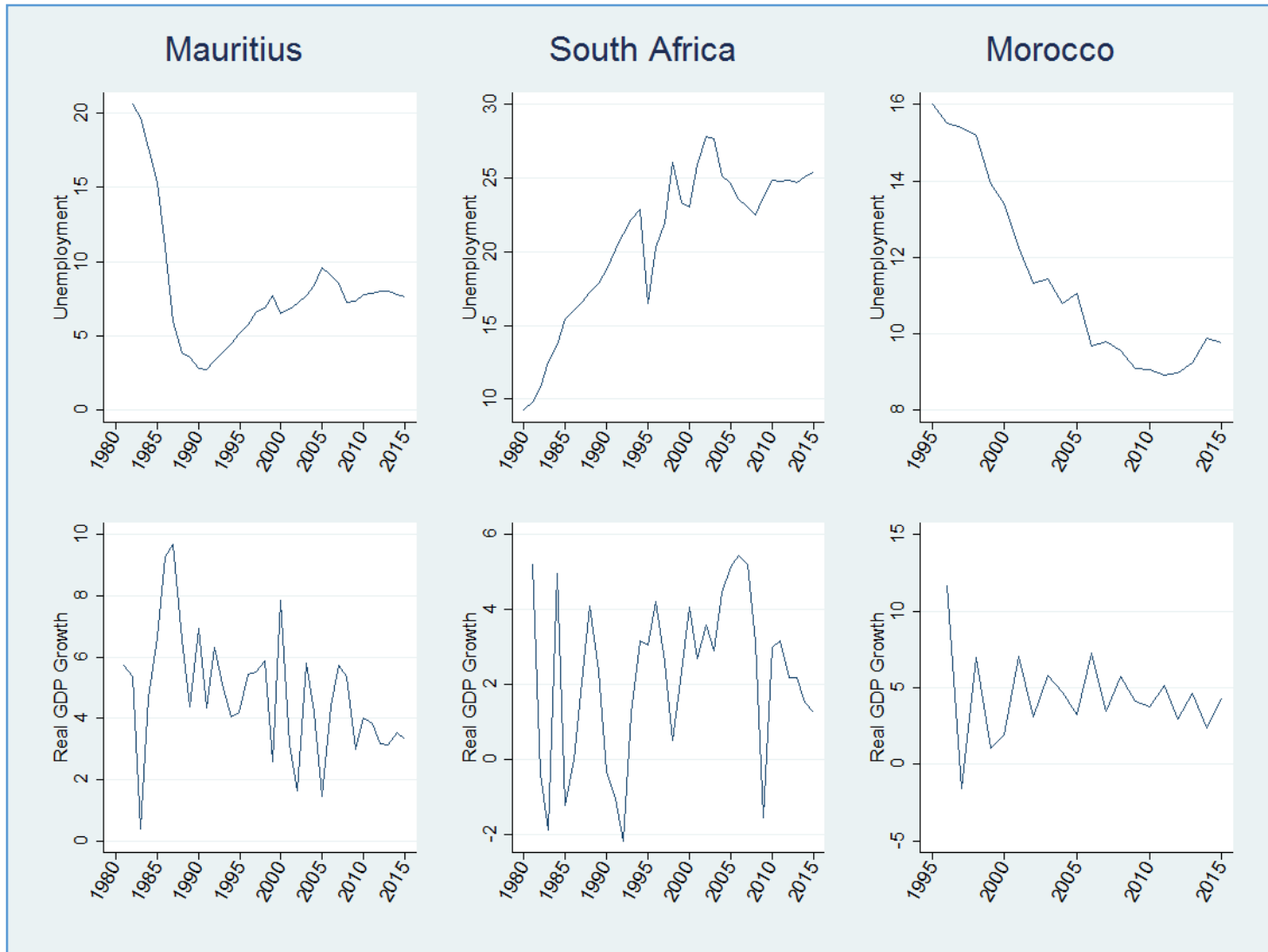
Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Per Capita GDP (k\$)	18	2.34	1.62	0.66	6.66
Services (ratio of GDP)	19	0.52	0.09	0.33	0.67
Informal WB (ratio)	6	0.51	0.23	0.15	0.73
Shadow Economy	22	38.56	13.29	15.10	66.10
Skill Mismatch Index	7	0.15	0.09	0.04	0.26
Business regulations	11	5.66	0.68	4.35	6.74
Labor market regulations	11	5.38	0.86	4.00	6.78
Mean Unemployment	19	10.67	5.57	2.28	21.68

