



CRITICAL CONNECTIONS:

**Promoting Economic Growth
and Resilience in Europe and Central Asia**

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For more details, data and the full report, please visit:
<http://www.worldbank.org/en/region/eca/publication/critical-connections>



Why this report?

- The Europe and Central Asia (ECA) region has a rich history of regional integration and connectivity to the broader world economy.
- In ECA, regional and global connectivity has been a tremendous “convergence machine.”
- But the global economic crisis and various commodity price shocks, underscored the importance of understanding the benefits and potential risks of increased connectivity.
- Recent political developments (Brexit, elections, etc.) reflect underlying skepticism of the benefits to deepening cooperation, with voters increasingly favoring parties seeking greater national autonomy instead of greater regional and global integration.
- —Its key to understand the impact of connectivity

What is unique about this study?

- Connectivity—or “globalization”—and its relationship to economic growth is often viewed in only one dimension (i.e., trade, migration, FDI, etc.)
 - But various connections are often complements
 - Ideas are transmitted through complementary connections
 - Migration, trade, FDI, internet, finance, transport, etc.
- To whom you are connected to might be just as important as the type of connection
 - Trade with Germany may be more important than trade with Algeria—not only due to the level of technological potential embodied in exports/imports— but also the connections of your partner’s connections
- Connectivity being “multidimensional” implies that shocks in one dimension (e.g., trade) can have adverse affects in other dimensions (e.g., FDI) as well.

Key findings

- ECA's various forms of connectivity facilitates the transfers of technology that are critical to growth and shared prosperity. These connections complement each other.
- The depth of overall connections and the geographic composition of the connections both matter and emerge from firm linkages in global value chains as well as foreign ownership and management that generate local spillovers.
- Deep integration of countries into EU has generated important benefits to growth through knowledge transfers. Central Asia, Russia, and Turkey have benefited from regional connections as well, but the depth of connections is less pronounced.
- Increased connectivity can expose ECA countries to external shocks, particularly those emanating from countries at the center of international economic transactions.
- The remedy is not isolation—which sacrifices growth—but broadening the range of connections to reduce those risks and to cope with shocks

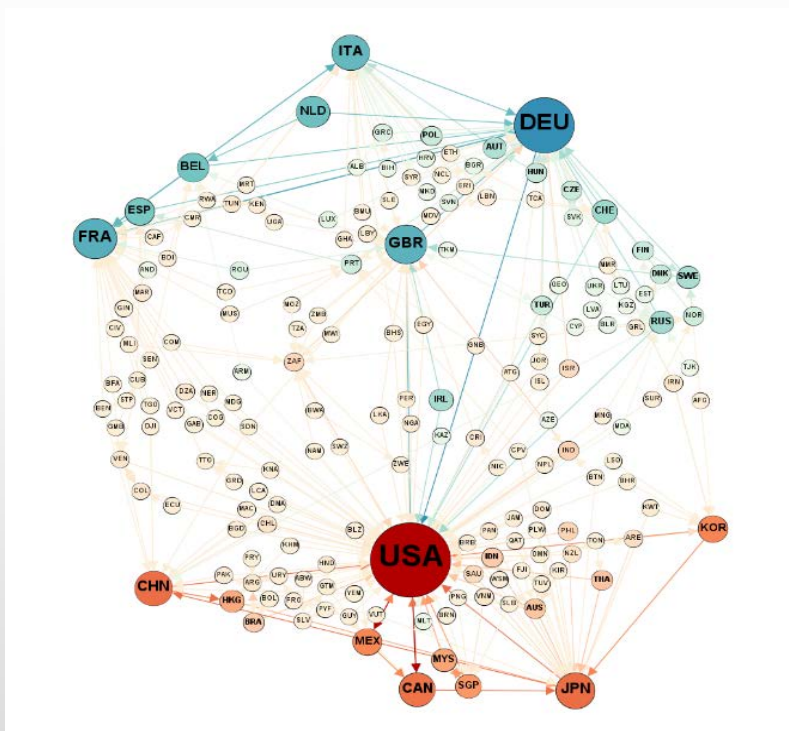


What does ECA's connectivity look like?

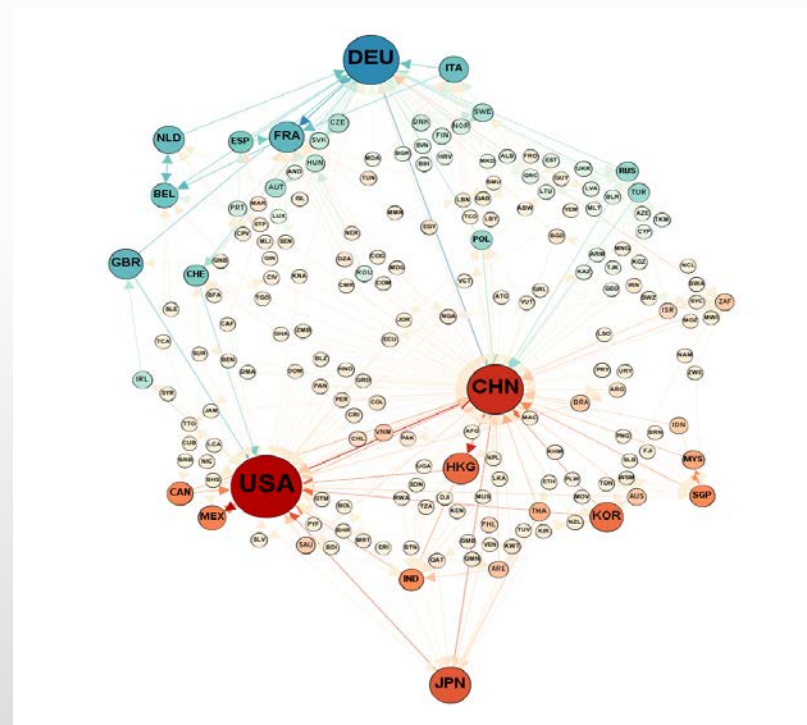
Trade has grown within ECA with Germany as the key hub, although China is taking a larger share

The size of each country-node reflects the total volume of trade. Each node has two outgoing links, which point to the country's two top export partners

