

“The development and future of Factory Asia”

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RIETI seminar: *Ideas for a research agenda*

4 December 2013, Tokyo

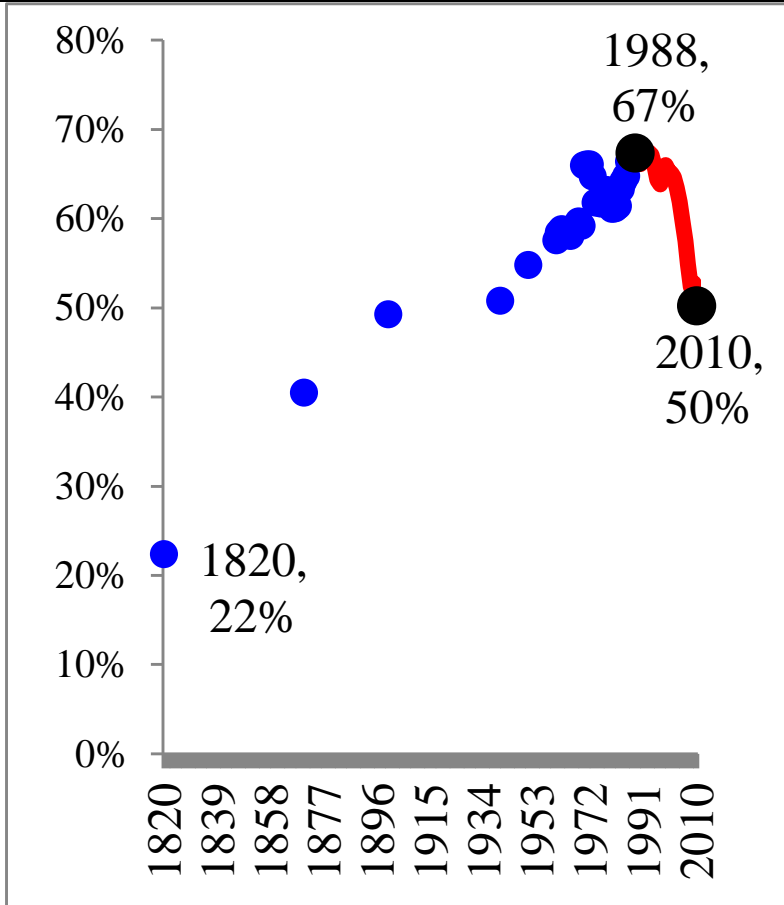
Overarching question

- How to make global value chains (GVC) work for developing nations?
- Study Factory Asia = best example.

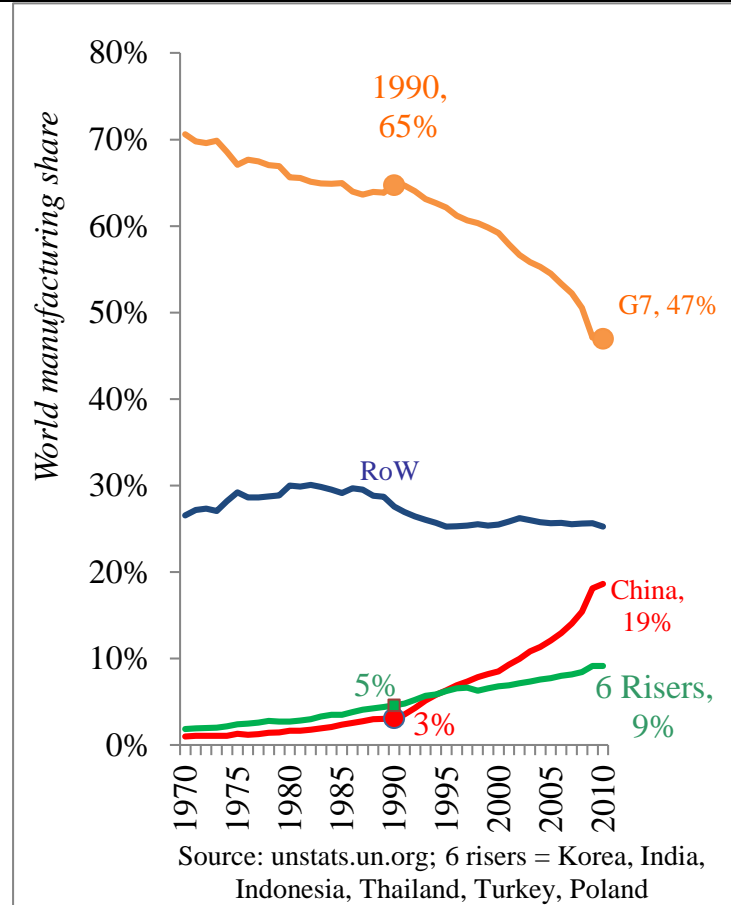
Some background

- Globalisation changed
- Today's process should not be studied using only 20th century tools.
- KEY change:
 - “De-nationalisation of comparative advantage”

Globalisation changed

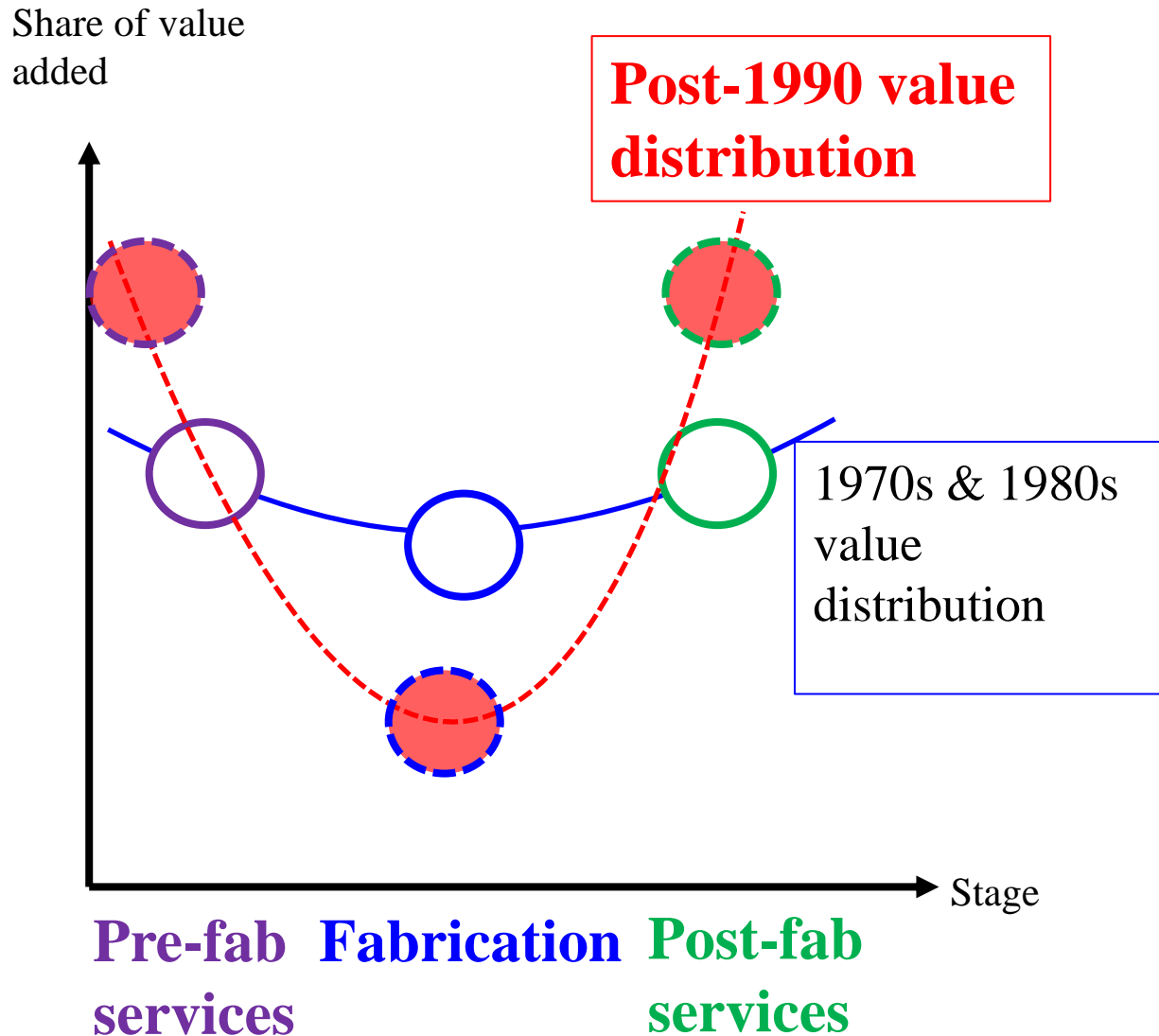


G7 nations' share of global GDP, 1820 – 2010.

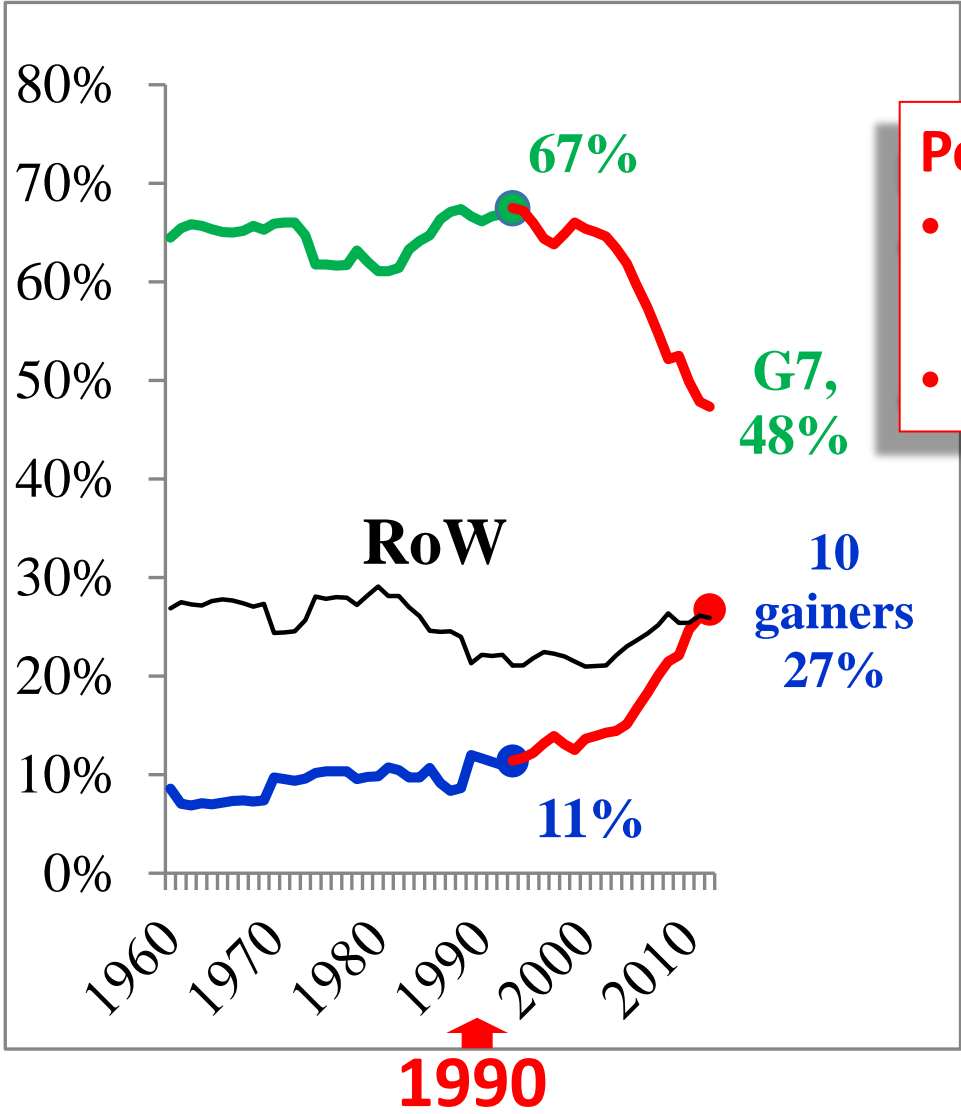


G7 nations' share of global manufacturing, 1970 – 2010.

