ECON1002: Introductory Macroeconomics

Lecture 13: Exchange Rates and the Balance of Payments

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Essay Feedback

Chapter 15: Continued

Exchange Rates

This Lecture

Chapter 15: Exchange Rates	1. Determinants of the exchange rate
	2. Monetary policy and the exchange rate
	3. Fixed Exchange Rates
Chapter 16: Balance of Payments	4. The Balance of Payments
	5. The Current Account
	6. The Capital Account
	7. Fitting the BOP into the National Accounts
	8. Fixed Exchange Rates

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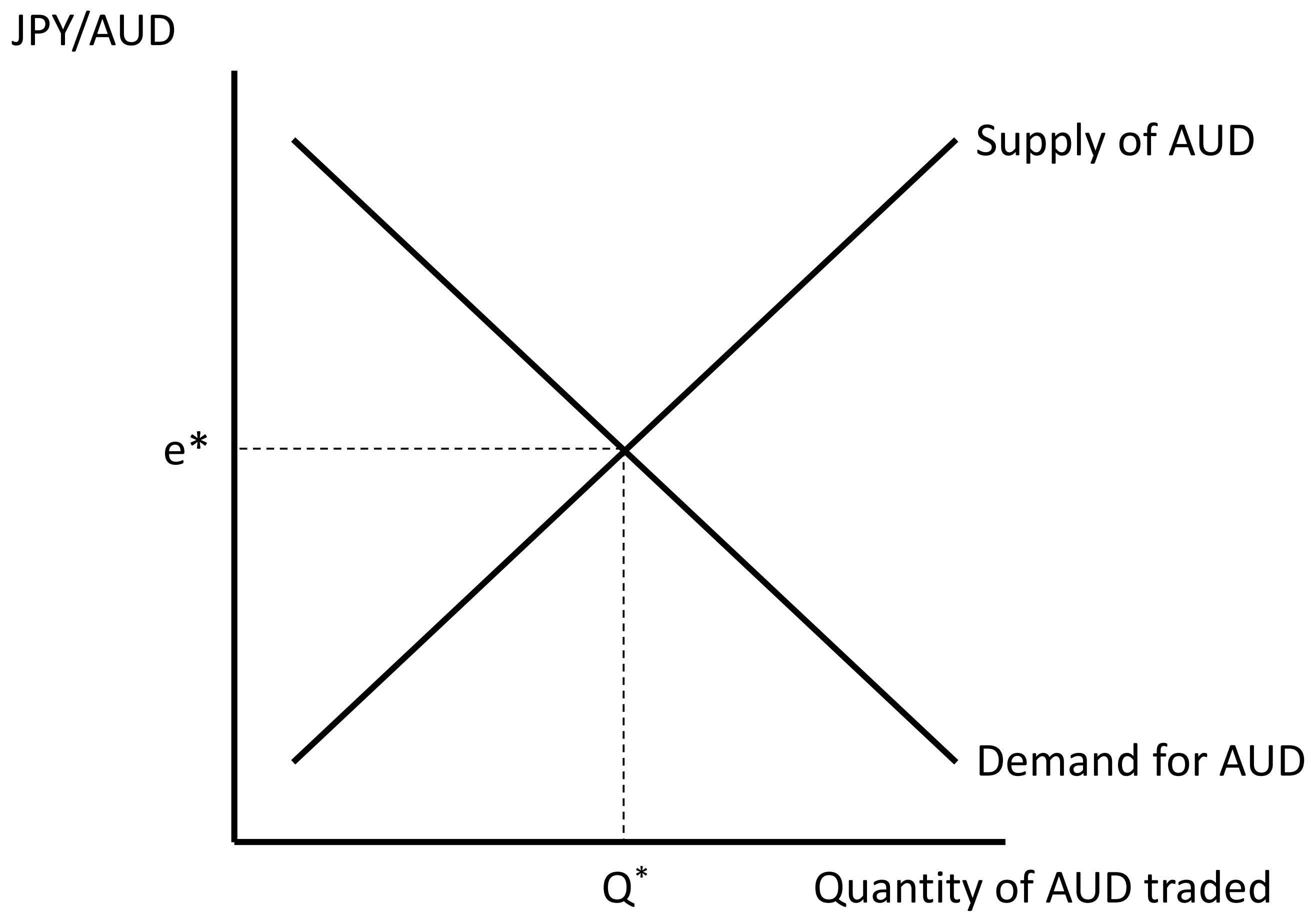
All nominal exchange rates are determined by the supply and demand for those currencies

Supply and demand in the JPY/AUD market



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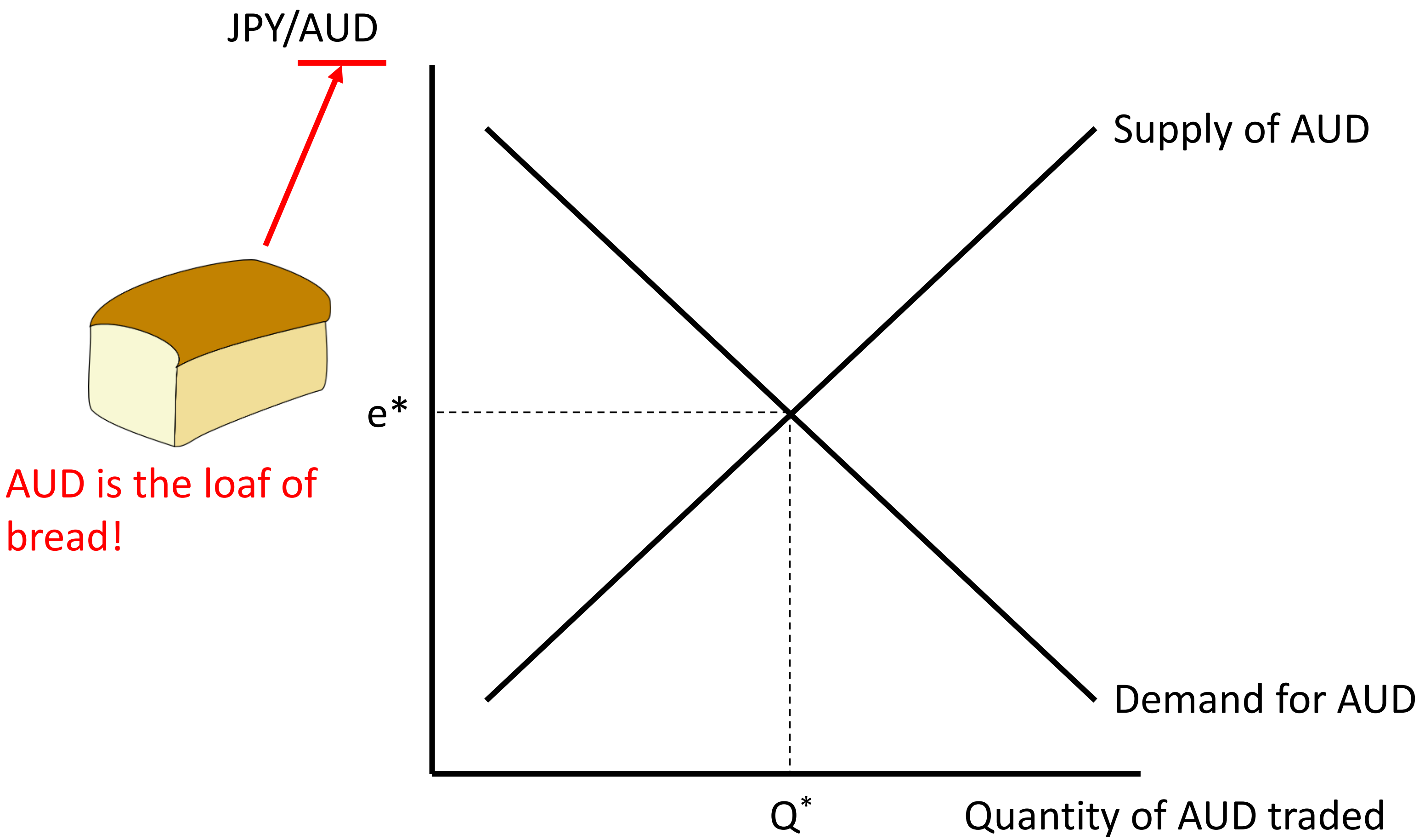

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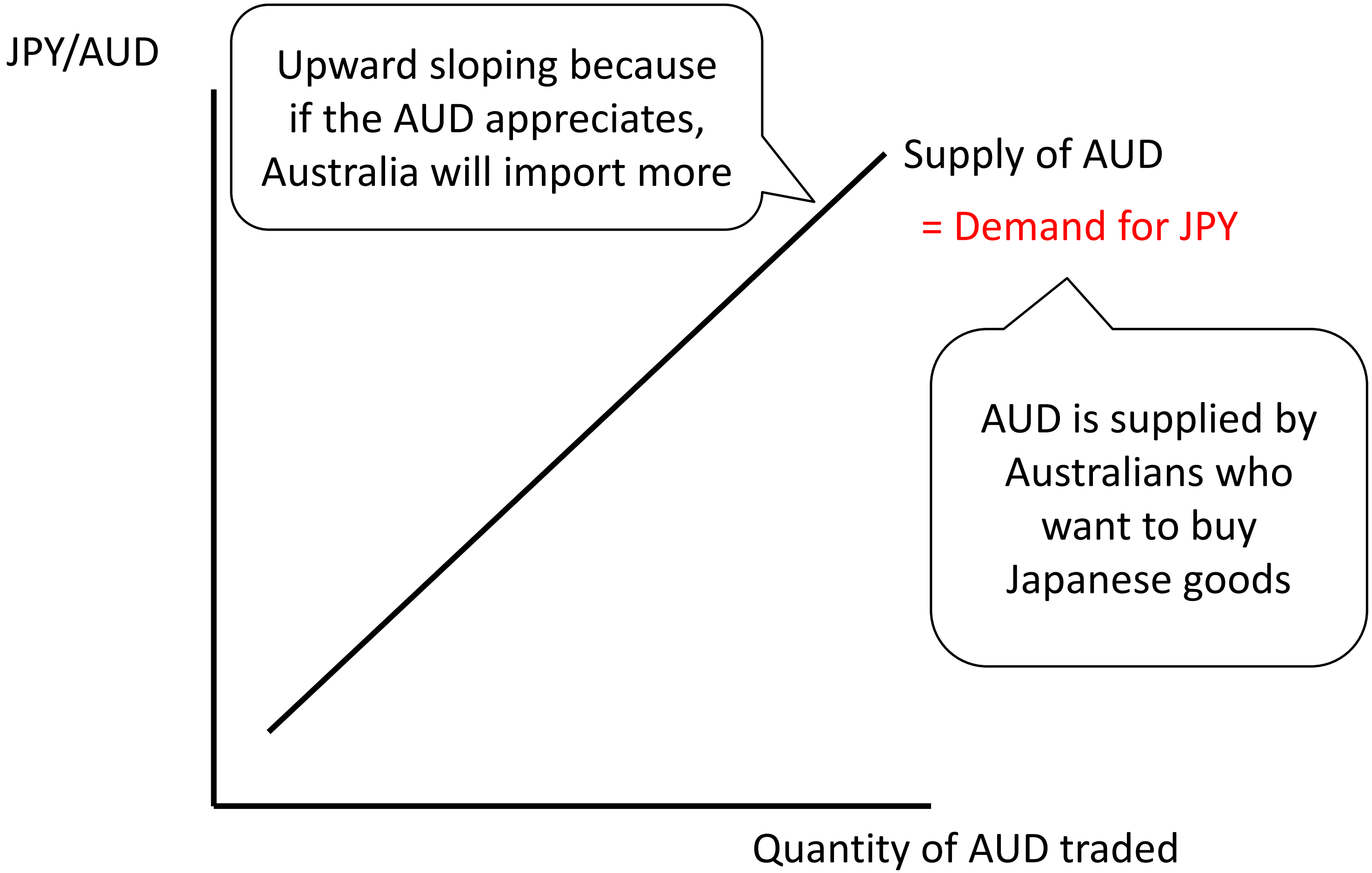

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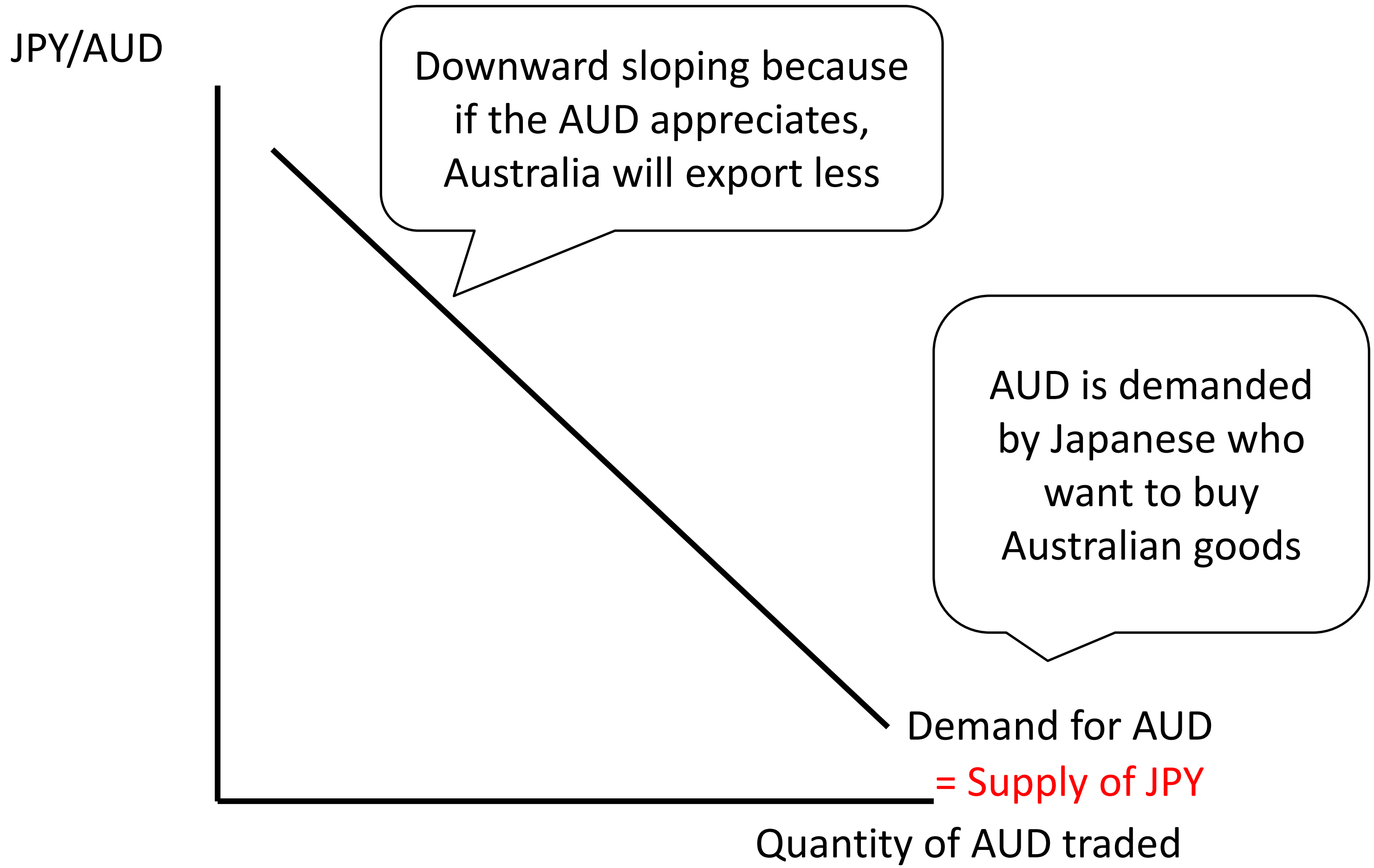

