International footprint of global firms

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Bank for International Settlements

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* The views expressed here are mine, not necessarily those of the Bank for International Settlements.
Traditional approach:
Start with boundary for national income accounting
Traditional approach:
National income boundary defines decision-making unit

Economic territory 1

Assets  Liabilities

Economic territory 2

Assets  Liabilities
Global current account balances

In trillions of US dollars

Advanced economies

EMEs

--- World

Sources: IMF, *World Economic Outlook*; BIS calculations.
Current account and the output gap

Output gap vs CA balance

Change in output gap as % of potential GDP, % pts

R² = 0.42

BR = Brazil; CA = Canada; CL = Chile; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; HK = Hong Kong SAR; IT = Italy; JP = Japan; MY = Malaysia; NO = Norway; PH = Philippines; PT = Portugal; SG = Singapore; TH = Thailand; US = United States.

1 Average output gaps in 2012–13 minus the average for 2010–11, and the equivalent for the current account balance. 2 Average output gaps in 2016–17 minus the average for 2013–14, and the equivalent for the current account balance.

Sources: IMF, World Economic Outlook; OECD, Economic Outlook; national data; BIS; BIS calculations.
Current account and exchange rates

Exchange rate vs current account balance

CA = Canada; CH = Switzerland; CL = Chile; CN = China; DE = Germany; EE = Estonia; FR = France; GB = United Kingdom; HK = Hong Kong SAR; IE = Ireland; IT = Italy; JP = Japan; MX = Mexico; NL = Netherlands; NO = Norway; PH = Philippines; TH = Thailand; US = United States.

1 Average in 2012–13 minus the average for 2010–11 (orange line, dots are not shown); and the equivalent for 2016–17 and 2013–14 (light blue line and dots). Forecasts for 2017. 2 Percentage change in real effective exchange rate (REER) from end-2010 to end-2012 (orange line, dots are not shown); and the equivalent from end-2013 to end-2016 (light blue line and dots). CPI based broad REER index, monthly average.

Sources: IMF, *World Economic Outlook*; OECD, *Annual National Accounts*; national data; BIS; BIS calculations.
Global firms

- Operation of global firms straddle traditional boundaries
  - Offshoring of manufacturing process
  - Redomiciling of firms’ headquarters
  - Mobility of assets

- Owners of global firms are dispersed across the world
  - Dividends received by portfolio investors
  - Direct investment income
“Residence”

- Key concept in balance of payments
  - Legal concept denoting relationship between an entity and a location ("economic territory")
  - "Economic territory with which it has the strongest connection, expressed as its center of predominant economic interest" [BPM6 (IMF (2009, p. 70)]

- "Resident in A" ≠ engages in production or employment in A

- "Export of A" ≠ goods cross boundary of A
“Domicile”

- Legal concept similar to “residence”
  - Indicates greater permanence or as place of origin
  - Implications for taxation

- Firms can be *redomiciled* by changing location of headquarters
  - Triggers cascade of changes in accounting relationships

- Assets (as well as firms) can be redomiciled
  - Physical assets (eg aircraft)
  - Intangible assets (eg intellectual property)
Example from Avdjiev et al. (2018)

- Redomiciling of headquarters
- Redomiciling of intellectual property assets

- Impact on the current account
  - Balance of trade and investment income are all affected
  - Bilateral relationships in global value chain are rearranged

Island A exports to Island D

A

Owners

HQ

D

consumers

export
Island A exports to Island D

- Workers, owners, managers, HQ all physically located in A
- Goods cross the boundary of A

Export from A to D consumers
## Pre-offshoring

<table>
<thead>
<tr>
<th></th>
<th>A (HQ)</th>
<th>B (Manufacturer)</th>
<th>C (Rest of the world)</th>
<th>D (Manufacturer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>110</td>
<td>0</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>Imports</td>
<td>60</td>
<td>0</td>
<td>0</td>
<td>110</td>
</tr>
<tr>
<td>Trade balance</td>
<td>+50</td>
<td>0</td>
<td>0</td>
<td>–50</td>
</tr>
<tr>
<td>Primary income credit</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Primary income debit</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net primary income</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Current account balance**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>+50</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>–50</td>
</tr>
</tbody>
</table>
Offshoring to C through subsidiary

A: Owners
   HQ

C: 

D: consumers

Direct investment income

export
## Post-offshoring

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<td>0</td>
<td>0</td>
<td>60</td>
<td>110</td>
</tr>
<tr>
<td><strong>Trade balance</strong></td>
<td>0</td>
<td>0</td>
<td>+50</td>
<td>–50</td>
</tr>
</tbody>
</table>

| **Primary income credit** | 50 | 0 | 0 | 0 |
| **Primary income debit**  | 0  | 0 | 50 | 0 |
| **Net primary income**    | +50 | 0 | –50 | 0 |

| **Current account balance** | +50 | 0 | 0 | –50 |
Redomiciling of headquarters to Island B

A: Owners

B: HQ

C: Direct investment income

D: Consumers

Portfolio investment income

Export
## Post-redomiciliation

<table>
<thead>
<tr>
<th></th>
<th>A Original HQ</th>
<th>B New HQ</th>
<th>C Manufacturer</th>
<th>D Rest of the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>0</td>
<td>0</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
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<td>0</td>
<td>0</td>
<td>60</td>
<td>110</td>
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<tr>
<td>Trade balance</td>
<td>0</td>
<td>0</td>
<td>+50</td>
<td>−50</td>
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<tr>
<td>Direct investment income credit</td>
<td>0</td>
<td>50</td>
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<td>0</td>
</tr>
<tr>
<td>Direct investment income debit</td>
<td>0</td>
<td>0</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Portfolio investment income credit</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Portfolio investment income debit</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net primary income</td>
<td>+10</td>
<td>+40</td>
<td>−50</td>
<td>0</td>
</tr>
</tbody>
</table>

