URBAN PRODUCTIVITY EFFECTS OF LOCAL GOVERNMENTS

Autonomy, quality, fragmentation

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A comprehensive approach to understanding urban productivity effects of local governments: Local autonomy, government quality and fragmentation

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Main results: The need for a comprehensive view

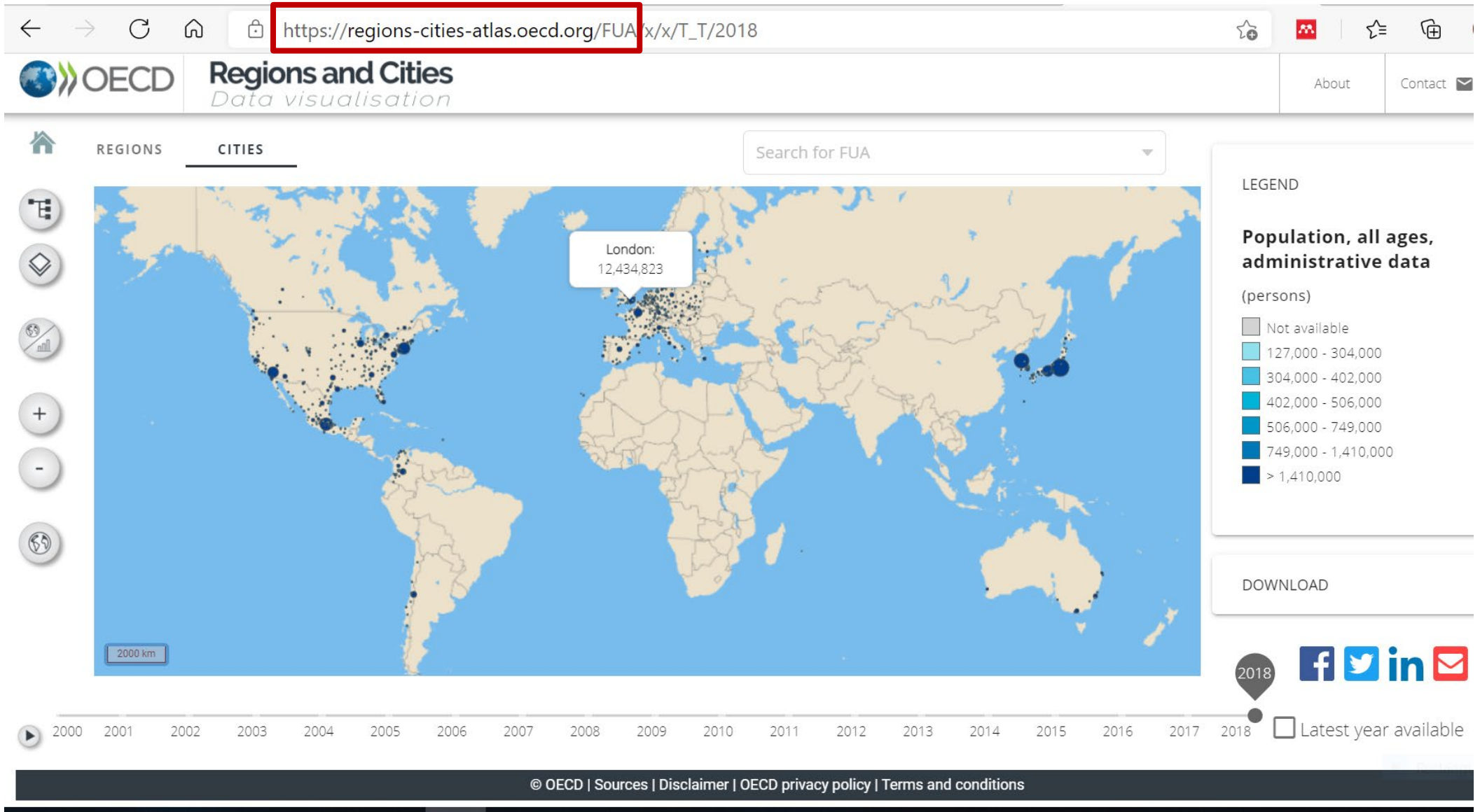
- Government quality is positively linked to urban labour productivity under "right" governance arrangements
- With good quality institutions and limited fragmentation across functional urban areas, devolution is positively associated with productivity
- If these conditions are not met, devolution is negatively linked to urban labour productivity
- Fragmentation works as a barrier (mutes both positive and negative effects)
- The most productive urban areas tend to have high government quality, high decentralisation and low horizontal fragmentation

