



الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري

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Logistics Costs as a Barrier to Trade: A Case Study of Arab Non-Oil Exports to Brazil (A Gravity Model Using Panel Data)

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Outline

- Research Aim
- The structure of Arab trade with Brazil
- Logistics costs as a barrier to trade
- The empirical study: Estimating the Gravity model of Arab non-oil exports to the Brazilian market
- Conclusions and Policy Implications

Research Aim

- **To examine the hypothesis that :**
Logistics costs discouraged the competitiveness of the Arab exports to the Brazilian market.

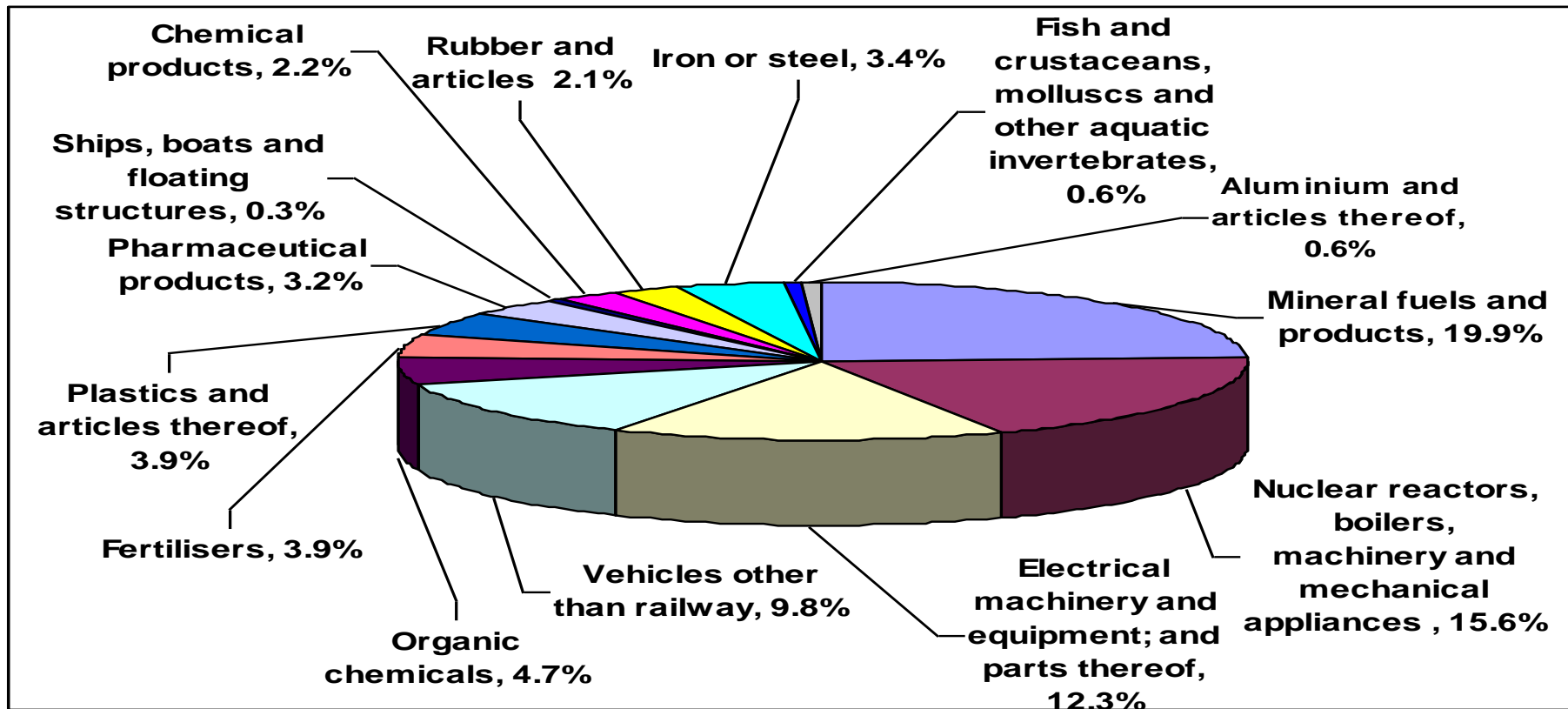
Why Brazil?

- The Brazilian economy is the biggest among South American countries.
- It is the world's fifth-largest by both of geographical area and population.
- According to International Monetary Fund, Brazilian GDP has about 2.4 trillion dollars in 2013 (The 8th in the world, 55% of GDP achieved for South American countries, and 3.1% of GDP achieved worldwide during the same year).

