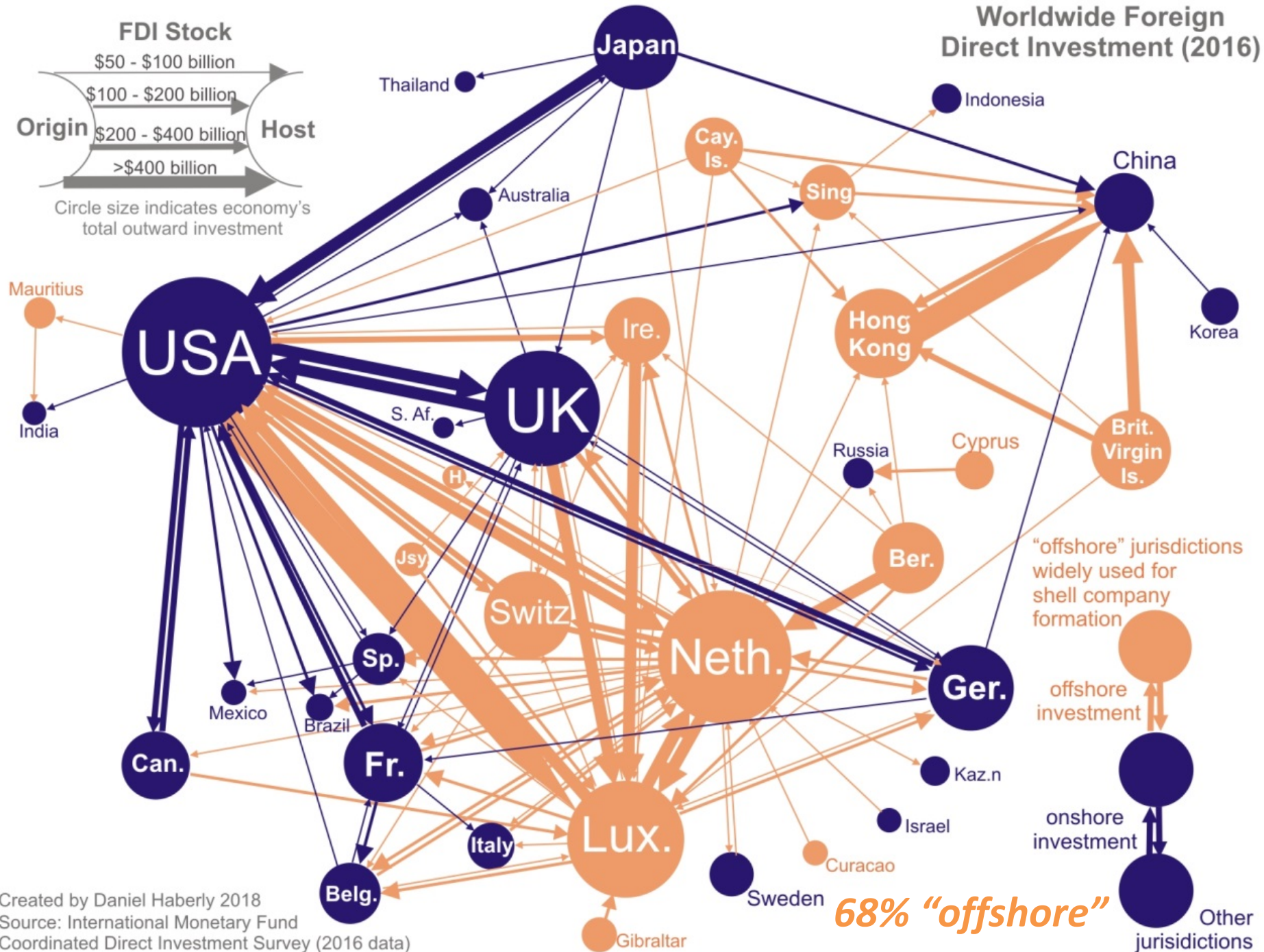
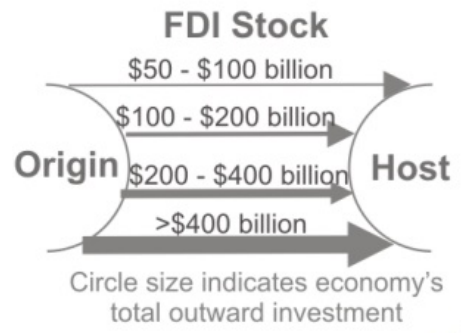


# **Methods of empirical analysis of tax havens and offshore FDI**

**Daniel Haberly,  
University of Sussex**



# Worldwide Foreign Direct Investment (2016)



"offshore" jurisdictions widely used for shell company formation

offshore investment

onshore investment

**68% "offshore"** Other jurisdictions

Created by Daniel Haberly 2018  
 Source: International Monetary Fund  
 Coordinated Direct Investment Survey (2016 data)

# **Key Questions:**

**Who does offshore FDI belong to, what is it doing where and why?**



# Key Questions:

Who does offshore FDI belong to, what is it doing where and why?

## Agenda:

- Construction of new FDI dataset through integration of macro & micro-level sources
- Analysis of determinants of offshore FDI (preliminary with new data, & older with existing data)
- Concluding thoughts

# The Atlas of Offshore FDI



**Collaboration between University of Sussex School of Global Studies (PI Daniel Haberly and Research Assistant Di Song), International Centre for Tax and Development (co-I Mick Moore) Tax Justice Network (external impact partner Alex Cobham), and Jonathan Gray (KCL/Public Data Lab), Chris Anderson (University of Leeds), and Michele Mauri and Angeles Briones (DensityDesign) (interactive visualization collaboration)**

# The Atlas of Offshore FDI

## Two key components:

- 1) Construct the first database of 3D/trilateral (home-conduit-host) and 4D FDI (“real” home-nominal home-conduit-host) in major economies

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- 1) Construct the first database of 3D/trilateral (home-conduit-host) and 4D FDI (“real” home-nominal home-conduit-host) in major economies
  - Integrate multiple macro and micro-level datasets to estimate who bilateral aggregate offshore FDI positions actually belong to / where they actually originate (including where data is relatively poor)
  - Quantify the residual uncertainty



# The Atlas of Offshore FDI

## Two key components:

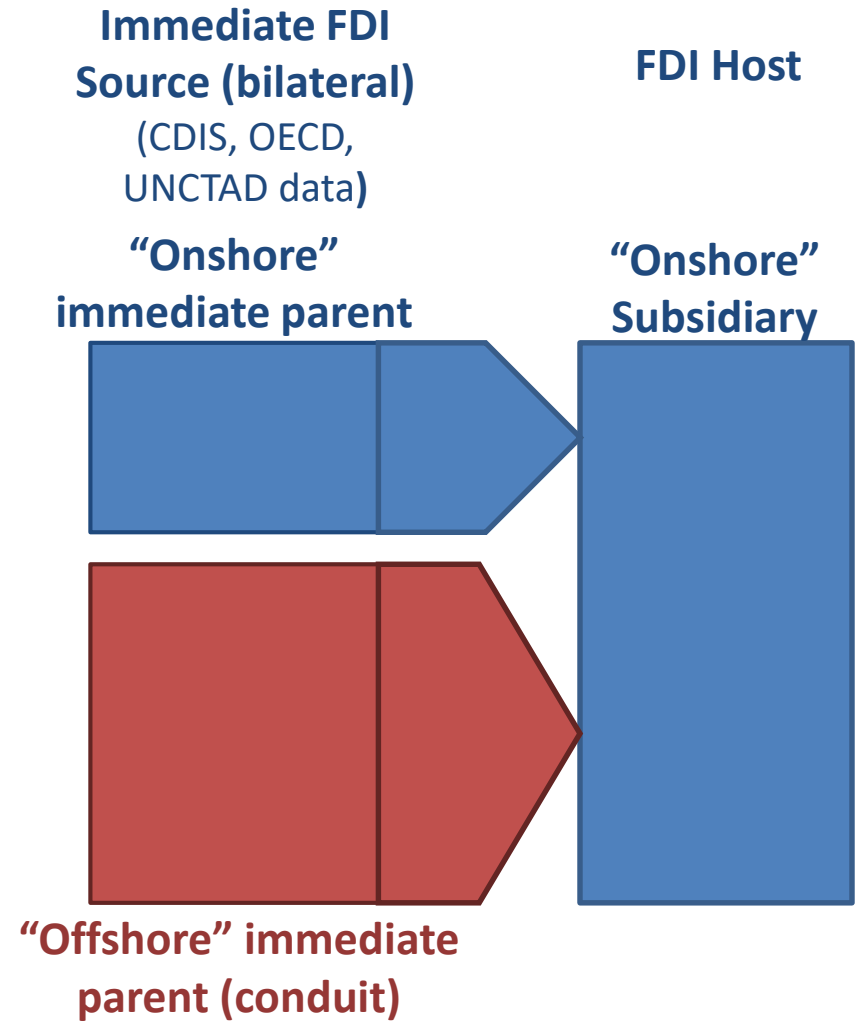
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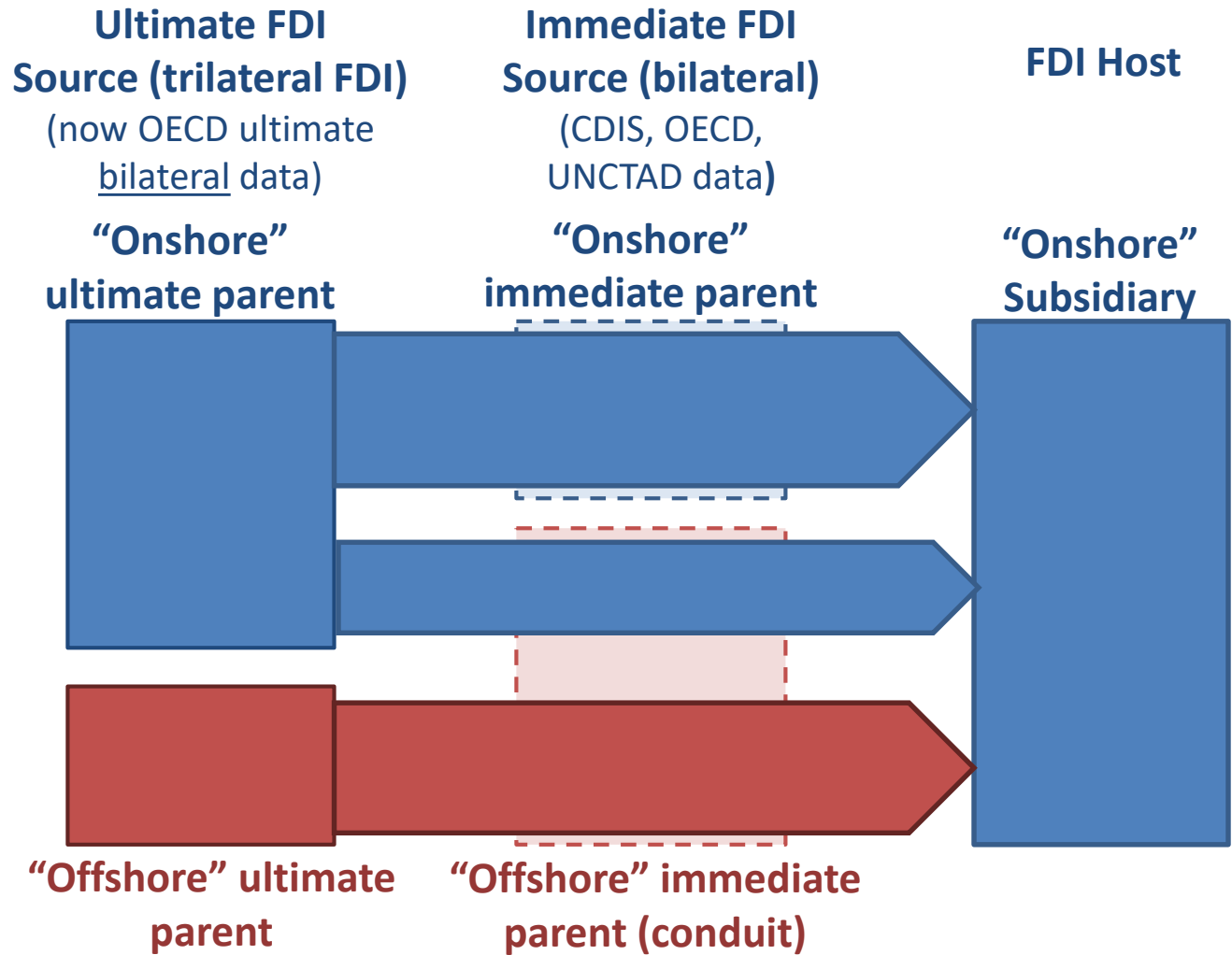
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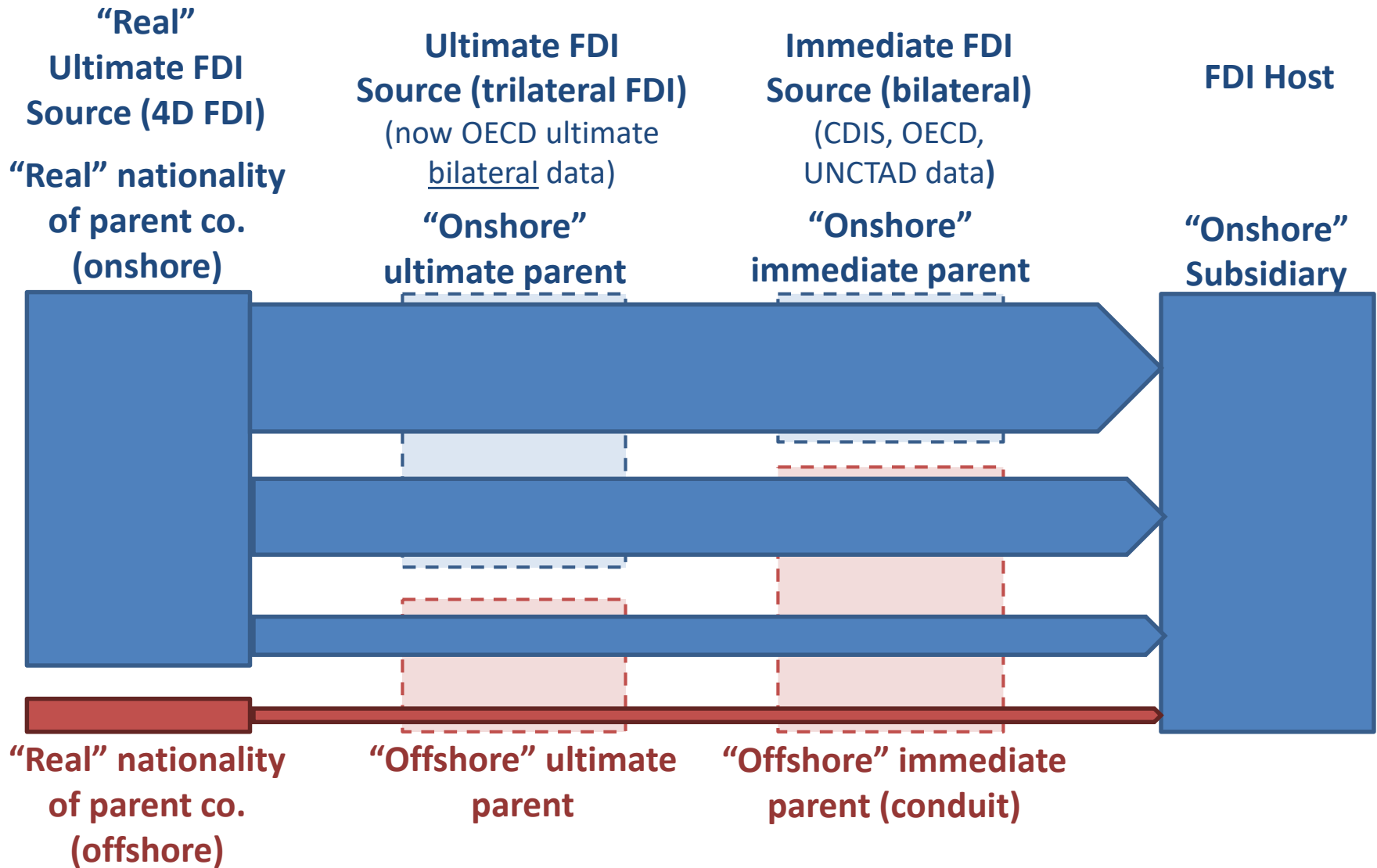
# From bilateral to trilateral (3D) FDI



# From bilateral to trilateral (3D) FDI



# From bilateral to 4D FDI



# Levels of Offshore FDI Analysis

## Macro-level

(CDIS, OECD,  
UNCTAD, etc.)

## Meso-level/ Hybrid

(Atlas of Offshore FDI)

## Micro-level

(Orbis...)