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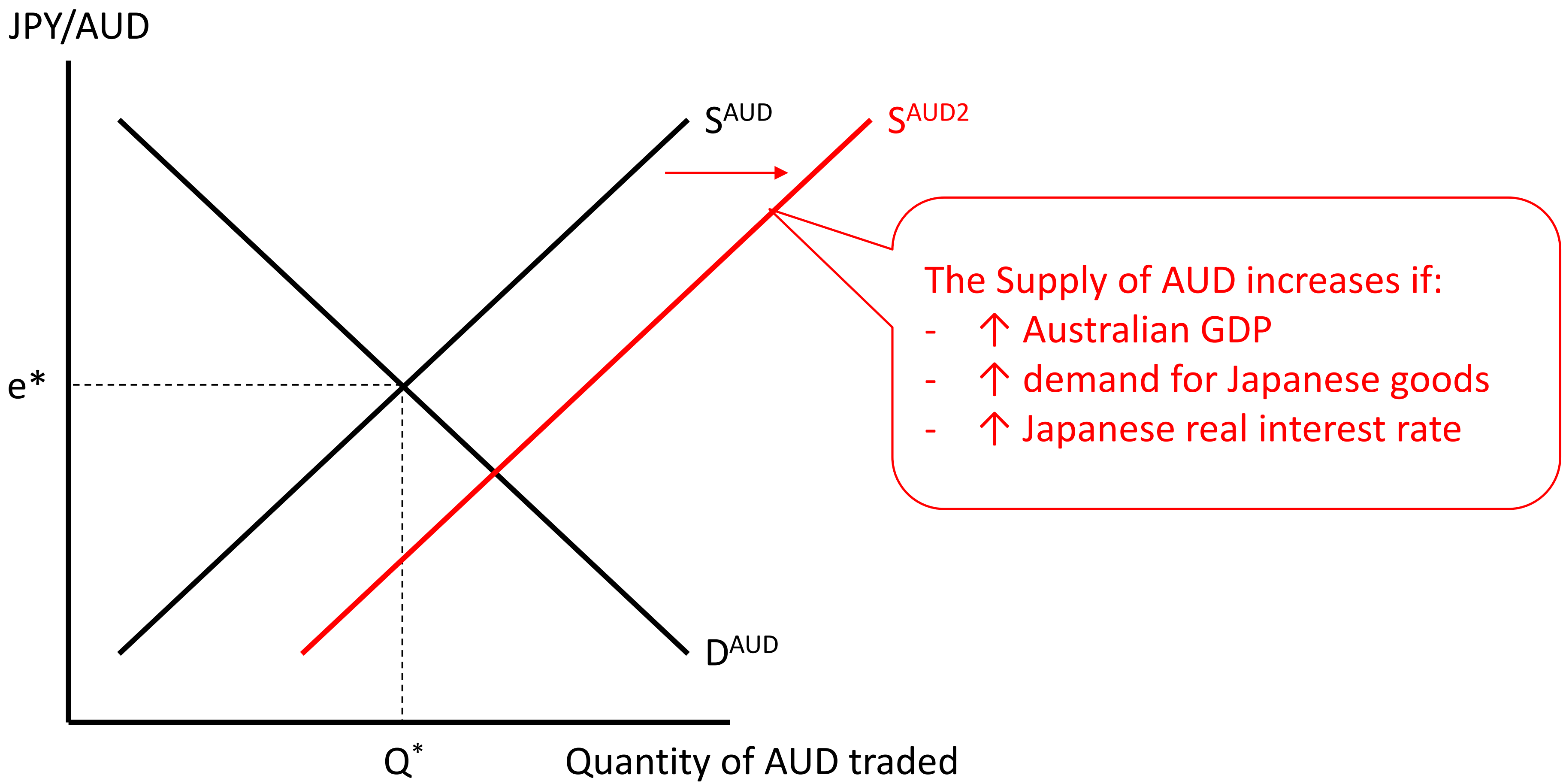

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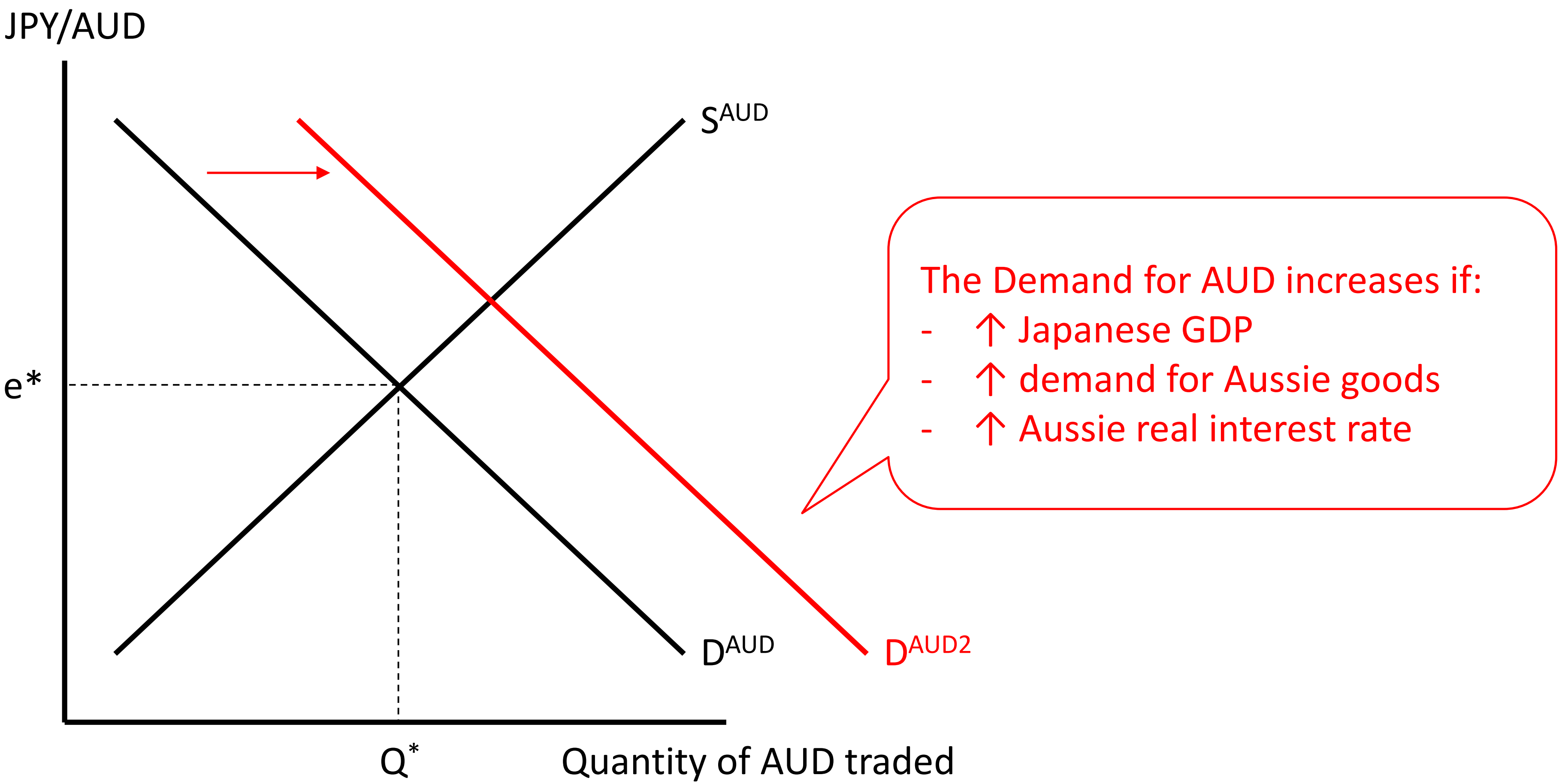

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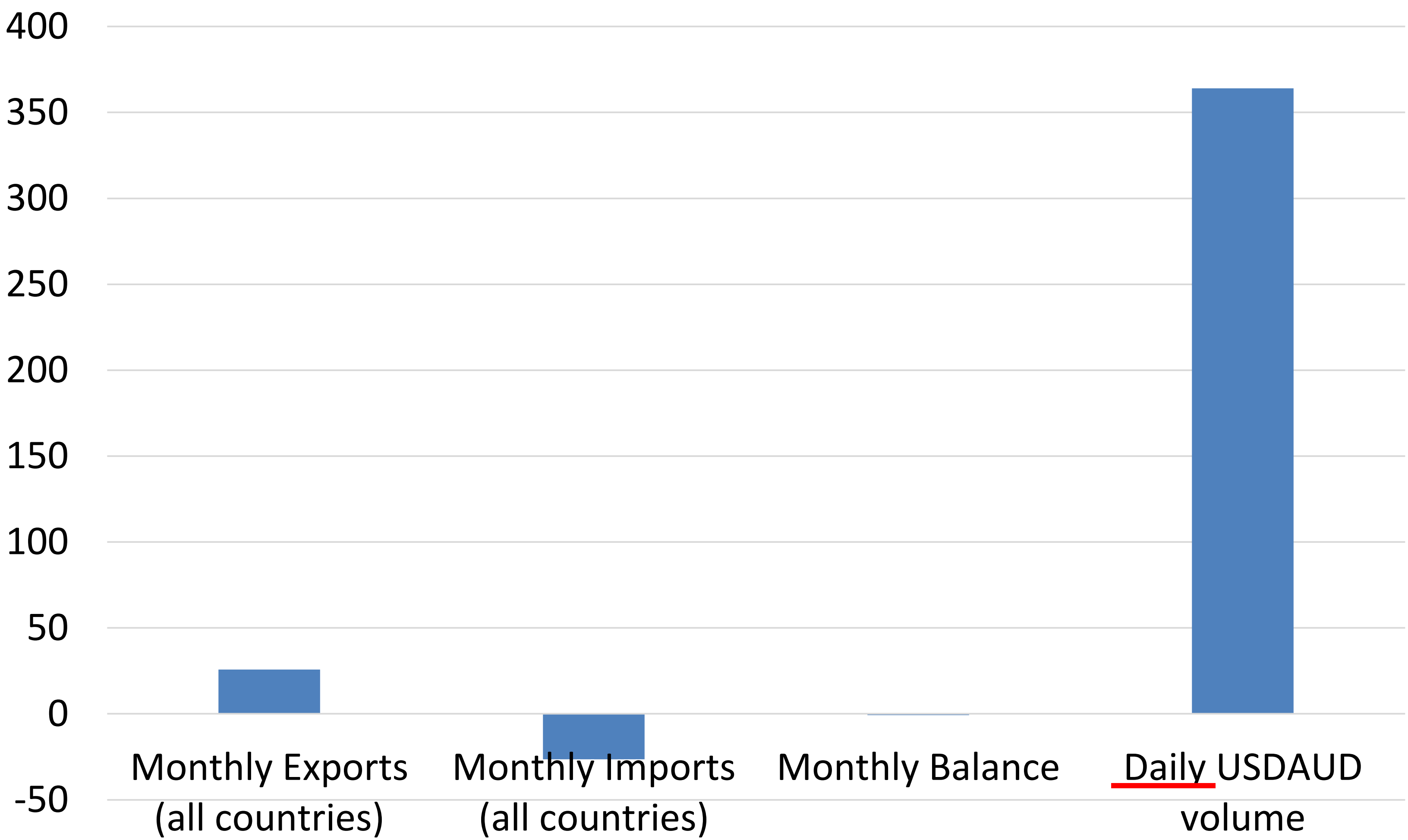
The daily volume of USDAUD transactions dwarfs the monthly trade balance. So, the exchange rate is set by capital flows (interest rates).

