



BANK FOR INTERNATIONAL SETTLEMENTS

# Tracking the international footprints of global firms\*

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**Meeting of the Group of Experts on National Accounts**

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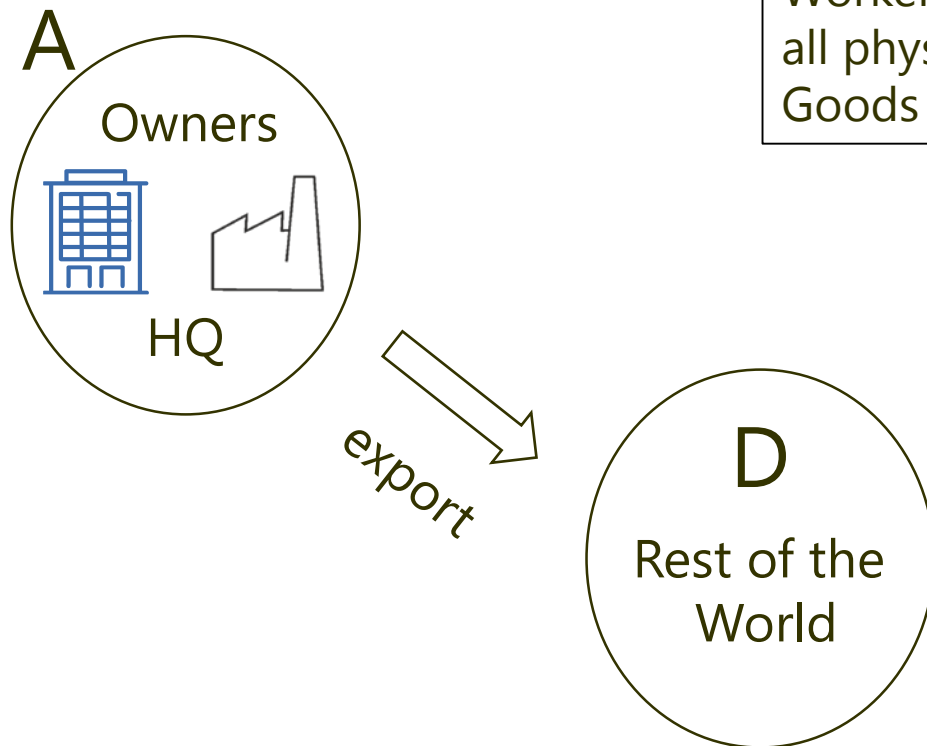


*\*The views expressed in this presentation are those of the authors and not necessarily those of the Bank for International Settlements, the Central Bank of Ireland or the European System of Central Banks.*

# Motivation

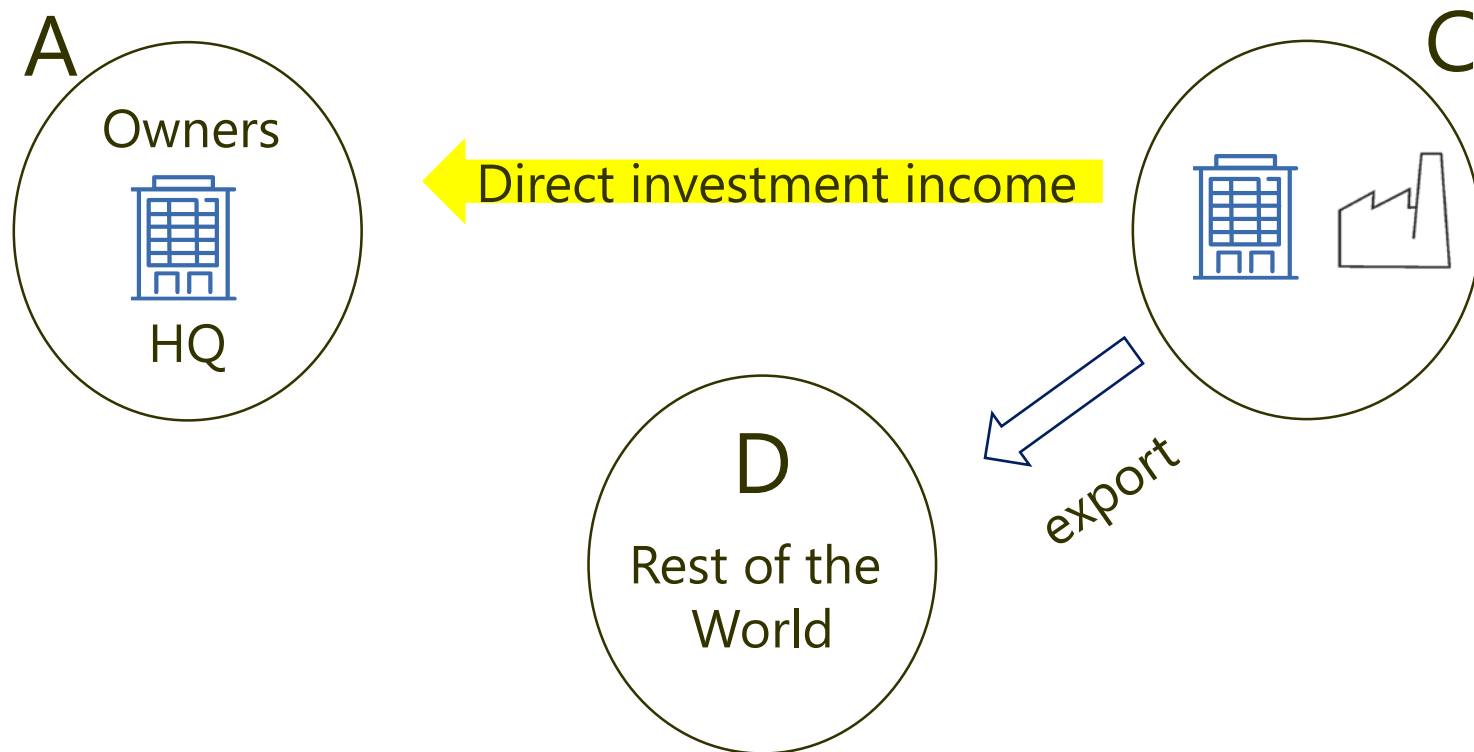
- As the global economy becomes more integrated, there is a growing tension between the nature of economic activity and the measurement system that attempts to keep up with it.
  - Since the typical unit of analysis is the economic area (the "island"), economic activity is measured within the island and in terms of transactions between islands.
  - But, increasingly, companies and their ownership are global, with economic activity taking place in a geographically dispersed way.
- We go over several important issues created by this tension, show how they manifest themselves in the data and draw lessons from them.