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The structure of Arab trade with Brazil

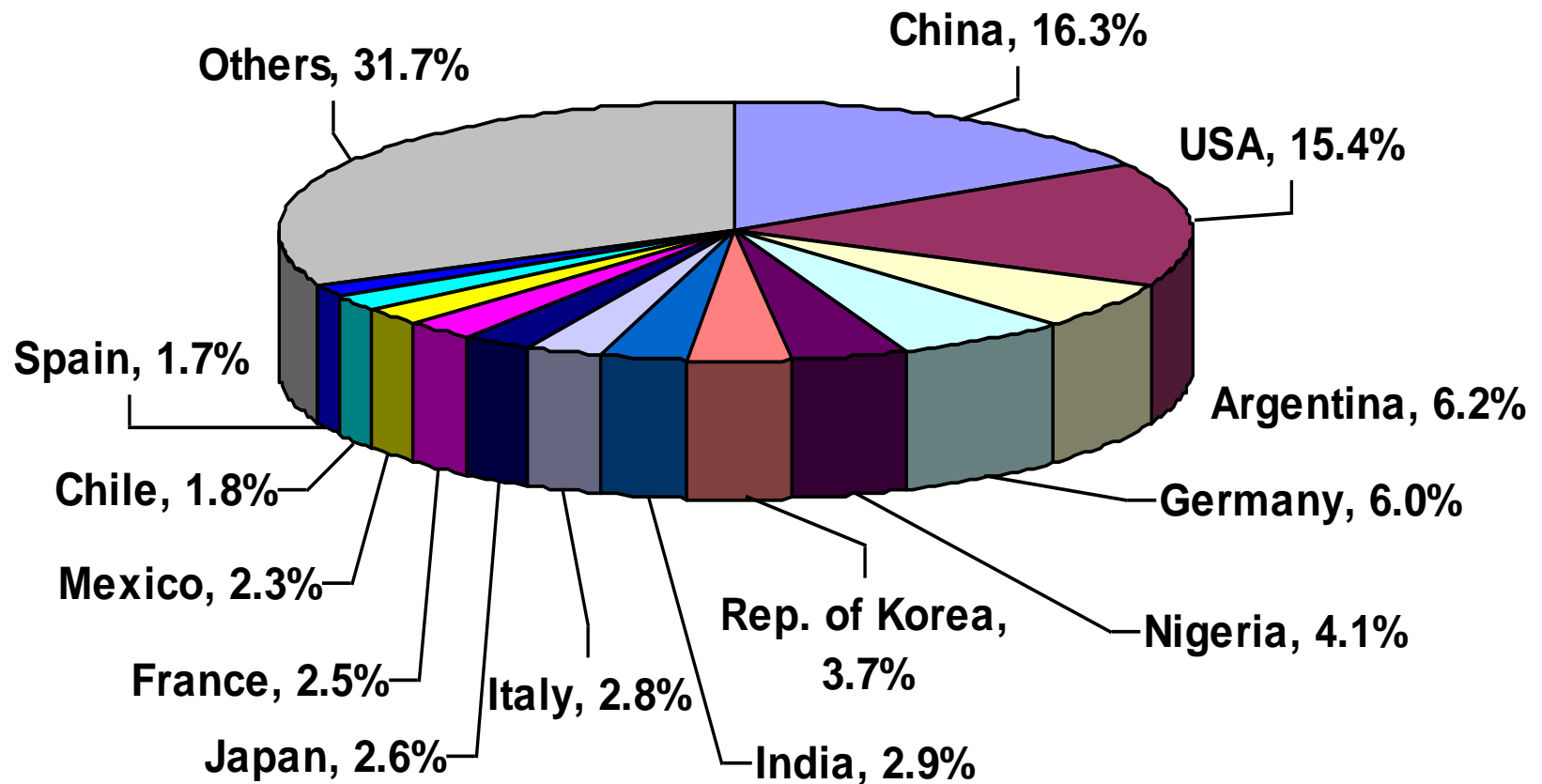
Main Imports of Brazil by commodity in 2014