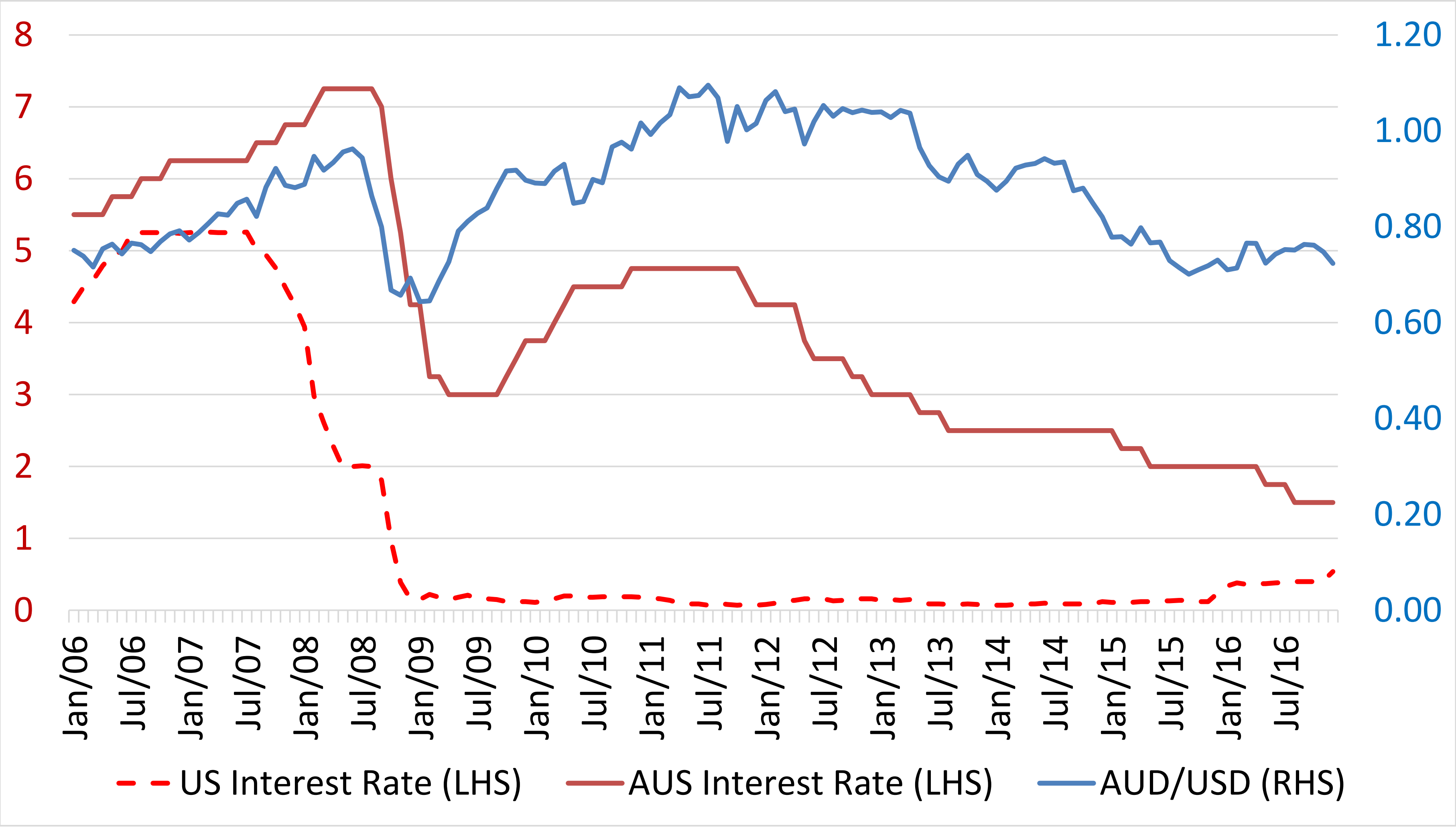
Volumes of Australian exports and imports (all countries, monthly) and USDAUD transactions (daily avg) , April 2013



Source: ABS, TradingEconomics.com

Relative interest rates (monetary policy) are the most important influence on exchange rates, as they change the relative rates of return

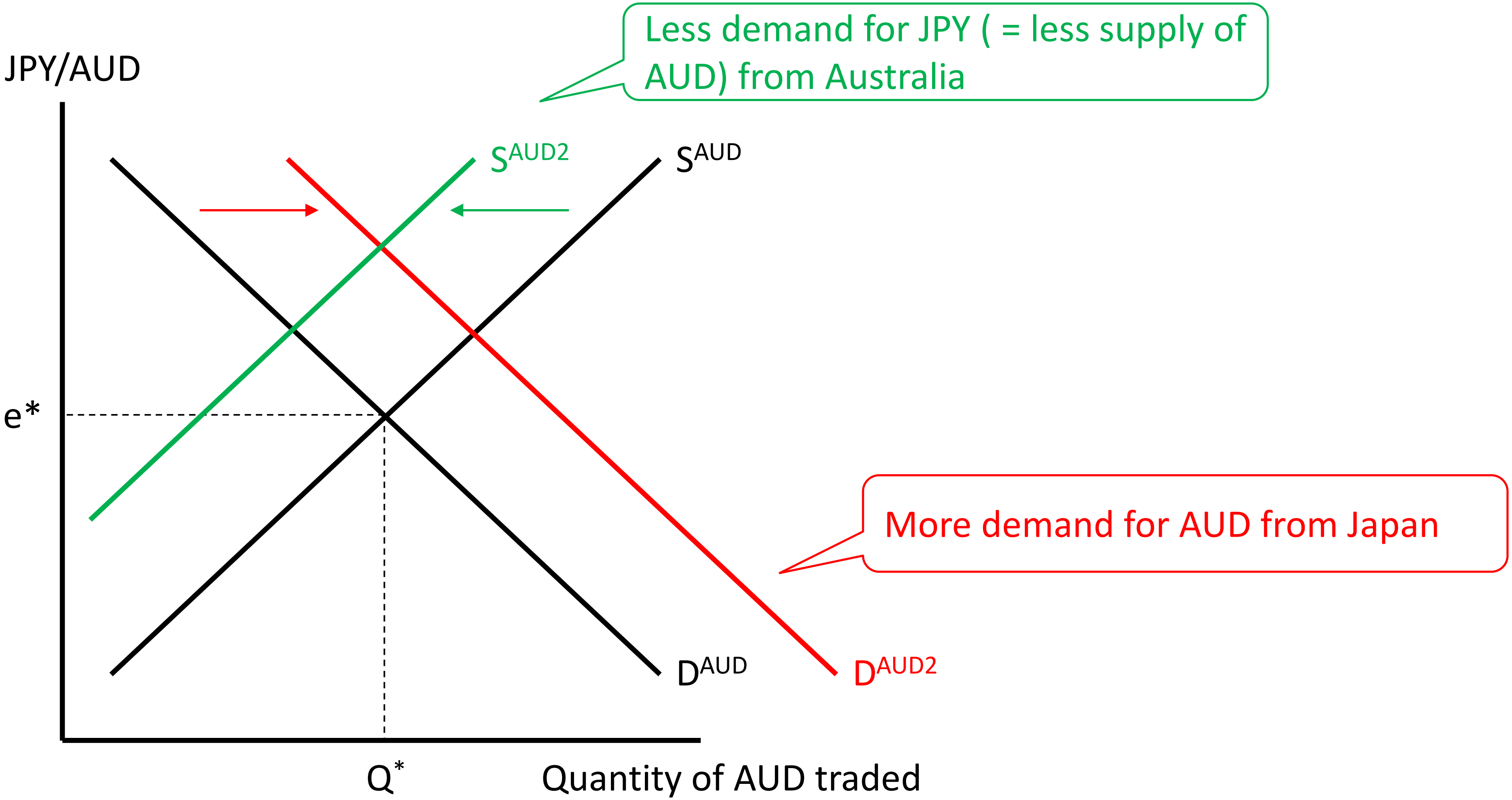
RBA cash rate (%) and AUD/USD exchange rate



Source: RBA, US Fed

If the RBA raises interest rates in Australia, demand for AUD from Japan will rise, and demand for JPY from Australia will fall, so AUD appreciates

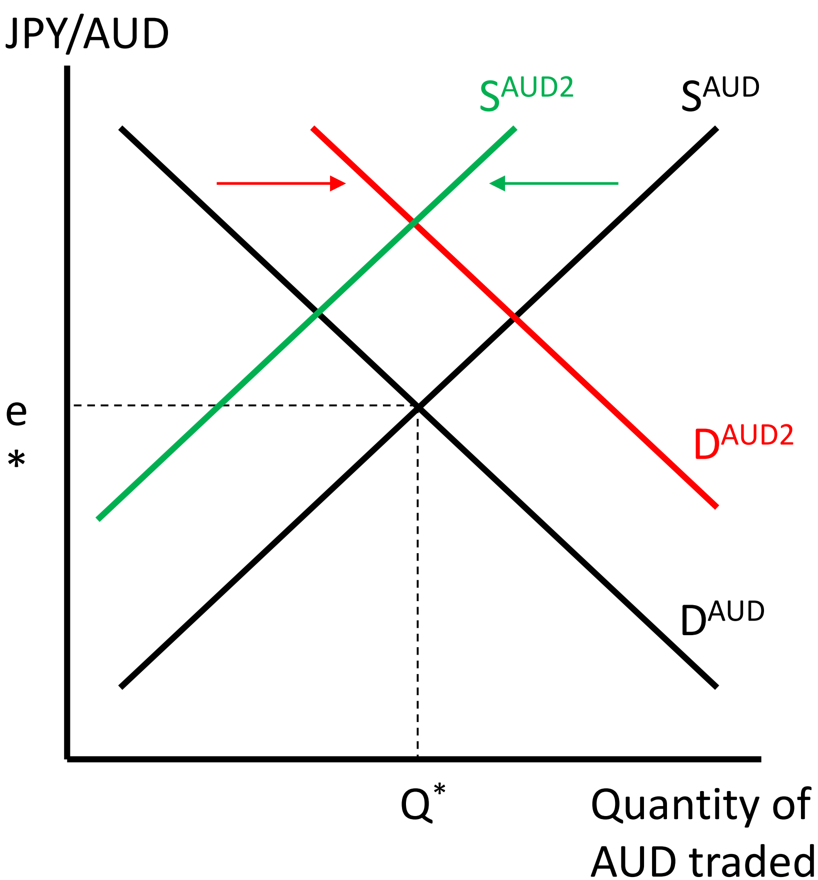
Supply and demand in the JPY/AUD market



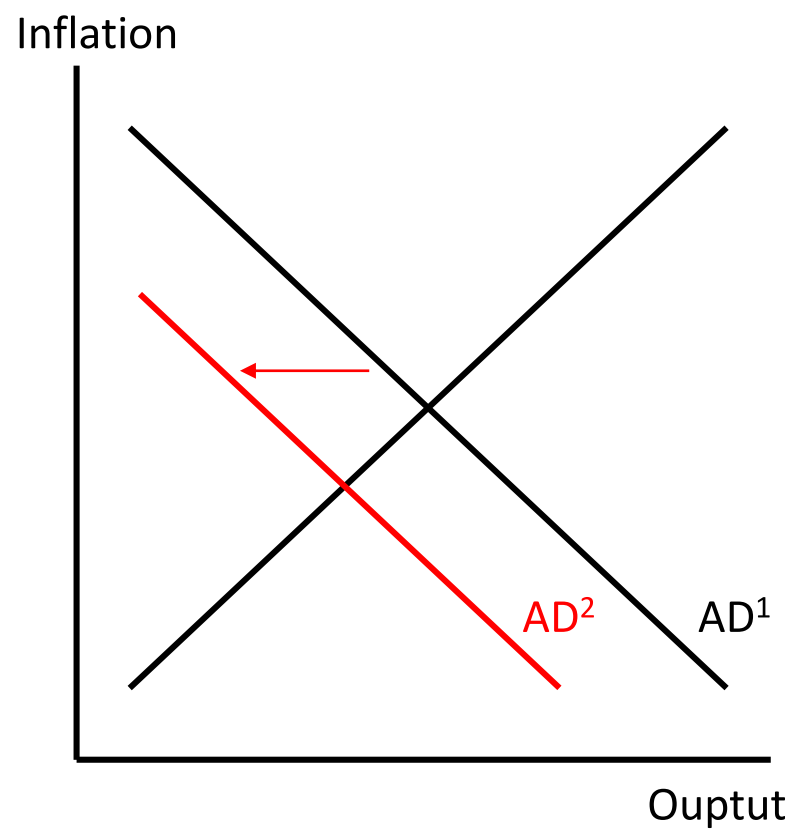
Higher interest rates raise the exchange rate, which reduces exports and increases imports, which therefore reduces AD

Effect of a rise in interest rates on the foreign exchange market, and then aggregate demand

Foreign Exchange Market



Aggregate Supply/Aggregate Demand



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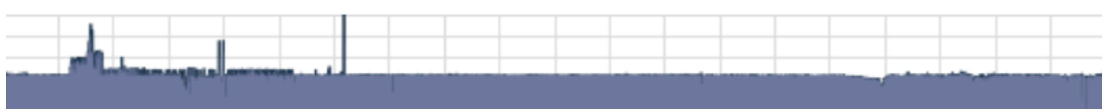
Some countries choose to fix their exchange rate to another currency, as Saudi Arabia does to the USD.

SAR / USD Exchange Rate

(base currency on denominator)

Trading volume:



There are three ways to achieve this: intervening in currency markets, restricting the flow of capital, and matching monetary policy

1. Currency intervention

- Saudi Arabia has large foreign exchange reserves (foreign currency owned by the central bank)
- Buying and selling these reserves with SAR changes the exchange rate
- Private capital flows can offset this

2. Capital restrictions

- Saudi Arabia can restrict capital flowing in or out of the country
- All imports must be paid for with exports

3. Monetary policy

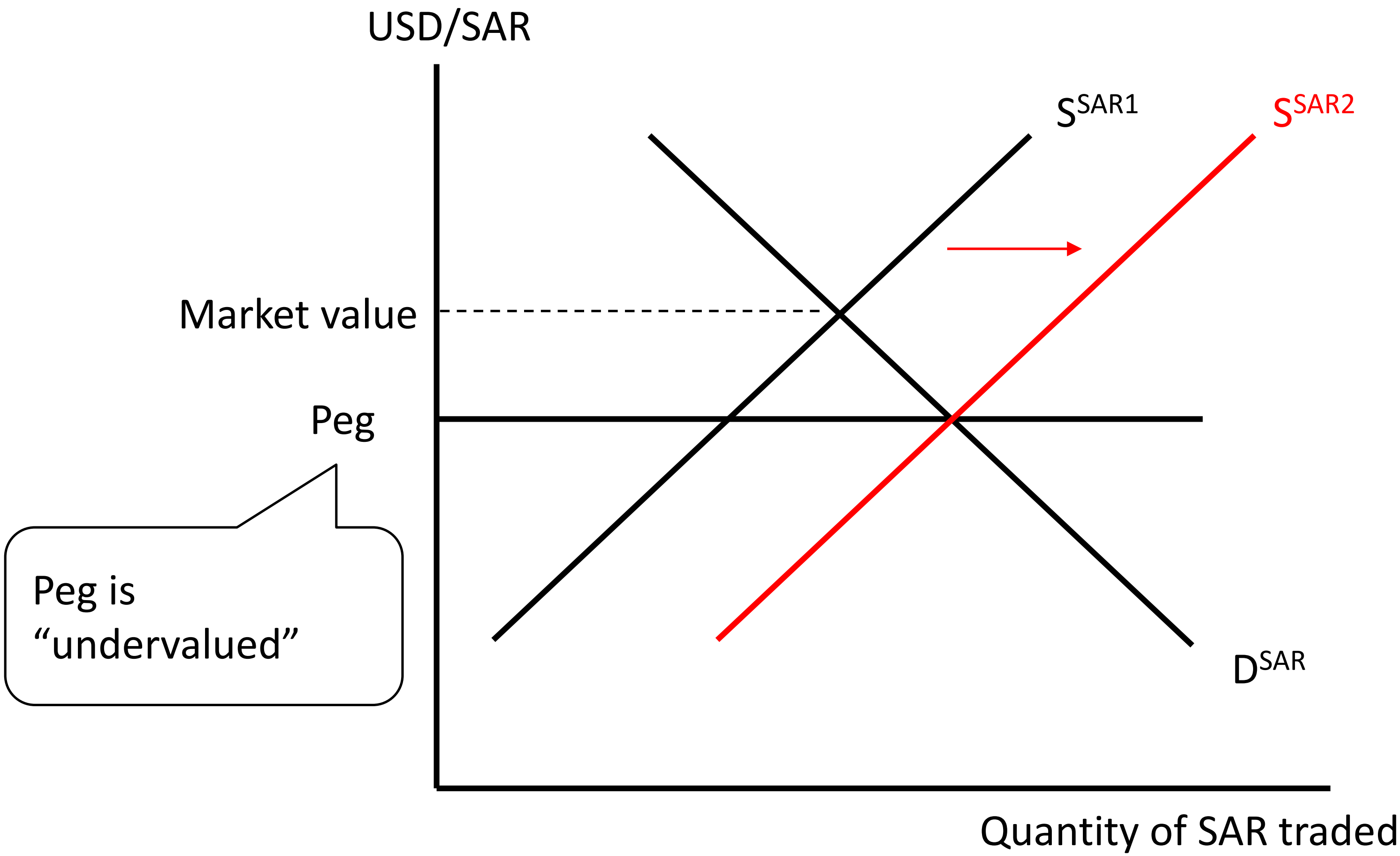
- Saudi Arabia can match its interest rate to the US, so that the two currencies remain equally attractive (so long as both are politically stable)

