East Asia and Global Imbalances

The Balance of Payments - Components

Current Account: Balance of Payments on goods and services plus net international transfer payments and factor income

For our purposes, CA approximated by Exports - Imports = X-M

Financial Account: Sales of domestic assets to foreigners - Purchases of foreign assets by citizens

Financial Account formerly known as the Capital Account

BOP identity - CA + FA = O

The Balance of Payments - Current Account

Recall from a previous lecture that $Y = C + I + G + X - M$

Therefore, $Y = C + I + G + CA$ and $Y - (C+G) = I + CA$

$Y - (C+G)$ is National Savings, denoted by S and I is private investment expenditure

Therefore, we have that $S - I = CA$, i.e CA is the difference between national savings and private investment, or net savings

Implies that when $CA > 0$, you are saving more than you invest domestically or you are investing some amount abroad. In contrast, when $CA < 0$, your domestic investment outstrips saving

Global Imbalances Pre-Crisis
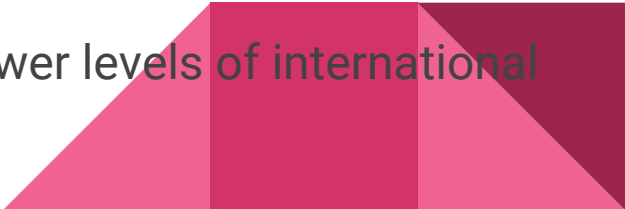
Global Imbalances before the Crisis

Four main concerns about the size of pre-2008 imbalances:

Imbalances reflected domestic distortions, such as high public deficit in some countries and high private savings in others

Imbalances reflected international distortions such as protectionism and exchange rate policy

US CA deficit could only be resolved through a slowdown in US demand growth

US may be affected by loss of confidence leading to lower levels of international financing, that could affect international systems
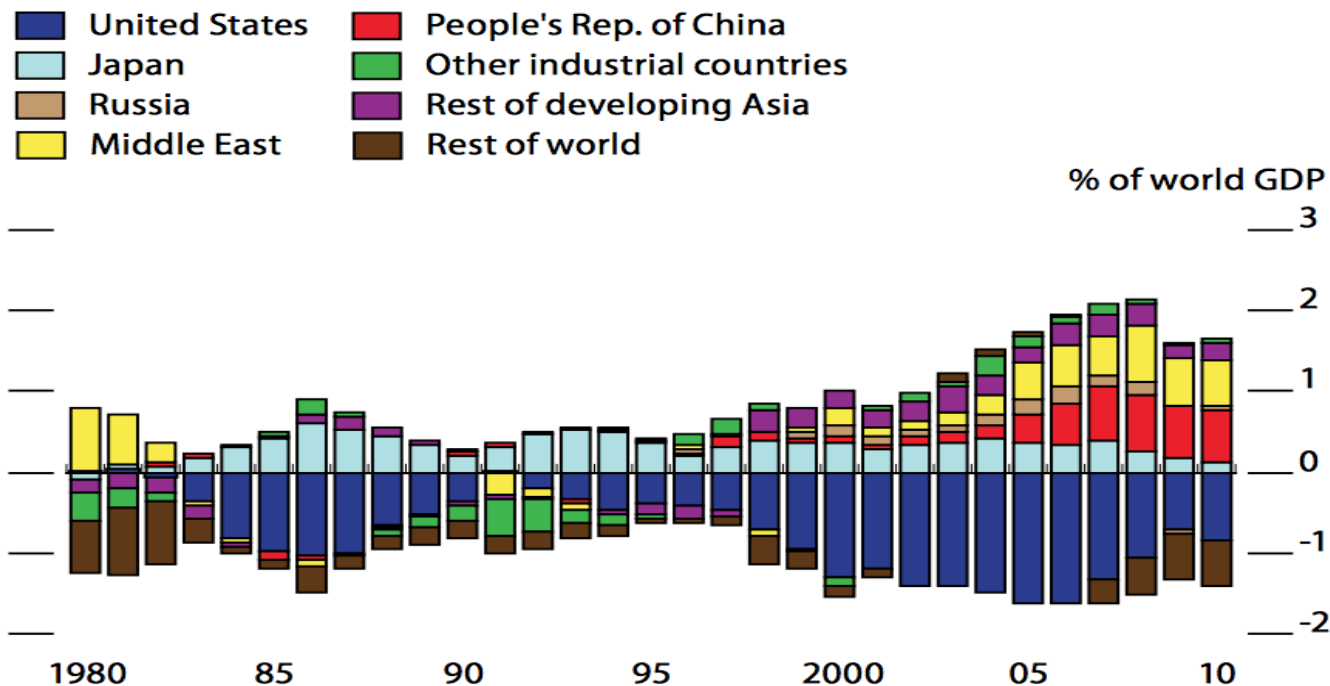
East Asia's Imbalances

Origins of global financial crisis

1. Unsound macroeconomic policy + inadequate prudential regulation led to U.S. running a trade deficit

2. Global "savings glut" hypothesis

   a. **Global Imbalances**

World Current Account Balance

Legend:
- United States
- Japan
- Russia
- Middle East
- People's Rep. of China
- Other industrial countries
- Rest of developing Asia
- Rest of world

% of world GDP

Table 2. iPhone trade and the US trade deficit with China

Year	2007	2008	2009
iPhone Sales in the US* (million Units)	3.0	5.3	11.3
Shipping Price/unit** (the US dollar)	229	174	179
China's Export to the US in iPhone (million US dollar)	687	922.2	2,022.7
China's Trade Surplus with the US in iPhones	N/A	N/A	1,901.2[1]
China's iPhone exports to the US based on value added (million US dollar)	19.5	34.35	73.45
Value added / total exports	2.8%	3.7%	3.6%
China's trade surplus with the US in iPhones based on value added	N/A	N/A	73.45[2]

Sources: * Hughes (2010); ** Rassweiler (2009)

What were the drivers of developing Asia's post AFC current account surpluses?
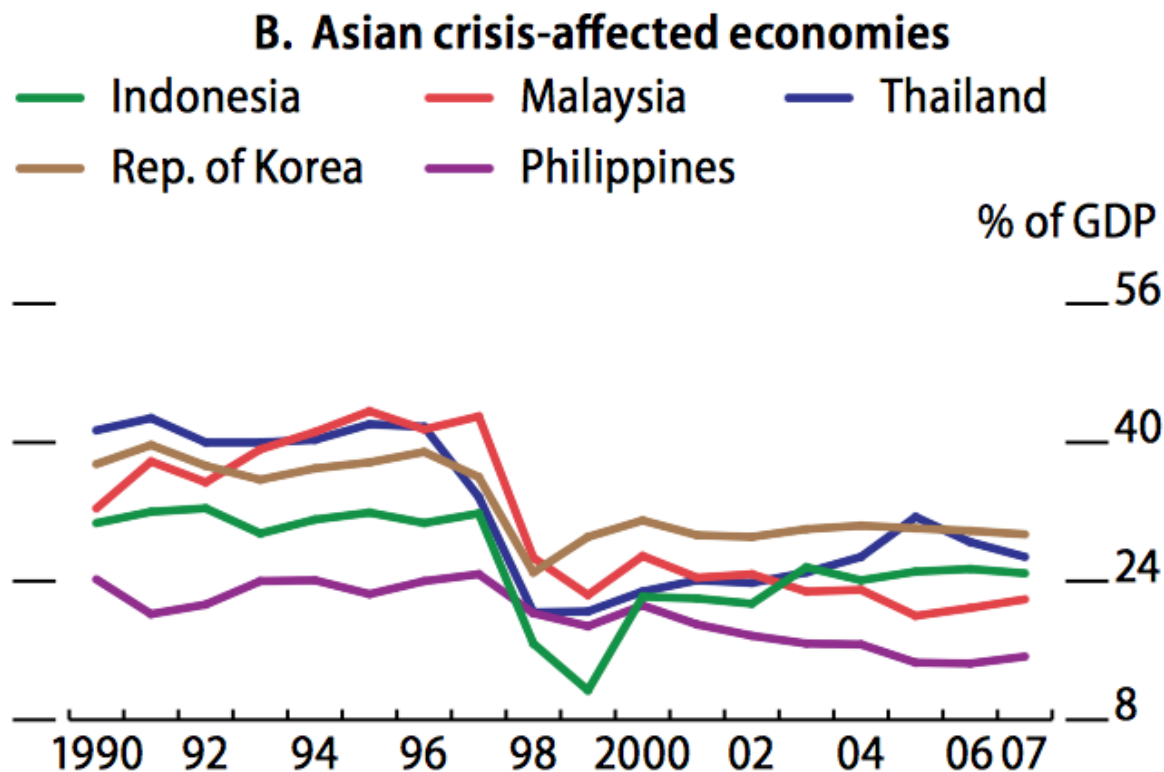
1. High national savings rates, especially following the Asian financial crisis

