

DIGITAL TRADE

THE REGULATORY ENVIRONMENT

ACROSS THE GLOBE

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DIGITAL TRADE: BUILDING A COMPETITIVE REGULATORY ENVIRONMENT FOR LATIN AMERICA AND THE CARIBBEAN
21.09.2023

OUTLINE

- Digital trade integration project
- DTI database: summary of findings
- DTI index: preliminary findings
- Empirical research
- Conclusions

Main take-aways

- Asia-Pacific is the most active region in implementing restrictive policies on digital trade, while fewer restrictions are implemented in Latin America
- The EU is most active in implementing enabling policies
- The regulatory framework has an impact on digital trade, with an additional negative impact connected to regulatory heterogeneity
- Most open countries have the biggest incentives to promote regulatory harmonization.

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Main output

- Network of experts on digital trade across universities, international organizations and think-tanks
- Open dataset on digital trade policies (now 123 countries)
- Digital trade integration index



ECLAC



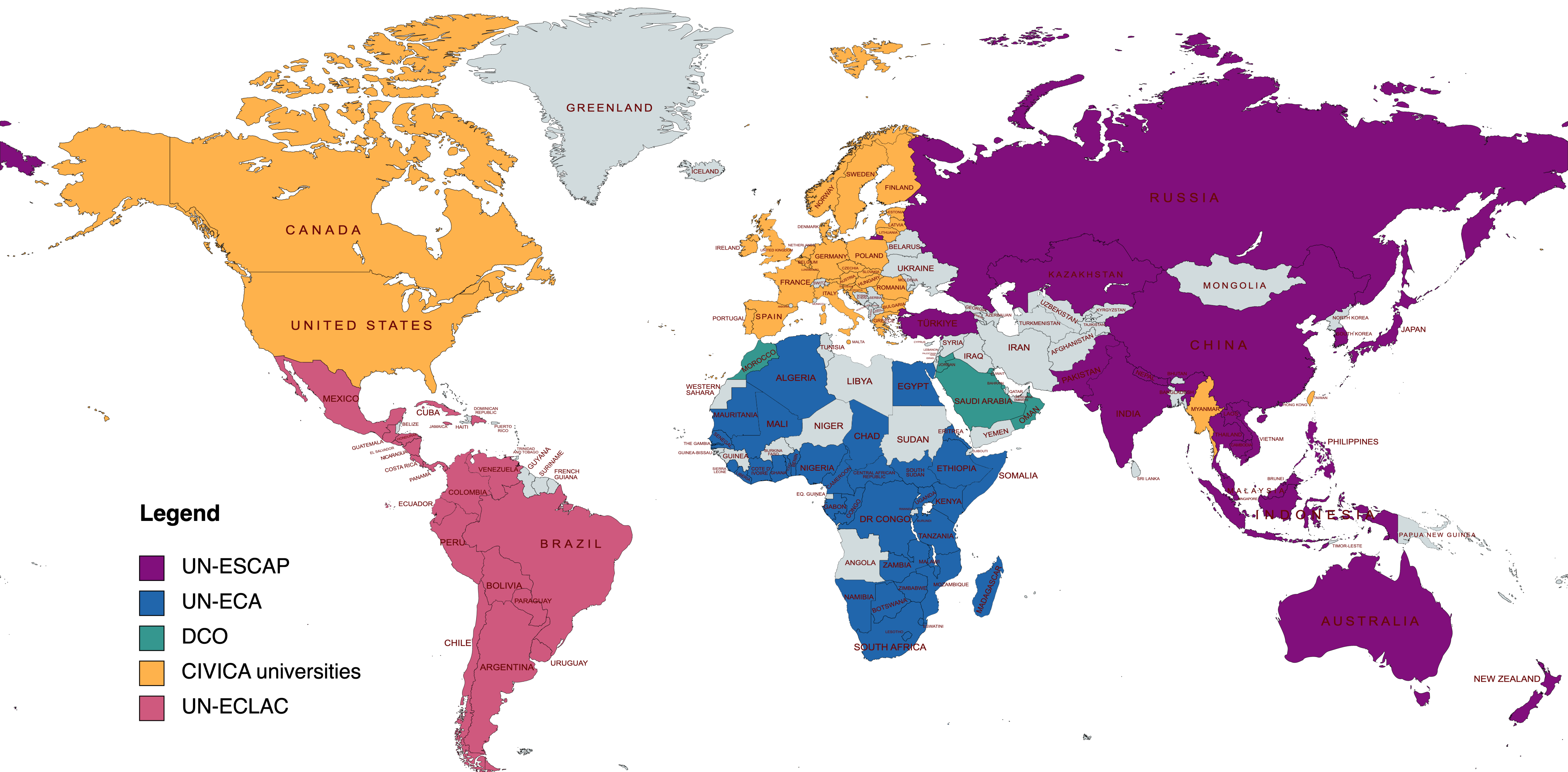
ECIPE | EUROPEAN CENTRE FOR INTERNATIONAL POLITICAL ECONOMY



Jean Monnet Network Trade & Investment in Services Associates (TIISA)



Country coverage



Legend

- UN-ESCAP
- UN-ECA
- DCO
- CIVICA universities
- UN-ECLAC

DTI database

[Home](#) [Database](#) [Events](#) [Relevant publications](#) [Partners](#)



Browse Database

Country

All

Pillar

All

Subpillar

All

Reset all

Search

Export search results in CSV

CHAD

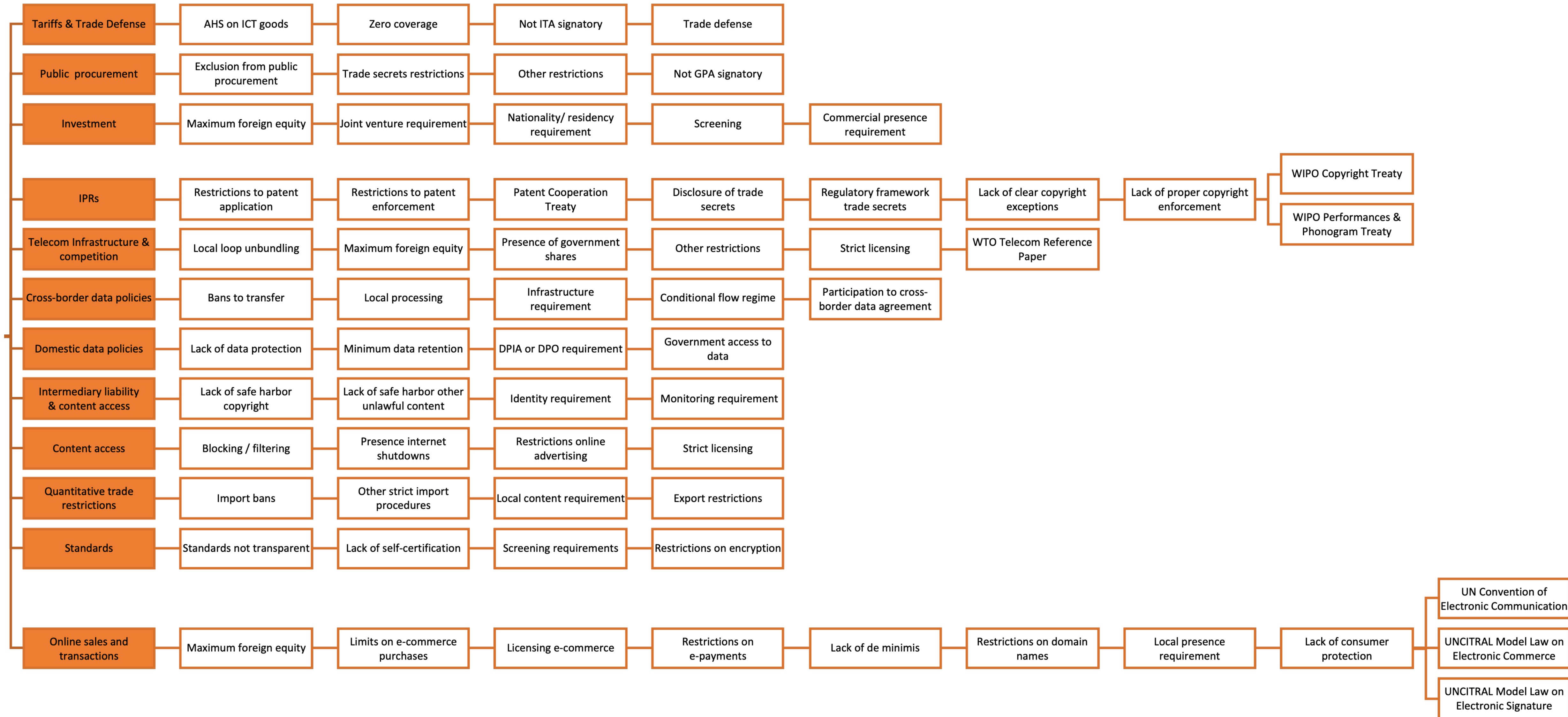
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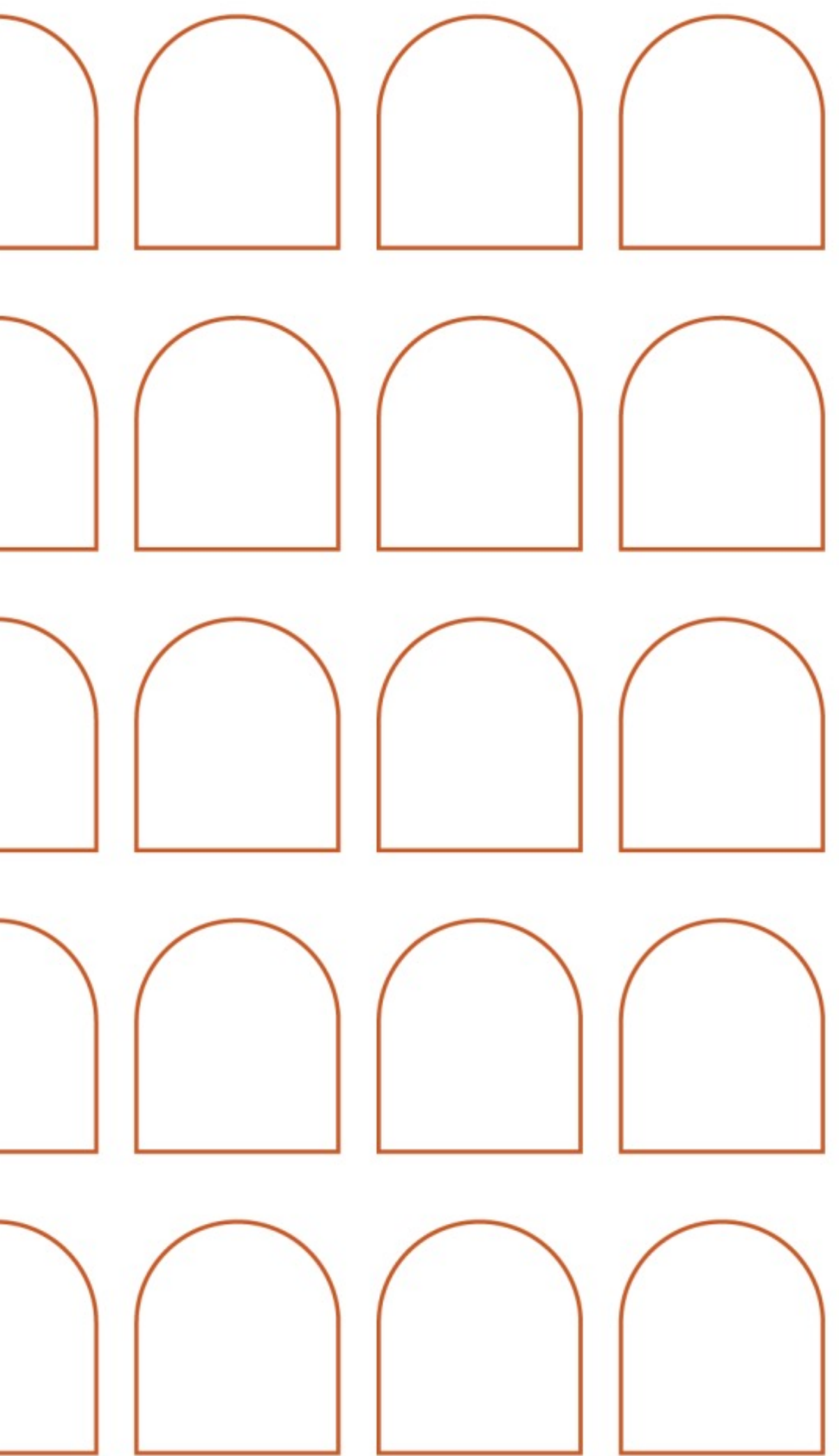
Pillar Online sales and transactions | **Sub-pillar** Ratification of the UN Convention of Electronic Communications

Lack of signature of the UN Convention on Electronic Communications

Chad did not sign the United Nations Convention on the Use of Electronic Communications in International Contracts.

