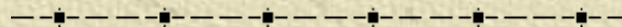


# International Macroeconomics

Module 1. Macroeconomic accounting and  
exchange rate determination

ECN320 Macroeconomics III

August 2023



# 1. What is an open macroeconomy?

## 1.1 Open vs closed macroeconomy

- ✦ Treatment of external imbalances

- ✦ Globalization

## 1.2 State of the international economy

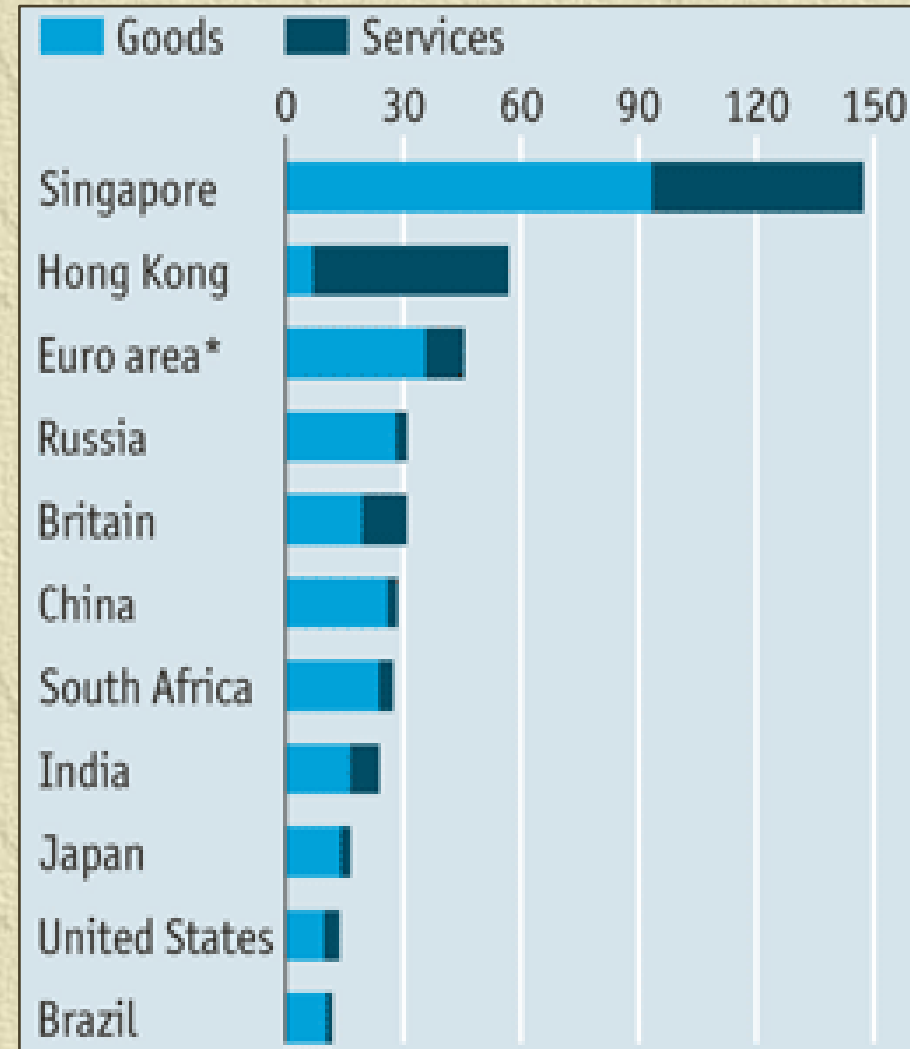
- ✦ Trends in trade



*Fin Times*, “Embattled future of global trade policy”, 13 May 2015, p. 9, by M. Wolf

# What is an open macroeconomy?, continued ...

- ◆ Trade balance, 2010 \$bn and export as % of GDP 2011



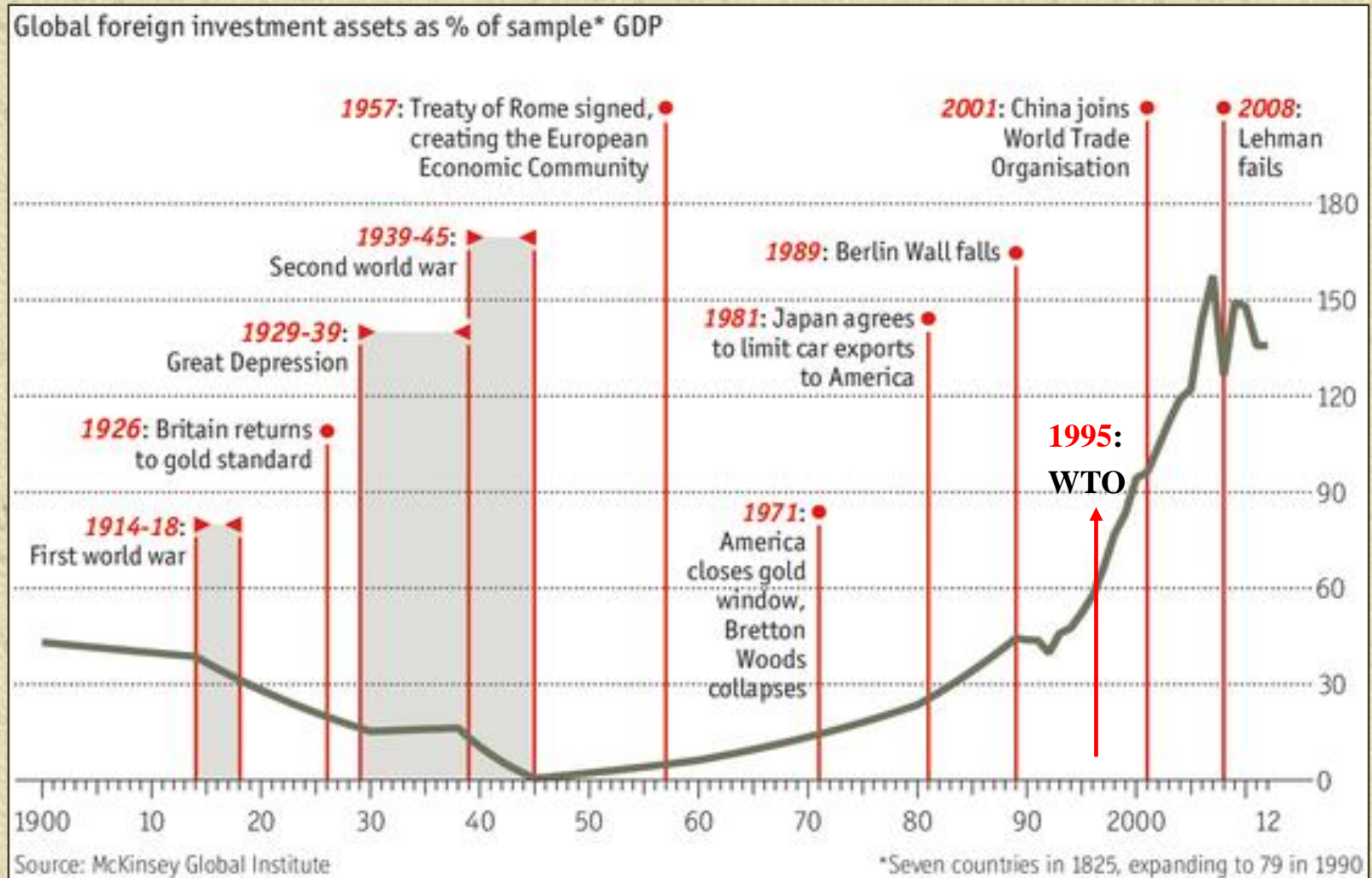
Source: *Economist*, Economic and Financial Indicators, "Trade Balance", 16 Apr 2011, p. 94

*Economist*, "International Trade: Boxed In", 8 Sep 2012, p. 59

# What is an open macroeconomy?, continued ...

## ✦ Trends in international capital flows

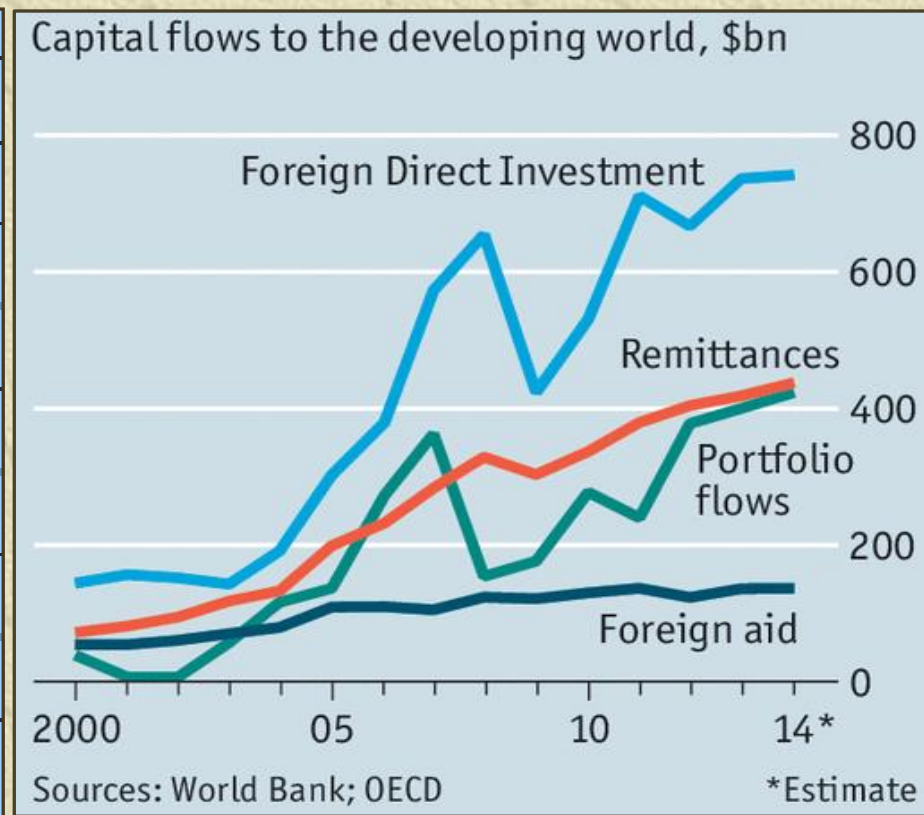
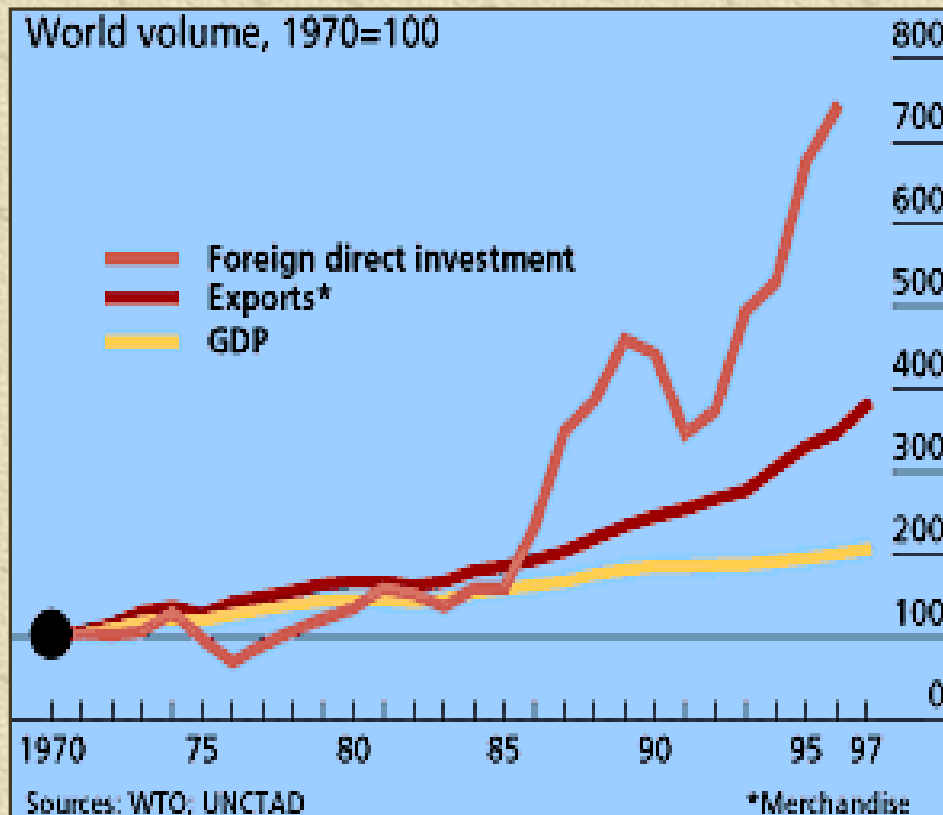
### ◆ Foreign investment assets, % global GDP



# What is an open macroeconomy?, continued ...

## ◆ Capital flows to developing countries

- Foreign investment, by types, and relative to GDP
- Importance of remittances: an approx for L migration?



*Economist*, “The world as a single machine”, survey of manufacturing, 20 Jun 1998, p. 3-5

*Economist*, “Remittances: Like manna from heaven”, 5 Sep 2015, p. 65-6.

# What is an open macroeconomy?, continued ...

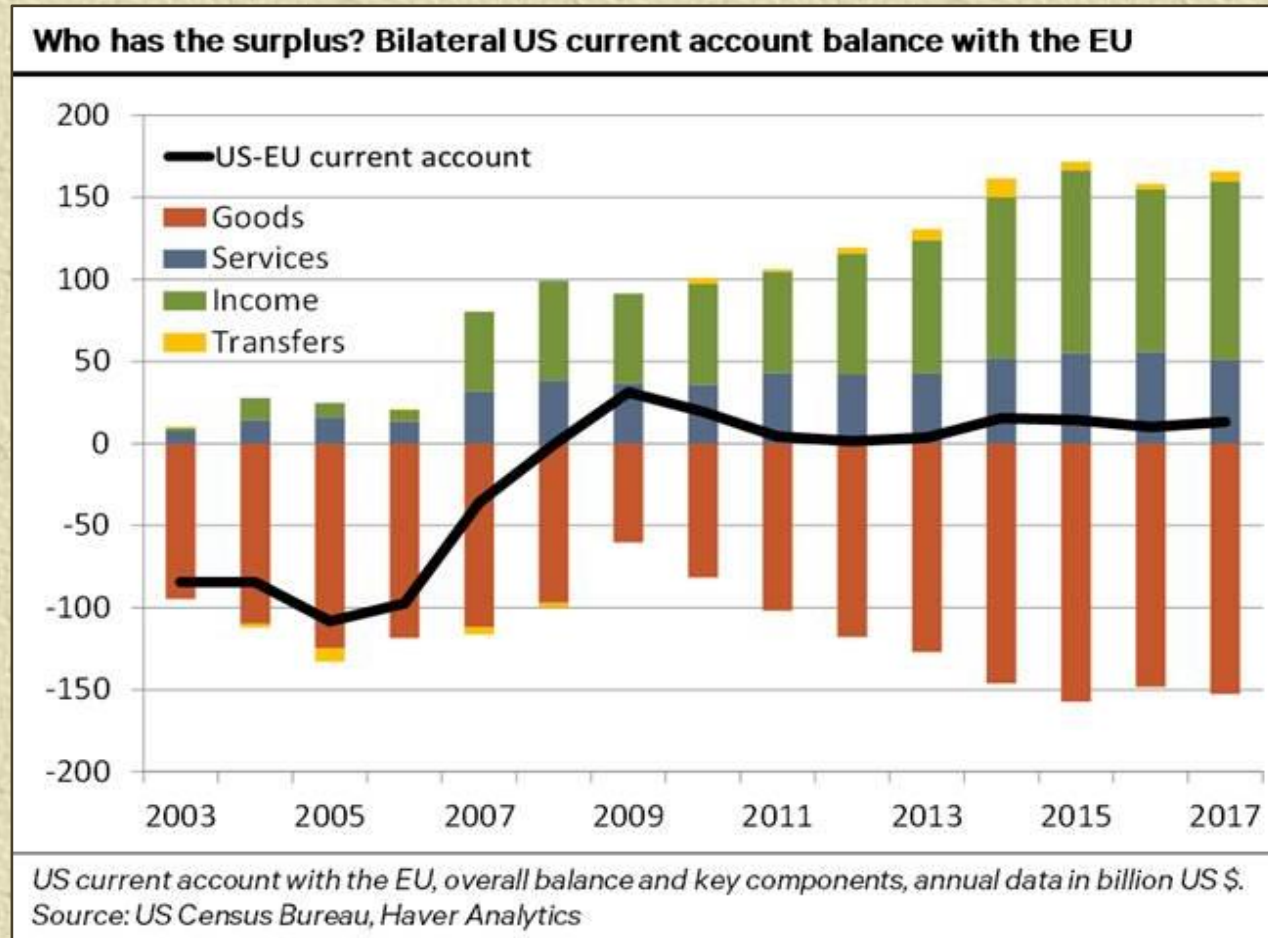
## 1.3 National income accounting: open / closed economy

$$Y = C + I + G + (X - M)$$

- ✦ Meaning of balance-of-trade (BOT)? +/- BOT
- ✦ What are a country's macro policy objectives?
- ✦ BOT:  $(X - M)$ 
  - ◆ BOT's relation to domestic macroeconomy
  - ◆ Interpreting +/- BOT