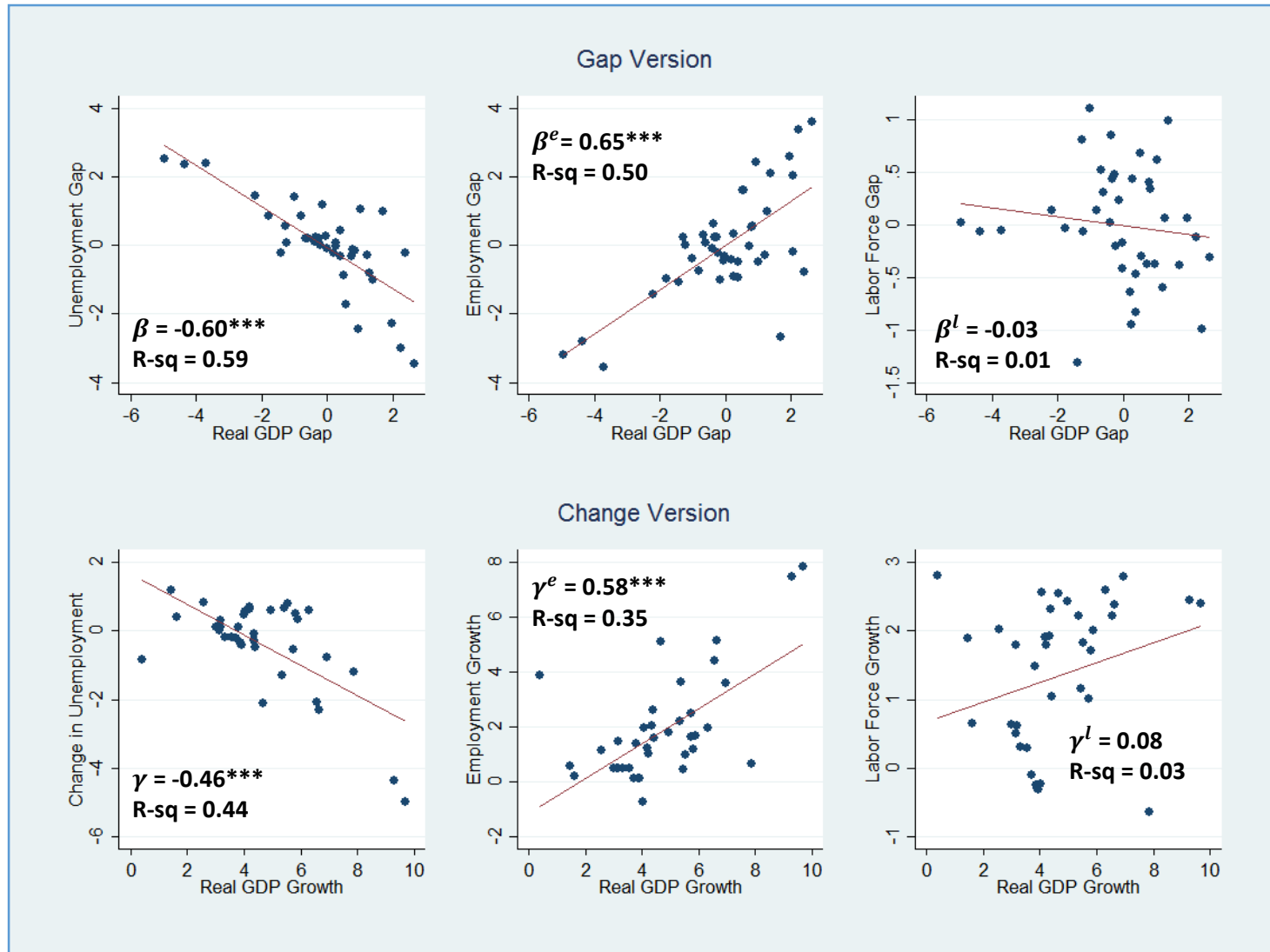
Learning from country cases

- Mauritius
- South Africa
- Morocco
 - Growth threshold and unemployment
 - Rolling window regression

