

# Trade, FDI, and Global Value Chains

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The World Bank

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The results and opinions present in this talk are my own, and do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent.

- UK voters decided to leave EU
- British Pound nose dived to 30 year low
- World stock markets plummeted by 8%
- Prime Minister David Cameron resigned
- As many as 52 trade deals to be re-negotiated
- Most economists think that Brexit is a very bad idea (Baldwin, Bown, Dhingra, Ottaviano, Sampson, Van Reenen)
- Some predicted big short term drop in trade, and income per capita decrease as much as 2.6% post Brexit

# Three Months Later

- Official talks between UK and the EU haven't started
- Bank of England lowered its interest rate to 0.25%, the lowest level in the bank's 322 years, to fend off 'Brecession'
- Pound has stabilized and stock markets have recovered
- Theresa May is now the Prime Minister
- There are signs that consumer spending is healthy, and retail sales are up
- Credits to business and new regular job vacancies seem low

# How about Trade and Competitiveness in a World with Global Value Chains?

- Weaker currency should boost exports, but for global value chains, much of the exports contain imports, which is now more expensive
- The net impact of a devalued pound on exports is not clear
- Post Brexit: In short run, how do UK trade with EU and its other trading partners such as the US and China?
- Post Brexit: In long run, will UK remain competitive in the world market?

# What This Talk is All About?

- This talk will analyze the potential short term trade in goods fall outs from Brexit, through potential changes in the trade policies of its main trading partners
- The Overall Trade Restrictiveness Index (Kee, Nicita, Olarreaga, ReStat, 2008 and EJ, 2009)
- Bilateral trade elasticities and the ad valorem equivalent of non-tariff measures (Kee and Nicita, 2016)
- This talk will discuss the potential long run impact from Brexit, through FDI and its participation in global value chains
- FDI promotes local intermediate input industries which leads to rising domestic value added in exports and long term competitiveness (Kee, JDE, 2014; Kee and Tang, AER, 2016)

# What This Talk is NOT About?

- This talk will not talk about services trade, “passporting” and the role of London as a financial center post Brexit
- This talk will not talk about immigration and the social aspect of Brexit
- This talk will not speculate about the optimal timing to invoke Article 50 and “soft Brexit”

# The Overall Trade Restrictiveness Index

$$OTRI_c = \frac{\sum_n m_{n,c} \varepsilon_{n,c} T_{n,c}}{\sum_n m_{n,c} \varepsilon_{n,c}}$$

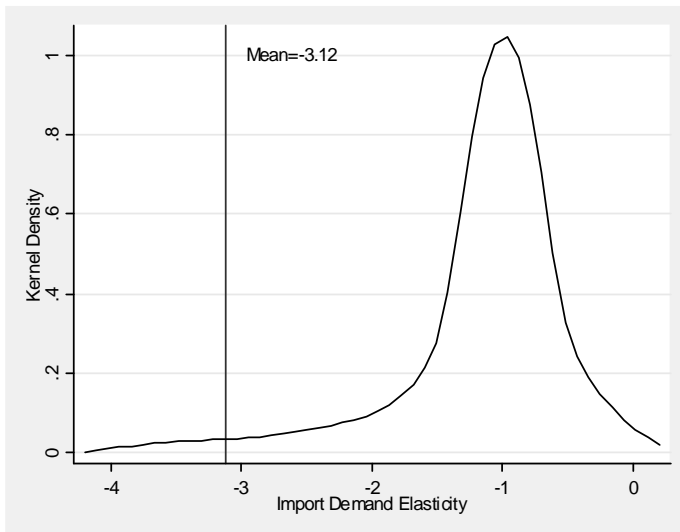
- OTRI summarizes the trade policies stance of a country, taking into account the responsiveness of trade ( $\varepsilon_{n,c}$ ) with respect to trade policy ( $T_{n,c}$ ), weighted by the share of each product in total trade ( $m_{n,c}$ )
- Trade policy include both tariff and the ad valorem equivalent (AVE) of non-tariff measures (NTM)
- NTM include Sanitary and Phytosanitary Measures, such as requirements on labelling, hygiene, maximum pesticide residue limits and testing; as well as Technical Barriers to Trade, such as requirements on labelling, product quality, packaging, and certifications
- Theoretical foundation: Anderson and Neary (1992, 1994, 1996, 2003 and 2007), Feenstra (1995)
- Basic ingredients for OTRI: trade elasticities and AVE of NTMs