1. Weak investment post crisis
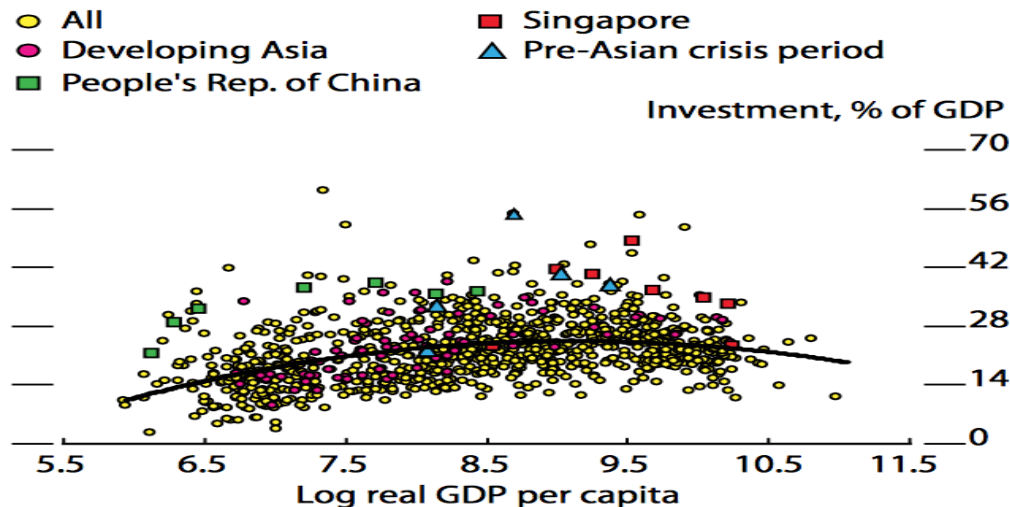
1. Reducing foreign exchange rates of home country

East Asian Investment

B. Asian crisis-affected economies

Was Asia investing too little post crisis?

2.3.2 Investment rates by per capita income, full sample

○ All
● Developing Asia
■ People's Rep. of China
■ Singapore
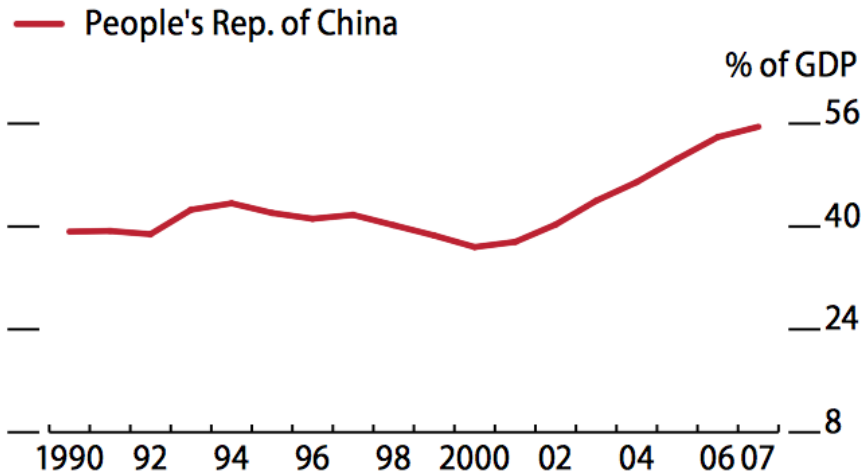▲ Pre-Asian crisis period

Investment, % of GDP

Note: All variables are 5-year averages of eight subperiods, beginning with 1965–1969 and ending in 2000–2004.
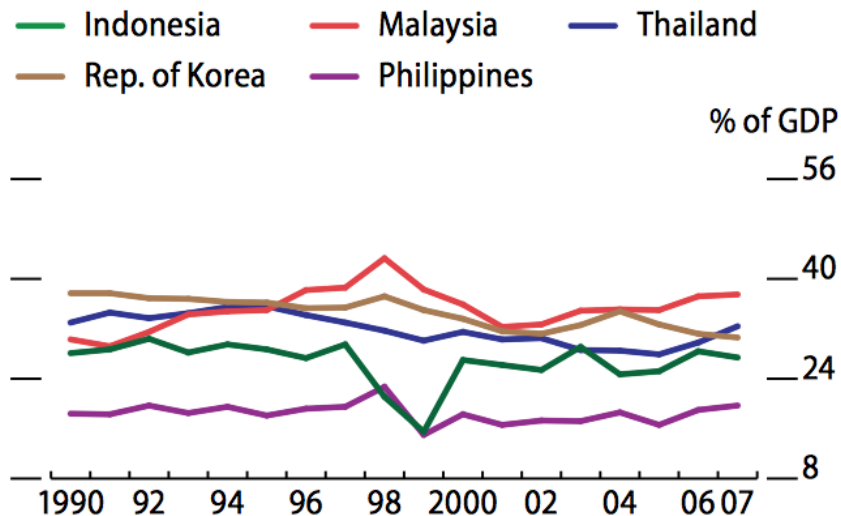
Sources: A. Heston, R. Summers, and B. Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, September 2006; World Bank, *World Development Indicators* online database, downloaded 14 February 2009.
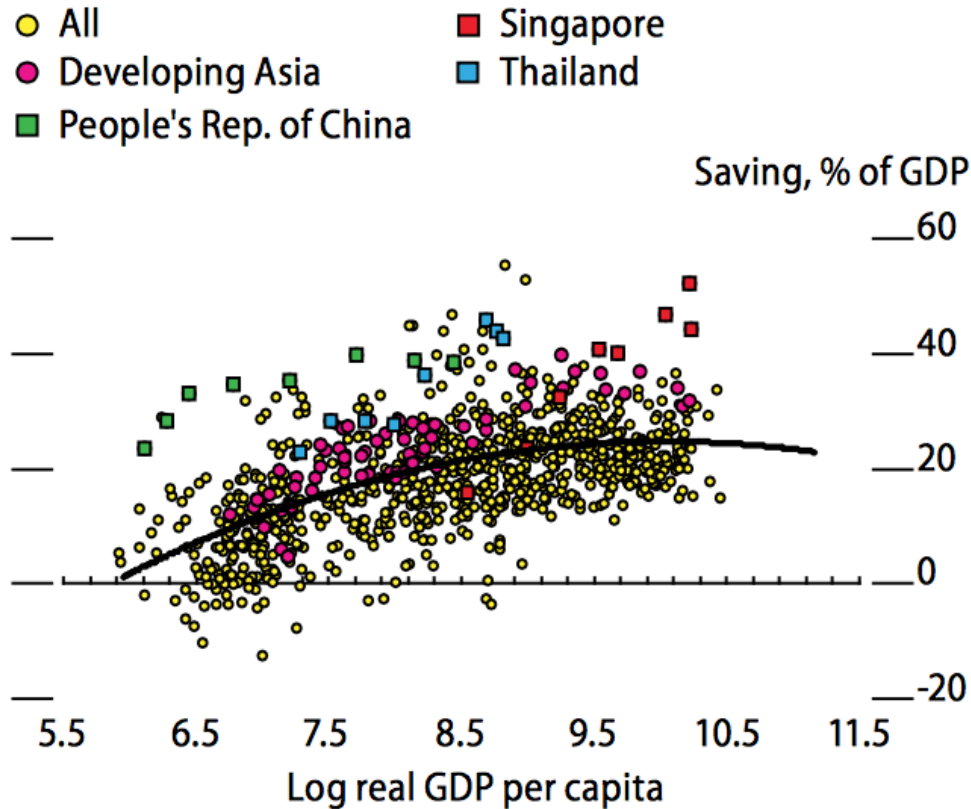
High Savings rates