2000



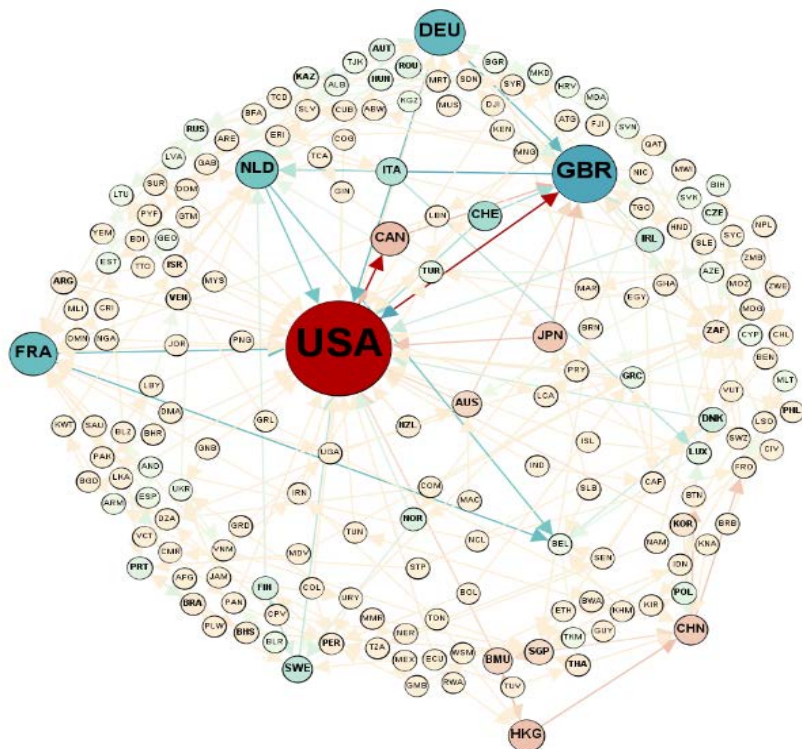
2014



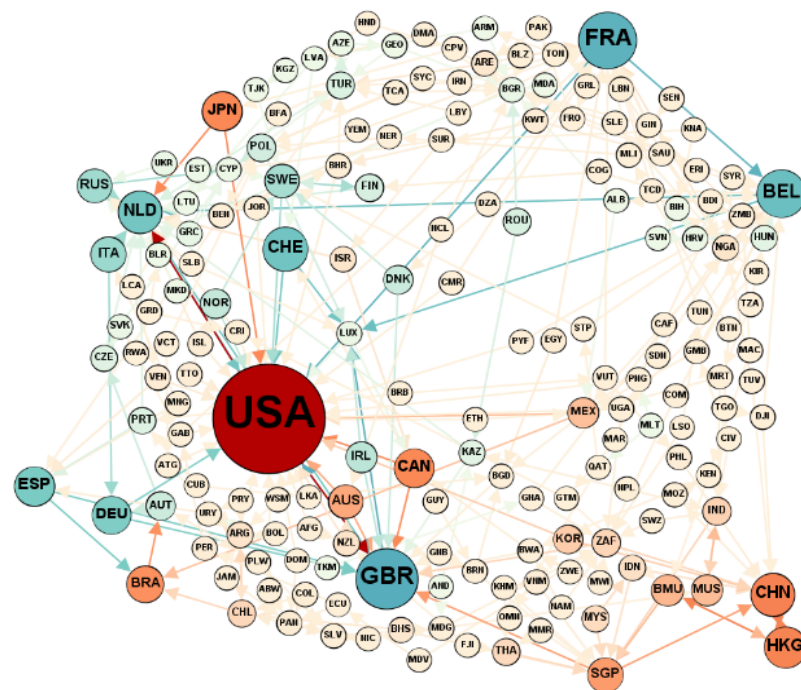
ECA's inward FDI has grown, but inflows have increased from outside the region

Total FDI stocks (incoming and outgoing) of the country. Each country has two outgoing links that point to the two main FDI destinations for each country

2002



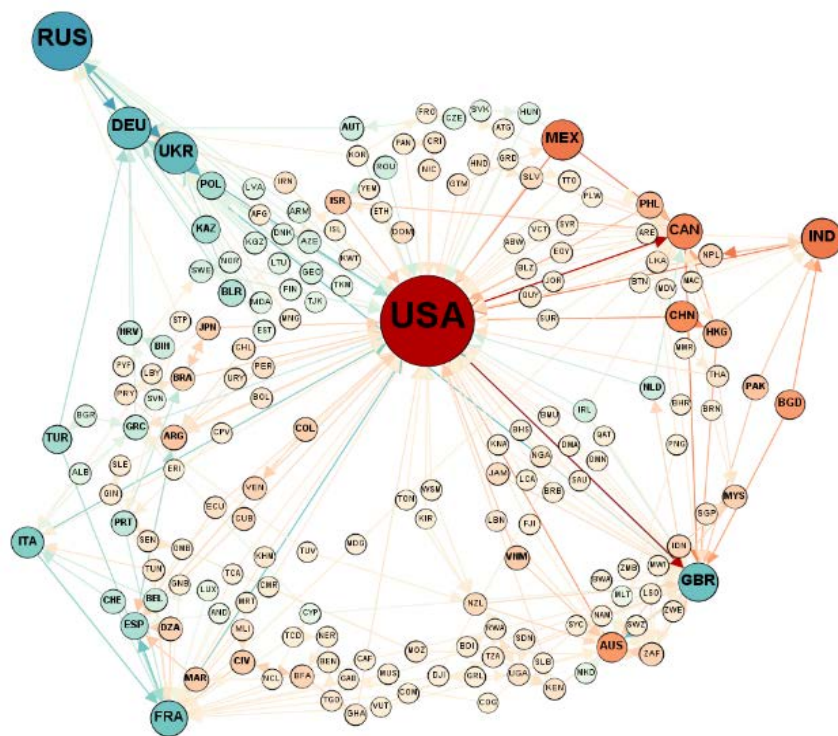
2012



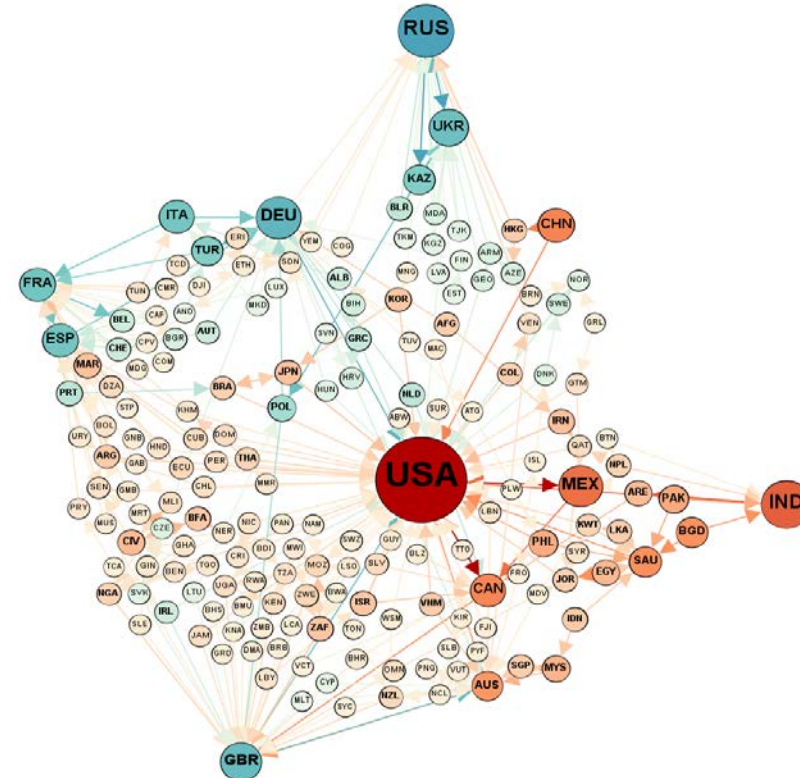
ECA's intra-regional migration has increased and is a larger share of global migration

Foreign-born individuals in country plus the number of native-born citizens living outside the country. Outgoing links are the largest destinations of each country

2000



2010



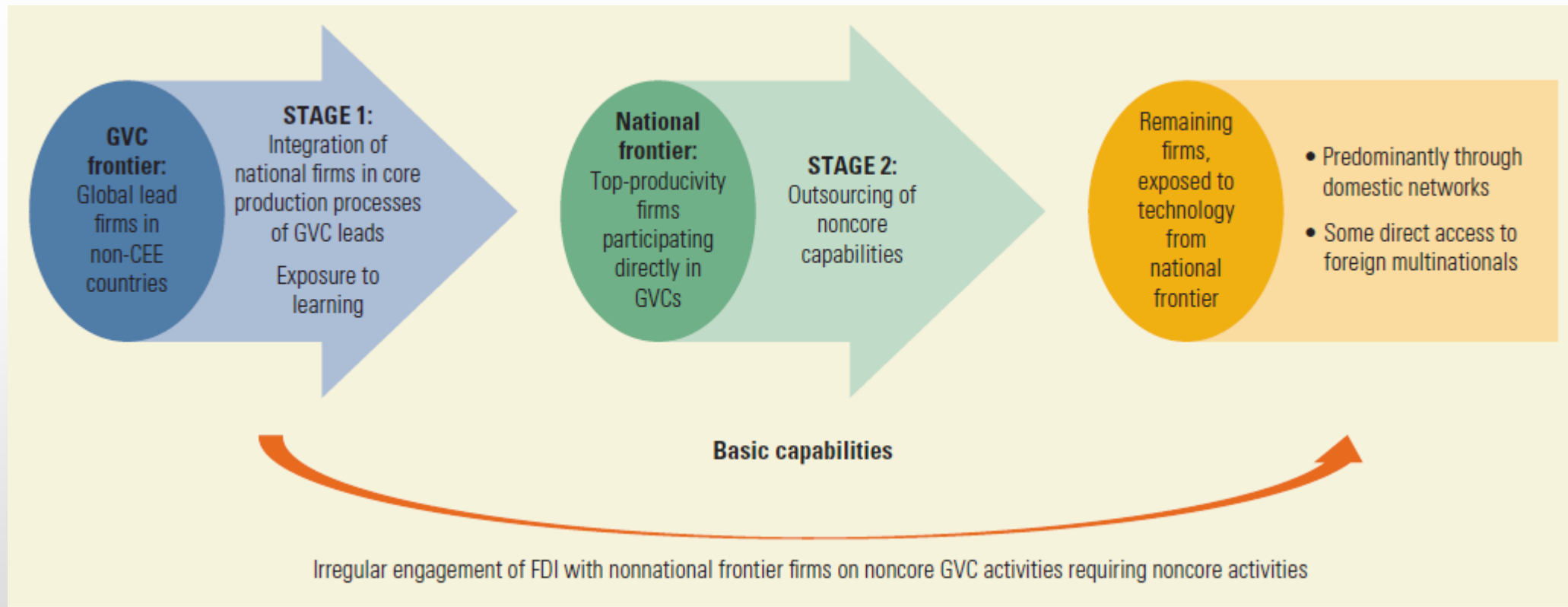


How do connections transfer knowledge?