# Import Demand Elasticities and Trade Distortions (Kee, Nicita and Olarreaga, ReStat, 2008)

- Based on a GDP function approach: Overall 377,000 import demand elasticities are estimated for 117 countries across 4900 HS 6-digit products
- Sample mean is around 3, which is in line with the estimates provided in the literature
- Wide range of estimates suggesting product heterogeneity – trade distortion could be higher
- Import-weighted average tariffs underestimate the restrictiveness of a country's tariff regime when tariff and demand elasticity is positively correlated
  - Canada and the US, that impose high tariffs on more elastic products will have a larger trade and welfare distortions

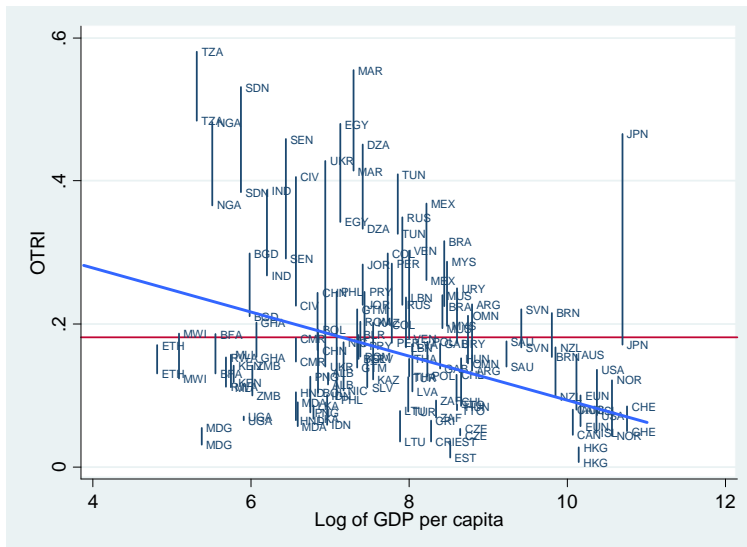
# Wide Range of the import demand elasticity estimates at HS 6-digit level Implies Large Trade Distortions



# Estimating Trade Restrictiveness Indices (Kee, Nicita and Olarreaga, EJ, 2009)

- Estimate the AVE of NTM at importer-product level based on gravity regressions
- The simple average ad-valorem equivalent in the entire sample for core NTBs is 12%
- Tariff and AVE are negatively correlated – suggesting trade policy substitutions and the importance of including AVEs in analysis
- Combining the elasticity and AVE estimates, OTRI of 78 countries are constructed
- NTMs have a significant contribution to the level of trade restrictiveness
- Developing countries tend to have higher trade barriers than developed countries

# OTRI Decreases with GDP per Capita



# Impacts of OTRI, AVEs of NTMs and Trade Elasticities

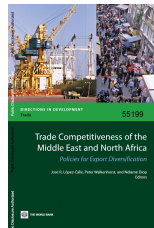
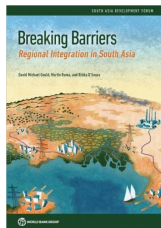
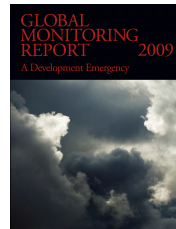
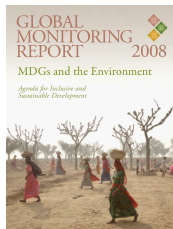
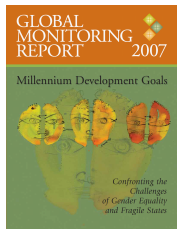
- Within the Bank:

- OTRI have been included in Global Monitoring Report from 2003 to 2009, to keep track of trade policy reforms of member states
- OTRI is part of the World Trade Indicators of the Bank
- OTRI and the AVE estimates were included in many regional flagships, including MNA, LAC, SSA and SAR, as well as many country reports, such as Malaysia, Sri Lanka and others