Cities

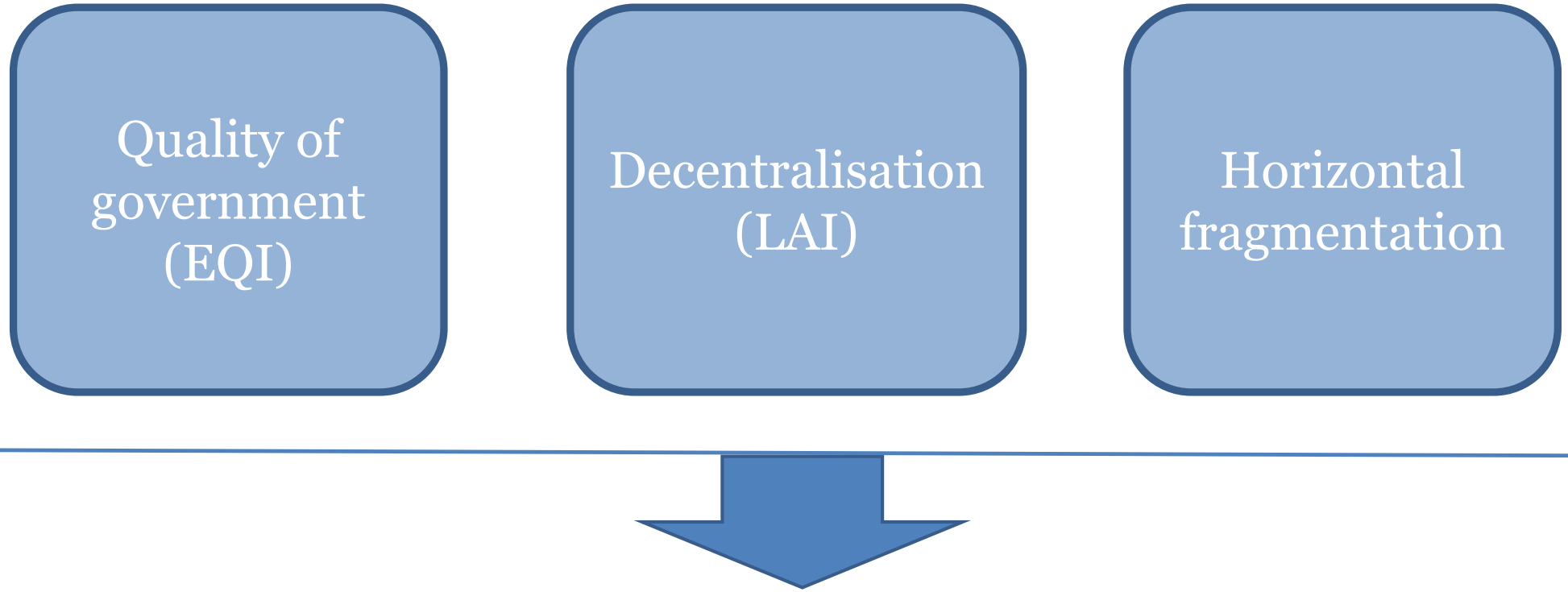
- Cities of 50k+ account for more than half population globally
- Are hotbeds of innovation and often lead productivity growth of their countries
- Importance of cities is expected to grow
- Complexity of urban economic and social interactions in cities brings the question of “best” governance arrangements to the fore

We now have data to measure both urban economic activity in a consistent way and (some) governance arrangements

Functional Urban Areas (FUAs)



Governance arrangements



Governance arrangements: Measures

European Quality of Government Index (EQI)

is based on a large citizen survey where respondents are asked about perceptions and experiences with public sector corruption, impartiality and quality of public services provision

Local Autonomy Index (LAI)