### Low Resolution

country-bilateral  
(2D) aggregate

### Medium Resolution

3D (country-trilateral)  
to 4D aggregate

### High Resolution

firm/entity-level

### High Accuracy

official

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with quantifiable  
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large data gaps,  
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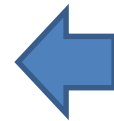


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*Triangulation Approach*

# Generating 4D FDI matrix: Methodology

Monte Carlo simulation of what FDI could be based on “triangulation” between micro (Orbis) and macro (bilateral OECD and IMF) data

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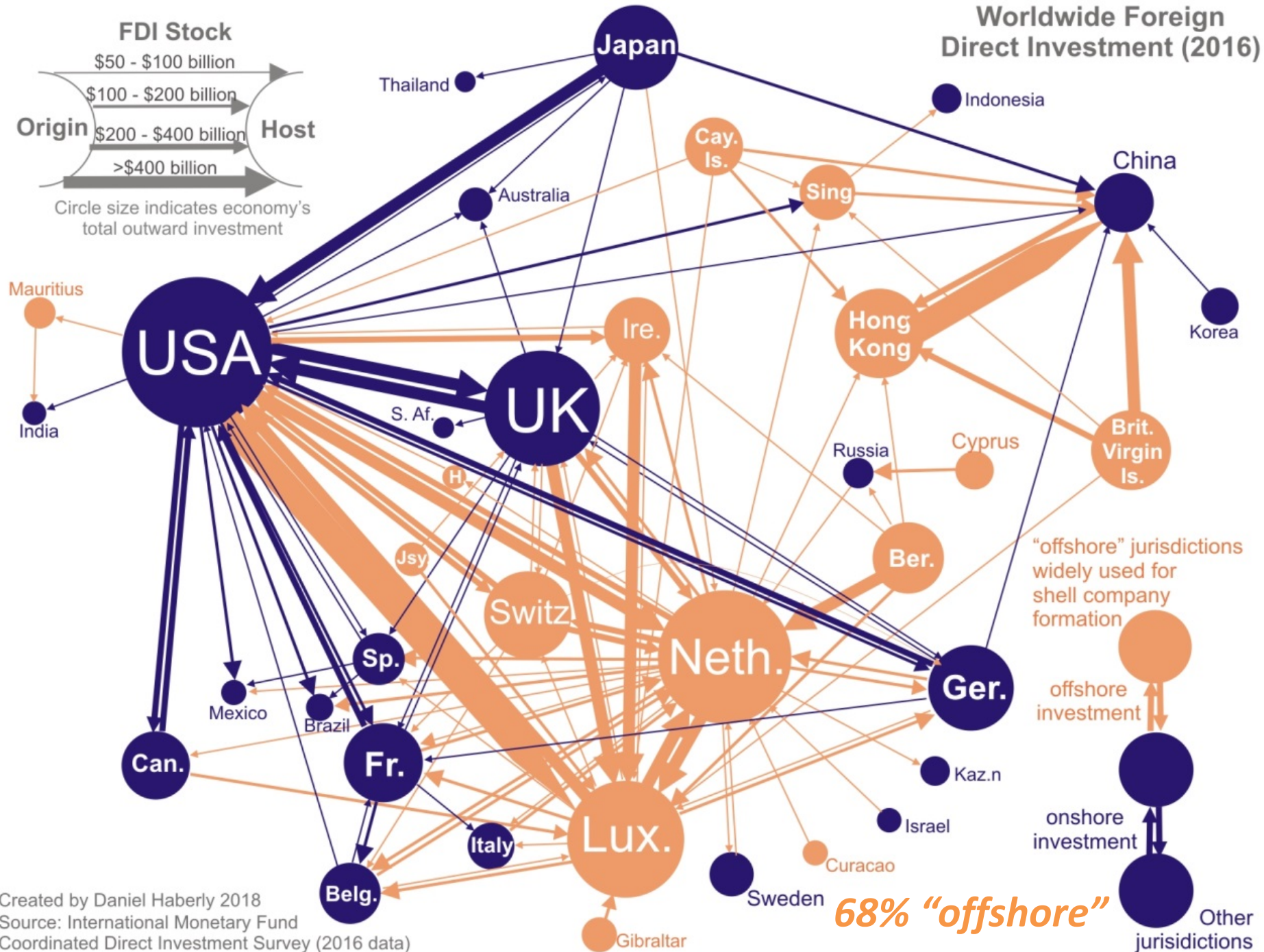
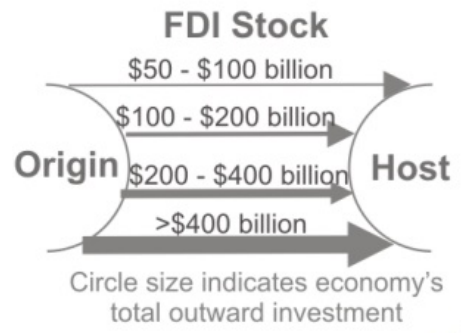
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- **Step 5**: Adjust values in matrices to force convergence on known (officially-reported) bilateral IMF and OECD FDI data (by immediate investor, or immediate and ultimate investor simultaneously)

# Results

# Worldwide Foreign Direct Investment (2016)



"offshore" jurisdictions widely used for shell company formation

offshore investment

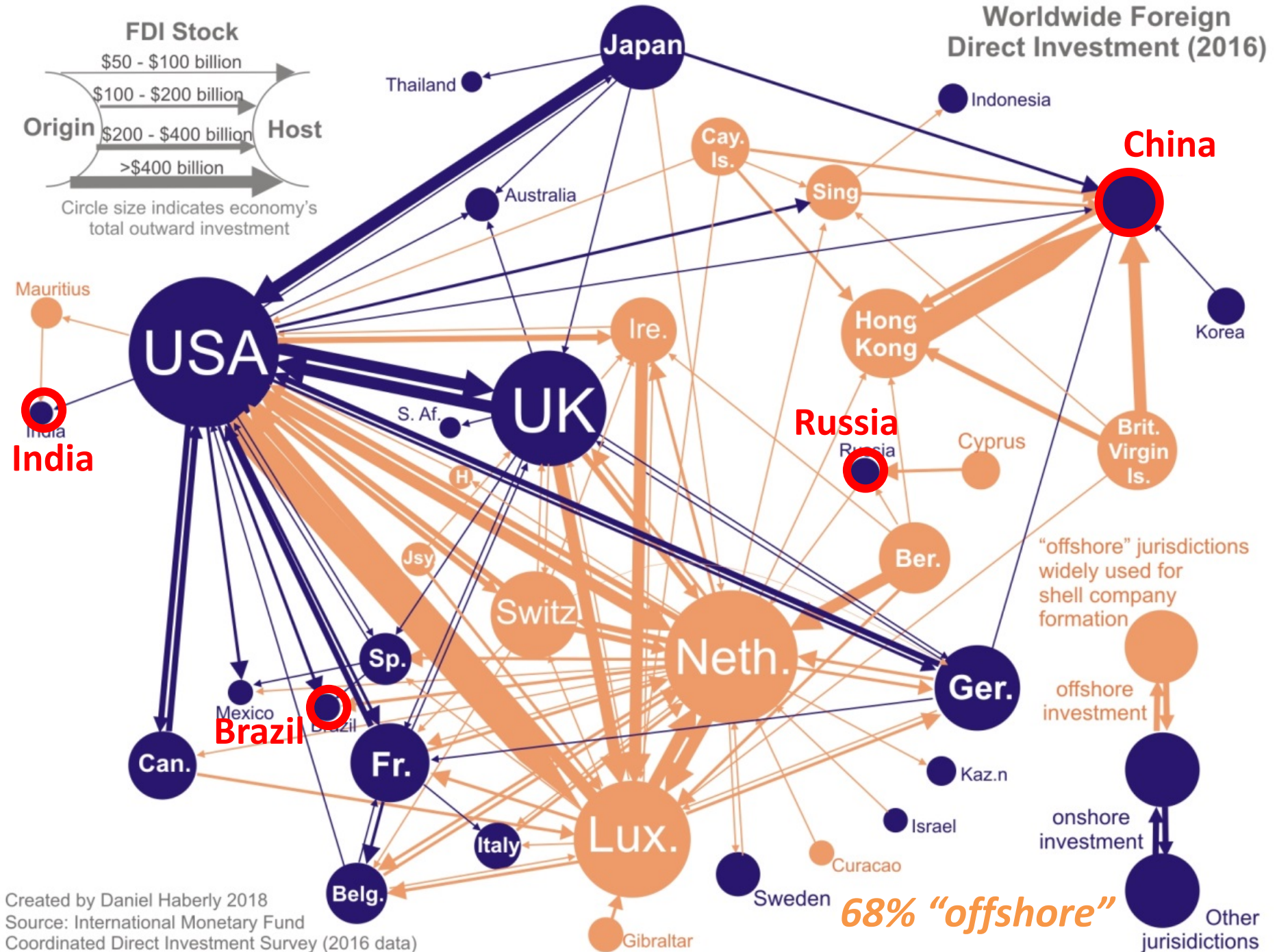
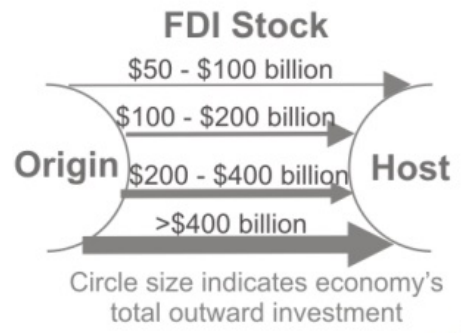
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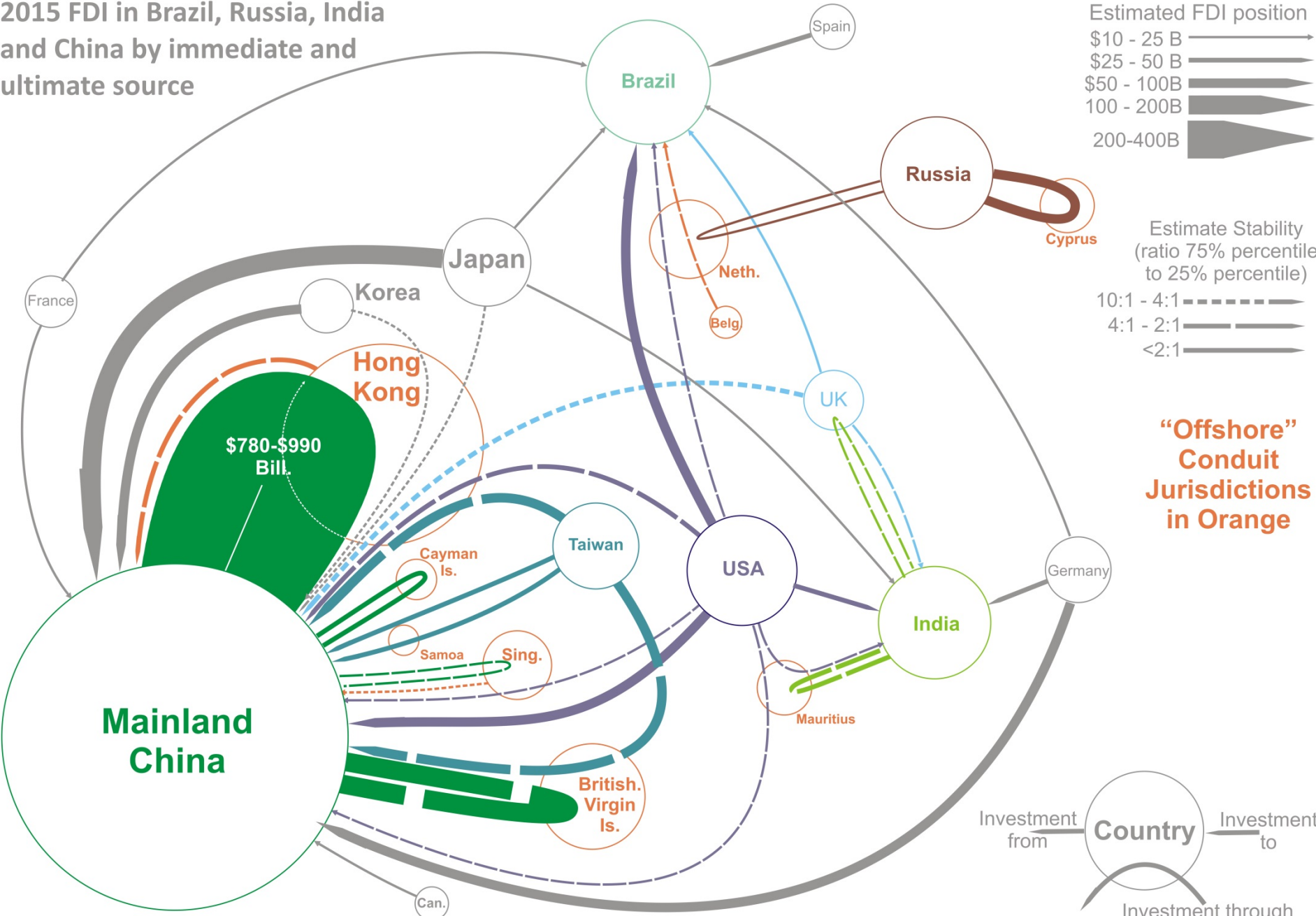


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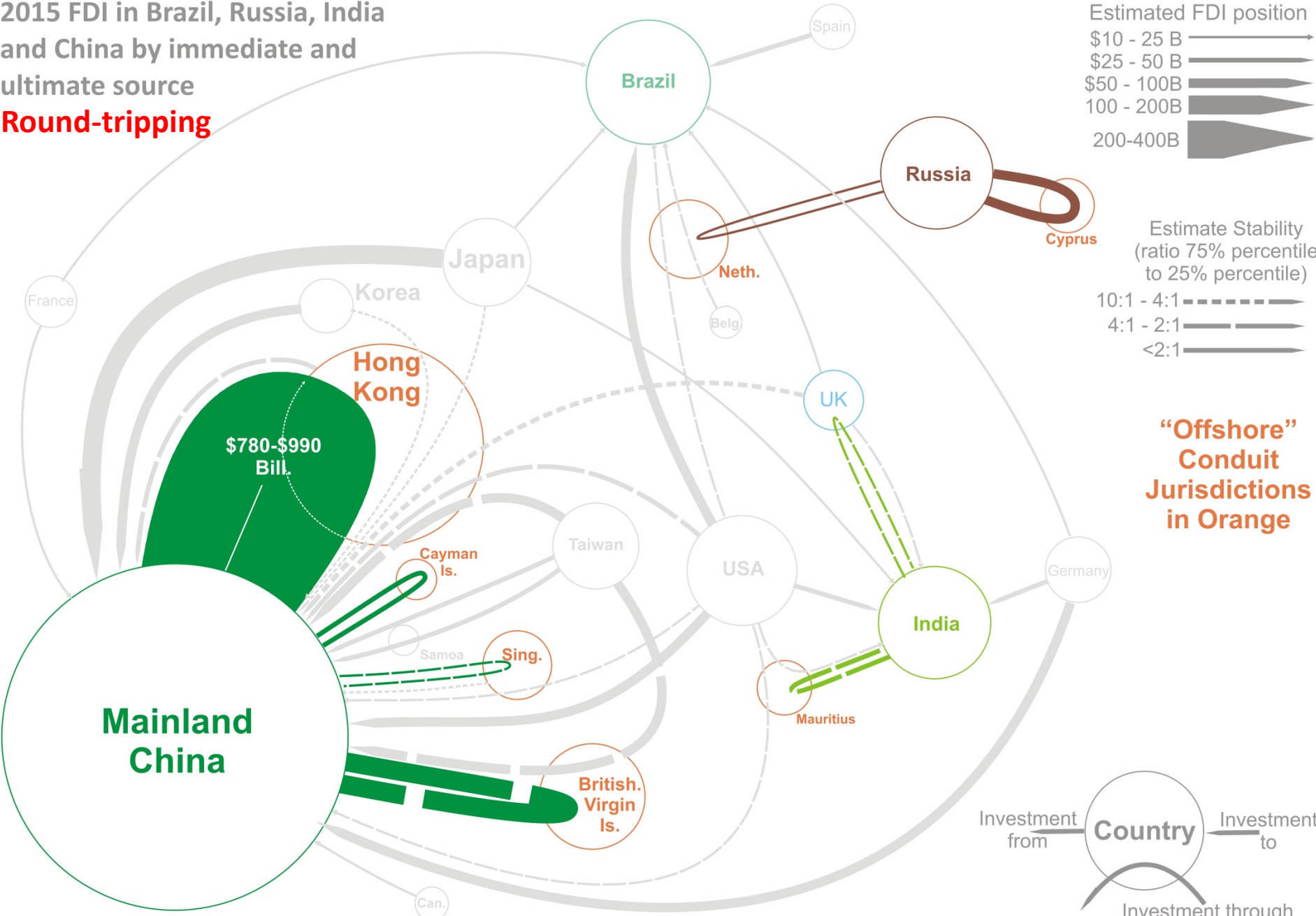
# 2015 FDI in Brazil, Russia, India and China by immediate and ultimate source