The case of FDI and foreign management

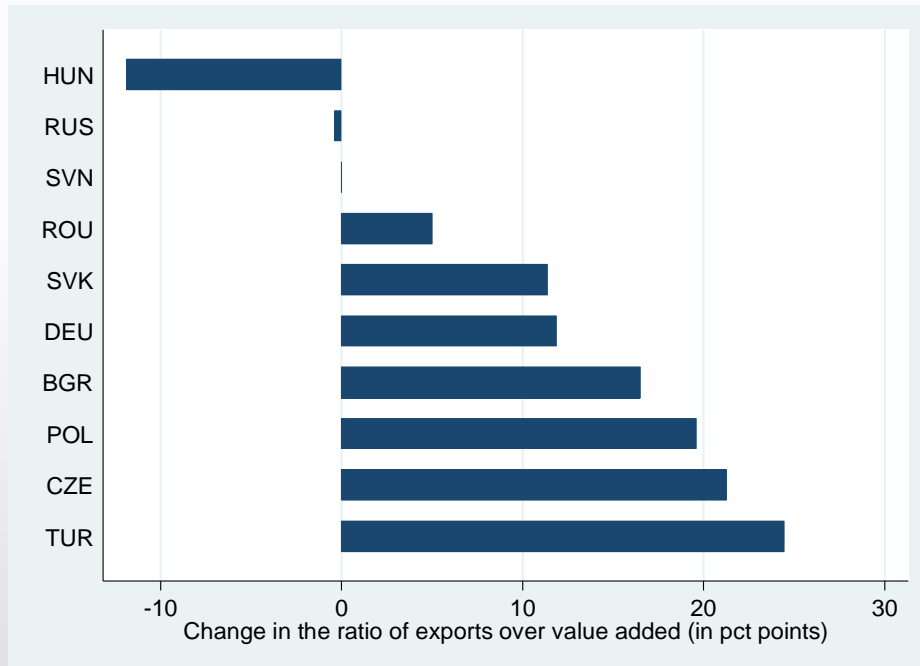
Process of knowledge transfer through firms

How technology flows from global frontier firms (GVC lead firms) to the rest of the ECA firms

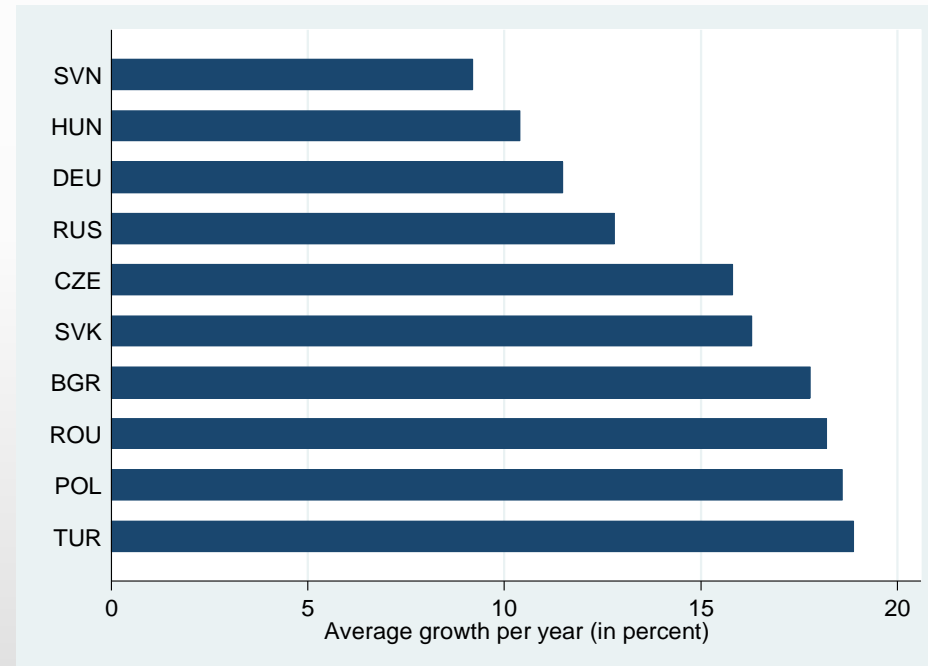


Greater participation in GVCs is associated with higher export value added

Growth in participation in supply chains
(2000-2011)



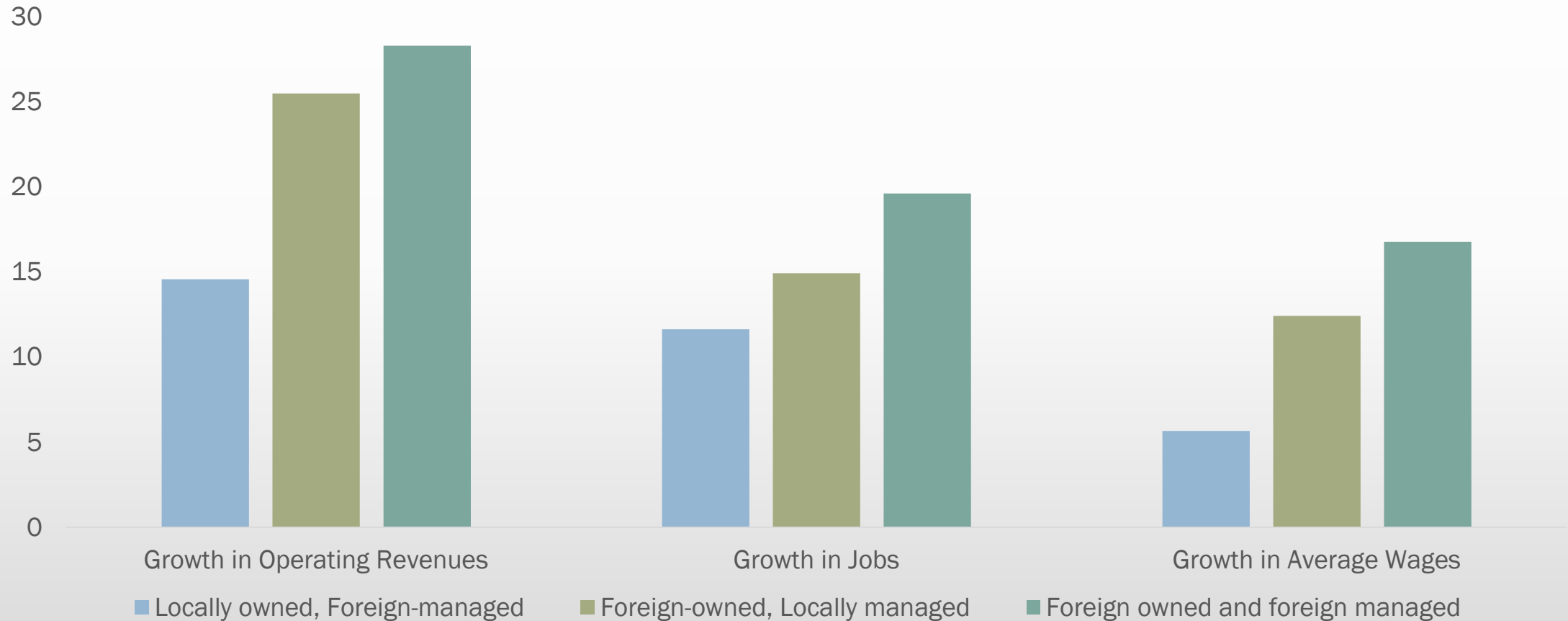
Exports of value added per country
(2000-2011)



Do foreign-owned and managed firms do better than domestic-owned and managed? Are there spillovers?