A. Low-income current account surplus economy
People's Rep. of China
% of GDP
56
40
24
8
1990 92 94 96 98 2000 02 04 06 07

B. Asian crisis-affected economies
Indonesia — Malaysia — Thailand
Rep. of Korea — Philippines
% of GDP
56
40
24
8
1990 92 94 96 98 2000 02 04 06 07

2.3.3 Saving rates by per capita income, full sample

- ○ All
- ● Developing Asia
- ■ People's Rep. of China
- ■ Singapore
- ■ Thailand

Saving, % of GDP

Log real GDP per capita

Note: All variables are 5-year averages of eight subperiods, beginning with 1965–1969 and ending in 2000–2004.
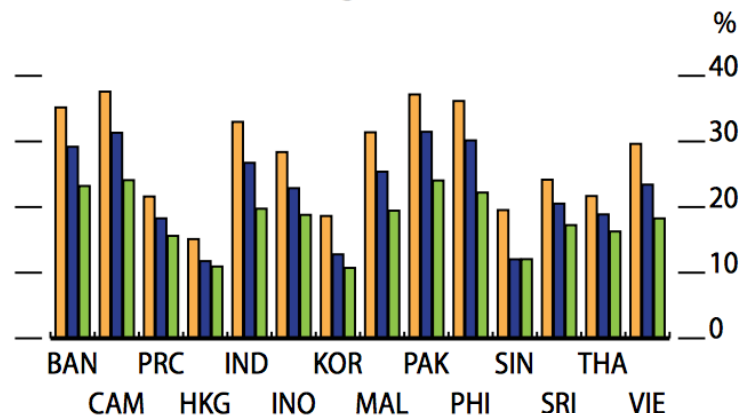
What were the drivers of Asia's abnormally high savings rates?

1. Factors resulting in larger earning for firms

    a. Government policies (subsidies in PRC)

2. Very high uncertainty following the Asian financial crisis

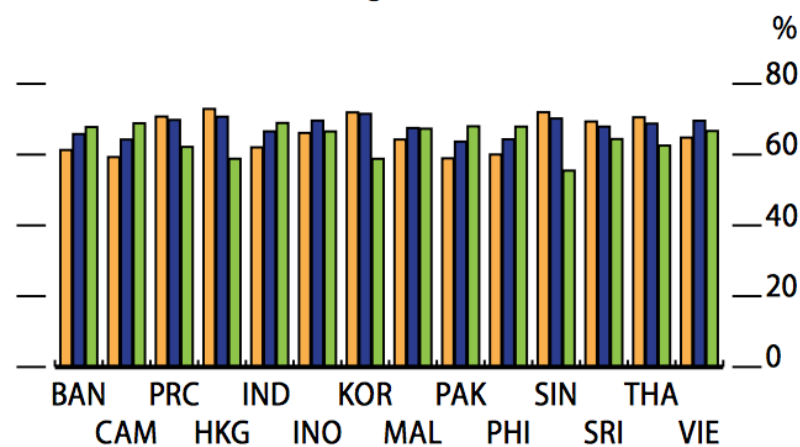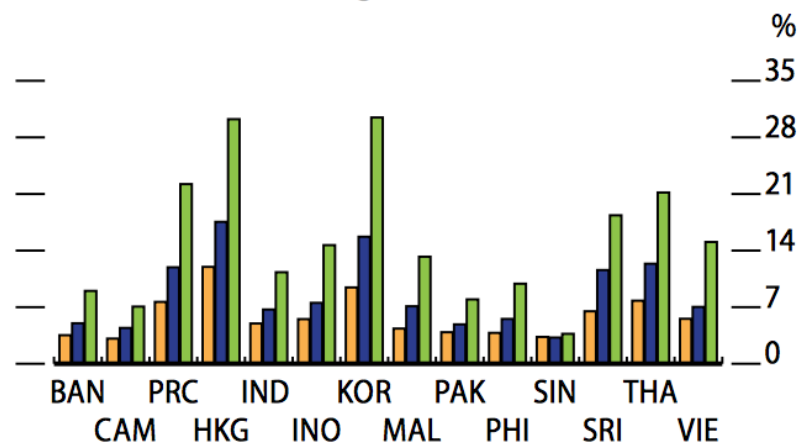3. Aging population in Asia causing present savings in anticipation of high dependency ratio