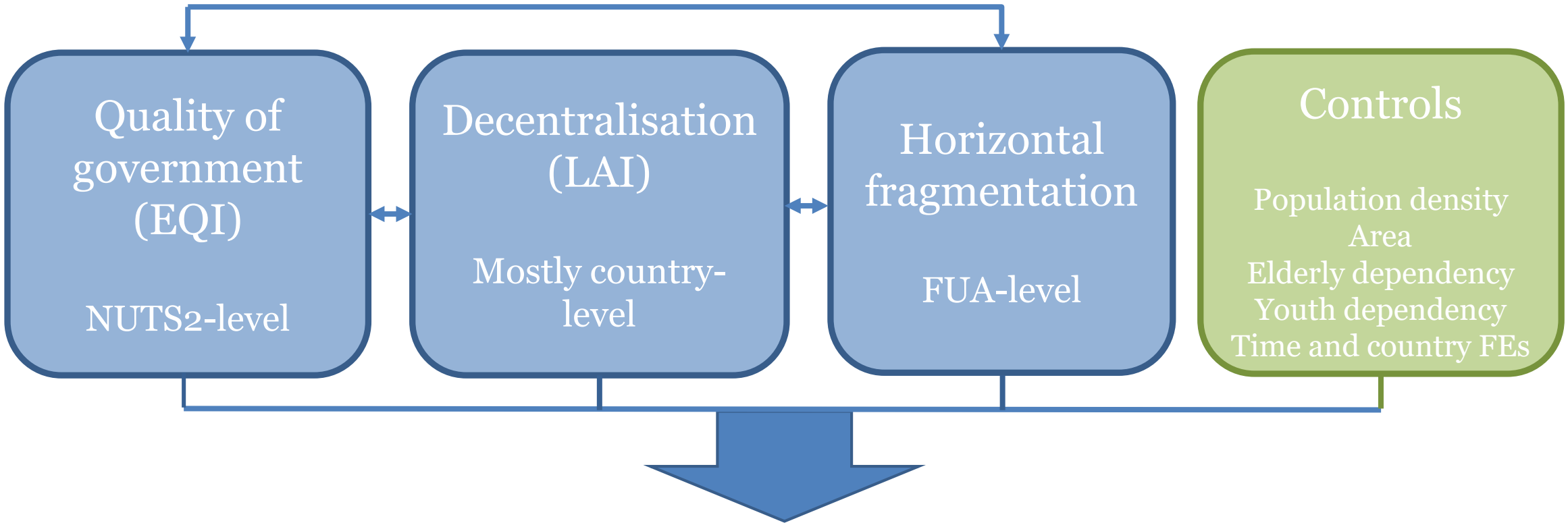
is calculated based on the opinions of an expert network who assess the autonomy of local government of their respective countries on the basis of a common code book

Horizontal fragmentation

Is the number of local governments within each FUA after factoring out population effects

$$\log(Gov's)_{f,2011} = \alpha + \beta_1 \log(Pop)_{f,2011} + \varepsilon_{f,2011}$$

Estimation (multi-level model)