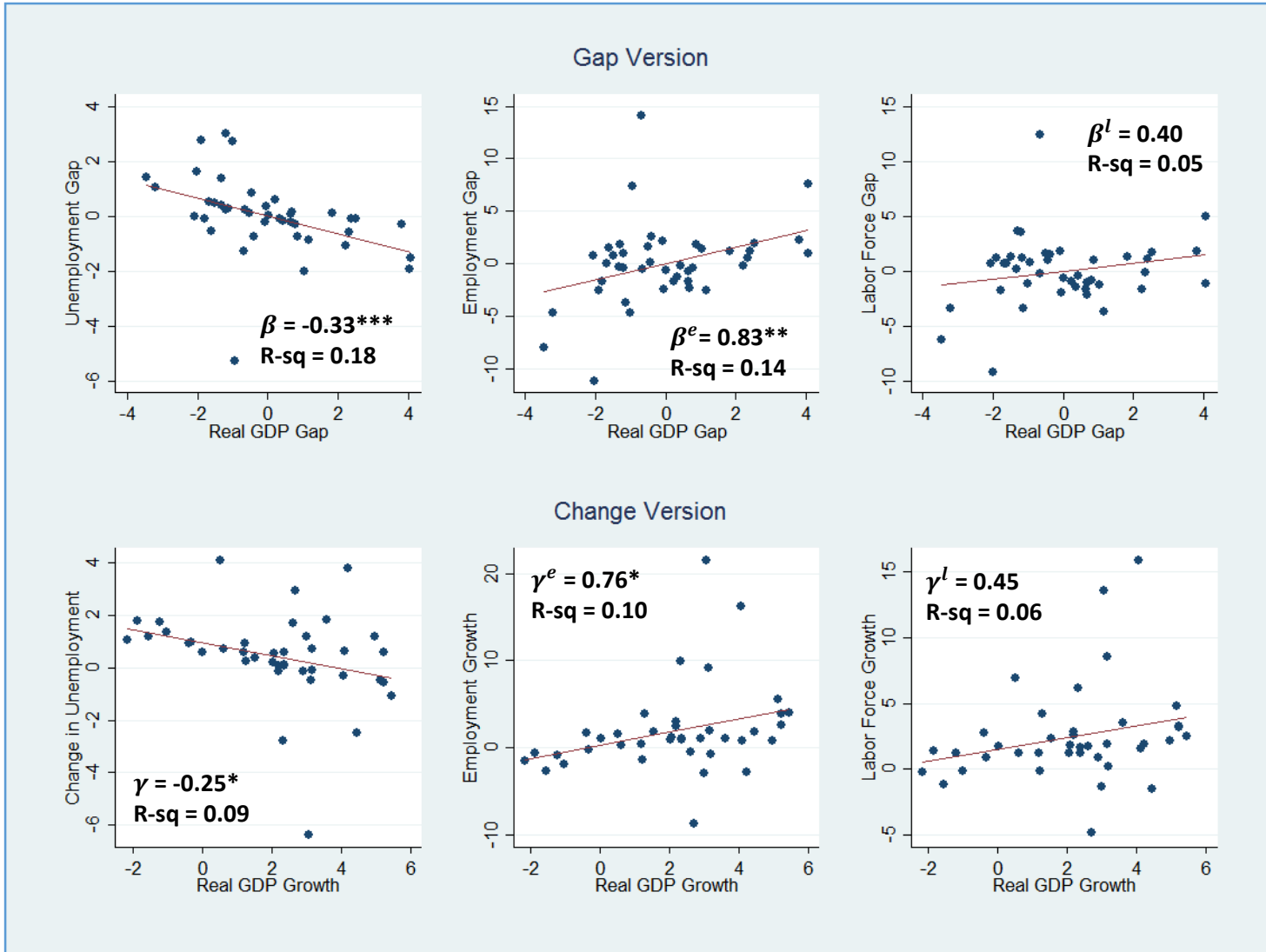
Unemployment Rate and GDP Growth



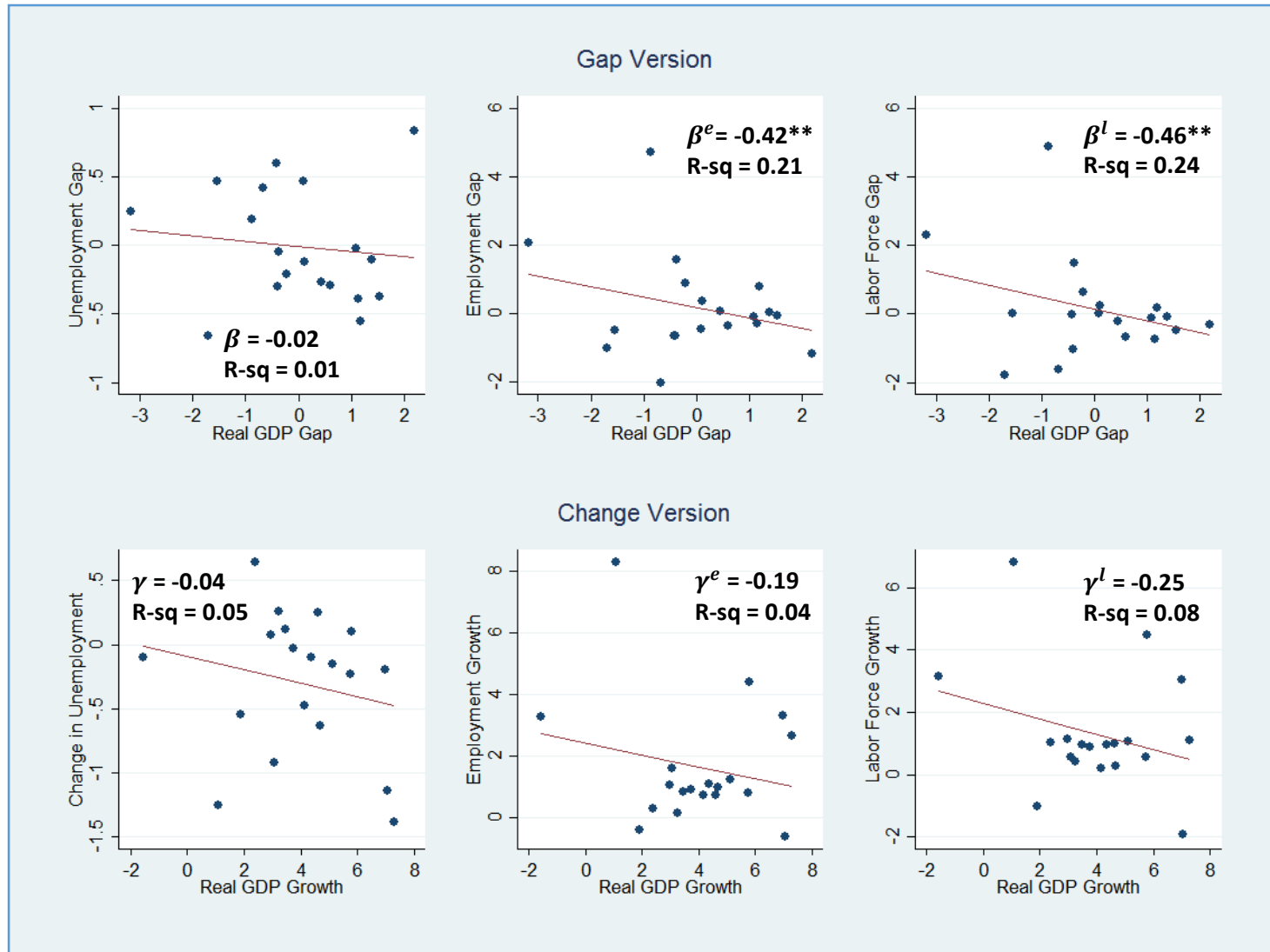