- Outside the Bank:

- OTRI and trade elasticity estimates have been closely followed by many governments, and were used by the EU and the US trade negotiators in their World Trade Organization (WTO) trade disputes
- Many leading academics have used these estimates for their own work (eg. Bob Staiger, Karl Bagwell, James Anderson, Peter Neary, Douglas Irwin and Peter Petri)
- Jointly these two papers generated more than 1,100 citations according to Google Scholar

# Some Glossy Covers



# Is Protectionism on the Rise? Assessing national trade policies during the crisis of 2008 (Kee, Neagu and Nicita, ReStat, 2013)

- The Great Trade Collapse 2008: Many economists feared protectionism  $\Leftrightarrow$  the trade collapse
- Use OTRI to quantifies trade policy changes and the associated trade impacts for about 100 countries between 2008 and 2009

$$\Delta OTRI_c = \frac{\sum_j \sum_n m_{n,c,j} \varepsilon_{n,c,j} (\Delta T_{n,c,j})}{\sum_j \sum_n m_{n,c} \varepsilon_{n,c,j}}$$

- While the rise in tariffs and antidumping duties may have jointly caused global trade to drop by US\$43 billion, it explains less than 2% of the collapse in world trade during the crisis period
- Albie Award of Foreign Policy for the best papers on political economy in 2013; Cited in Economist; Media interview by Reuters
- Reprinted in *International Trade and the New Global Economy* (2016)



## COLUMN

# Presenting the Albies of 2013

The best global political economy writing of the year -- tweets included.

BY DANIEL W. DREZNER

DECEMBER 31, 2013



As 2013 draws to a close, I am pleased to announce the 5th annual winners of the **Albies**, awarded for the best writing in global political economy for the past calendar year. The Albies are named for the late great political economist **Albert O. Hirschman**. I take great pride in choosing these 10 awards at the end of the calendar year, in no small part because, as you'll see, the winners vary from prestigious university press books to snarky blog posts. The important thing is that these 10 contributions forced the reader to think about the way the global economy works in a way that can't be unthought.

In no particular order, here are the 10 Albie winners:

19. 10. Hiau Looi Kee, Cristina Neagu, and Alessandro Nicita. "**Is protectionism on the rise? Assessing national trade policies during the crisis of 2008.**" *Review of Economics and Statistics* 95, no. 1: pp. 342-346. Hey, remember how Global Trade Alert keeps warning people of a tsunami of protectionism that has yet to happen? This paper is just one of many to point out an unsung story of the past few years: the failure of trade protectionism to explode in the wake of the worst economic downturn since the 1930s. This is one of the great "dog that did not bark" events that merits further investigation.

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BUSINESS NEWS | Mon Jul 19, 2010 | 6:09pm BST

## Protectionism barely affected trade - World Bank economist



By Jonathan Lynn | GENEVA

Protectionist measures taken by different countries during the financial crisis had little overall impact on trade, a World Bank economist said on Monday.

Hiau Looi Kee said research she and her colleagues have undertaken shows that protectionist measures such as tariff increases or anti-dumping duties accounted for less than two percent of the contraction in world trade in the crisis.

The economic downturn resulting from the financial crisis that broke in 2008 prompted fears that countries would defend themselves with protectionism, leading to a rerun of the 1930s Great Depression when governments reacted to the 1929 Wall Street Crash with a series of beggar-thy-neighbour trade moves.

And while G20 leaders immediately promised to keep markets open, in practice many did implement protectionist policies.

Such measures have been documented by Global Trade Alert (GTA) ([www.globaltradealert.org](http://www.globaltradealert.org)), a project by independent economists, whose latest report last month showed protectionist policies were continuing to mount.

But Kee said that analysis of the same data used by GTA gave a different picture, when examined for its impact on trade flows, the share of affected goods in overall trade, and the responsiveness of trade in those products to the measures.

"It's quite sensational to read about all the countries raising tariffs and anti-dumping duties, but if you actually do the math it doesn't look like a great deal of effect," she told Reuters by telephone from Washington.