Created by Daniel Haberly 2019

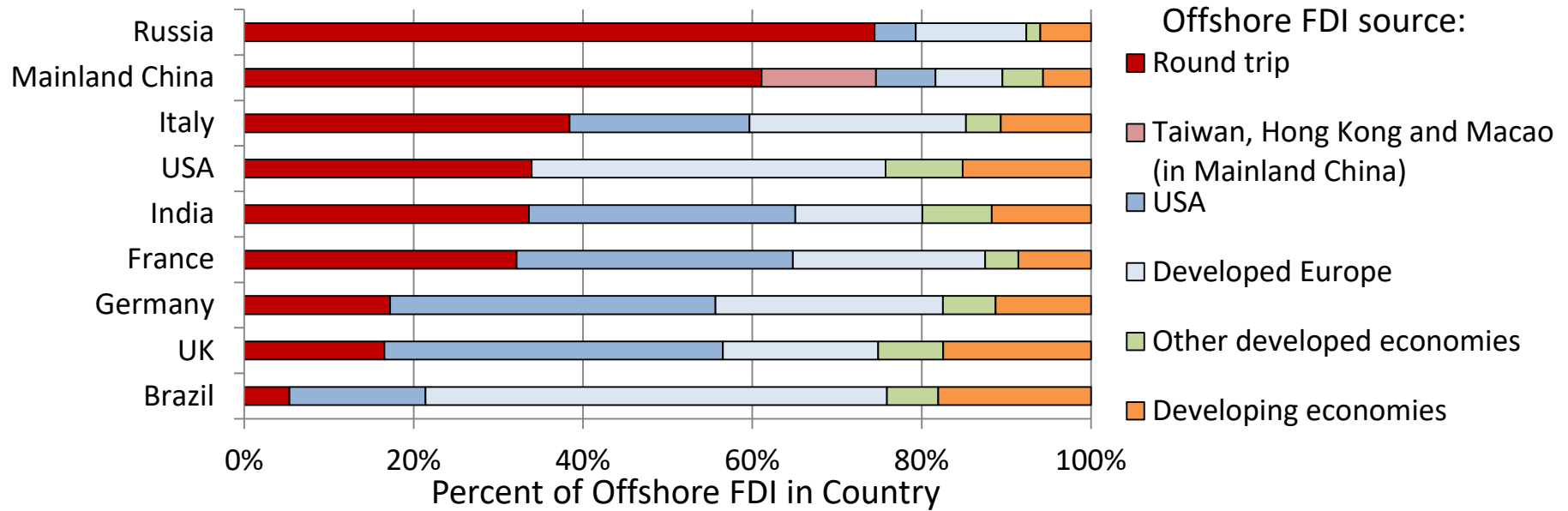
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Round-tripping

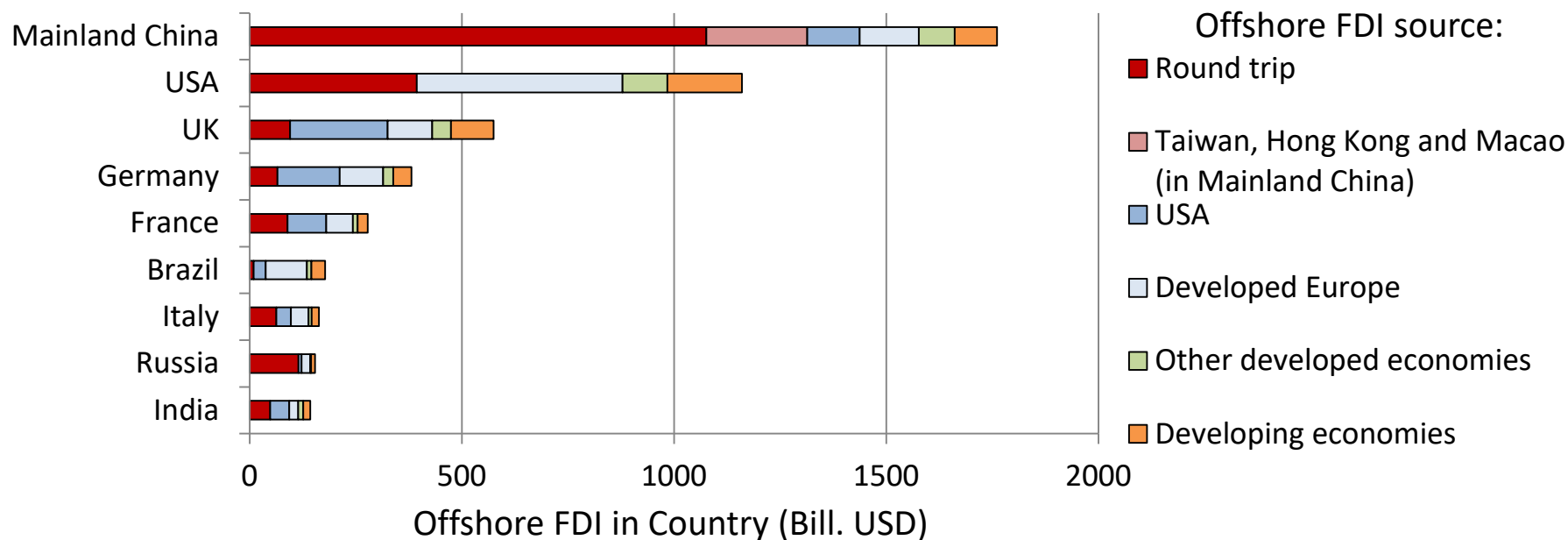
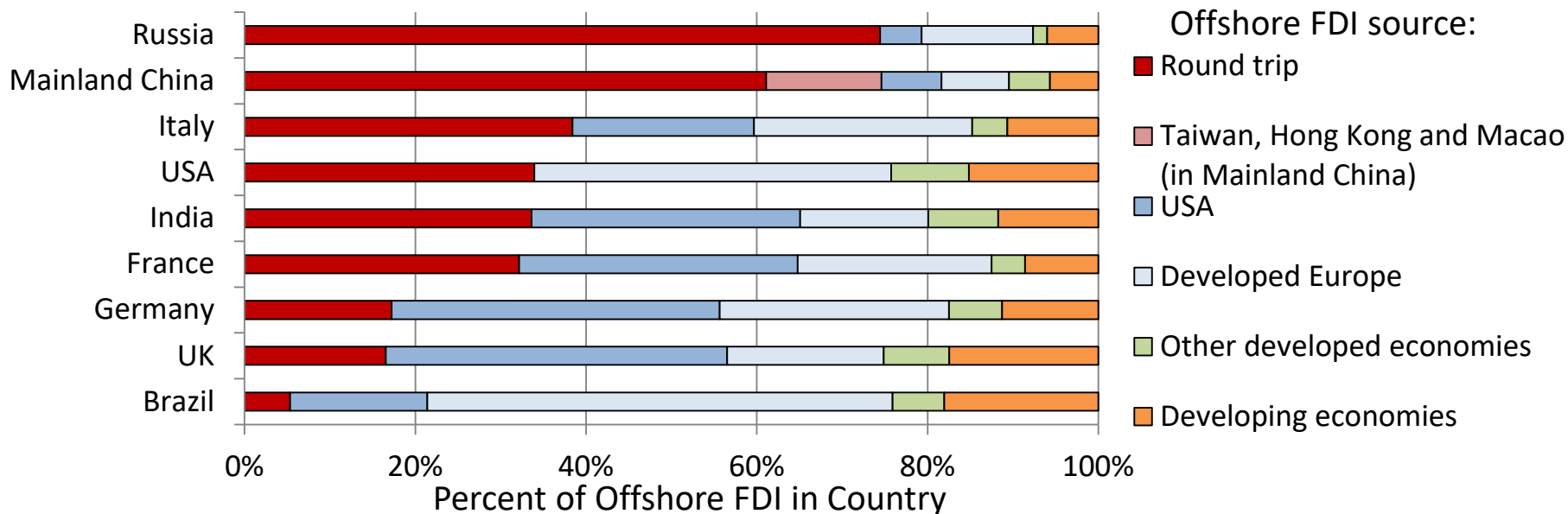




# Sources of Offshore FDI in Host Countries

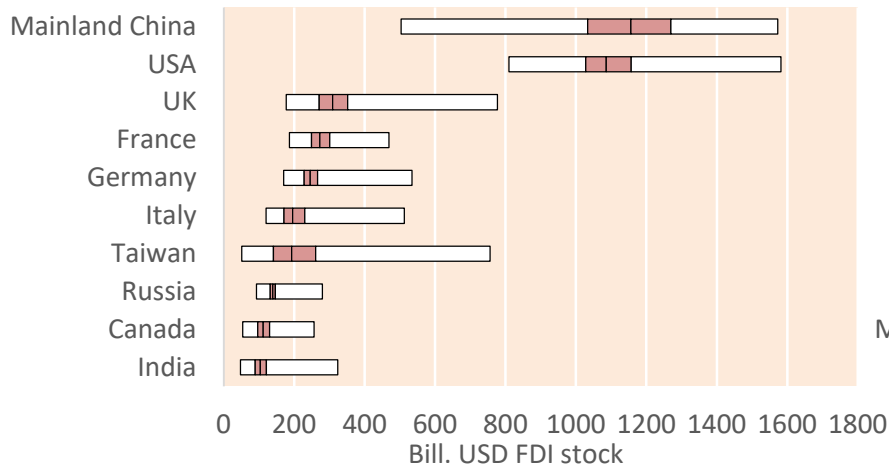


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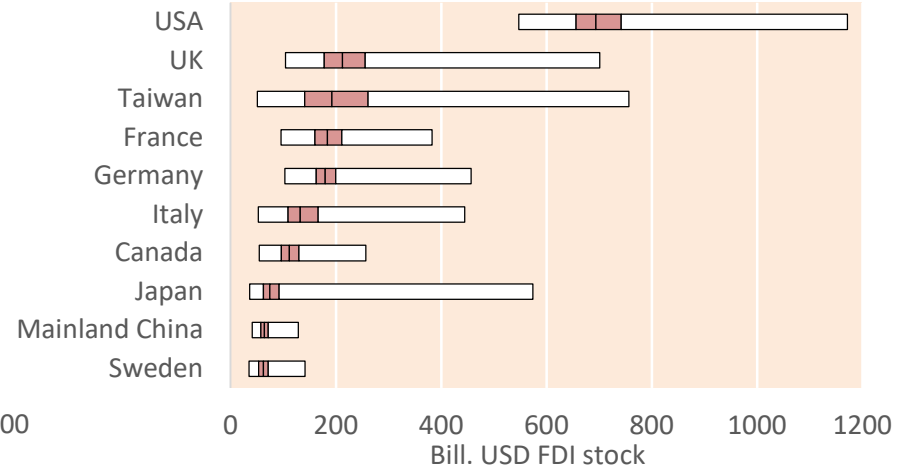
# Largest overall sources of offshore FDI

Top-10 Sources of Offshore FDI in Brazil, Russia, India, China, USA, UK, France, Germany, and Italy, 2015



Distribution of simulated values  
 □ First Quartile ■ Second Quartile ■ Third Quartile □ Fourth Quartile

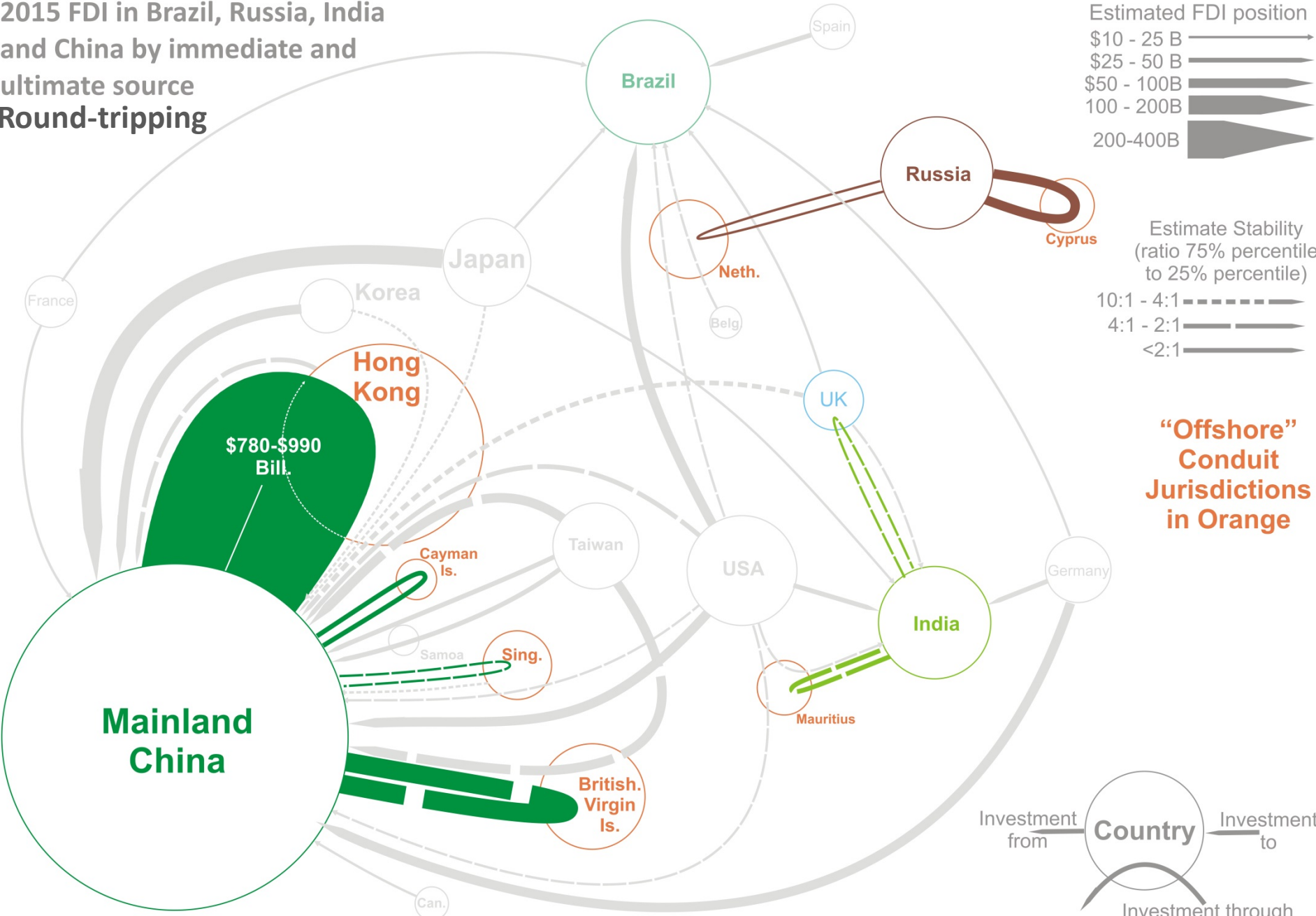
Top-10 Sources of Offshore FDI *Excluding Round-Tripping* in BR, RU, IN, CN, US, GB, FR, DE, and IT, 2015



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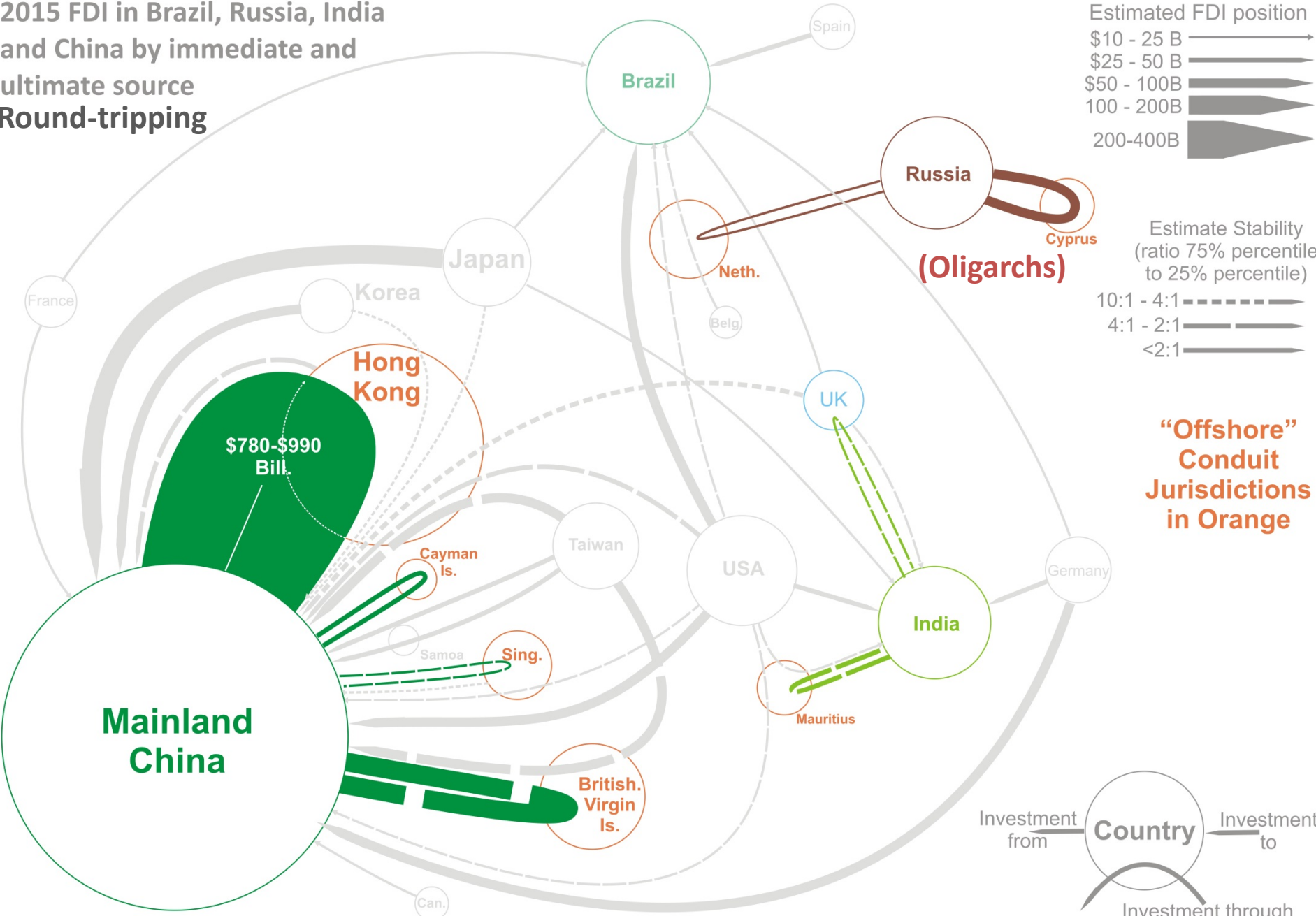
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## Round-tripping

