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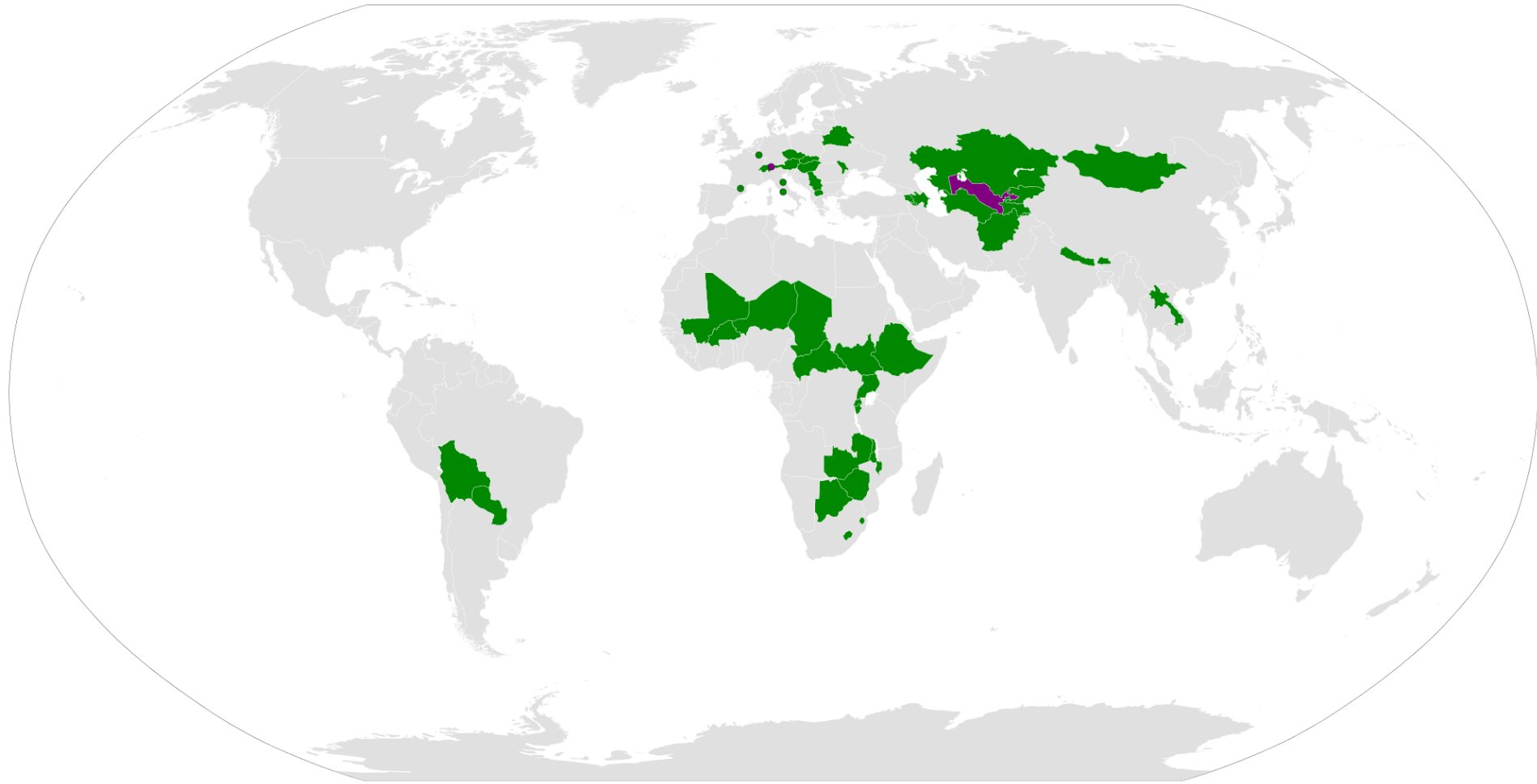
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LANDLOCKEDNESS – INTERNATIONAL TRADE – FOOD SECURITY:
Do landlocked countries suffer from food insecurity?

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LANDLOCKED COUNTRIES



48 landlocked countries, including partially recognized states;
2 double-landlocked countries (Uzbekistan and Liechtenstein).