Methodology





RSC 2022/70
Robert Schuman Centre for Advanced Studies
Global Governance Programme-484

WORKING PAPER

**The Digital Trade Integration database:
Description of pillars and indicators**



<https://dti.eui.eu/>

Rationale for listing an entry

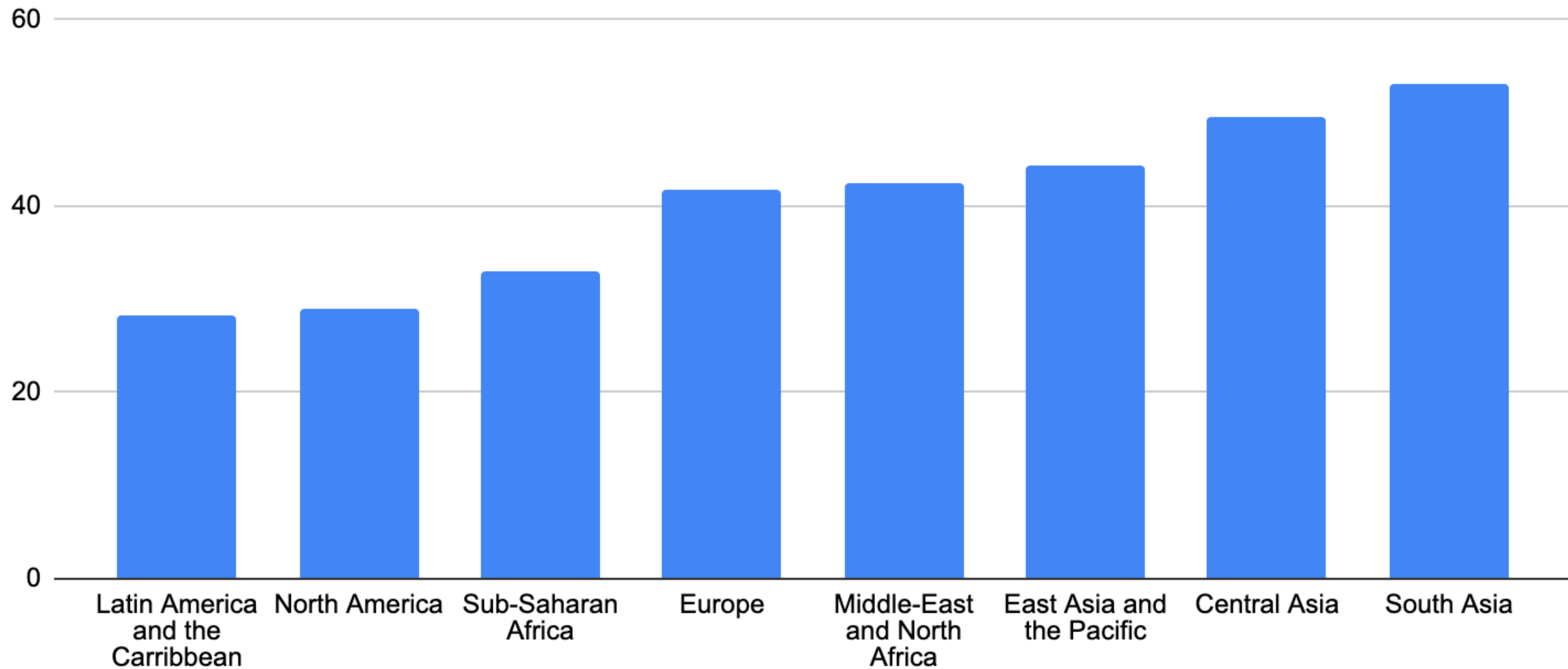
- R** {
- The measure implies a differential treatment between domestic and foreign providers;
 - The measure implies a more restrictive treatment of online trade versus offline trade;
 - The measure is especially trade-distortive to achieve its non-economic objective;
- E** {
- The country has failed to adopt legislation or has failed to join international agreements of significant importance for digital trade.

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Number of restrictions, by region

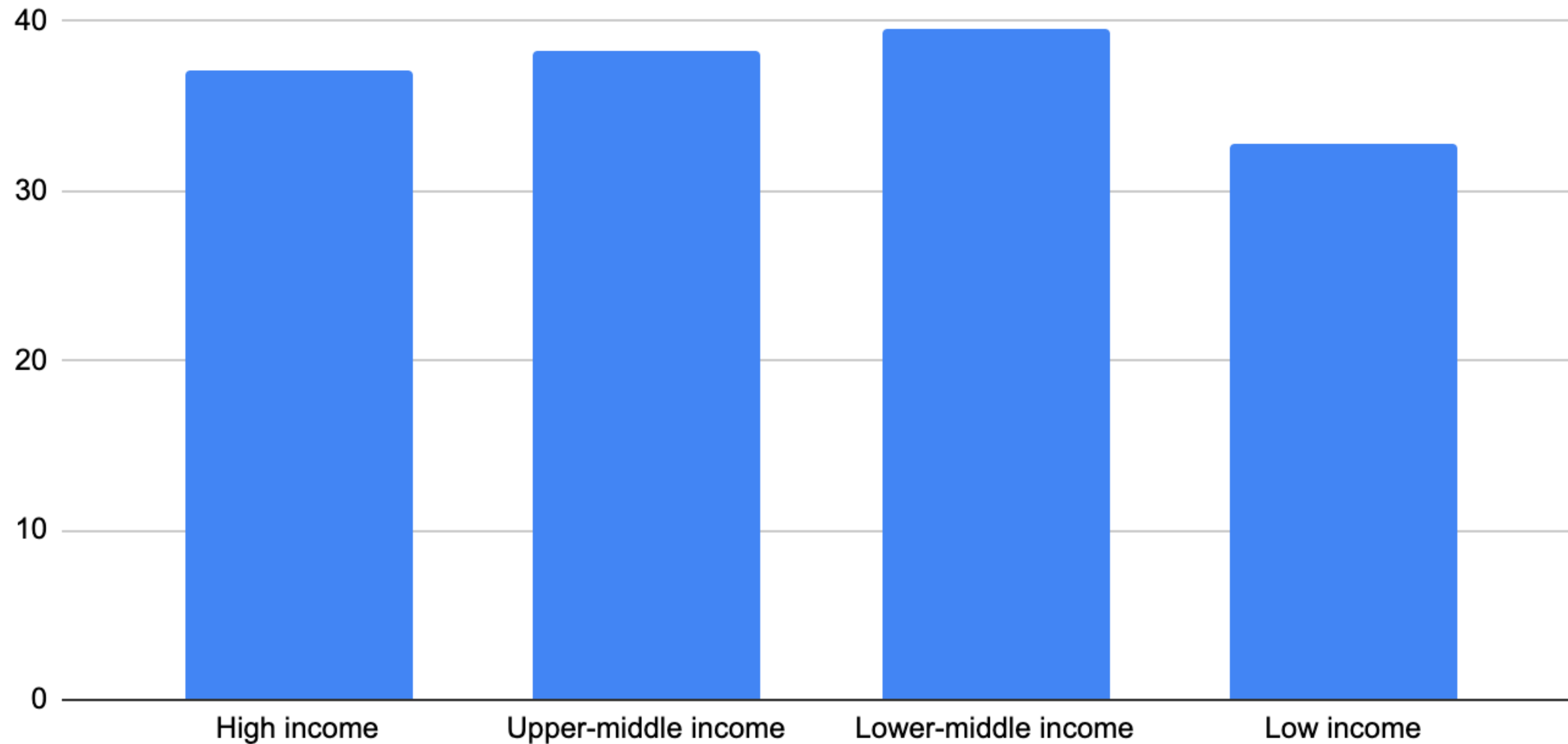
No. of policies expected to have a negative impact on digital trade



Source: DTI database.

Number of restrictions, by income

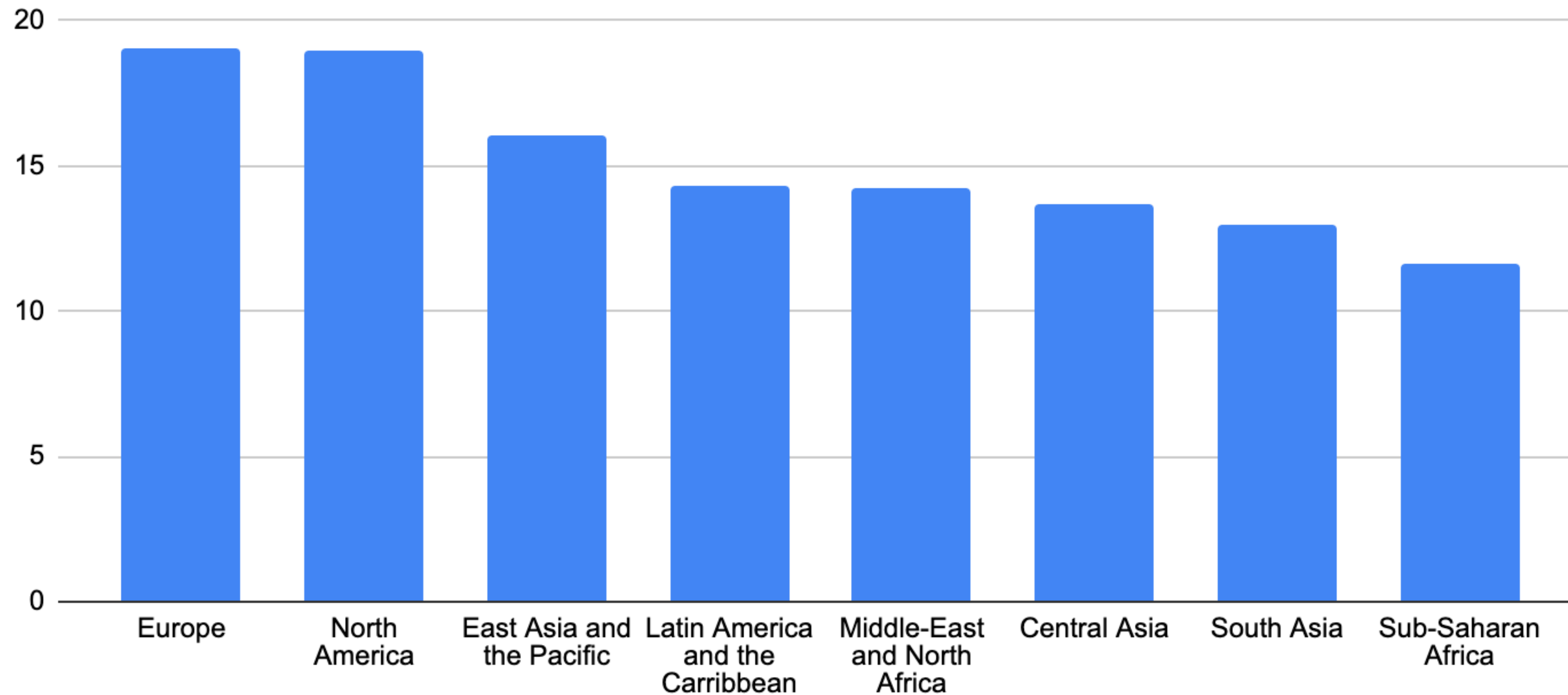
No. of policies expected to have a negative impact on digital trade



Source: DTI database.

Number of enabling policies, by region

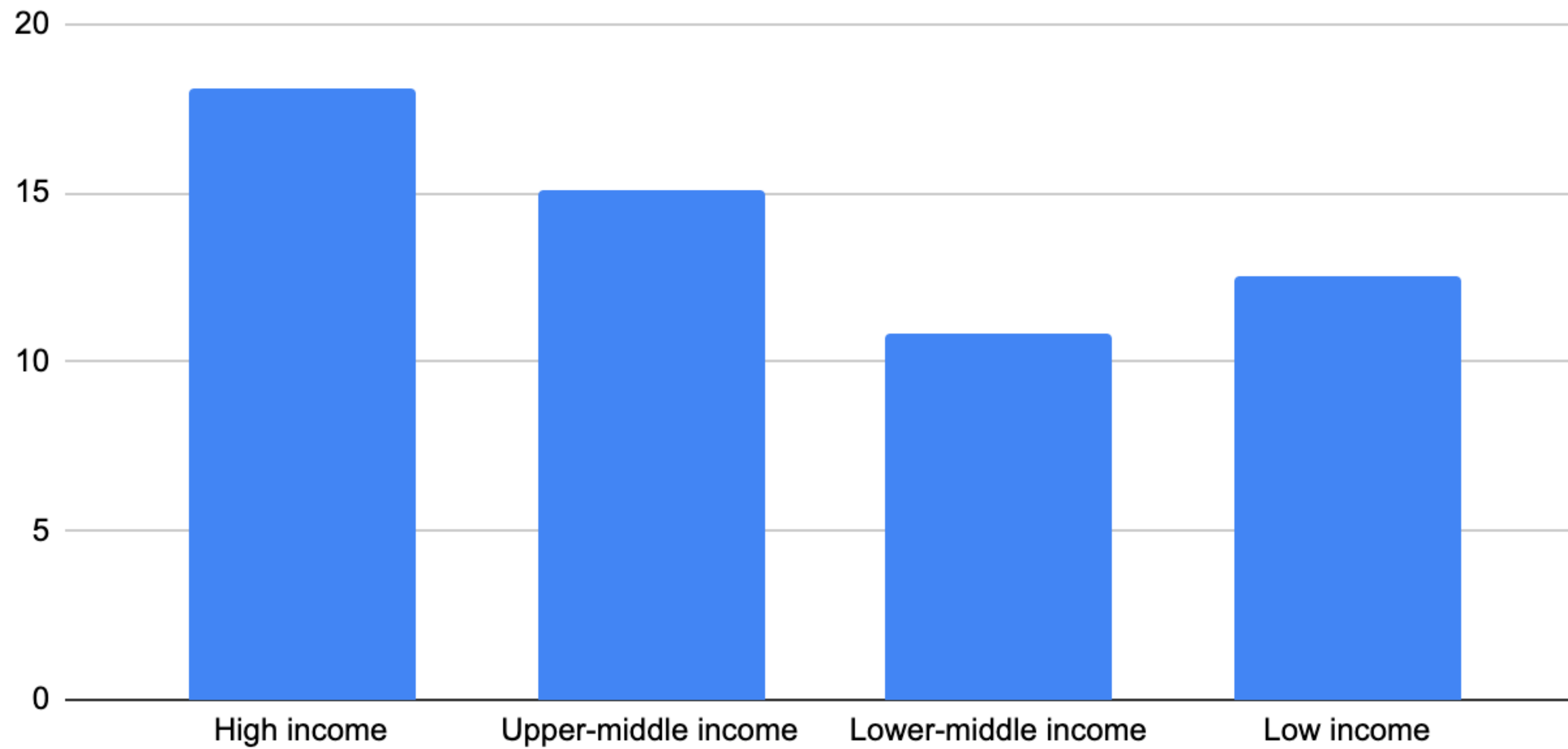
No. of enabling policies for digital trade



Source: DTI database.