'Smile curve': Distribution of value



Global GDP shares, 1960-2012

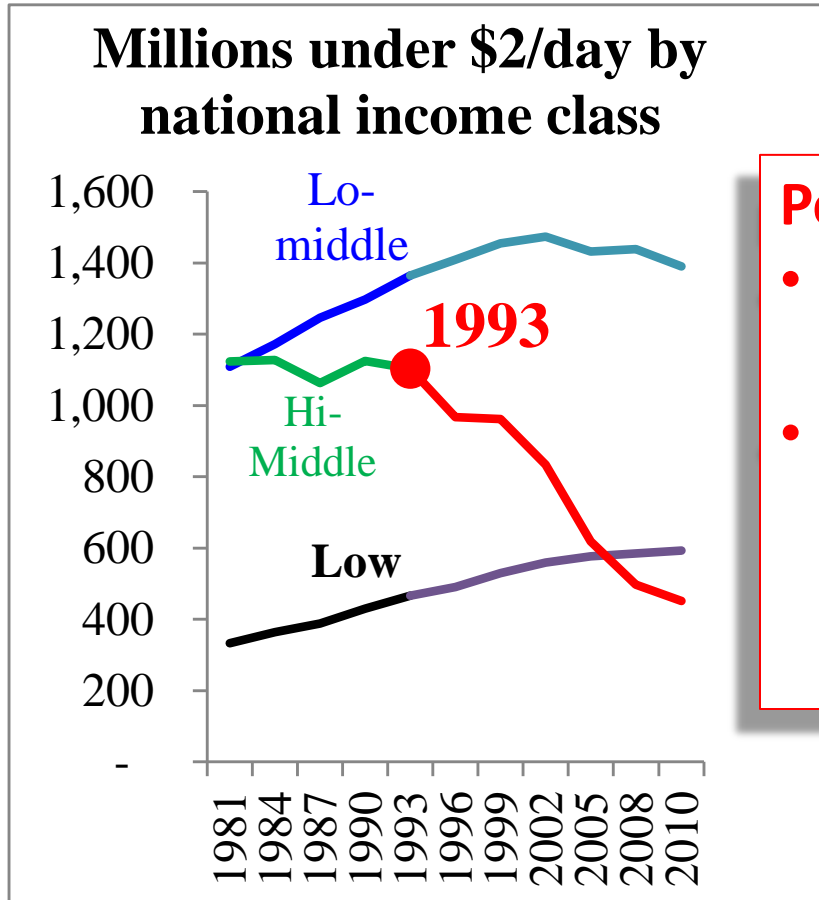


Post-1990:

- G7 share loss goes to 10 developing nations.
- RoW see little change.

China, Brazil, Mexico, Poland, India, Turkey, Russia, Korea, Indonesia, Venezuela

People in poverty (under \$2/day)



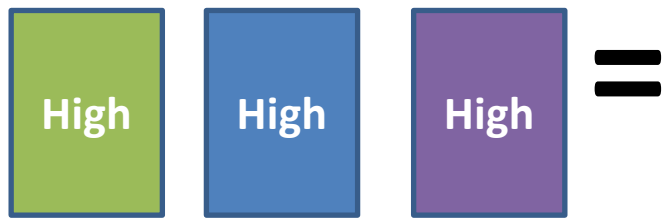
Post 1993

- Hi-middle poverty plummets.
 - 650 million fewer poor!
- Others' poverty keeps rising.

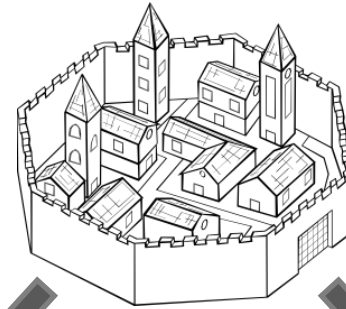
↑
1990

Globalisation: 3 cascading constraints

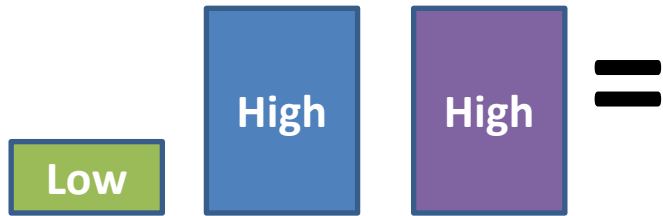
Goods trade costs
Communication costs
Face2Face costs



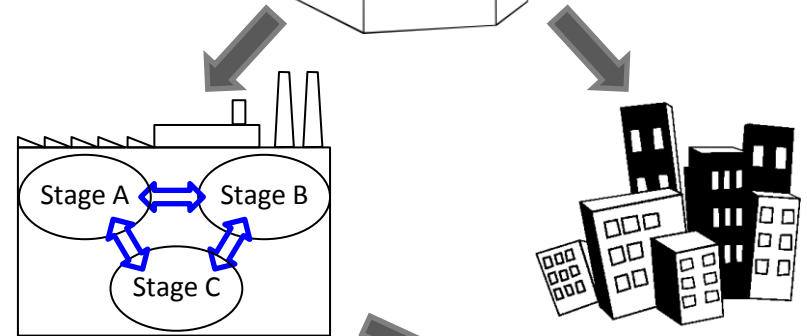
Pre-globalised world



Steam revolution



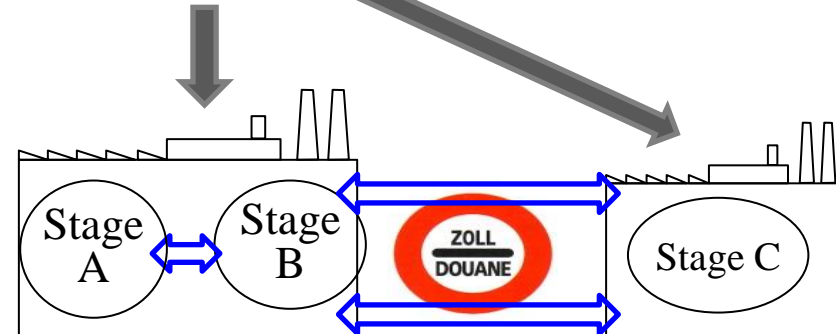
1st unbundling



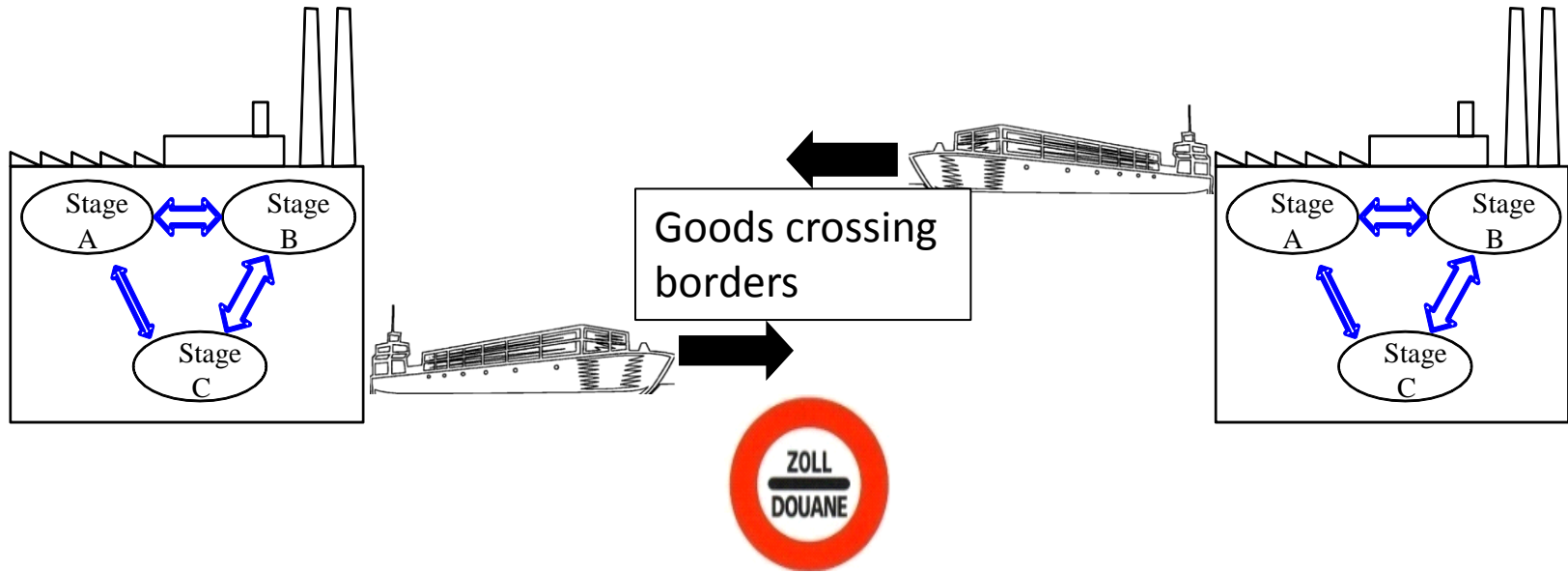
ICT revolution



2nd unbundling

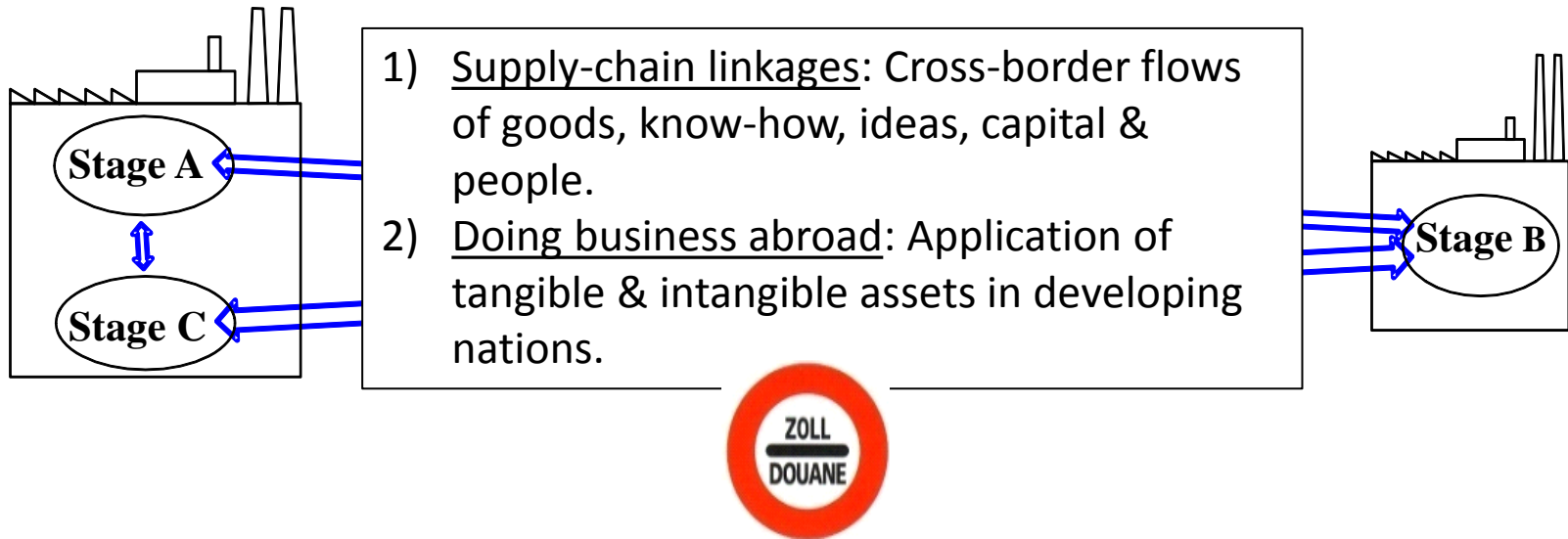


20th century comparative advantage



- Goods = 'bundle' on national knowhow, labour, capital, institutions, etc.
- National economies only connected via competition in goods markets.

21st century comparative advantage



- Goods = mixture of national knowhow, labour, capital, institutions, etc. (e.g. hi-tech + low wages).
- National economies connected via much richer flows: knowhow, goods, services, people, capital, etc.