Central Asia

The whole Central Asian region is landlocked and there is a general concept that distance from the global sea routes has a negative effect on international trade relations of landlocked countries.

The distance from Central Asian countries to the closest port is (Snow et al., 2003):

- Kazakhstan – 3750 km;
- Kyrgyzstan – 3600 km;
- Tajikistan – 3100 km;
- Turkmenistan – 1700 km;
- Uzbekistan – 2950 km.

HYPOTHESES

H1: Landlocked countries have poor international trade performance;

H2: Poor international trade affects food security;

H3: Landlocked countries suffer from food insecurity.

METHODOLOGY

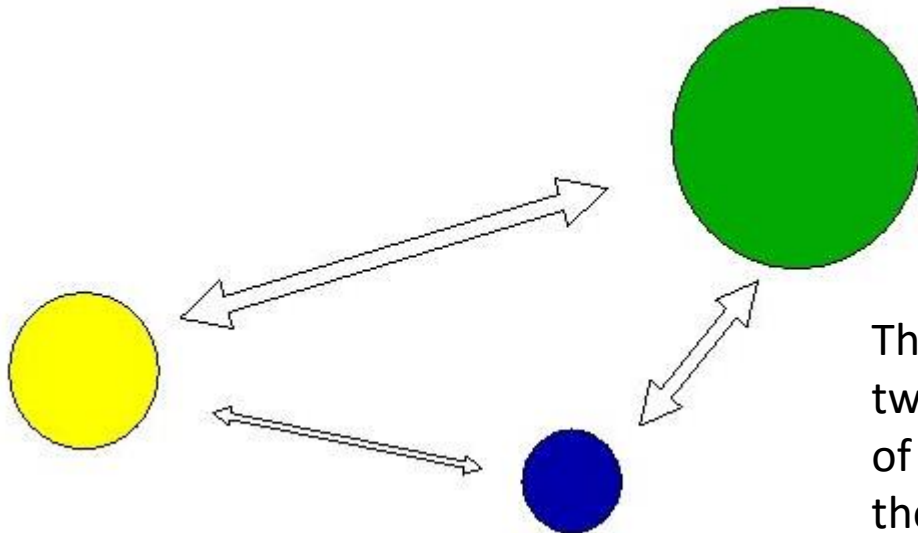
Literature review was chosen to assess the current state of research.

As a separate research method literature review helps us to:

- avoid repeating researches that have already been done;
- collect, evaluate and integrate studies on linkages;
- identify missing joints in our cause and effect chain;
- determine future research topics.

LANDLOCKEDNESS AND TRADE: Supporting

- Gravity model has become a workhorse for assessing and interpreting trade flows between countries;
- For explaining the negative effect of landlockedness on trade performance of geographically trapped countries several scholars applied gravity model (Limao and Venables, 2001; Rose, 2002; Raballand, 2003; Carrere, 2006; Grigoriou, 2007).



The shorter the distance between two objects, and the greater the mass of either (or both) objects, the greater the gravitational pull between the objects.