# What is an open macroeconomy?, continued ...

## ◆ Example of US-EU BOT (current account balance)



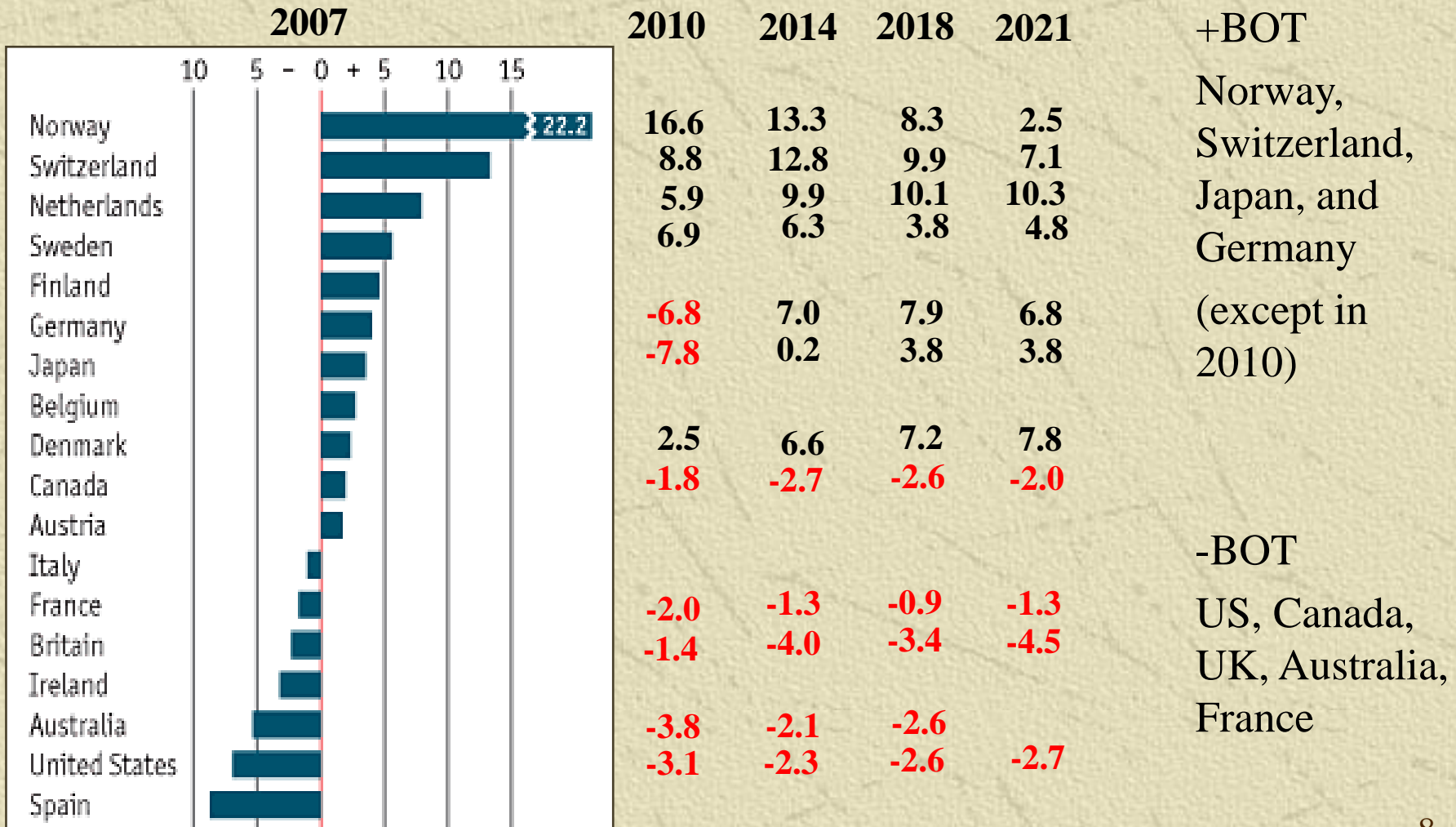
Trump's concern with BOT:

US has a +BOT with EU (deficit in trade in goods) but surpluses in trade in services, net transfers and smaller surplus from the net income (US firms' profit in the EU) and EU spending on licensing fees for US tech.

# What is an open macroeconomy?, continued ...

## 1.4 Trends in BOT = $(S^P - I) - (G - \tau)$

### ✦ Current-account balances, % of GDP

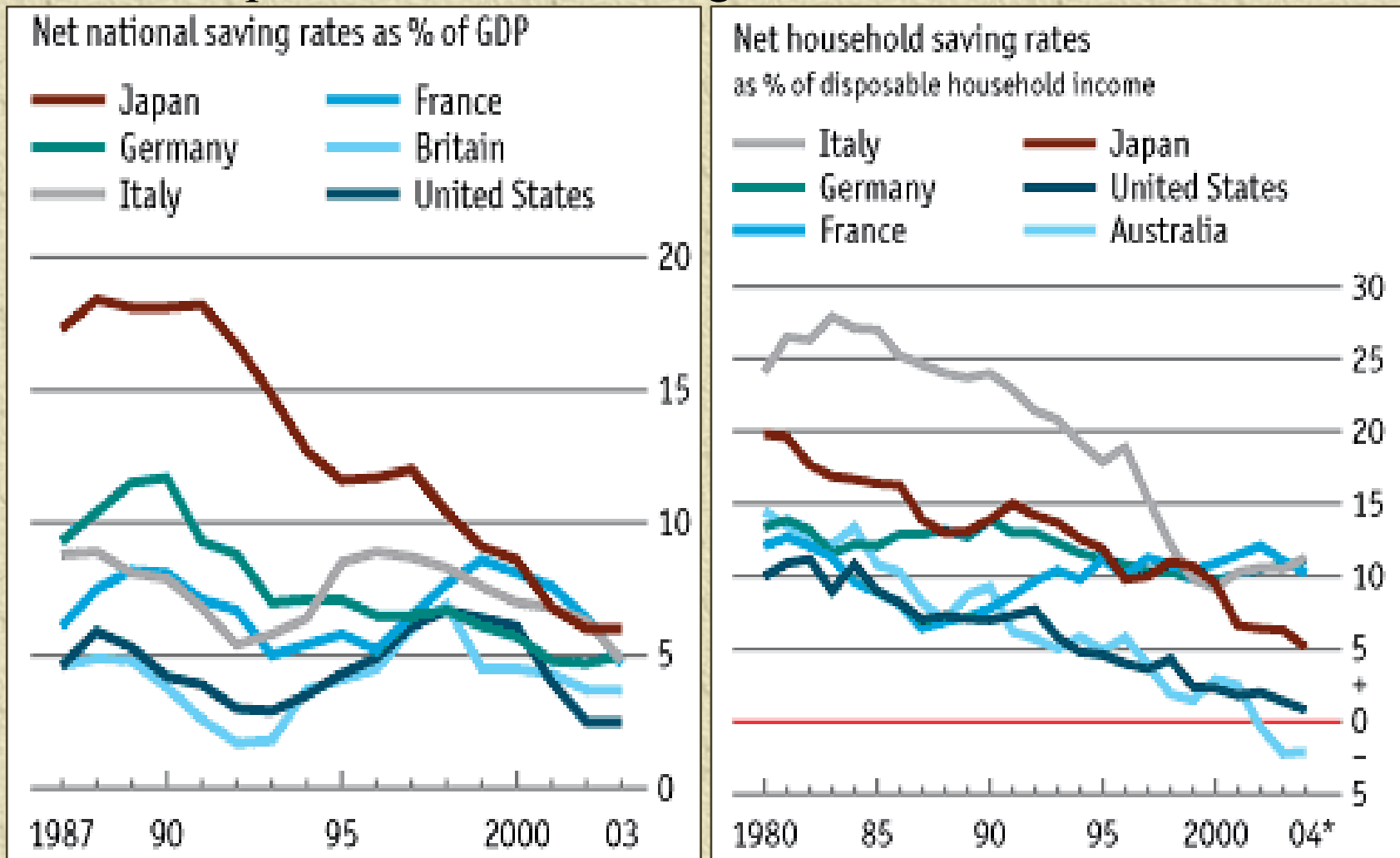




# What is an open macroeconomy?, continued ...

## ✦ National savings and investment, % of GDP

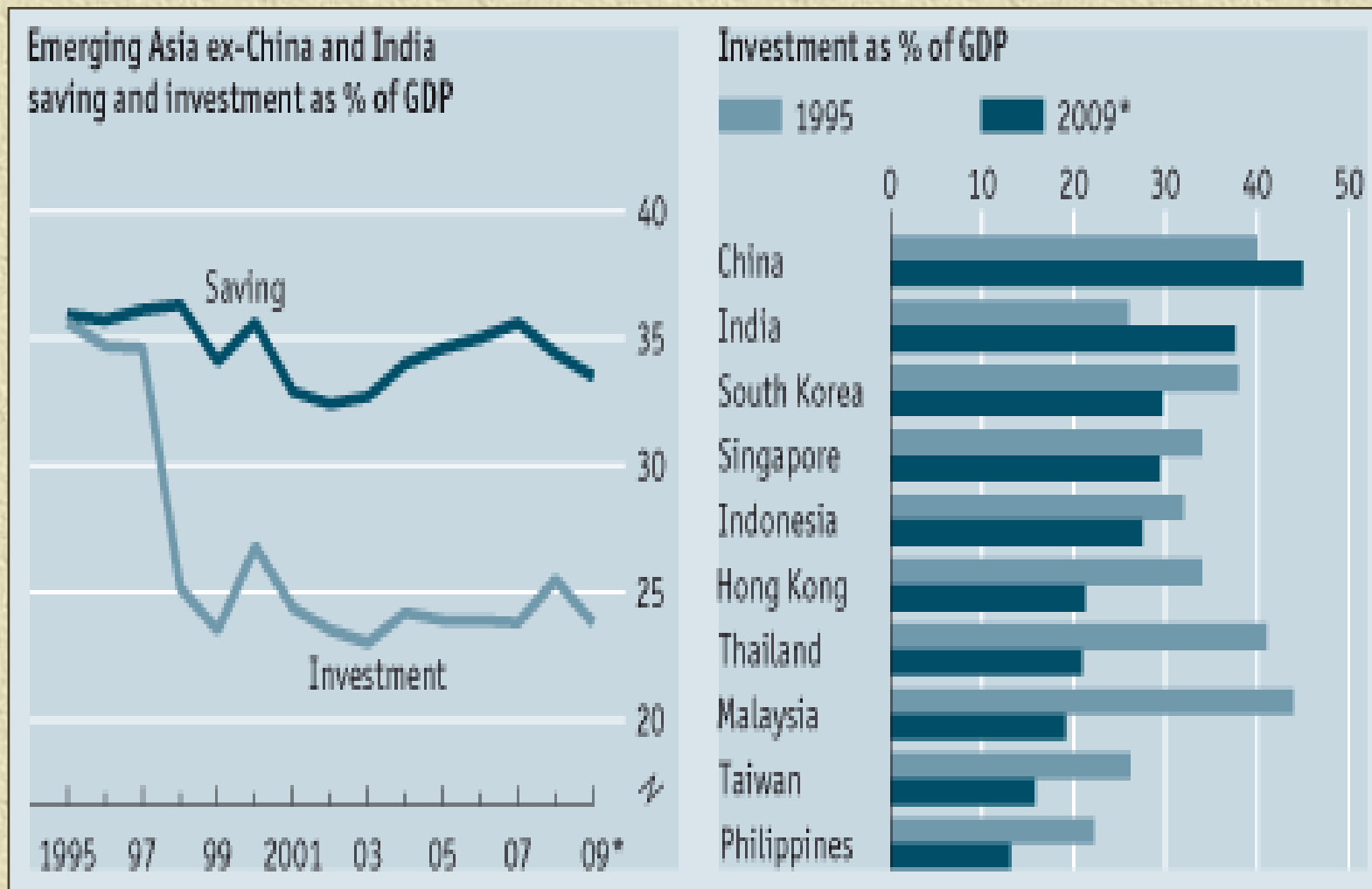
### ◆ Developed economies' savings rates



*Economist*, "Economics of savings: The shift away from thrift", 7 Apr 2005.

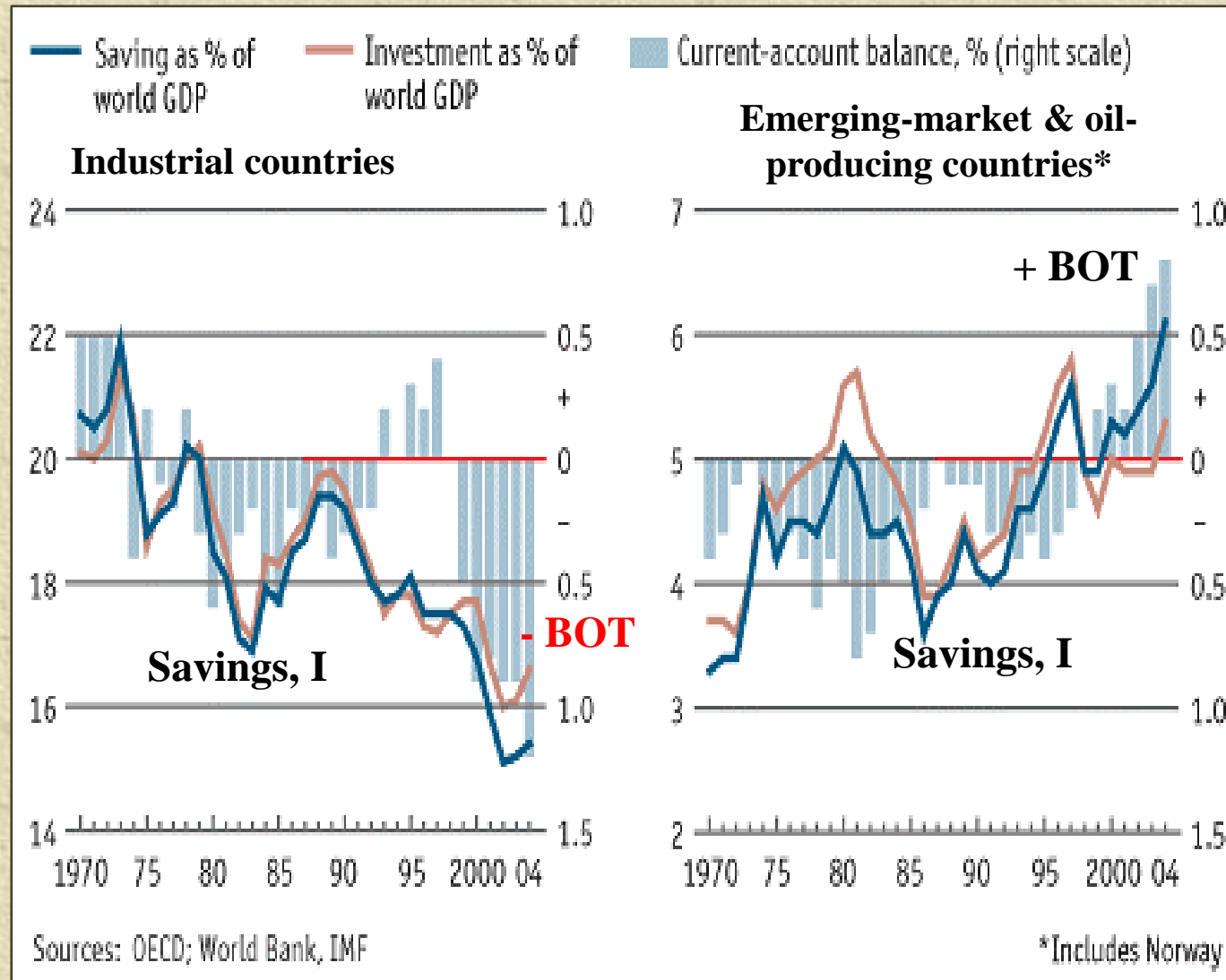
# What is an open macroeconomy?, continued ...