Currency intervention involves buying/selling foreign exchange reserves. These are different to the “central bank reserves” from Lecture 5

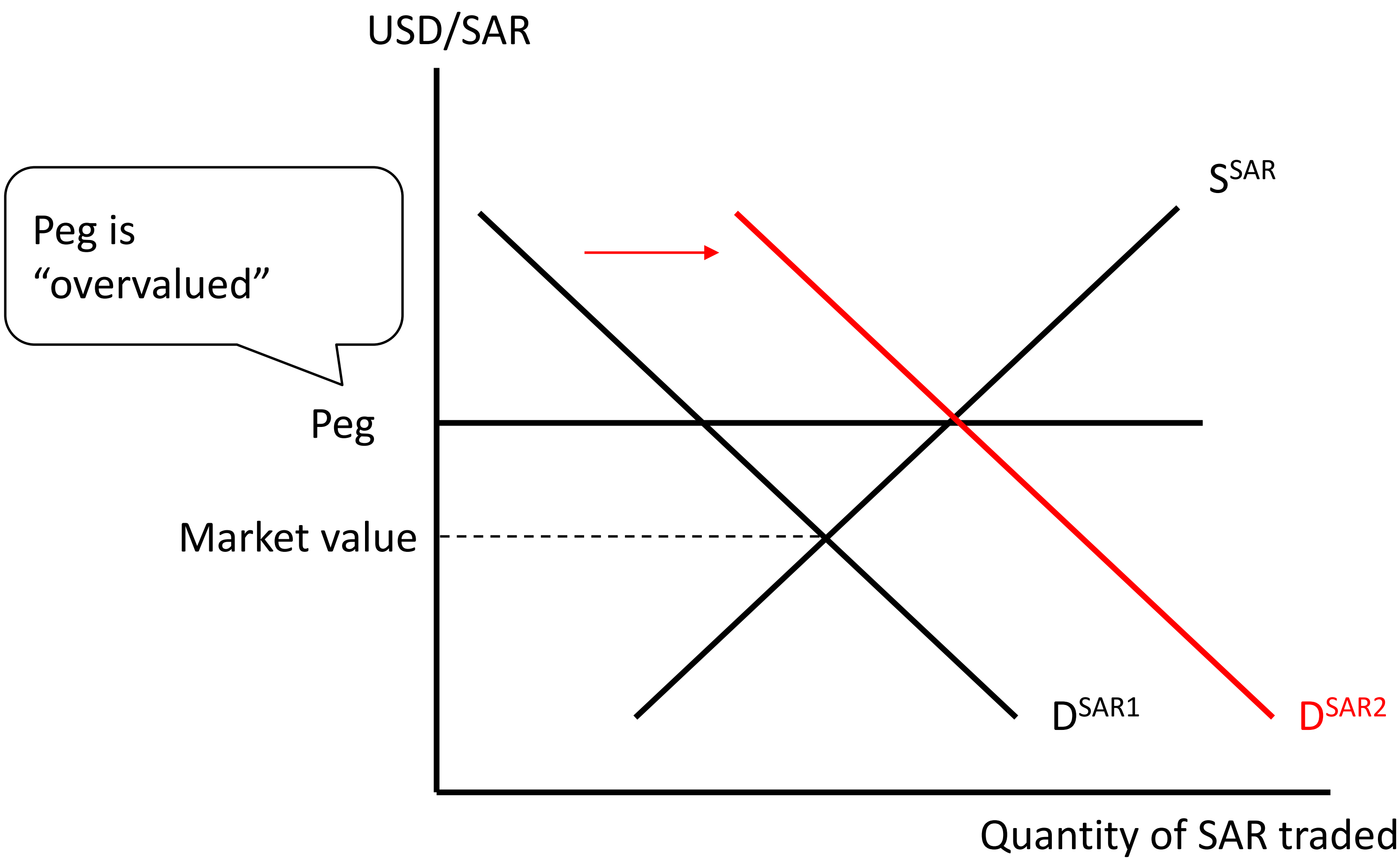
Stylized Central Bank Balance Sheet

Assets	Liabilities
Foreign exchange reserves (eg foreign currency, foreign government bonds)	**Central Bank Reserves** (deposits from commercial banks)
Other Loans (eg loans to domestic government)	**Currency** (notes and coins)

Currency intervention involves the Saudi Arabian central bank selling riyals (buy USD) when their market price is high, increasing supply…



…And buying riyals (sell USD) when the market price is low, like when oil prices are low, which increases supply



Saudi Arabia can do this as they have an <u>enormous</u> stock of foreign exchange reserves (US gov't bonds) they can sell, saved from oil wealth

Forbes

Saudi Arabia Burns Through Foreign Reserves As Oil Prices Slide

Tim Daiss, CONTRIBUTOR

Oil markets analyst, journalist and author based in Southeast Asia

FULL BIO

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The Saudis are also running budget deficits attributed to the prolonged oil price down turn.

Saudi investors monitor stocks at the newly opened exchange market department at the

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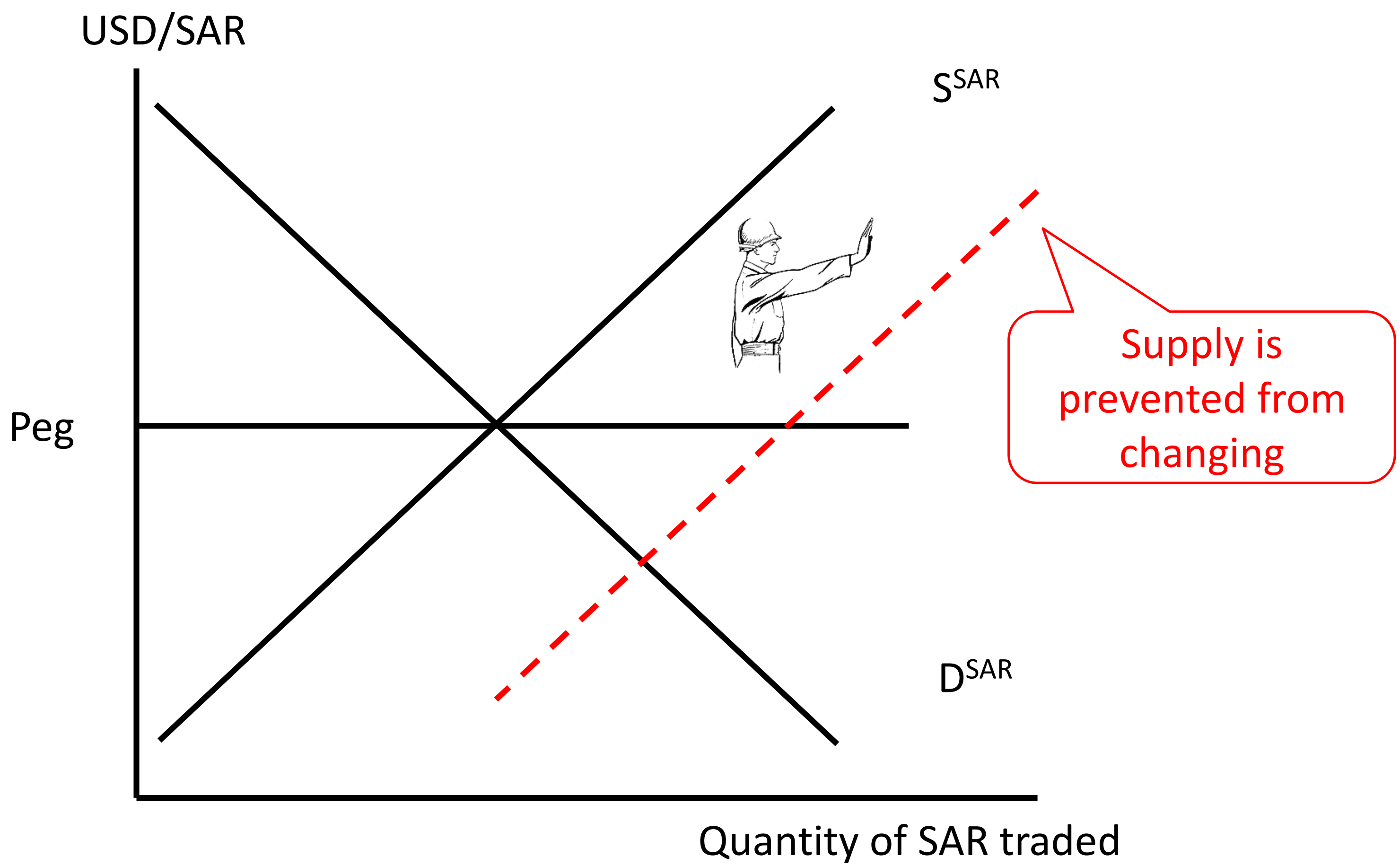
TRENDING

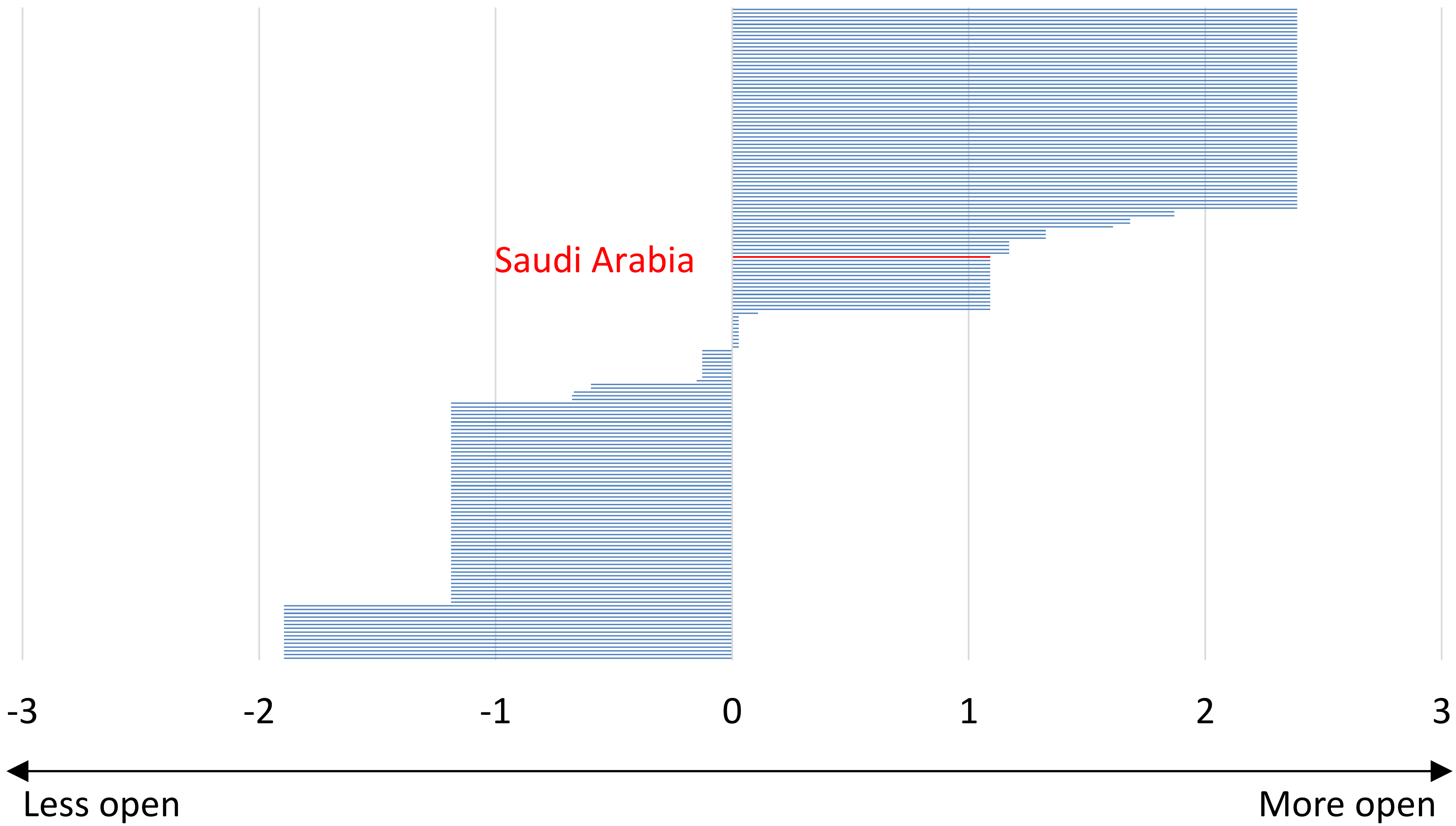
Source: www.forbes.com

A peg can also be achieved by restricting people from buying or selling your currency (a closed capital account)