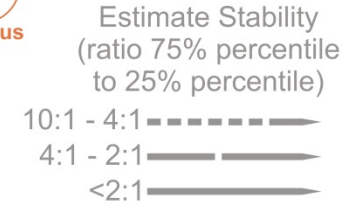
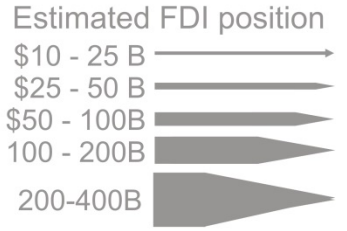


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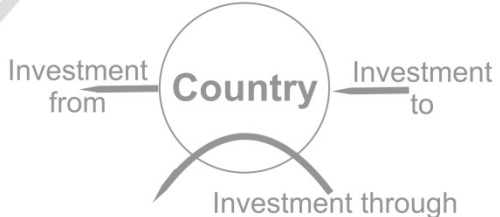
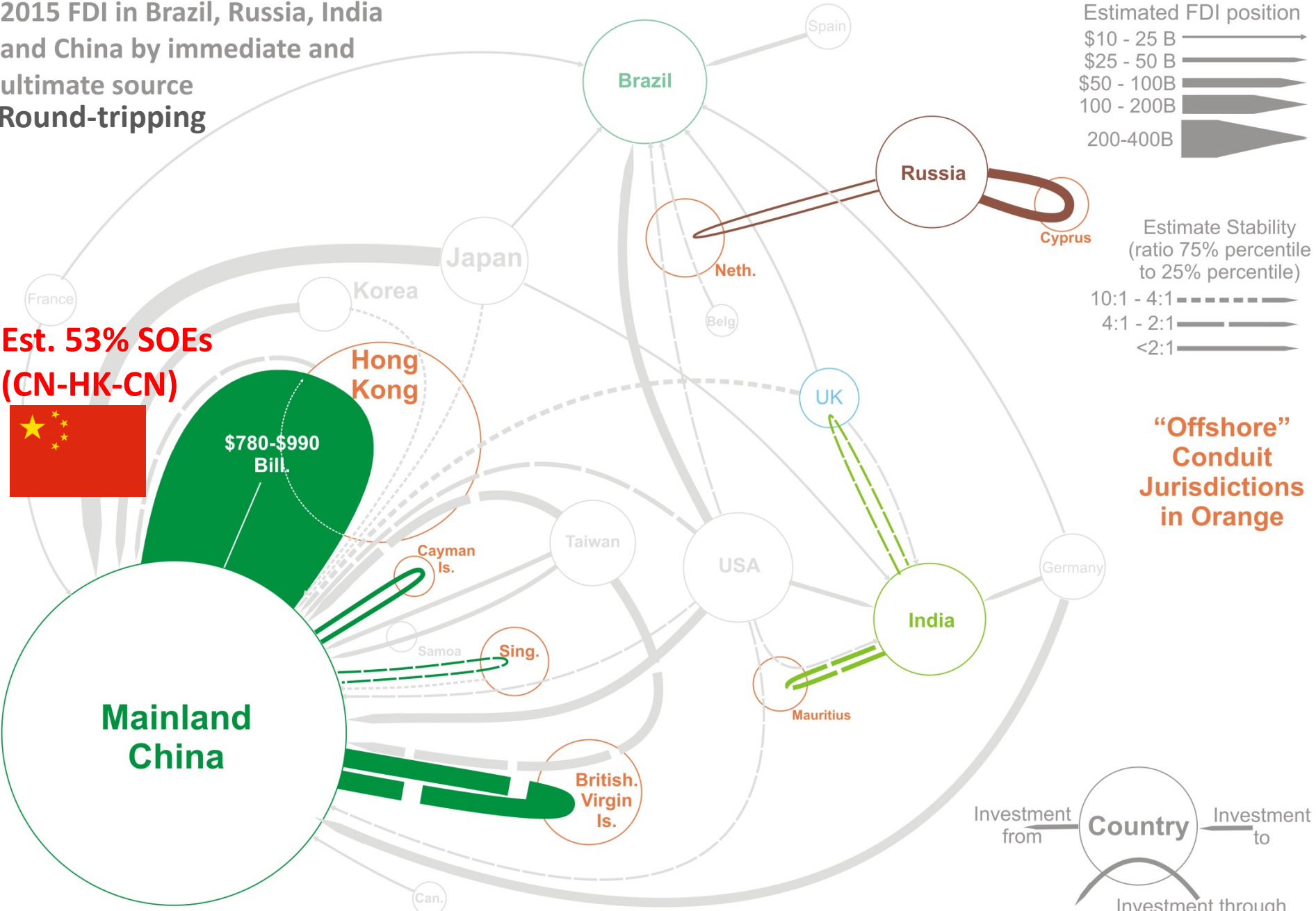


**“Offshore” Conduit Jurisdictions in Orange**

**Est. 53% SOEs (CN-HK-CN)**

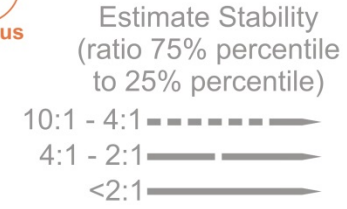
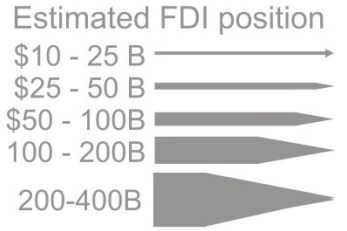


**\$780-\$990 Bill.**





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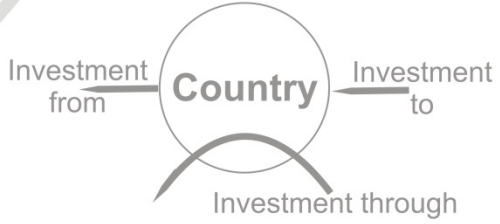
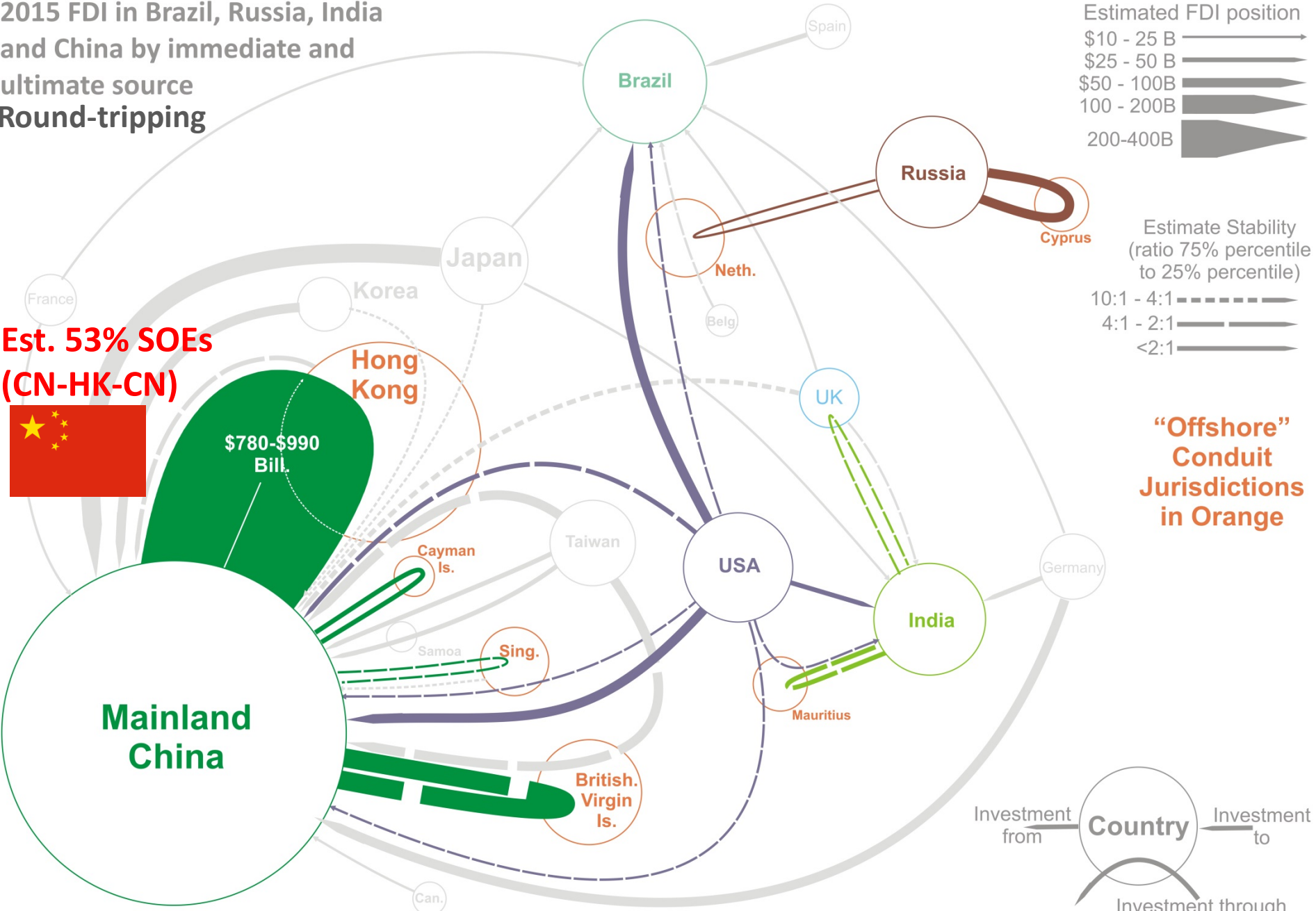


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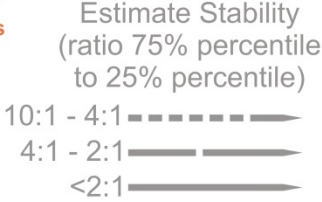
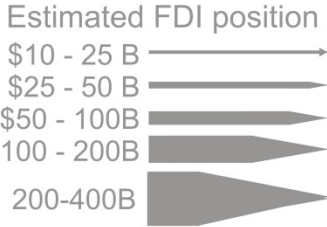
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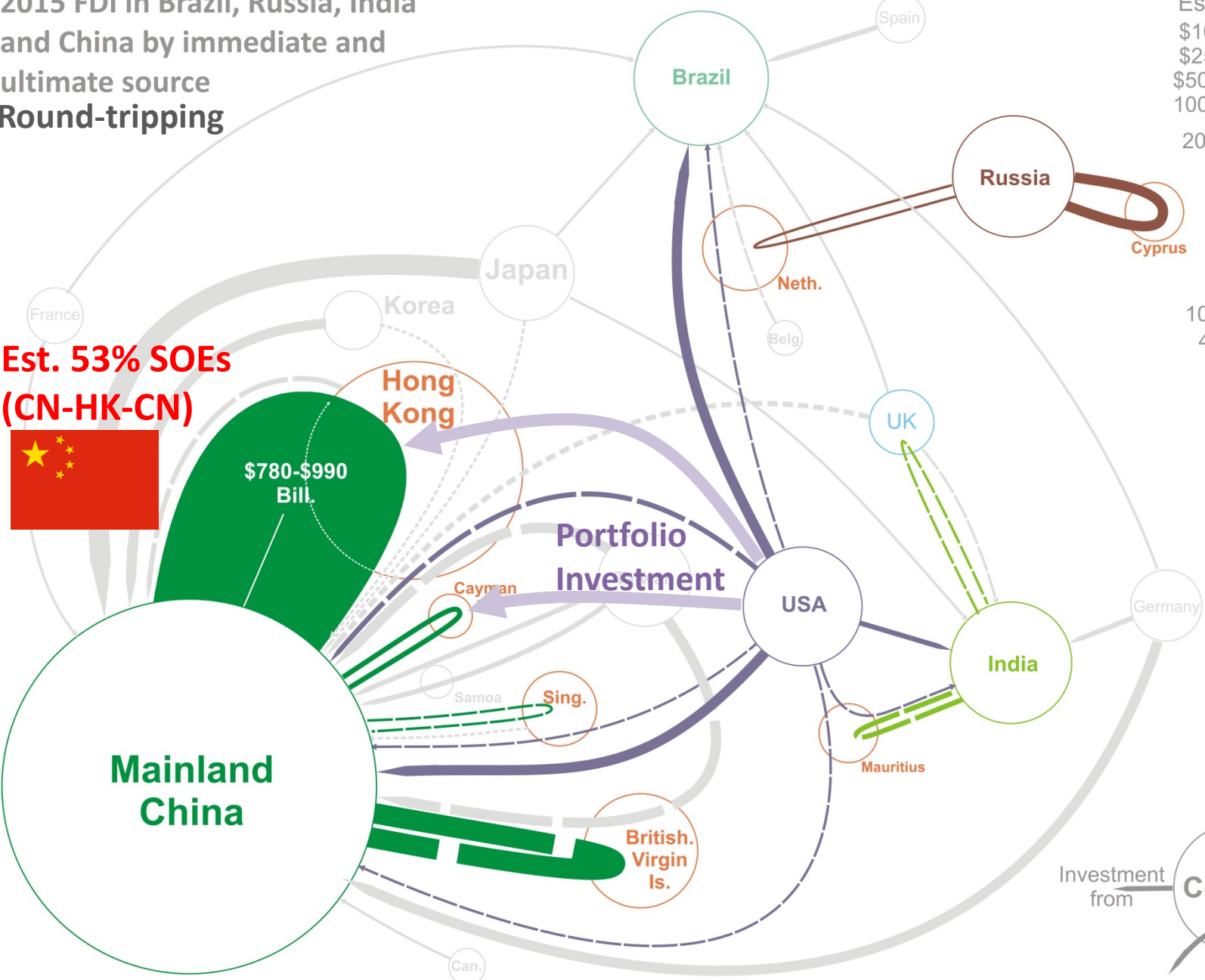


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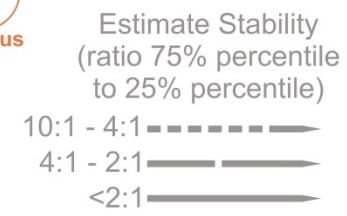
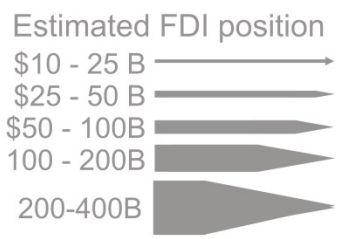