Age 0–14

Age 15–64

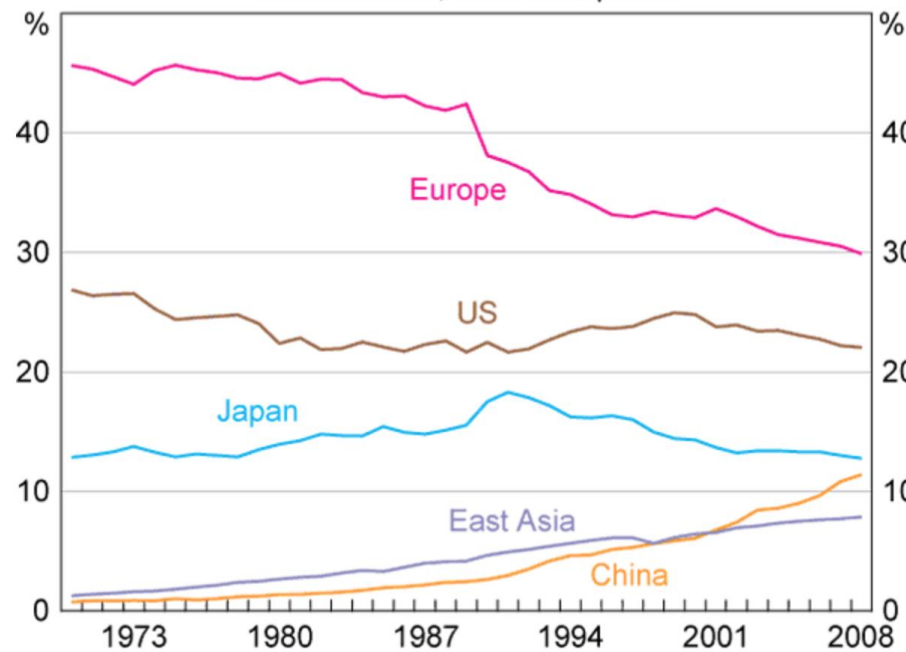**Age over 64**

Legend: 2005, 2020, 2040

Global Manufacturing
Share of total, 1990 US$ prices

Europe
US
Japan
East Asia
China

Sources: CEIC; RBA; United Nations

2.5.2 Intra-industry trade index

■ 1992   □ 2006

Developing Asia | East Asia | Southeast Asia | South Asia

People's Rep. of China | Hong Kong, China | Rep. of Korea

Indonesia | Malaysia | Philippines | Singapore | Thailand

Bangladesh | India | Nepal | Pakistan | Sri Lanka
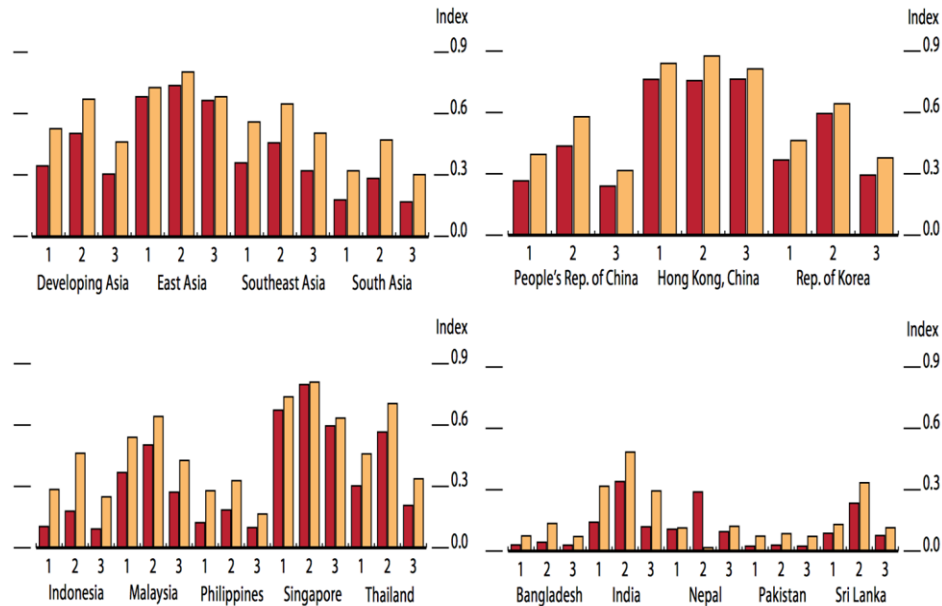
1 = total; 2 = parts and components; 3 = finished goods

Note: The end periods for Bangladesh, Nepal and Sri Lanka are 2004, 2003, and 2005, respectively.

Reasons for shift in trade

1. Rapid advancement in production technology

2. Technological advancement in transportation and communication

3. Liberalizing policy reforms in both home and host countries

## The RER coefficients in eight East and Southeast Asian economies

	Short-run coefficient			Long-run coefficient		
	Total merchandise	Manufacturing	Machinery and transport equipment	Total merchandise	Manufacturing	Machinery and transport equipment
China, People's Rep. of	0.60*	0.69*	0.61*	0.50**	0.50**	-
Indonesia	1.17*	1.44**	0.72*	4.52*	2.15*	0.97*
Korea, Rep. of	1.12*	-	-	1.17*	0.14***	-
Malaysia	0.64*	0.65*	0.48*	1.48*	1.37*	1.06*
Philippines	0.20**	-	-	-	-	-
Singapore	-	0.89(-2)***	0.53 (-2)**	-	-	-
Taipei,China	0.38 (-3)**	0.33 (-3)***	-	-	-	-
Thailand	0.34*	0.18*	0.14*	0.70*	0.39***	-

- = statistically insignificant.

Note: The values in parentheses show the lag period of the significance. * Significant at the 5% level; ** significant at the 10% level; and *** significant at the 15% level.

2.5.3 Real exchange rate misalignment in developing Asia, selected economies

— RER   — RER*   ···· Standard deviation
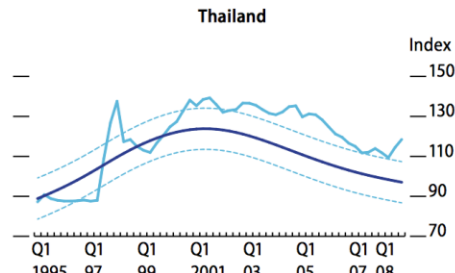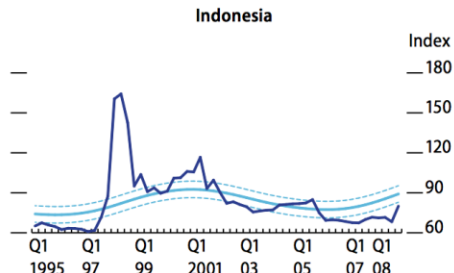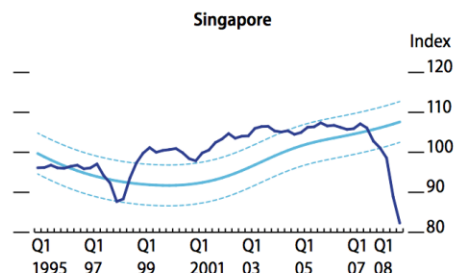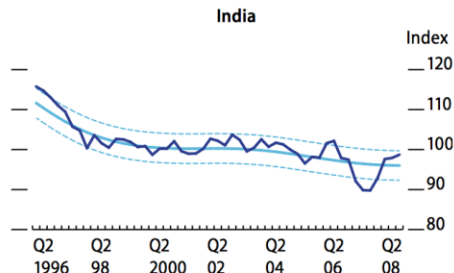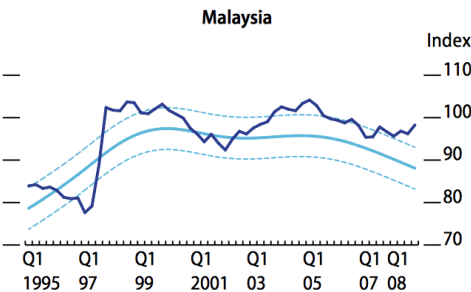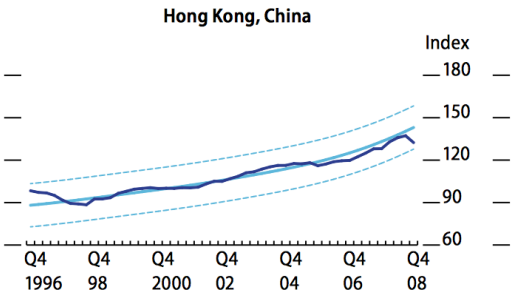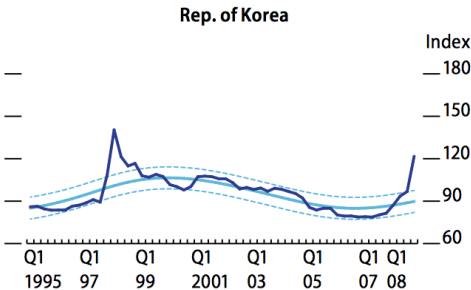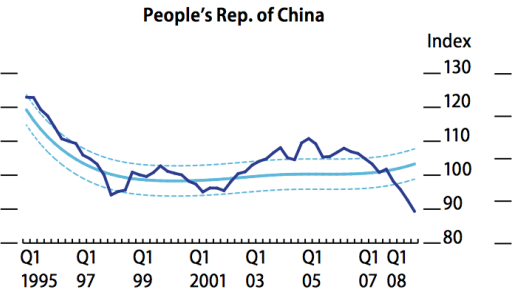
RER = real exchange rate; RER* = equilibrium real exchange rate.