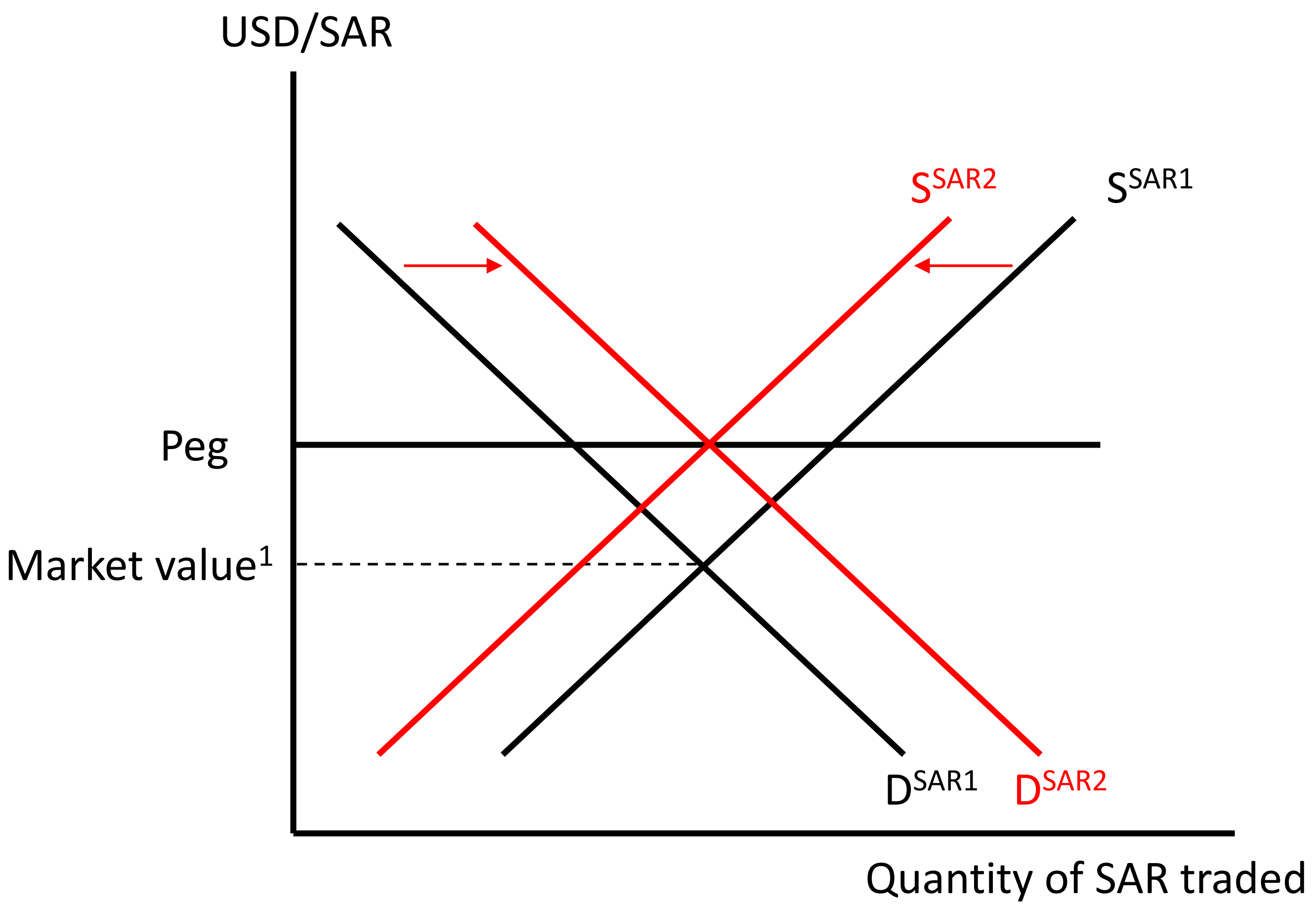
Saudi Arabia doesn't really do this, because it shuts off the country to foreign investors, which is bad for growth

Chinn-Ito Capital Account Openness index, 2014



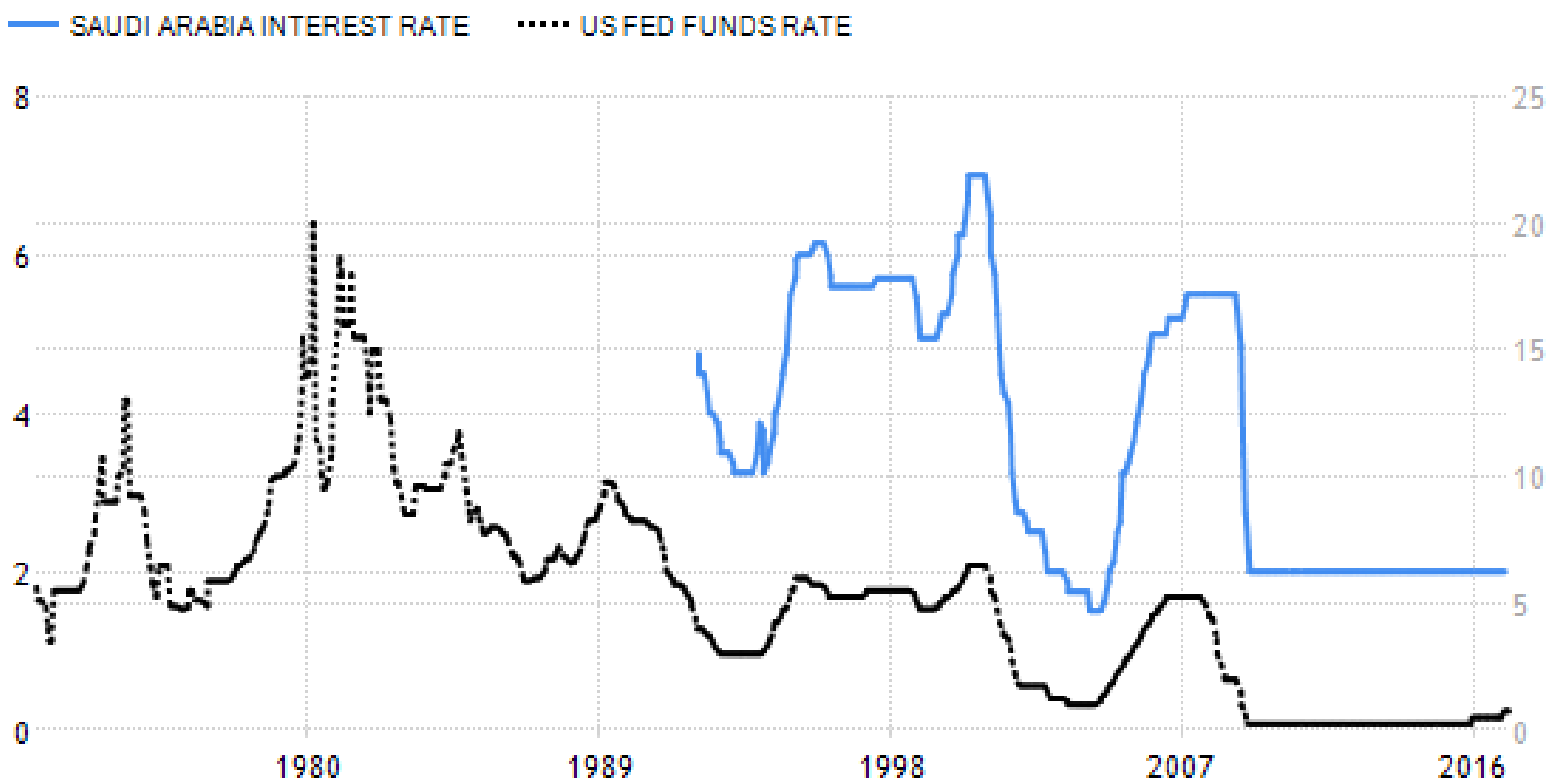
Source: http://web.pdx.edu/~ito/Chinn-Ito_website.htm

A peg can also be achieve through monetary policy. Tight monetary policy (↑i) makes the currency more attractive, eliminating overvaluation



The Saudi Arabian central bank sets rates to track the US interest rate, so that the currencies remain equally attractive

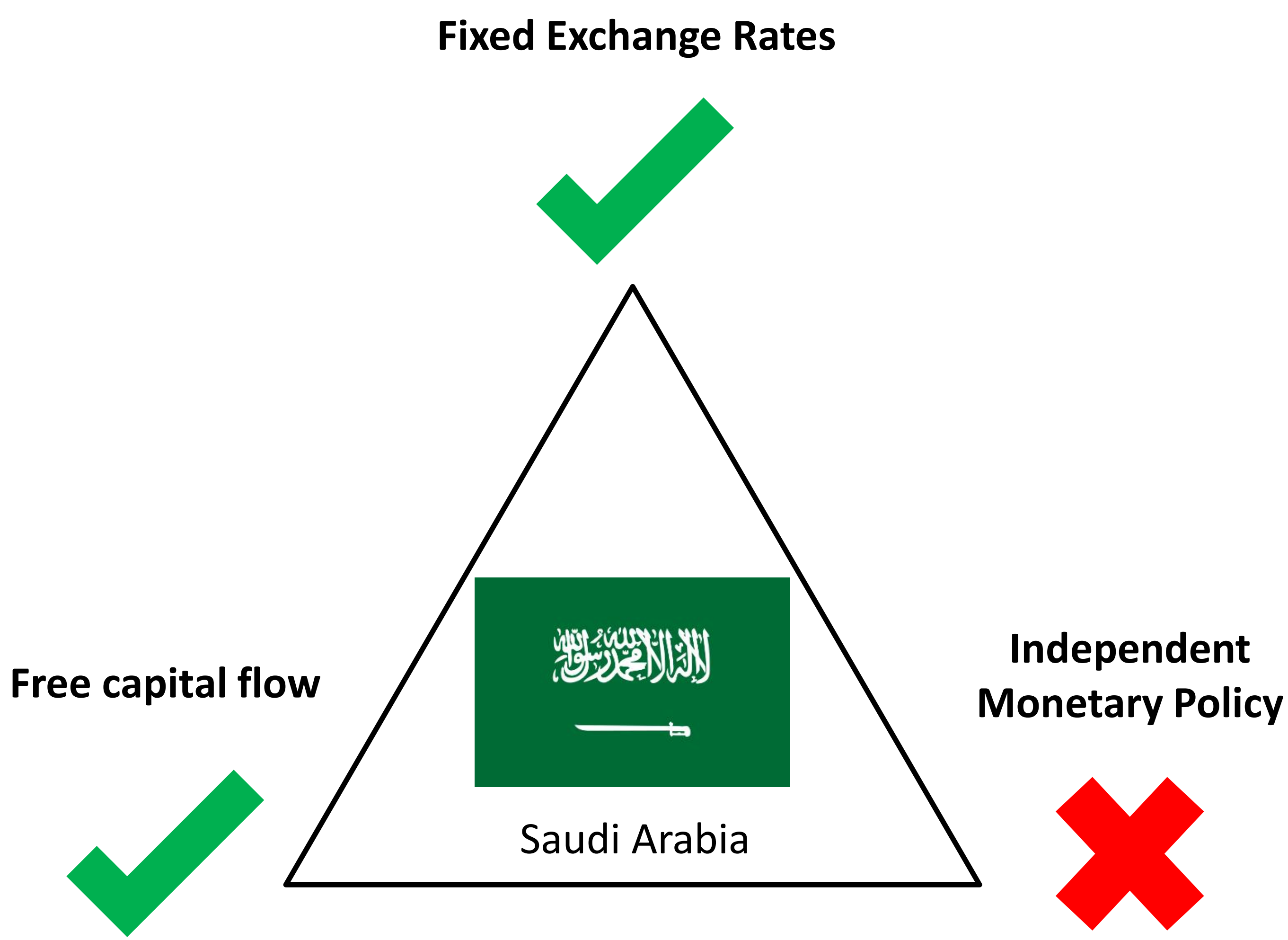
Central bank interest rates in Saudi Arabia and the USA, %



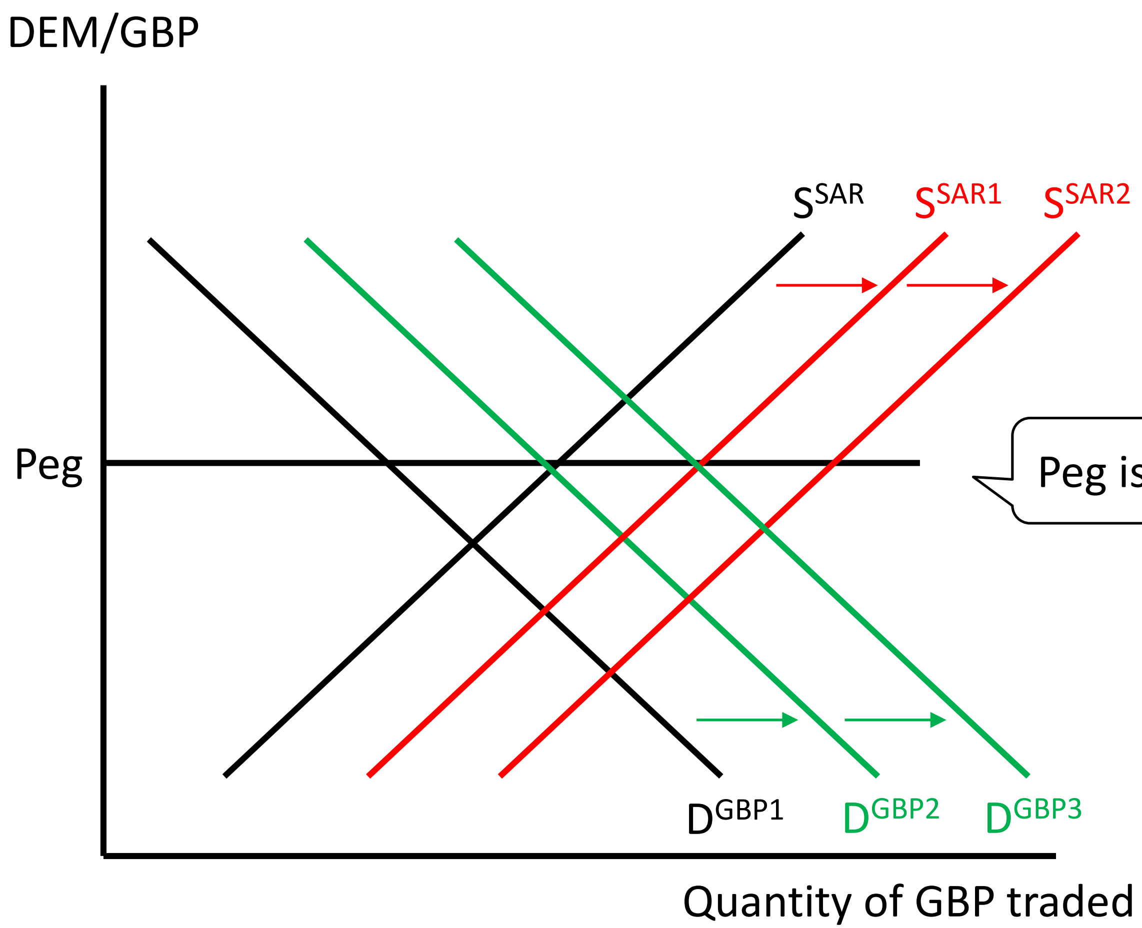
Source: www.tradingeconomics.com

This illustrates the "impossible trinity": can't have fixed exchange rates, free capital flow and independent monetary policy at the same time.