# Country A exports to the rest of the world



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

# Offshoring to Country C through a subsidiary



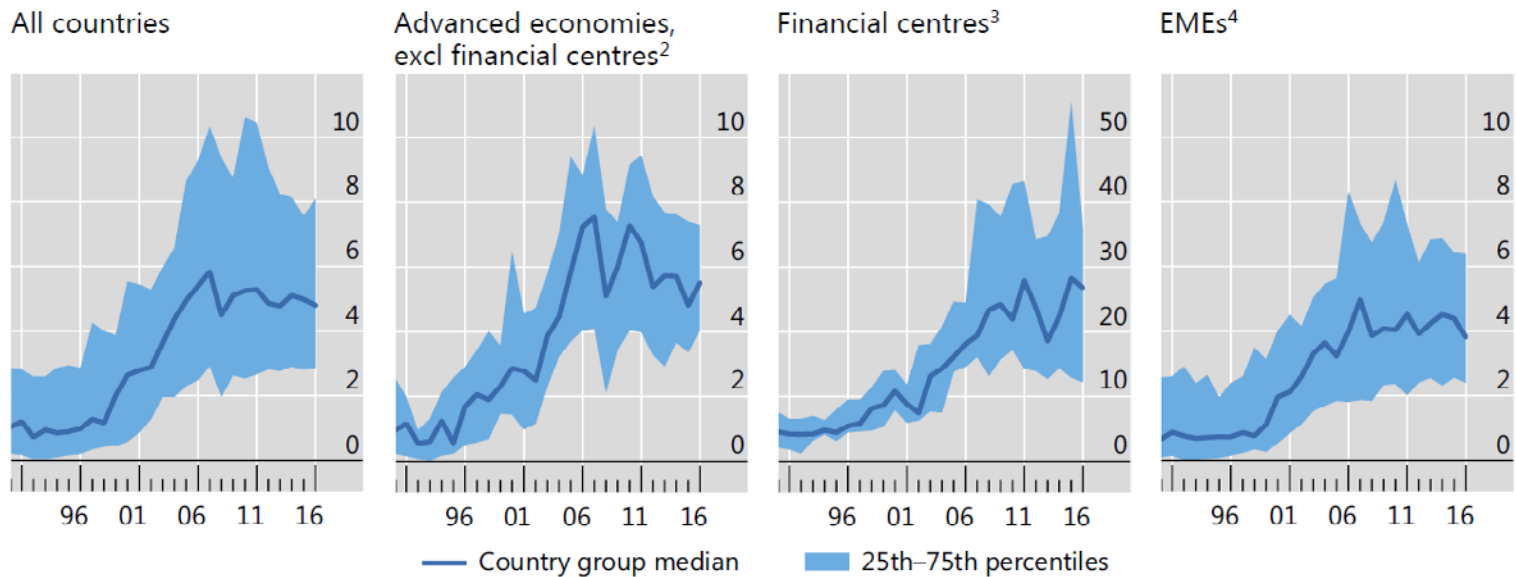
# Effect of offshoring

Table 1

Pre-offshoring				
	A	B	C	D
	HQ		Manufacturer	Rest of the world
Exports	110	0	0	60
Imports	60	0	0	110
<i>Trade balance</i>	+50	0	0	-50
<b>Current account balance</b>	<b>+50</b>	<b>0</b>	<b>0</b>	<b>-50</b>
Post-offshoring				
	A	B	C	D
	HQ		Manufacturer	Rest of the world
Exports	0	0	110	60
Imports	0	0	60	110
<i>Trade balance</i>	0	0	+50	-50
Primary income credit	50	0	0	0
Primary income debit	0	0	50	0
<i>Net primary income</i>	+50	0	-50	0
<b>Current account balance</b>	<b>+50</b>	<b>0</b>	<b>0</b>	<b>-50</b>