Okun's Law: Mauritius



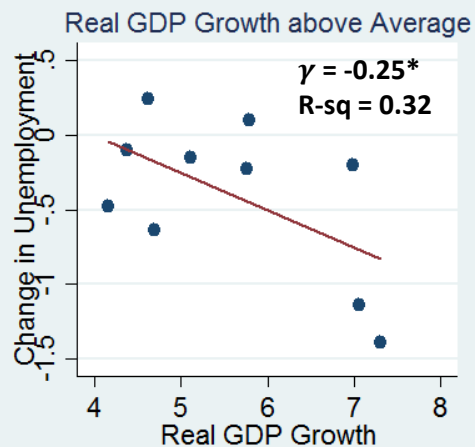
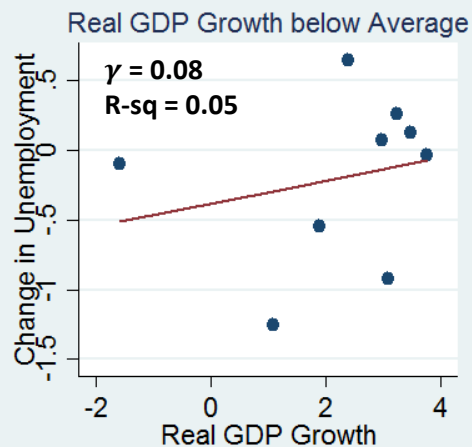
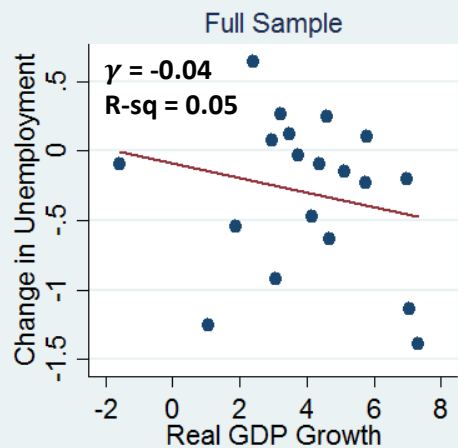
Okun's Law: South Africa