Why it matters

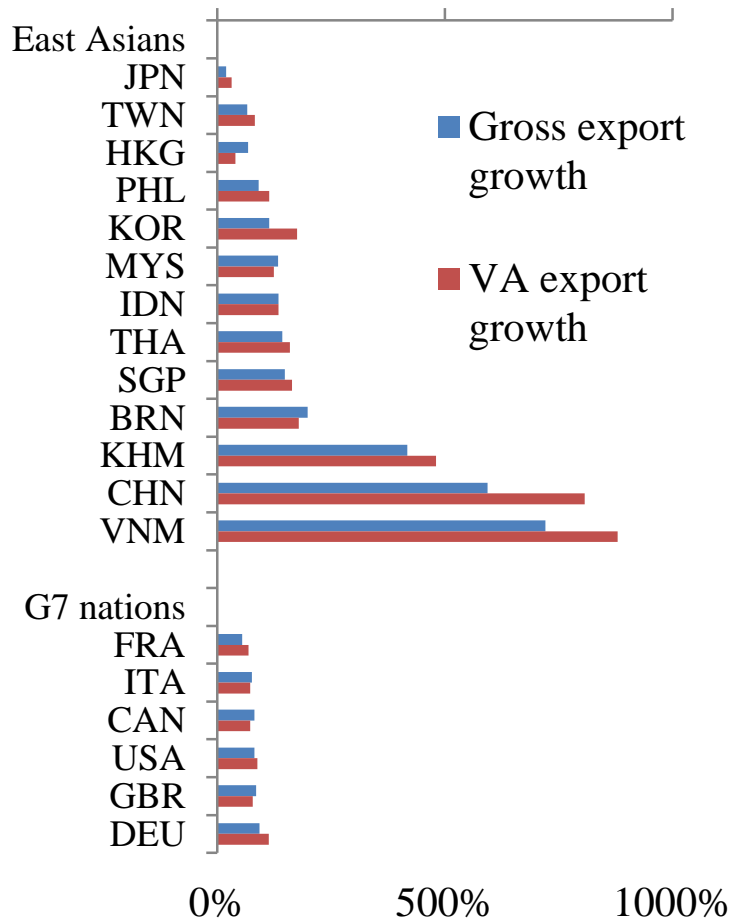
- OLD: Study national performance looking at national factors.
 - ‘Team Japan’ versus ‘Team Germany’
 - ⇒ Regress growth/exports/etc on national right-hand side variables.
- NEW: Study national performance looking at regional and national factors.
 - ‘Factory Asia’ versus ‘Factory North America’
 - ⇒ Regress growth/exports/etc on national & regional right-hand side variables and/or allow interactions depending upon supply-chain exposure.

First steps in study GVC and development

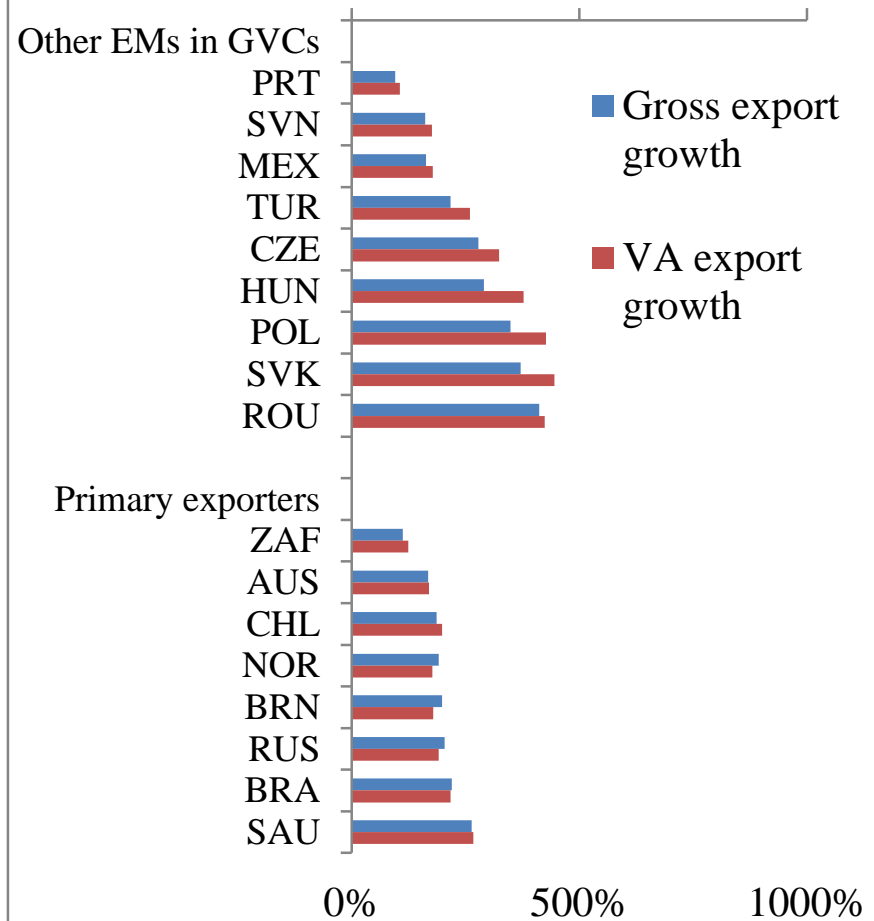
- Shifting resources to trade sectors is pro-development.
- Growth in value added exports is one measure of this.
- First axis of investigation:
 - Is rapid value-added export growth related to supply-chain participation?

Value added v. Gross exports

Total export growth, 1995-2009



Total export growth, 1995-2009



Special interest of VA exports

- Indirectly measures growth in domestic resources in trade sector (worldclass).
- Close to many development mechanisms:
 - Technology adoption;
 - Skill upgrading;
 - Formation of domestic industrial capacities:
 - Human, institutional, infrastructure, etc.

How measure supply chain participation?

- TiVa has several; many more construct-able.
 - FVA (Foreign Value Added share)
 - REI (Reexported intermediates)
- REI seems to work better.

First look at relationship

Hope

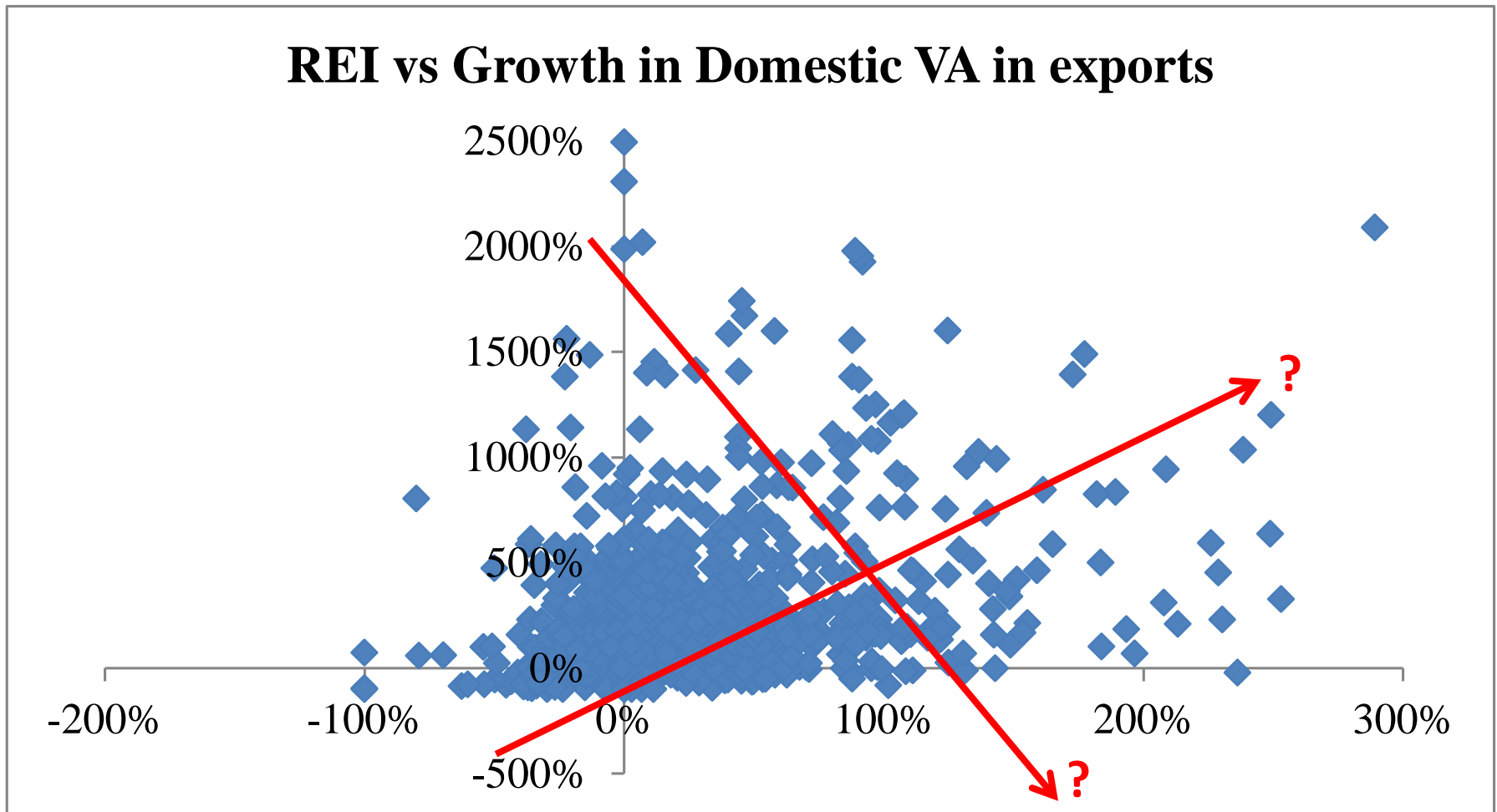
- Faster domestic value-added export growth correlated with faster REI growth.
- Plot vertical axis = Growth in domestic value added in exports
- Plot horizontal axis = Growth in REI trade (supply-chain participation)

Data

- Plot all nations, all 18 goods sectors.
- Growth from 1995 to 2009.

Little correlation

REI vs Growth in Domestic VA in exports



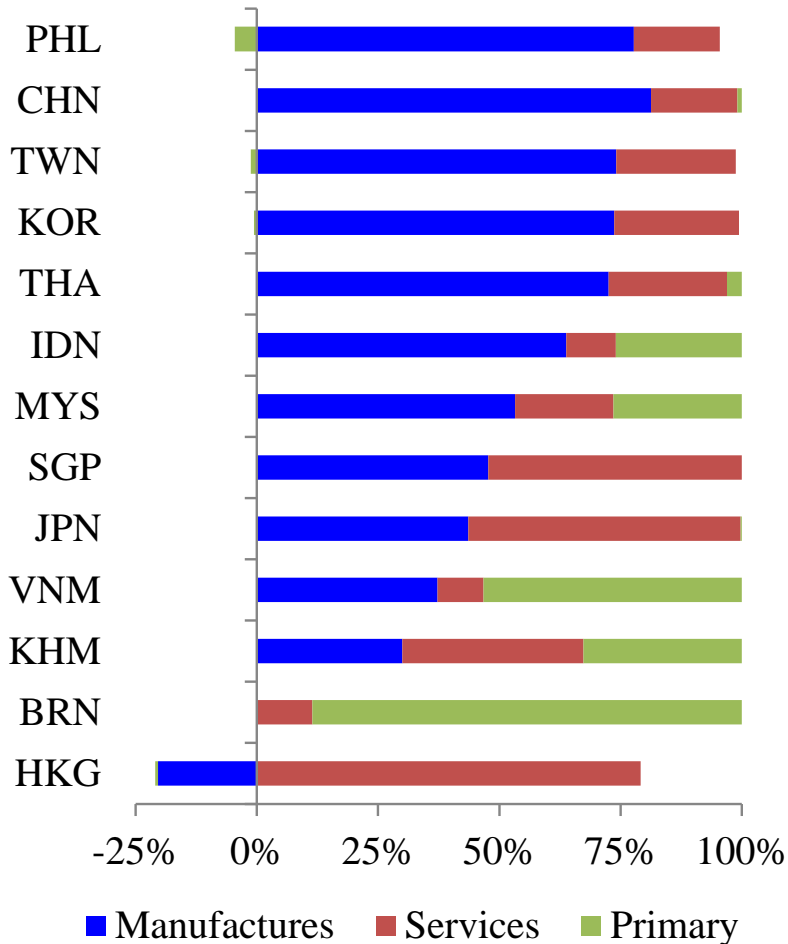
But theory to rescue

- The correlation should depend upon:
 - Nations:
 - Headquarter v factory economies
 - Primary-resource exporters v manufactures exporters
 - Sectors:
 - GVC sectors (mech & elec machinery, chemicals, etc)
 - nonGVC sectors