# Direct investment income scaled by trade

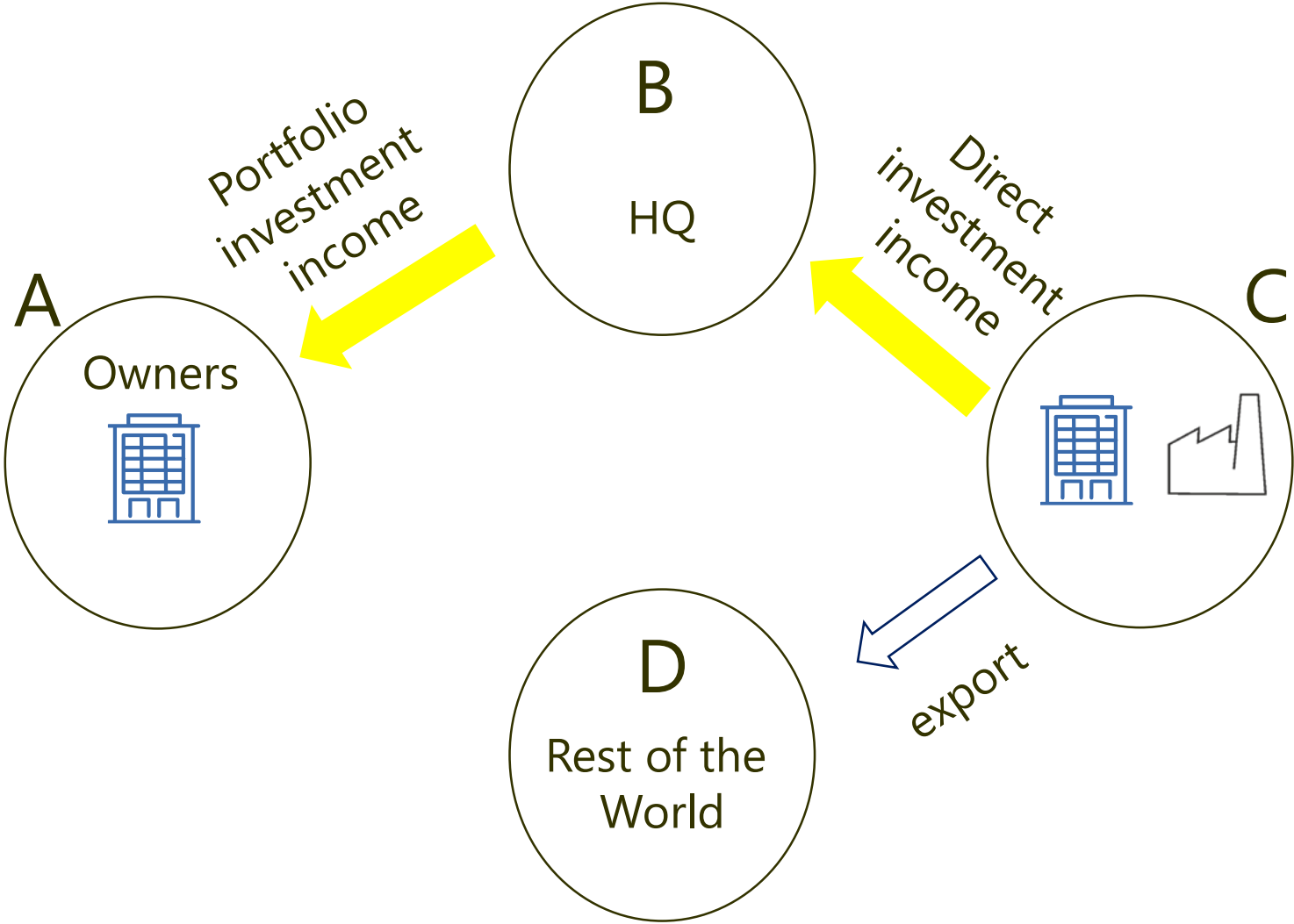
Gross direct investment income flows as a percentage of gross trade flows<sup>1</sup>



<sup>1</sup> (Direct investment income, debit + direct investment income, credit) / (exports + imports). <sup>2</sup> AT, AU, CA, DE, DK, EE, ES, FI, FO, FR, GR, IS, IT, JP, LT, LV, NO, NZ, PT, SE, SI, SK and US. <sup>3</sup> BE, CH, CY, GB, IE, LU, MT and NL. <sup>4</sup> 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, LK, 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*.

# Redomiciling of headquarters to Country B



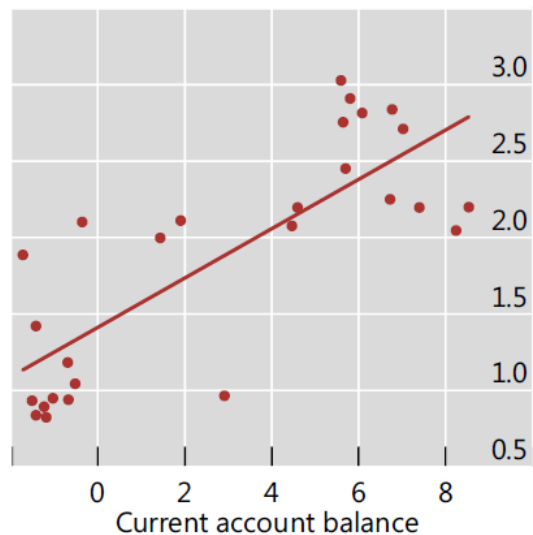
	Pre-redomiciliation			
	A	B	C	D
	Original HQ	New HQ	Manufacturer	Rest of the world
Exports	0	0	110	60
Imports	0	0	60	110
<i>Trade balance</i>	0	0	+50	-50
Direct investment income credit	50	0	0	0
Direct investment income debit	0	0	50	0
Portfolio investment income credit	0	0	0	0
Portfolio investment income debit	0	0	0	0
<i>Net primary income</i>	+50	0	-50	0
<b>Current account balance</b>	<b>+50</b>	<b>0</b>	<b>0</b>	<b>-50</b>
	Post-redomiciliation			
	A	B	C	D
	Original HQ	New HQ	Manufacturer	Rest of the world
Exports	0	0	110	60
Imports	0	0	60	110
<i>Trade balance</i>	0	0	+50	-50
Direct investment income credit	0	50	0	0
Direct investment income debit	0	0	50	0
Portfolio investment income credit	10	0	0	0
Portfolio investment income debit	0	10	0	0
<i>Net primary income</i>	+10	+40	-50	0
<b>Current account balance</b>	<b>+10</b>	<b>+40</b>	<b>0</b>	<b>-50</b>



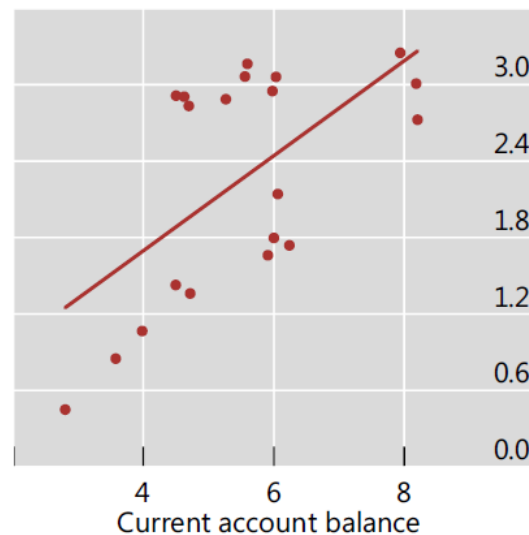
# Current account and portfolio investment income (credit) ("Country A")