Number of enabling policies, by income

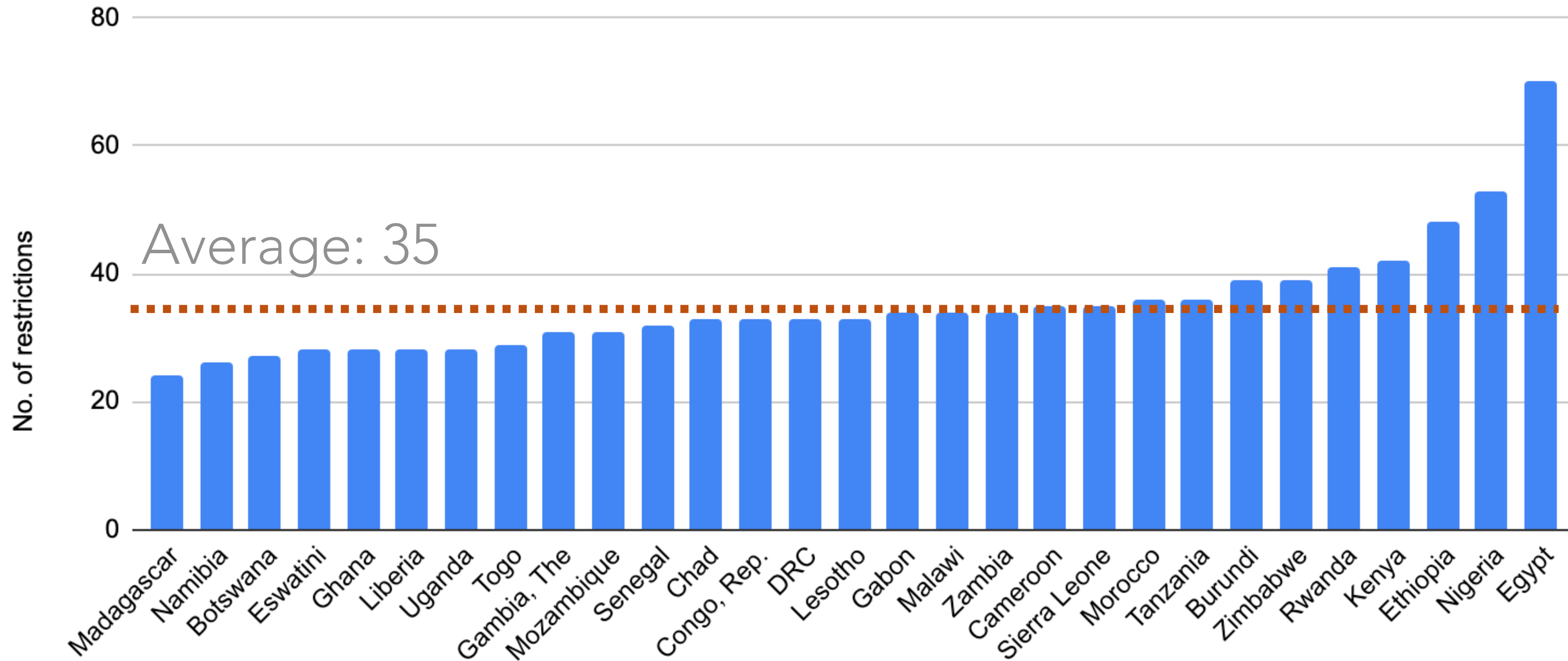
No. of enabling policies for digital trade



Source: DTI database.

Number of restrictions, Africa

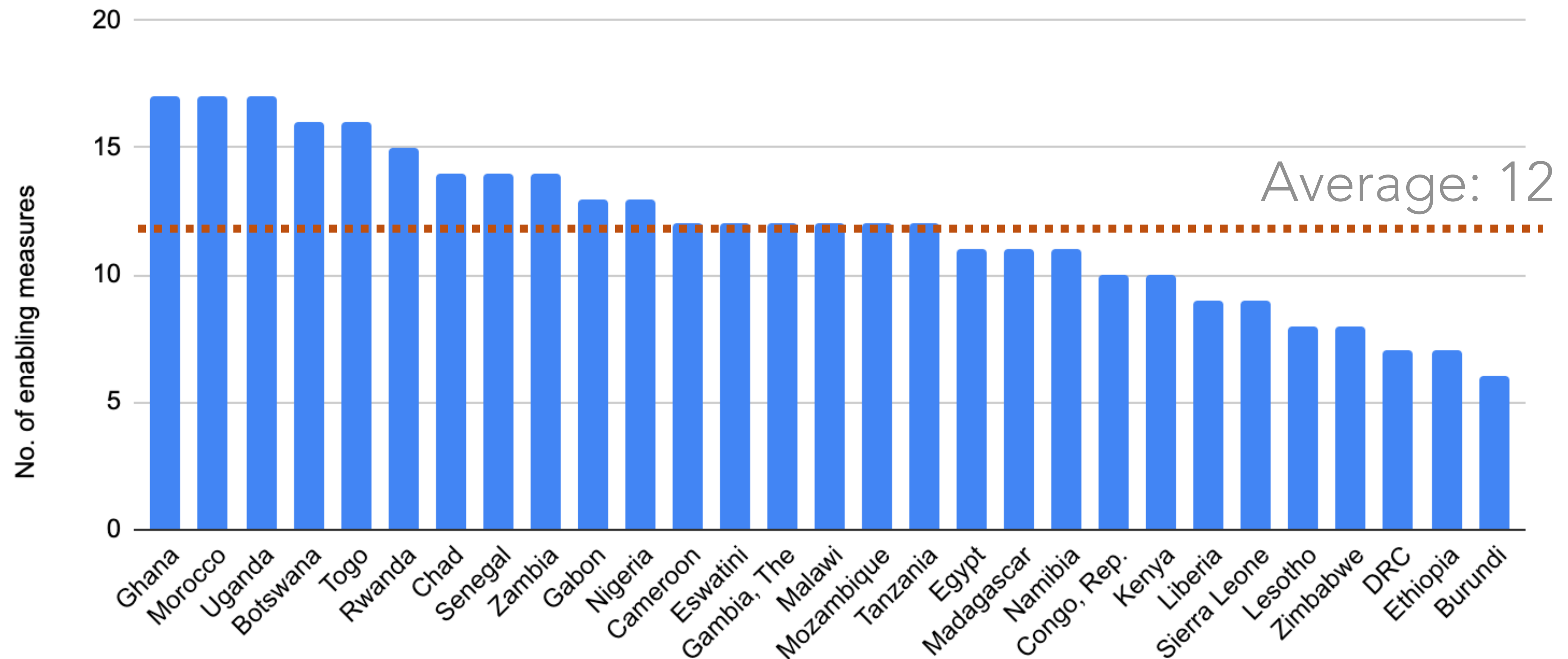
No. of measures expected to have a negative impact on digital trade



Source: DTI database.

Number of enabling policies, Africa

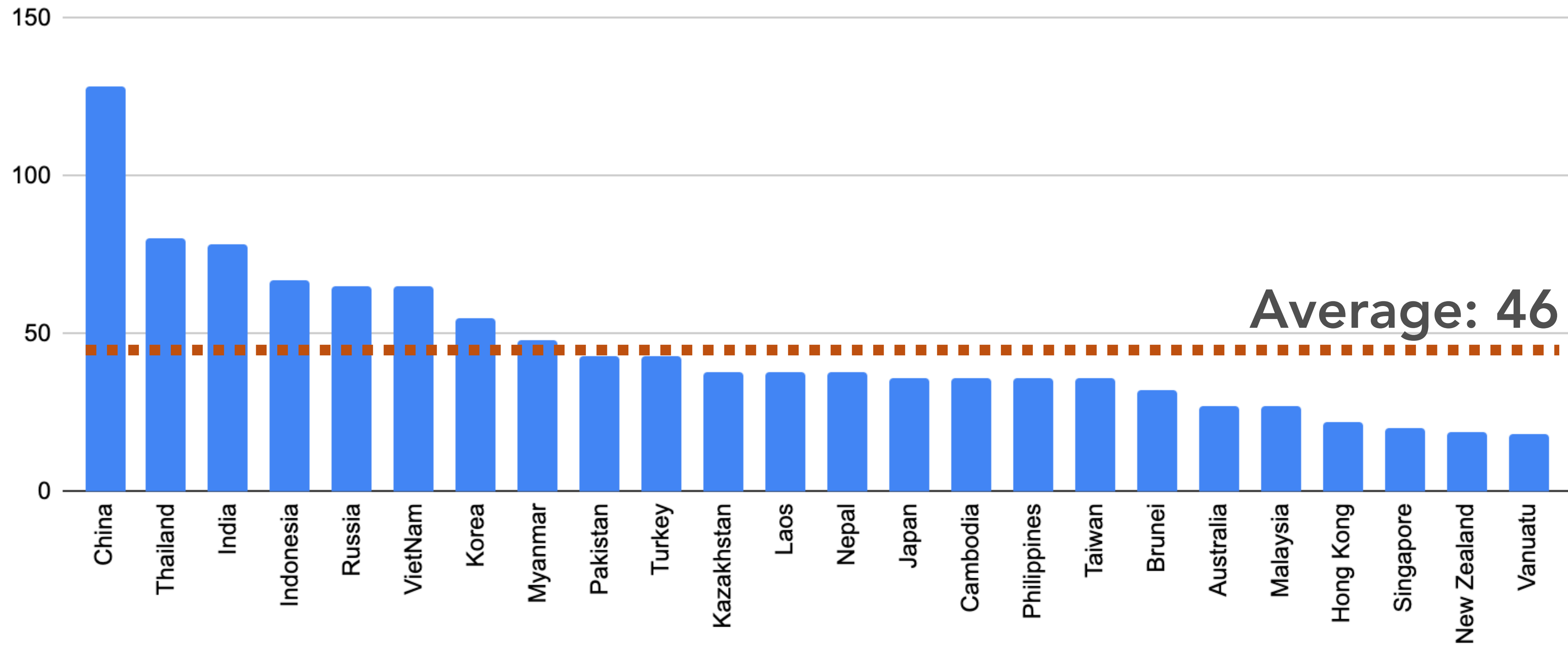
No. of enabling measures for digital trade



Source: DTI database.

No. of restrictions, Asia-Pacific

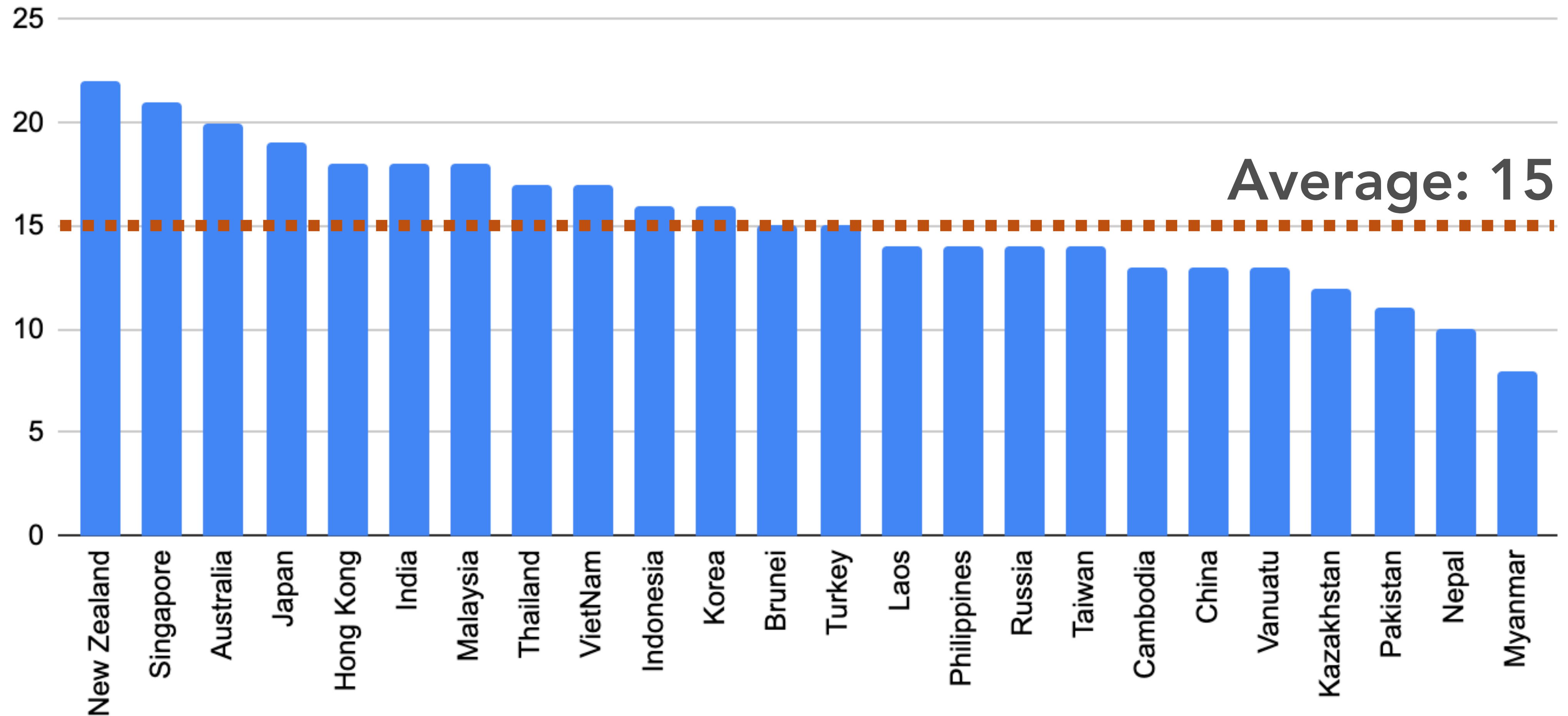
No. of measures expected to impact negatively digital trade integration



Source: DTI database.