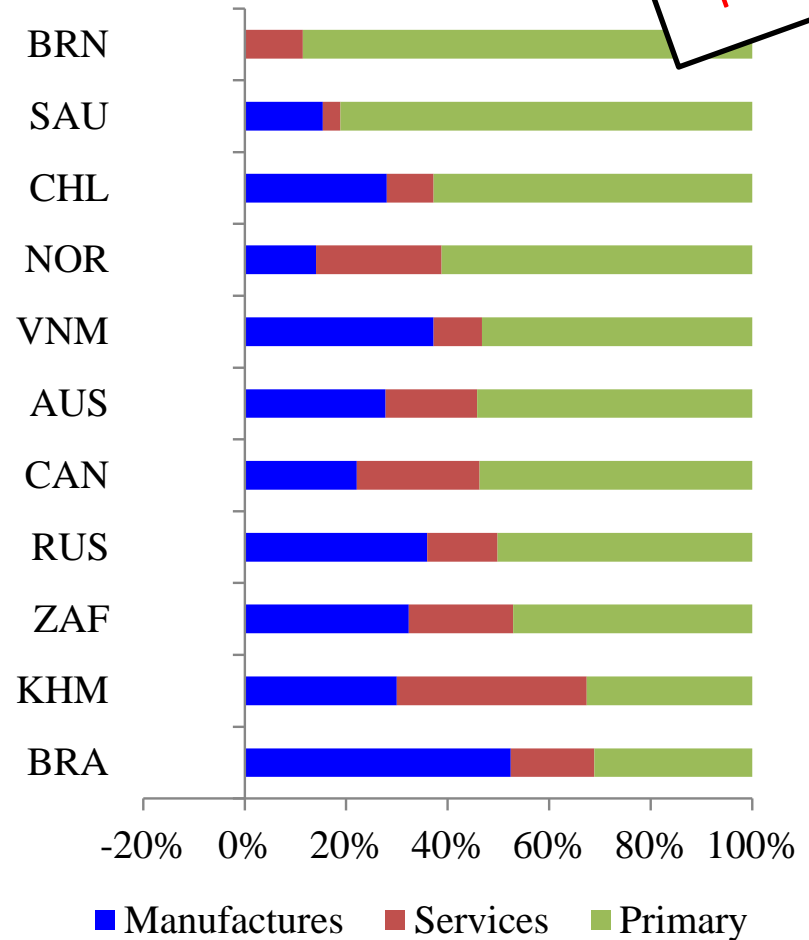
Thinking about nation groups

East Asia

VA export growth composition, 1995 to 2009



VA export growth composition, 1995 to 2009



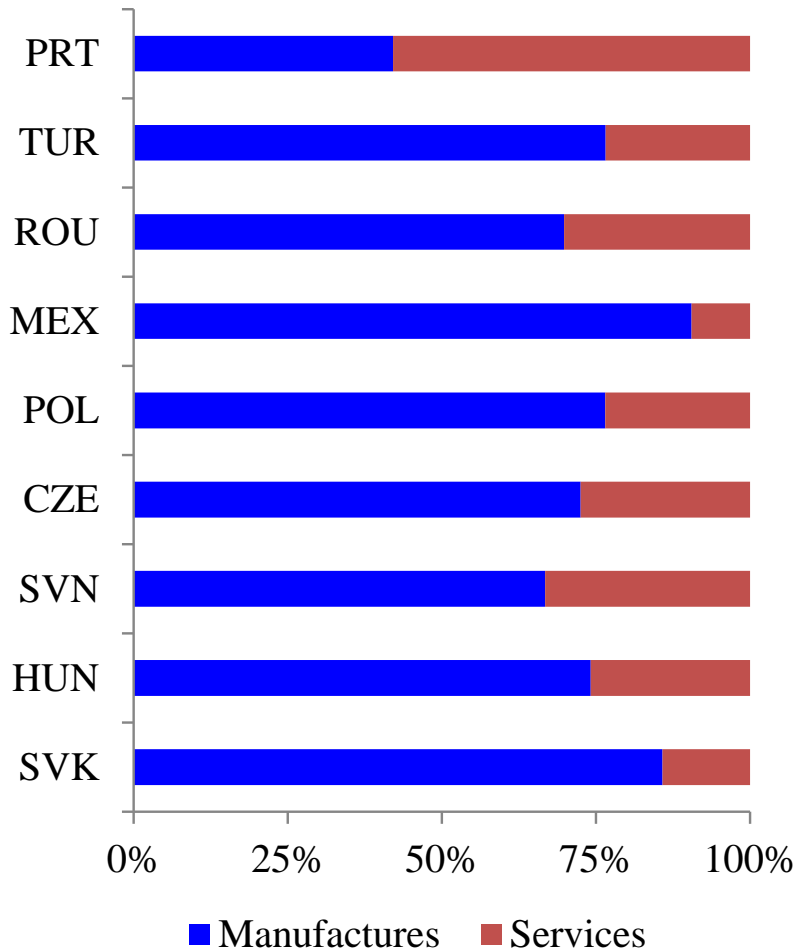
Primary

Thinking about nation groups

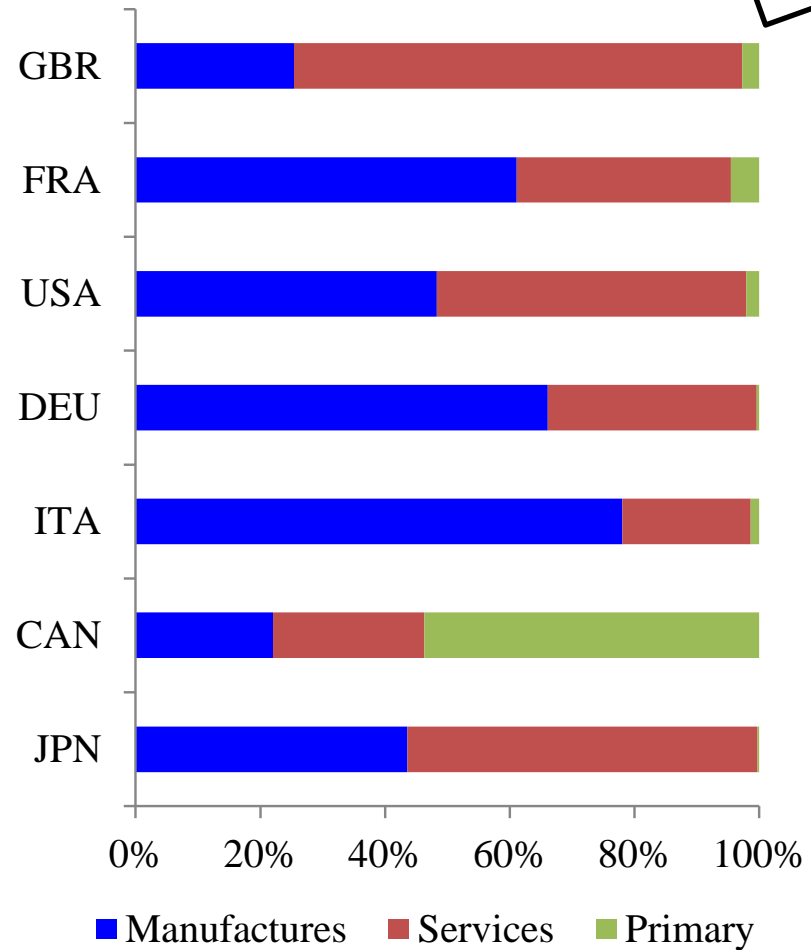
Other supply-chain traders

G7

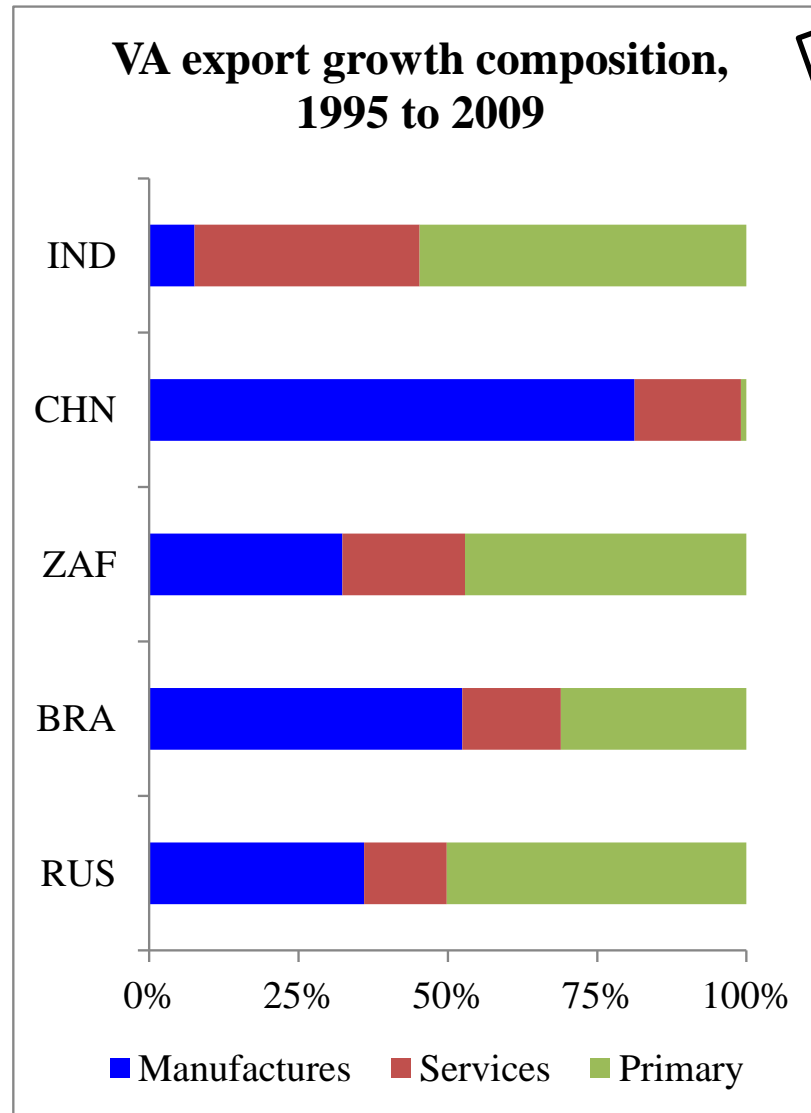
Other supply-chain traders export growth composition, 1995 to 2009