Notes: An increase in RER refers to real exchange rate depreciation. When the actual real exchange rate exceeds the equilibrium level, this refers to undervaluation.

Source: Staff estimates.   *Click here for figure data*

Conclusion

1. Combination of very high savings rates and lower than previous investment has led to Asia running large surpluses

2. Due to shift in trade patterns, shifting the exchange rate has become less effective and external demand has become more important

3. Need to strengthen consumption and domestic demand to battle global imbalances

Global Rebalancing Post the Great Recession

Global Current Account Imbalances, 1980-2013

Figure 4.1. Global Current Account ("Flow") Imbalances
(Percent of world GDP)

Current account imbalances have narrowed substantially since their peak eight years ago, and their configuration has changed markedly.

Legend:
- United States
- China
- Germany
- Japan
- Europe surplus
- Europe deficit
- Other Asia
- Oil exporters
- Rest of world
- Discrepancy
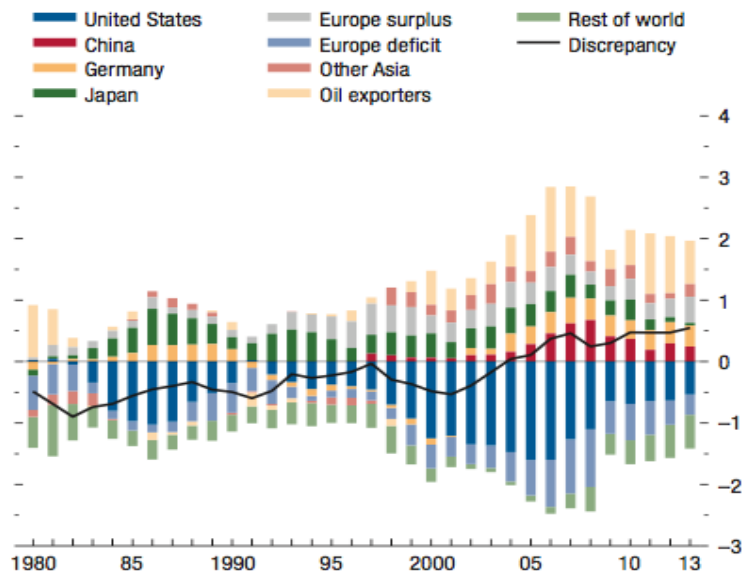
Source: IMF staff calculations.

CA imbalances have narrowed significantly between 2008 and 2014

Deficits reduced in the USA, several European economies

Deficits rose in some advanced commodity exporters (Australia) and major emerging market economies (Brazil, Indonesia)

Surpluses declined sharply in China and Japan

Figure 4.2. Largest Deficit Economies, 2006 and 2013
(Percent of GDP)

The large U.S. deficit shrank by more than half as a percent of its own GDP between 2006 and 2013. The largest European deficit economies also moved as a whole to a small surplus.
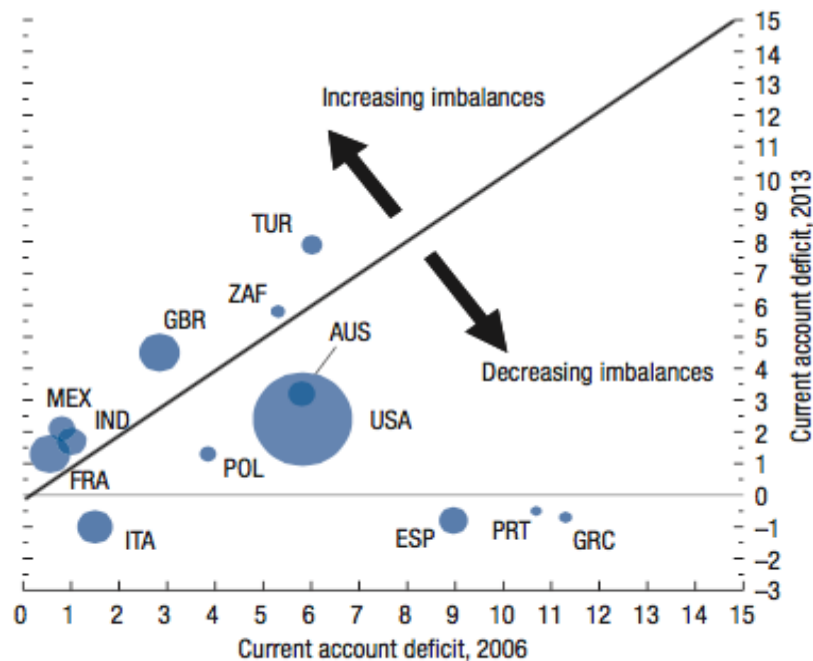

Figure 4.3. Largest Surplus Economies, 2006 and 2013
(Percent of GDP)

The large current account surpluses in China and Japan fell substantially as a percentage of national GDP between 2006 and 2013. A number of northern European and advanced Asian economies were running even greater surpluses by 2013, while some major emerging market economies moved from surpluses to deficits.
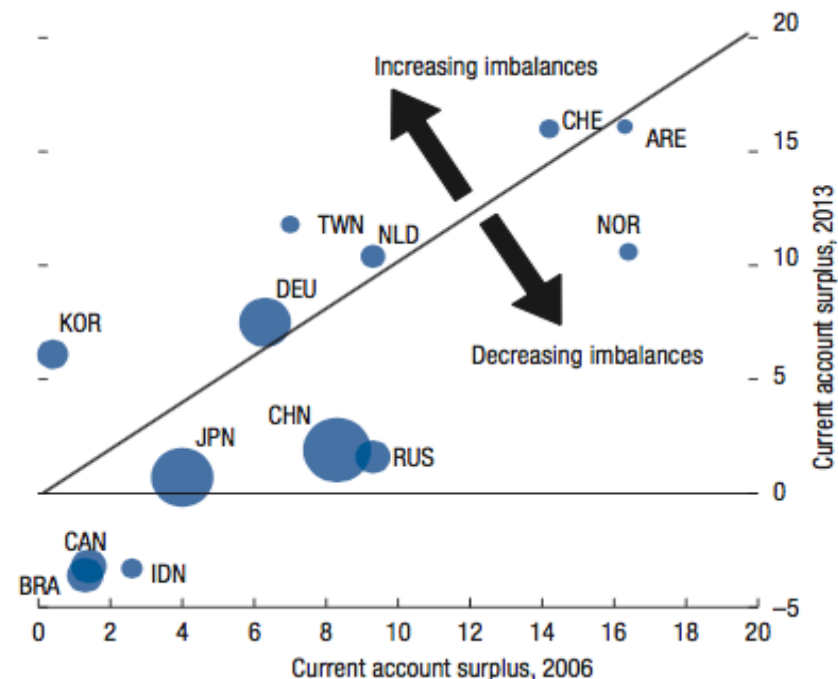
Mechanisms of Adjustment - Expenditure Reduction

Recall that CA = S-I

Deficit economies: Weak domestic demand lowered private investment, leading to a decline in the CA deficit

Surplus economies: While private investment fell, savings fell as well which led to surpluses declining in magnitude

Surplus economies also recovered quickly from the financial crisis, which increased domestic demand and thereby relative imports

This further reduced the level of the CA surplus in these countries

Domestic Demand, Savings and Investment - Selected Countries

Domestic Demand

— Real domestic demand　　— Real domestic demand forecast, September 2006 WEO

5. United States
6. Europe Deficit
7. Germany
8. China

Saving and Investment (percent change in country/group GDP, 2006–13)