- Use firm-level data (Orbis) from ECA countries
- There is a wide variation in foreign ownership/management across ECA (UK and Ireland about 30%, Hungary almost zero)
- Foreign connections confer benefits to firms, allowing them to have higher growth in operating revenues, jobs, and average wages
- Foreign ownership is linked to better management practices that can be transmitted from host to home countries
- There are also spillover benefits to local firms

Foreign owned and managed firms perform better than local firms



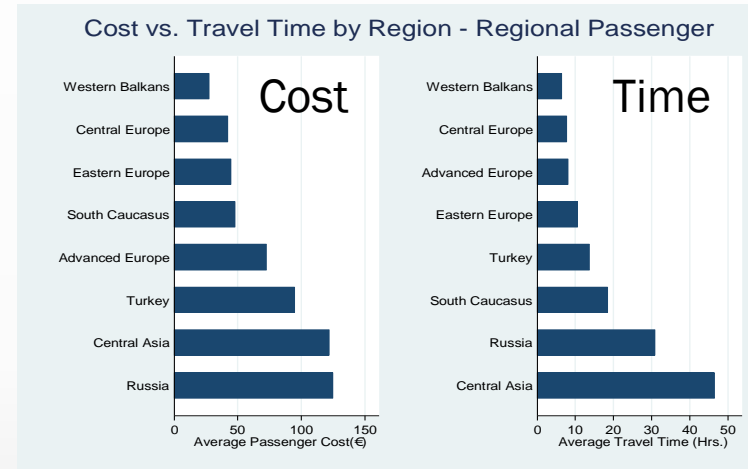
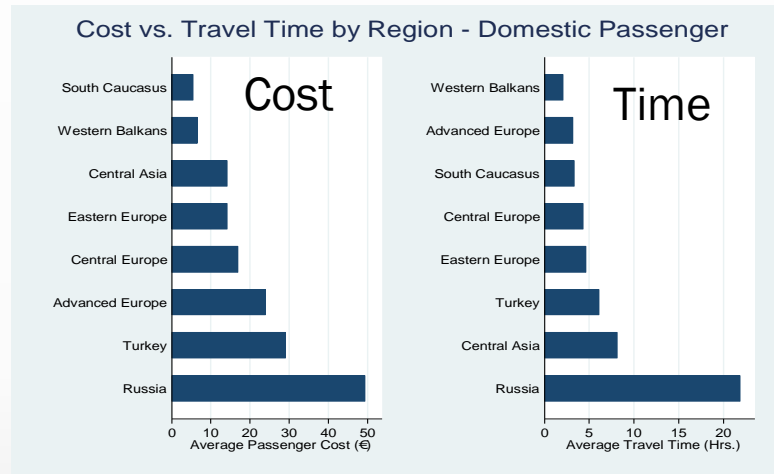


How is infrastructure facilitating connections?

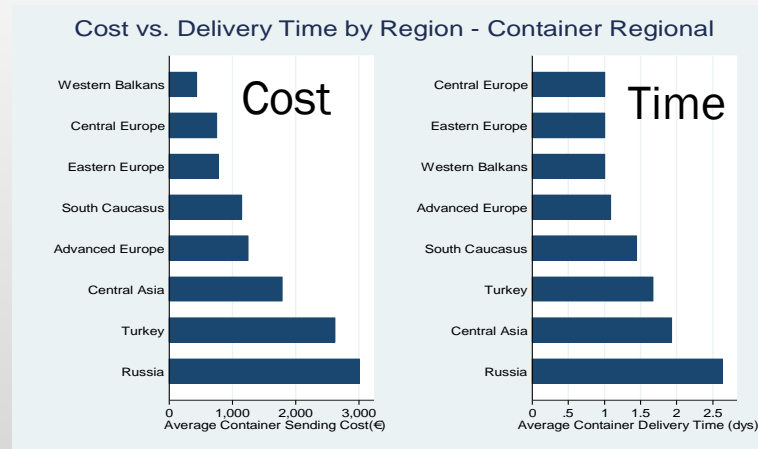
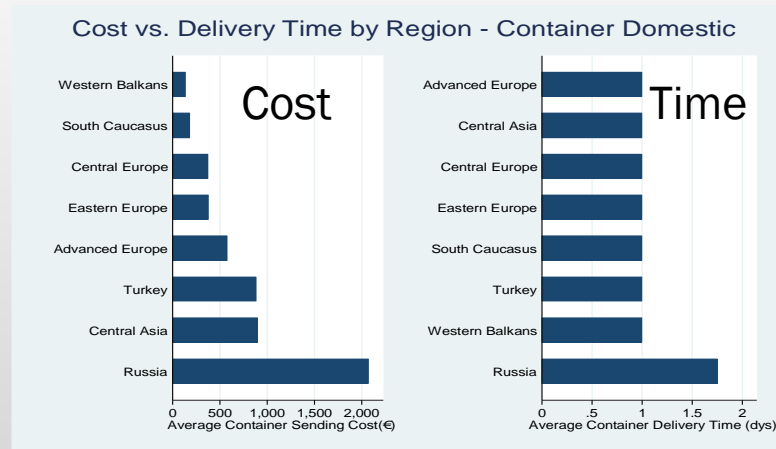
The case of ECA Transport Infrastructure

Transport connectivity (cost and time) between and within ECA countries varies across ECA