Portfolio Investment



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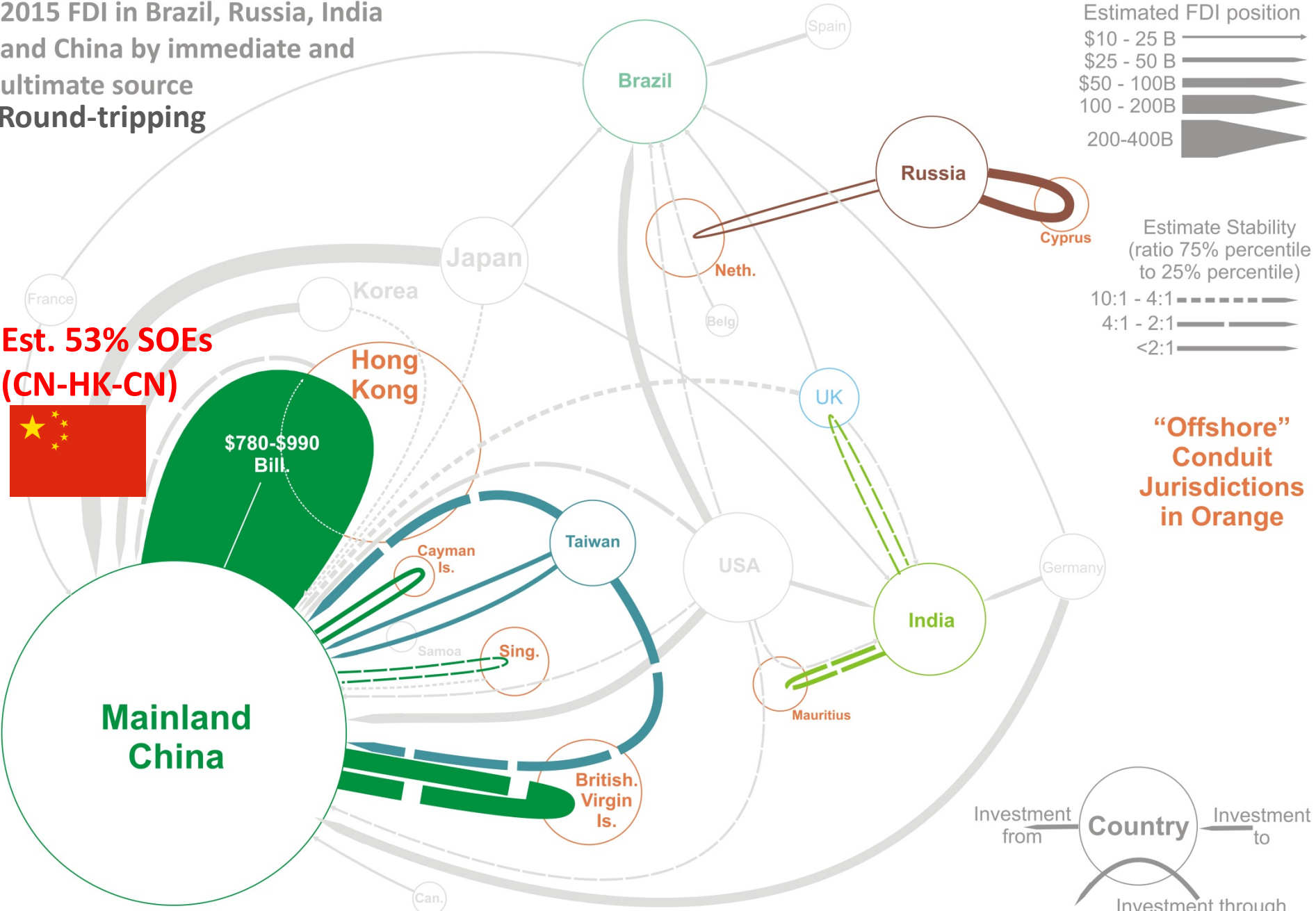


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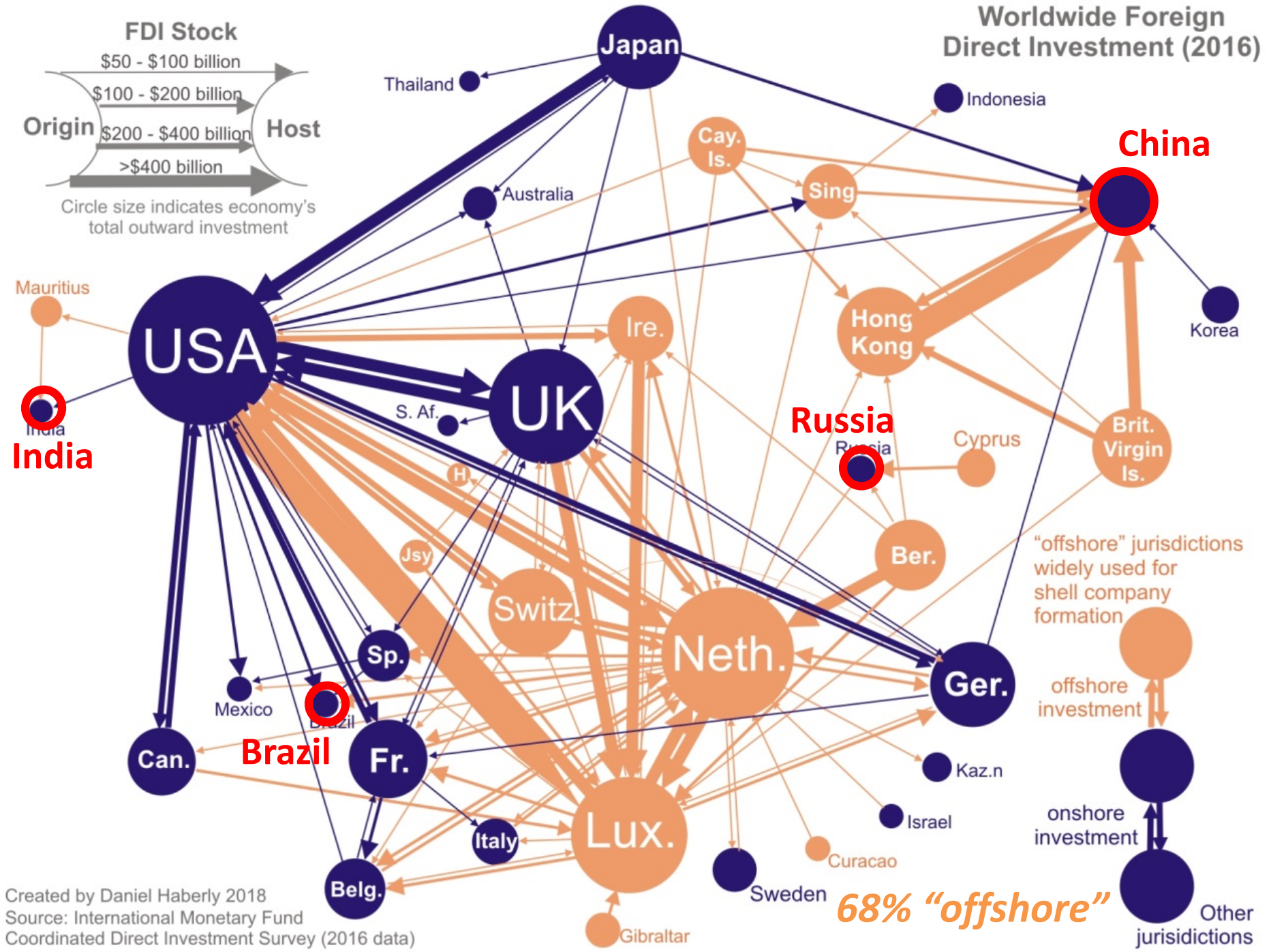
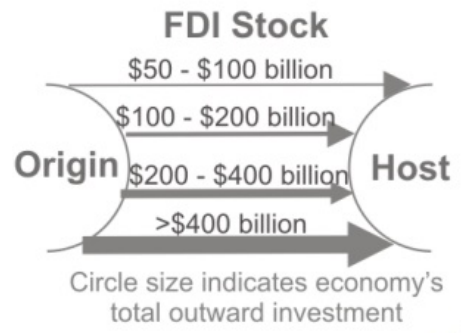
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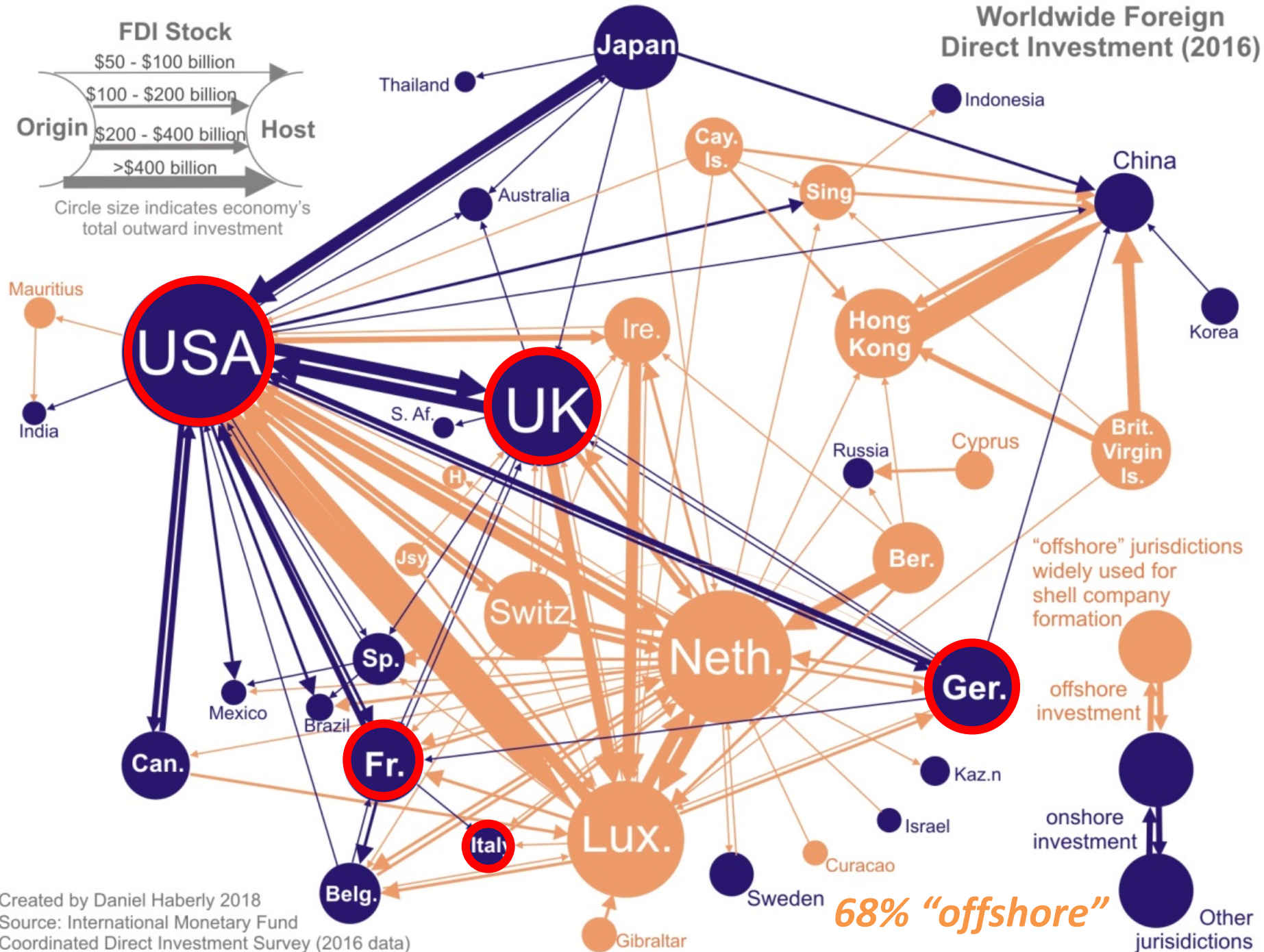
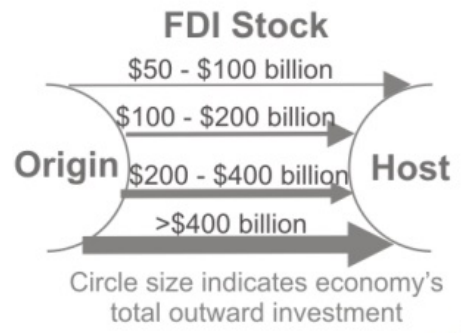
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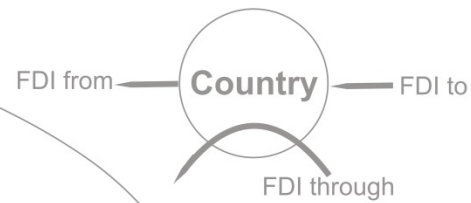
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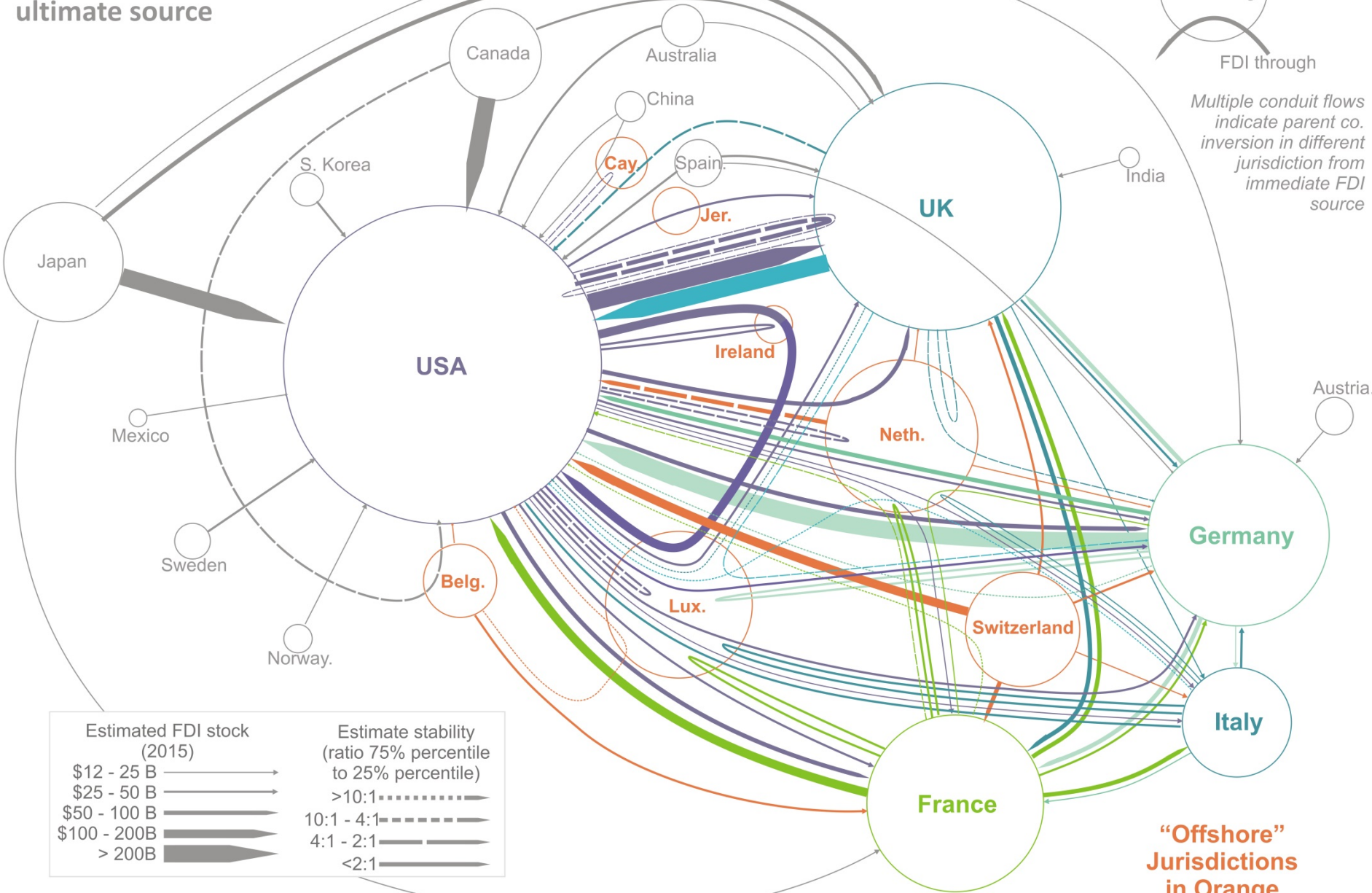
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Multiple conduit flows indicate parent co. inversion in different jurisdiction from immediate FDI source