LANDLOCKEDNESS AND TRADE: Supporting

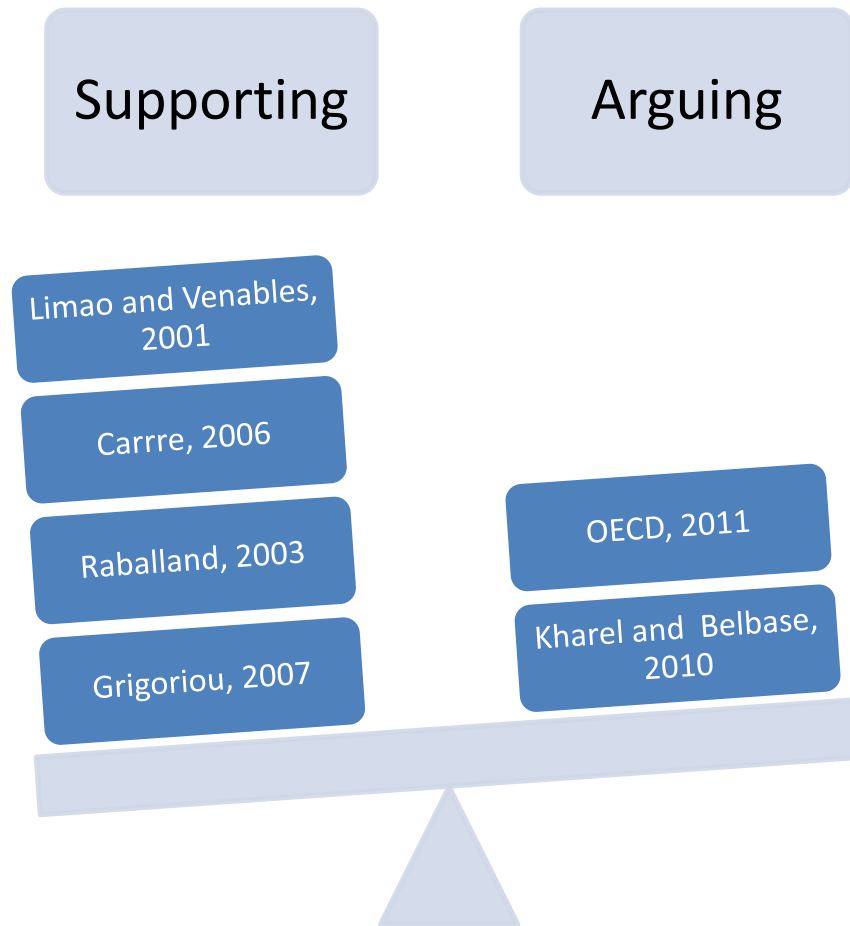
Findings of many authors who used gravity model are almost similar. Landlocked countries versus coastal ones:

- Import 22% less and export 34% less (Grigoriou, 2007).
- Trade about 28% less (Carrere, 2006);
- Landlockedness reduces country's trade by more than 80% (Raballand, 2003);
- Cost of overland transportation is 1380 USD per 1000 km while for overseas transportation is 190 USD (Limao and Venables, 2001).

LANDLOCKEDNESS AND TRADE: Arguing

- Most landlocked countries also suffer from poor policies, namely restrictive trade policies and inefficient macroeconomic and monetary policies, inter alia exchange rate regulation (OECD, 2011).
- Besides distance and the size of economies such variables like colonial relations or common past under one colonizer, common or close official languages are also significant for developing landlocked countries (Kharel and Belbase, 2010).