■ Saving　■ Investment

17. United States
18. Europe Deficit
19. Germany
20. China
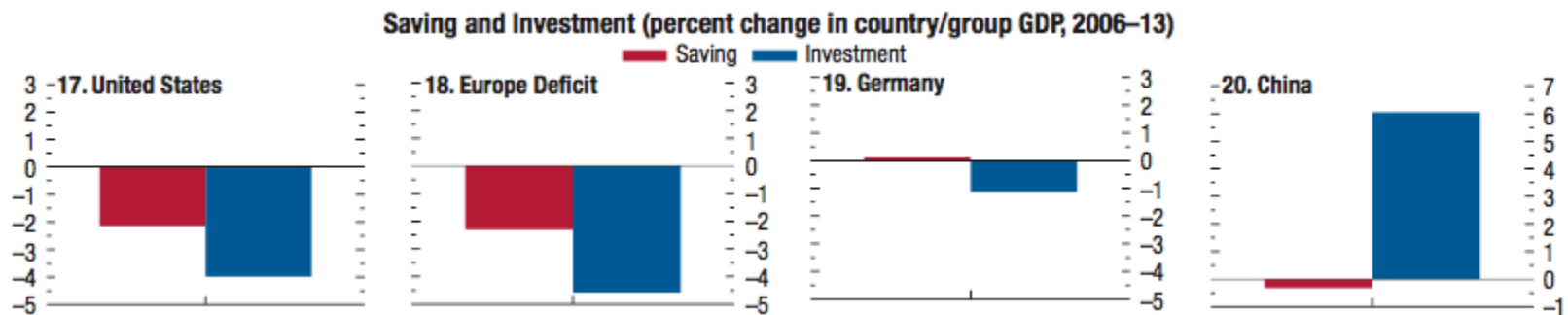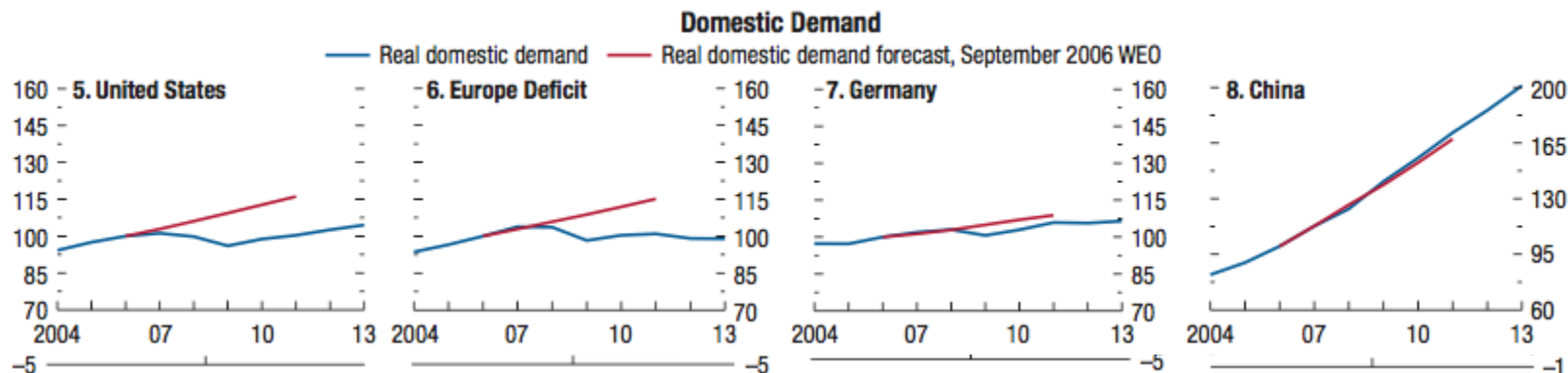
Expenditure Reduction and the Current Account

Figure 4.5. Growth of Domestic Demand Relative to Trading Partners versus 2006 Current Account

Economies with surpluses (deficits) in 2006 typically experienced faster (slower) domestic demand growth relative to that of their trading partners between 2006 and 2013.

- ■ United States
- ■ China
- ■ Germany
- ■ Emerging market and developing economies
- ■ Japan
- ■ Europe surplus
- ■ Europe deficit
- ■ Advanced Asia
- ■ Oil exporters
- ■ Advanced commodity exporters

$R^2 = 0.41$

Relative domestic demand growth, 2006–13 (deviation from trading partners; percentage points)

Current account balance, 2006 (percent of GDP)
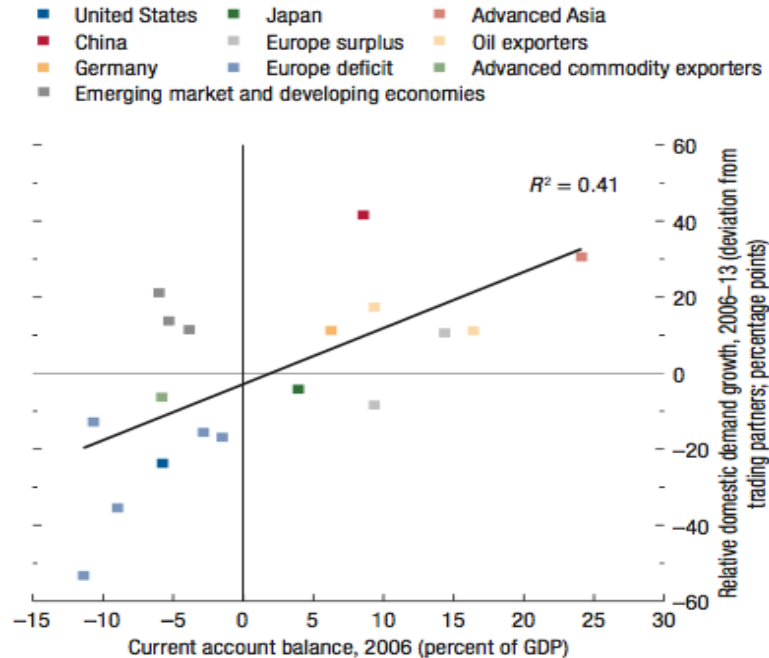
Panel regression results (R-squared = 0.41) indicate that countries that saw domestic demand contract more between 2006 and 2013 saw greater improvements in the CA (as a % of GDP) over the same period

Countries such as the USA and the Eurozone saw greater improvements in their CA than exporters like China and Japan

Mechanisms of Adjustment - Expenditure Switching

Broadly speaking, expenditure switching occurs when a country changes the proportion of expenditures on foreign and domestic goods, respectively