Annual values 1990–2016, as a percentage of GDP

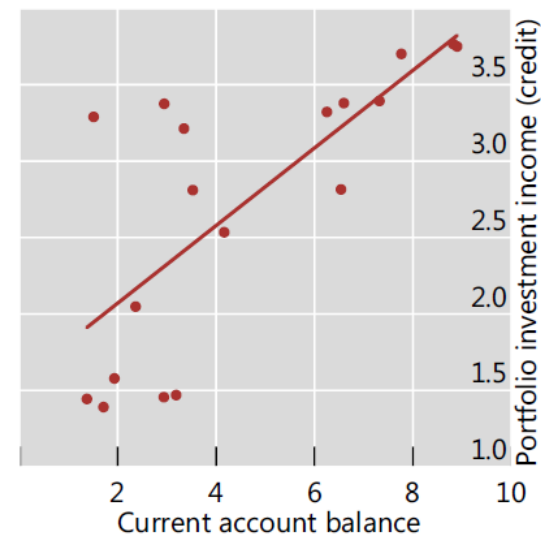
Germany



Sweden<sup>1</sup>



Denmark<sup>2</sup>



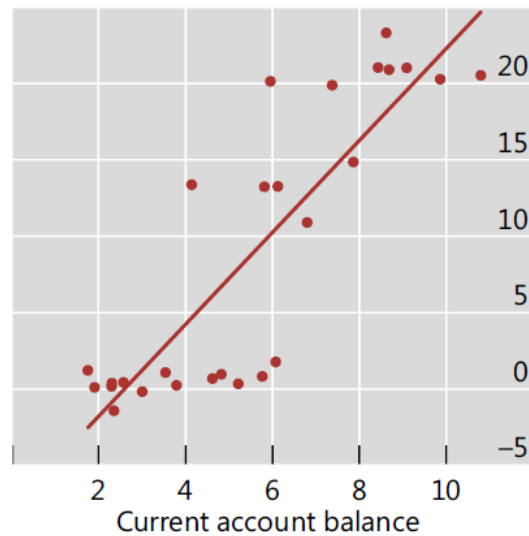
<sup>1</sup> Due to data availability constraints, annual values for 1997–2016. <sup>2</sup> Due to data availability constraints, annual values for 1999–2016.

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

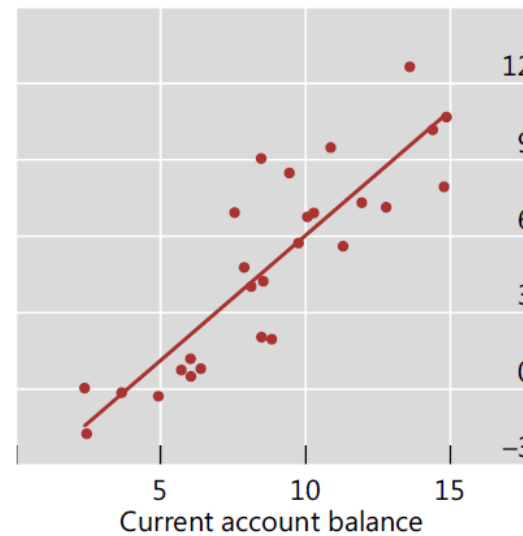
# Current account and investment income ("Country B")

Annual values 1990–2016, as a percentage of GDP

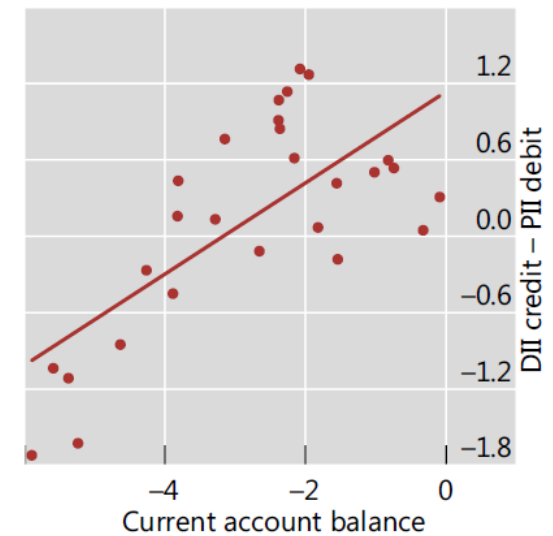
Netherlands



Switzerland



United Kingdom



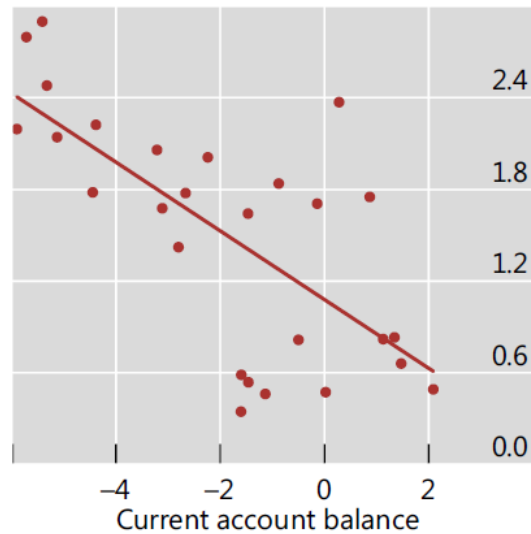
DII = direct investment income; PII = portfolio investment income.

