Digital trade's regulatory environment and opportunities for regulatory harmonisation in Latin America: The Case of Africa

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Introduction

- Regulatory environment typically consists of:
  - Regulatory restrictions
  - Regulatory differences or "heterogeneity", i.e. by design / in their systems
- Also counts for digital (services) trade.
- Need for harmonization, but does that really pay-off?

Regulatory heterogeneity

- How to measure regulatory heterogeneity?
  - Nordås (2016) approach by way of
    - (a) restrictive "scores" of regulatory restrictiveness (can be "wrong")
    - (b) Based on the actual description of the law (important differences)
  - UNECA approach based on "regulatory distance" between each system

$$Regulatory\ distance_{rep\ par} = \sum_m \frac{\left|score_m^{rep} - score_m^{par}\right|}{n_m}$$
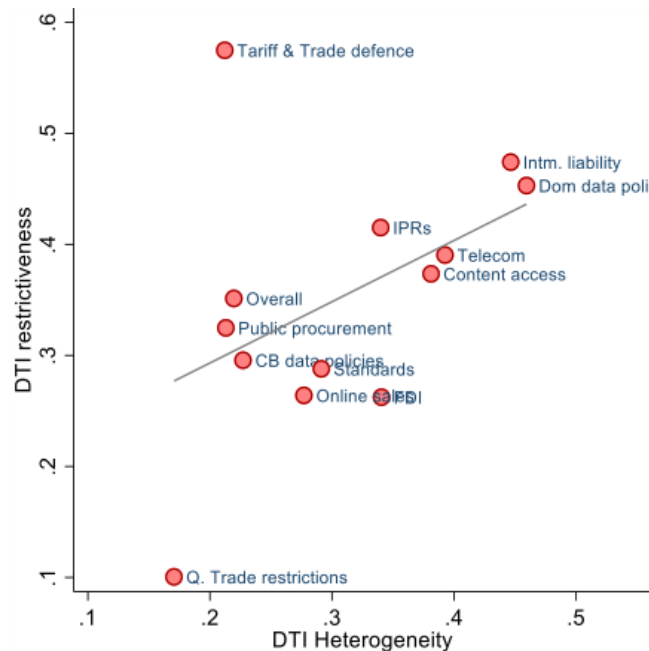
Regulatory heterogeneity