H1: Landlocked countries have poor international trade performance



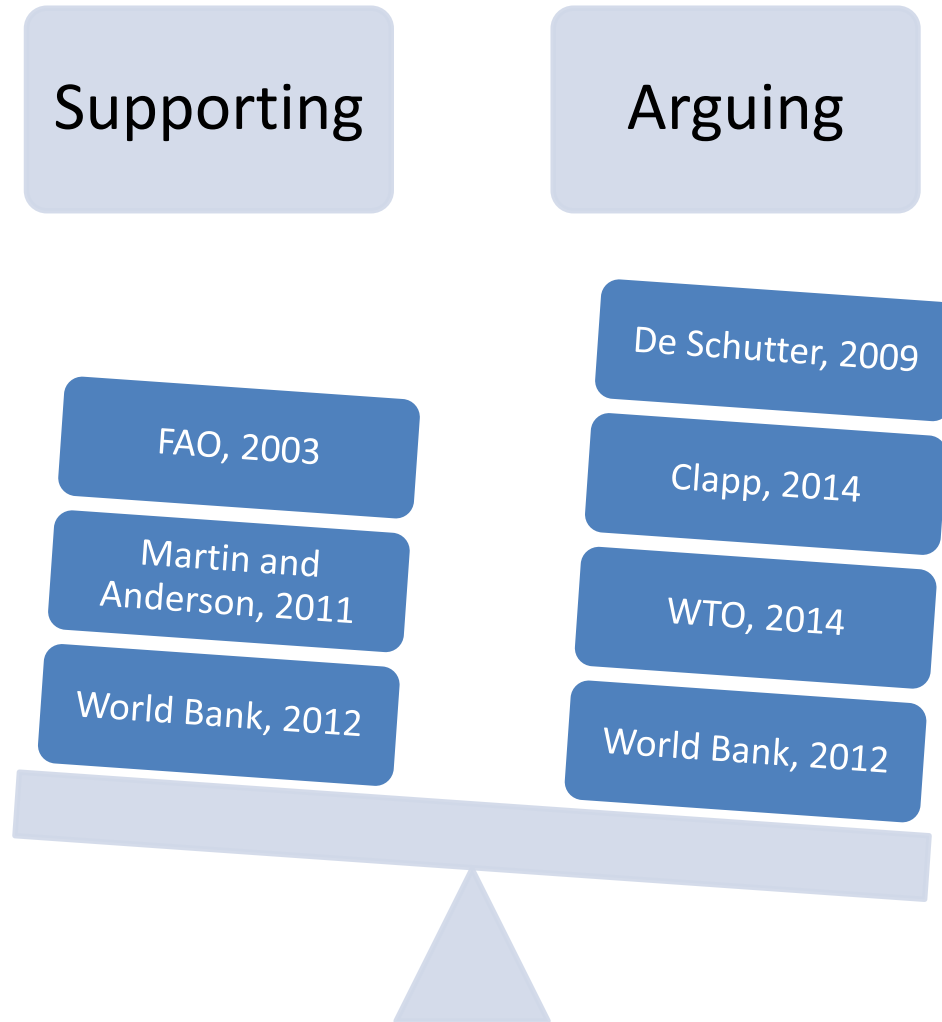
TRADE AND FOOD SECURITY: Supporting

- World agricultural supply is relatively stable than in national level as countries may suffer from seasonal disasters, droughts or excessive rainfalls (FAO, 2003).
- Comparative advantage will enhance world agricultural production volume. More food nationally and globally will eventually lead to reducing price of food in the market (World Bank, 2012).
- Protectionist measures deprive agricultural producers of market opportunities that will lead to poor production performance and high prices (Martin and Anderson, 2011).

TRADE AND FOOD SECURITY: Arguing

- In long-term food importing countries may become heavily dependent on world markets that will make them more vulnerable to price fluctuations (De Schutter, 2009).
- Food security is not only about food availability. Nutrition must also be taken into account and trade has little effect on it (Clapp, 2014).
- The role of agricultural trade in providing food security might be overhyped as agricultural goods constitute only 9.2% of all merchandise trade in the world (WTO, 2014).
- About 90% of cereal produced in the world is consumed domestically (World Bank, 2012).