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

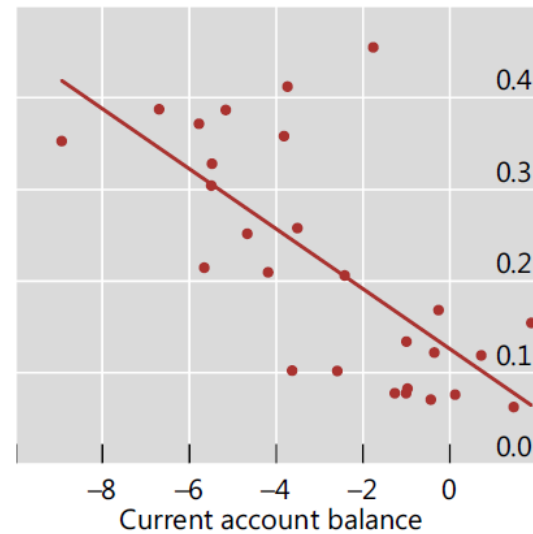
# Current account and direct investment income (debit) ("Country C")

Annual values 1990–2016, as a percentage of GDP

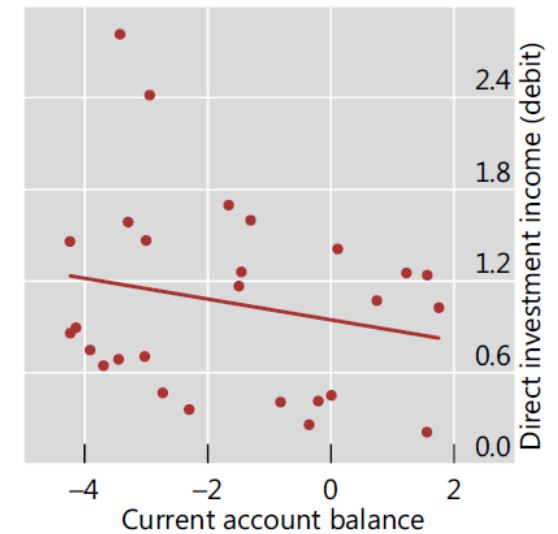
South Africa



Turkey



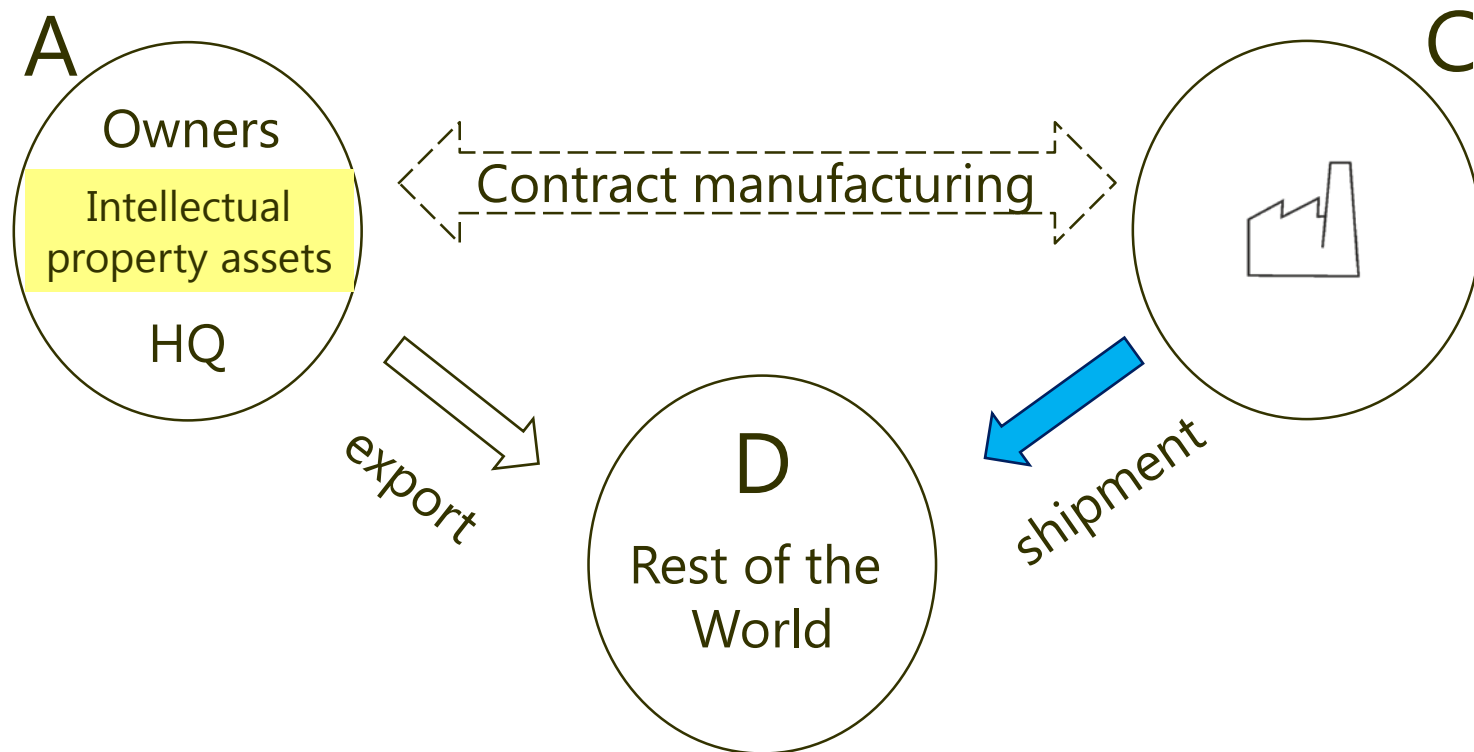
Brazil



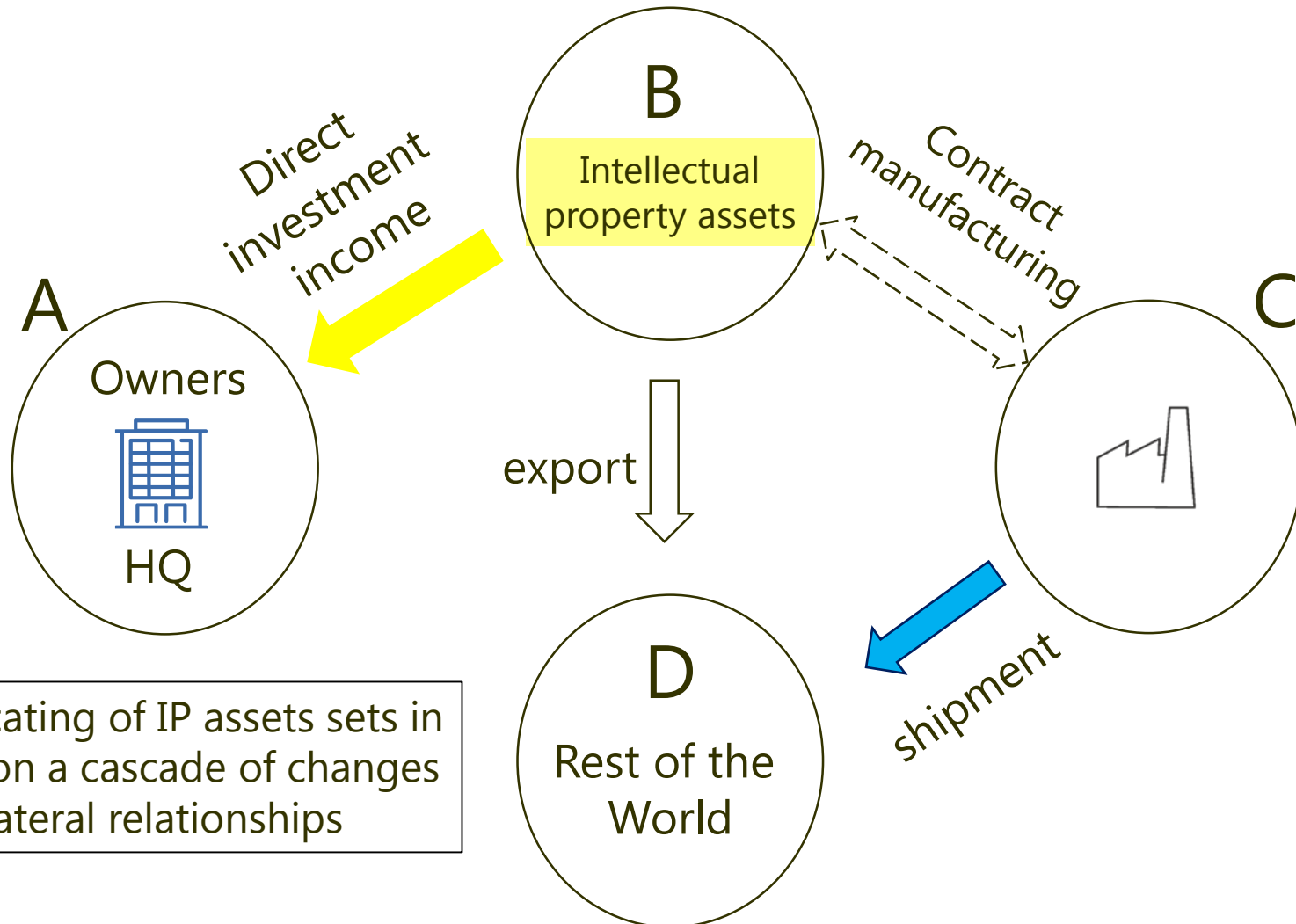