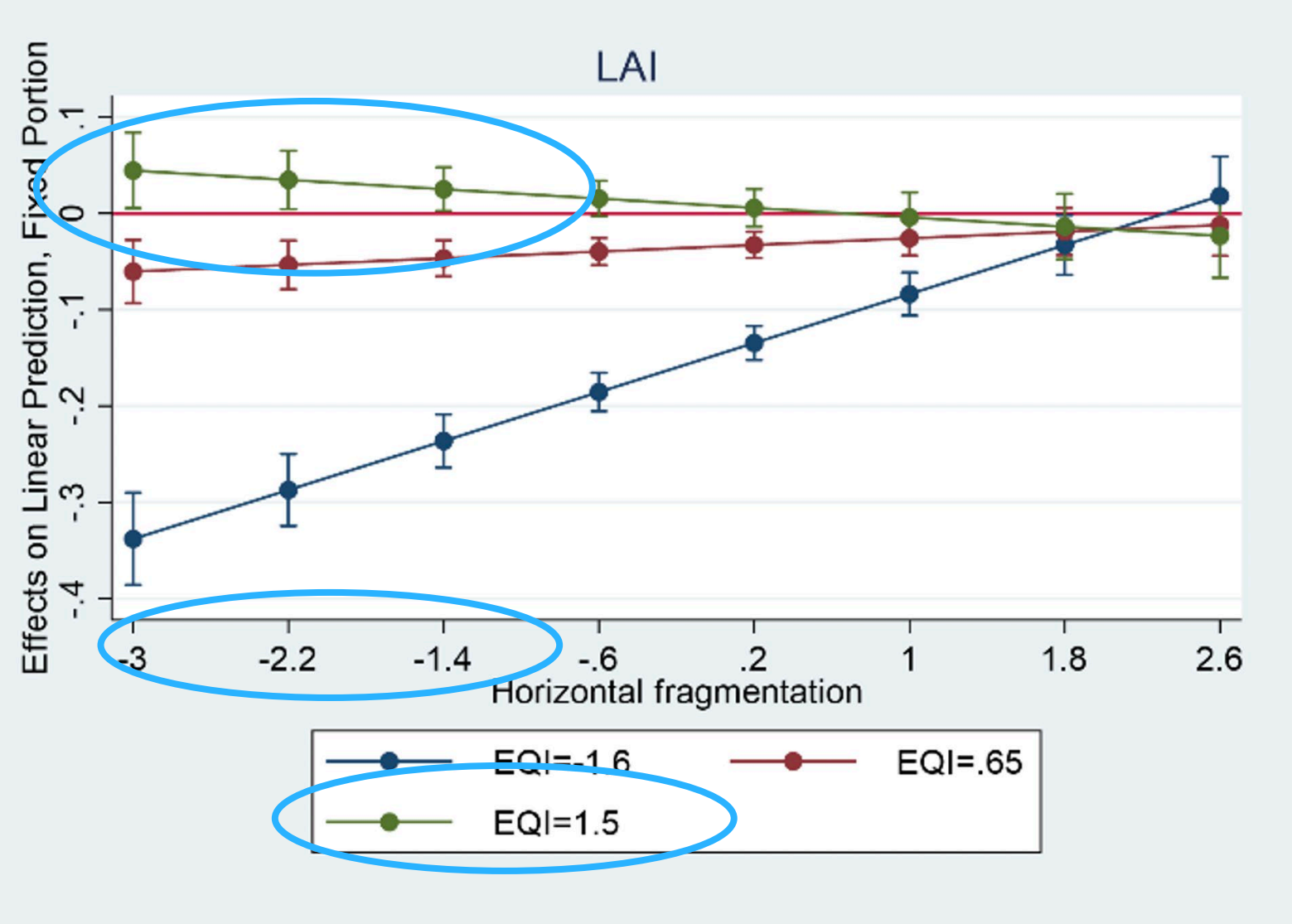
Estimation results I

Dependent variable: FUA labour productivity (GDP per worker, USD in constant prices and PPP, base year 2015).