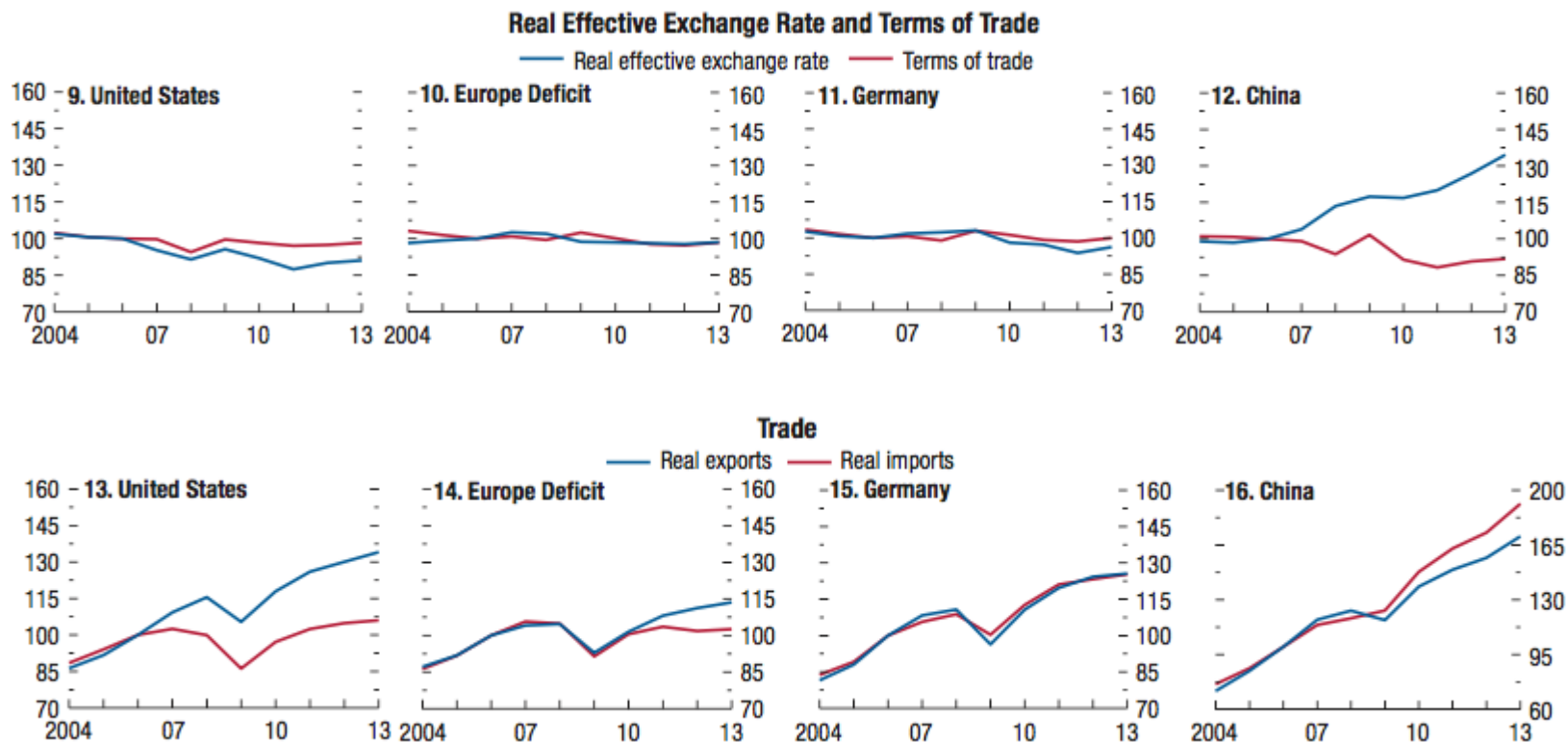The usual conduit for expenditure switching is the exchange rate

Some surplus economies (notably China) saw real effective exchange rates (REER) appreciate between 2006 and 2013 while the dollar depreciated in real terms over the same period

This led to the CA surplus narrowing in the former and the CA deficit narrowing in the latter

No changes in real exchange rates for Japan and the Eurozone during this time

Real Exchange Rates and Trade - Selected Countries

Real Effective Exchange Rate and Terms of Trade
— Real effective exchange rate — Terms of trade

9. United States | 10. Europe Deficit | 11. Germany | 12. China

Trade
— Real exports — Real imports

13. United States | 14. Europe Deficit | 15. Germany | 16. China

Expenditure Switching and the Current Account

Figure 4.8. Changes in Real Effective Exchange Rate and Current Account

Expenditure switching also was at work in current account adjustment between 2006 and 2013. Economies with depreciated (appreciated) currencies typically experienced an improvement (deterioration) in their current account balances.

- United States
- China
- Germany
- Emerging market and developing economies

- Japan
- Europe surplus
- Europe deficit

- Advanced Asia
- Oil exporters
- Advanced commodity exporters

$R^2 = 0.17$

Change in current account, 2006–13 (percent of GDP)

Change in real effective exchange rate (CPI based), 2006 versus 2013 (percent)
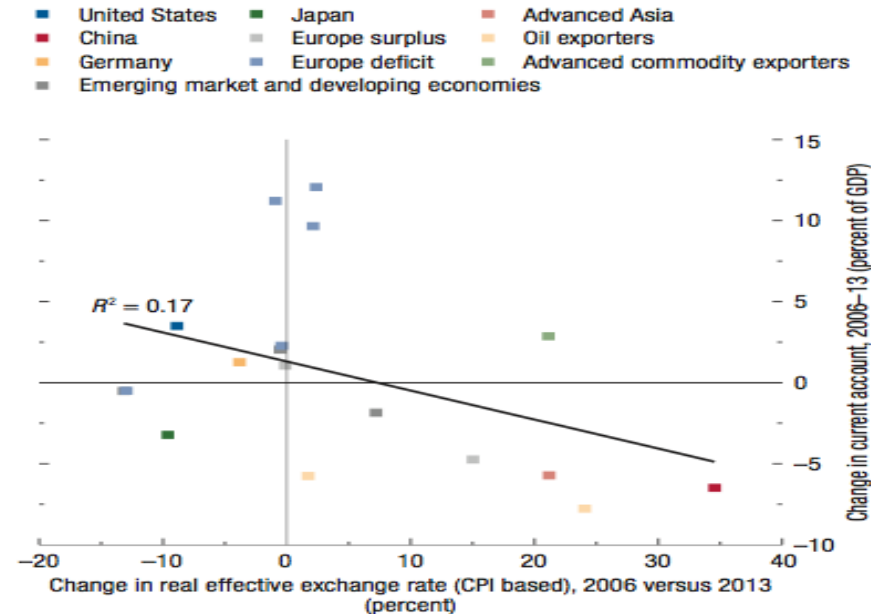
Here, R-squared is only 0.17 indicating that the relationship between expenditure switching and lower CA imbalances is weaker

Reasons for this could include structural factors preventing REER from adjusting, shocks to energy production in the USA and Japan and changes in investor sentiment leading to safe haven flows prevent the REER from aligning with fundamentals

Is the observed adjustment durable?

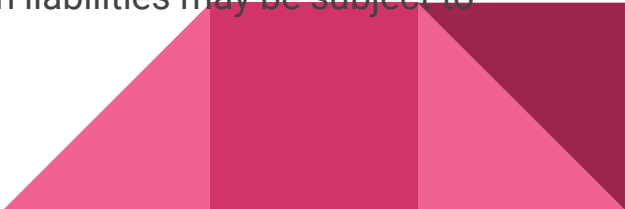# What variables affect durability of adjustment?

Flow Imbalances

Extent of output gaps - When outputs gaps start to close, domestic demand should rise, which could lead to a widening of current account imbalances (assuming no expenditure switching)

Policy distortions - Have policy distortions that contribute to current account imbalances been eliminated?