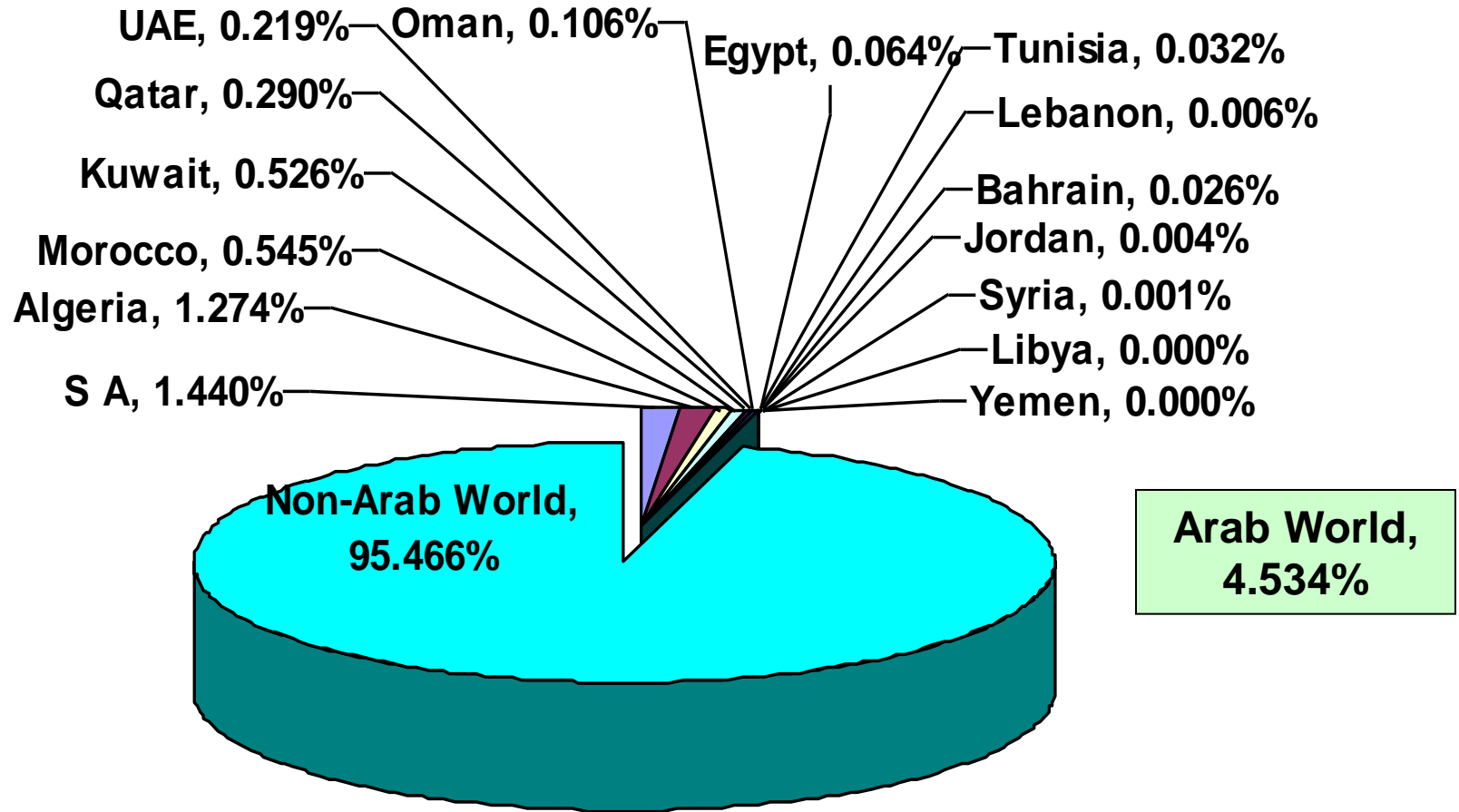
Source: United Nations Commodity Trade Statistics Database UN COMTRADE

It is clear that the potential trade between the Arab world and Brazil is promising.