No. of enabling policies, Asia-Pacific

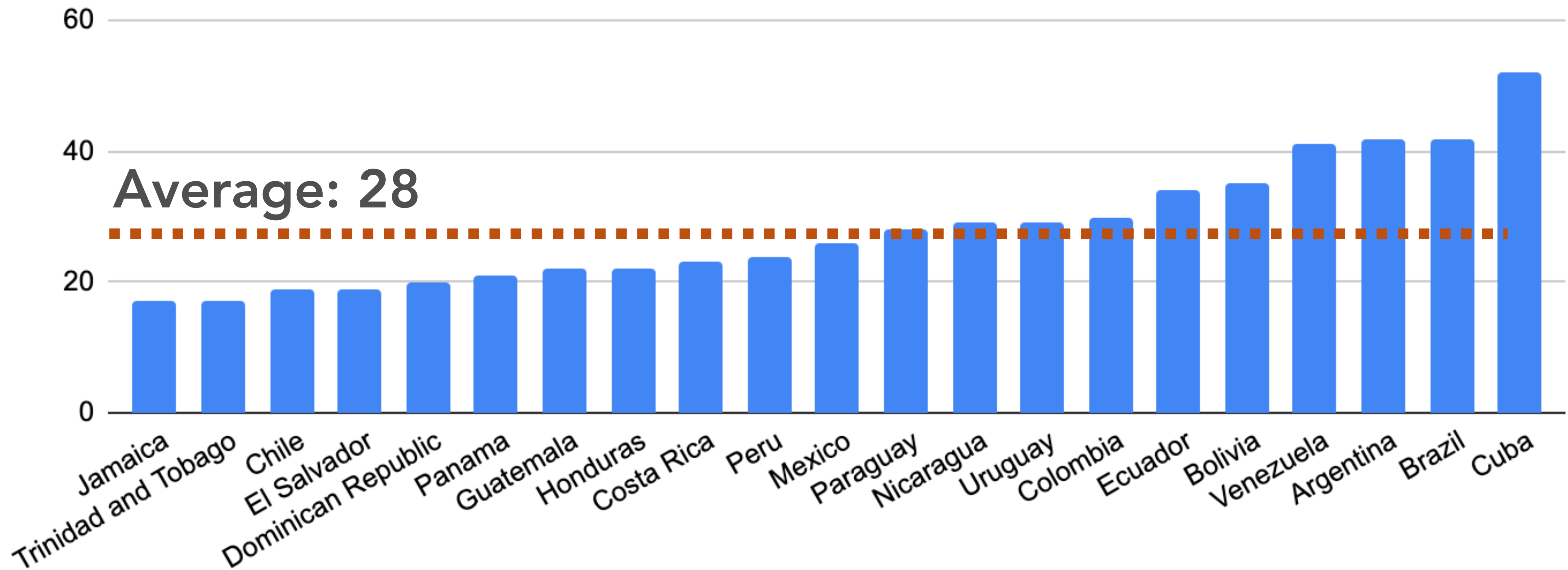
No. of enabling measures for digital trade



Source: DTI database.

No. of restrictions, Latin America

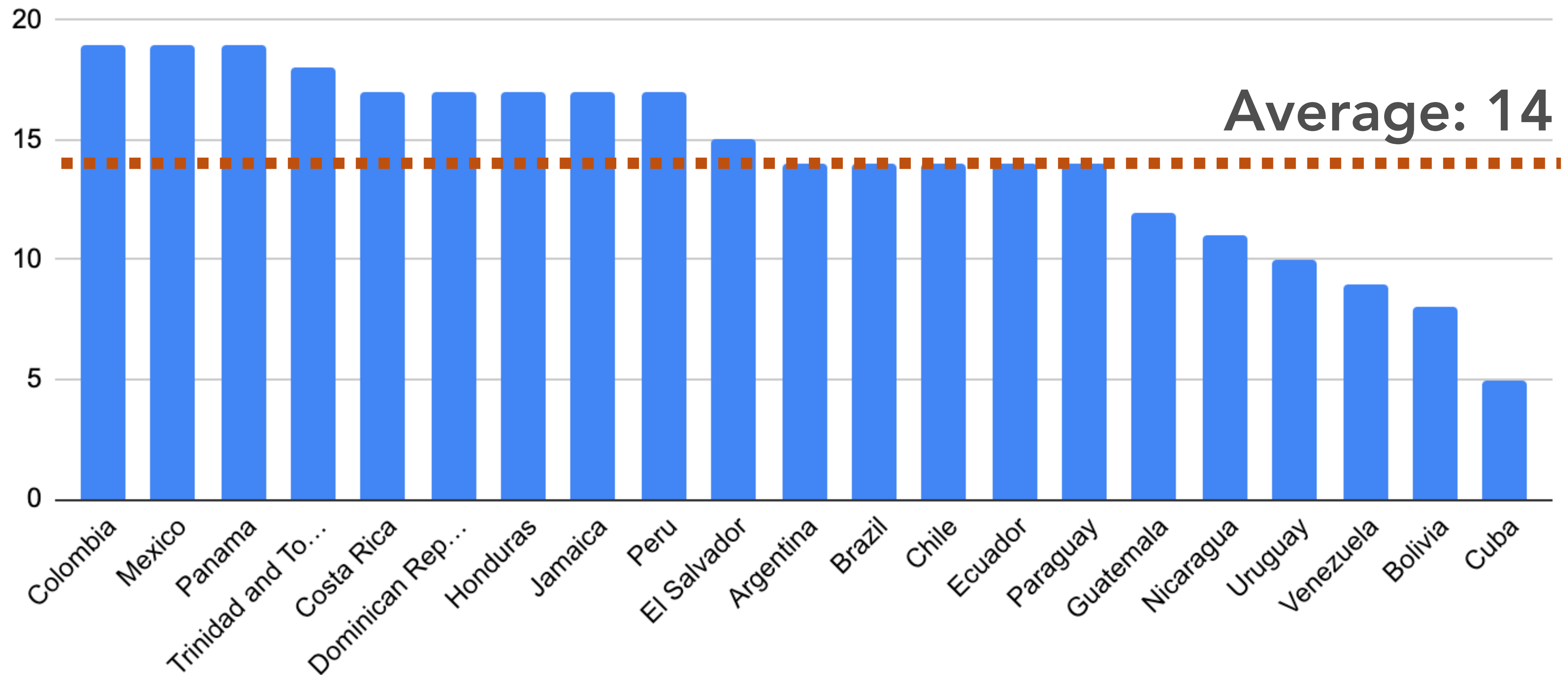
Number of policies expected to impact negatively digital trade



Source: DTI database.

No. of enabling policies, Latin America

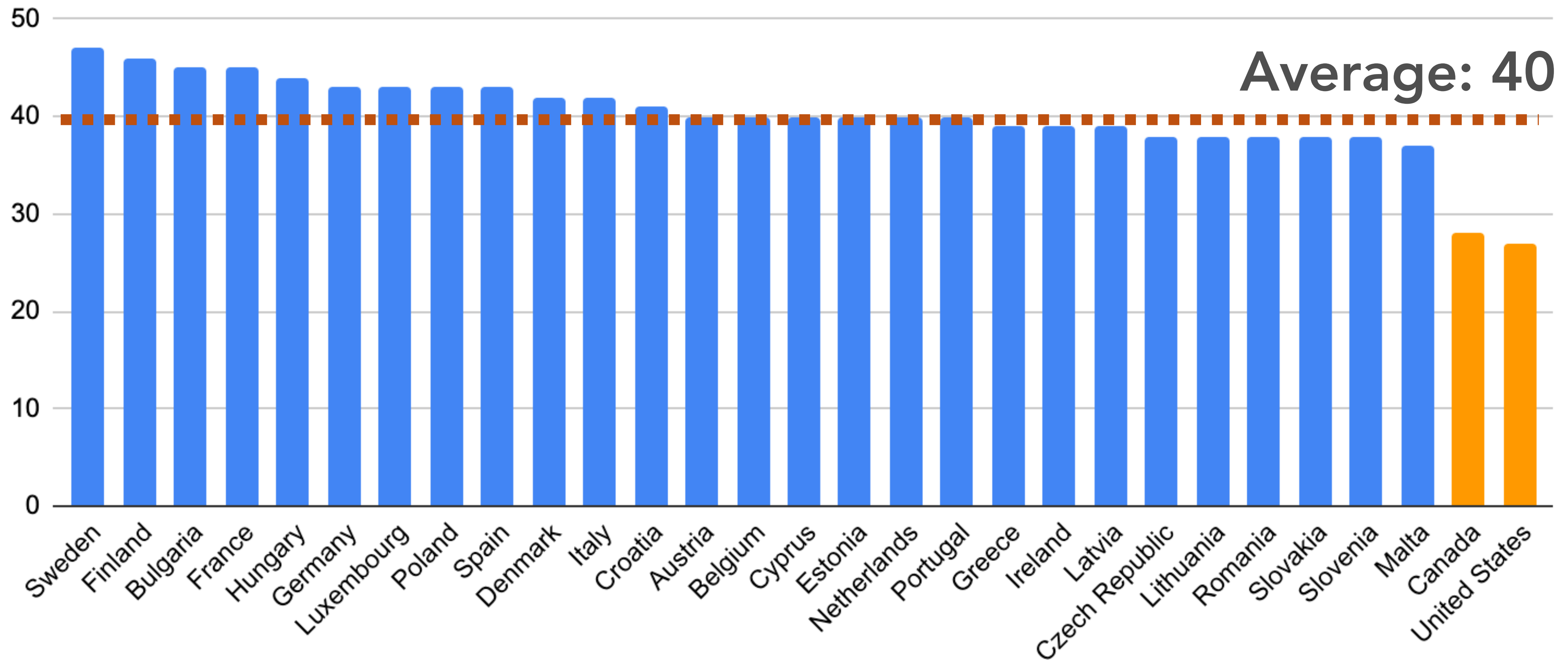
Number of enabling measures for digital trade



Source: DTI database.

No. of restrictions, Europe and North America

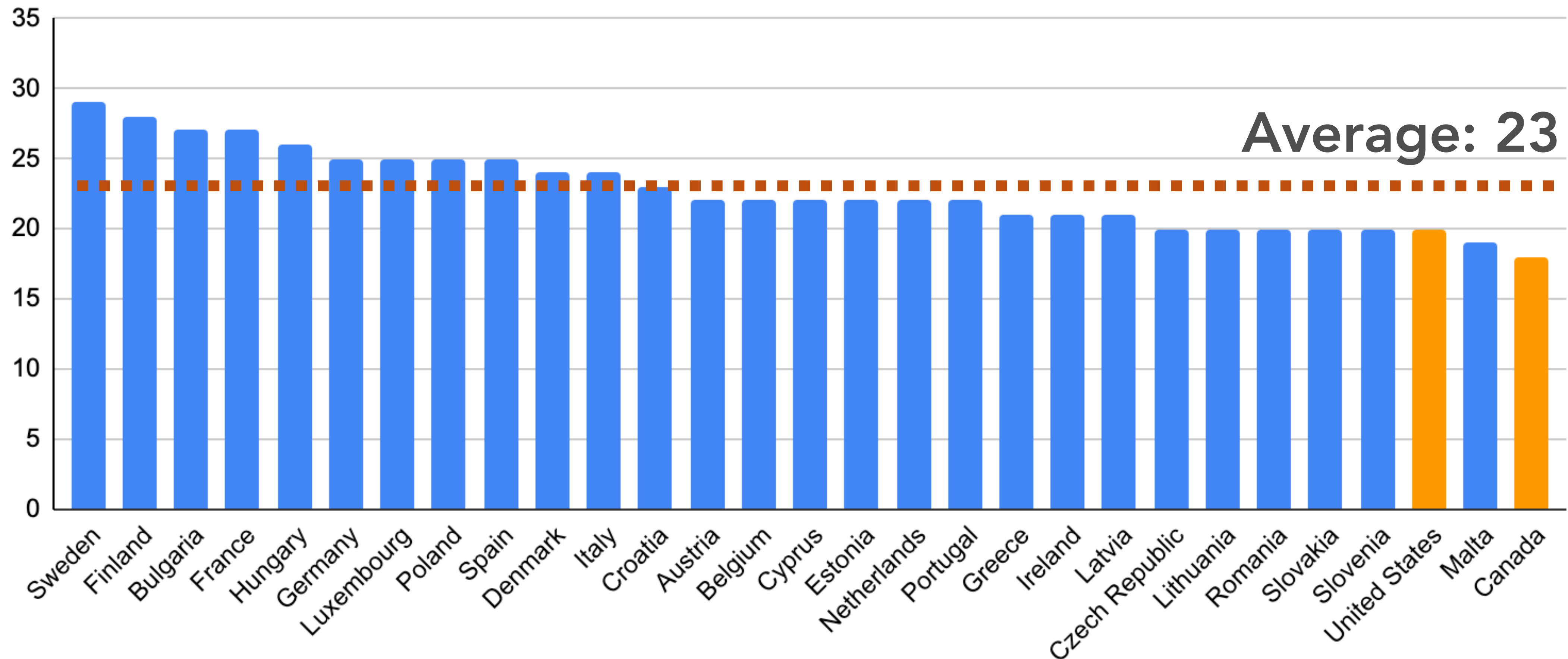
No. of measures expected to impact negatively digital trade integration



Source: DTI database.