## ◆ Asia: savings and investment, % of GDP



# What is an open macroeconomy?, continued ...

- ◆ Savings, investment and BOT: savings glut or investment deficit?



Source: *Economist*, "Don't blame the savers", 16 Sep 2005.

# What is an open macroeconomy?, continued ...

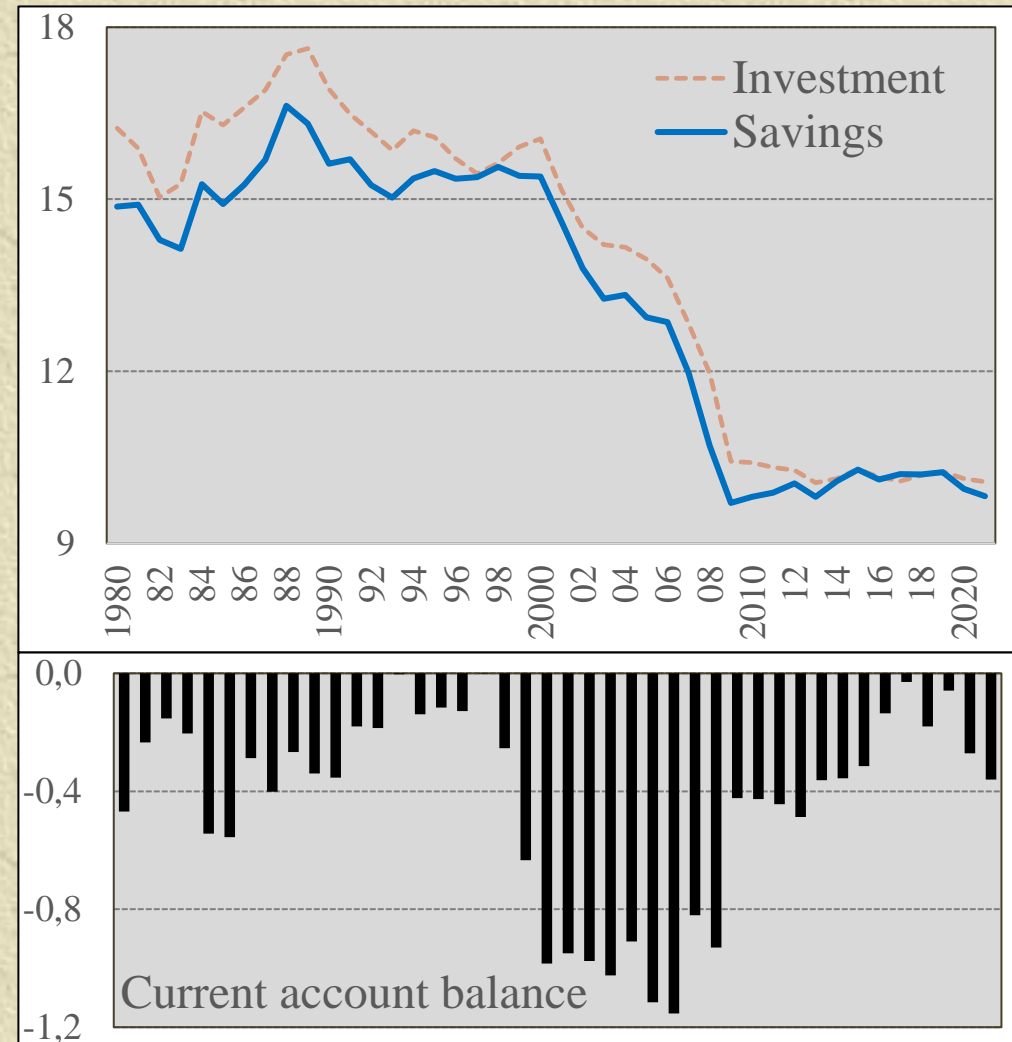
- ◆ Savings, investment and CA balance, % of world GDP
  - Industrialized countries\*

Investment > savings

Both trending down

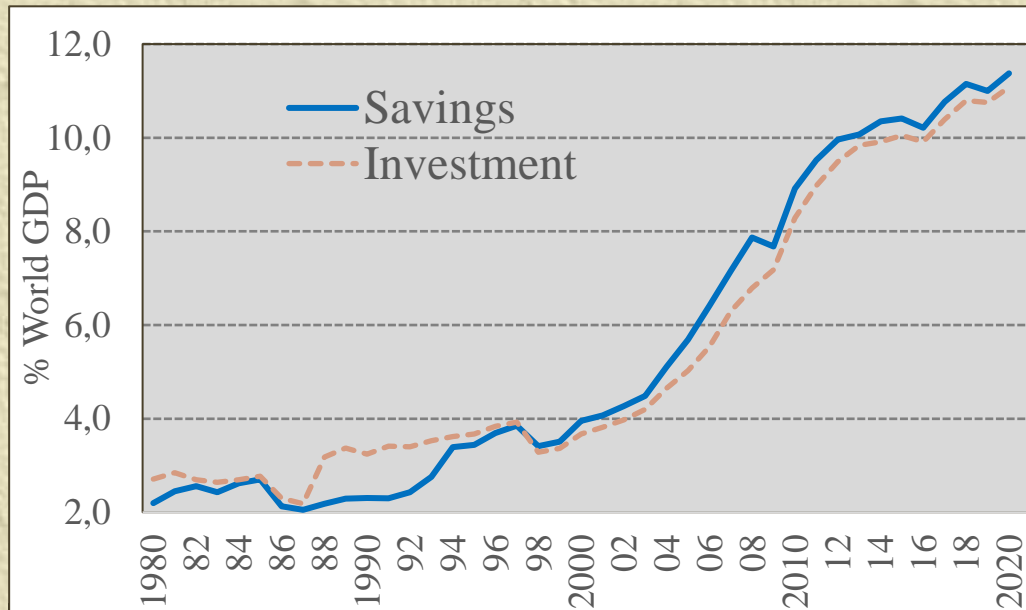
Negative CA balance

\*Australia, Canada, France, Germany, Italy, Japan, UK and the US



# What is an open macroeconomy?, continued ...

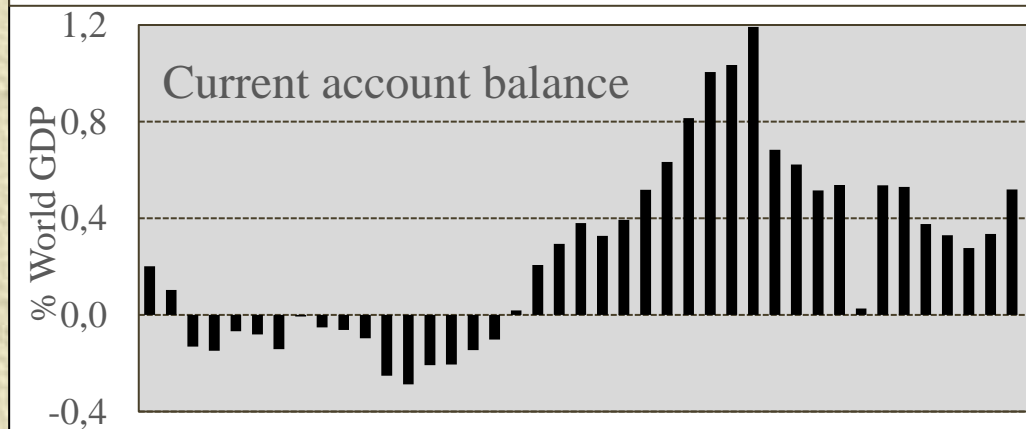
- EMEs and net oil exporting countries\*, % of world GDP



After mid-1990s

Savings > investment

Both trending up



Positive CA balance

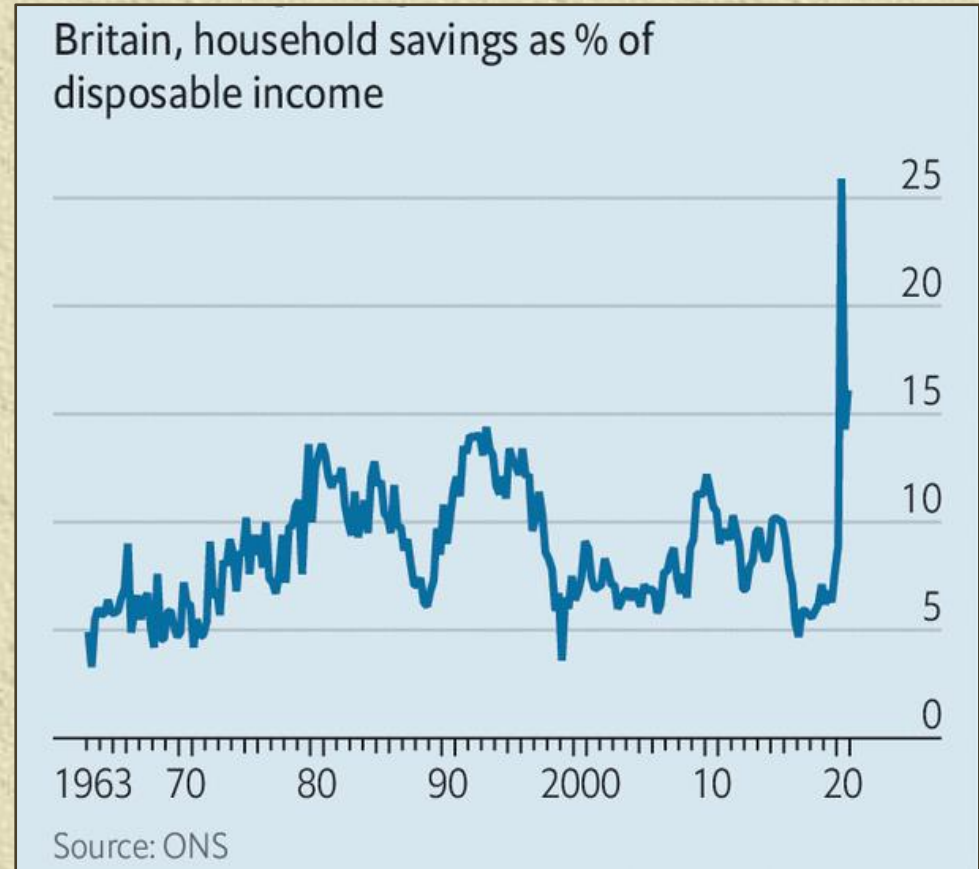
\*Hong Kong, China, Indonesia, Thailand, Malaysia, India, S. Korea, Turkey, Russia, Saudi Arabia, Norway, Venezuela, and Mexico

# What is an open macroeconomy?, continued ...

- Savings and covid-19: UK households

In 2020, government provided stimulus of various sorts. HH saving soared.

In 2021, after covid lockdowns were lifted economies recovered, esp services provision (bars, restaurants). Unemployment was low and/or labor mkts were tight. Wages were increasing.

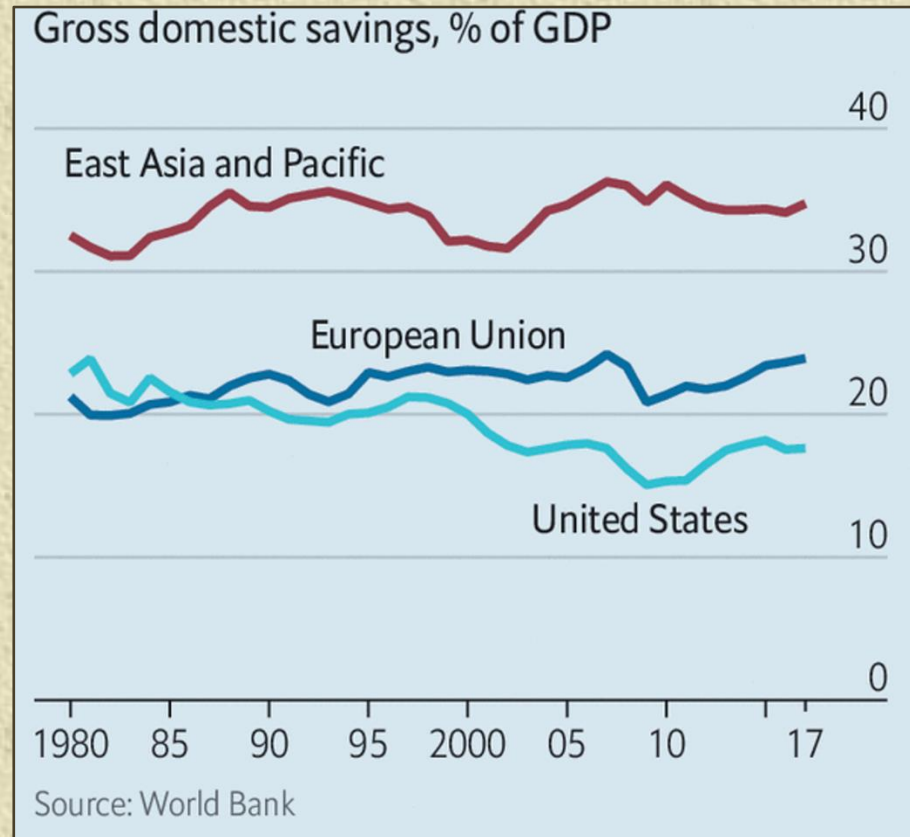


Source: *Economist*, “The economy: Hot but not overheating”, 22 May 2021, p. 36-7.

# What is an open macroeconomy?, continued ...

## ✦ Government spending and taxes

### ◆ Gross domestic savings, % of GDP



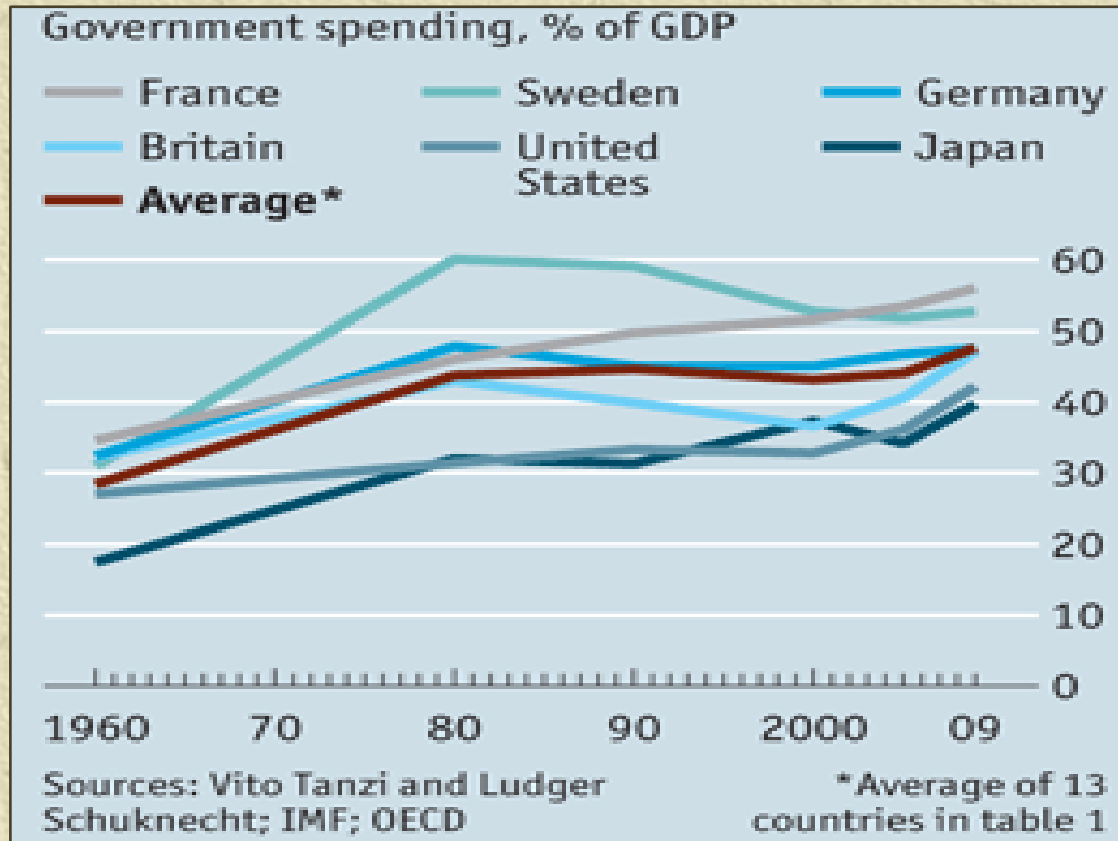
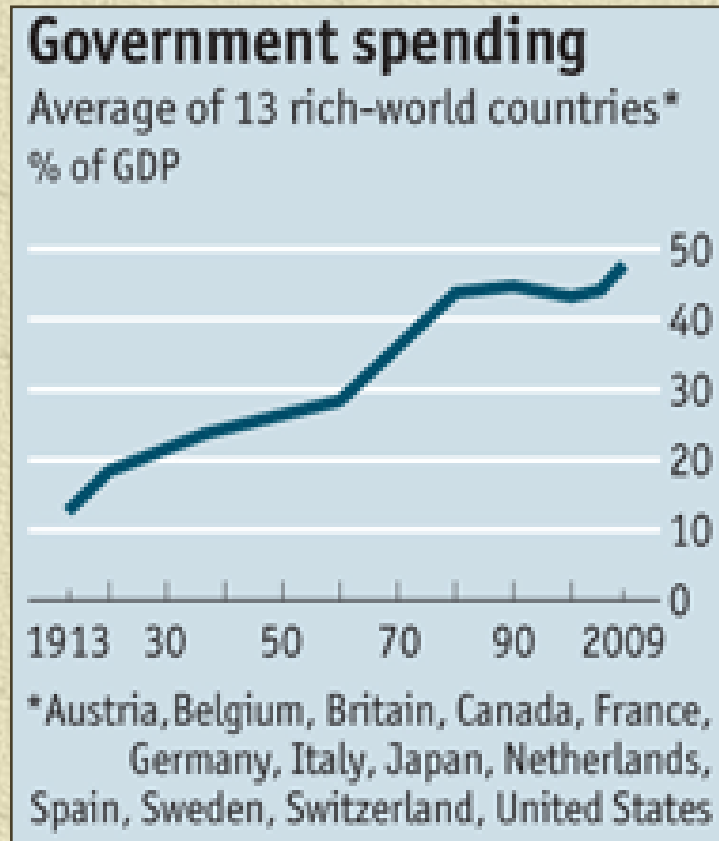
Asia's stockpile of savings is still big and getting bigger. Net savings rates 35% of GDP per year over 30-yr period.