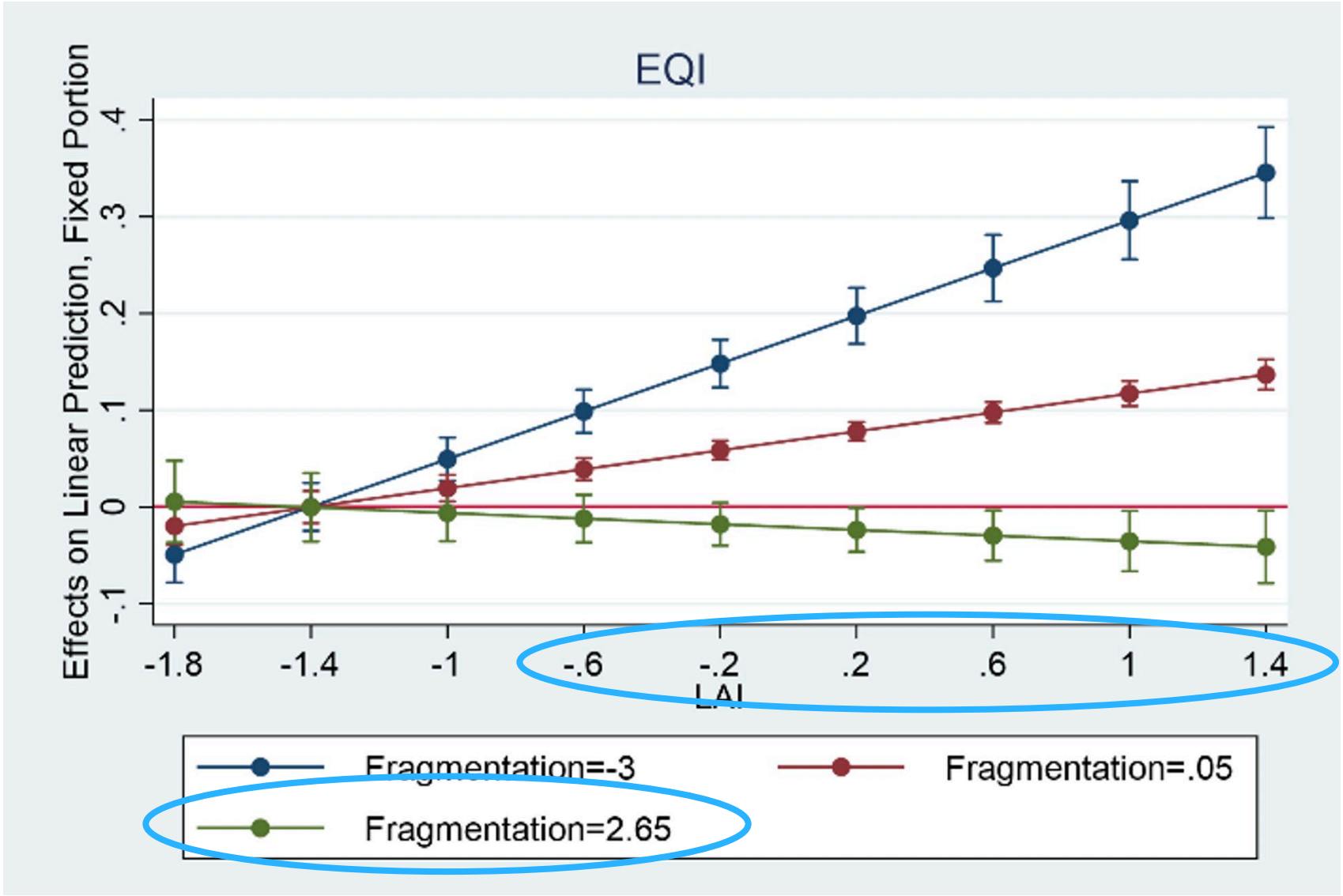
Variables	Pooled (A)	Multi-level (B)	Multi-level (C=B + time fixed effects)	Multi-level (D=C + country fixed effects)
Decentralisation (LAI)	-0.052***	-0.058***	-0.066***	-0.067***
	(0.006)	(0.006)	(0.006)	(0.006)
Quality of government (EQI)	0.107***	0.061***	0.071***	0.070***
	(0.006)	(0.005)	(0.005)	(0.005)
EQI*LAI	0.053***	0.055***	0.050***	0.050***
	(0.006)	(0.005)	(0.005)	(0.005)
Fragmentation	0.045***	0.022*	0.028**	0.016
	(0.004)	(0.013)	(0.013)	(0.014)
LAI*Fragmentation	0.015***	0.021***	0.023***	0.025***
	(0.006)	(0.005)	(0.005)	(0.005)
EQI*Fragmentation	-0.004	-0.024***	-0.033***	-0.034***
	(0.005)	(0.004)	(0.004)	(0.004)
EQI*LAI*Fragmentation	-0.053***	-0.016***	-0.025***	-0.024***
	(0.006)	(0.003)	(0.003)	(0.003)

Rectangular Snip

Marginal effects I



Marginal effects II



Results illustration

Helsinki, Finland
(predicted productivity rank #1)

Prague, Czech Republic
(predicted productivity rank #121)

Radom, Poland
(predicted productivity rank #242)

If quality of government in **Radom** increases to that of **Helsinki**, productivity ↑ **58%**

If quality of government in **Prague** increases to that of **Helsinki**, productivity will not change noticeably (decreasing government quality also does not have sizable effects)

Estimation results IV

Estimation results for the full model using one pillar of EQI at a time

Dependent variable: FUA labour productivity (GDP per worker, USD in constant prices and PPP, base year 2015).