Sources: IMF, *Balance of Payments Statistics* and *World Economic Outlook*.

# Offshoring to Country C through contract manufacturing

Owners, managers, HQ remain in A.  
Goods never cross the boundary of A.  
But are counted as exports of A.



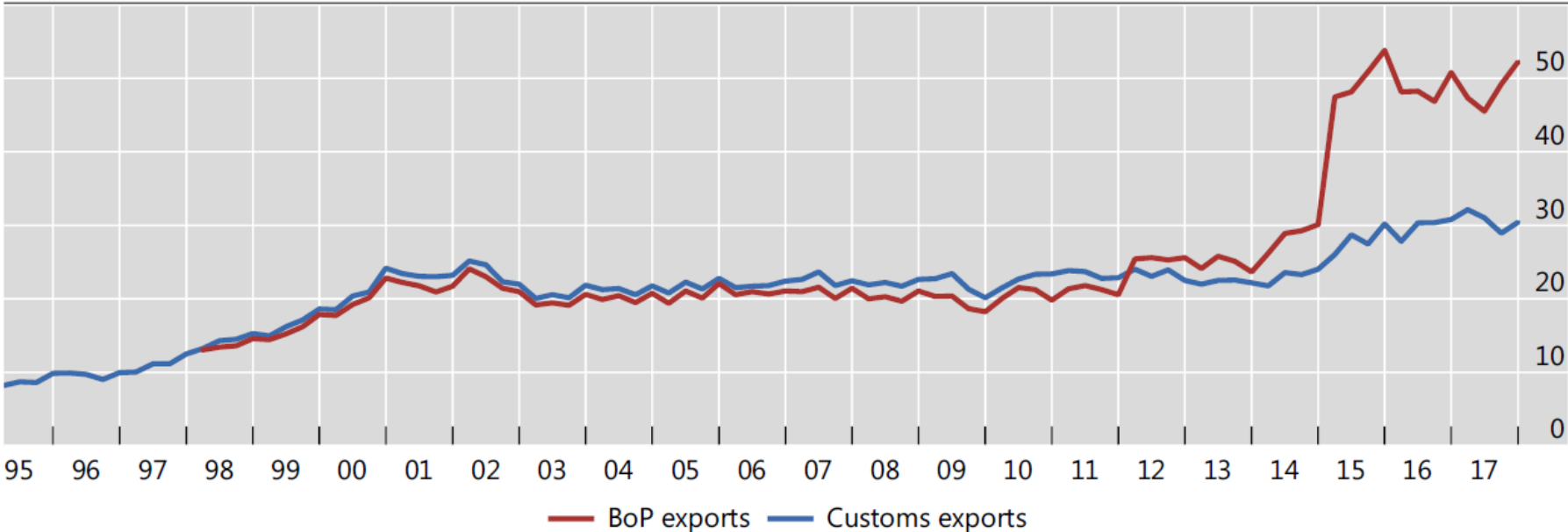
# Relocation of intellectual property assets to Country B