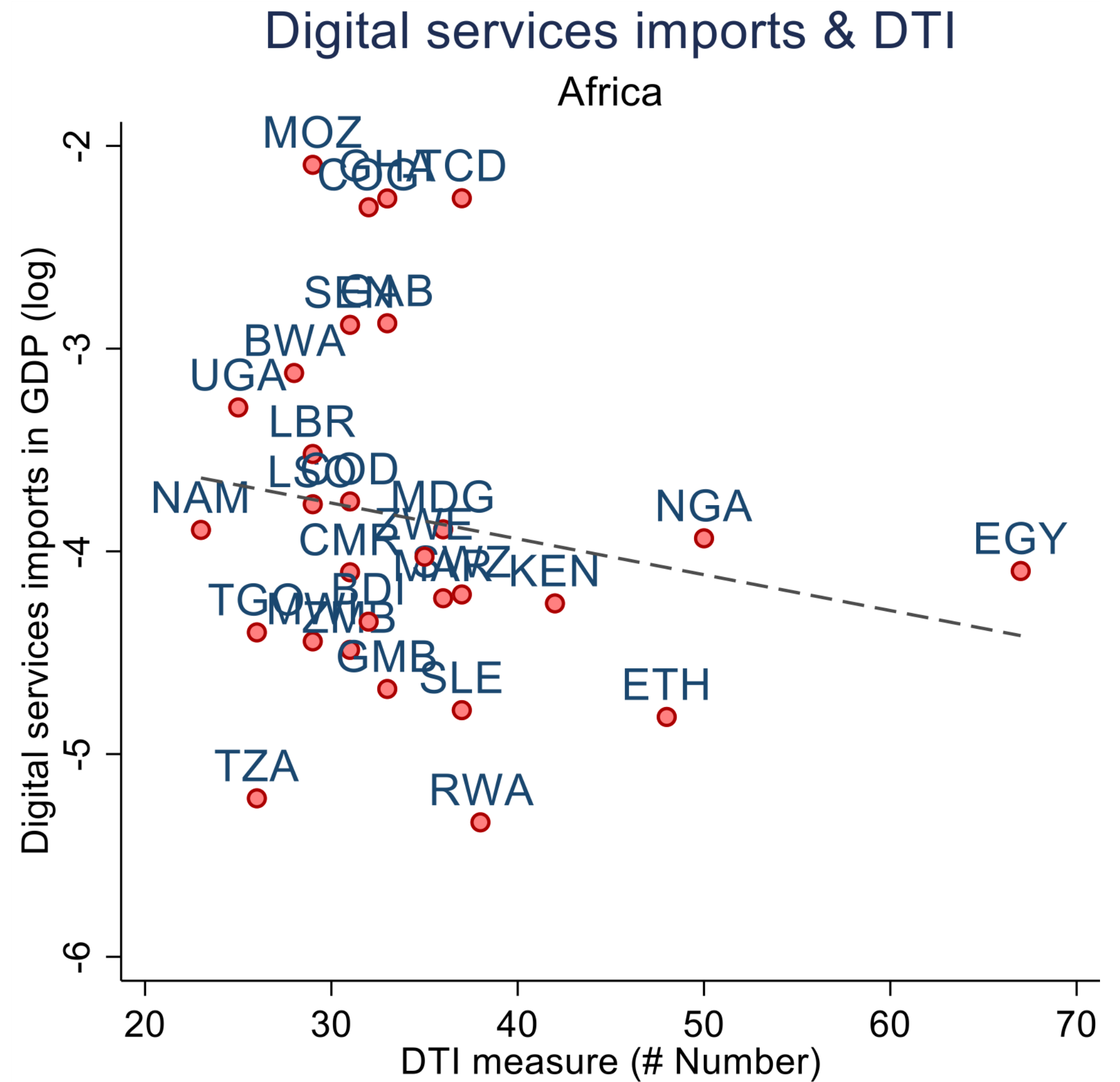
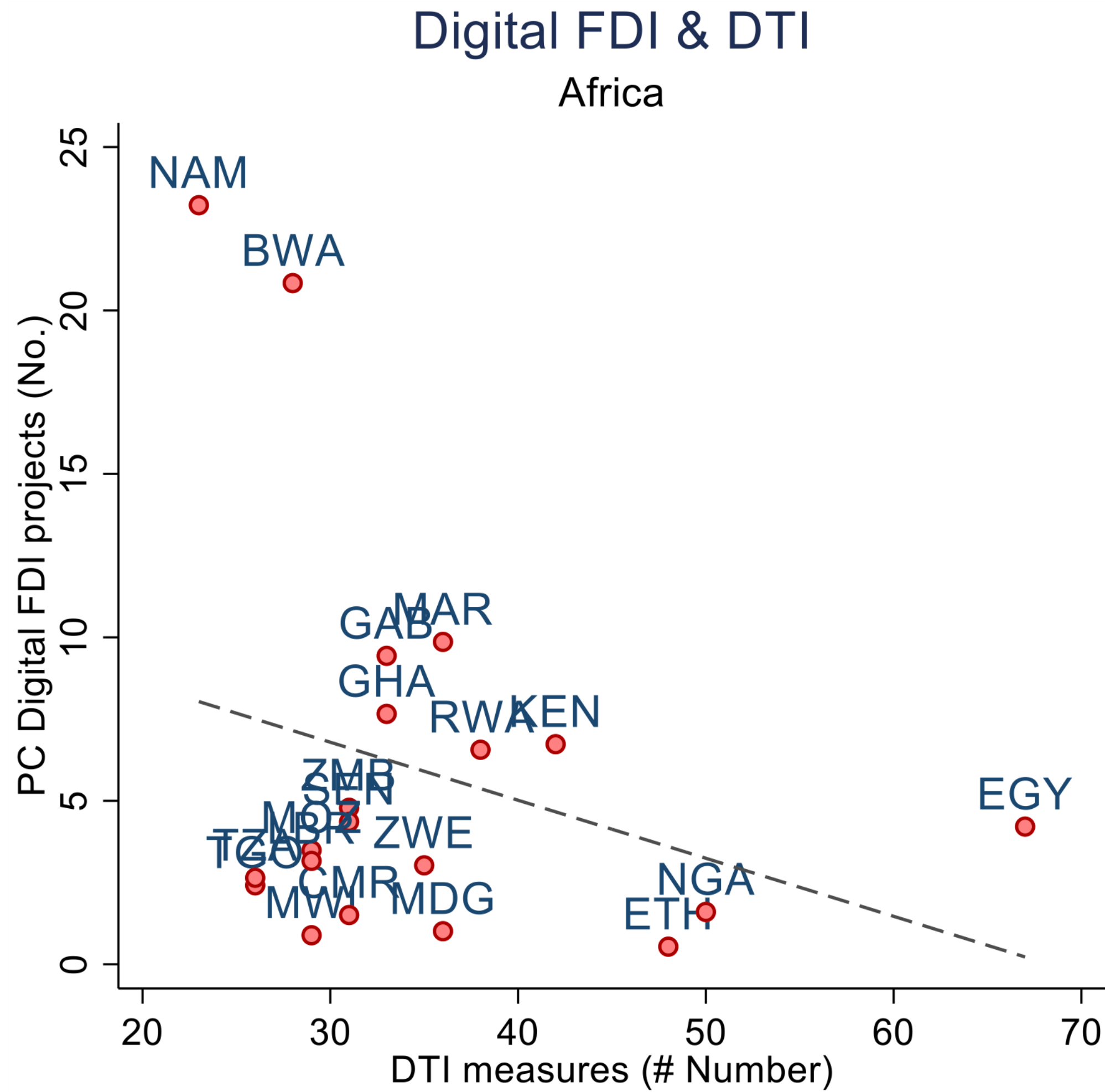
No. of enabling policies, Europe and North America

No. of enabling policies for digital trade



Source: DTI database.

DTI measures and digital trade (Africa)



Source: Ferracane and van del Marel (forthcoming).

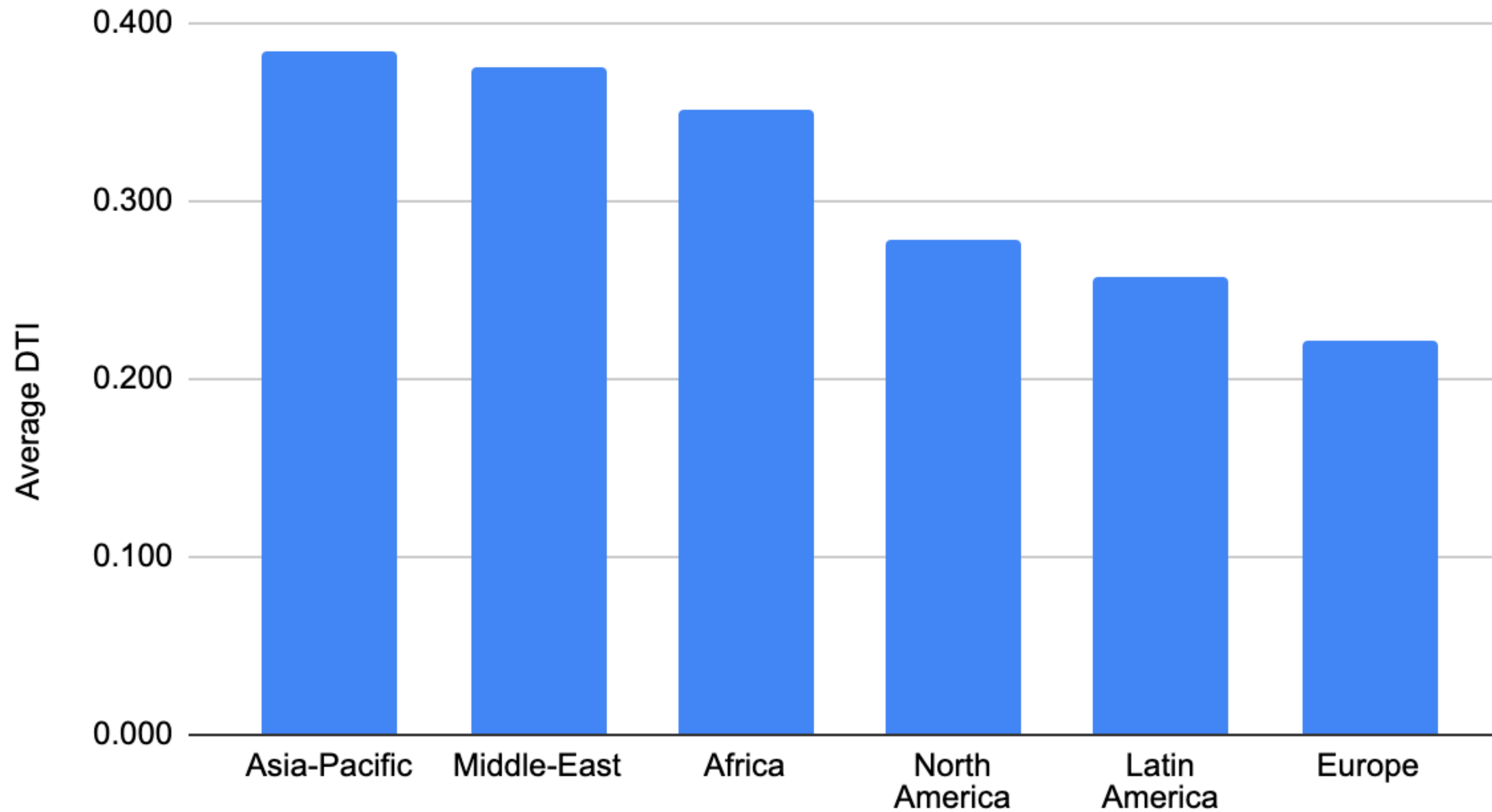
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Preliminary methodology: Digital Trade Integration Index