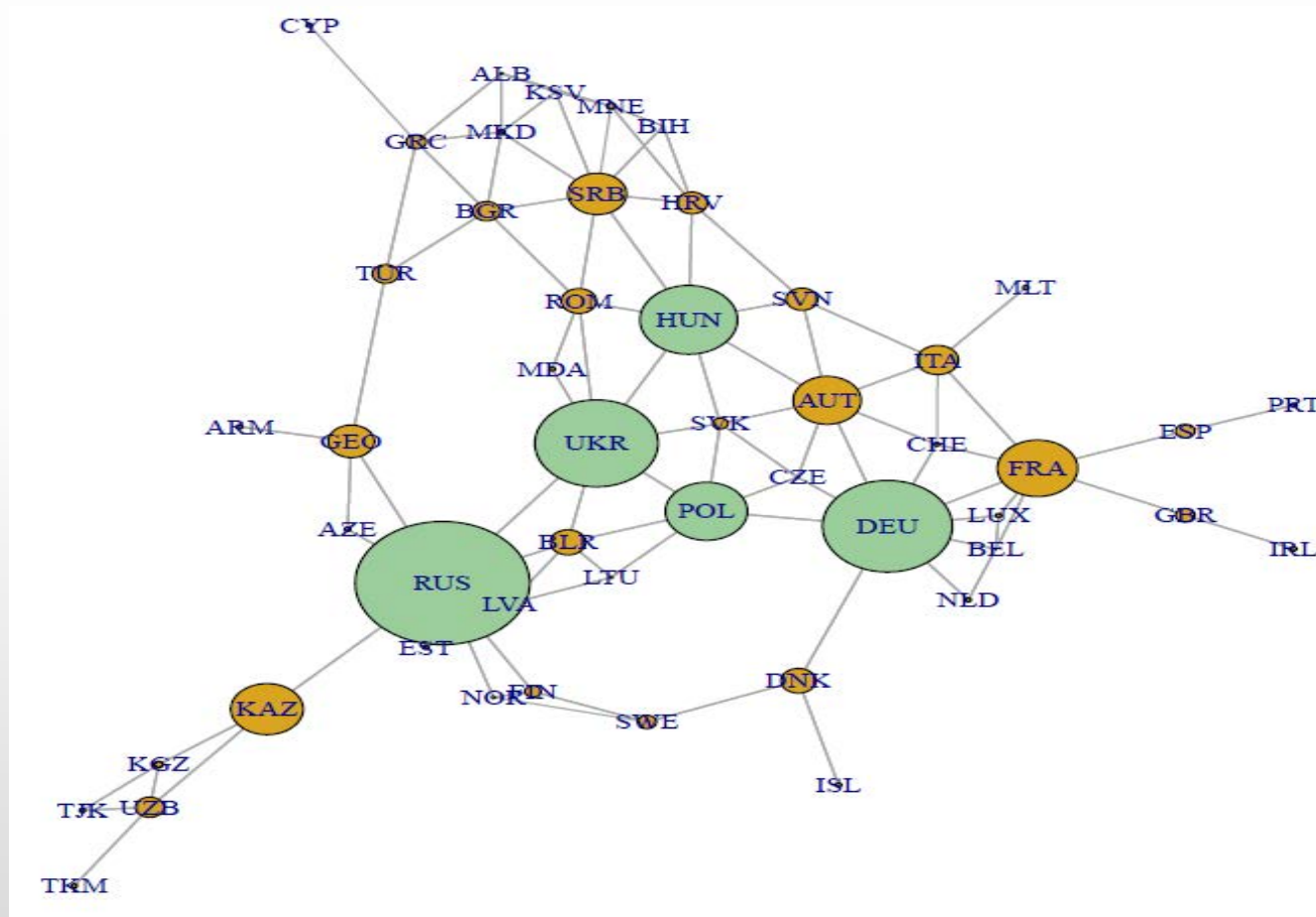
Passengers



Freight



Cost-driven criticality in network of containers for Europe and Central Asia



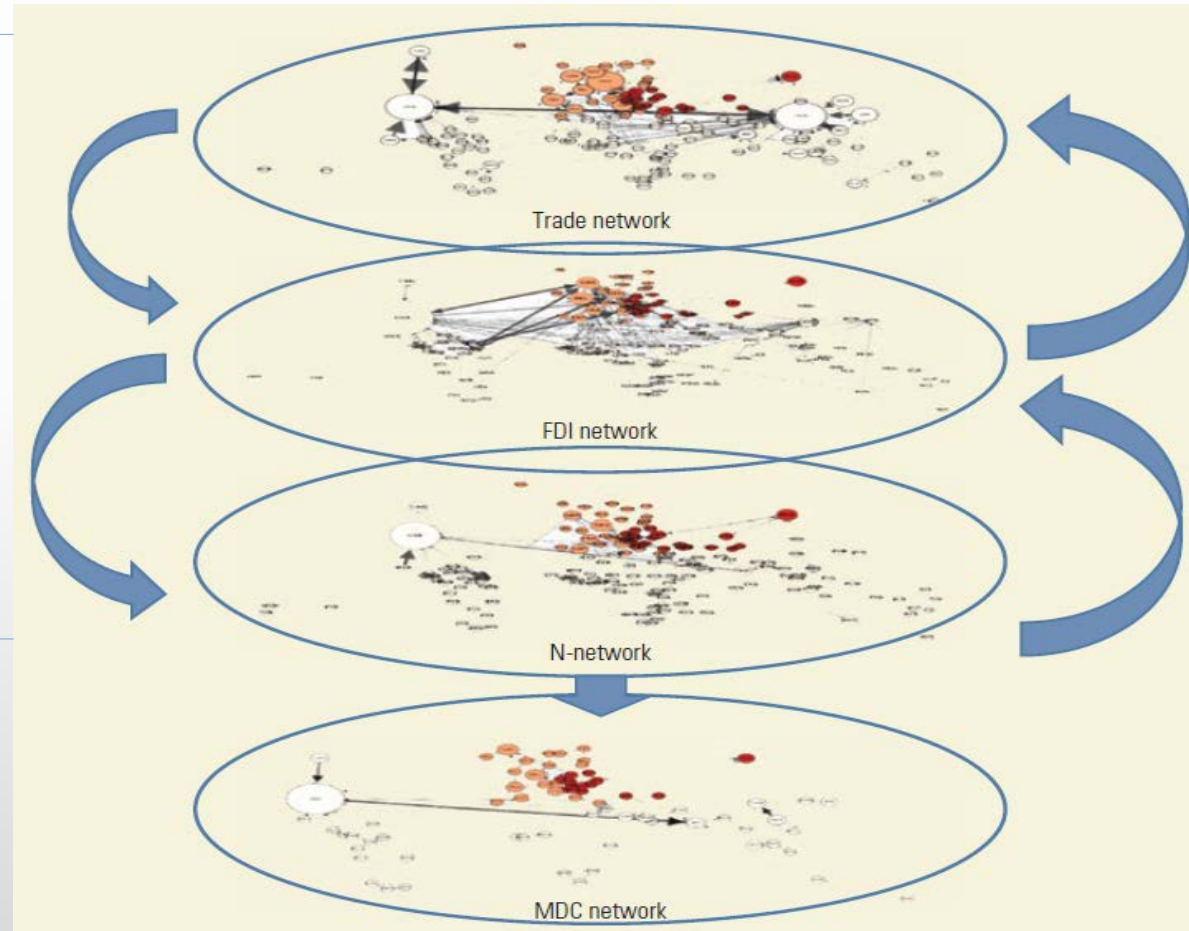


What is Multidimensional Connectivity and its impact on growth?

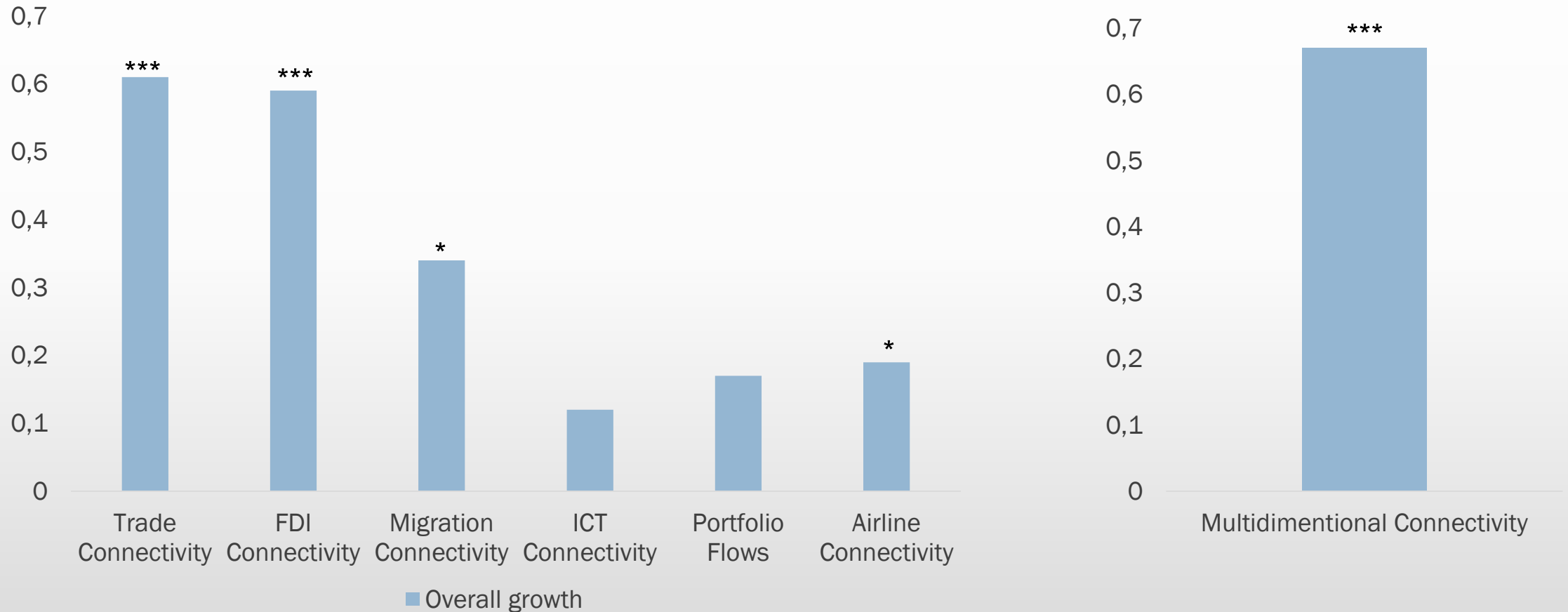
Intuition behind Multidimensional Connectivity

Individual network layers
are related to each other

Multidimensional Network
(collapsed)