### DECLINING PROTECTIONIST PRESSURE

Kee said that at the very most, protectionist policies had resulted in a decline of \$43 billion (28.2 billion pounds) in trade between July 2008 and September 2009, the latest period for which detailed tariff data are available.

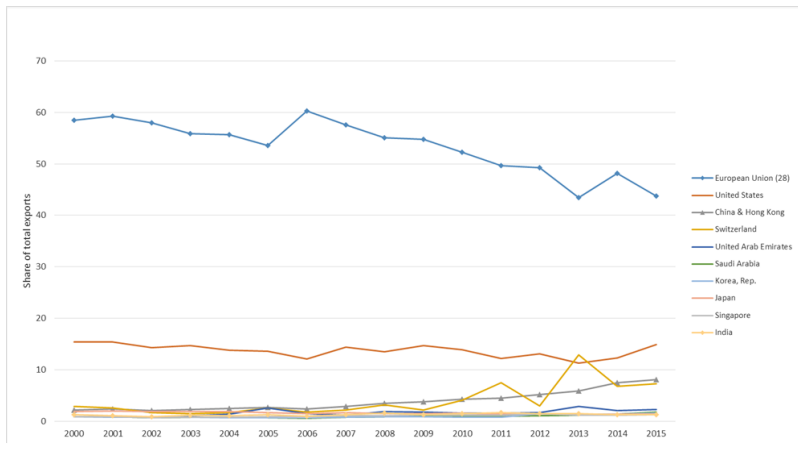
The World Trade Organisation estimates that trade contracted by 23 percent in value terms in 2009 to \$12.5 trillion.

She said the research had looked only at quantifiable protectionist measures such as tariff increases or duties, not at "murky protectionism" such as stimulus packages or Buy National policies whose economic effect was hard to assess.

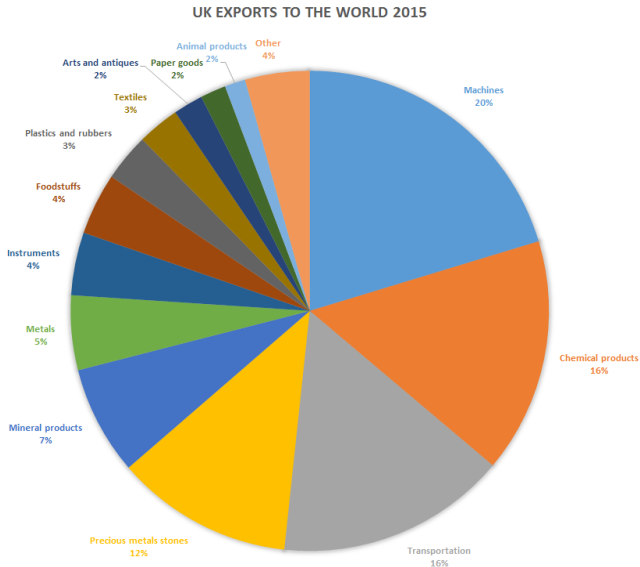
# Application: Brexit

- Based on the newly collected NTM database (UNCTAD and World Bank)
- Bilateral import demand elasticities and AVEs are estimated in Kee and Nicita (2016)
- Cover trade data of 35 importing countries with 96 exporting countries

# Export Profile of UK – by Destination Country



# Export Profile of UK – by Sector



Source: WITS database, World Bank, 2016

# Trade Policies of Main Partners

- With the exception of EU, most trading partners do not give trade preference to UK's exports

	EU	China	USA
Maximum MFN tariff (%)	74.9	65	350
Minimum MFN tariff (%)	0	0	0
Product subjected to positive tariff (%)	75	93	58
Maximum AVE (%)	1725	1627	1900
Minimum AVE (%)	0	0	0
Product subjected to positive AVE (%)	33	48	25

# Current OTRI of Main Partners

	EU	China	USA
Import Weighted Average MFN Tariff (%)	3.4	6.73	1.54
Import Weighted AVE (%)	3.43	0.74	3.18
Import Weighted Trade Elasticity	-6.4	-4.4	-0.18
Current OTRI (%)	0	0.76	1.36