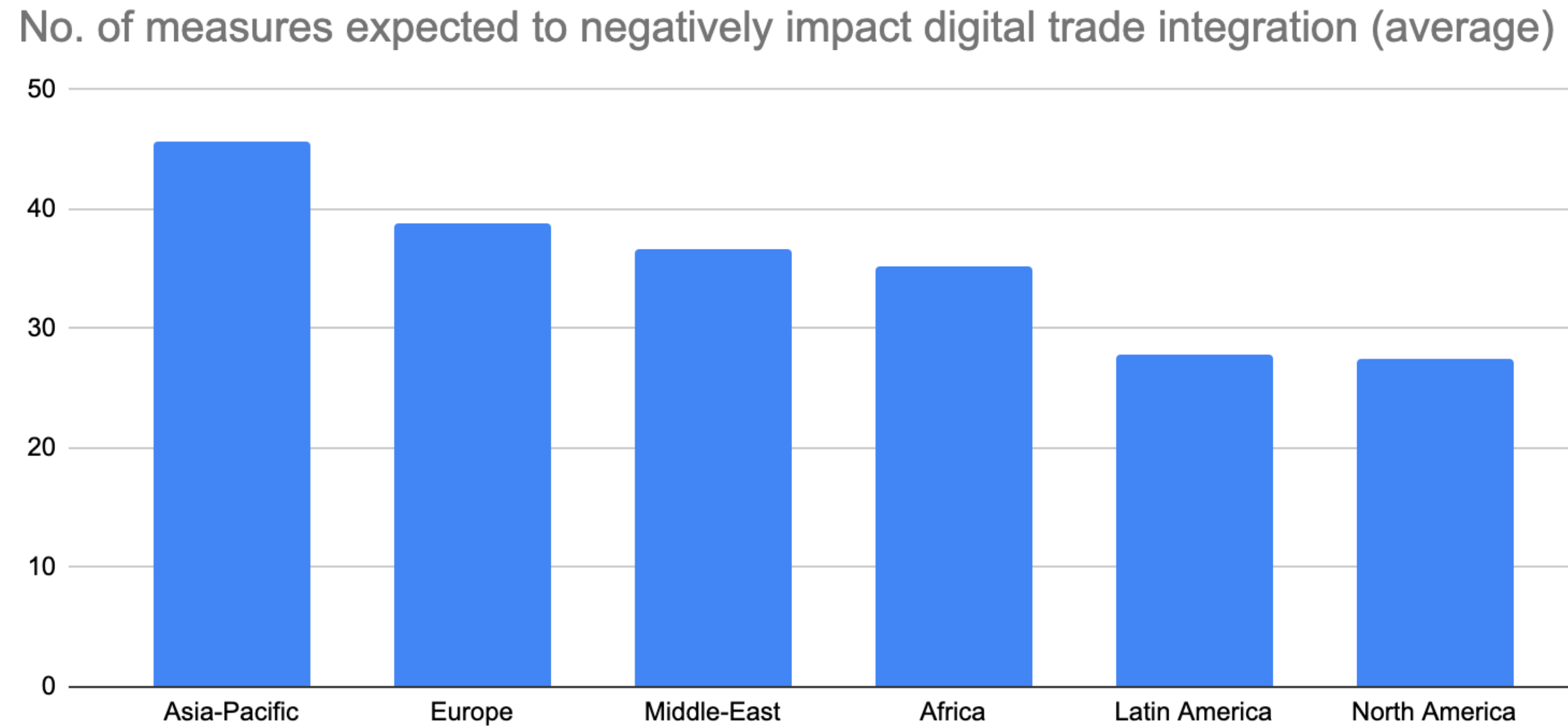
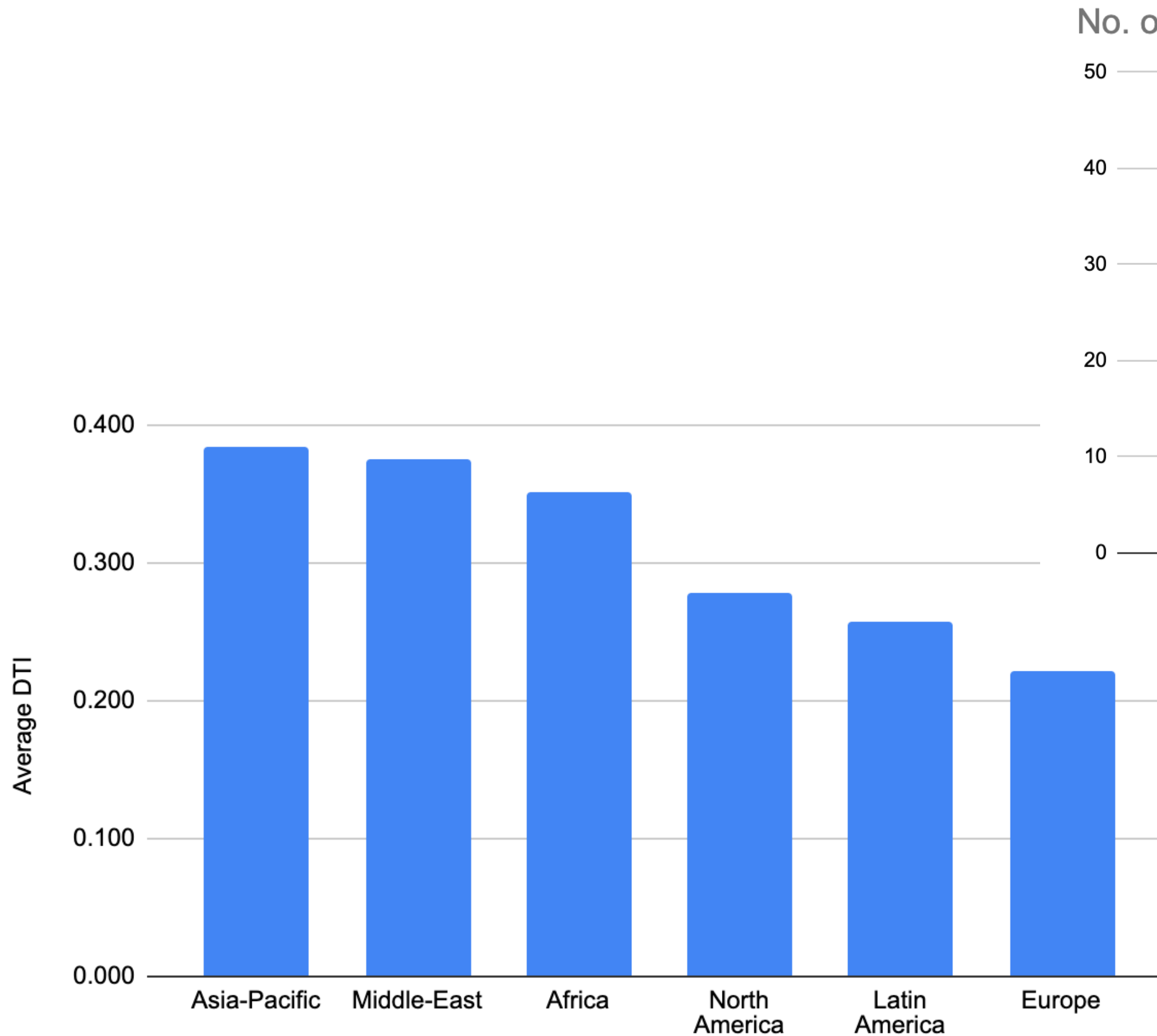
	Category	Criteria for scoring	Scores (0 to 1)	Weight
4	Intellectual Property Rights (IPRs)			
	4.1 Practical or legal restrictions related to the application process for patents	1) Requirement to have a local representative, different treatment between local and foreign firms 2) Complaints on lack of transparency, high costs for registration, low quality of substantive examination 3) No restrictions or complains	1 0.5 0	0.50
	4.2 Practical or legal restrictions related to the enforcement of patents	1) For any restriction or complain including lack of transparency, lengthy proceedings and non-deterrent sanctions considered of high impact or more than one measure of category (2) 2) For any restriction or complaint including lack of transparency, lengthy proceedings and non-deterrent sanctions considered of limited impact 3) No restrictions or complaints	1 0.5 0	0.50
	4.3 Participation to the Patent Cooperation Treaty	1) Lack of participation to the PCT 2) Participation to the PCT	1 0	0.20
	4.4 Copyright law with clear exceptions	1) Lack of copyright law, lack of transparent exceptions 2) Limited exceptions following TRIPS and Berne Convention 3) Clear copyright exceptions following fair use / fair dealing model	1 0.5 0	0.50
	4.5 Enforcement of copyright online	1) High piracy rates, complaints from an established source (govt or an national trade association) on lack of adequate enforcement of copyright online 2) Low piracy rate	1 0	0.20
	4.6 Signature of the WIPO Copyright Treaty	1) Lack of signature of the treaty 2) Signagure of the treaty	1 0	0.20
	4.7 Signature of the WIPO Performances and Phonogram Treaty	1) Lack of signature of the treaty 2) Signagure of the treaty	1 0	0.20
	4.8 Mandatory disclosure of business trade secrets such as algorithms or source code	1) For strict measures or more than one measure of category (2) 2) For measures considered of limited impact (information disclosure during court or regulatory proceedings under strict confidentiality) 3) No restrictions	1 0.5 0	0.80
	4.9 Effective protection covering trade secrets	1) Lack of effective measures for protection of trade secrets 2) Limited practice addressing protection of trade secrets 3) Presence of effective protection of trade secrets	1 0.5 0	0.50

Preliminary findings: Digital Trade Integration Index

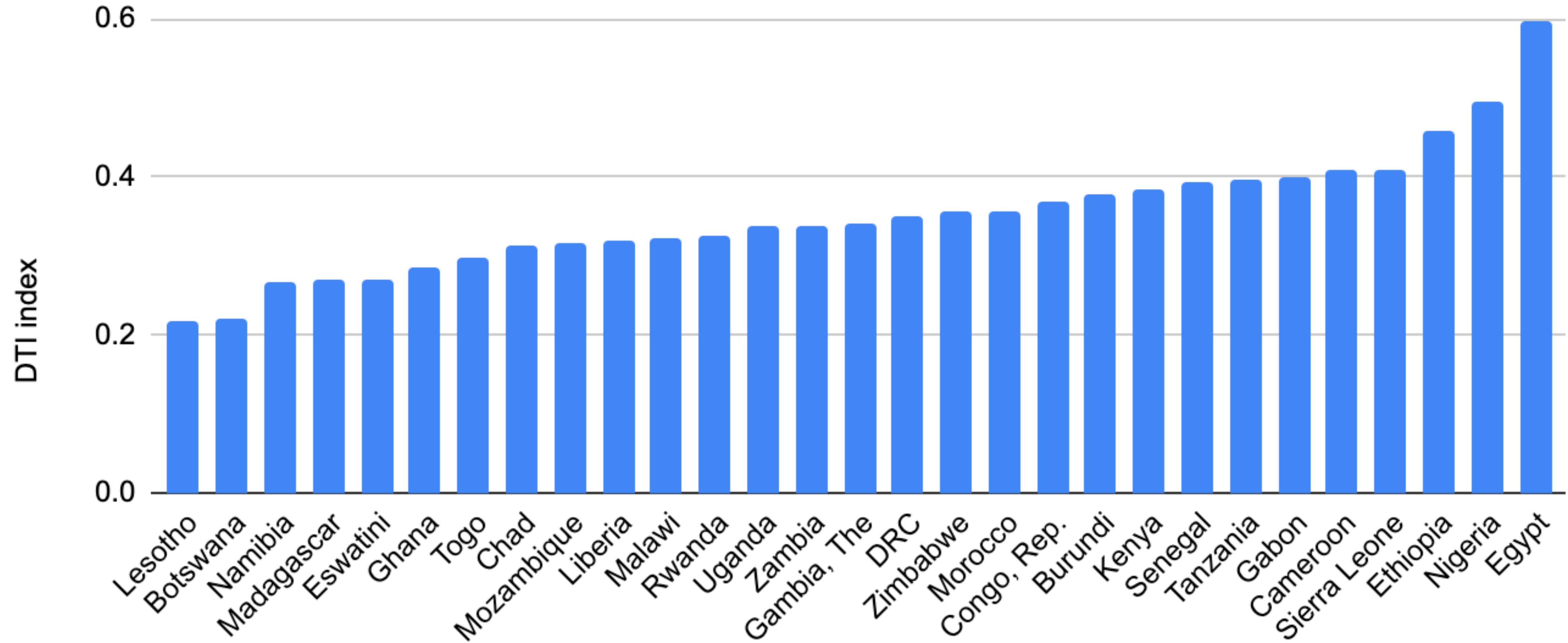


Source: DTI index (forthcoming).

Preliminary findings: Digital Trade Integration Index

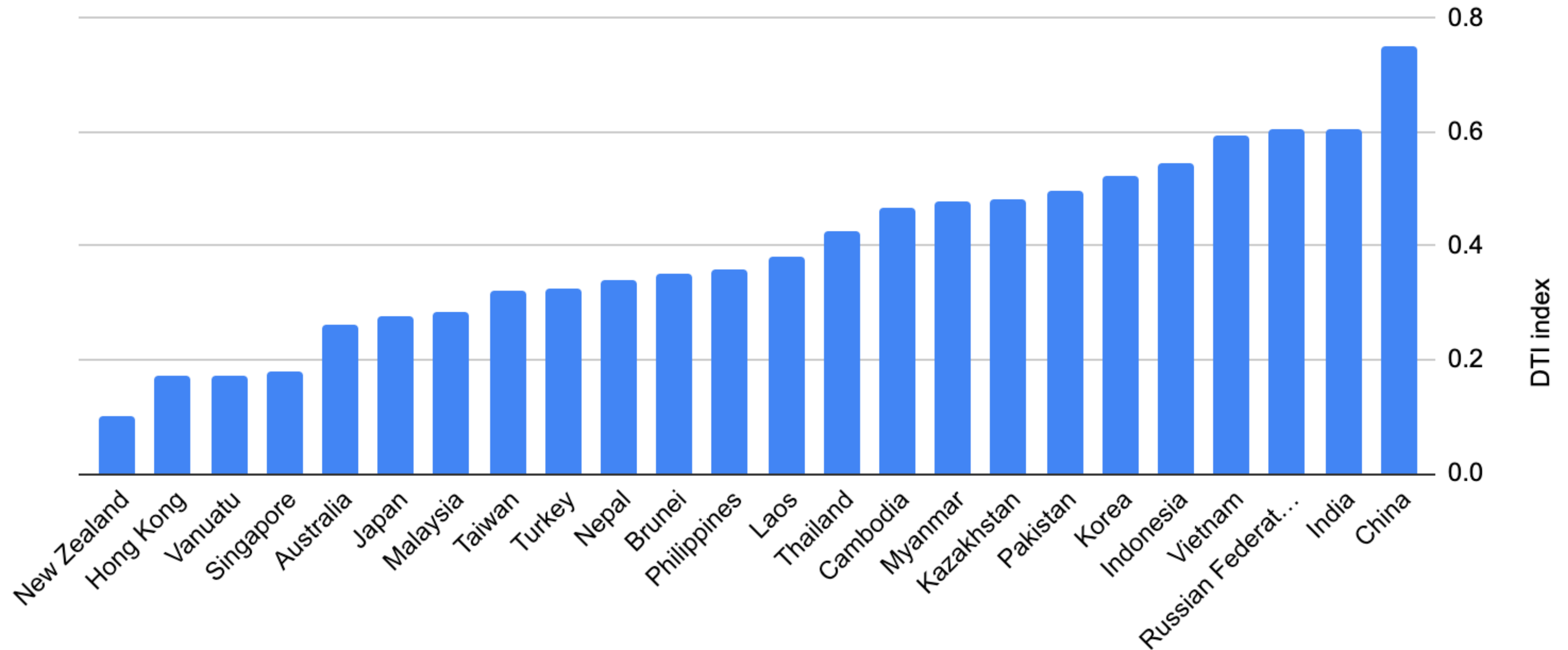


Preliminary findings: DTII for Africa



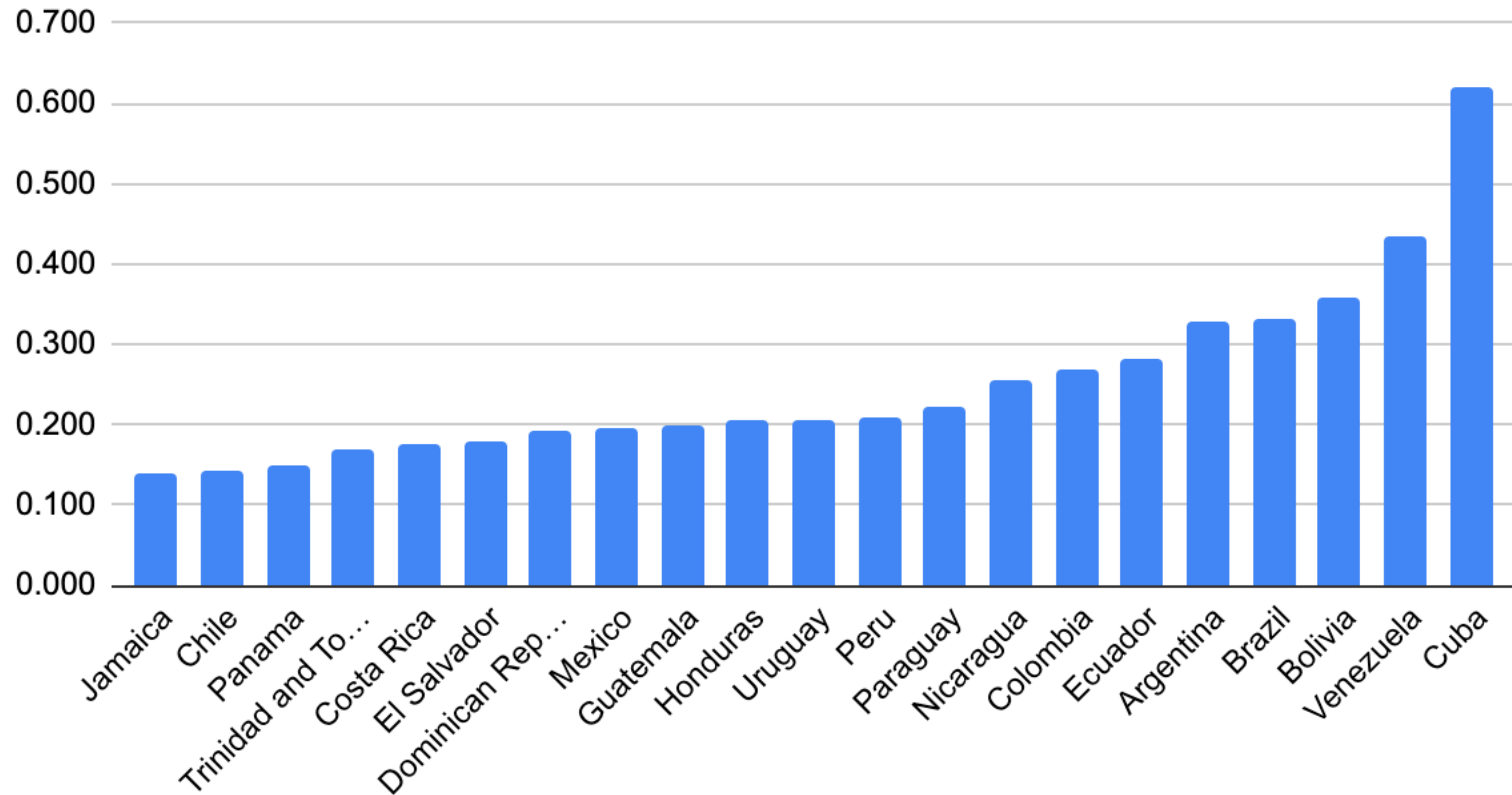
Source: DTI index (forthcoming).