Empirical Results of Individual Connections on Growth



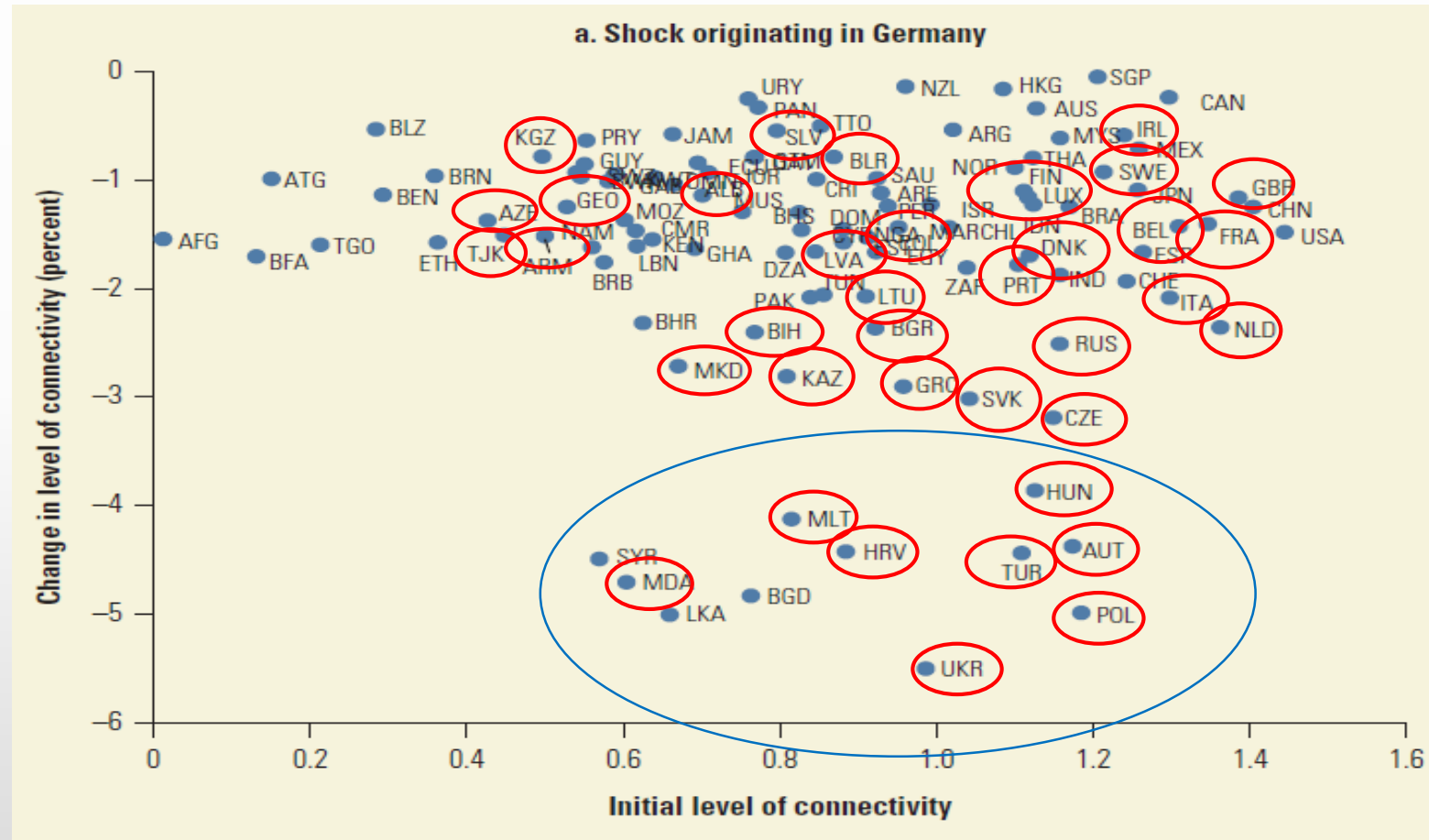
Multidimensional connectivity varies by ECA-subregion, with the highest connectivity in the western part of the region, and lowest connectivity in the eastern part of the region

ECA Sub-regions	Multidimensional connectivity	Trade	FDI	Migration	ICT	Airline	Portfolio flows
Global ranking, from the best to worst in combined connectivity (lower is better)							
High connectivity							
Western Europe	6	6	6	9	9	15	19
Northern Europe	12	12	17	26	21	23	22
of which Baltics	30	28	36	38	50	28	21
Southern Europe	25	24	26	21	28	23	22
Central Europe	31	27	34	36	41	46	46
Medium Connectivity							
Russian Federation	55	53	61	28	63	64	83
Turkey	57	51	67	33	73	79	40
Eastern Europe	62	59	60	81	54	57	76
Low Connectivity							
Western Balkans	88	75	97	45	88	86	99
Central Asia	94	99	93	101	101	103	101
South Caucasus	104	104	102	64	104	104	93



Which countries are most affected by shocks?

Most effected countries are those that derive connectivity via one or a few countries—not necessarily the most connected



Transmission of shocks depends on which type of link is affected

ECA Region Affected	Largest origin countries of shocks due to a 10 percent shock in Trade, FDI and Migration		
	Trade Shock	FDI Shock	Migration Shock
Central Asia	Russia/China	Russia/China	Russia/Germany
Central Europe	Germany/ Netherlands	Germany/Austria	Germany/Austria
Western Balkans	Italy/Germany	Austria/Hungary	Italy/Germany
South Caucasus	Turkey/United States	Russia/Kazakhstan	Russia/Ukraine
Eastern Europe	Russia/Germany	Russia/Germany	Russia/Poland
Russia	Germany/United States	Germany/Switzerland	Germany/Ukraine
Turkey	Germany/Italy	Belgium/Netherlands	Germany/Netherlands
Southern Europe	Germany/France	Belgium/Netherlands	United Kingdom/Poland
Northern Europe	Germany/Netherlands	Belgium/Netherlands	Finland/Norway
Western Europe	Germany/Netherlands	Belgium/Netherlands	Italy/United Kingdom

Relative impact of Brexit (hypothetical) on the UK, EU, and others

(UK decreases all forms of connectivity with EU27 by 10%)

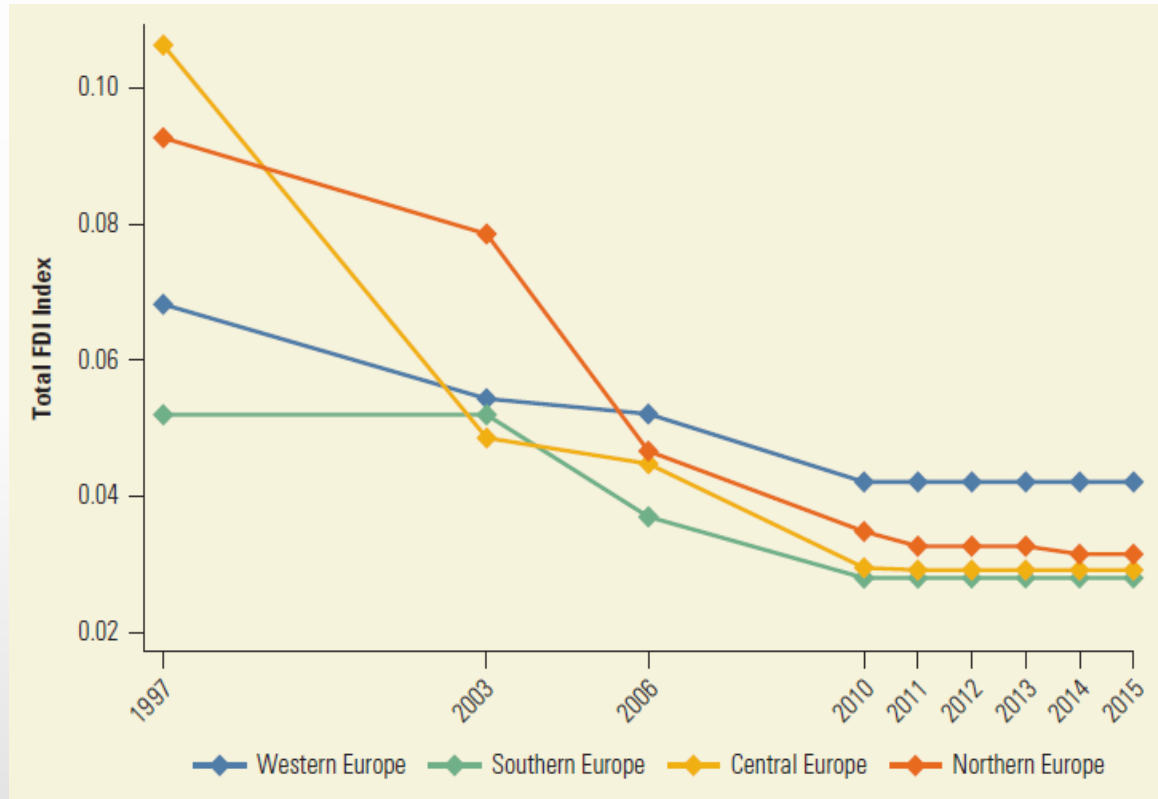
Most Affected (Ranking 1=largest impact)	
1. United Kingdom	15. Italy
2. Malta	16. Poland
3. Ireland	17. Germany
4. Cyprus	18. Latvia
5. Netherlands	19. Finland
6. Denmark	20. Hungary
7. Luxemburg	21. Czech Rep.
8. Sweden	22. Senegal
9. France	23. Libya
10. Spain	24. Surinam
11. Norway	25. Slovenia
12. Greece	26. Fiji
13. Portugal	27. Iceland
14. Belgium	28. Austria