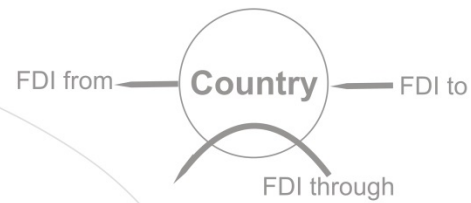


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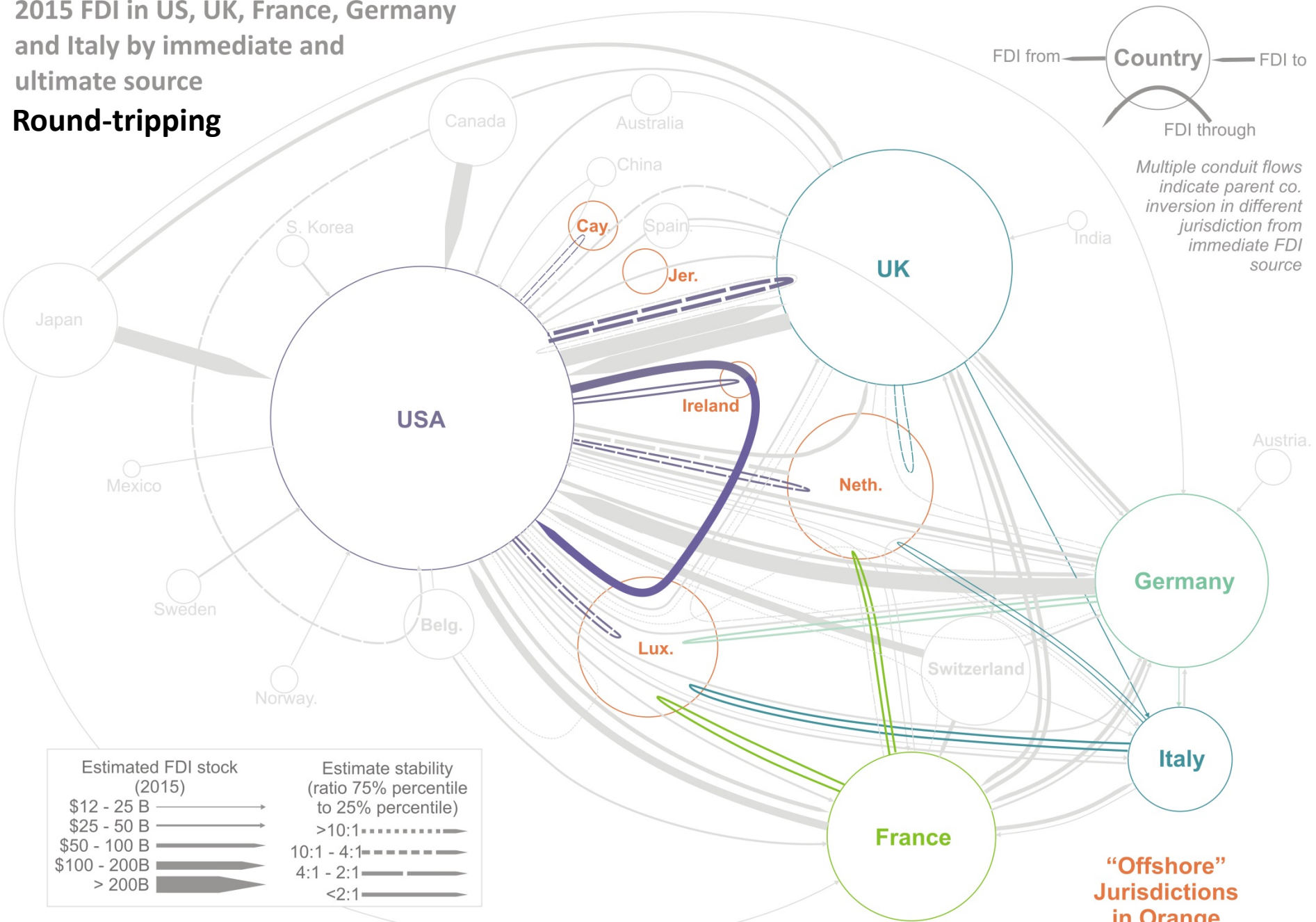


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## Round-tripping



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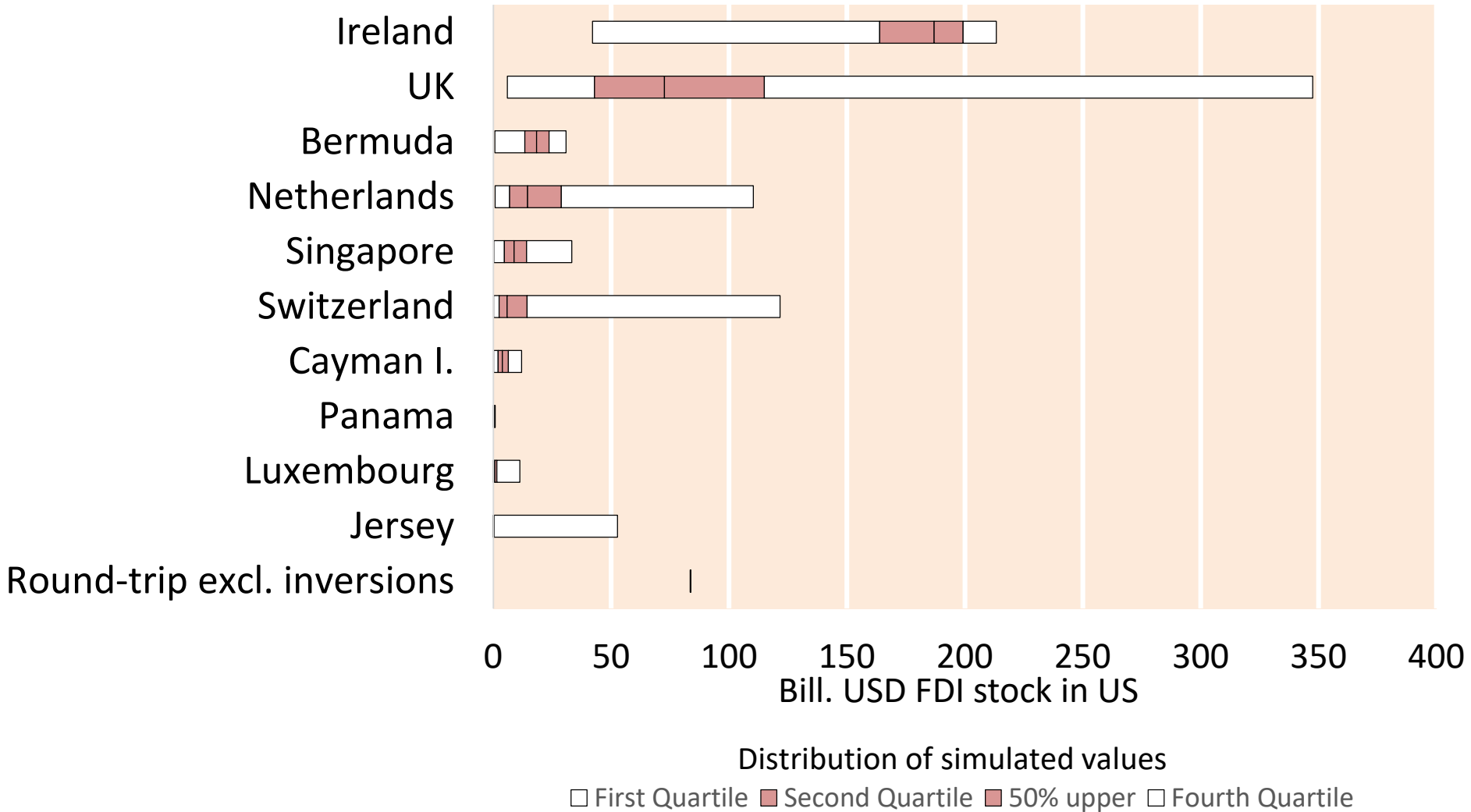


| Estimated FDI stock (2015) | Estimate stability (ratio 75% percentile to 25% percentile) |
|----------------------------|---|
| \$12 - 25 B                | >10:1   |
| \$25 - 50 B                | 10:1 - 4:1  |
| \$50 - 100 B               | 4:1 - 2:1   |
| \$100 - 200B               | <2:1  |
| > 200B                     |   |

**"Offshore" Jurisdictions in Orange**

# Top-US Corporate Inversion Domiciles

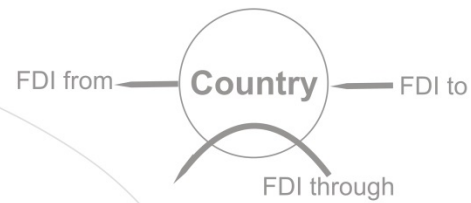
(by estimated round-trip FDI in US)



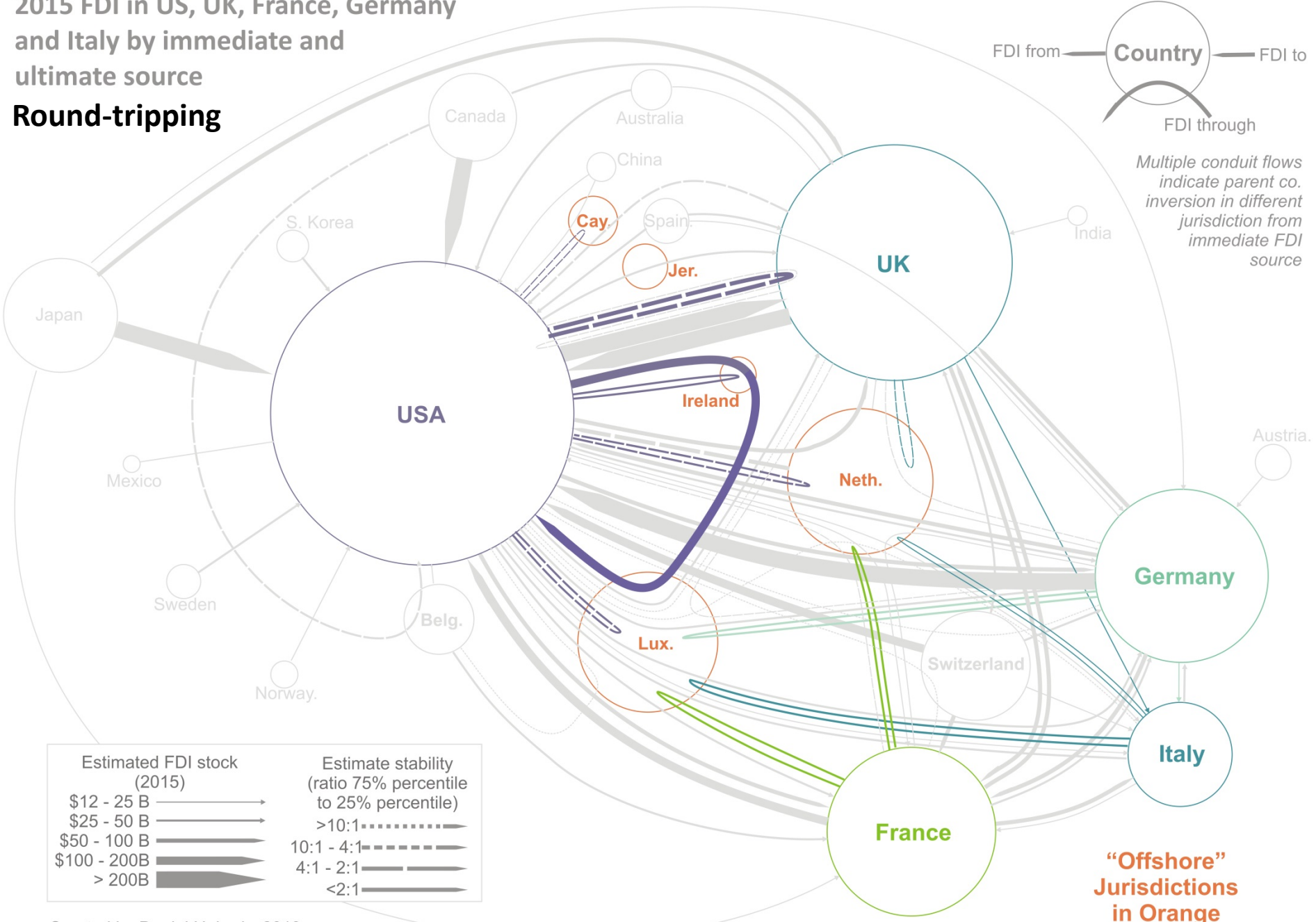


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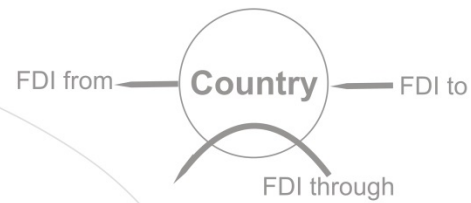


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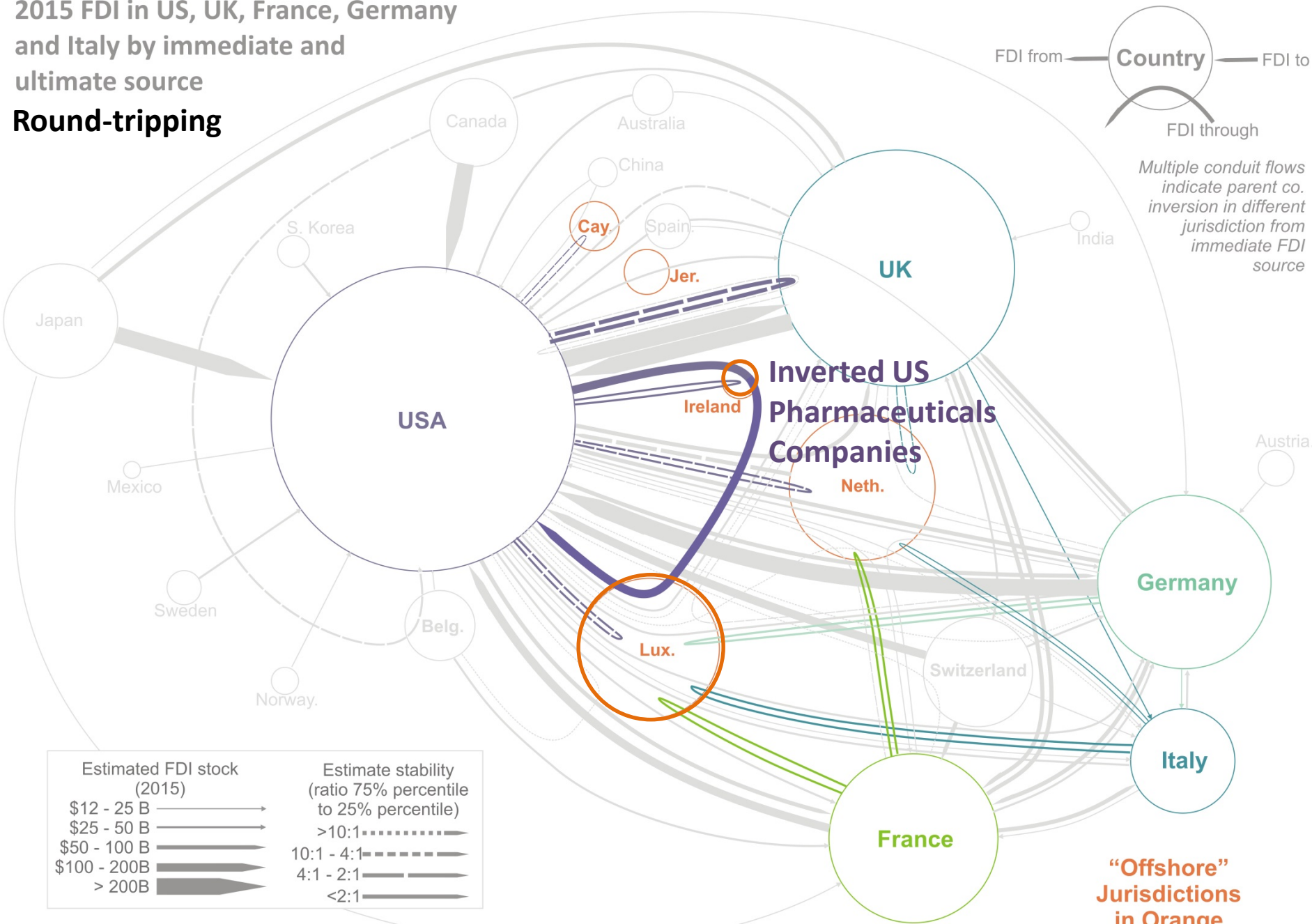
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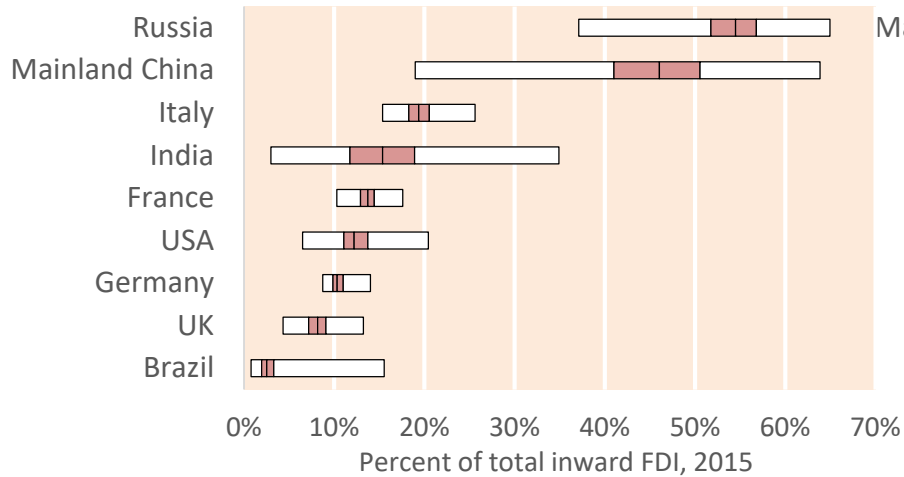


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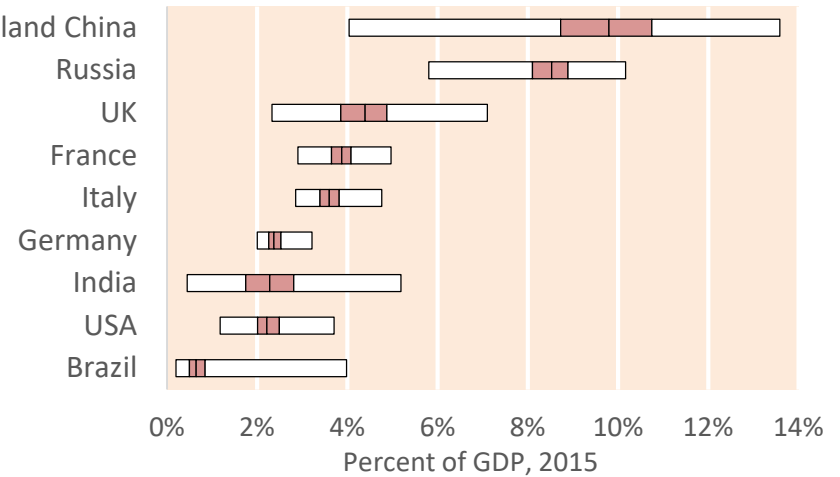
# Round-tripping as % of inward FDI & GDP