In early 2000s, US Fed Chief, Bernanke argued of "savings glut" flooding into US bond mkts depressing long-term real interest rates.

Underlying cause of housing booms in the US, Ireland and construction boom in Spain.

# What is an open macroeconomics?, continued ...

- ◆ Gov't spending in developed economies, % of GDP

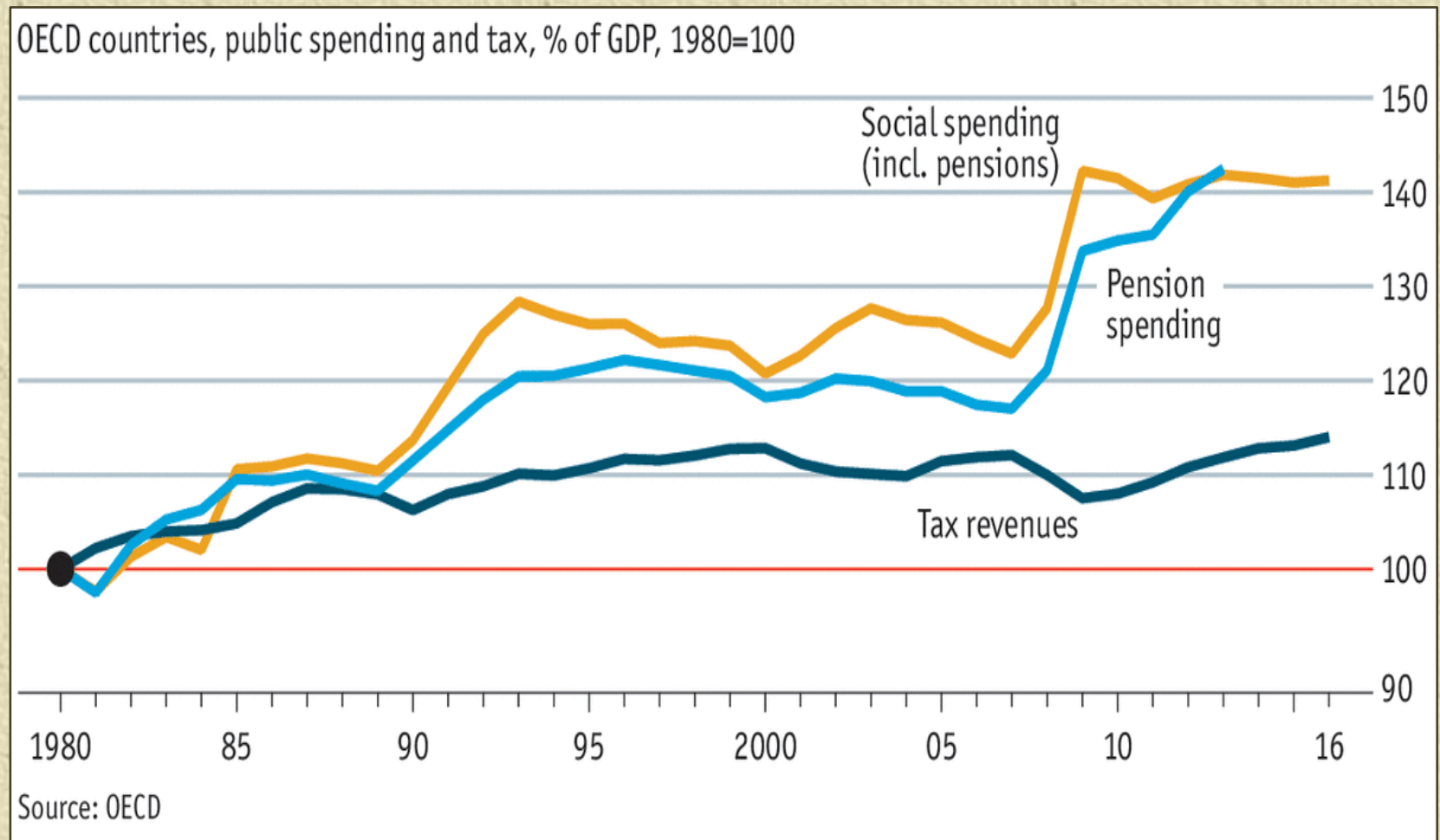


Source: *Economist*, "Taming Leviathan", Special report on the future of the state, 19 Mar 2011, p. 3-6.



# What is an open macroeconomics?, continued ...

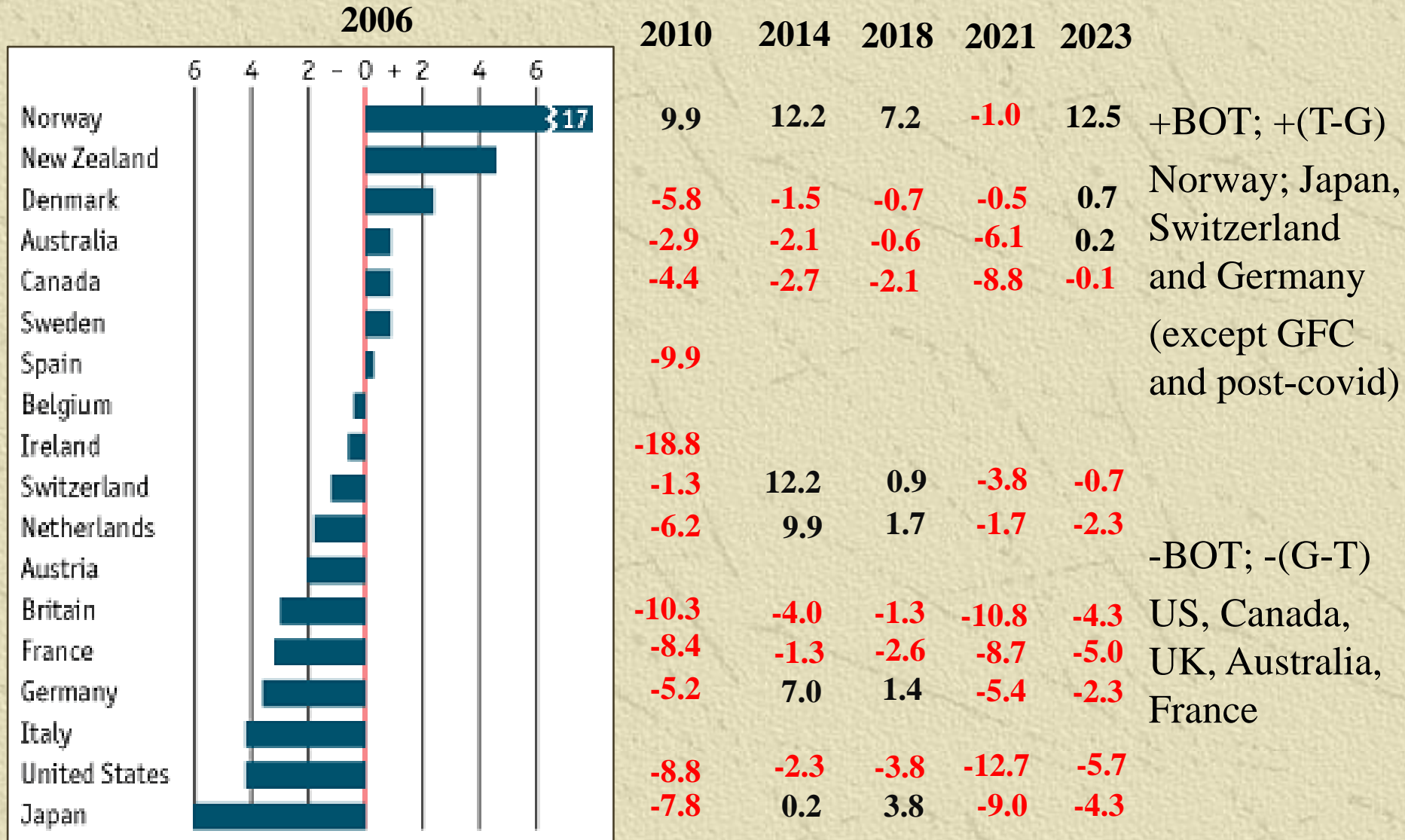
## ◆ OECD gov't spending and taxation



Source: *Economist*, “The Economist at 175: Reinventing liberalism for the 21<sup>st</sup> century,” 15 Sep 2018, p. 50.

# What is an open macroeconomy?, continued ...

## ◆ Budget balances, developed economies, % of GDP



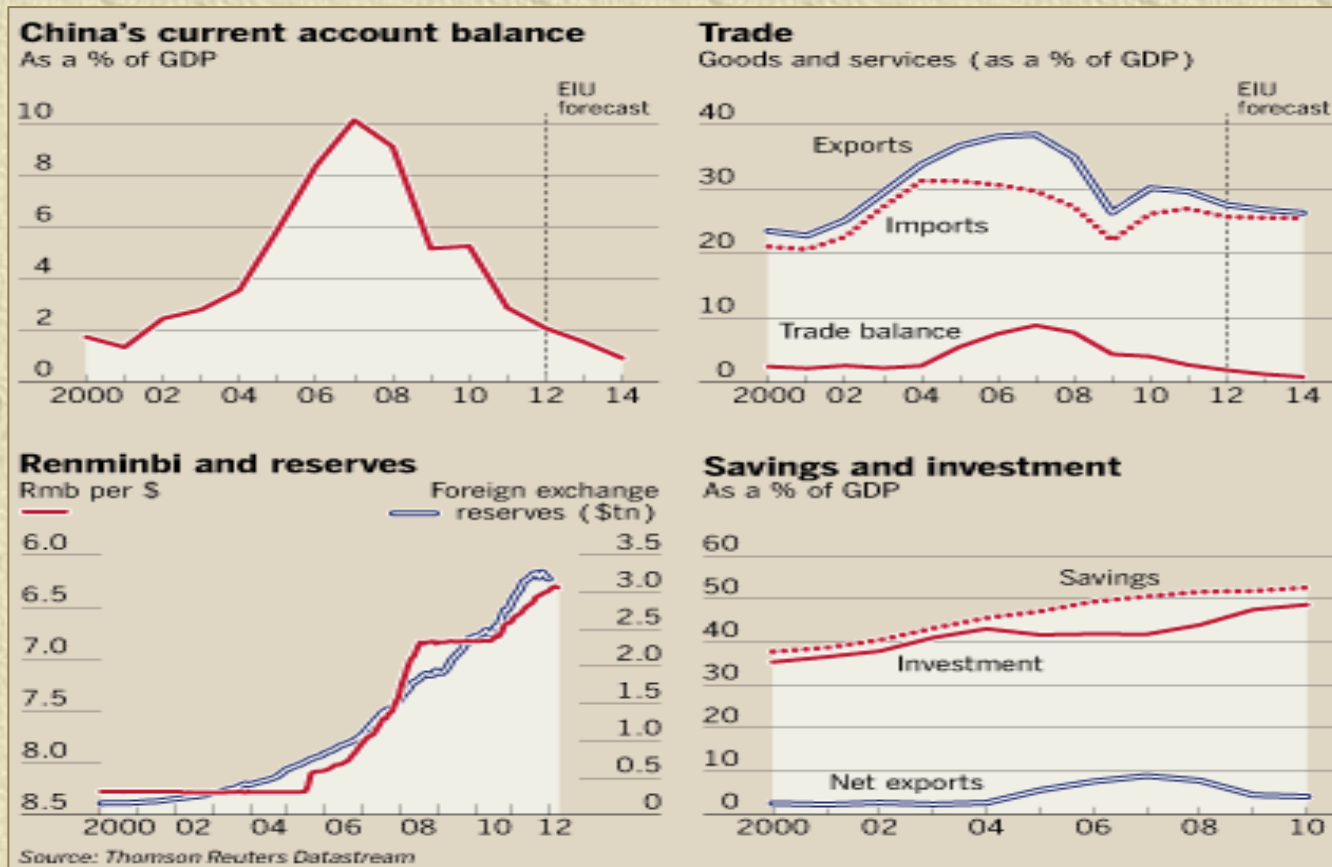
*Economist*, "Economic and financial indicators", various issues.

# What is an open macroeconomy?, continued ...

## ✦ Macro imbalances: twin surpluses, +BOT and $T > G$

### ◆ Case of China

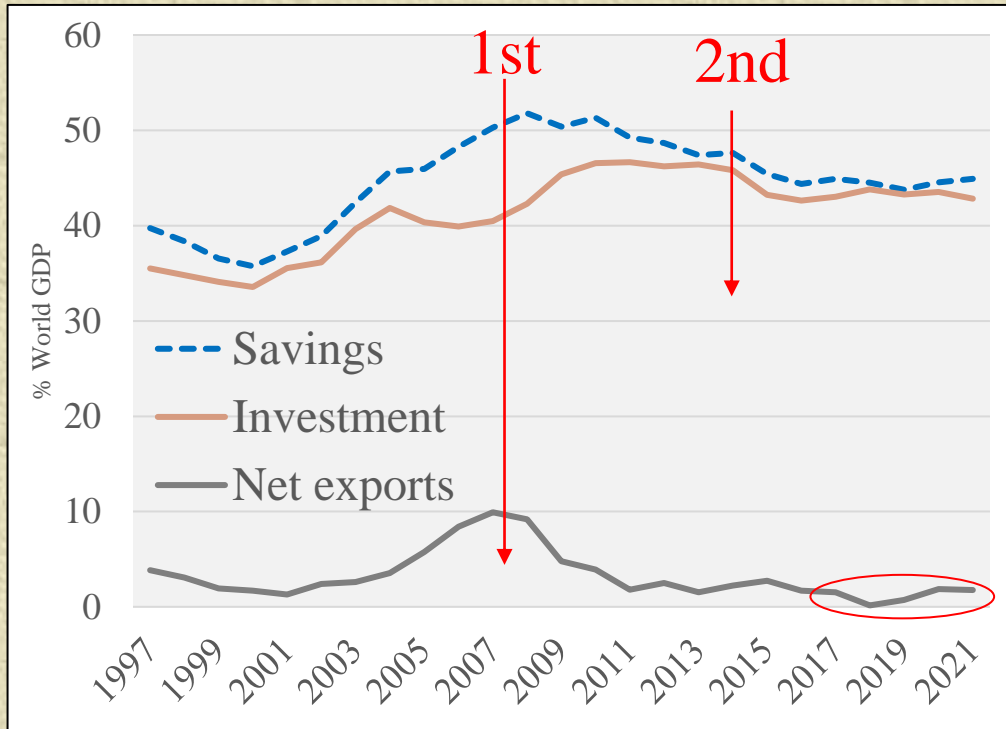
- Macro situation, pre-/post-GFC period
  - ◆ 2007:  $(X-M) = 10\%$  of GDP; R accumulation
  - ◆ 2012:  $(X-M) \downarrow$  to 2% of GDP;  $I = 50\%$  of GDP



Source: *Fin Times*,  
“Two cheers for  
China’s rebalancing”,  
04 Apr 2012, p. 4.