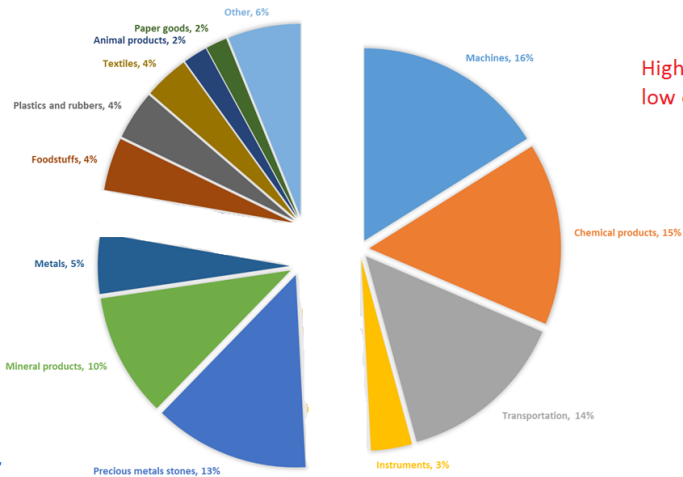
# Potential Trade Impact from Main Partners due to Brexit

	EU	China	USA
Potential Change in OTRI post Brexit (%)	0.26	0	0
Potential Change in Trade post Brexit (%)	-1.7	0	0
Potential Change in Trade post Brexit (\$Billion)	-3.43	0	0

- Short term disruptive trade due to trade policy seems to be small – OTRI of main partners are low and UK has been complying with NTMs of current partners
- Majority of UK's exports to EU are either heterogeneous products with low elasticities or homogeneous products with low MFN tariffs
- Without any trade deals, UK exports may drop by less than 2%

# Why is EU's OTRI Low?

U.K. EXPORTS TO THE EU 2015



High  
elasticity,  
low MFN

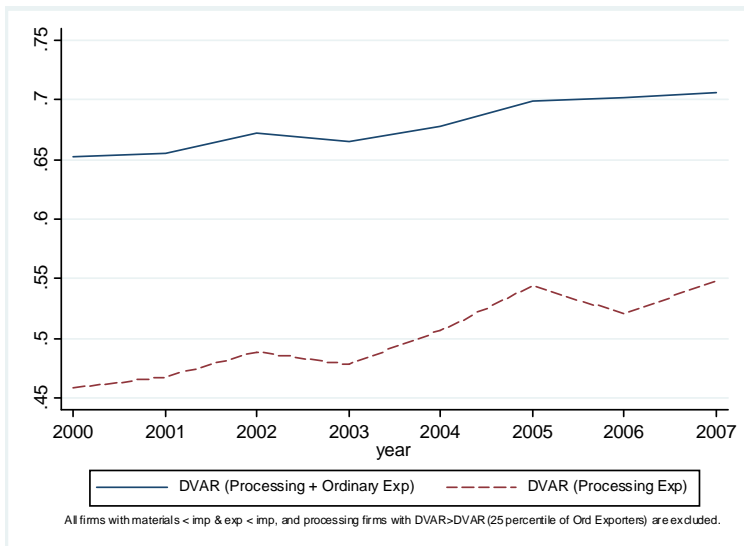
High MFN tariff,  
low elasticity



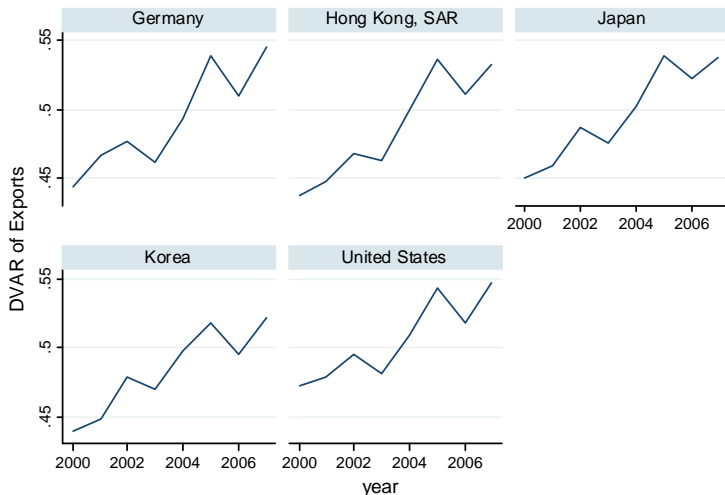
# Domestic Value Added in Exports: Theory and Firm Evidence from China (Kee and Tang, AER, 2016)