Round-trip FDI as a percent of all FDI in country, 2015



Distribution of simulated values  
 □ First Quartile ■ Second Quartile ■ Third Quartile □ Fourth Quartile

Round-trip FDI as a percent of GDP, 2015

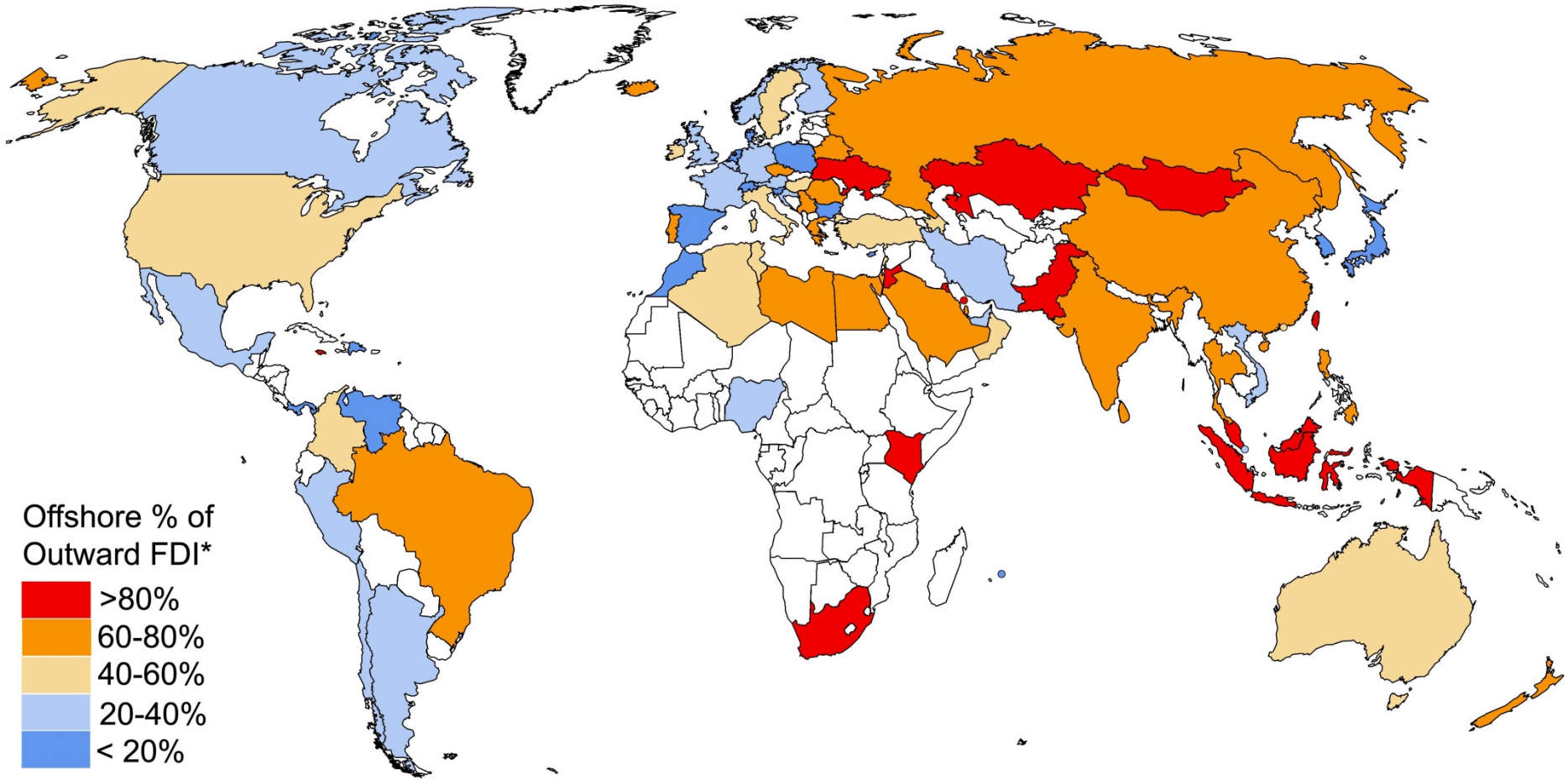


Distribution of simulated values  
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# **What factors influence use of offshore jurisdictions for FDI?**

**(preliminary analysis of new dataset)**

# % of Outward FDI\* Passing through Offshore Jurisdictions (excluding round-tripping)



\*in US, UK, France, Germany, Italy, Brazil, Russia, India & China

# Determinants of Offshore % of Outward FDI

|                                      | Model 1    | Model 2   | Model 3 | Model 4  |
|--------------------------------------|------------|-----------|---------|----------|
| <b>Adj. r<sup>2</sup></b>            | 0.078      | 0.086     | 0.12    | 0.26     |
| <b>corruption (CPI)<sup>††</sup></b> | -0.0040*** | -0.0032** | -0.0020 | -0.0019  |
| <b>communist history</b>             |            | 0.43      | 0.44*   | 0.50**   |
| <b>corruption x communism</b>        |            | -0.0090   | -0.0094 | -0.0089  |
| <b>offshore jurisdiction</b>         |            |           | -0.17** | -0.24*** |
| <b>"Bamboo network"</b>              |            |           |         | 0.22**   |
| <b>British colony</b>                |            |           |         | 0.20***  |
| <b>Constant</b>                      | 0.69***    | 0.63***   | 0.60*** | 0.50***  |

\* >10% significance

\*\* >5% significance

\*\*\* >1% significance

†† Higher values of Corruption Perceptions Index (CPI) indicate lower corruption



# Determinants of Offshore % of Outward FDI

|                                      | Model 1    | Model 2   | Model 3 | Model 4           |
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| <b>corruption x communism</b>        |            | -0.0090   | -0.0094 | -0.0089           |
| <b>offshore jurisdiction</b>         |            |           | -0.17** | <b>-0.24***</b> ✓ |
| <b>"Bamboo network"</b>              |            |           |         | <b>0.22**</b> ✓   |
| <b>British colony</b>                |            |           |         | <b>0.20***</b> ✓  |
| <b>Constant</b>                      | 0.69***    | 0.63***   | 0.60*** | 0.50***           |

\* >10% significance

\*\* >5% significance

\*\*\* >1% significance

†† Higher values of Corruption Perceptions Index (CPI) indicate lower corruption

# **What factors influence use of offshore jurisdictions for FDI?**

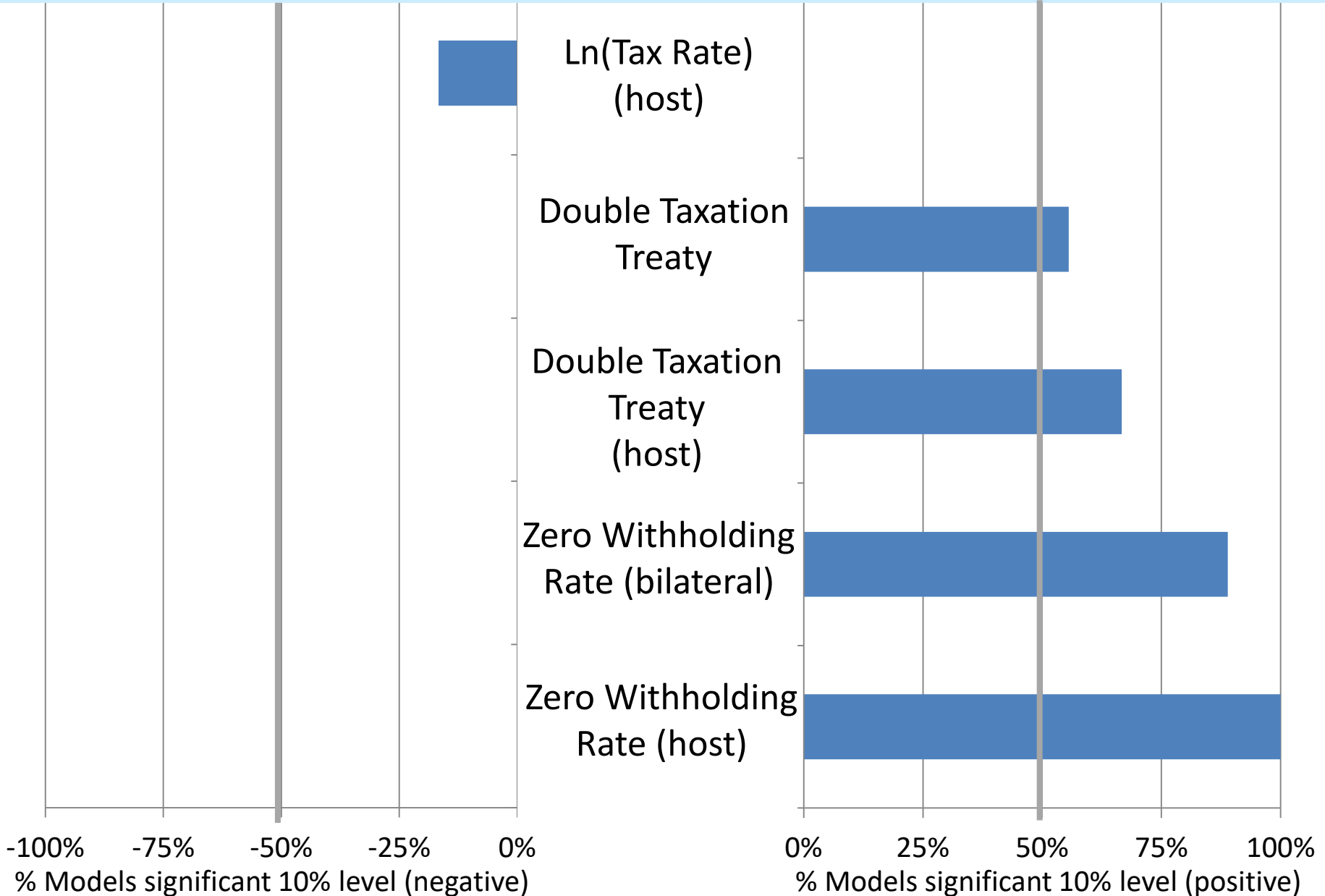
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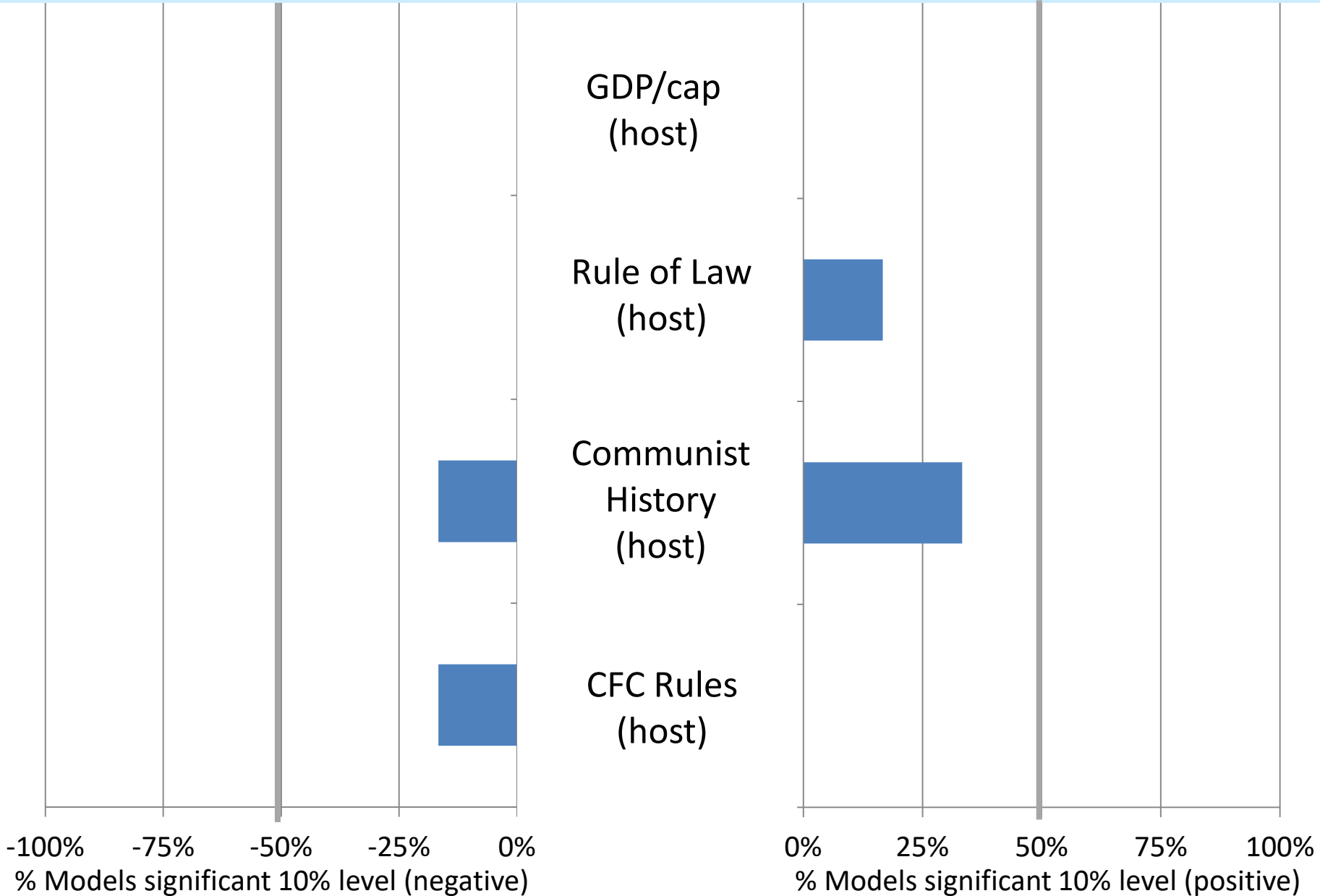
Results of older analysis of determinants of inward offshore FDI using CDIS data  
(from Haberly and Wojcik 2015)

# Taxation Variables Results

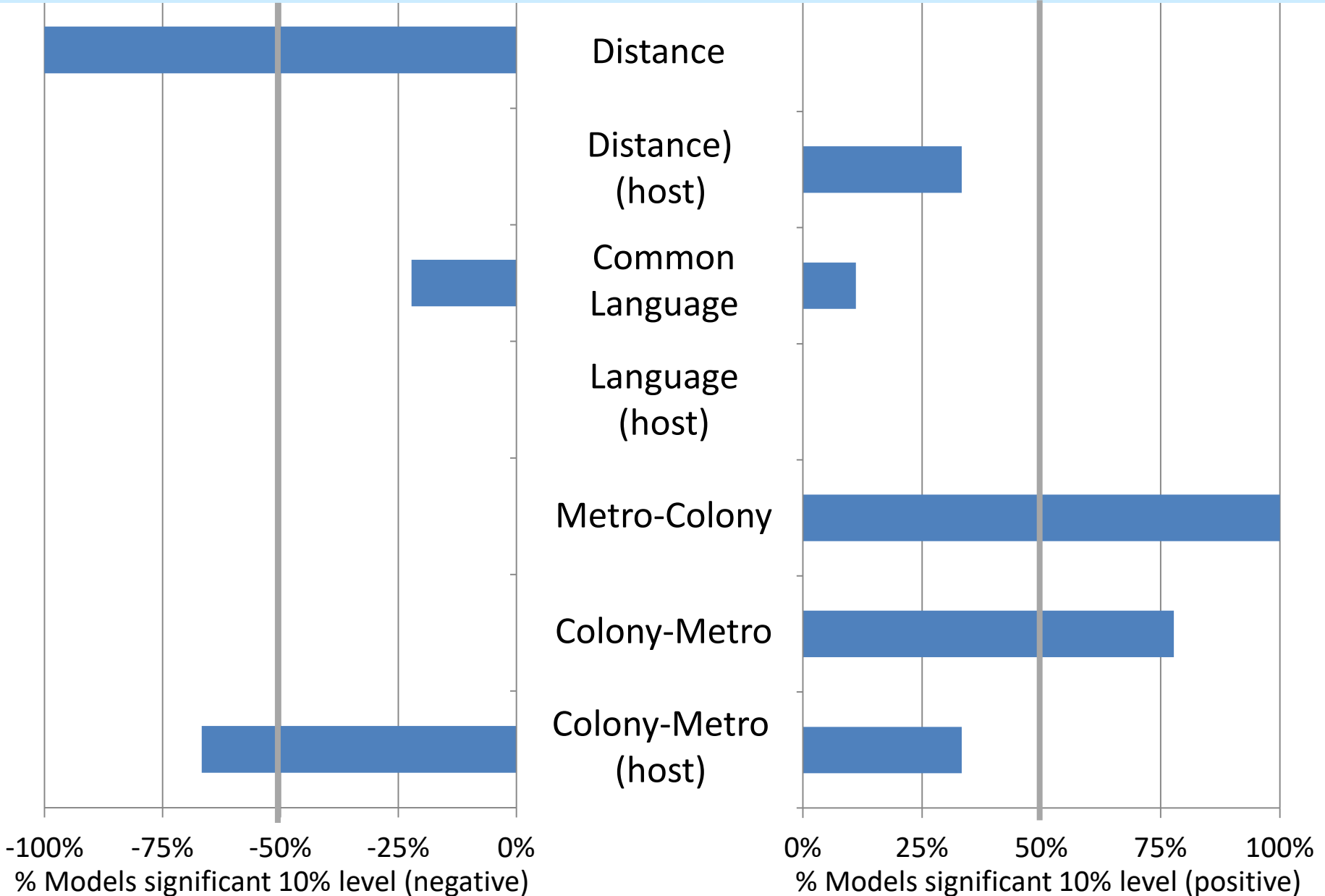


# Wealth and Institutions Variables Results

(offshore FDI only)