The "impossible trinity" (or "Mundell's trilemma") in Saudi Arabia



Sometimes when pegs are overvalued, speculators “attack” it. If the central bank can’t “defend” it then the currency will collapse.



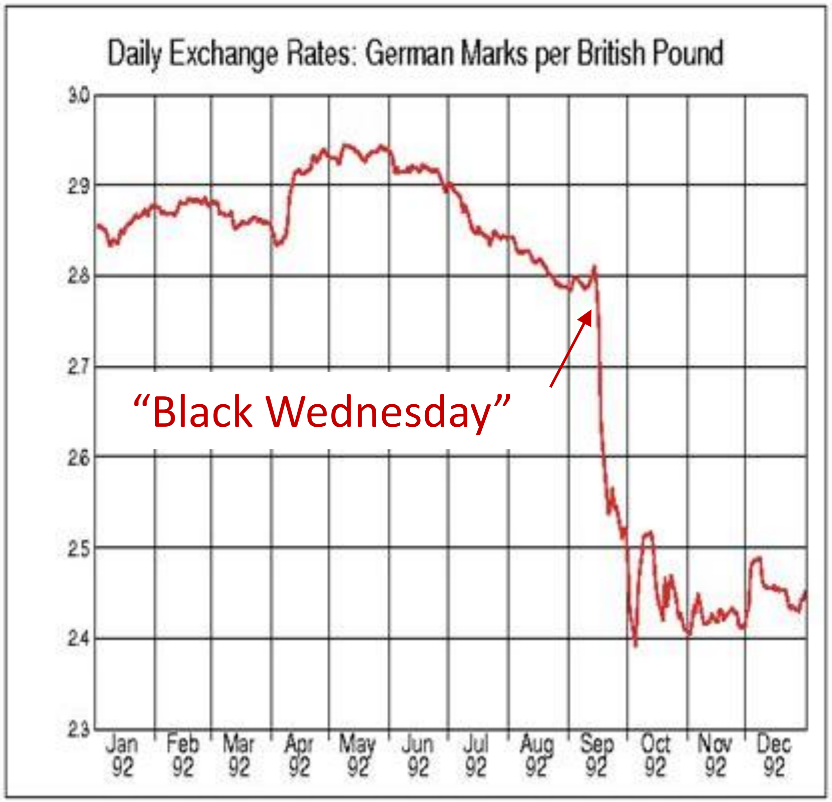
Speculators start selling the GBP…

Peg is “overvalued”

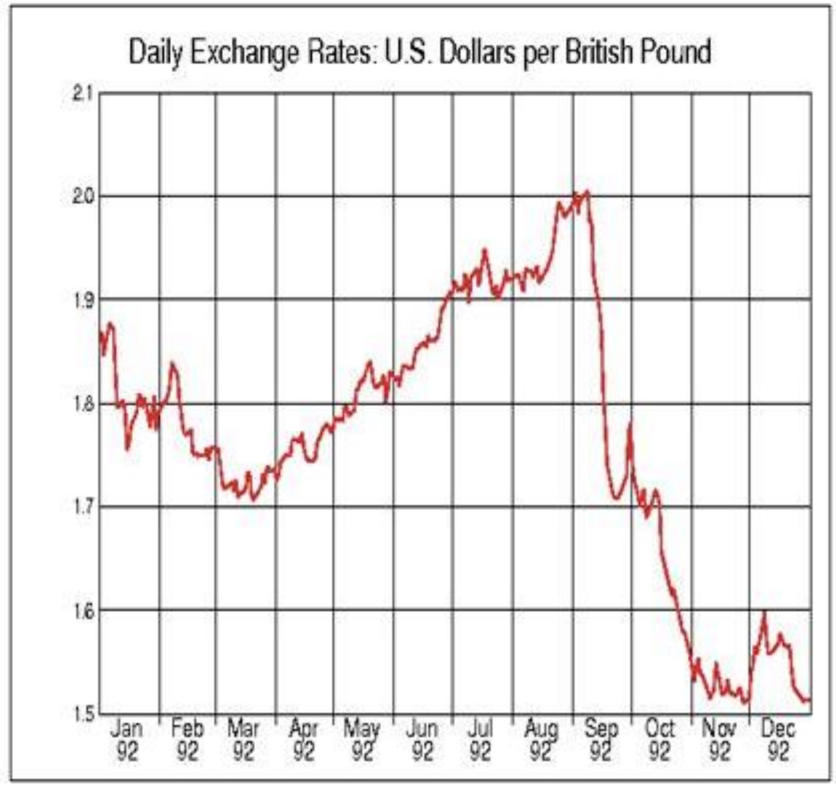
…the GB central bank must keep buying GBP (selling foreign reserves). If they run out, the peg collapses

One of the most famous "speculative attacks" was by George Soros on the GBP in 1992, when it entered the Euro ERM at too high a level

DEM/GBP



USD/GBP



- In 1992 the UK was planning to enter the Eurozone, and had to keep the GBP within a band of the DEM
- The band was too high, so Soros – a trader – collected a bunch of buddies and sold the GBP

Are fixed or floating exchange rates better?

Fixed Exchange Rates

Advantages	Disadvantages

• Lower trade costs
    • eg Eurozone (a common currency is like a very tight peg)
 	
• More certainty about exchange rate movements
    • Pegs can break though
 	
• If pegged low, it effectively makes all your exporters more competitive
    • E.g. China in early 2000s – accumulated large amounts of foreign reserves
 	
• Easy (e.g. developing countries)
	• No independent monetary policy, which is very useful for stabilizing the economy
	    • Saudi Arabia has basically the same monetary policy as the US, but faces different shocks!
	
	• Or, closed capital account, so don't get access to foreign investment
	
	• Or, must have large foreign reserves to defend the peg

Summary

- The nominal exchange rate between two currencies is the rate at which the currencies can be traded for each other.

- The real exchange rate is the price of the average domestic good or service relative to the price of the average foreign good or service, when prices are expressed in terms of a common currency.

- The PPP theory predicts that the currencies of countries that experience significant inflation will tend to depreciate in the long run.

- Supply and demand analysis is useful in determining the fundamental value of the exchange rate.

- In a flexible exchange rate regime, a tight monetary policy increases the demand for the currency and causes it to appreciate.

- In a fixed exchange rate regime, an overvalued currency may be prone to speculative attacks.

Chapter 16

The Balance of Payments:
The Current Account and the Capital Account

Learning Objectives

16.1 What types of transactions are recorded in the current account of the balance of payments?

16.2 What types of transactions are recorded in the capital account of the balance of payments?

16.3 How do capital flows relate to the current and capital account balances?

16.4 What factors influence the international flows of capital?

16.5 What is the effect that international capital flows have on the relation between national savings and investment?

16.6 How are a country's savings, trade imbalance and current account balance related?

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The Balance of Payments records all transactions of the residents of one country with the residents of another.

The Balance of Payments

Current Account (CA)

- The current account deals with flows
  - Imports
  - Exports
  - Interest repayments

Capital Account (private) (KA)

- The capital account deals with changes in stocks
  - Borrowing
  - Lending
  - Investment
- "Finances" the current account

Capital account (official)

- E.g., if the central bank intervenes in the currency

The current account is equal to the capital account (with the opposite sign), unless the central bank intervenes in currency markets

No Currency Intervention

$$CA + KA = 0$$

Currency Intervention

$$CA + KA = \Delta Reserves$$

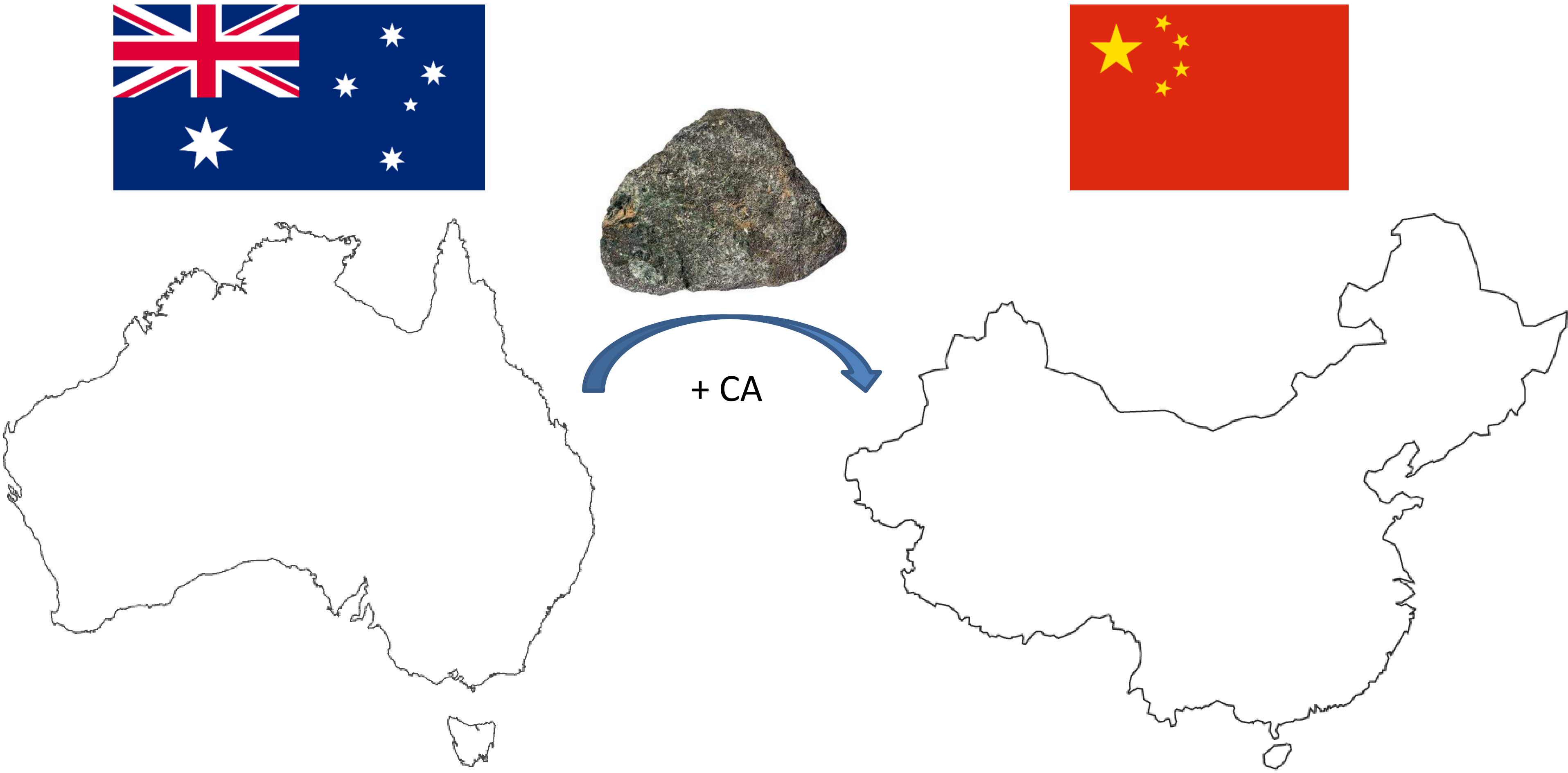
Every entry on the Balance of Payments is a debit or a credit. Credits record inflows of currency, Debits record outflows of currency

Australia's Balance of Payments

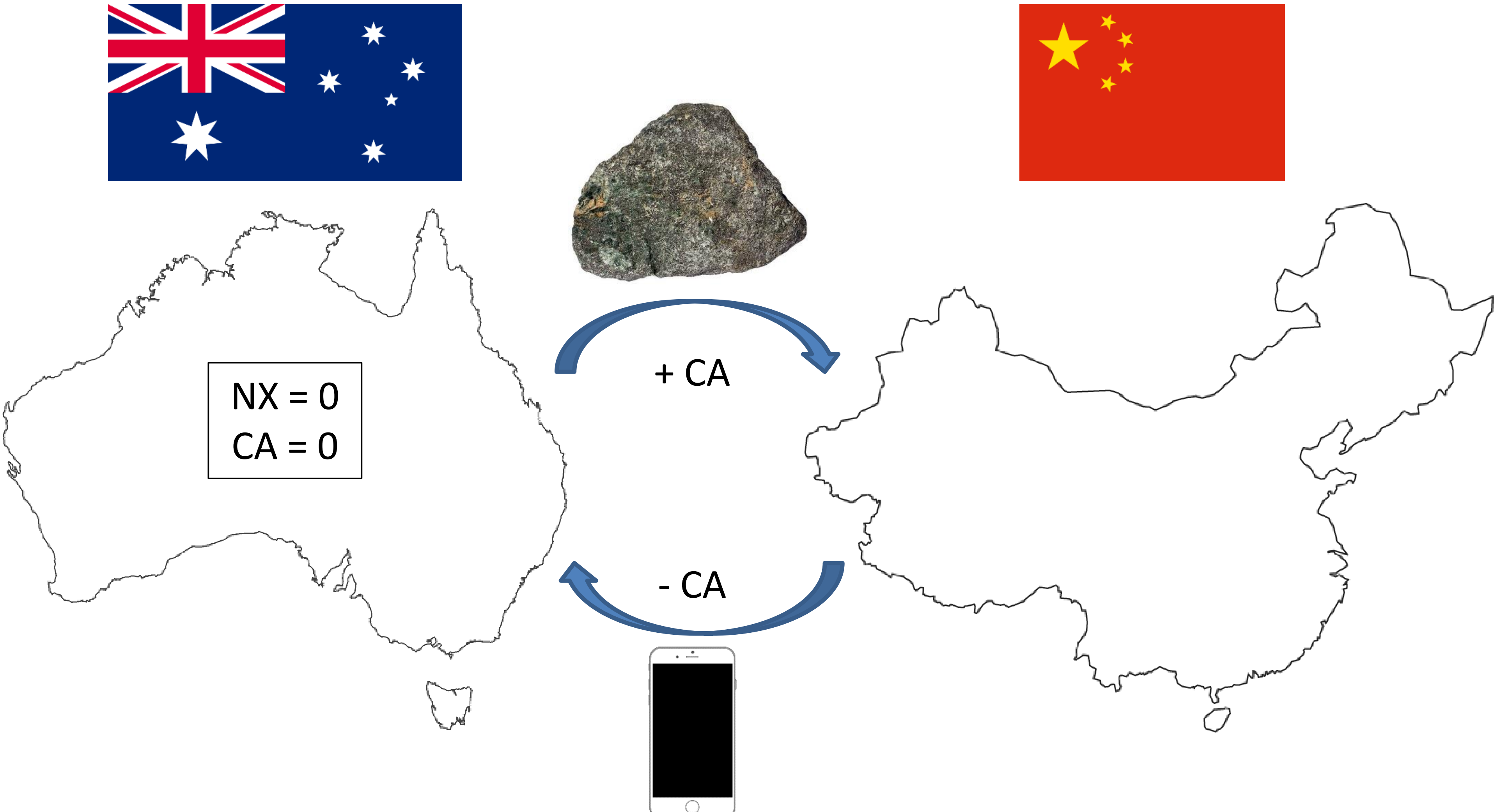
Current Account (CA)		Capital Account (KA)	
Debit	**Credit**	**Debit**	**Credit**
- ↑ Imports	- ↑ Exports	- Aus buys foreign asset	- Aus sells foreign asset
- ↓ Exports	- ↓ Imports	- Aus lends to foreign country	- Aus borrows from foreign country
- Aus company pays a foreign employee	- Foreign company pays Aus employee		
- Aus pays interest on foreign borrowing	- Aus receives interest on foreign lending		