- One way to measure long term competitiveness is to measure domestic value added (DVA) in exports, which captures the contribution of exports to GDP
- Kee and Tang (AER, 2016) pioneers a firm level approach to calculate DVA in exports based on customs transaction level data of China, instead of using conventional Input-Output Tables
- Firm level approach embraces firm heterogeneity and allow different firms to have different production technology
- DVA of Chinese exports are higher and are rising, from 65 to 70 percent in 2000-2007

# DVAR of China's Aggregate (Processing + Ordinary) Exports



# DVAR of China's Exports to its Top 5 Trading Partners

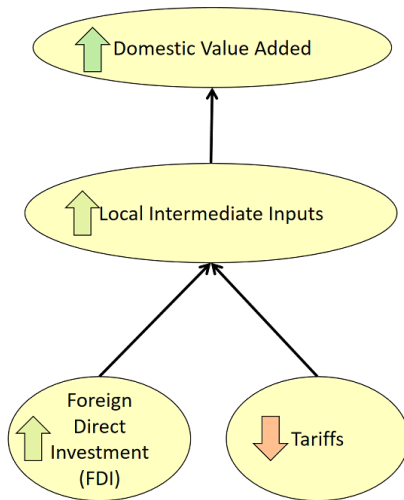


Graphs by two-digit iso code

# Factors behind China's Rising DVAR: Trade and FDI Liberalization which Promote GVC Participation

- Rising DVAR was induced by the country's trade and FDI liberalization, which deepened its engagement in global value chains and led to a greater variety of domestic materials becoming available at lower prices.
- Increase presence of downstream FDI and decrease in upstream tariffs both help expand domestic variety of intermediate inputs, which leads to lower domestic prices and higher DVAR

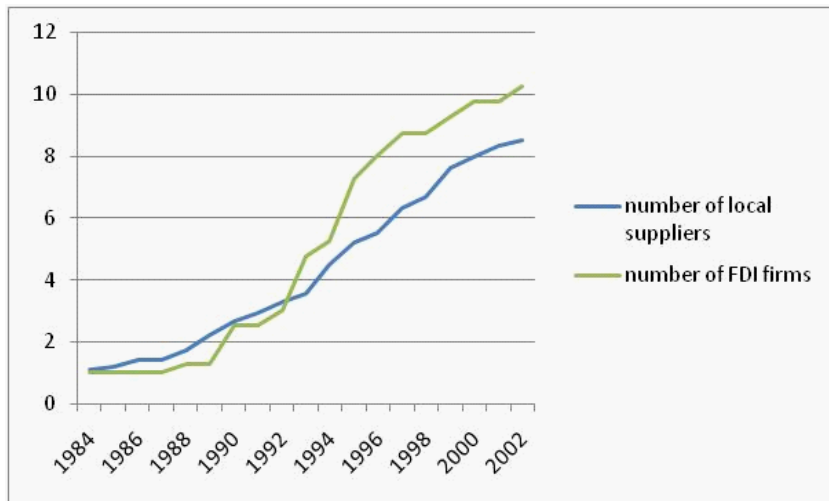
# Trade and FDI Liberalization Affect DVAR



# Local Intermediate Inputs and the Shared Supplier Spillovers of Foreign Direct Investment (Kee, JDE, 2014)

- Cross support requested by the Government of Bangladesh: to study the potential benefits to domestic garment firms should the government liberalize FDI restrictions after the end of the Multi-Fiber Agreement (2005)
- Conduct firm level survey to collect information on garment firms and their suppliers
- Sharing local suppliers with domestic firms, FDI firms help promote 1/4 of the product scope expansion and 1/3 of the productivity gains within domestic firms
- Paper was really well received by the Government and the private sector and the country has since open up for more FDI
- Currently Bangladesh is one of the top 5 garment exporters of the world