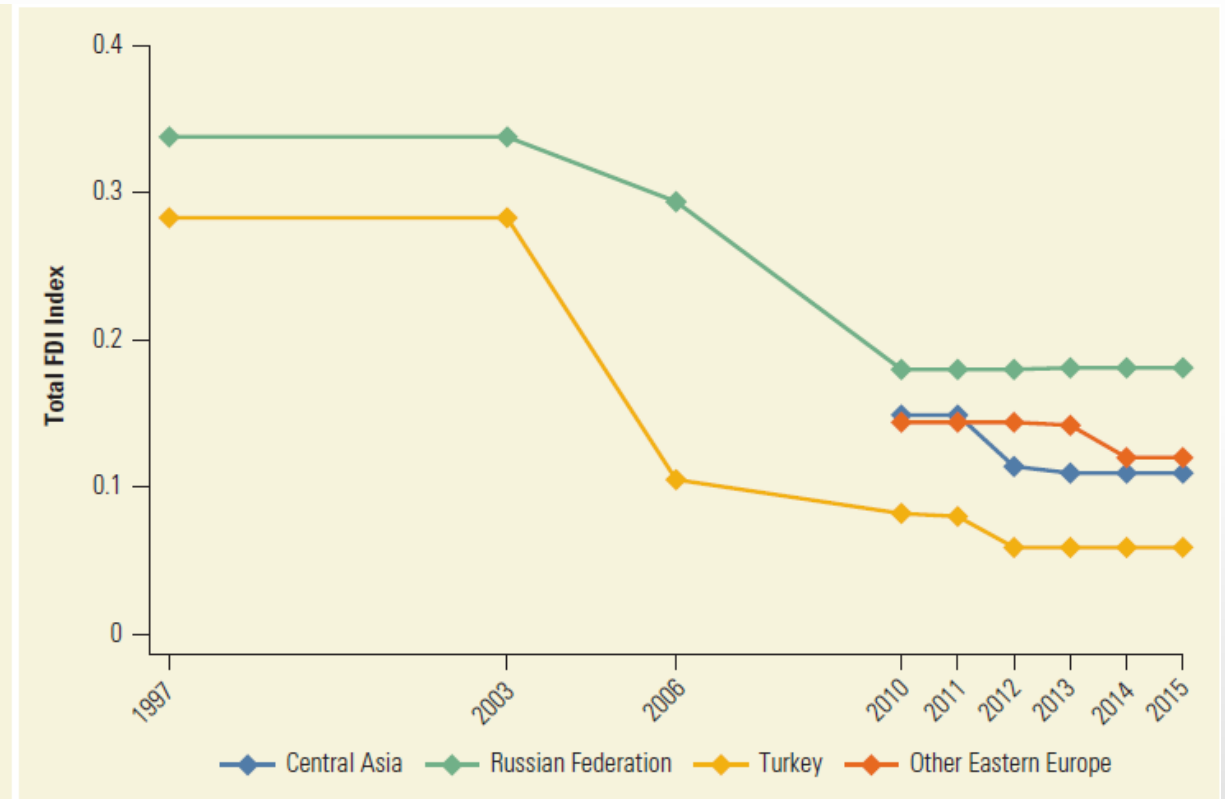
What is the progress on ECA connectivity policies?

Progress on lowering barriers has stalled

FDI restrictiveness index

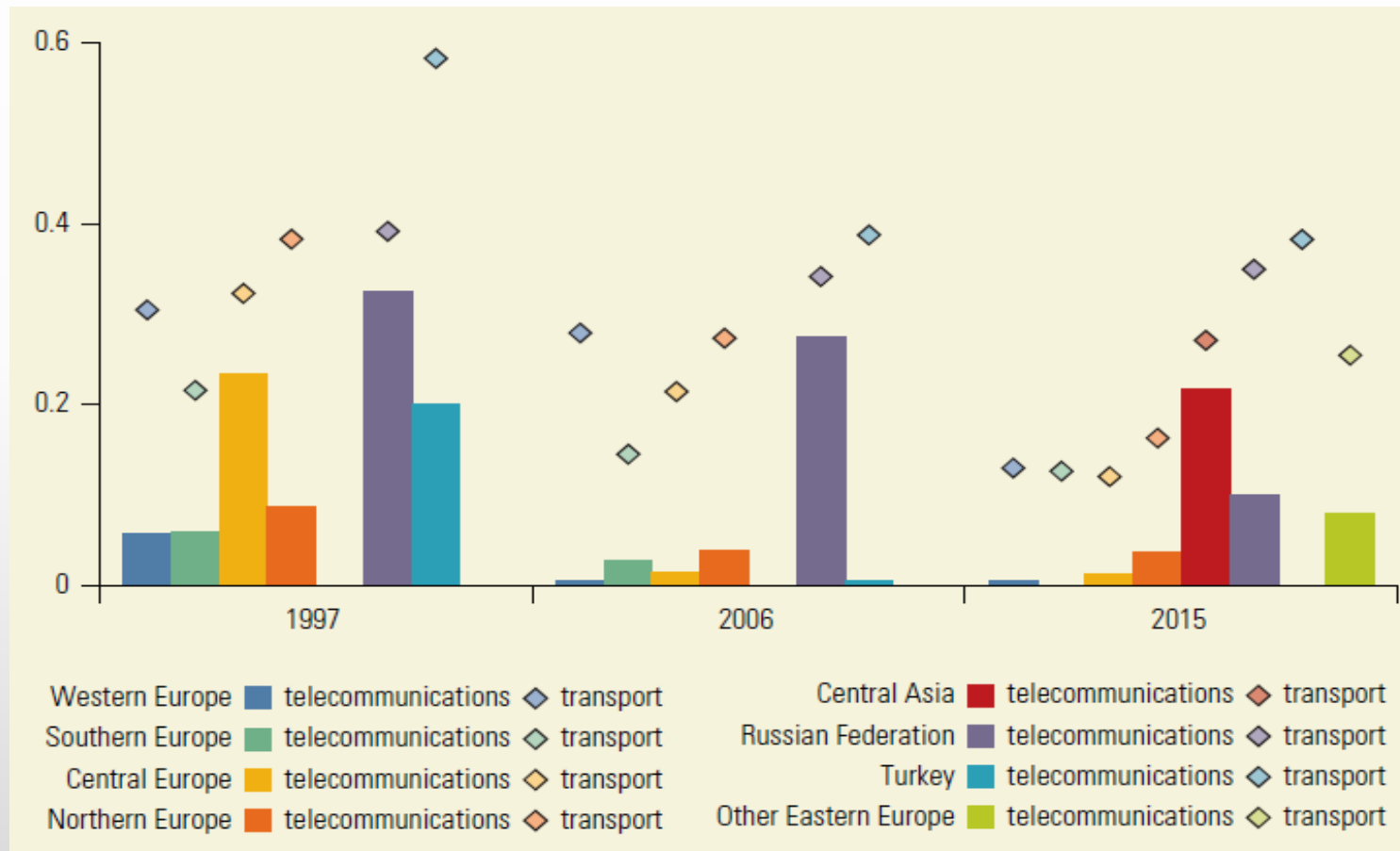


Note: ECA = Europe and Central Asia; FDIRRI = Foreign Direct Investment Regulatory Restrictiveness Index.