Debits = Credits

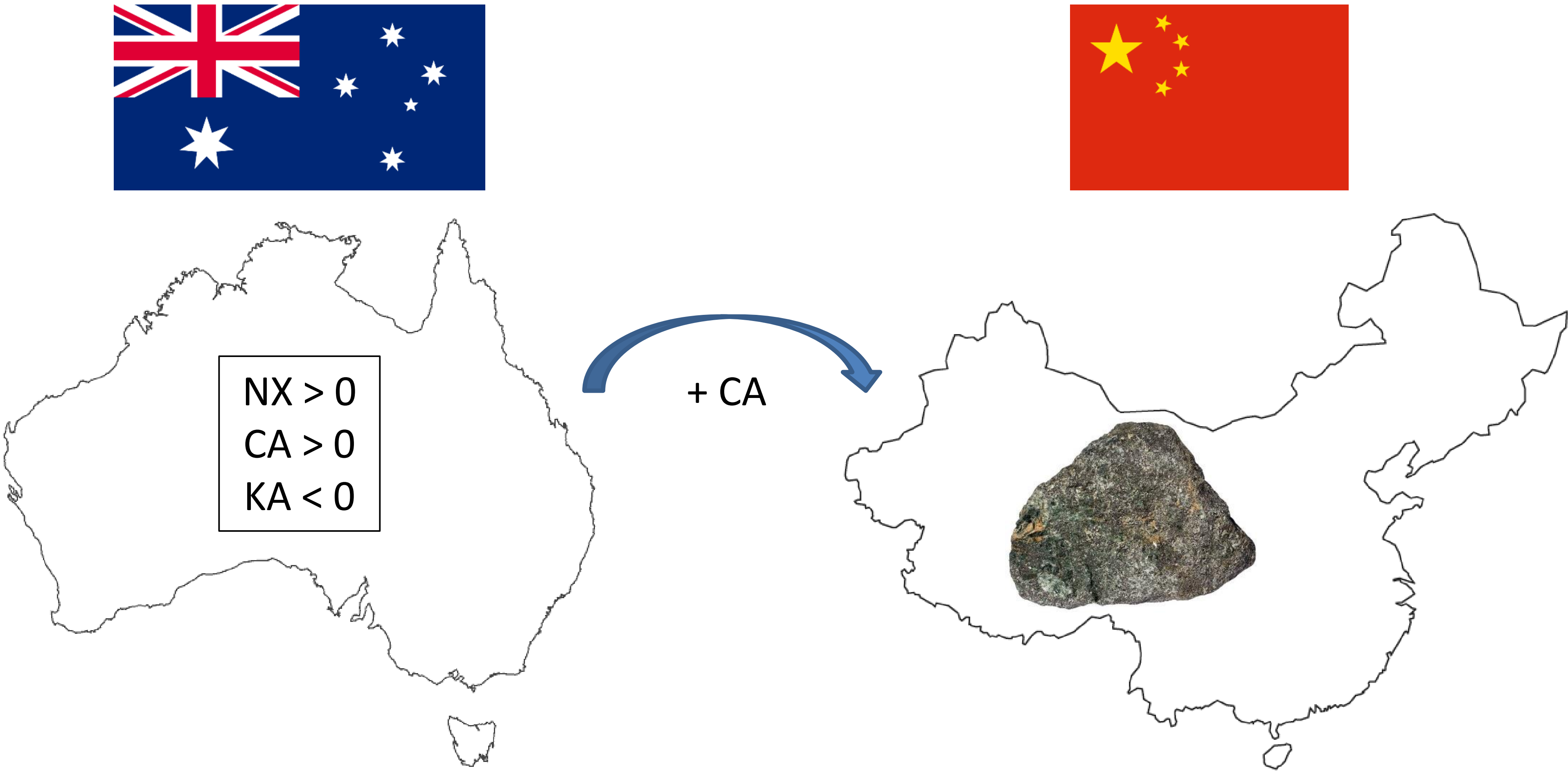
Let's start with an example. Australia exports some iron ore to China. This is a flow, and increases (credits) the current account (CA).



If China "pays for" the ore with an equal value of iPhones, the CA will decrease (debit). Australia's next exports, and CA balance, will be zero.



If the ore stays in China, with no imports in return, then Australia has “lent” the ore to China (KA debit). The CA has a surplus; the KA a deficit.



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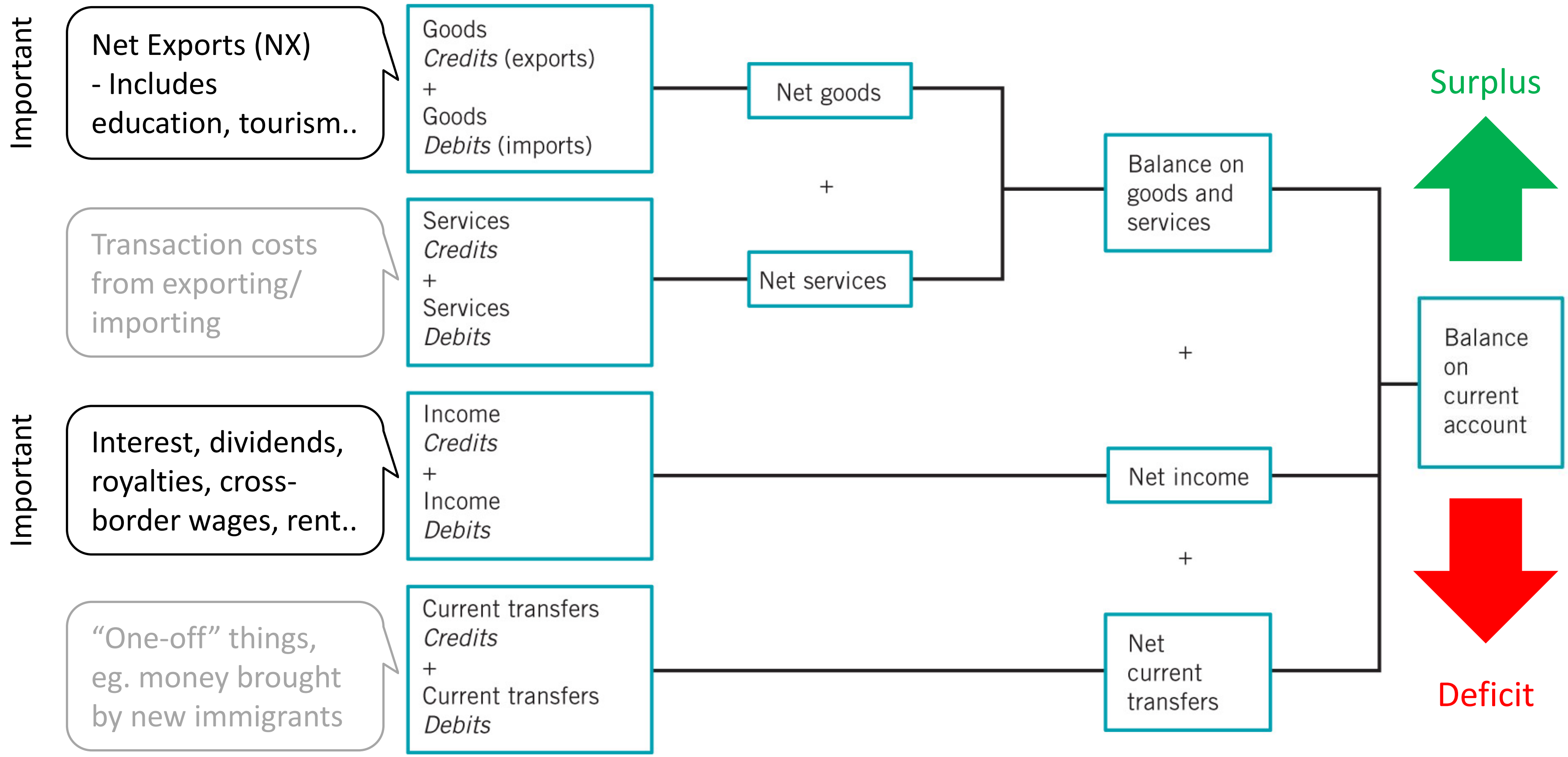
The current account records flows like: changes in ownership of commodities (eg ore, iPhones) or flows of income (eg interest payments)

Components of the current account



Inflows of currency are a credit, outflows are a debit

To clarify things, here are a few more examples of transactions that would appear on the current account

Inflows of currency are a credit

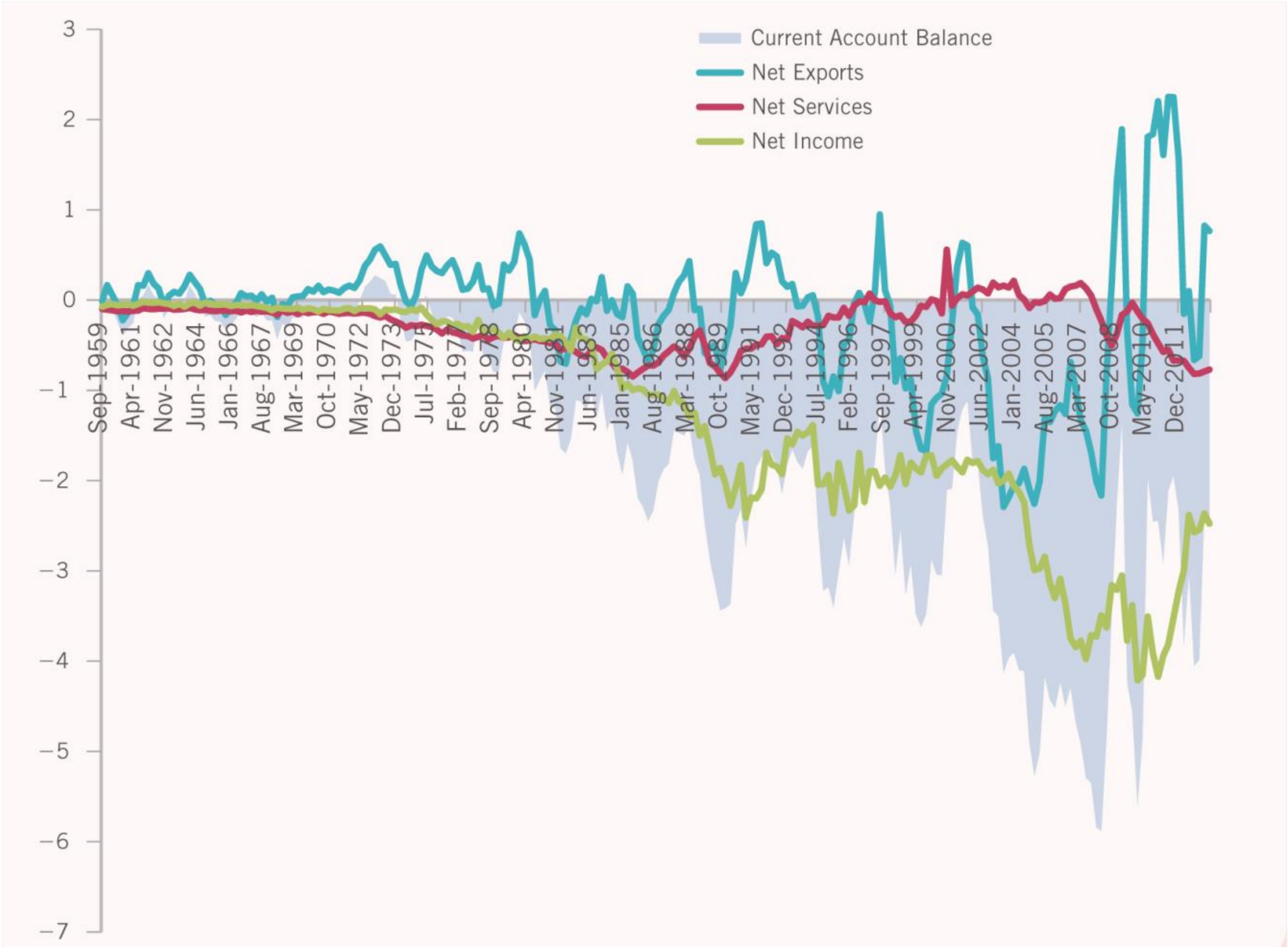
TABLE 16.1 Debit and credit items in the current account

	DEBIT	CREDIT
Merchandise trade	Domestic purchase of a Japanese car	Sale of wheat to Russia
Services	Domestic buyer pays freight costs on imports	Overseas buyer pays freight costs on exports
Income	Domestic company pays a foreign employee	Foreign company pays a domestic employee
Transfers	Domestic relative sends a cash gift to overseas resident	Overseas relative sends a cash gift to domestic resident

Outflows of currency are a debit

The two most important parts of Australia's current account are net exports, and net income.