**Current account balance**

<table>
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<tr>
<td></td>
<td>+10</td>
<td>+40</td>
<td>0</td>
<td>−50</td>
</tr>
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</table>
Offshoring to C through contract manufacturing

A: Owners
   - Intellectual property assets
   - HQ

B: [Diagram]

C: Contract manufacturing

D: consumers

export

shipment
Offshoring to C through contract manufacturing

Owners, managers, HQ remain in A

Goods never cross the boundary of A
But are counted as exports of A

A
Owners
HQ

C

D
consumers

Contract manufacturing

export

shipment
Pre-relocation of capital asset

<table>
<thead>
<tr>
<th></th>
<th>A (HQ)</th>
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<tr>
<td>Goods exports</td>
<td>110</td>
<td>0</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>Goods imports</td>
<td>80</td>
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<tr>
<td>Services exports</td>
<td>10</td>
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<td>20</td>
<td>0</td>
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<tr>
<td>Services imports</td>
<td>20</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Trade balance</td>
<td>+20</td>
<td>0</td>
<td>+30</td>
<td>-50</td>
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<tr>
<td>Primary income credit</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Primary income debit</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>0</td>
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<tr>
<td>Net primary income</td>
<td>+30</td>
<td>0</td>
<td>-30</td>
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</tr>
<tr>
<td>Current account balance</td>
<td>+50</td>
<td>0</td>
<td>0</td>
<td>-50</td>
</tr>
</tbody>
</table>
Redomiciling of intellectual property assets to Island B

- **A (Owners HQ)**
- **B (Intellectual property assets)**
- **C (Manufacturing)**
- **D (Consumers)**

Flow chart:
- **Direct investment income** from **A** to **B**
- **Export** from **B** to **C**
- **Shipments** from **C** to **D**
Redomiciling of intellectual property assets to Island B

Redomiciling of IP assets sets in motion a cascade of changes in bilateral relationships.

Direct investment income

Contract manufacturing

Export

Shipment

Owners
HQ

Intellectual property assets

Consumers
## Post-relocation of capital asset

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<td>0</td>
<td>0</td>
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<td>20</td>
<td>30</td>
<td>0</td>
</tr>
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<td>−20</td>
<td>−30</td>
<td>0</td>
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<td><strong>Current account balance</strong></td>
<td><strong>+50</strong></td>
<td>0</td>
<td>0</td>
<td>−50</td>
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</table>
Direct investment income scaled by trade

Gross direct investment income flows as a percentage of gross trade flows¹

1. (Direct investment income, debit + direct investment income, credit) / (exports + imports).
2. AT, AU, CA, DE, DK, EE, ES, FI, FO, FR, GR, IS, IT, JP, LT, LV, NO, NZ, PT, SE, SI, SK and US.
3. BE, CH, CY, GB, IE, LU, MT and NL.
4. AO, AR, AZ, BD, BG, BR, BY, CL, CN, CO, CR, CZ, DO, DZ, EC, EG, ET, GT, HR, HU, ID, IL, IN, IQ, IR, KE, KR, KW, KZ, LX, MA, MM, MX, MY, NG, OM, PE, PH, PK, PL, RO, RU, SA, SD, TH, TR, UA, UY, VE and ZA.

Sources: Lane and Milesi-Ferretti (2017); IMF, Balance of Payments Statistics.
United States, United Kingdom and Ireland

Balance of payments components, as a percentage of GDP

Sources: IMF, *Balance of Payments Statistics* and *World Economic Outlook*.
GDP for Ireland

Source: Central statistics office.
Current account for Ireland

In billions of euros

Source: Central statistics office.
GDP to household disposable income

Quantile ranges

Selected countries


25th–75th percentile

10th–90th percentile

Median

Min–max
Current account and investment income

Annual values 1990–2016, as a percentage of GDP

Netherlands

Switzerland

United Kingdom

DII = direct investment income; PII = portfolio investment income.

Sources: IMF, Balance of Payments Statistics and World Economic Outlook.
Current account and portfolio investment income

Annual values 1990–2016, as a percentage of GDP

<table>
<thead>
<tr>
<th>Germany</th>
<th>Sweden¹</th>
<th>Denmark²</th>
</tr>
</thead>
</table>

1. Due to data availability constraints, annual values for 1997–2016.
2. Due to data availability constraints, annual values for 1999–2016.

Sources: IMF, Balance of Payments Statistics and World Economic Outlook.
Current account and direct investment income (debit)

Annual values 1990–2016, as a percentage of GDP

South Africa

Turkey

Brazil

Sources: IMF, *Balance of Payments Statistics* and *World Economic Outlook*. 
Cash holding of non-financial corporates

Cash as share of world GDP
Cash as share of total assets
Bank deposits

Sources: IMF, *World Economic Outlook*; Capital IQ: BIS locational banking statistics.
Lessons

- Consolidated balance sheets of firms may be a useful complement to traditional analysis
  - BIS consolidated banking statistics as a model
  - Other international initiatives

- Firms can be lenders, rather than borrowers