H2: Poor international trade affects food security



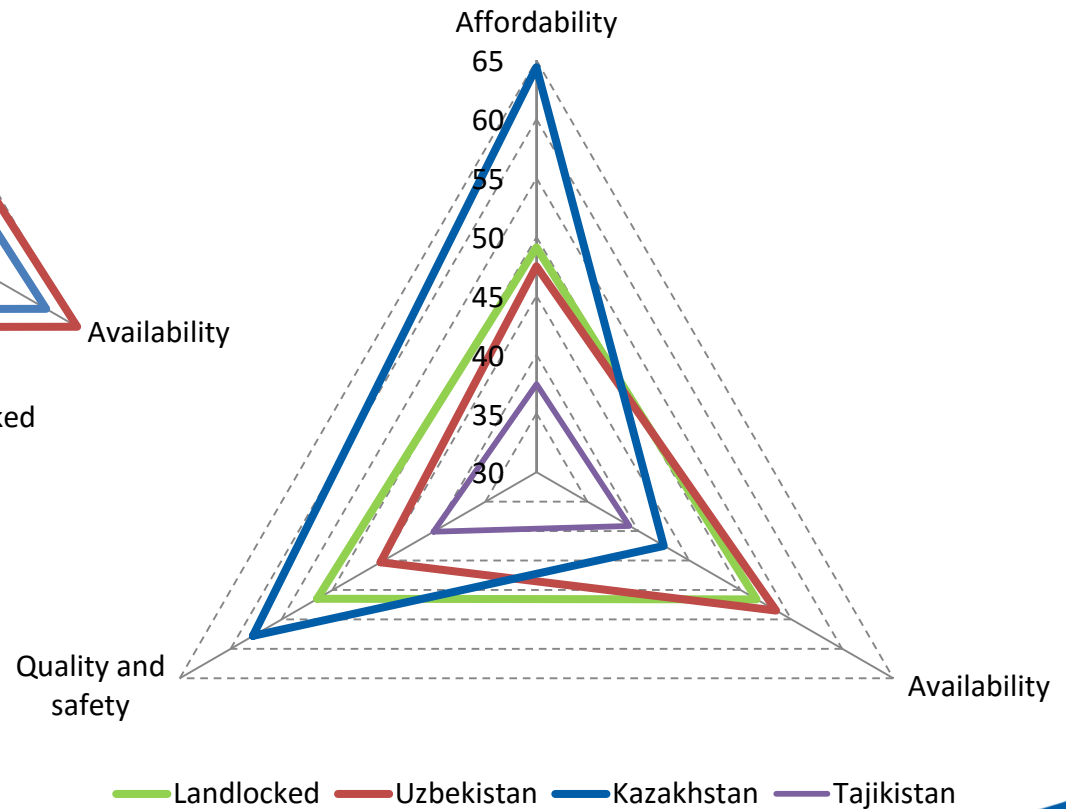
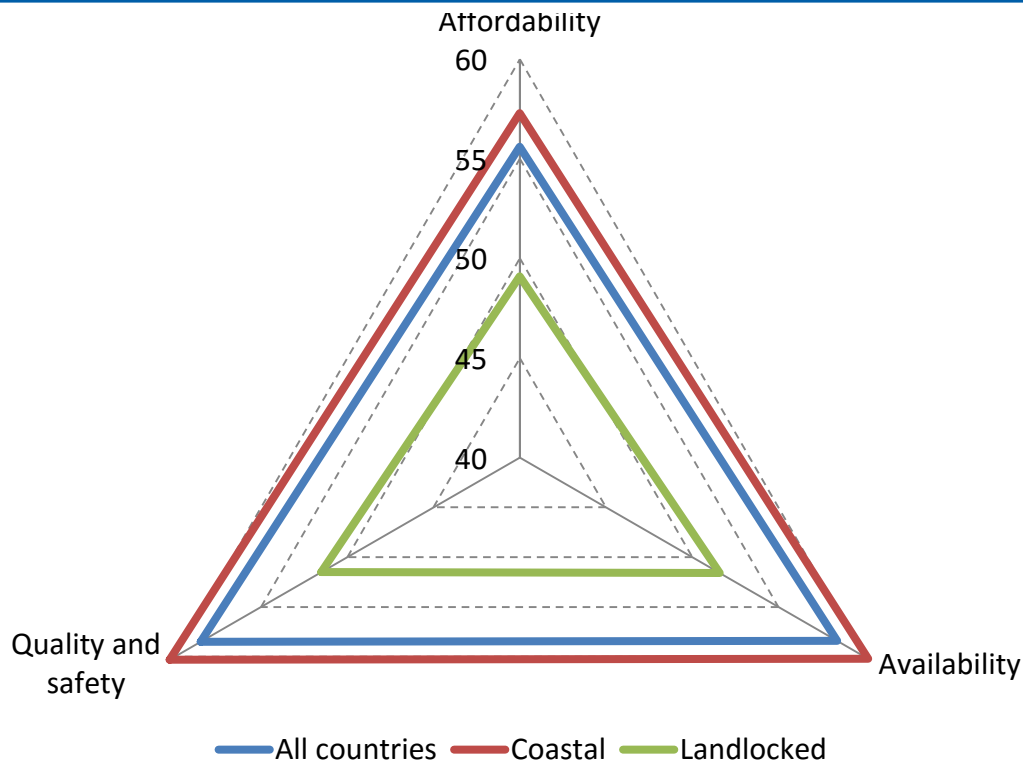
LANDLOCKEDNESS AND FOOD SECURITY: Supporting

- Central Asian landlocked countries face limited market access, weak regional trading, uncertainty in crop productions, vulnerability to breakdowns in food trade (Chabot and Tondel, 2011).
- Agricultural industry of landlocked countries is often characterized by inflexibility of production structure and low productivity making them dependent on global food market that are not easily accessible for them (Greb and Rapsomanikis, 2015).