Variables	Corruption	Quality	Impartiality
Decentralisation (LAI)	-0.058***	-0.061***	-0.060***
	(0.006)	(0.006)	(0.006)
EQI pillar (indicated in top of each column)	-0.060***	0.050***	0.043***
	(0.004)	(0.004)	(0.004)
EQI pillar*LAI	-0.042***	0.036***	0.033***
	(0.004)	(0.004)	(0.004)
Fragmentation	0.024*	0.008	0.007
	(0.014)	(0.014)	(0.014)
LAI *Fragmentation	0.020***	0.017***	0.022***
	(0.005)	(0.005)	(0.005)
EQI pillar*Fragmentation	0.038***	-0.022***	-0.017***
	(0.004)	(0.003)	(0.003)
EQI pillar*LAI*Fragmentation	0.017***	-0.015***	-0.017***
	(0.003)	(0.003)	(0.002)

Estimation results III

Estimation results for the full model using one dimension of LAI at a time

Dependent variable: FUA labour productivity (GDP per worker, USD in constant prices and PPP, base year 2015).

Variables	Discretion	Policy	Financial	Organisational	Legal	Interference	Access
LAI dimension (indicated in top of each column)	0.003	-0.012**	-0.019***	-0.027***	0.045	-0.024***	-0.011
	(0.006)	(0.005)	(0.003)	(0.002)	(0.049)	(0.003)	(0.020)
Quality of government (EQI)	0.056***	0.066***	0.041***	0.018***	0.040***	0.041***	0.043***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.007)	(0.005)	(0.004)
EQI*LAI dimension	0.038***	0.017***	-0.004*	0.047***	-0.006	0.002	0.030***
	(0.004)	(0.003)	(0.002)	(0.003)	(0.011)	(0.002)	(0.002)
Fragmentation	0.017	0.021	-0.005	-0.015	0.001	0.003	0.002
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
LAI dimension*Fragmentation	0.009**	0.004	0.015***	-0.006***	0.014	0.011***	-0.003
	(0.004)	(0.003)	(0.003)	(0.002)	(0.010)	(0.002)	(0.007)
EQI*Fragmentation	-0.038***	-0.029***	-0.006	0.026***	0.000	-0.004	-0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)
EQI*LAI*Fragmentation	-0.009***	-0.015***	-0.004**	-0.012***	-0.002	-0.003**	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.002)	(0.002)

Estimation results II

Estimation results for the full model before and after the 2008 crisis

Dependent variable: FUA labour productivity (GDP per worker, USD in constant prices and PPP, base year 2015).

Variables	2003-2008	2008-2014
Decentralisation (LAI)	0.077***	-0.039***
	(0.021)	(0.006)
Quality of government (EQI)	0.055***	0.044***
	(0.008)	(0.006)
EQI*LAI	-0.084***	0.038***
	(0.013)	(0.005)
Fragmentation	0.001	0.009
	(0.014)	(0.014)
LAI*Fragmentation	0.037***	0.015***
	(0.013)	(0.005)
EQI*Fragmentation	-0.007	-0.018***
	(0.006)	(0.004)
EQI*LAI*Fragmentation	-0.034***	-0.014***
	(0.008)	(0.003)

Implications for Britain

- Quality of government tends to be high in Britain but local autonomy is low
- Devolution in this context can improve urban labour productivity
- For example, labour productivity in Leicester is predicted to increase by 6% if autonomy increases by one standard deviation
- If autonomy increases to that of Helsinki, labour productivity is predicted to increase by 21%