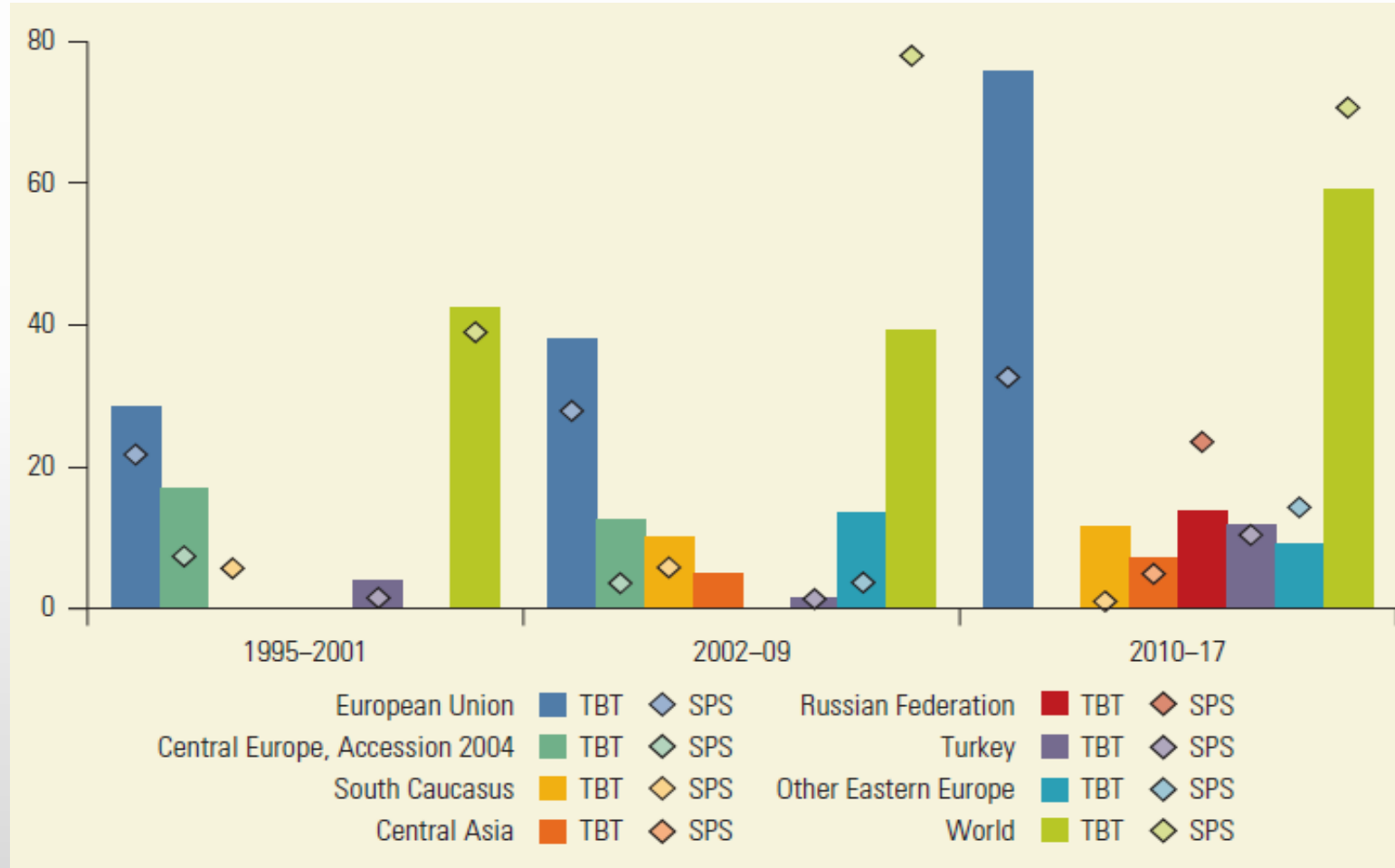


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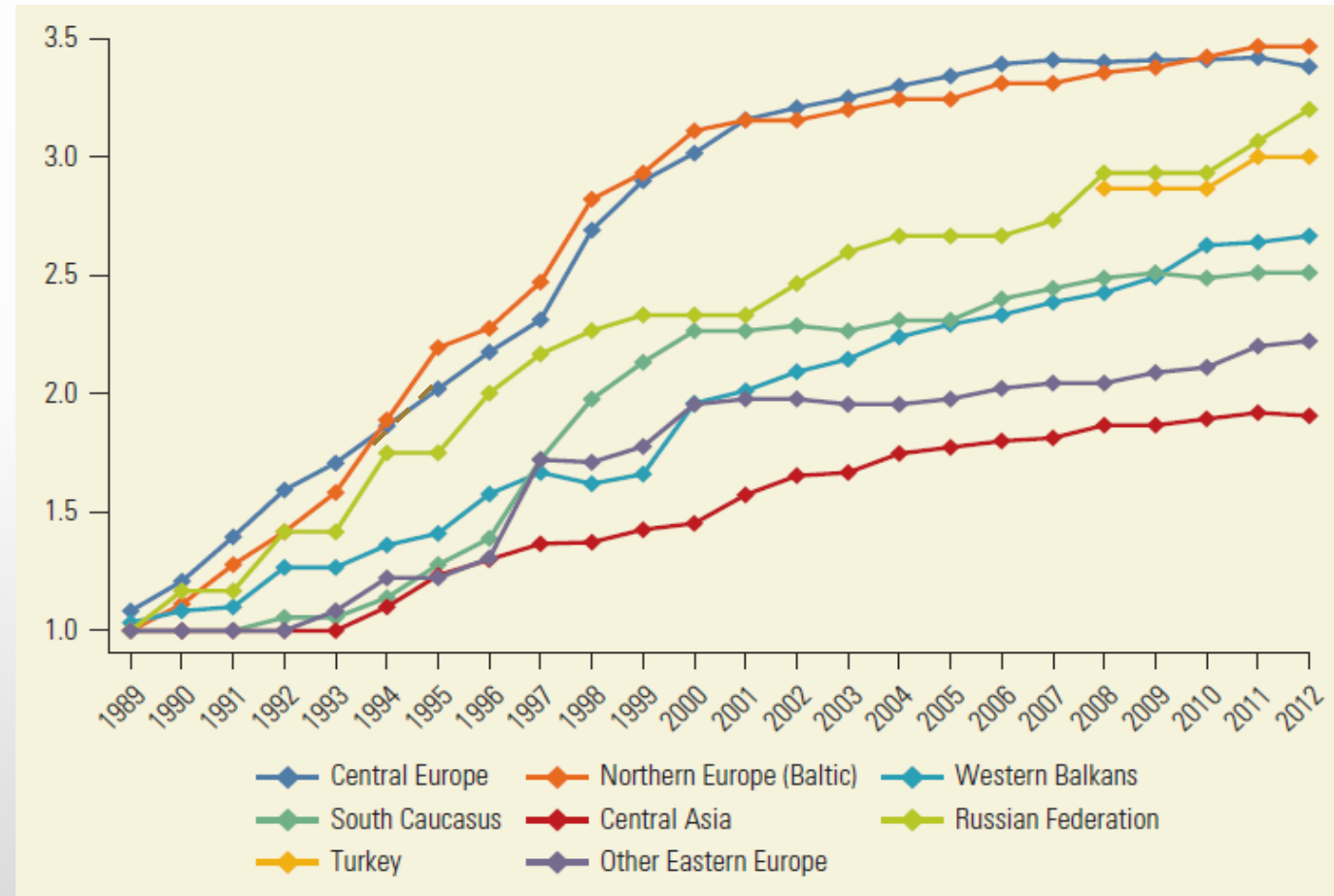
Restrictiveness in Telecom and Transport



Technical and sanitary and phytosanitary barriers are increasing



EBRD Infrastructure Indicators



Key messages

- Being well-connected in the global network of countries is important for long-run inclusive economic growth.
- Because of complementarities in types of connections, a balanced connectivity profile is more important than being well connected in a single dimension. Deep and comprehensive FTAs, BITs, migration policy, and transport are a way to achieve this.
- Increased connectivity can expose ECA countries to external shocks, particularly those emanating from countries at the center of international economic transactions.
- The remedy is not isolation—which sacrifices growth—but broadening the range of connections to reduce those risks and to cope with shocks.



Thank you!