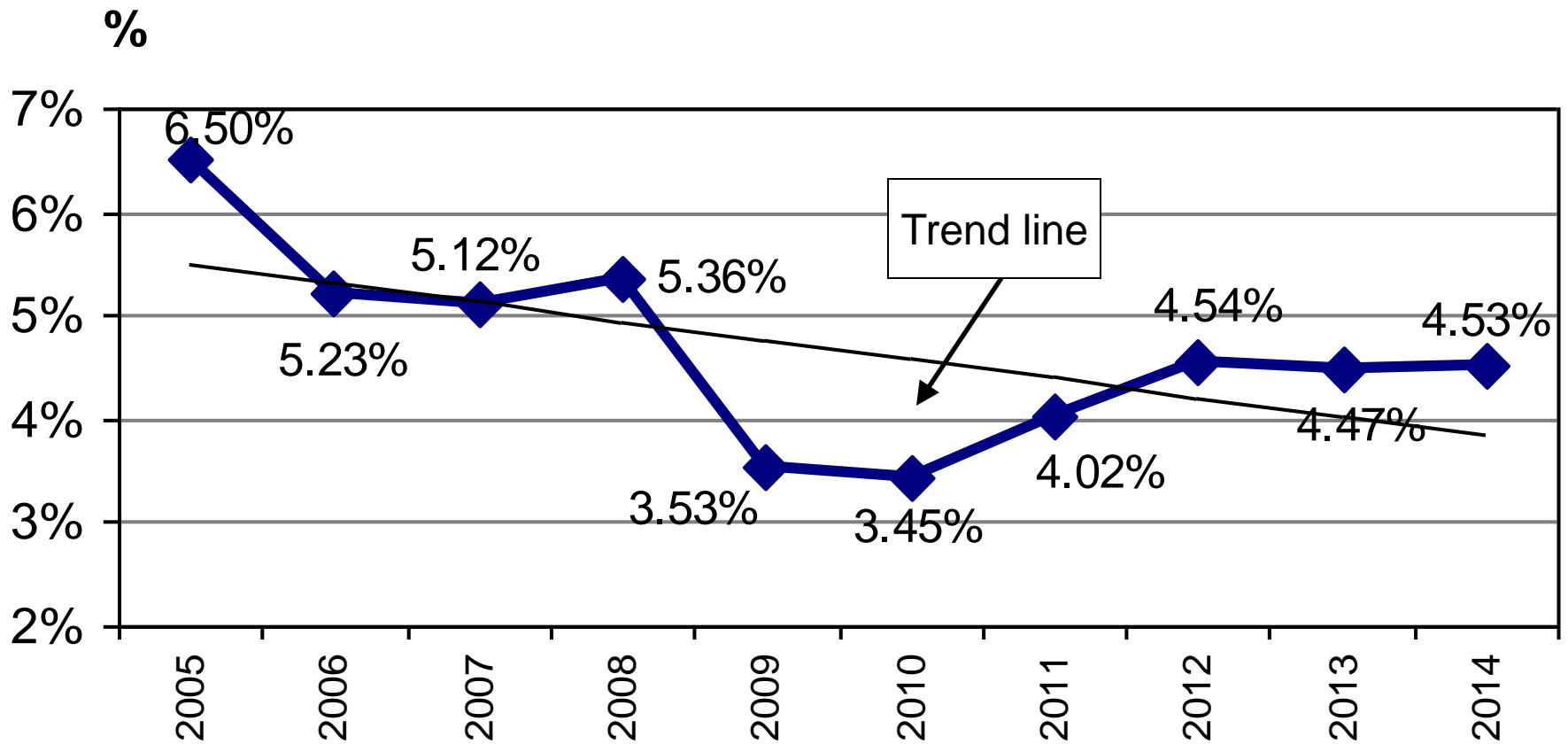
Main exporters to Brazil in 2014



% of Arab exports to Brazil to total in 2014



% of Arab exports to Brazil to total



Source: United Nations Commodity Trade Statistics Database UN COMTRADE

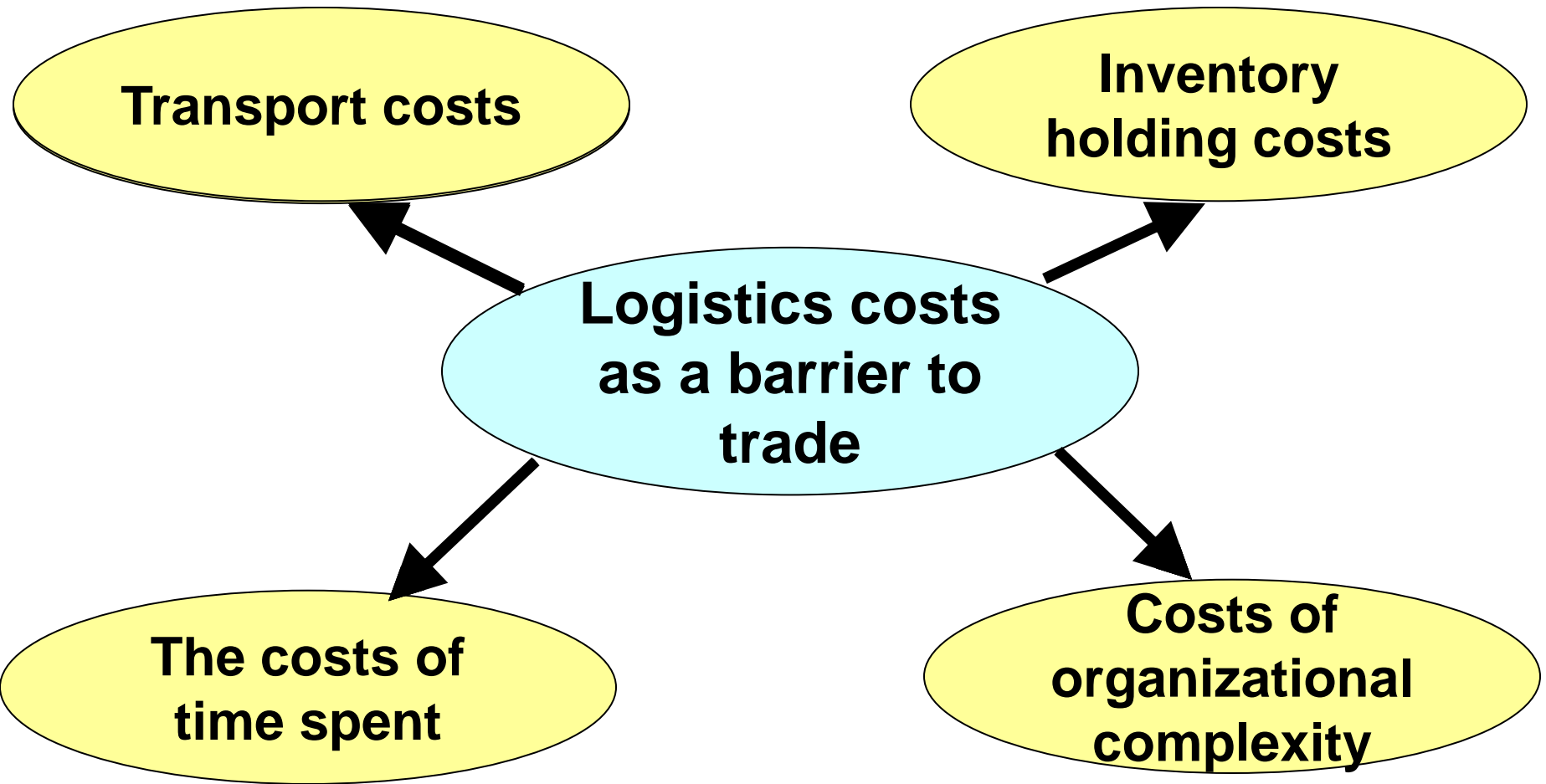
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Logistics costs as a barrier to trade

- Logistics costs related to trade accounts for 30-50% on average of the costs of any product in the developed countries.
- Logistics costs accounts for 40-50% of the value added and 7-10% of the value of sales in several industries.
- Despite the importance of studying logistics as an integrated system, substantial reductions in total logistics costs at the national level can be done by working on the individual components of the logistics system.

Logistics costs as a barrier to trade

- Our study will include only directly observed and measured logistics costs.