VA export growth composition, 1995 to 2009

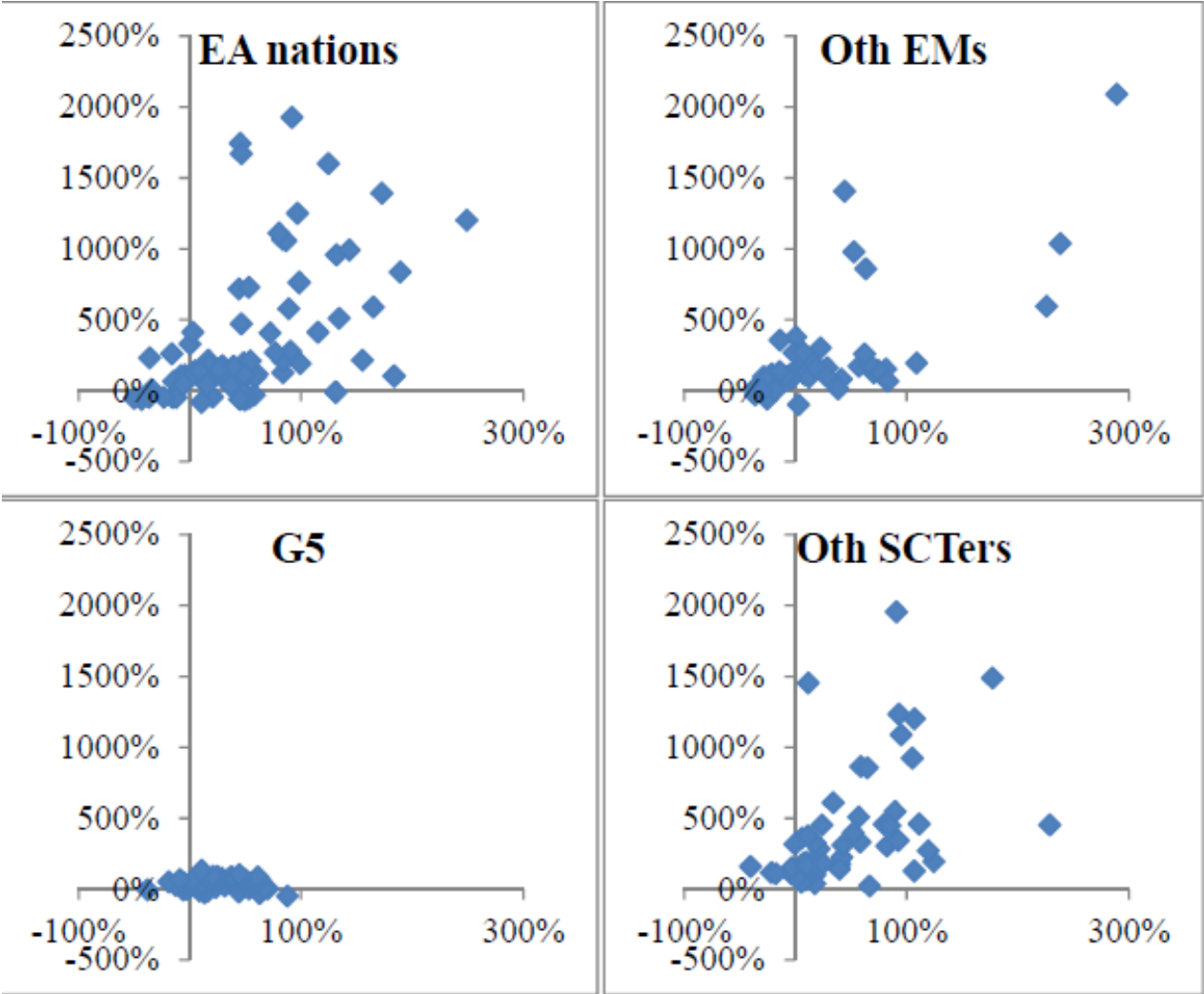


Aside: BRICS asunder

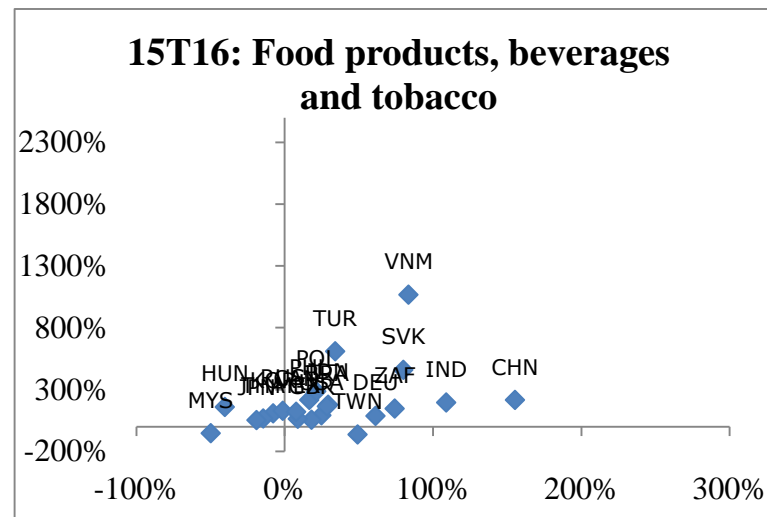
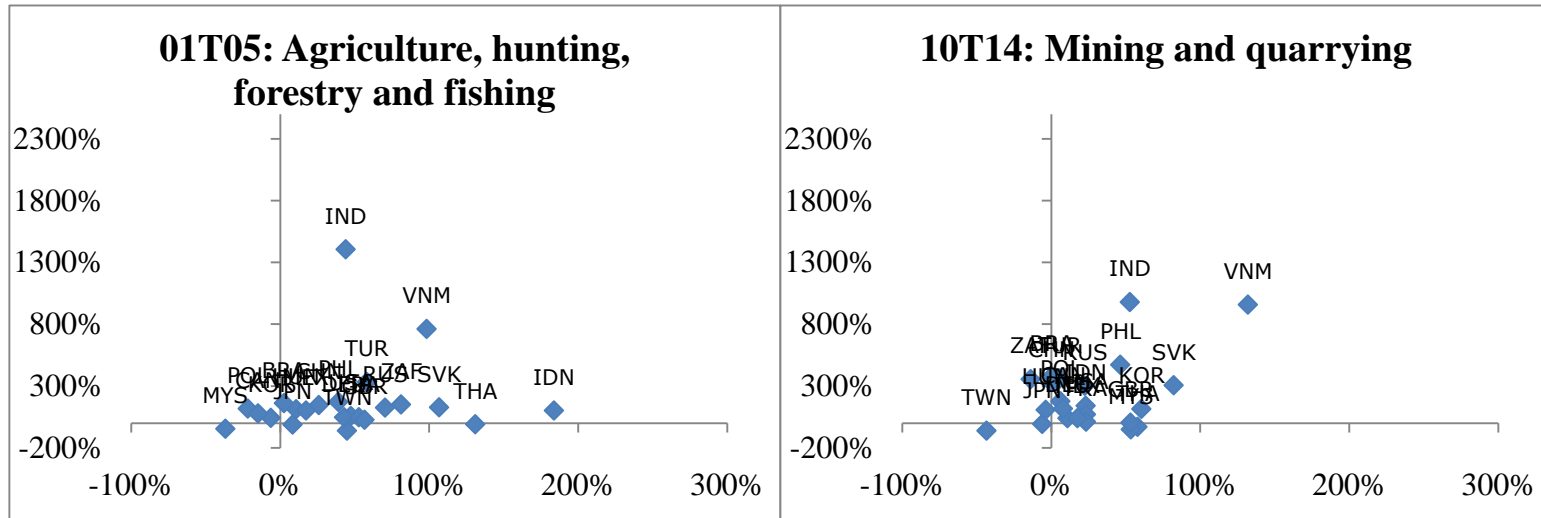


BRICS

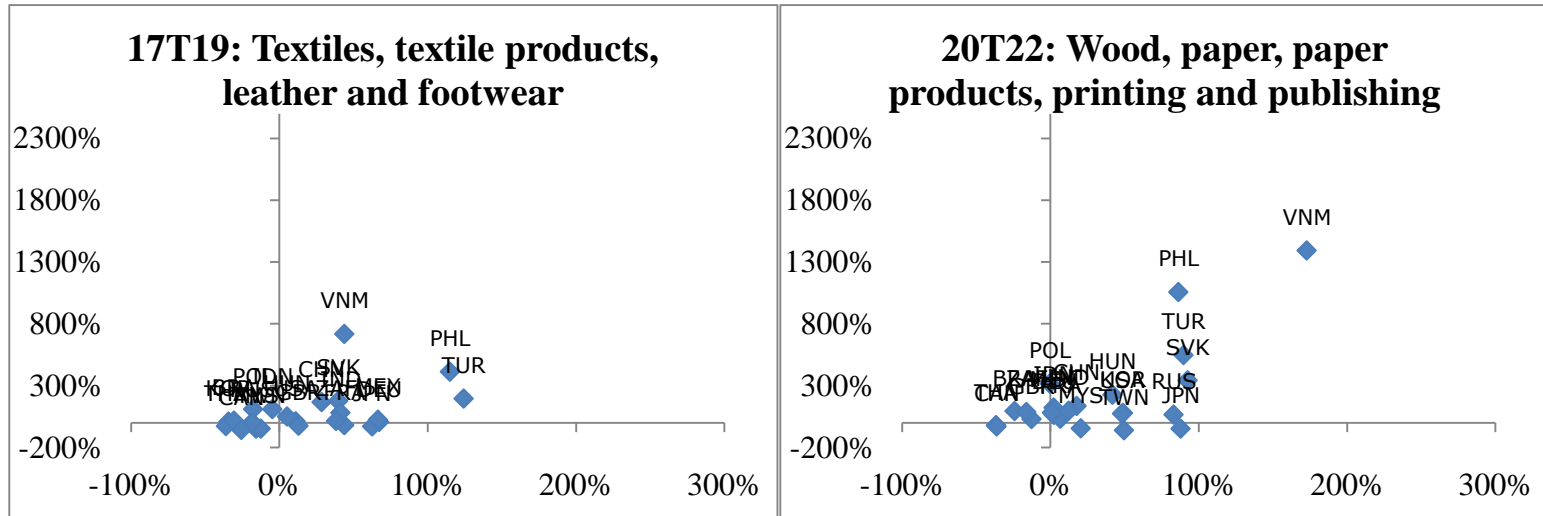
Relationship by nation groups?