# What is an open macroeconomy?, continued ...

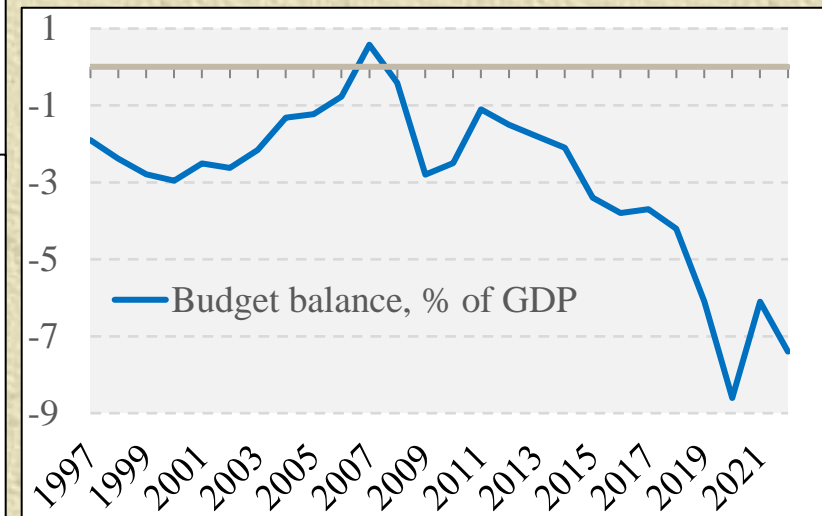
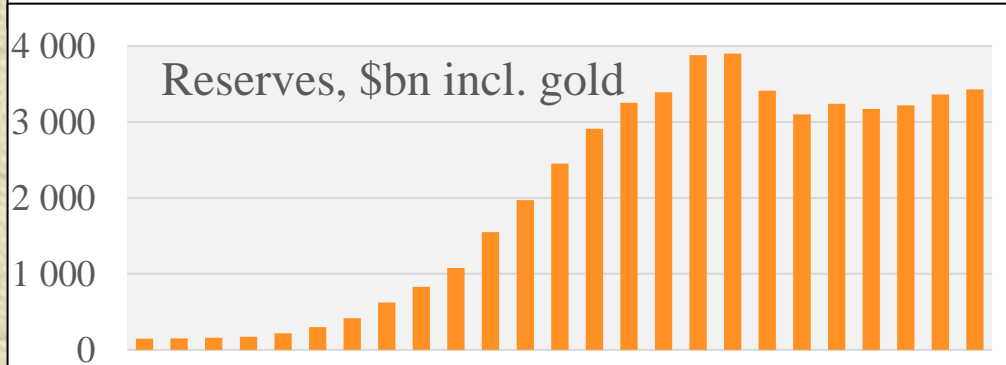
- Macroeconomic rebalancing



1st rebalancing:  $\downarrow$  dependence on export for growth,  $\downarrow X$ ;  $\uparrow I$

2nd rebalancing:  $\downarrow I$ ;  $\uparrow C$  (but not enough)

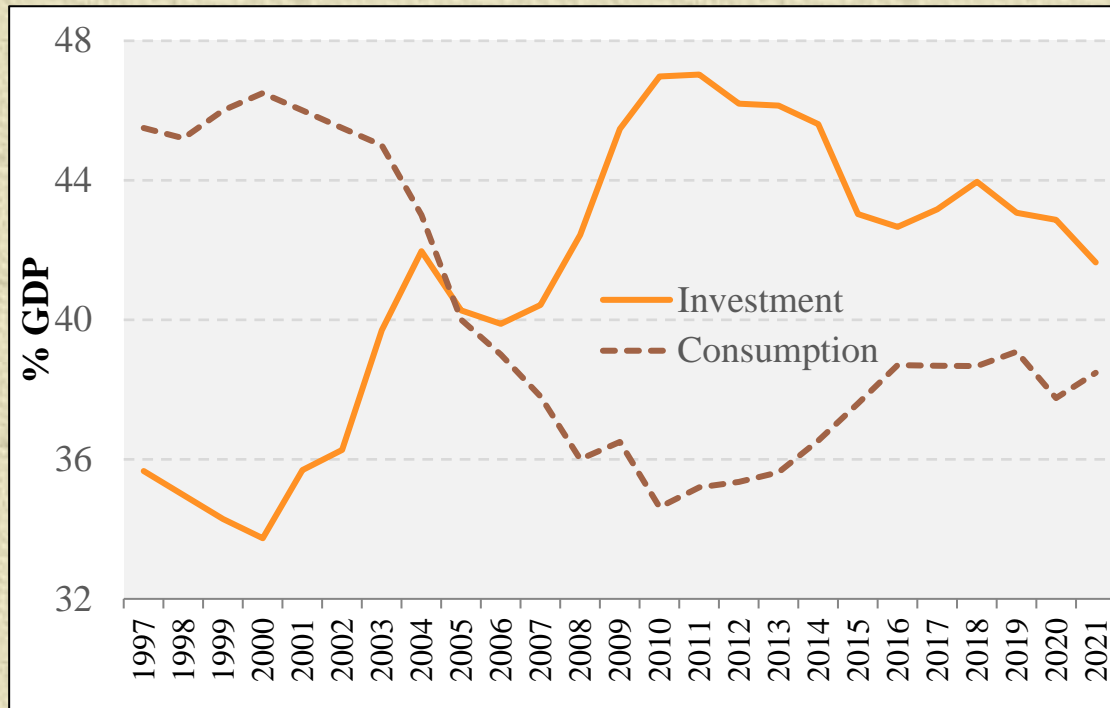
From 2018,  $\uparrow C$  in services, services trade deficit  $\rightarrow$   $\downarrow$  CA surplus



Source: World Bank database

# What is an open macroeconomy?, continued ...

- Investment, consumption and capital stock, % of GDP



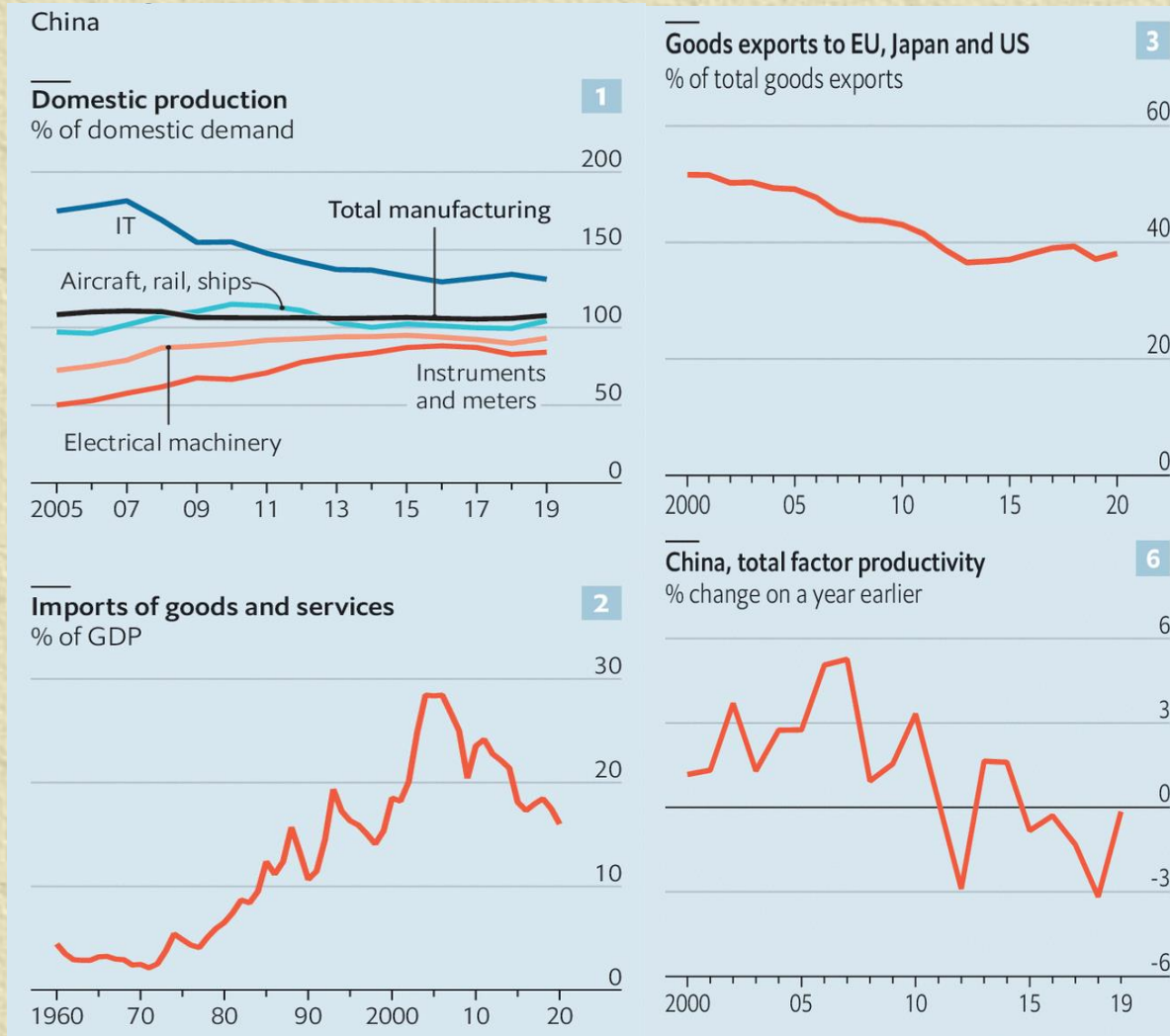
After 2007, China needed to rebalance from X-led growth, along the coast, to I in inland areas.

↑ consumption but not enough to match supply - household income is a small share of GDP.

Investors put money in housing rather than factories, but gov't directed investment in infrastructure.

# What is an open macroeconomy?, continued ...

- Rebalancing for strategic, geopolitical reasons



Shift for self-reliance and sufficiency in high-tech products:

- China too dependent on liberal democracies esp, US
- Evidence of sanctions on Russia

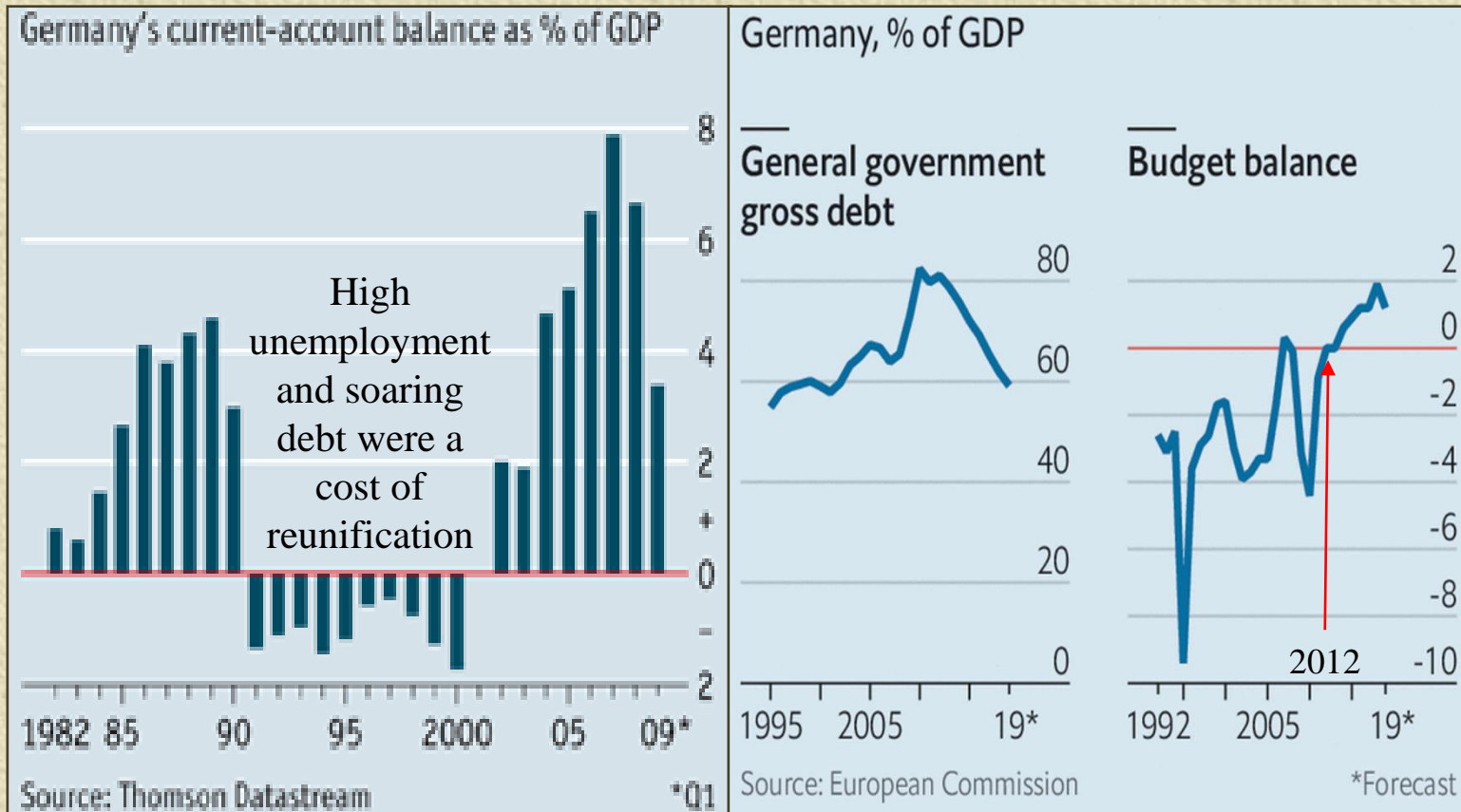
Solar panel sector – 70% of prodn of raw mats used to manufacture solar cells, but also the cells themselves and the module onto which they are assembled.

Some sectors struggle to ↓ dependence – aviation and spacecraft sectors import 98% of components from West.

Source: *Economist*, “Fortified but not enriched”, briefing, China’s place in the world economy, 28 May 2022, p. 13-5

# What is an open macroeconomy?, continued ...

## ◆ Case of Germany



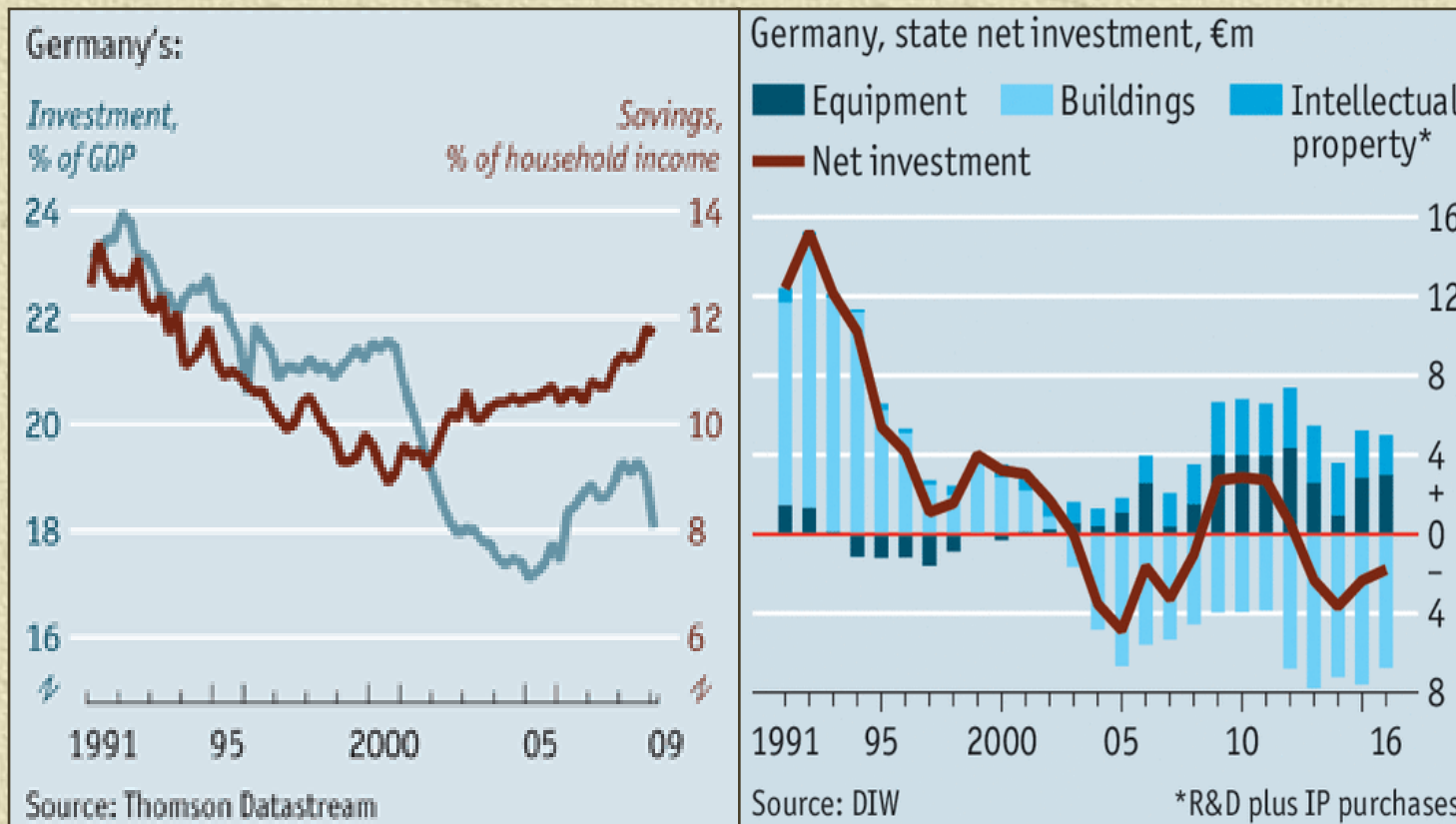
Germany's economic miracle reflects an obsession with budget balance commitment, "schwarze null" and low debt level (2010 "debt break" limited gov't structural deficit to 0.35% of GDP and no deficits in the 16 regions).