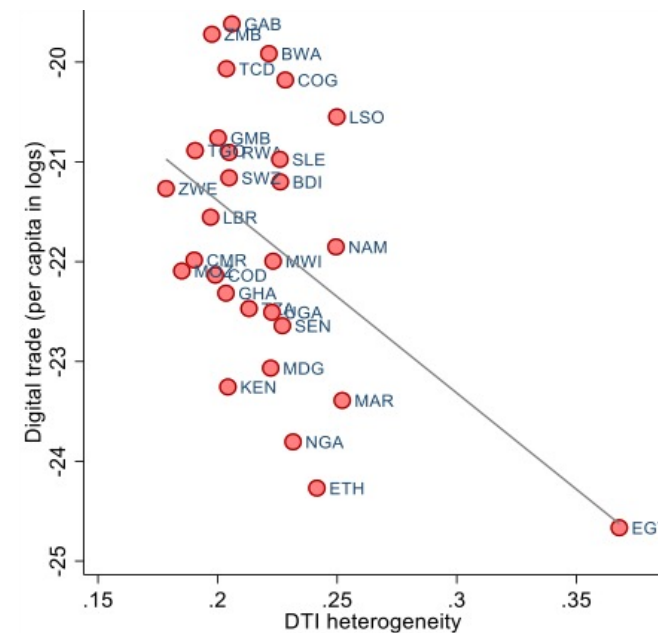Based on African countries, based on scorings and averaged by country across chapters
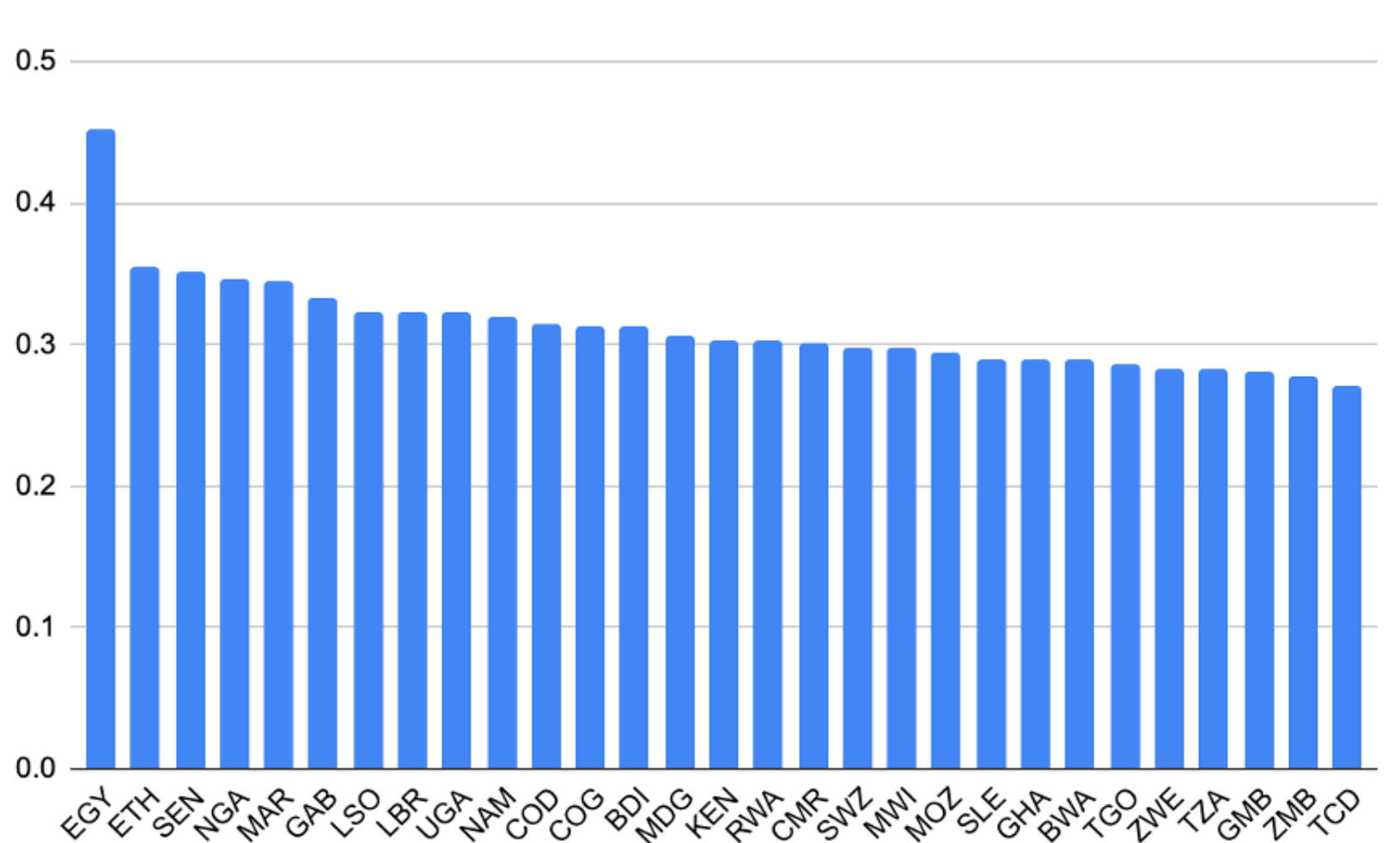
Links well with overall restrictiveness

- Countries which are **more heterogeneous are also more restricted** compared to other countries in their regulatory design **and trade less**

Countries are more restricted

Countries also trade less

Empirical analysis

- What is digital trade? Unclear definition, but…
  - OECD-WTO-IMF (2020) "Handbook on Measuring Digital Trade: Version 1"