LANDLOCKEDNESS AND FOOD SECURITY: Arguing

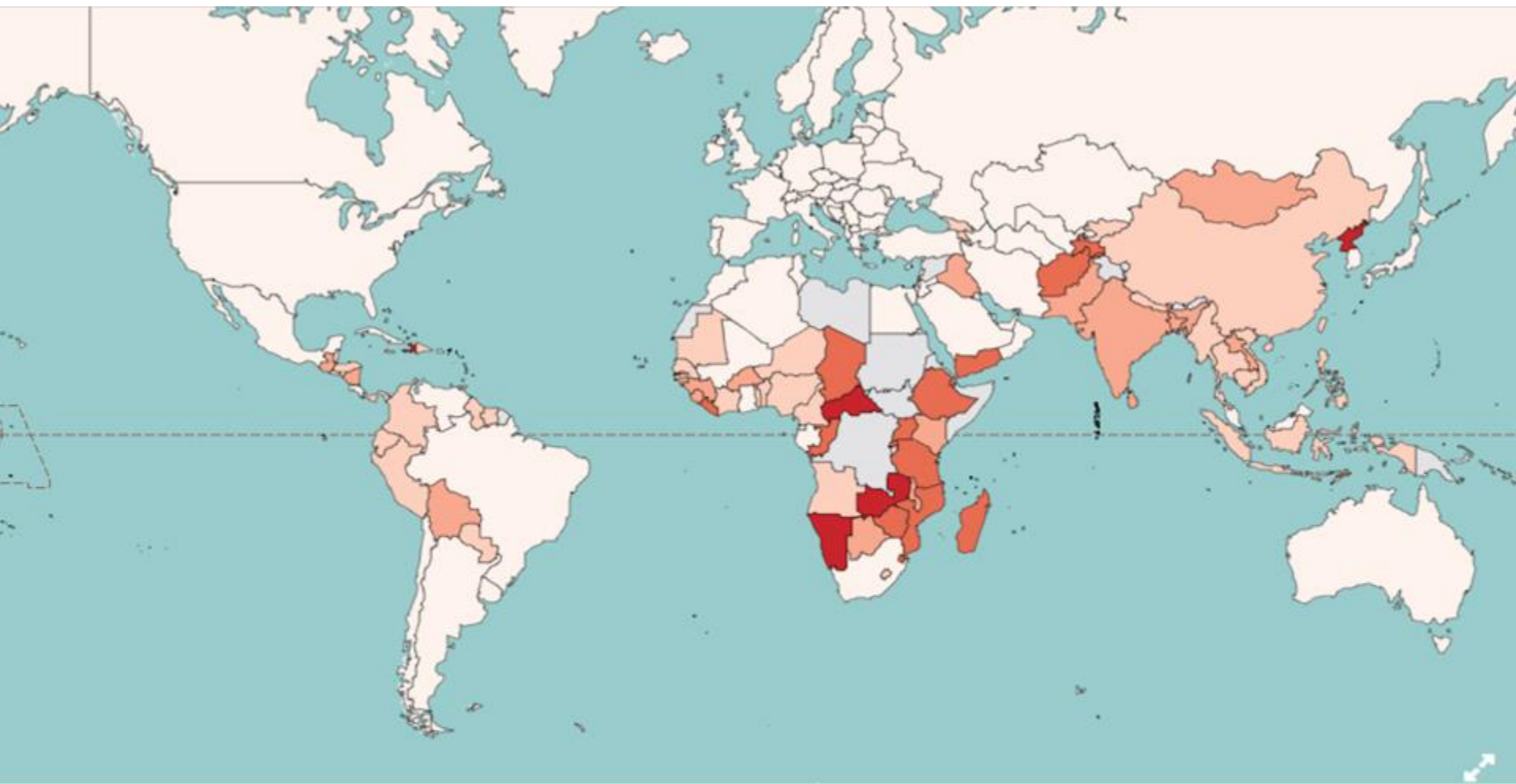
- Standard deviation of logarithmic returns showed not much volatility in food markets of landlocked countries compared to those of coastal developing countries (Greb and Rapsomanikis, 2015).
- Price spikes in world food markets have limited effect to landlocked countries as their market is hardly integrated to world trade network (Greb and Rapsomanikis, 2015).