Germany counters that in 2019 it has had 9 years of growth & highest employ since reunification.

Sources: *Economist*, "Rebalancing the world economy: Germany", 9 Aug 2009 and "Germany: Are the black zero's days numbered?", 16 Nov 2019, p.23-4.

# What is an open macroeconomy?, continued ...

- Savings and private and state net investment, €mln
  - ♦ Savings – investment gap
  - ♦ Private investment trends lower since 2000
  - ♦ ↓ net value of state assets: 2002-07 and after 2012



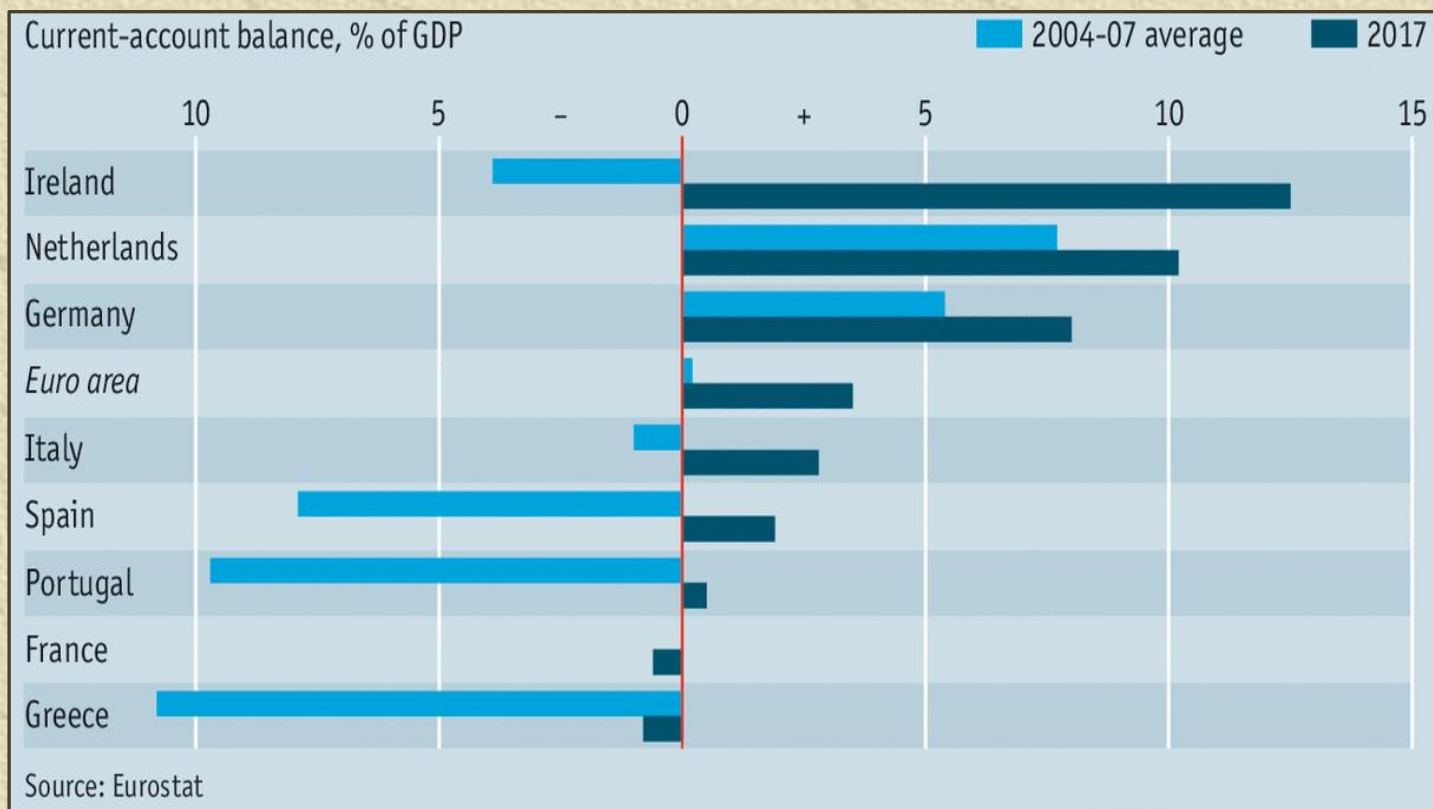
Downside: lowest ranking in infrastructure investment of any big, rich economy (roads, bridges and rail in poor state of repair, slow internet connection).

Sources: *Economist*, “German economy: No new deal”, 14 Feb 2015, p. 19-20 and “Public investment: The Germany that doesn’t work”, 17 Jun 2017, p. 24-5.



# What is an open macroeconomy?, continued ...

- Rebalancing within the Eurozone, 2004-07 and 2017
  - ◆ External imbalances: overall surplus 3.6% of GDP, \$442bn
  - ◆ Internal balancing: crisis countries stabilized



Ireland: ↑ X and competitiveness

Greece: ↓C, I, M

# What is an open macroeconomy?, continued ...

## 1.5 Balance-of-payments (BOP)

### ✦ Macroeconomic identity:

$$\text{BOP} = \text{BOT} - \text{net K-flow} [\text{K-out} - \text{K-in}] - \Delta R \equiv 0$$

- ◆ BOP components: BOT, K-account and  $\Delta R$

- ◆ Relationships among components

### ✦ BOP, BOT and policy considerations

- ◆ Dangers with persistent +/- BOT

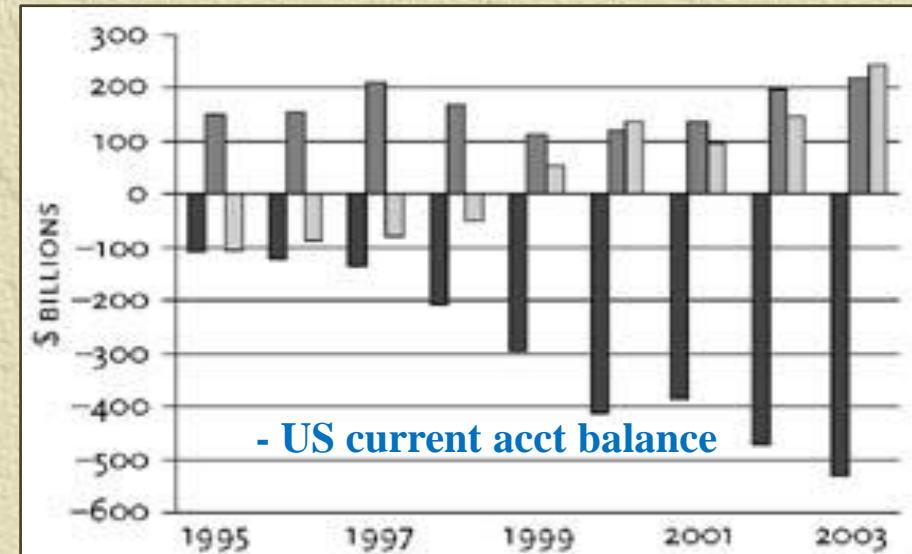
- ◆ BOP crisis

# What is an open macroeconomy?, continued ...

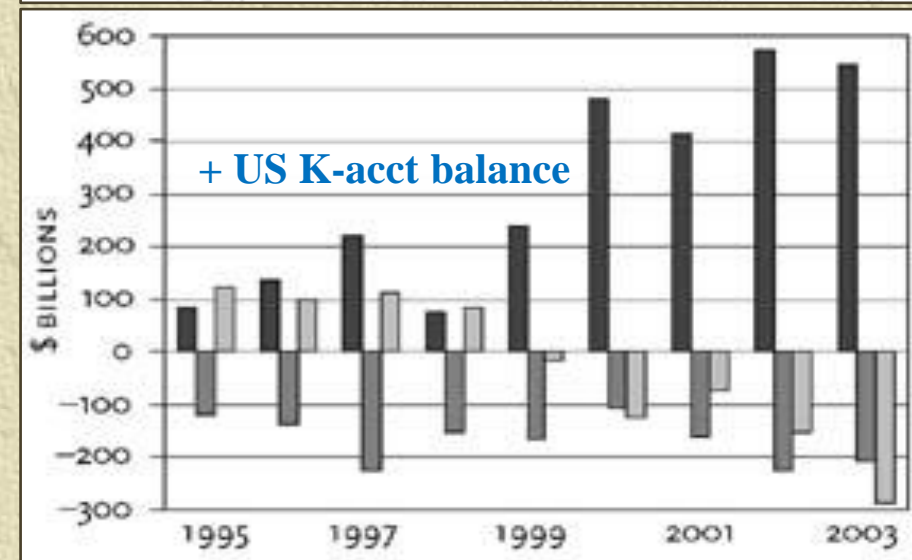
## ✦ Trends in BOP: BOT and K acct

### ◆ US, OECD and LDCs

#### Current acct balances



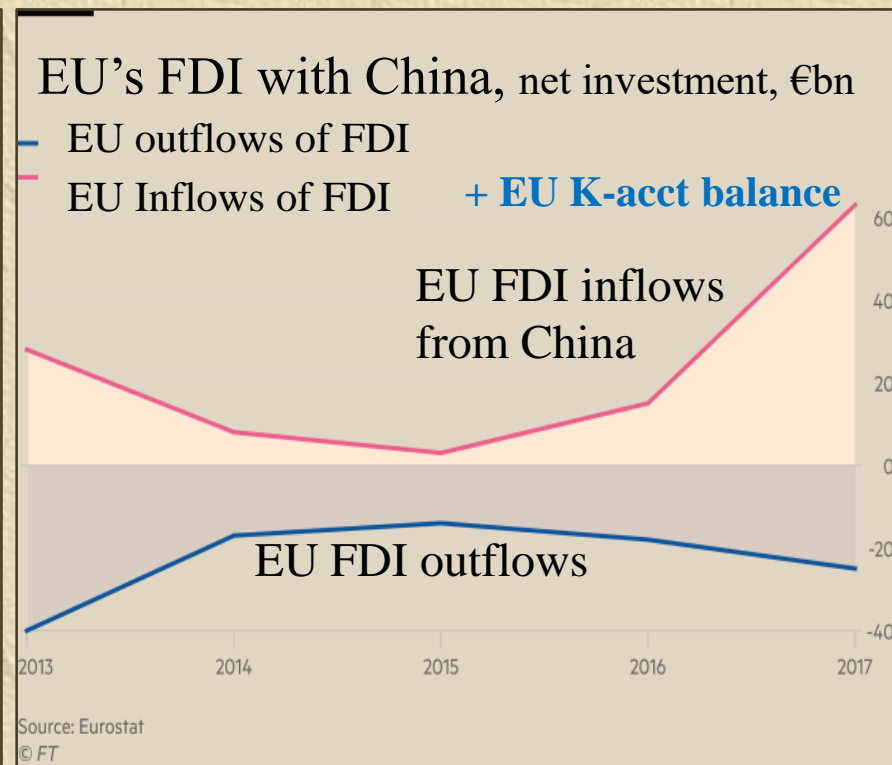
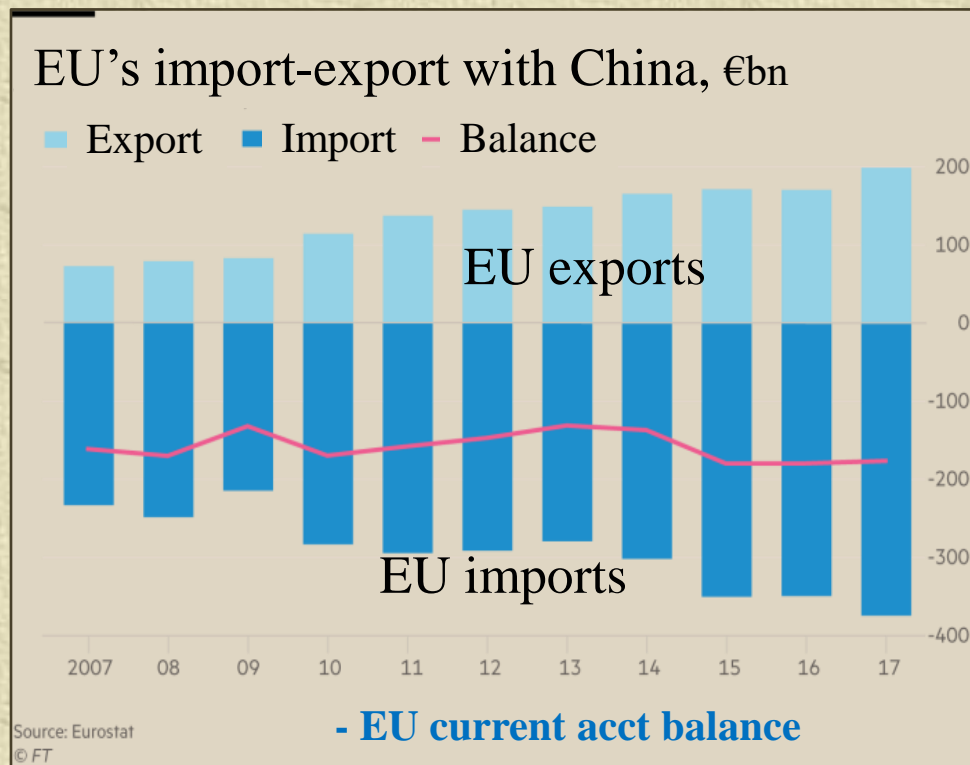
#### Capital acct balances



Net K-inflows to US  
about 4% of GDP in 2003

# What is an open macroeconomy?, continued ...

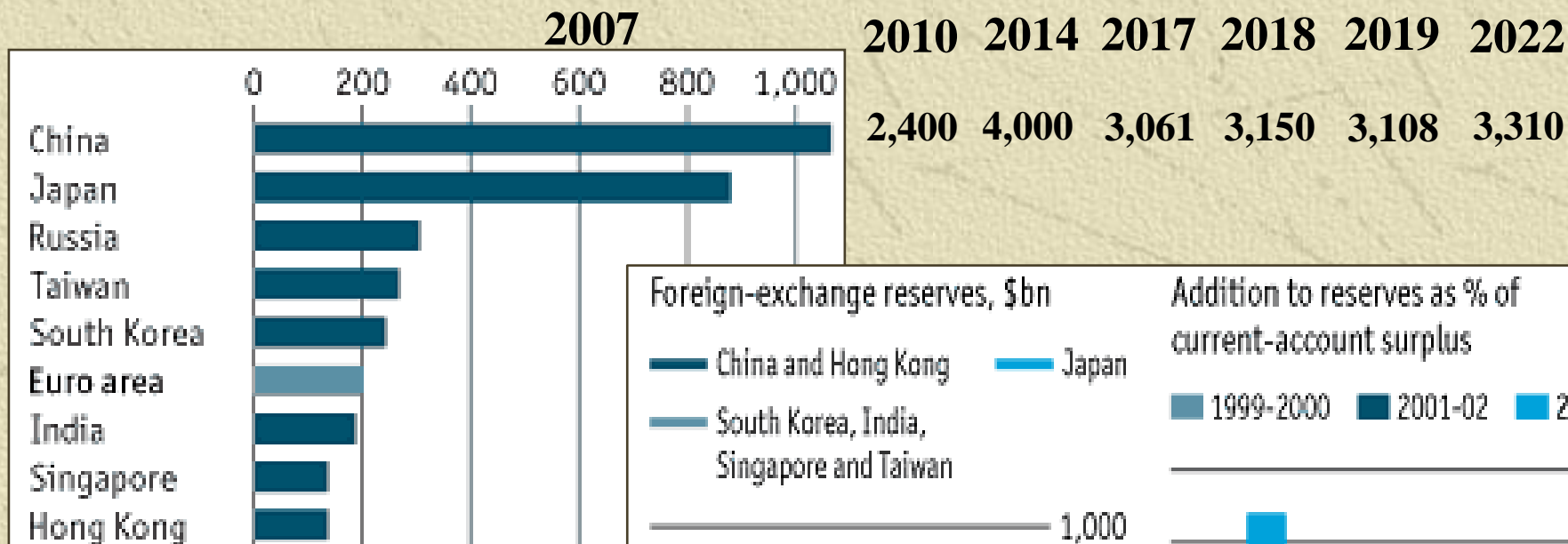
## ◆ Current and capital account (FDI flows): EU-China



The EU's –BOT with China is partially offset by net FDI inflows.