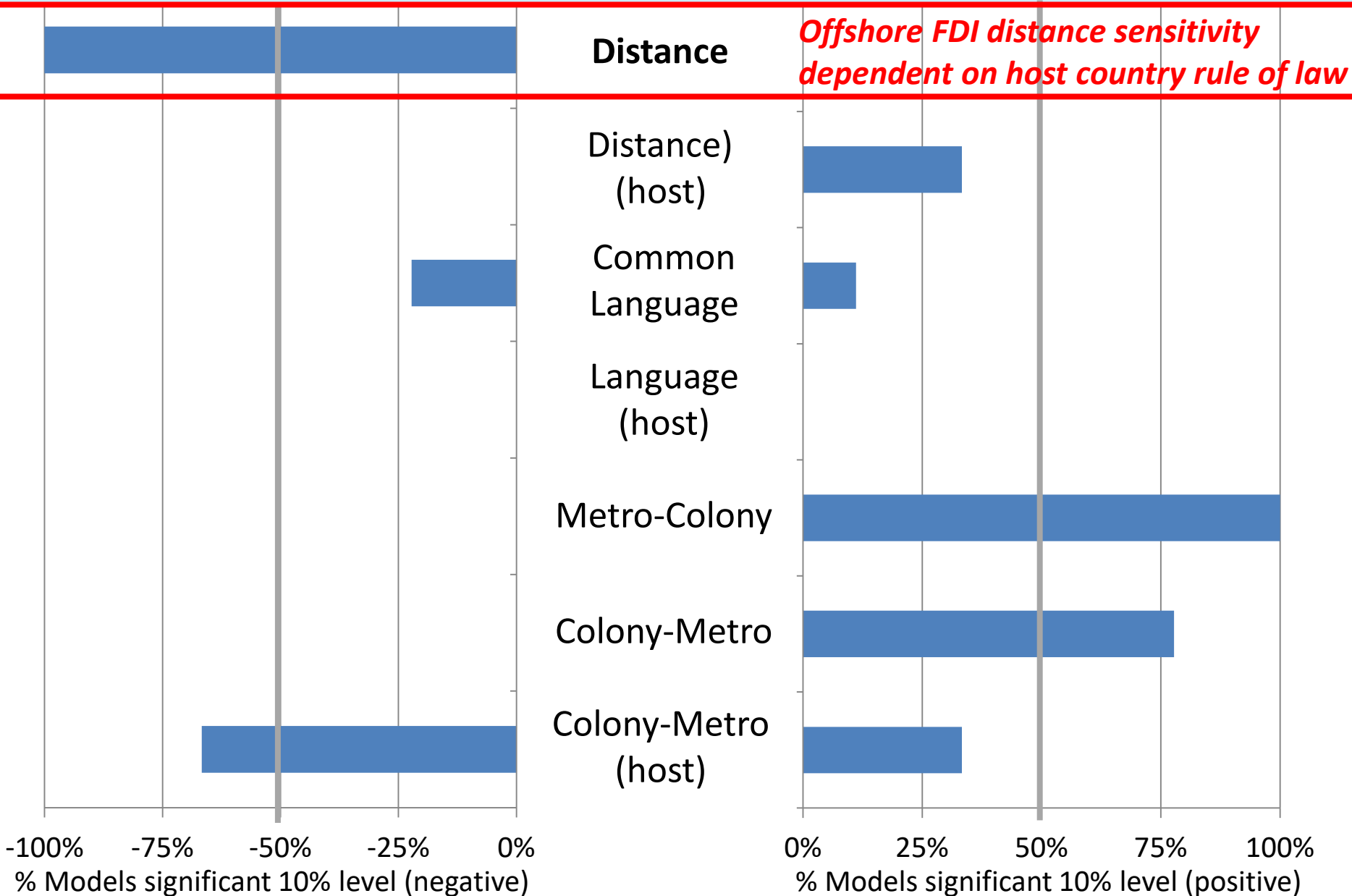


# Proximity Variables Results

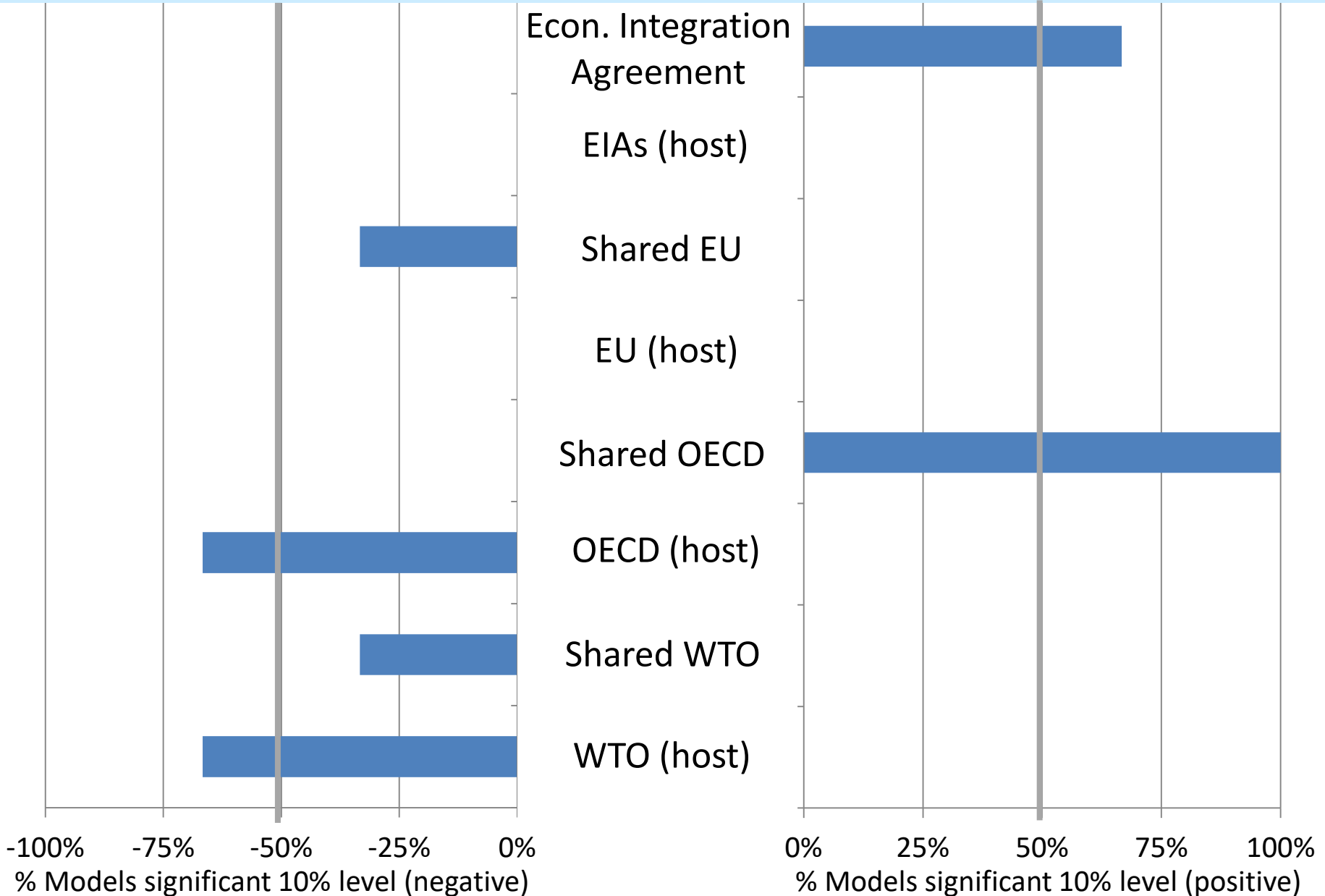




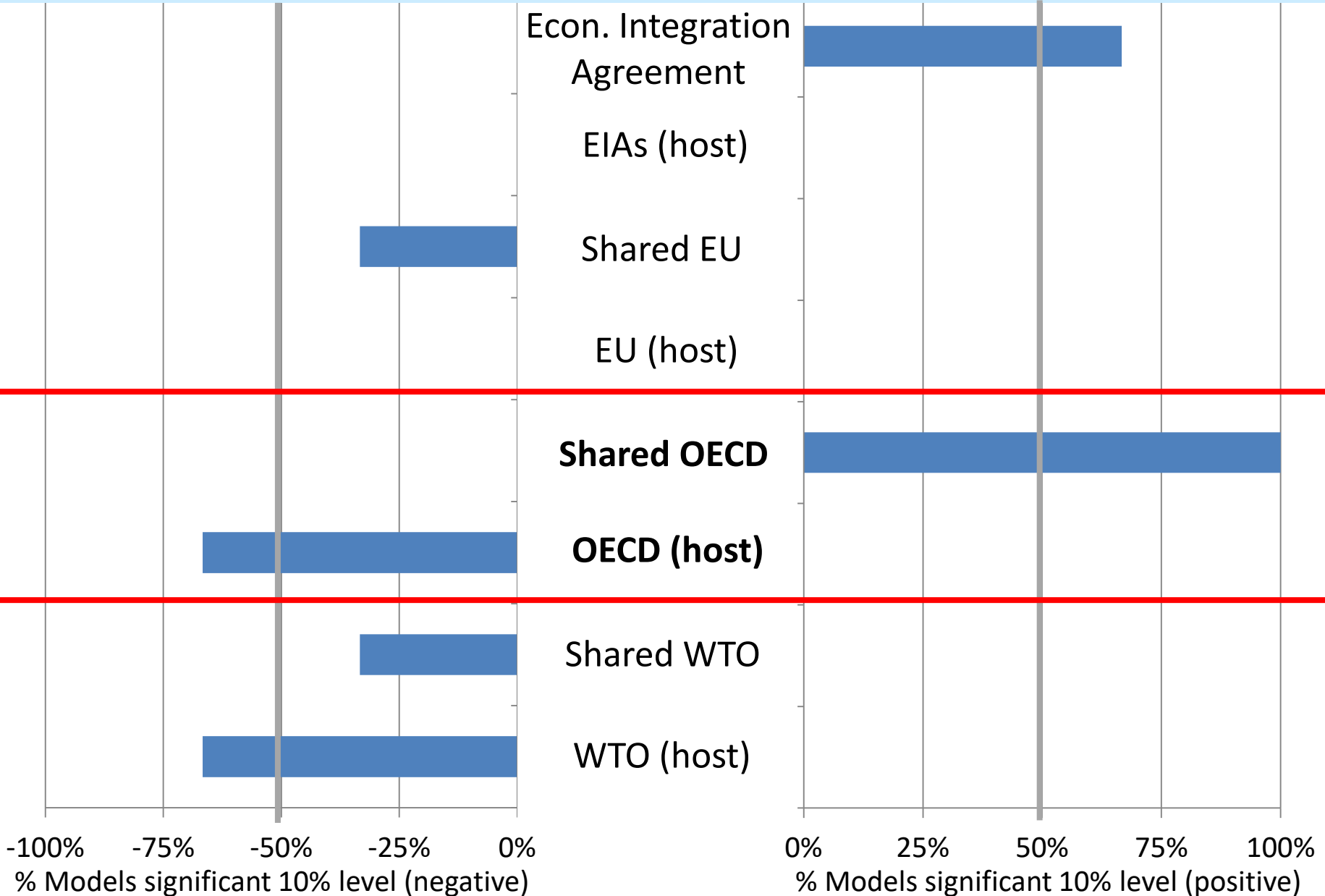
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# Economic Agreements Variables Results



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# Discussion

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- Individual data source limitations, but possible to integrate multiple micro and macro-level datasets to make them greater than sum of parts
- **Data issues (some):**
  - Crucial to account for inversions & data errors, but labor intensive
  - Orbis data quality uneven internationally – also potential biases (difficult to account for)
  - Massive outward-inward reporting asymmetries in official FDI data



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- **Interpretive issues:**
  - Convergent evolution of similar structures for divergent purposes (from nefarious to innocuous)
    - Limited “North-South” offshore structural divide in general (except apparent OECD offshore “club” effect)
    - Quantitative impact of communist history, but qualitative diversity in uses and composition
    - Impact of historical and relational path dependency / accretion

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    - Different countries will interpret the same transaction/structure differently

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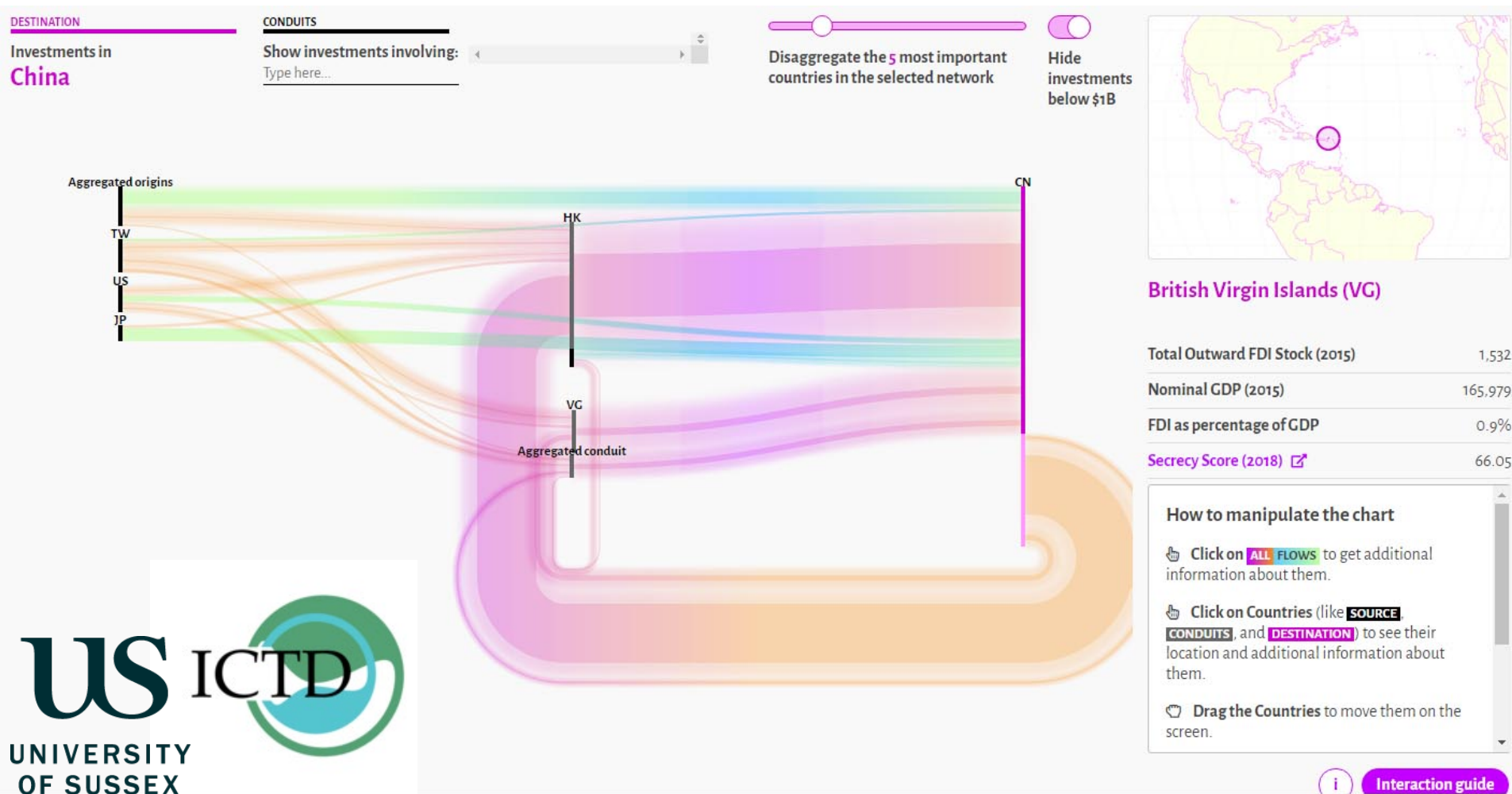
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  - Question of how to measure progress in combatting tax-related “illicit” flows also very hard
    - Need to make sure apparent progress on IFF SDG indicators isn’t at cross-purposes to other SDGs
    - Race-to-the-bottom in corporate taxation can cause fall in value of both tax avoidance and tax collection

# The Atlas of Offshore FDI



Coming soon!

# Thank You!

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