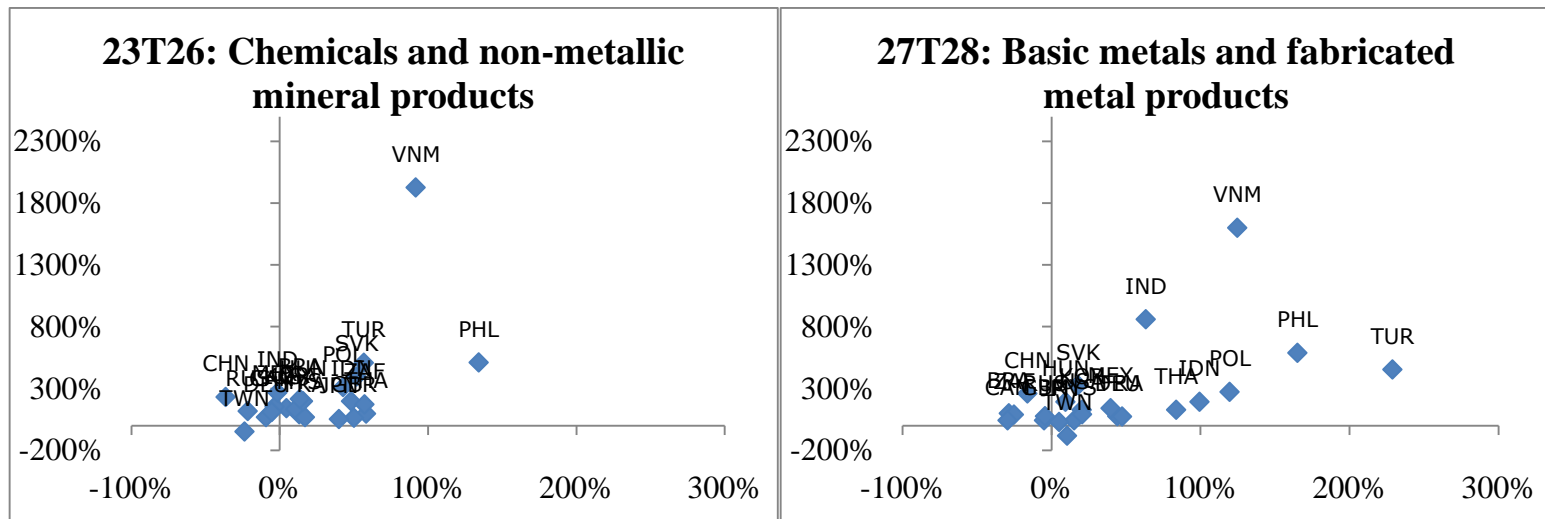
Relationship by sector: Primary



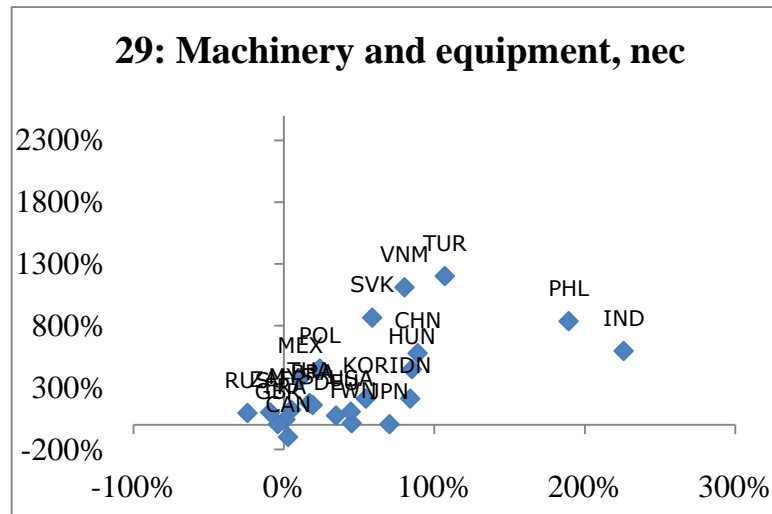
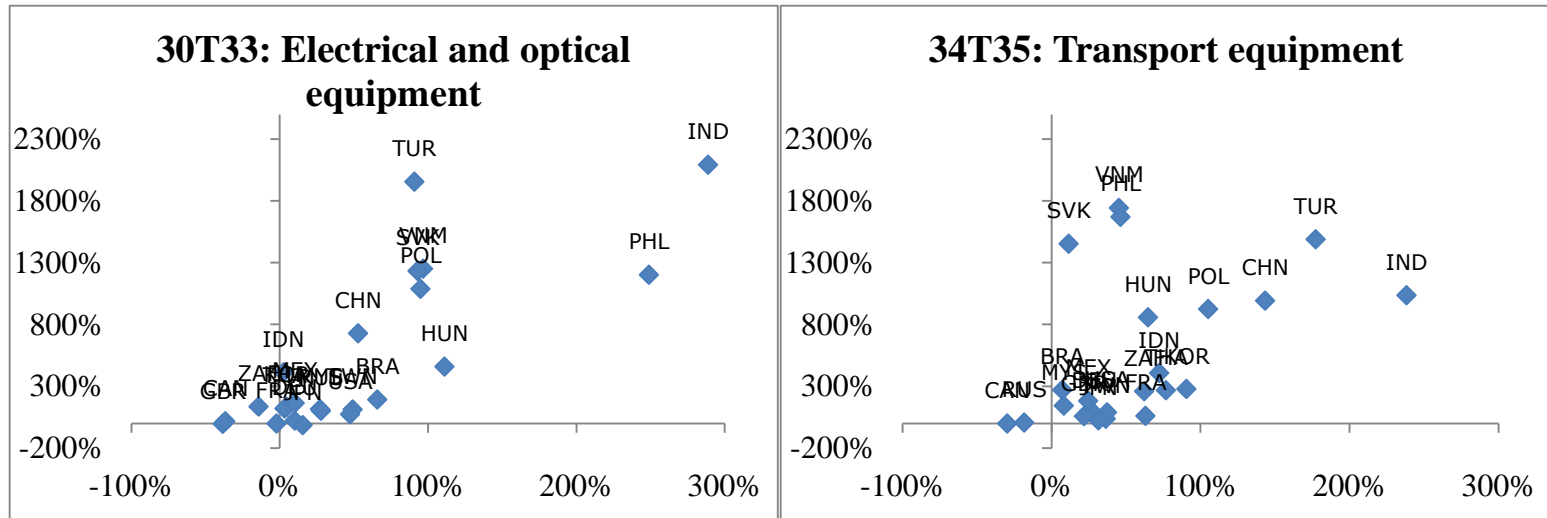
Relationship by sector: Light manuf



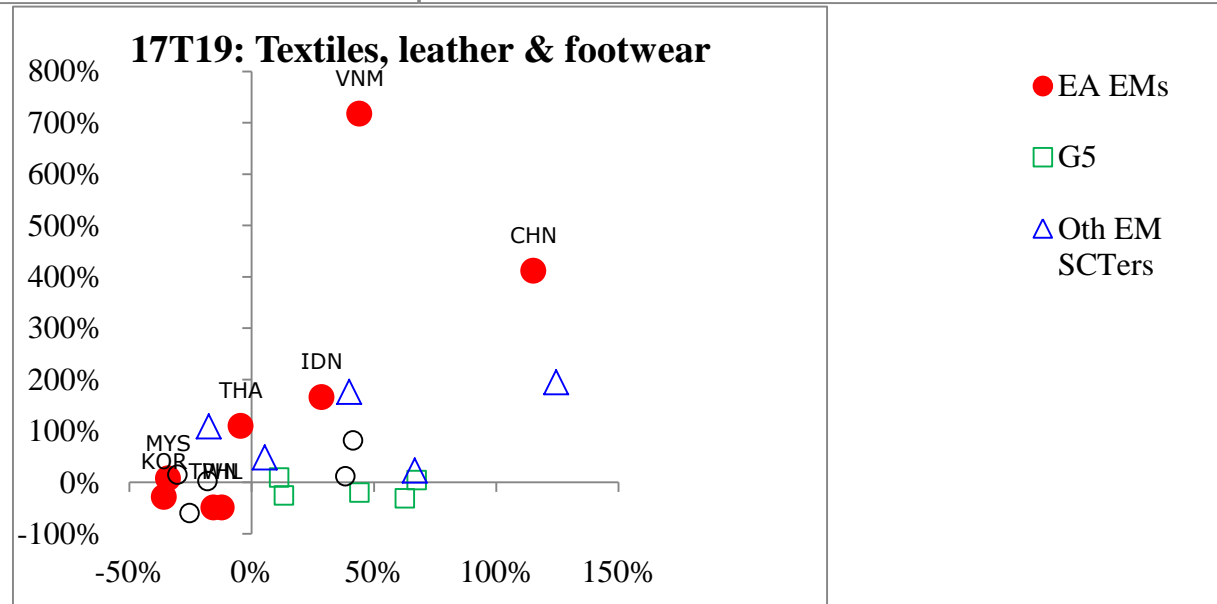
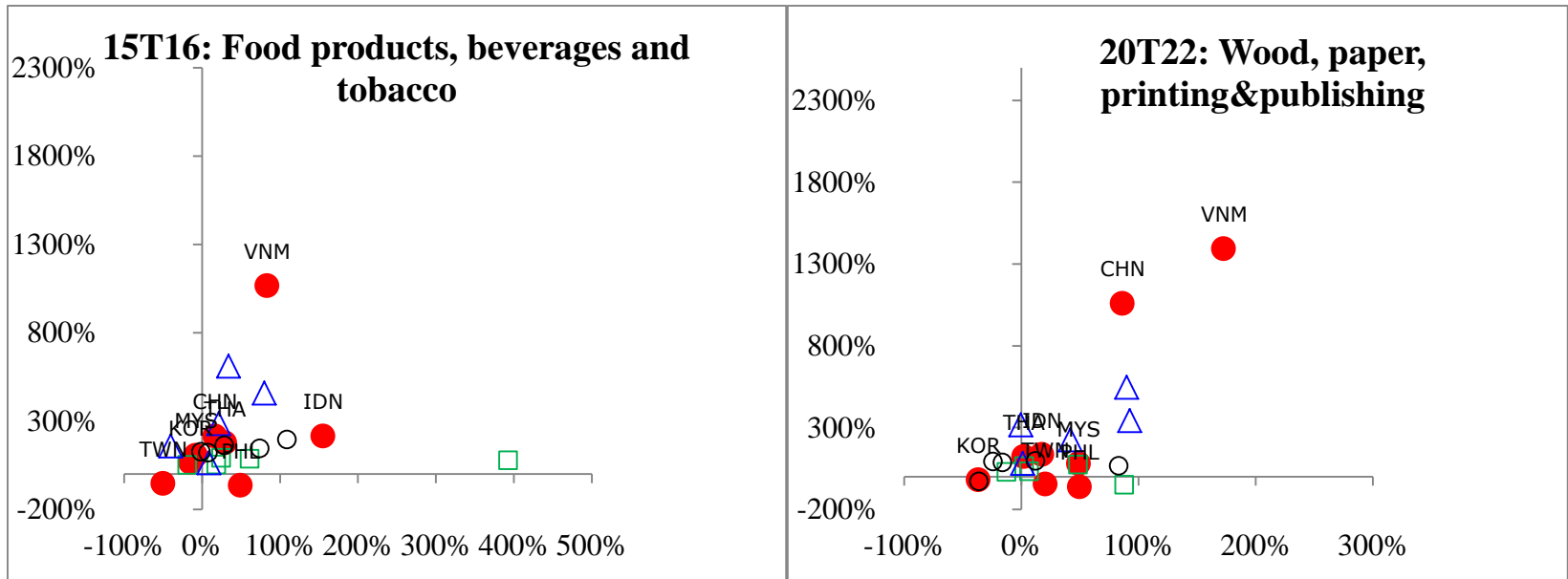
Relationship by sector: heavy manuf