Preliminary findings: DTII for Asia-Pacific



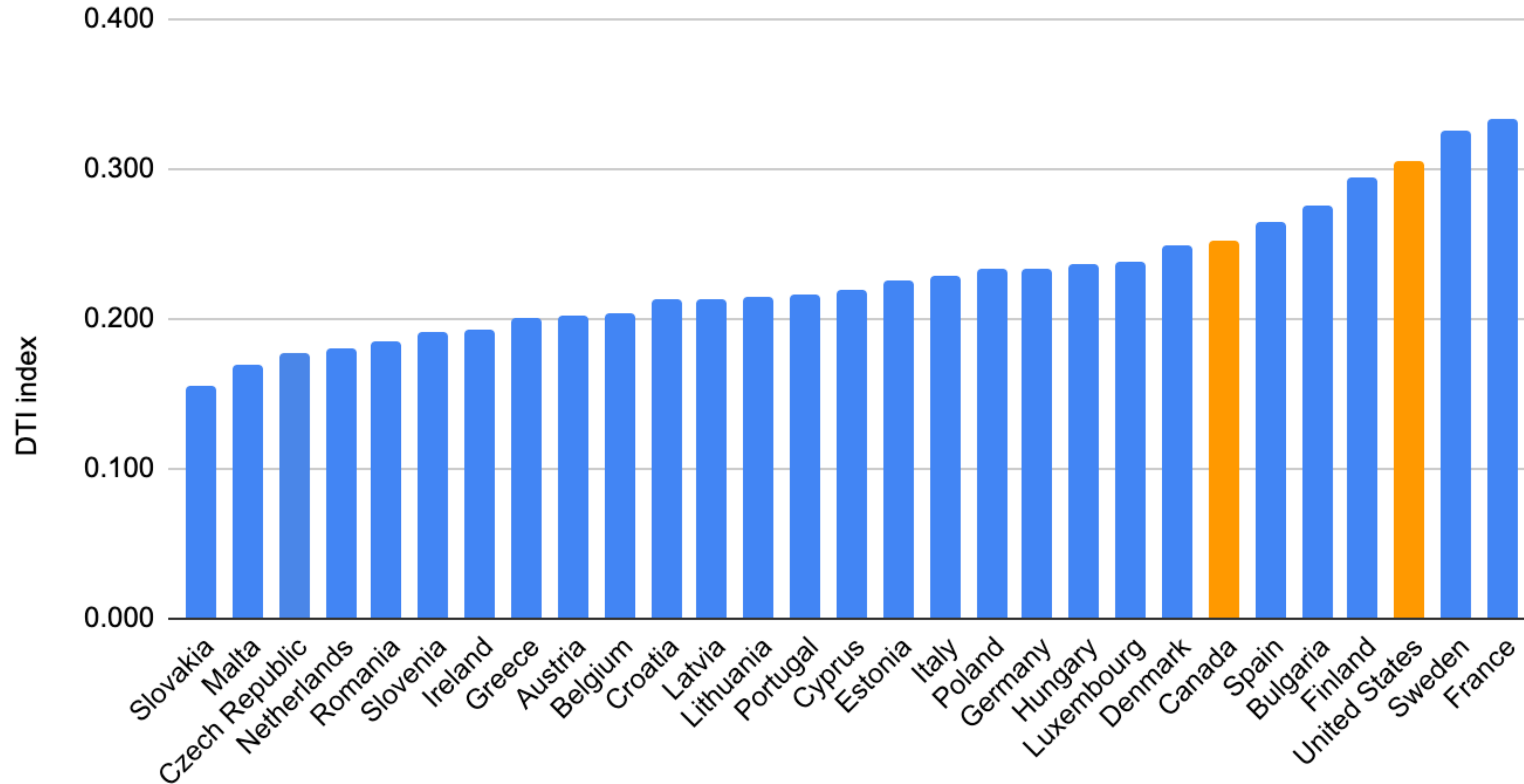
Source: DTI index (forthcoming).

Preliminary findings: DTII for Latin America



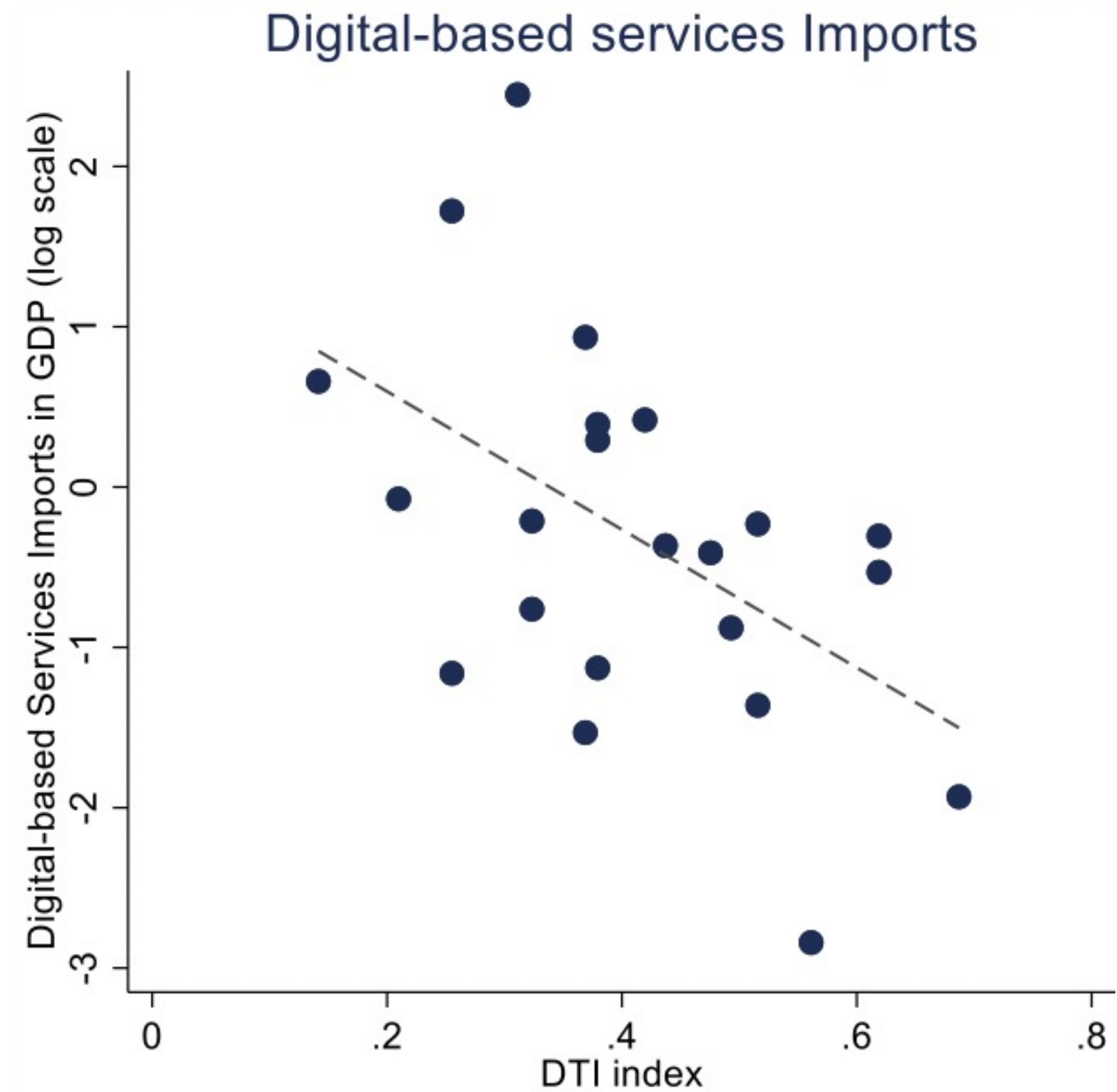
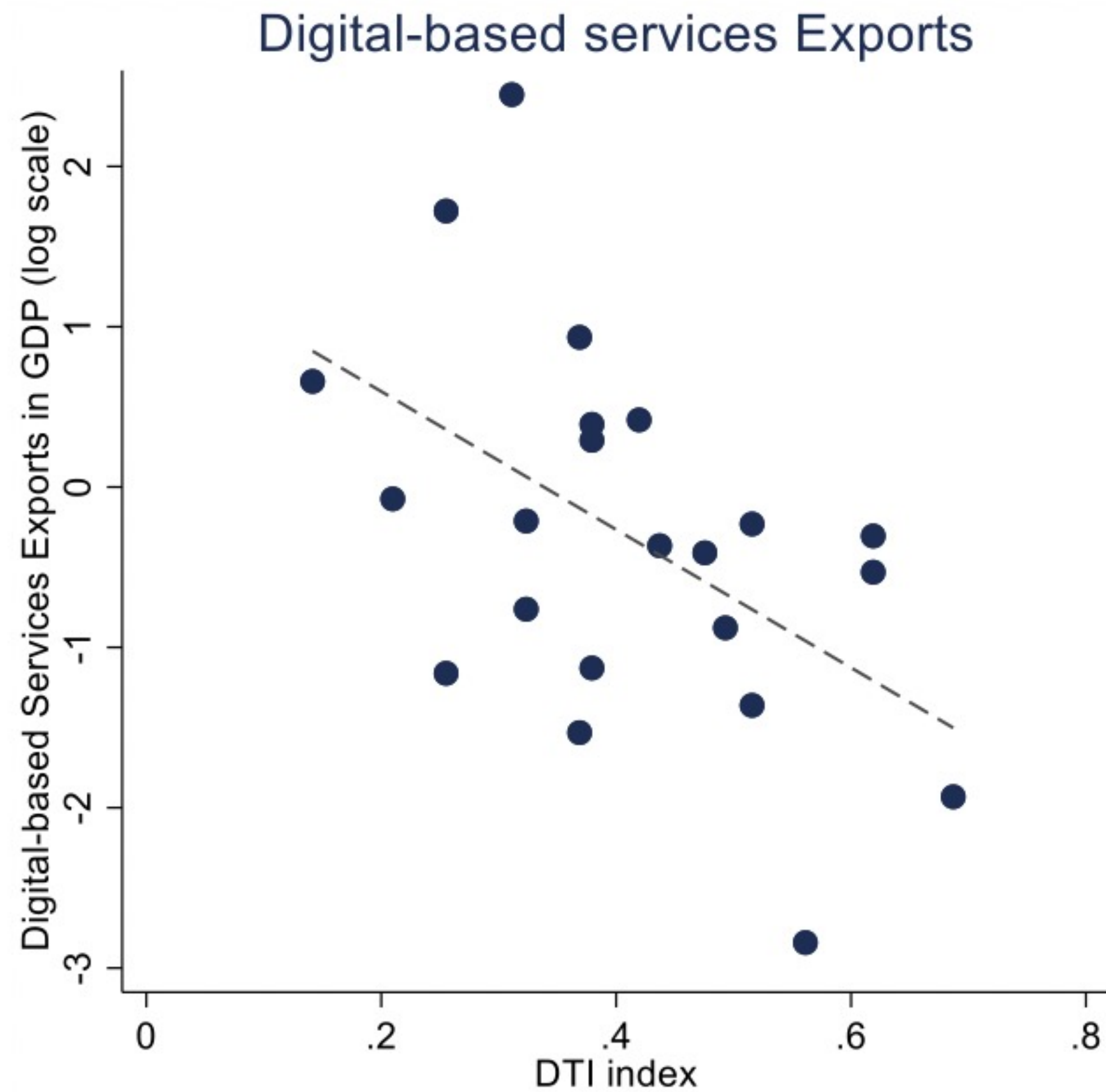
Source: DTI index (forthcoming).