Stock Imbalances

Net foreign assets and liabilities - Countries with large net foreign liabilities may be subject to reversals of international capital flows

Recall that CA = Change in NFA

Output Gaps and Imbalances

Method of Measurement - Basically try to predict the current account imbalance as a percentage of GDP under the assumption that the output gap closes

Two methods:

> Set World Economic Outlook (WEO) estimate output gaps to zero and compare cyclically adjusted global imbalances with recorded global imbalance in 2006, find that it narrows by 2.6%

> Set output gap to be equal to the deviation of present output from pre-crisis trend output, find that global imbalances narrows by only 1.5% of GDP

We prefer the first method, since the WEO gap for the US factors heavily into this calculation and is more plausible from the trend gap

Output Gaps and Imbalances - Comparison
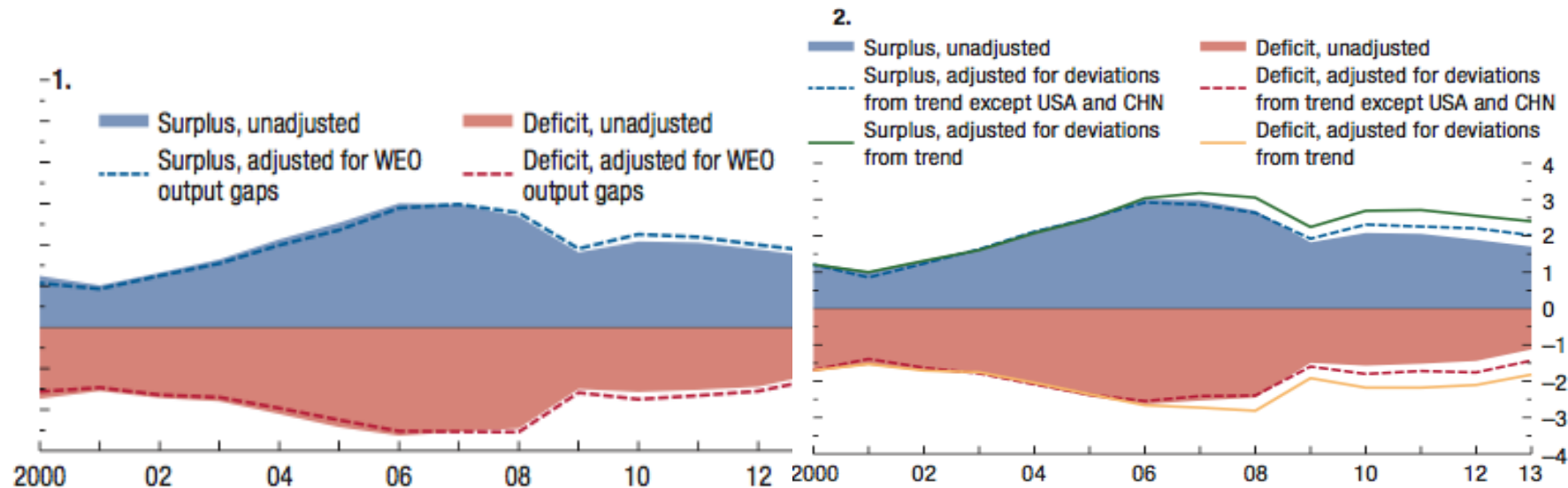
Distortions and Imbalances

CA gaps are indicate the proportion of the CA that are not explained by a country's macroeconomic fundamentals

CA gaps = Cyclically Adjusted CA Balance - IMF EBA Predicted CA Balance

Reflective of underlying policy distortions and systemic risks

Here, policy gaps are defined as the deviations of policy stances (fiscal balances, foreign exchange intervention, capital controls) from their optimal values (determined by the IMF for each country)

CA Gaps - 2006 and 2013

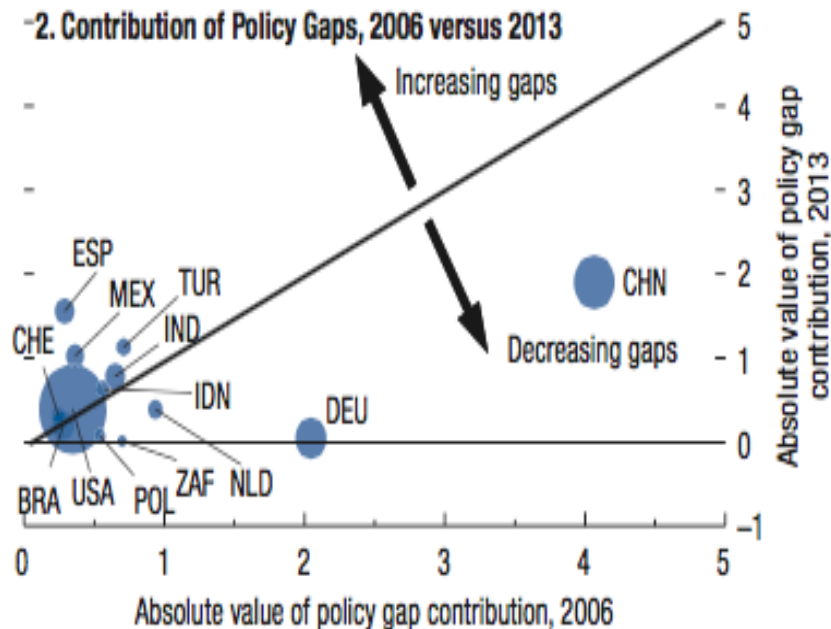1. Residual from EBA Regression, 2006 versus 2013
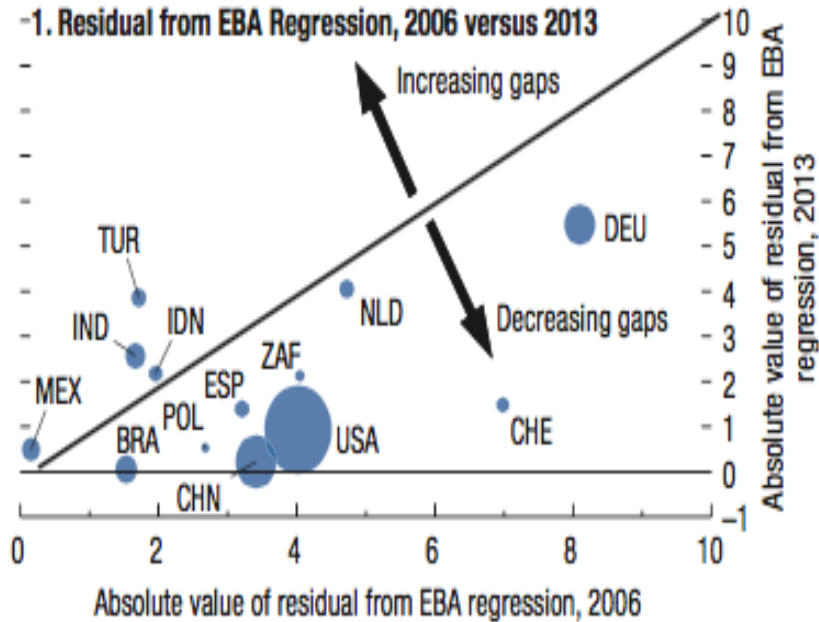
CA gaps decreased for the largest countries including USA and China

However, they remained elevated for Germany and other European surplus countries

Developing countries like Turkey, India, Indonesia and Mexico saw these gaps increase

Policy Gaps - 2006 and 2013

2. Contribution of Policy Gaps, 2006 versus 2013

Emerging market countries like Mexico, Turkey and India saw policy gaps increase during the period

Most other countries saw the policy gap's contribution decline or stay constant

US policy gap constant, reduced gap in financial sector regulation and increased gap in fiscal variable and

China policy gap has improved, reduced gap mainly driven by slower accumulation of reserves and partial relaxation of capital controls

Determinants of Stock Imbalances: 2006-2013

Stock imbalances have been increasing over time, because:

Even though flow imbalances have reduced, deficits haven't become surpluses (and vice versa) in most cases

Valuation effect alters Net Foreign Asset positions through higher asset prices, which widens imbalances

Growth Effects led to higher imbalances

Looking Forward

Flow imbalances are predict to decline in magnitude, with USA's CA balance as a percentage of GDP predicted to remain constant, while East Asia will see surpluses grow as a proportion of world GDP

Stock imbalances predicted to grow from 40% of World GDP in 2013 to 45% of World GDP in 2019, with NFA of China and NFL of USA predicted to rise during this period as a percentage of World GDP

Countries are reducing their vulnerability to external shocks and international financial flows over time