Global Food Security Index 2016



Source: EIU, 2016

The FAO Hunger Map 2015



● < 5% Very low

● 5% > 14.9% - Moderately low

2 landlocked countries with very high level of hunger;

● 15% > 24.9% - Moderately high

● 25% > 34.9% - High

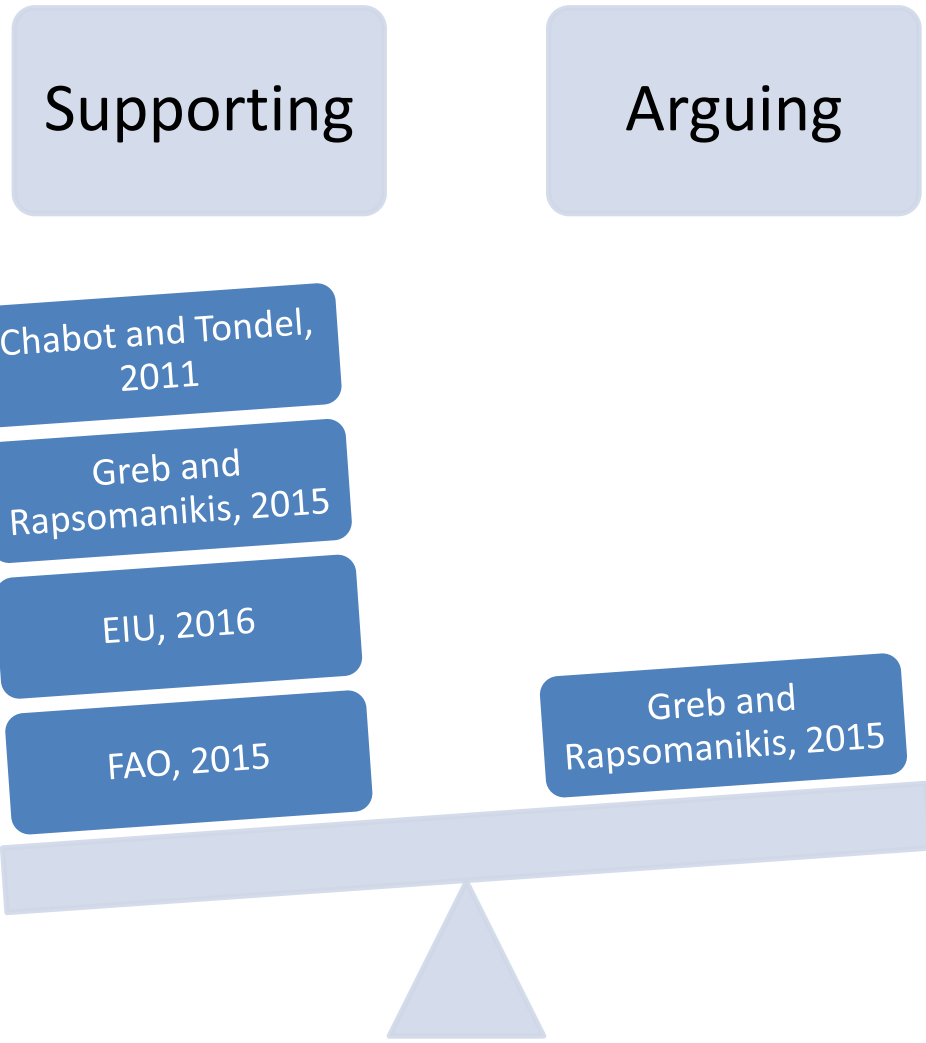
8 landlocked countries with high level of hunger;

● 35% and over - Very high

● Missing or insufficient data

5 landlocked countries with moderately high level of hunger.

H3: Landlocked countries suffer from food insecurity



Conclusion

- A huge literature studying linkages between landlockedness international trade and trade openness vs food security;
- Direct correlation between landlockedness and food security is scarcely studied;
- Group statistics exhibit low performance of landlocked countries to ensure food security compared to coastal ones;
- Situation with food security in some landlocked countries is much better than in selected coastal countries;
- Differences among landlocked countries must be examined to find out which factors play crucial role in ensuring food security.

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