<b>Pre-relocation of capital asset</b>				
	A	B	C	D
	HQ	New location of IP	Manufacturer	Rest of the world
Goods exports	110	0	0	80
Goods imports	80	0	0	110
Services exports	10	0	20	0
Services imports	20	0	10	0
<i>Trade balance</i>	+20	0	+10	-30
Primary income credit	5	0	0	0
Primary income debit	0	0	5	0
<i>Net primary income</i>	+5	0	-5	0
<b>Current account balance</b>	<b>+25</b>	<b>0</b>	<b>+5</b>	<b>-30</b>
<b>Post-relocation of capital asset</b>				
	A	B	C	D
	HQ	New location of IP	Manufacturer	Rest of the world
Goods exports	0	110	0	80
Goods imports	0	80	0	110
Services exports	0	10	20	0
Services imports	0	20	10	0
<i>Trade balance</i>	0	+20	+10	-30
Primary income credit	25	0	0	0
Primary income debit	0	20	5	0
<i>Net primary income</i>	+25	-20	-5	0
<b>Current account balance</b>	<b>+25</b>	<b>0</b>	<b>+5</b>	<b>-30</b>

# Ireland's exports: comparing alternative measures

In billions of euros



Source: Irish Central Statistics Office (CSO).



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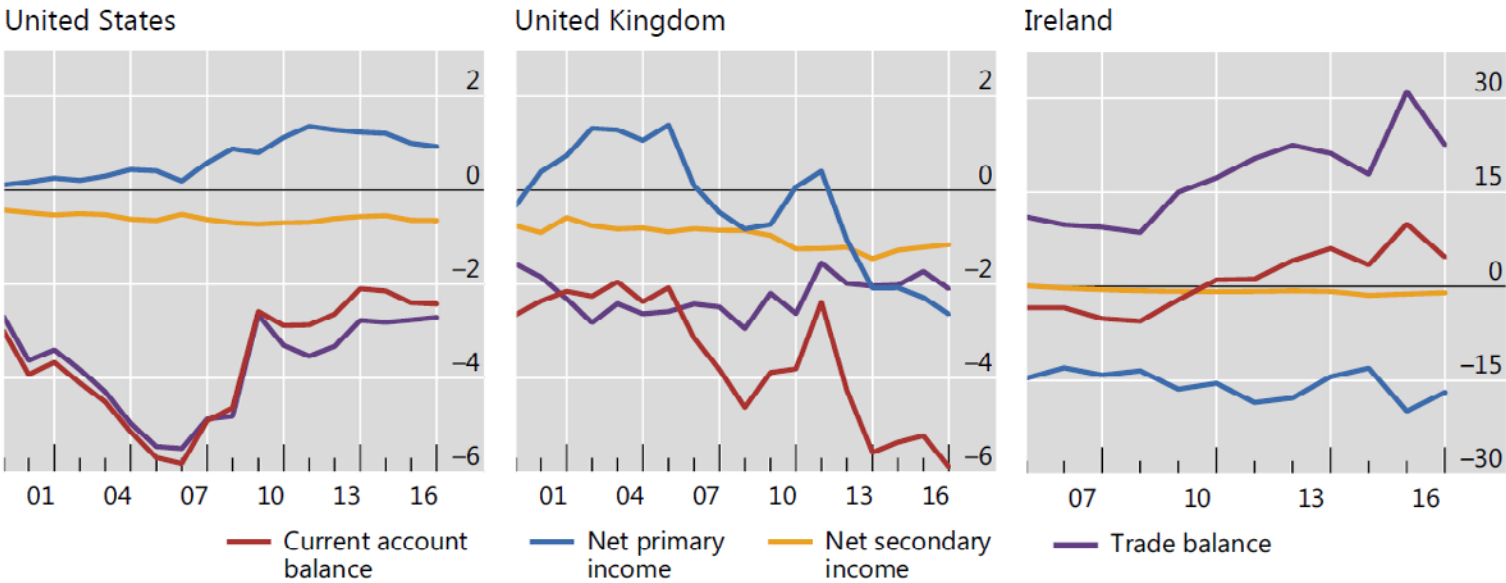
# Supplementary Slides





# United States, United Kingdom and Ireland

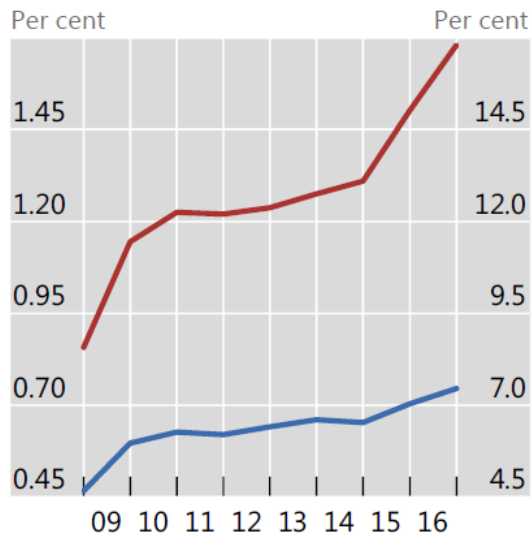
Balance of payments components, as a percentage of GDP