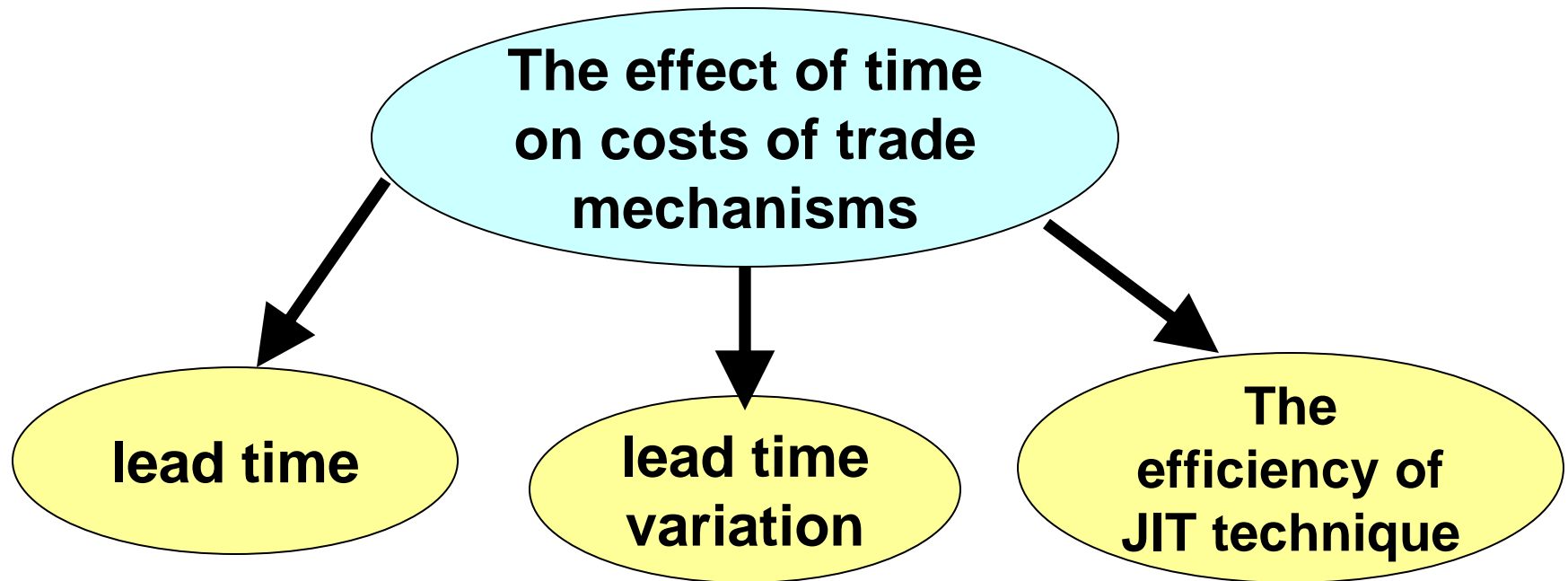
Transport costs as a barrier to trade

- Although globalization, transportation costs is still one of the major factors affecting trade.
- The flow of international trade is affected by both of the absolute value of the distance between the two states, and the geographical location of the partner, relative to other potential partners.
- Despite the expected decline of the flexibility of trade flows in response to changes in the distance with the expansion of globalization, several studies found that it increases with time.

Inventory holding costs as a barrier to trade

- Projects face a trade-off between minimizing the cost of inventory and keeping the optimum size of the inventory.
- Just-in-time (JIT) technique reduces products stock hold, but it requires keeping more of the raw materials.
- The cost of holding inventory increase in developing countries relative to OECD countries because of the poor infrastructure, especially transportation.
- As a result, developing countries try to increase the size of the inventory to avoid the problems with transport.

The costs of time spent until delivery as a barrier to trade



- Researchers found that proxies for time were statistically significant as a barrier to trade.

Costs of regulatory complexity as a barrier to trade

- Although regulatory complexity and administrative corruption are not direct costs of trade, the improvements in them can enhance international trade more than the ability of removing tariffs.
- Researchers found that proxies for regulatory complexity and administrative corruption were statistically significant as a barrier to trade.

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The empirical study: Estimating the Gravity model of Arab non-oil exports to the Brazilian market

- In estimating the model, oil and its derivatives were excluded from the total exports for 2 reasons:
 1. Oil may lead to biasness in the results through overstate the level of trade between the Arab countries of the region and the rest of the world.
 2. To diversify Arab exports.
- Data for bilateral trade between 15 of the Arab countries and Brazil for the period 2006-2013 are used to estimate the gravity model.

The empirical study: Estimating the Gravity model of Arab non-oil exports to the Brazilian market

- Results indicate that the following logistics performance indicators restricts our abilities to export to Brazil as they have negative and significant elasticity in the model:
 - The sea distance as a proxy for transport costs has negative and significant elasticity.
 - The index for documents to export as costs of regulatory complexity.
 - The costs of procedures to export.

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Conclusions and Policy Implications

- The following recommendations are suggested so as to facilitate exporting to Brazil:
 - Support having a hub port where small feeder ships discharge containers into giant ships. This helps to reach the economic size of shipments transported. .
 - Adoption of computerization and automation of export procedures in the Arab countries.
 - Speed up the processes through having a single window for all the related agencies together.

Q & A

Thank you for your attention ...

Contact details

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