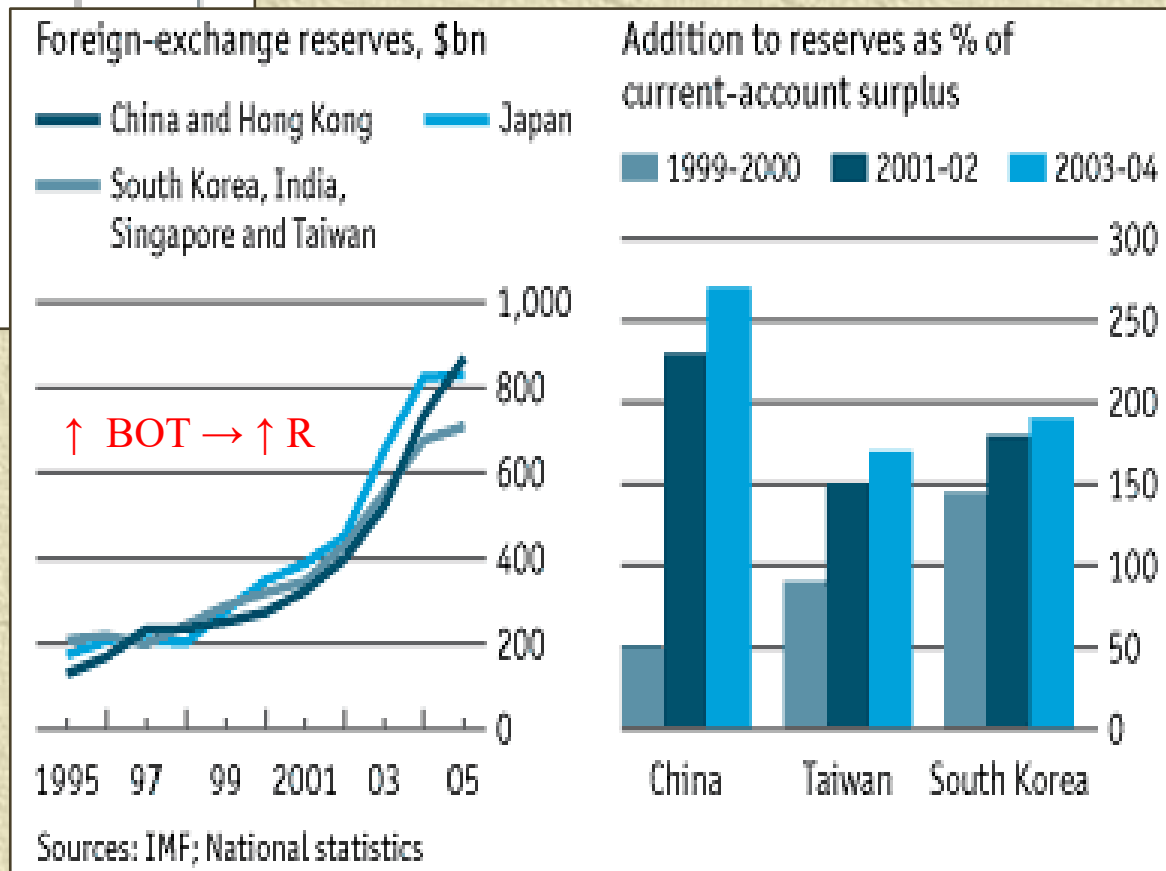
# What is an open macroeconomy?, continued ...

- Official reserves, excl. gold, selected countries, \$bn



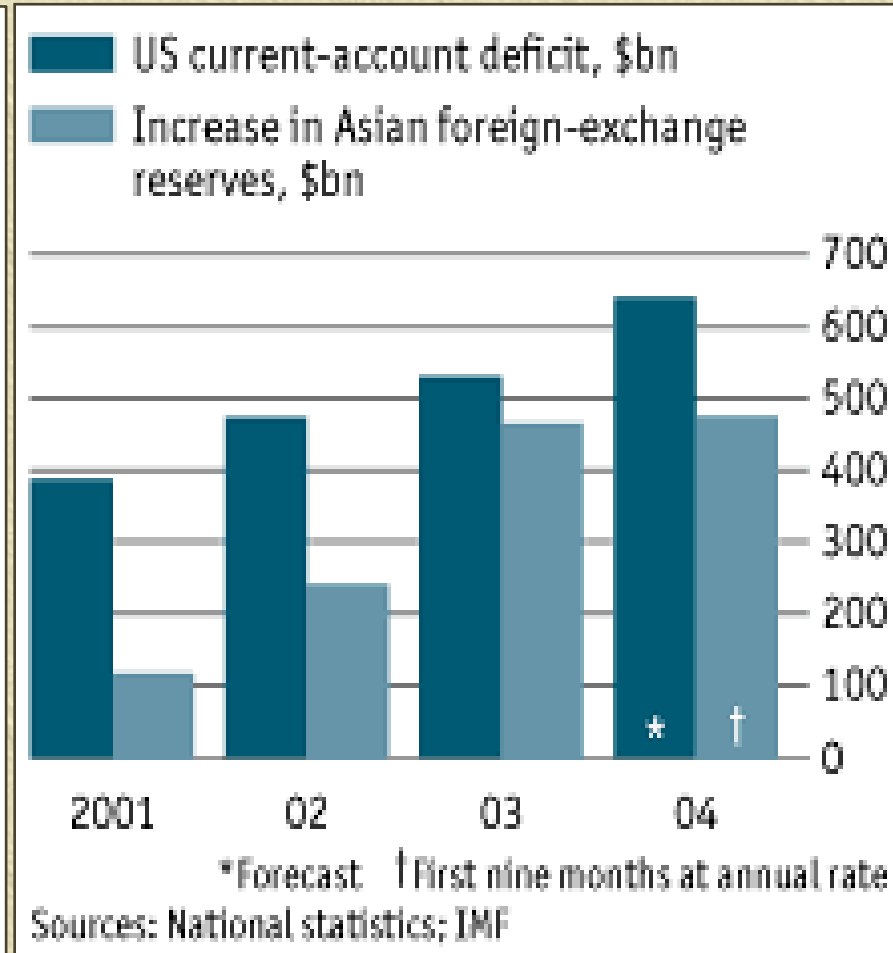
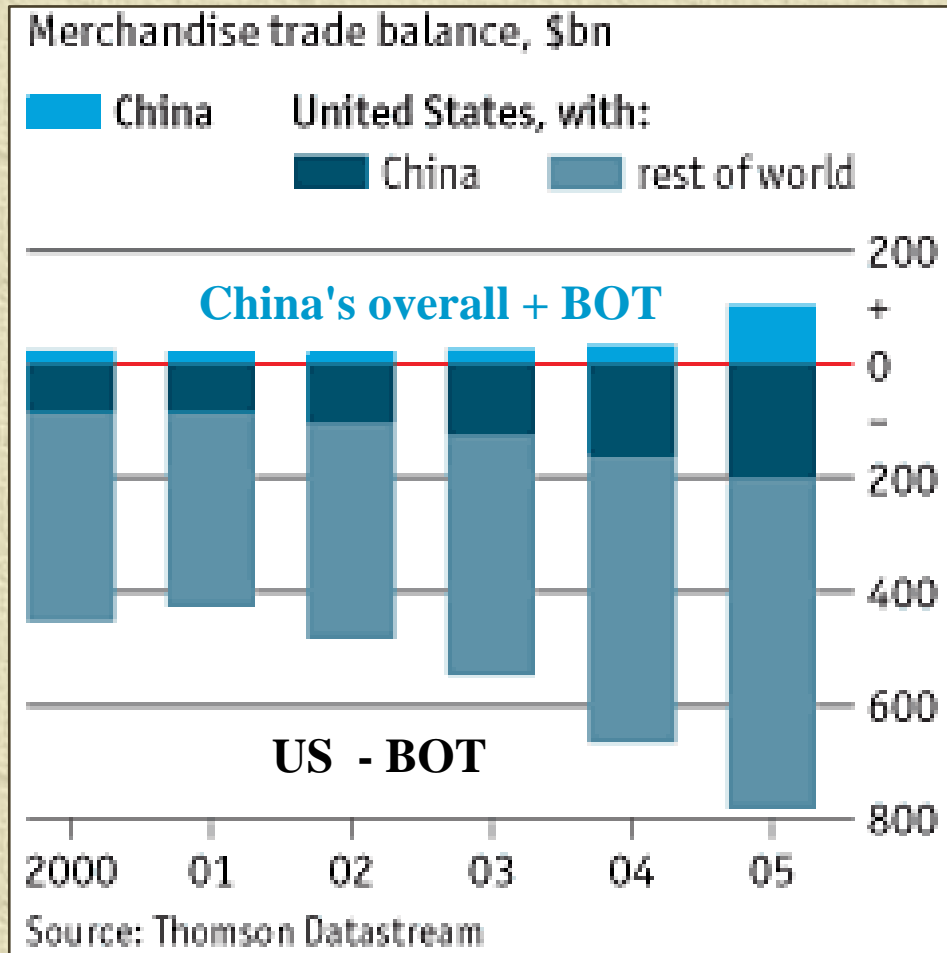
*Economist*, “Economic and financial indicators”, various issues.

Source: *Economist*, “Economics focus: Asia squirrels”, 15 Dec 2005.



# What is an open macroeconomy?, continued ...

- US -BOT and Asian reserves

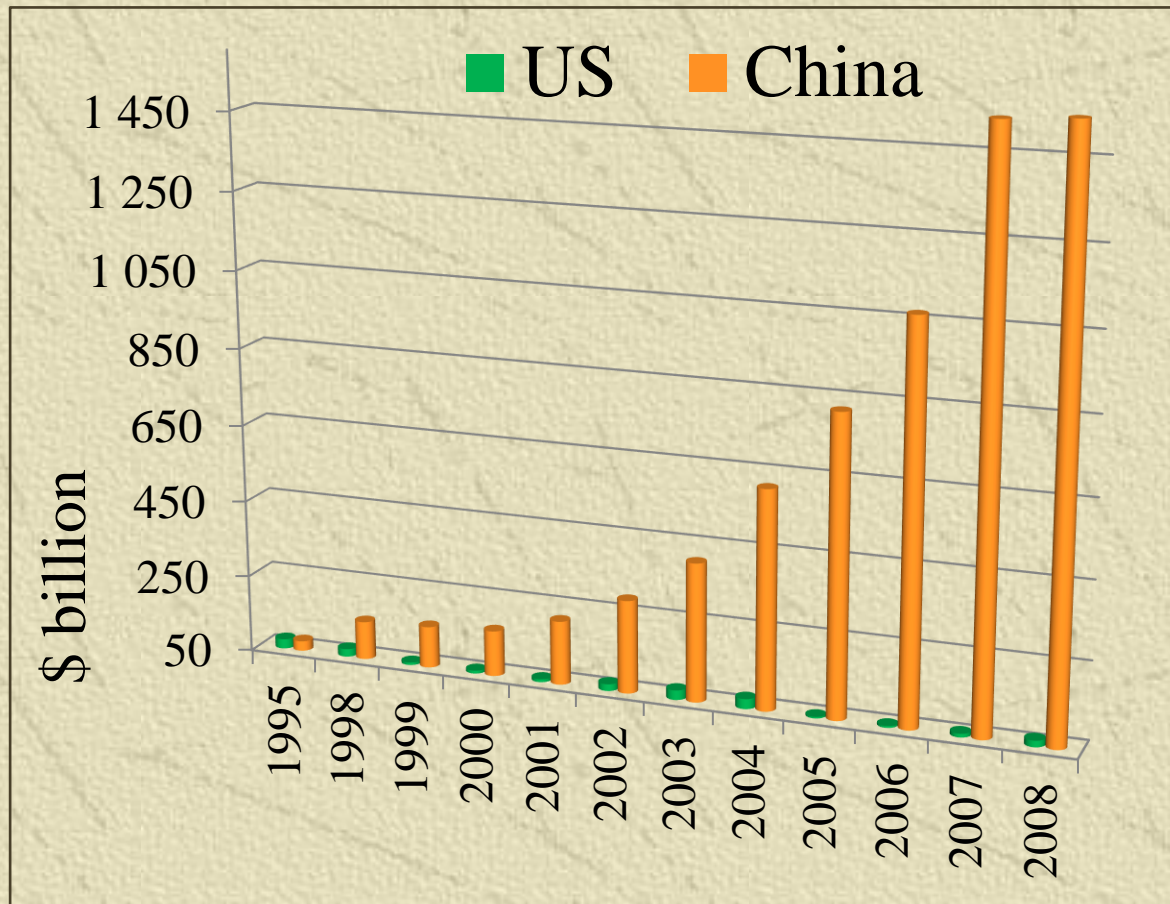


**US -BOT is more than just China's +BOT**

**2003-04: CBs financed 83% of US - BOT; Asian CBs accounted for 86% of US -BOT**

# What is an open macroeconomy?, continued ...

- Official reserve positions: US and China, 1995-2008



Includes convertible foreign currency assets, SDR and reserve position in IMF, but excludes gold