Preliminary findings: DTI for Europe and North America



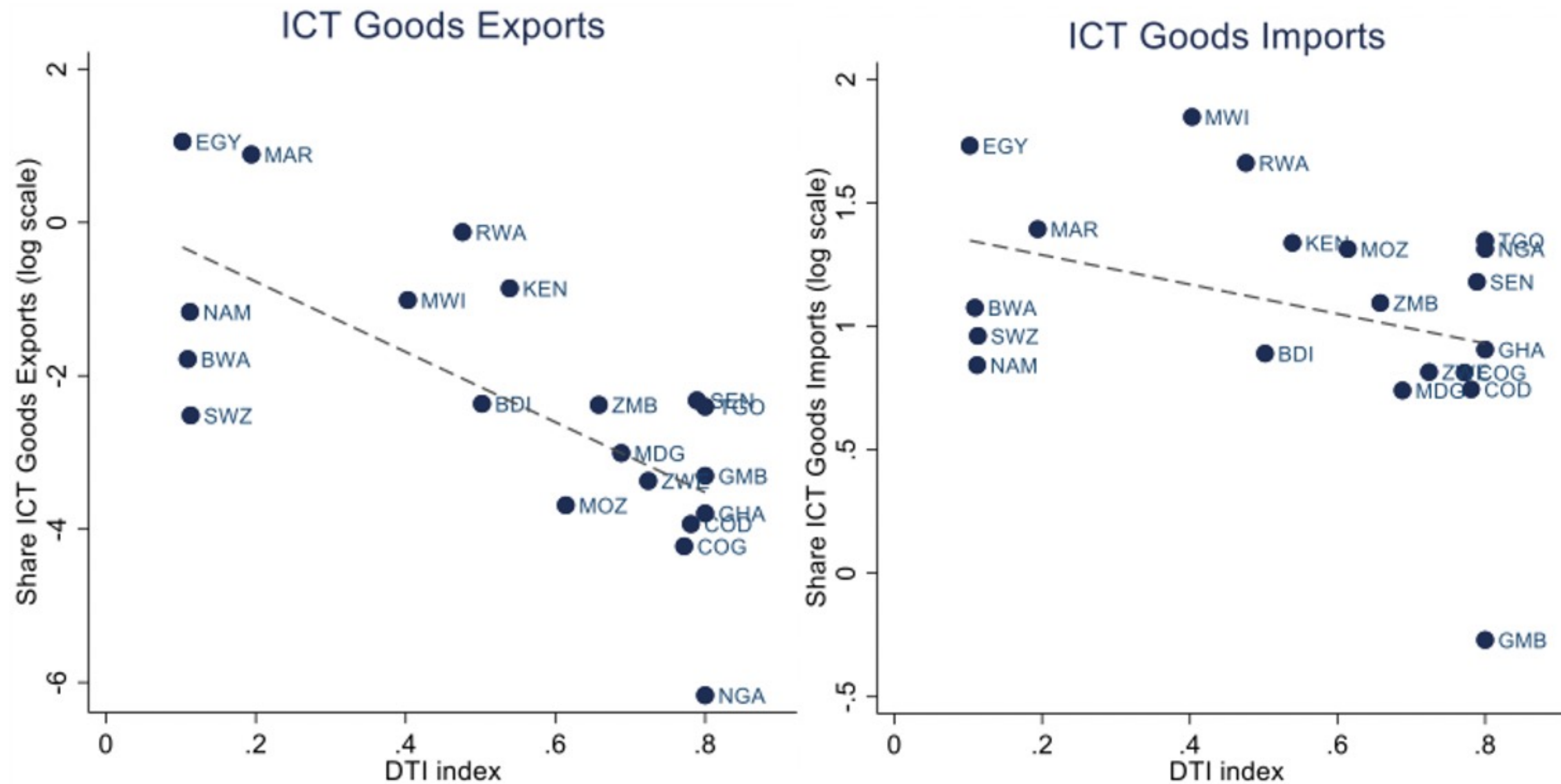
Source: DTI index (forthcoming).

DTI index (data policies) and digital services



Source: Ferracane and van del Marel (forthcoming).

DTI index (tariffs & trade defense) and ICT goods



Source: Ferracane and van del Marel (forthcoming).

OUTLINE

- Digital trade integration project
- DTI database: summary of findings
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- Empirical research
- Next steps

Policy framework matters for digital trade

Table A.4.2: Gravity results using number (#) of DTI restrictions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	TOT	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12
ln(Distance)	-0.607*** (0.008)	-0.439** (0.016)	-0.550** (0.022)	-0.603** (0.010)	-0.578** (0.017)	-0.519** (0.028)	-0.604*** (0.005)	-0.590** (0.011)	-0.582** (0.016)	-0.590** (0.013)	-0.601*** (0.008)	-0.706*** (0.001)	-0.629*** (0.007)
Contiguity	2.378*** (0.000)	2.762*** (0.000)	2.435*** (0.000)	2.400*** (0.000)	2.450*** (0.000)	2.531*** (0.000)	2.383*** (0.000)	2.462*** (0.000)	2.412*** (0.000)	2.400*** (0.000)	2.395*** (0.000)	2.240*** (0.000)	2.343*** (0.000)
Colony	0.516* (0.067)	0.435 (0.109)	0.509* (0.070)	0.519* (0.066)	0.501* (0.077)	0.499* (0.081)	0.525* (0.063)	0.508* (0.073)	0.506* (0.072)	0.512* (0.069)	0.501* (0.077)	0.497* (0.077)	0.503* (0.075)
Legal	0.306 (0.286)	0.824*** (0.000)	0.341 (0.238)	0.312 (0.282)	0.339 (0.244)	0.363 (0.215)	0.302 (0.293)	0.326 (0.260)	0.336 (0.247)	0.325 (0.261)	0.323 (0.260)	0.279 (0.325)	0.312 (0.277)
Language	0.379* (0.056)	0.059 (0.722)	0.373* (0.065)	0.371* (0.063)	0.372* (0.063)	0.381* (0.058)	0.377* (0.057)	0.375* (0.060)	0.366* (0.070)	0.369* (0.065)	0.382* (0.055)	0.393** (0.044)	0.378* (0.056)
WTO	5.316*** (0.009)	0.453 (0.513)	5.481*** (0.019)	3.960*** (0.000)	3.928*** (0.000)	6.808 (0.388)	6.874 (0.403)	4.081*** (0.000)	3.796*** (0.000)	4.242*** (0.000)	5.645** (0.035)	15.308 (1.000)	4.249*** (0.000)
RTA	0.210 (0.278)	-0.216 (0.182)	0.264 (0.187)	0.233 (0.240)	0.259 (0.200)	0.260 (0.189)	0.208 (0.275)	0.243 (0.218)	0.267 (0.191)	0.248 (0.215)	0.217 (0.262)	0.143 (0.440)	0.208 (0.284)
International	-4.020*** (0.002)		-7.238*** (0.000)	-9.013*** (0.000)	-6.338*** (0.005)	-6.183*** (0.000)	-5.692*** (0.000)	-6.667*** (0.000)	-8.961*** (0.000)	-7.594*** (0.000)	-7.263*** (0.000)	-4.292*** (0.000)	-5.501*** (0.000)
DTI(#)* Intl	-0.113*** (0.000)	-1.814*** (0.000)	-0.274*** (0.003)	0.629** (0.047)	-0.375 (0.351)	-0.601*** (0.007)	-0.760*** (0.000)	-0.369** (0.047)	0.312* (0.096)	-0.183* (0.082)	-1.529*** (0.000)	-2.708*** (0.000)	-0.480*** (0.000)
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	4679	4670	4679	4679	4679	4679	4679	4679	4679	4679	4679	4679	4679
R2	1.000	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Table A.4.3: Gravity results using the DTI index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	TOT	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12
ln(Distance)	-0.731*** (0.001)	-0.437** (0.017)	-0.667*** (0.003)	-0.573* (0.063)	-0.708*** (0.003)	-0.600** (0.012)	-0.766*** (0.000)	-0.528** (0.026)	-0.597** (0.012)	-0.561** (0.017)	-0.653*** (0.004)	-0.647*** (0.003)	-0.478** (0.048)
Contiguity	2.192*** (0.000)	2.784*** (0.000)	2.276*** (0.000)	2.720*** (0.000)	2.262*** (0.000)	2.436*** (0.000)	2.153*** (0.000)	2.536*** (0.000)	2.361*** (0.000)	2.517*** (0.000)	2.288*** (0.000)	2.253*** (0.000)	2.650*** (0.000)
Colony	0.530* (0.058)	0.434 (0.109)	0.528* (0.061)	0.406 (0.214)	0.487* (0.085)	0.495* (0.082)	0.541* (0.054)	0.493* (0.082)	0.507* (0.070)	0.493* (0.084)	0.514* (0.068)	0.502* (0.072)	0.516* (0.070)
Legal	0.244 (0.391)	0.823*** (0.000)	0.270 (0.344)	0.409 (0.160)	0.292 (0.307)	0.333 (0.252)	0.225 (0.426)	0.366 (0.210)	0.329 (0.254)	0.354 (0.230)	0.294 (0.304)	0.309 (0.275)	0.375 (0.204)
Language	0.375* (0.055)	0.064 (0.699)	0.380* (0.052)	0.410** (0.042)	0.379* (0.054)	0.378* (0.058)	0.367* (0.059)	0.375* (0.065)	0.364* (0.072)	0.377* (0.059)	0.375* (0.057)	0.368* (0.066)	0.366* (0.071)
WTO	3.387*** (0.000)	0.616 (0.339)	4.316*** (0.000)	13.123 (0.999)	2.813*** (0.000)	3.946*** (0.000)	2.122*** (0.000)	5.481** (0.020)	3.774*** (0.000)	3.714*** (0.000)	4.094*** (0.000)	3.999*** (0.000)	5.580** (0.033)
RTA	0.146 (0.437)	-0.217 (0.181)	0.169 (0.371)	0.251 (0.224)	0.193 (0.327)	0.237 (0.234)	0.145 (0.437)	0.282 (0.161)	0.263 (0.195)	0.262 (0.192)	0.194 (0.311)	0.223 (0.240)	0.308 (0.134)
International	-1.172 (0.489)	-10.779*** (0.000)	-4.996*** (0.000)	-1.805 (0.964)	-3.903*** (0.000)	-6.407*** (0.000)	-5.596*** (0.000)	-6.342*** (0.000)	-9.384*** (0.000)	-10.530*** (0.000)	-7.044*** (0.000)	-6.343*** (0.000)	-15.056*** (0.000)
DTI * Intl	-18.864*** (0.000)	8.849*** (0.002)	-7.510*** (0.000)	-95.730 (0.908)	-9.362*** (0.000)	-4.382** (0.013)	-5.287*** (0.001)	-3.881*** (0.002)	2.649*** (0.009)	5.080*** (0.001)	-13.819*** (0.000)	-9.039 (0.164)	28.176*** (0.003)
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	4679	4670	4679	4654	4679	4679	4679	4679	4679	4679	4679	4679	4679
R2	1.000	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

A high number of policy measures restricting digital trade and a high DTI index are associated with lower digital trade.

Regulatory heterogeneity matters for digital trade

Table A.6.3: Gravity results using the heterogeneity index of DTI (based on description)

EXP_F	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(9)	(10)	(11)	(12)
	TOT	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12
<u>ln</u> (Distance)	-1.003*** (0.000)	-0.978*** (0.000)	-1.081*** (0.000)	-1.059*** (0.000)	-1.043*** (0.000)	-1.014*** (0.000)	-1.043*** (0.000)	-1.037*** (0.000)	-1.036*** (0.000)	-1.005*** (0.000)	-1.031*** (0.000)	-0.962*** (0.000)	-1.024*** (0.000)
Contiguity	-0.651 (0.223)	-0.369 (0.493)	-0.528 (0.338)	-0.636 (0.251)	-0.477 (0.336)	0.194 (0.368)	0.143 (0.473)	0.048 (0.805)	0.088 (0.665)	0.120 (0.561)	-0.518 (0.319)	-0.505 (0.379)	0.131 (0.532)
Legal	0.085 (0.856)	0.172 (0.714)	-0.036 (0.943)	0.181 (0.673)	0.152 (0.751)	0.211 (0.366)	0.272 (0.255)	0.218 (0.312)	0.240 (0.308)	0.339 (0.119)	-0.015 (0.974)	0.088 (0.847)	0.356 (0.135)
Language	0.773* (0.070)	0.814* (0.068)	0.785* (0.064)	0.675 (0.105)	0.803** (0.046)	0.161 (0.428)	0.138 (0.522)	0.222 (0.248)	0.180 (0.364)	0.110 (0.563)	0.825* (0.059)	0.802* (0.063)	0.156 (0.424)
RTA	2.477*** (0.000)	2.162*** (0.000)	2.477*** (0.000)	2.364*** (0.000)	2.422*** (0.000)	0.487** (0.048)	0.449 (0.108)	0.557** (0.030)	0.563** (0.015)	0.518** (0.021)	1.996*** (0.000)	2.754*** (0.000)	0.581** (0.039)
DTI H(Q)	-35.287** (0.035)	-2.809 (0.210)	-2.648 (0.427)	-4.313* (0.061)	-9.934** (0.012)	2.918** (0.047)	0.758 (0.739)	3.720* (0.069)	-0.770 (0.539)	1.053 (0.455)	-5.354*** (0.009)	1.057 (0.717)	1.210 (0.613)
DTI H(Q) * DTI (Q)	132.944* (0.074)	-0.068 (0.984)	13.450 (0.295)	22.202** (0.012)	43.873*** (0.001)	-9.272** (0.034)	-9.912 (0.259)	-19.020** (0.039)	3.001 (0.415)	7.481 (0.374)	20.704* (0.056)	-9.482 (0.356)	0.578 (0.940)
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	0.980	0.981	0.981	0.984	0.985	0.991	0.991	0.991	0.990	0.992	0.982	0.980	0.992

Regulatory heterogeneity matters the most for more open economies

Source: Ferracane and van der Marel (forthcoming).

OUTLINE

- Digital trade integration project
- DTI database: summary of findings
- DTI index: preliminary findings
- Empirical research
- Conclusions

Conclusions

- Asia-Pacific is the most active region in implementing restrictive policies on digital trade, while fewer restrictions are implemented in Latin America
- The EU is most active in implementing enabling policies
- The regulatory framework has an impact on digital trade, with an additional negative impact connected to regulatory heterogeneity
- Most open countries have the biggest incentives to promote regulatory harmonization.

THANK YOU!

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