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

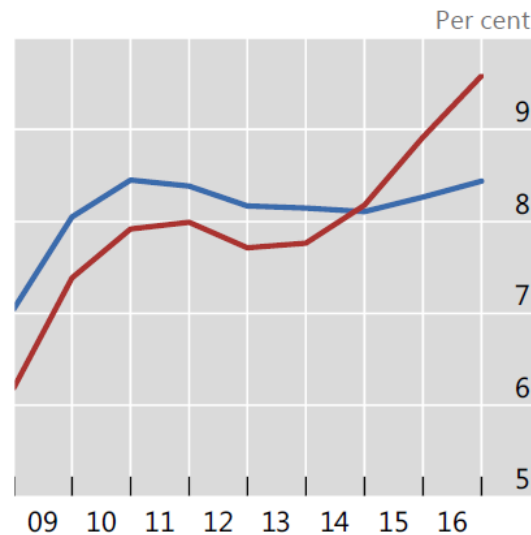
# Cash holding of non-financial corporates

Cash as share of world GDP



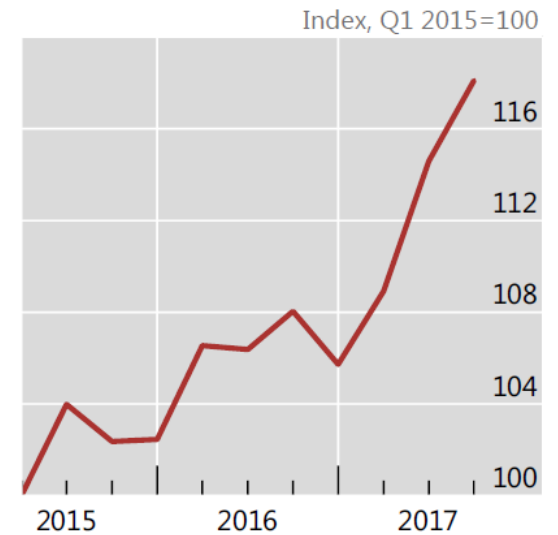
NFCs: — Top 100 (lhs) — All (rhs)

Cash as share of total assets



NFCs: — Top 100 — All

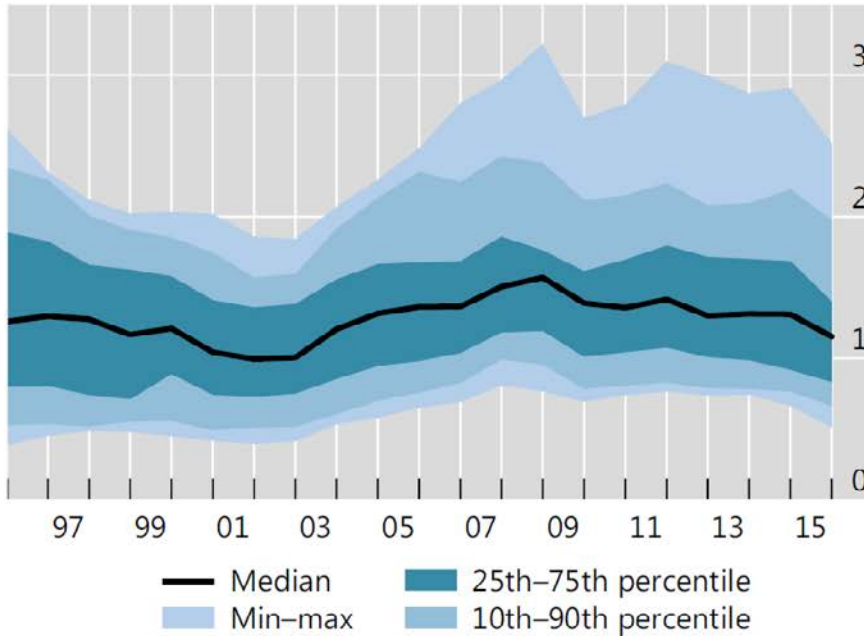
Bank deposits



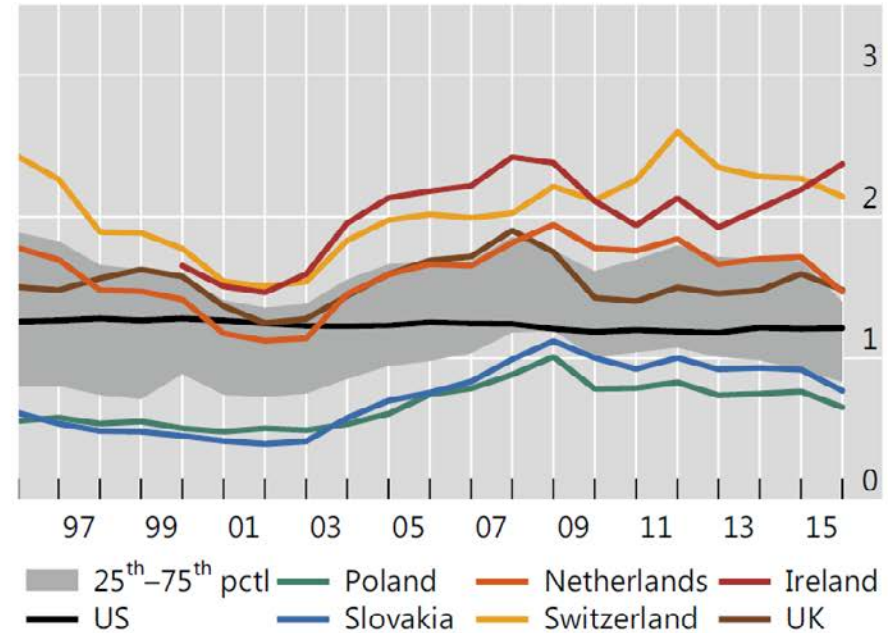
Sources: IMF, *World Economic Outlook*; Capital IQ; BIS locational banking statistics.

# GDP to household disposable income

Quantile ranges



Selected countries



Sources: IMF, *World Economic Outlook*; OECD, *Household disposable income*.