Spatial Productivity Lab

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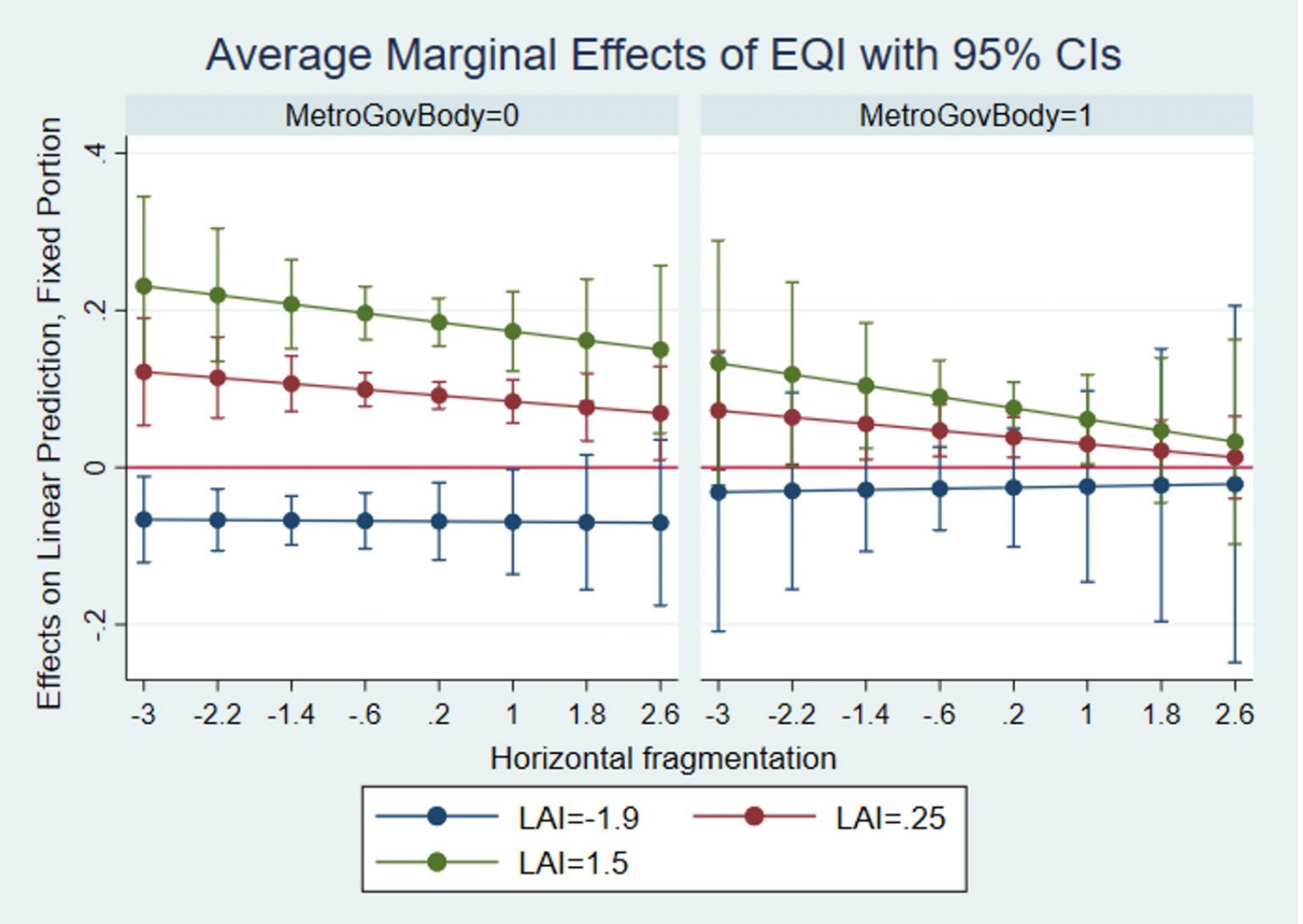
https://oe.cd/SPL

THANK YOU!

Estimated equation

$$LP_{c,a,r,f,t} = \beta_0 + \beta_1 LAI_{c,a,t} + \beta_2 EQI_{c,a,r,t} + \beta_3 \widehat{Fragmentation}_{c,a,r,f} + \beta_4 EQI * LAI_{c,a,r,t} + \beta_5 EQI * \widehat{Fragmentation}_{c,a,r,ft} + \beta_6 LAI * \widehat{Fragmentation}_{c,a,r,f,t} + \beta_7 EQI * LAI * \widehat{Fragmentation}_{c,a,r,f,t} + \beta_k X_{c,a,r,f,t} + u_{0a} + u_{1r} + u_{rf} + \omega_t + \omega_c + \varepsilon_{c,a,r,f,t}$$

Governance body