ITPD-E sectors	Sector description	ISIC Rev. 4	DTI chapters
Digital goods			
124	Office accounting and computing machinery	2620	1, 2, 3, 4, 10, 11
131	Electronic valves tubes etc	2610	1, 2, 3, 4, 10, 11
132	TV/radio transmitters; line comm. Apparatus	2630	1, 2, 3, 4, 10, 11
133	TV and radio receivers and associated goods	2640	1, 2, 3, 4, 10, 11
Digital-enabled services			2-12
159	Insurance and pension services	K	2-12
160	Financial services	K	2-12
162	Telecom, computer, and info	J	2-12
163	Other business services	M&N	2-12

- Using gravity analysis for the specific chapters
- Two sources used: ITPD-E and WTO-OECD BaTiS

Empirical results

EXP_F	(1) TOT	(2) CH1	(3) CH2	(4) CH3	(5) CH4	(6) CH5	(7) CH6	(8) CH7	(9) CH8	(9) CH9	(10) CH10	(11) CH11	(12) CH12
ln(Distance)	-0.835***	-1.006***	-1.064***	-1.118***	-1.243***	-0.971***	-1.038***	-1.009***	-1.001***	-1.033***	-1.044***	-1.245***	-0.980***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Contiguity	0.036	-0.529	-0.599	-0.545	-0.711	0.267	0.111	0.135	0.108	0.120	-0.521	-0.781	0.301
	(0.944)	(0.305)	(0.266)	(0.263)	(0.173)	(0.204)	(0.576)	(0.483)	(0.584)	(0.547)	(0.337)	(0.139)	(0.174)
Legal	0.138	0.091	0.048	0.092	0.073	0.284	0.268	0.225	0.281	0.276	-0.097	0.145	0.485**
	(0.778)	(0.855)	(0.918)	(0.833)	(0.886)	(0.185)	(0.275)	(0.336)	(0.251)	(0.253)	(0.845)	(0.727)	(0.041)
Language	0.616	0.760*	0.749	0.708*	0.651*	0.096	0.121	0.092	0.122	0.136	0.846*	0.678*	0.134
	(0.137)	(0.085)	(0.102)	(0.086)	(0.094)	(0.630)	(0.554)	(0.681)	(0.560)	(0.529)	(0.052)	(0.089)	(0.478)
RTA	2.130***	2.158***	2.650***	2.467***	2.406***	0.596**	0.546**	0.584**	0.554**	0.514*	2.144***	2.636***	0.591**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.021)	(0.021)	(0.035)	(0.022)	(0.051)	(0.000)	(0.000)	(0.025)
DTI H	-17.847**	-4.999	-4.946*	-1.552	-6.881**	1.486	1.978*	-1.230	-0.802	0.087	-1.144	2.133**	3.147**
	(0.047)	(0.186)	(0.096)	(0.161)	(0.013)	(0.204)	(0.098)	(0.228)	(0.279)	(0.903)	(0.395)	(0.016)	(0.023)
DTI H * DTI	16.130	3.691	13.139*	8.907**	17.692***	-1.447	-7.411**	1.799	1.090	-0.676	8.974*	-4.985*	-4.208
	(0.600)	(0.571)	(0.068)	(0.013)	(0.006)	(0.562)	(0.020)	(0.365)	(0.466)	(0.681)	(0.071)	(0.053)	(0.255)
FE Exp	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE Imp	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs	754	754	754	754	754	754	754	754	754	754	754	754	754
R2	0.985	0.980	0.980	0.985	0.980	0.991	0.991	0.991	0.991	0.991	0.979	0.983	0.993

Empirical results

- Interpretation of table:

  - Negative result of **DTI H * DTI variable** means that a **regulatory heterogeneity matters less** when **regulatory restrictions are still high**
  - Vice versa: regulatory **heterogeneity matters a lot more** when countries **reform their policy restrictions**
  - Ergo: one can reduce regulatory restrictions within a common market, but would have "that much effect" when systems still differ (left-panel figure)

Empirical results

- In the case of Africa:

  - Especially the case for public **procurement of digital trade**, **FDI in digital sectors**, and **quantitative restrictions**
  - Backed up by using the OECD DSTI instead of EUI DTI
  - And some evidence when using **very** strict fixed effects

Conclusion

- Digital trade mostly in services, regulatory differences hence matter!
- Gravity analysis allows assessing how much differences impact trade
- Even though trade data for Africa is scant, for L-A this is much better