# Numbers of Garment FDI firms and Local Suppliers In Bangladesh (1984=1)

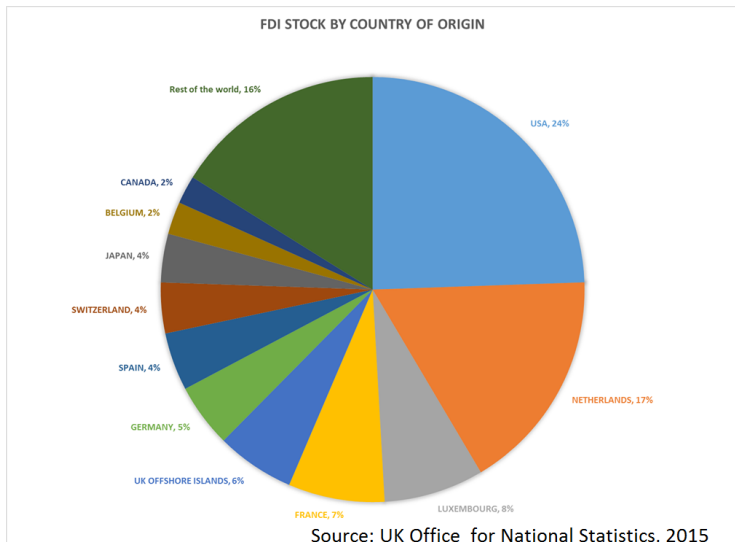


- FDI benefits local economy beyond the immediate sectors they participate in
- Presence of FDI helps promote local intermediate input industries of China and Bangladesh
- Competitive local intermediate input industries allow countries to move up the global production chains

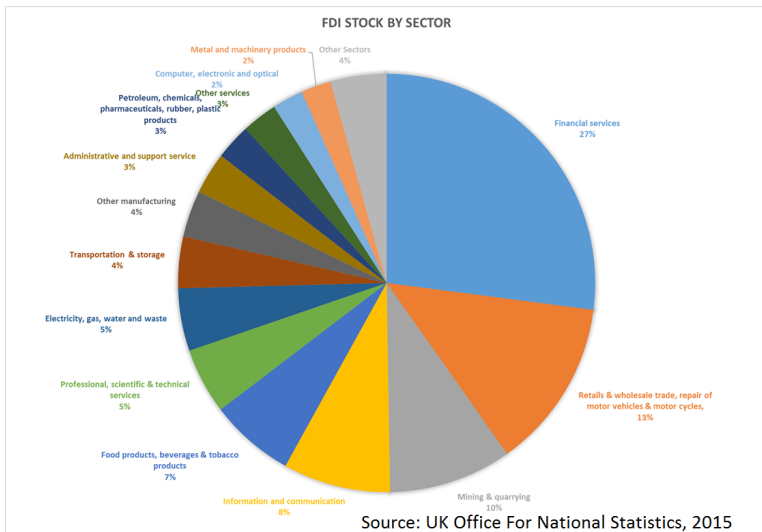


- UK as a FDI destination: #1 in EU and #4 in the World (behind US, China and India)
- In 2014/2015, UK attracted 1/3 of FDI in EU, mostly in the financial services sector, headquarter services and R&D
- Largest FDI source countries: US, EU
- Manufacturing industries: automotive, food, and machinery and equipment sectors

# FDI Profile of UK – by Source Country



# FDI Profile of UK – by Sector



# Potential Long Term Implications

- 2015 UK attractiveness survey by Ernst and Young: 72% of investors citing access to the European single market as important to the UK's attractiveness
- Brexit anxiety: uncertainty may hurt existing and future FDI
- Brexit may not affect manufacturing FDI and UK participation in global value chains
- Business services may be significantly affected

- Short term collapse in trade due to trade policy changes is unlikely
- Long term competitiveness depends on whether UK can retain and attract FDI