Okun's Law: Morocco

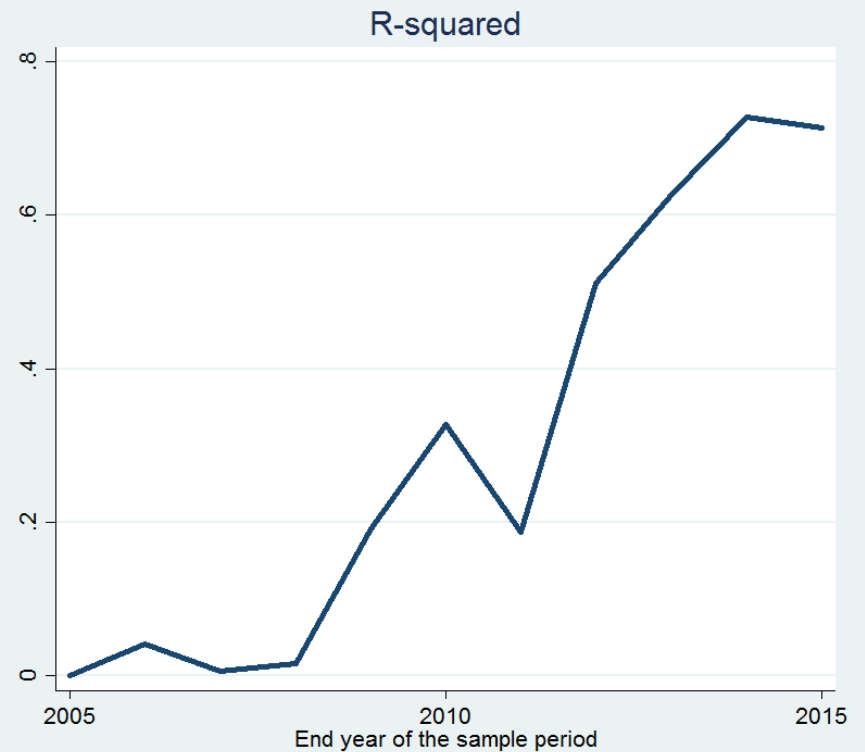
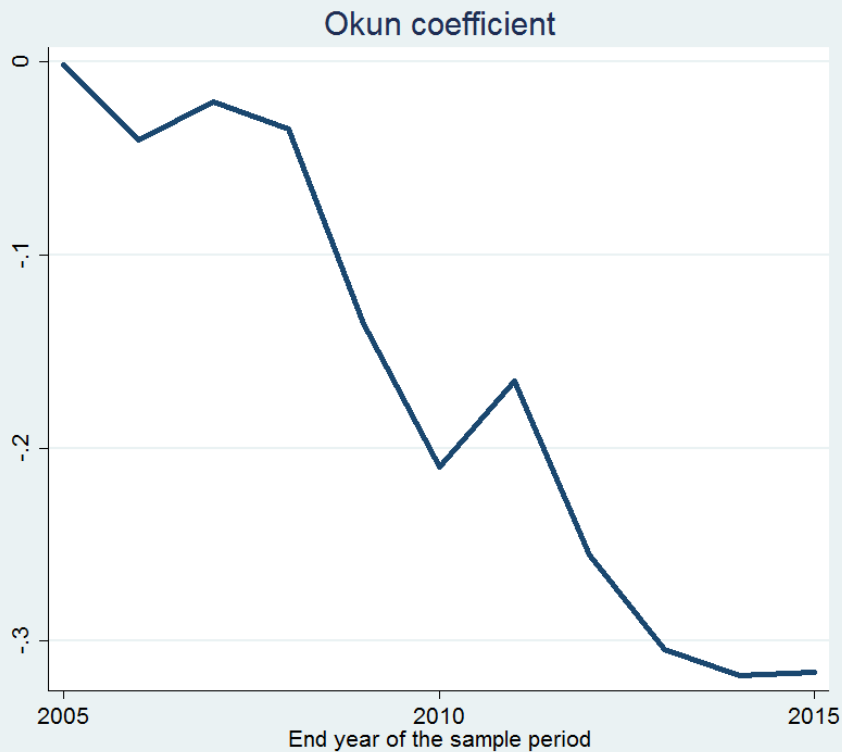


Okun's Law in Morocco: Growth Threshold and Unemployment



Okun's Law in Morocco: Rolling Window Estimation

10-Year Window



Conclusions

- Average Okun coefficients
 - Unemployment rate: -0.18
 - Employment: 0.19
- Heterogeneity in Okun coefficients
 - Okun's Law holds well for some LICs
 - Heterogeneity in Okun coefficients can be explained by per capita GDP
- Richer models might be needed to explain the relationship between labor markets and GDP growth in the Low-Income Countries