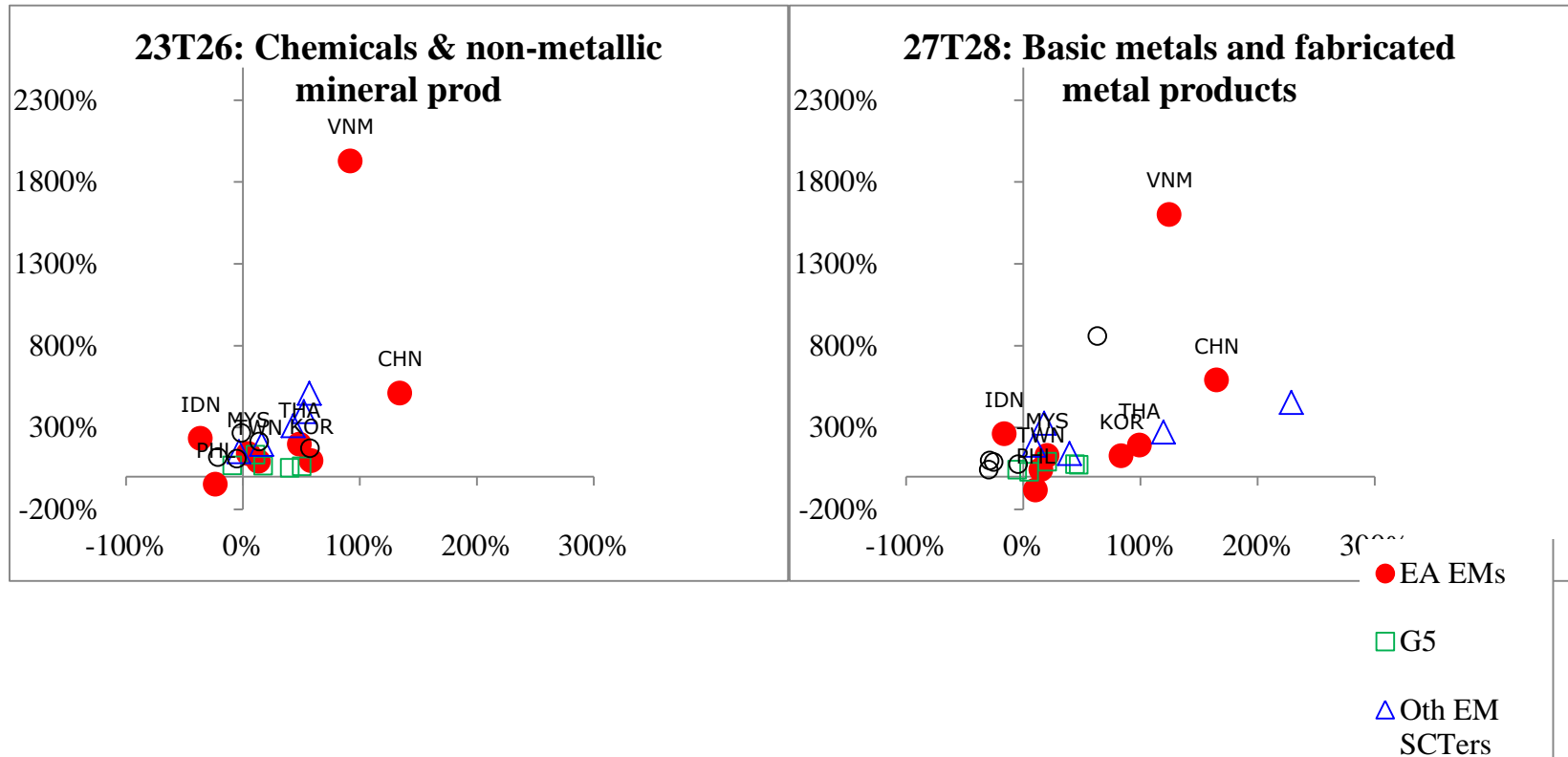
Relationship by sector: GVC manif



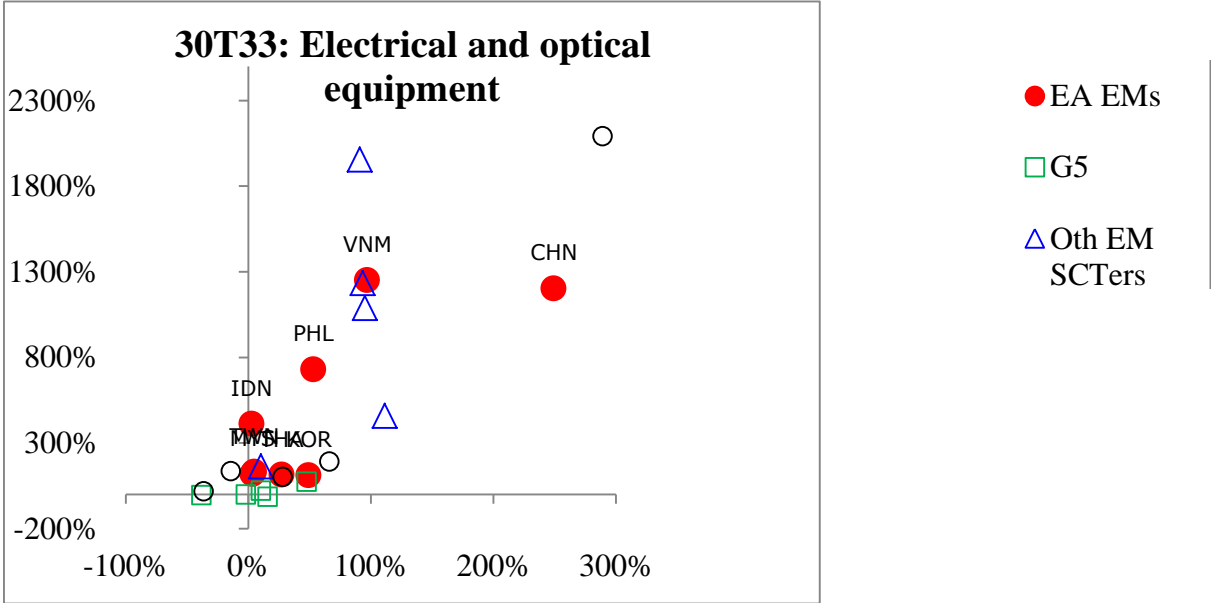
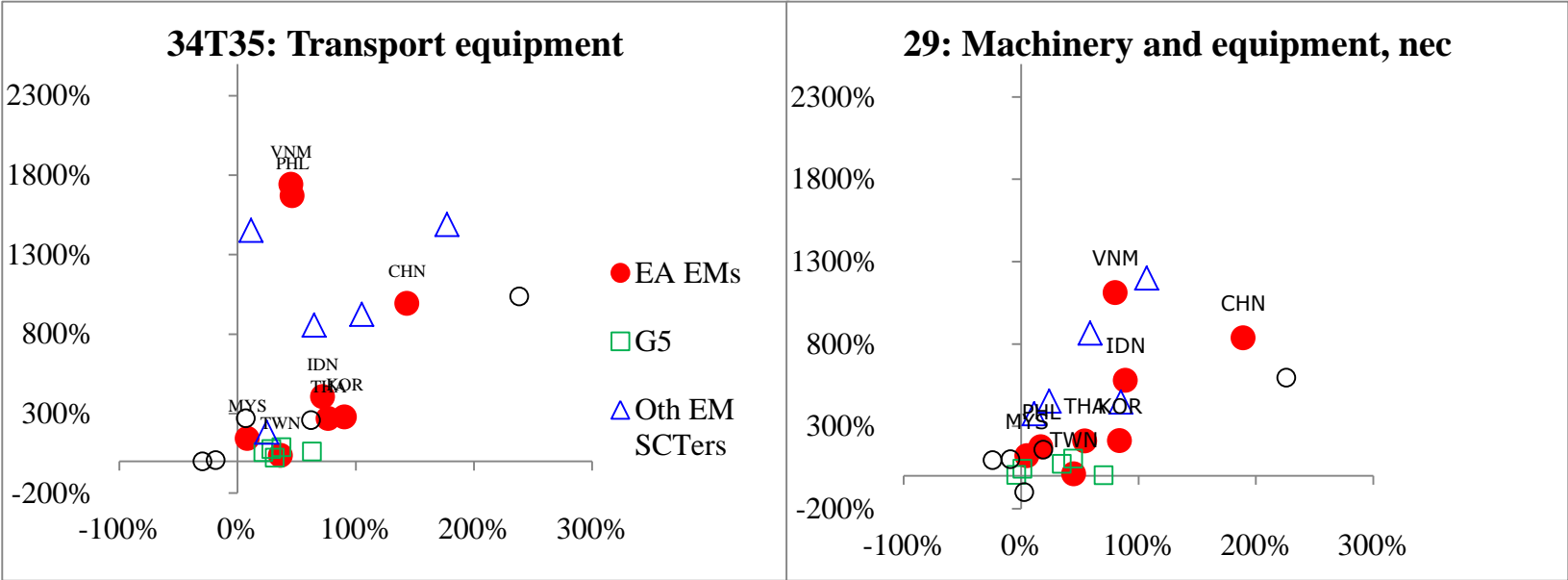
Relationship by nation & sector



Relationship by nation & sector



Relationship by nation & sector

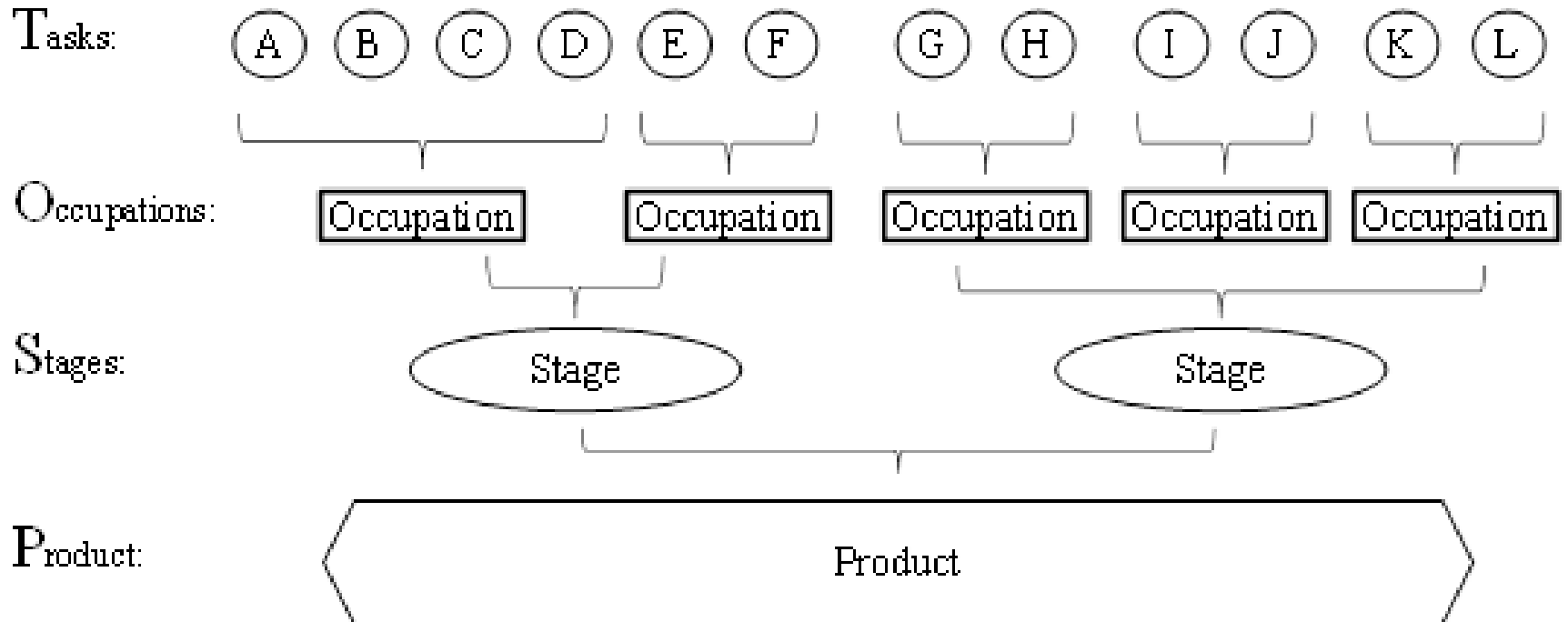


Facts to theory

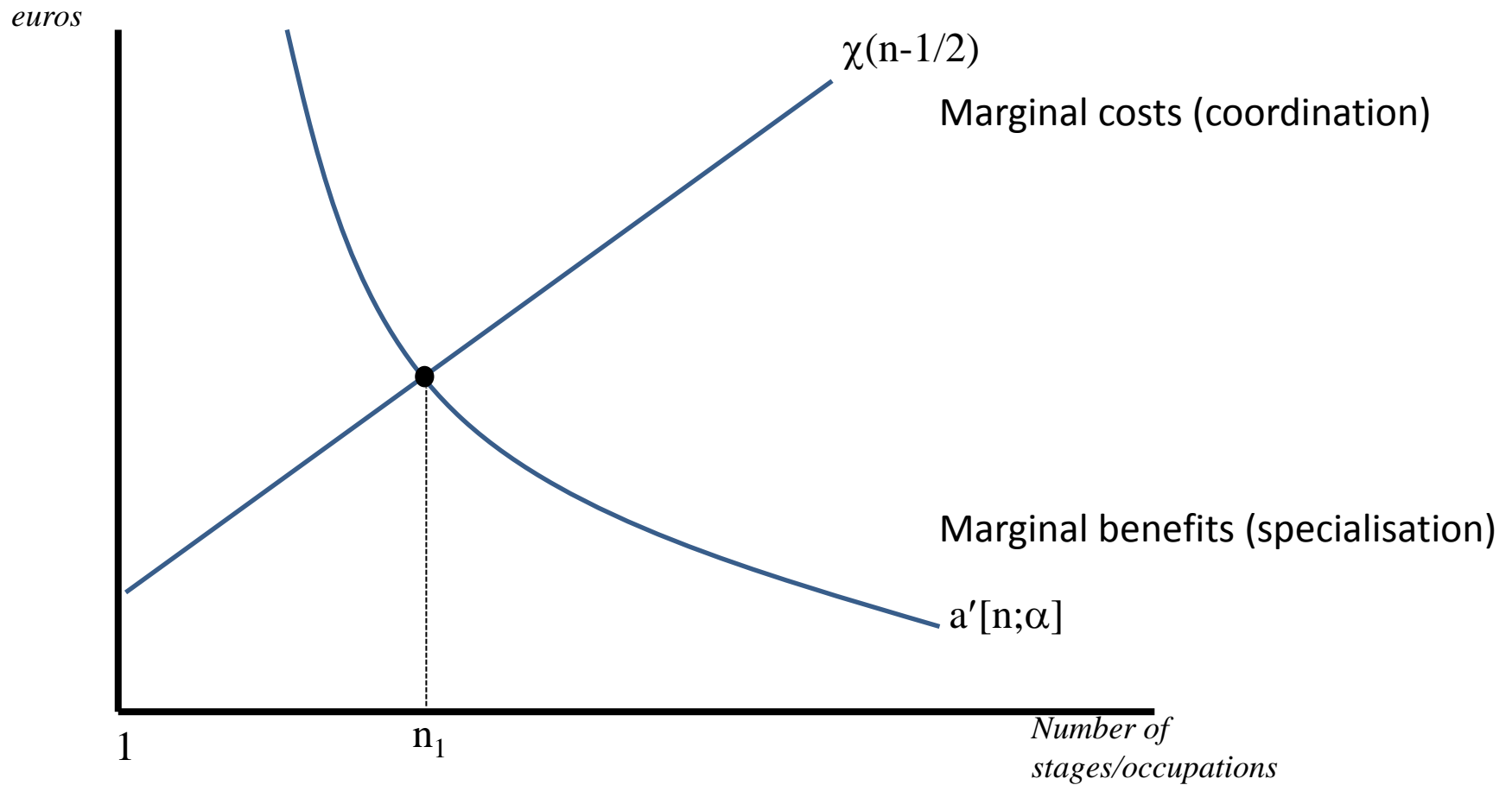
- How does unbundling happen?
 - Fractionalisation of production process;
 - Geographical dispersion of stages.