Source: US Census Bureau

# What is an open macroeconomy?, continued ...

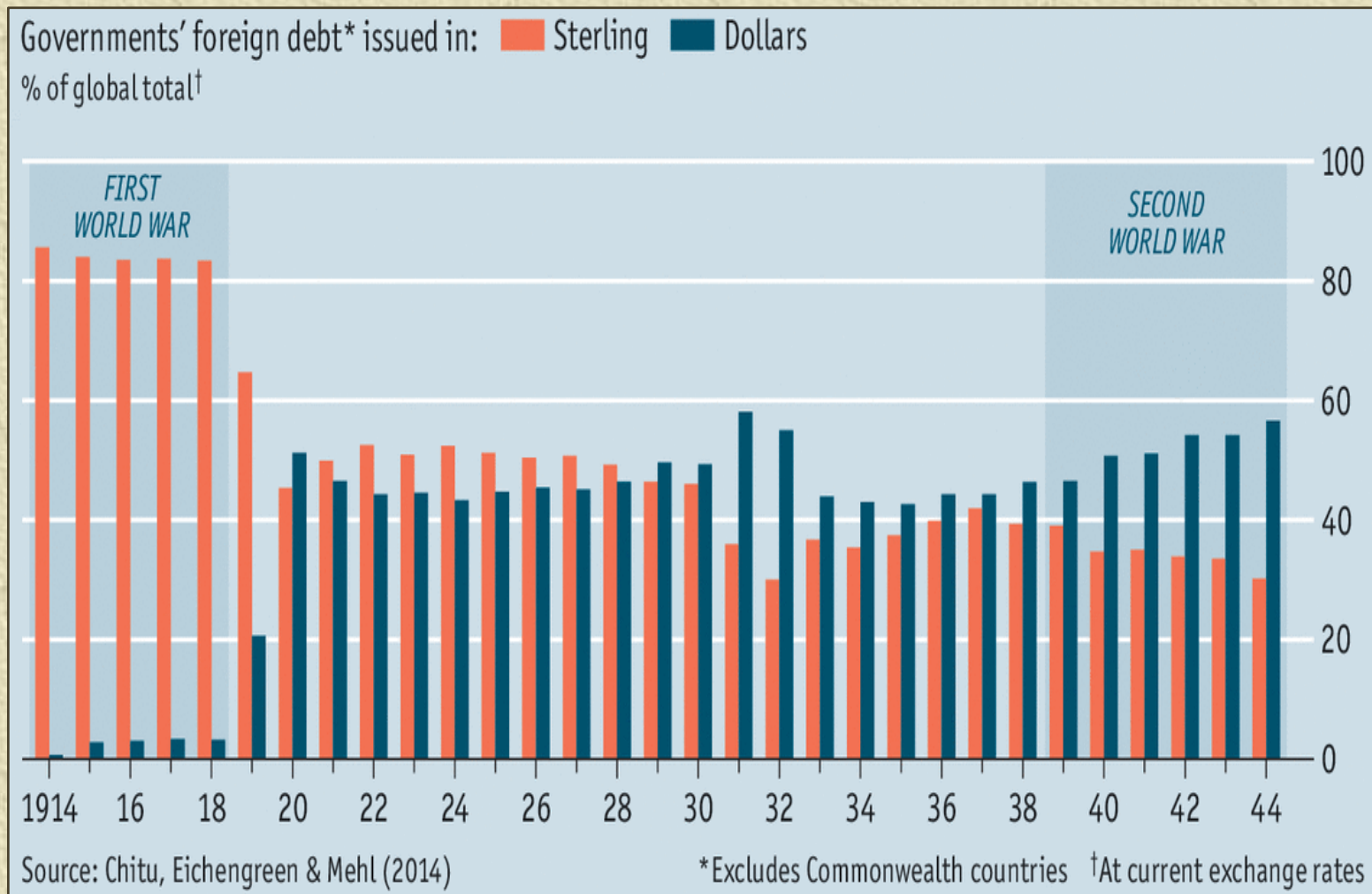
## 1.7 International reserve currency

- ✦ Role of money
- ✦ Purpose of reserves
- ✦ Necessary conditions
- ✦ Benefits and costs of \$ as a reserve
- ✦ Rivaling the \$



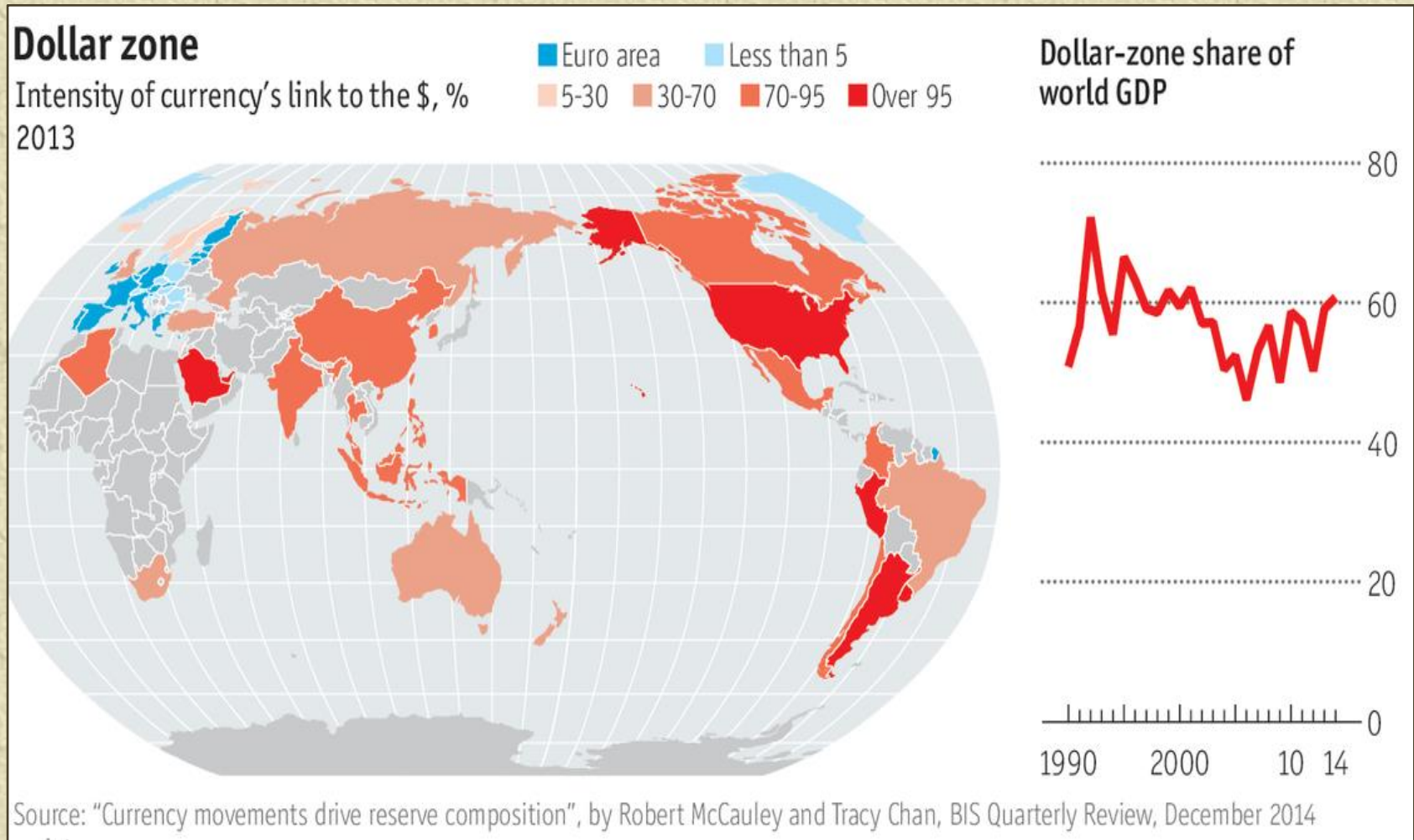
# What is an open macroeconomy?, continued ...

- ◆ Shift from UK sterling to US dollars



# What is an open macroeconomy?, continued ...

- Network effect of dollar



*Economist*, "Free exchange: long arm of dollar", 19 May 2018, p. 62.

# What is an open macroeconomy?, continued ...

- Indicators of strength (as a reserve currency)



Despite the €'s launch in the 1990s, the \$ was not challenged as the main int'l reserve currency to any significant extent

Source: *Economist*, "The future of the dollar: Passing of the buck", Special report, 2 Dec 2004, p. 71-3; and "Banyan: The red and the green", 26 Apr 2014.

# What is an open macroeconomy?, continued ...

- Indicator of \$ weakness – US shifts from net lender to net debtor

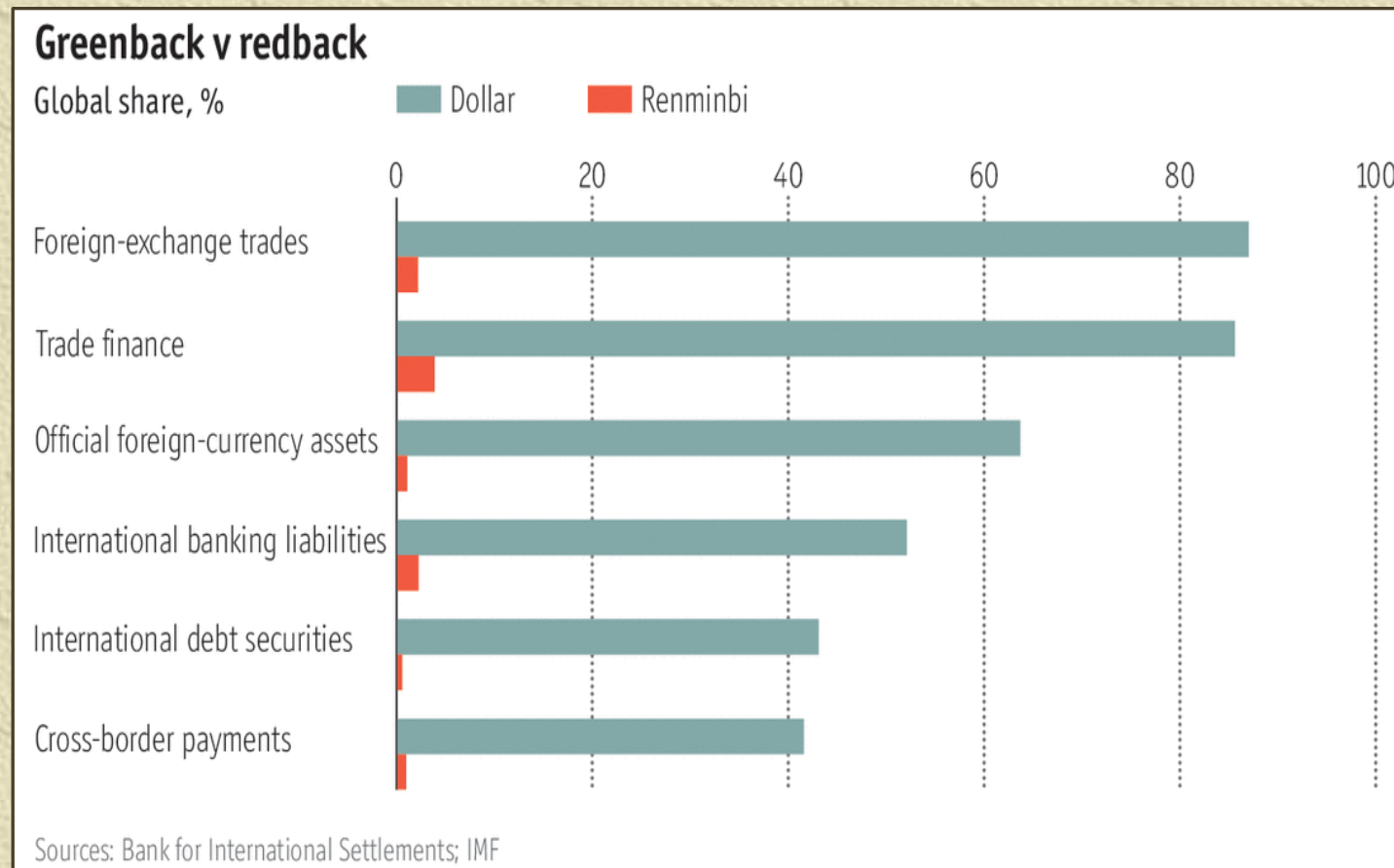


2021: Next Generation EU scheme issued €20bn of eurozone bonds in stimulus; global €-payments in 2020 almost match \$ despite commodities being priced in \$

# What is an open macroeconomy?, continued ...

## ◆ Challenge by the yuan (renminbi)

- China's economic position: \$ vs yuan
- 2016: IMF includes yuan in SDR



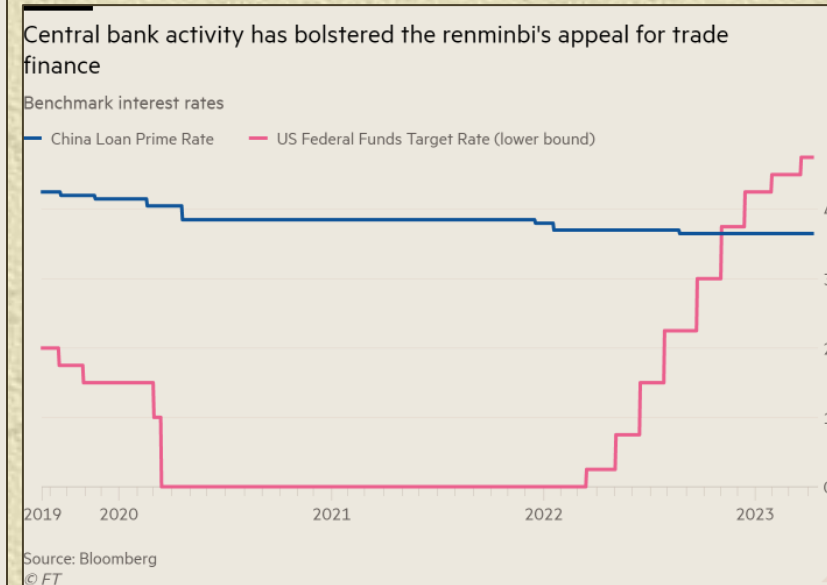
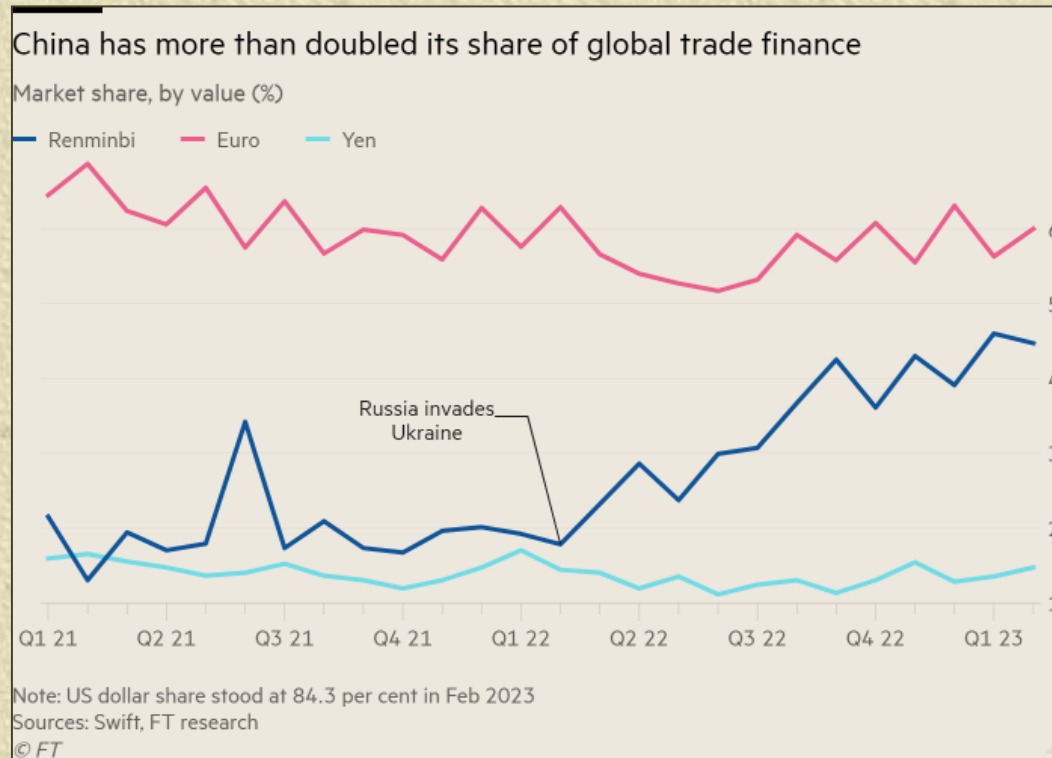
Of the \$5trn traded in daily currency mkts in 2017, the \$ was on one side of 9 of 10 transactions.

Bonds issued by gov'ts or firms are mostly in \$ if not in local currency.

Source: *Economist*, "China: A longer march", Special report, the world economy, 3 Oct 2015, p. 12-4

# What is an open macroeconomy?, continued ...

- Share of activity in renminbi, % of total, 2022-23



Renminbi's share of trade finance doubled, from 2% to 4.5%, since Russian invasion (left chart).

Cost of US \$ financing ↑ (right chart); China's currency is used to facilitate trade with Russia. The US \$ still accounted for 84% of world trade finance. China seeks to accelerate renminbi internationalization – suffered setback in 2015 when a devaluation led to capital flight. West's sanctions include barring major Russian financial institutions from using SWIFT. Russia has access to China's alternative to Swift (Cross-border interbank payment system, CIPs).

# What is an open macroeconomy?, continued ...

## ◆ US sanctions on Russia and pushback against \$



Trump administration ↑ the use of sanctions and the dollar's role in them. The dollar's use to extend the reach of US law and policy fit Trump's America first agenda. To others this was a political weapon and an abuse of US power. Russia and China, on the other end of the sanctions, expanded settlement of bilateral trade in their currencies. China also has ↑ use of sanctions for foreign policy purposes.

Tools used include sanctions, tariffs, trade negotiations and export controls. Secondary sanctions allow US gov't to penalise 3<sup>rd</sup> parties doing business with a sanctioned country.

Source: *Economist*, "Dethroning the dollar", 18 Jan 2020, p. 63-5; *Financial Times*, "Global trade: Currency warrior", by S. Fleming, 2 Jul 2019, p. 7.