Production unbundling: Some theory

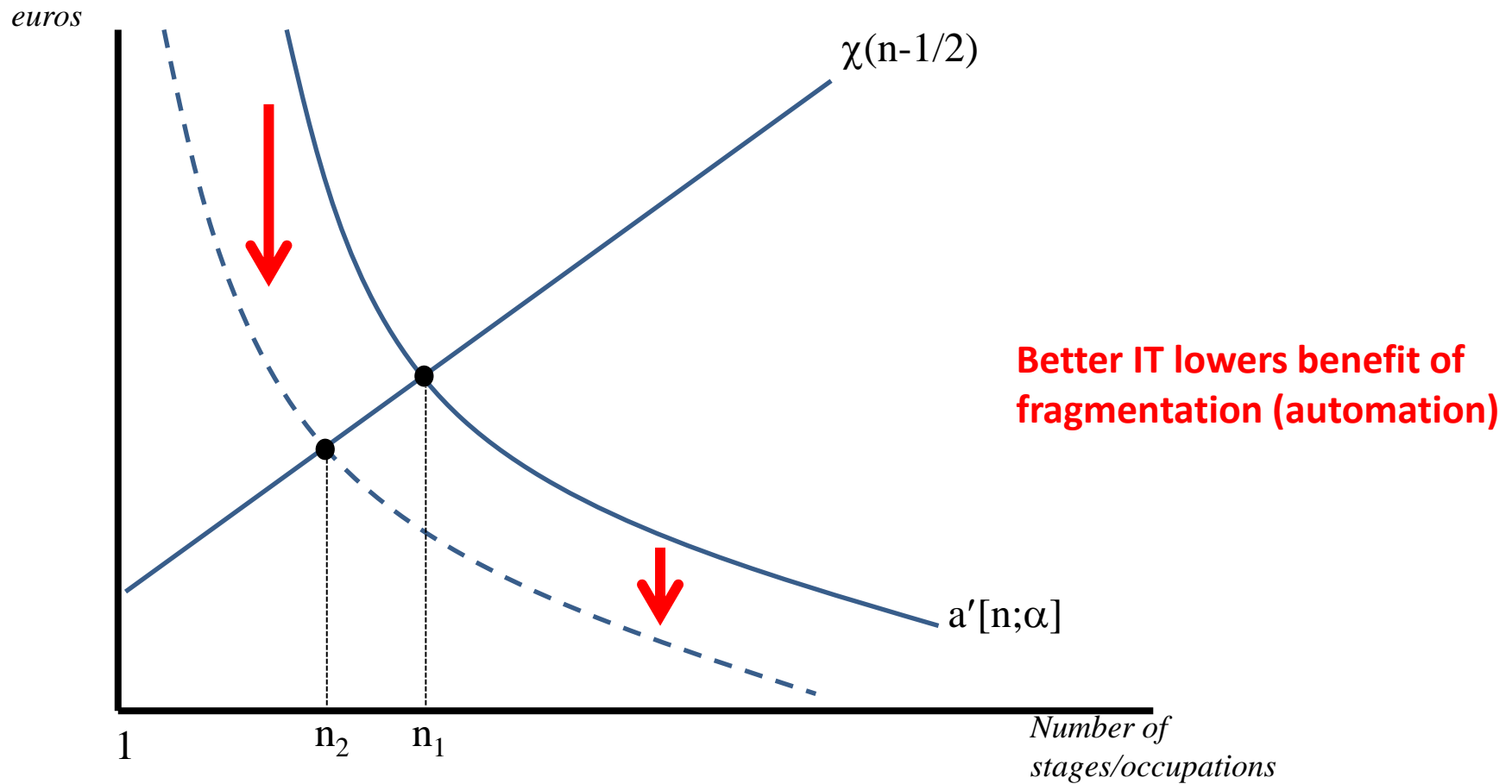
The TOSP framework



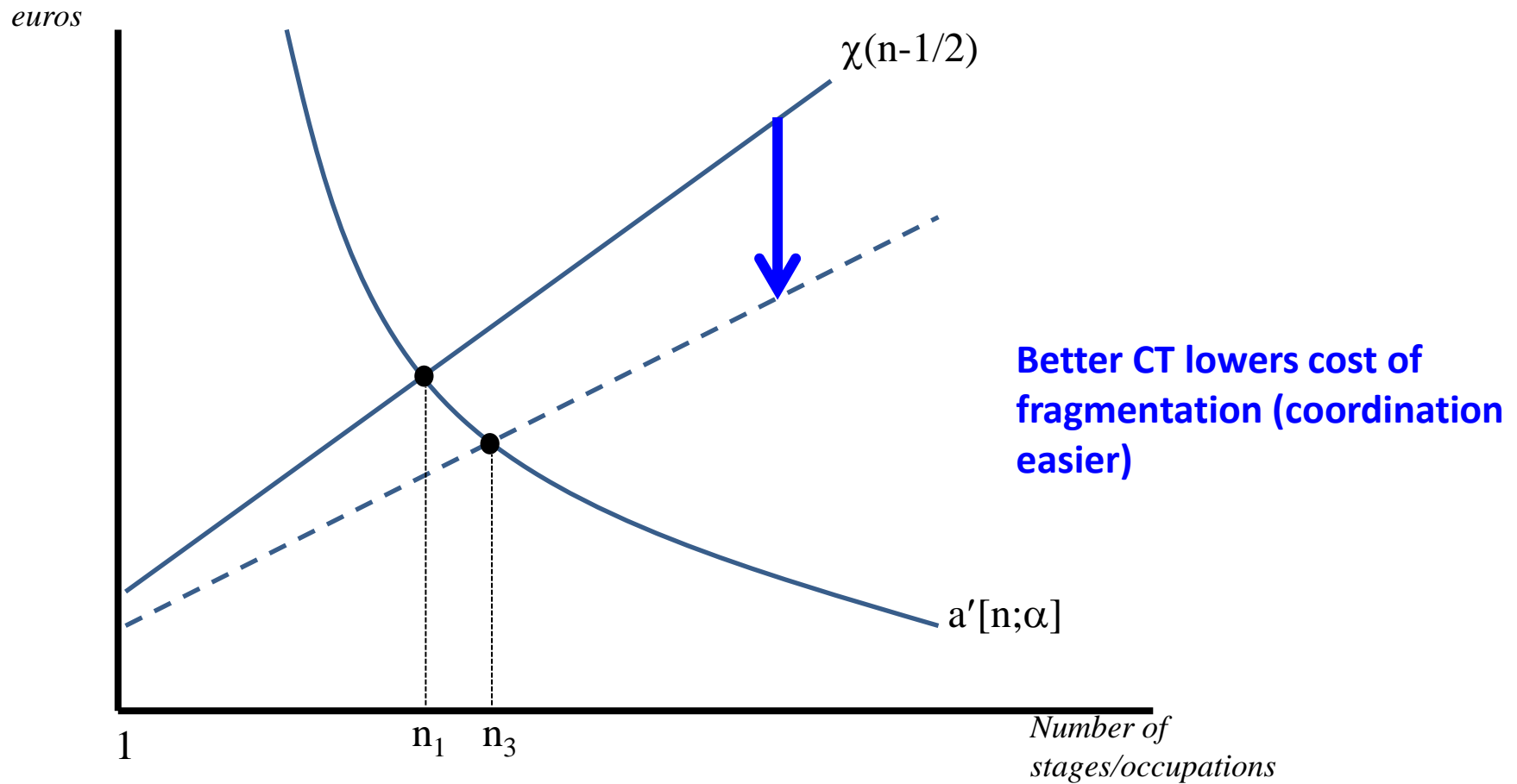
Trade-off: Specialisation vs coordination costs



Trade-off: Specialisation vs coordination costs

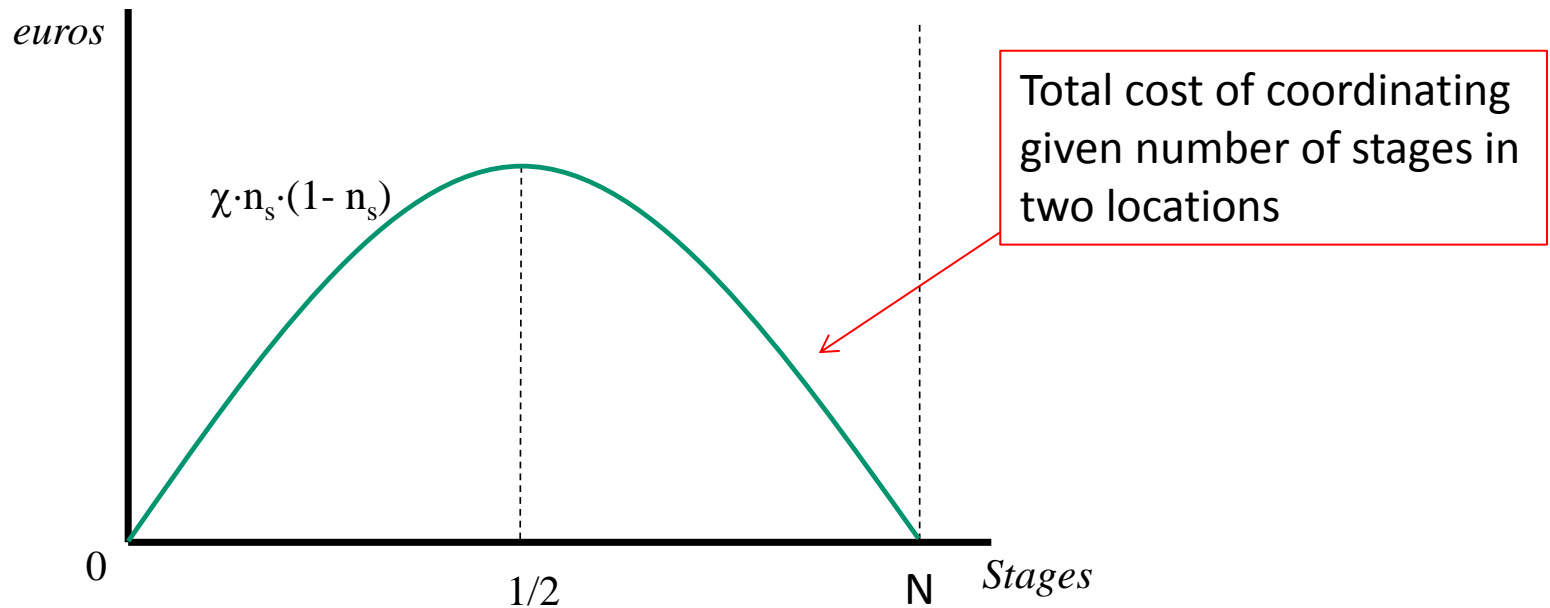


Trade-off: Specialisation vs coordination costs



Geographical dispersion

- Odd economics:
 - Clustering/agglomeration
 - Convex coordination costs



Research agenda?

- Link between domestic value-added exports and development (industrial production, GDPPC, etc).
 - Finer look at domestic value added exports and domestic value added, by sector, nation groups, etc.
- ‘Dense-ifying’ participation in value network
 - Not really a ‘chain’; IO matrix, not a IO column.
- Does the partner matter?
 - Does the REI-growth link vary by source of intermediates?
- What institutional & policy variables determine supply-chain participation (as measured by REI)

Three policy issues

- Geography matters
 - Geography is an important determinant of the ease of participating in Factory Asia.
 - This is nothing more than an assertion that forward and backward linkages matter at the regional level as well as at the national or industrial district level.
 - ERGO: Policy to foster participation in Factory Asia should have a geographical dimension as well as the usual income level dimension.
 - In particular, proximity may be less important for certain sectors and distant nations may be well advised to focus on these.

Three policy issues

- Size matters.
 - Nations that have over a billion consumers (the PRC and India) can pursue policies that smaller nations cannot.
 - In essence the two giants can leverage their local market as a powerful attraction force for supply chain segments.
 - ERGO: Policy recommendations should not blinding point to China's success as the right way forward. Costa Rica's success in supply-chains maybe be more relevant to some small Asian nations.

Three policy issues

- Regulatory network effects matter.
 - Factory Asia requires firms' tangible and intangible assets to be protected inside the participating nations.
 - Disciplines for these are emerging from mega-regionals.
 - Asian policy should focus on what this means for Factory Asia; one-size may not fit all, but one-size disciplines may foster the development and spread of Factory Asia.

END

- Thank you for listening.
- Please look at:

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