Components of Australia's current account



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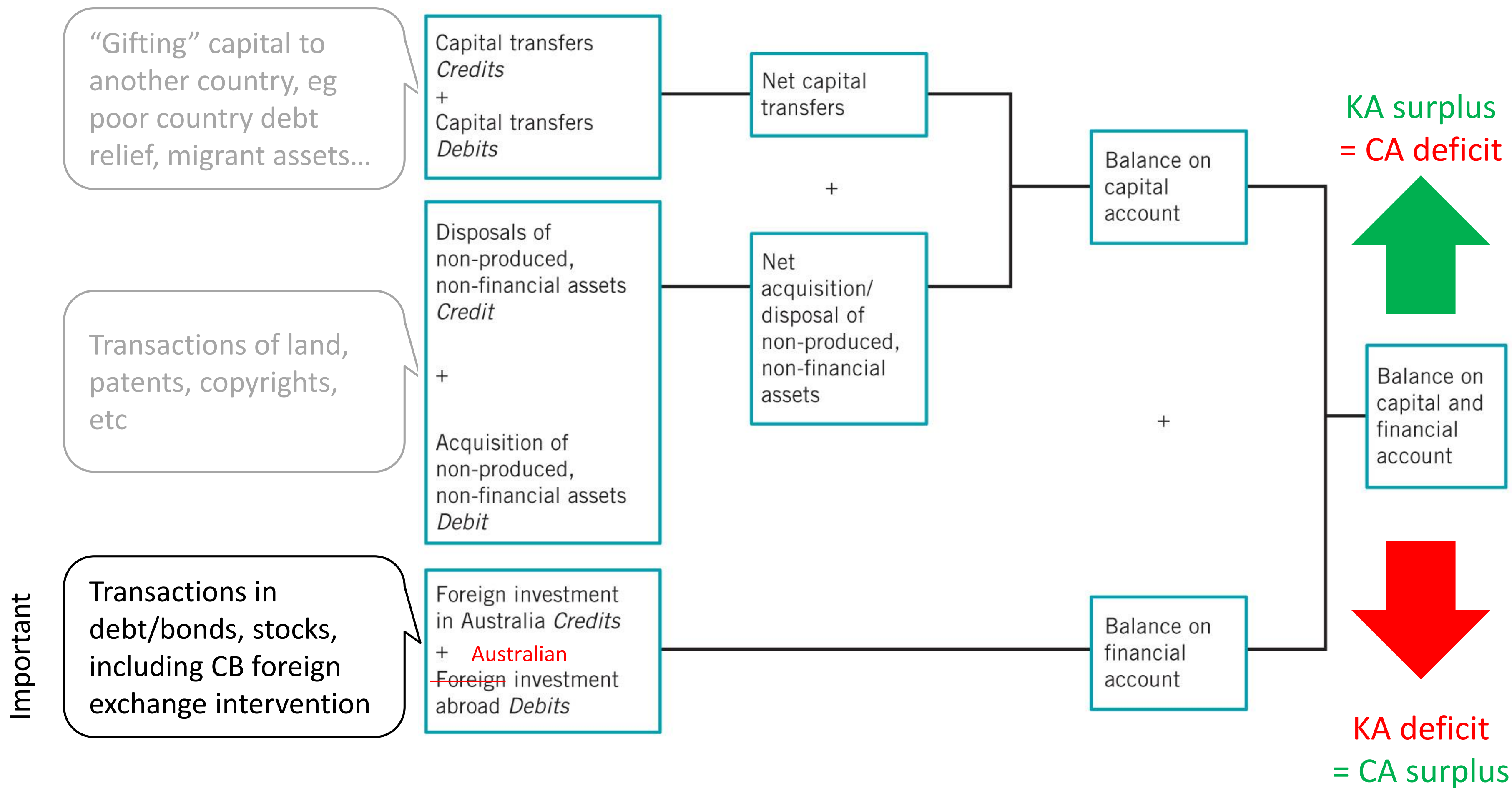
The capital account records all the changes in a country's assets or liabilities. The capital account "finances" the current account

Components of the capital account (KA)



Inflows of currency are a credit, outflows are a debit

When someone from abroad buys a house in Australia, that is a capital inflow for Australia (KA credit), and an outflow for the other country

The Sydney Morning Herald | Business

NEWS SITE OF THE YEAR

MARCH 23 2016

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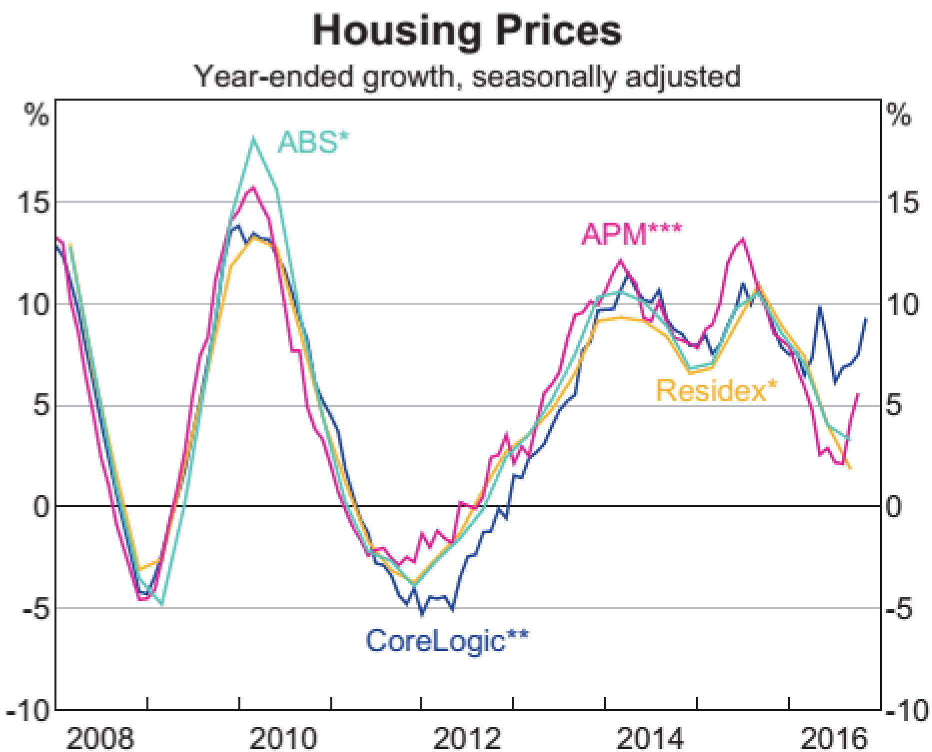
Capital inflow to reach $US1 trillion for property

Carolyn Cummins

The decision for someone to buy assets in another country is based on the same factors as all investments: risk and return



For foreign investors in housing:

The return includes:

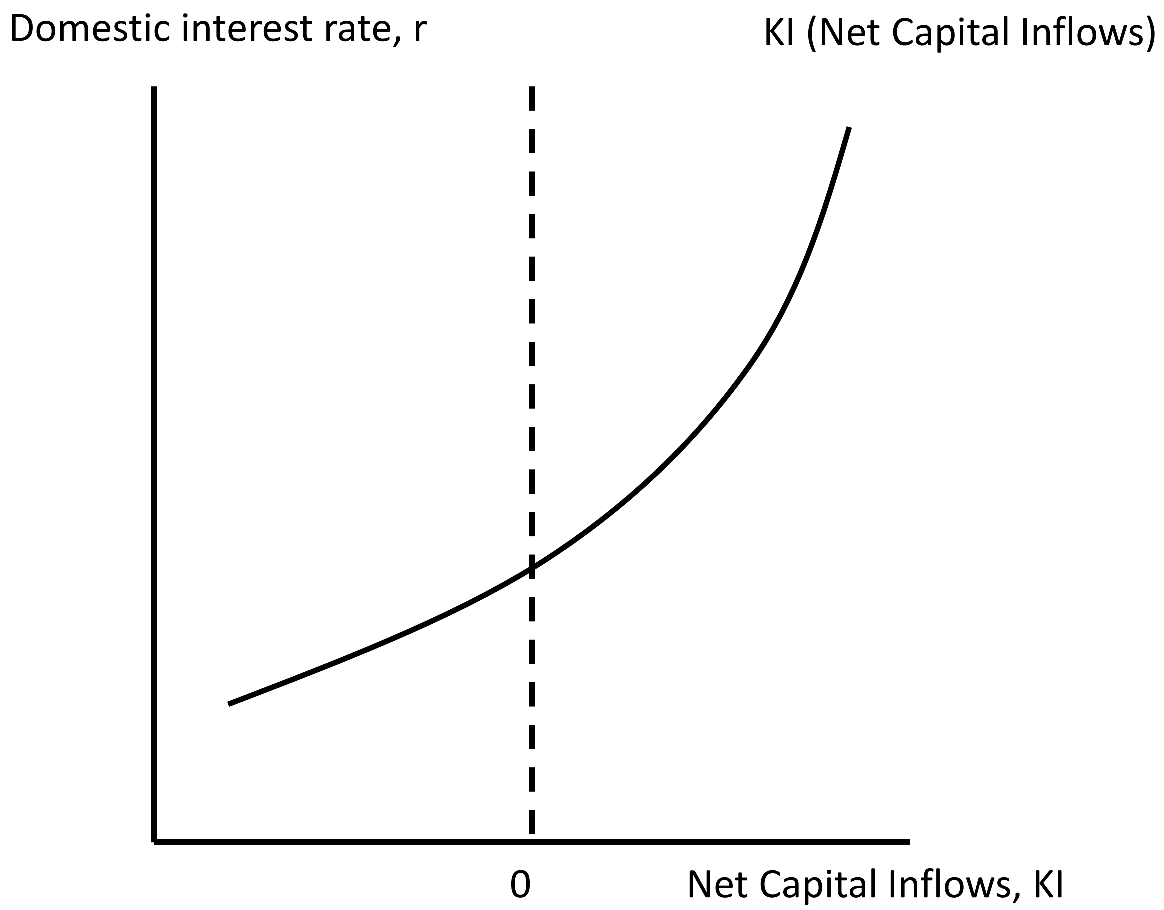
- Increase in house prices
- Rent earned (or rent they would have paid if they live there)
- Currency appreciation
- Non-market returns (nice house, short commute, good schools, etc)

The risk includes:

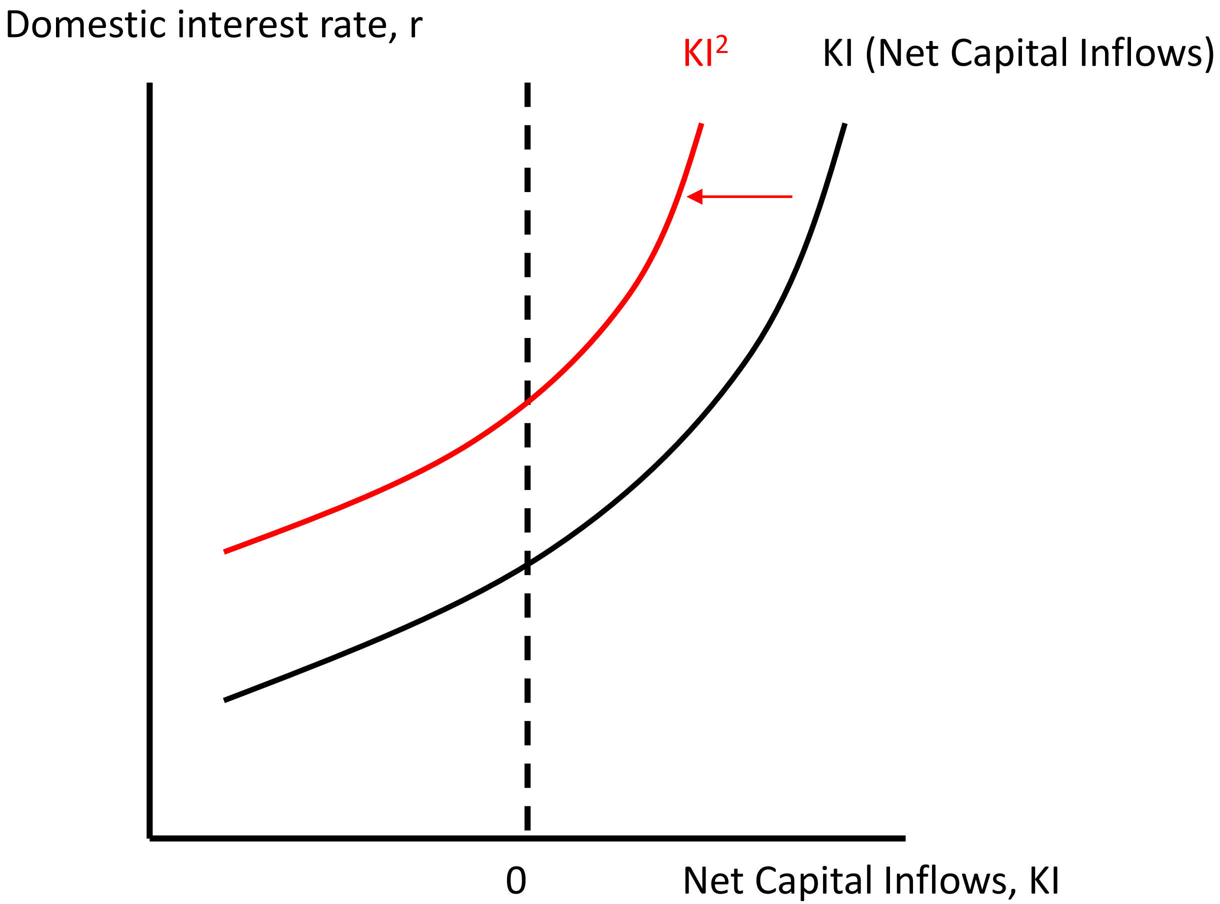
- Volatile house prices
- Volatile rent
- Volatile currency
- Physical risks (eg fire etc, managed with insurance)

Source: RBA

When the RBA increases interest rates, it increases the return on Aussie assets (/lowers their value), attracting more foreign investment



An increase in risk: political, economic, physical, etc, will reduce the capital inflow for a given interest rate



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How do the Balance of Payments fit in with the rest of the economy??

The GDP Identity (from Lecture 1)

$$Y = C + I + G + NX$$

In a closed economy (from Lecture 2)

$$Y = C + I + G$$ *Set NX = 0*

$$Y - C - G = I$$ *Assume G doesn't invest*

$$S = I$$ *Define Savings S = Y – C - G*

In a closed economy, all investment must be financed by savings

In an open economy (from Lecture 2)

$$Y = C + I + G + NX$$

$$Y - C - G = I + NX$$ *Assume G doesn't invest*

$$S - NX = I$$ *Define Savings S = Y – C - G*

In an open economy, investment can be financed by savings or "– NX"

In an open economy, investment can be financed by savings or foreign investment, which is recorded in the capital account (KA = - CA = -NX)

Perspective 1:

$$S - NX = I$$

If Australia imports more than it exports ($NX < 0$), then it is borrowing from the rest of the world, which can be used to finance investment.

Perspective 2:

$$S - I = NX$$

$$-KA = CA$$

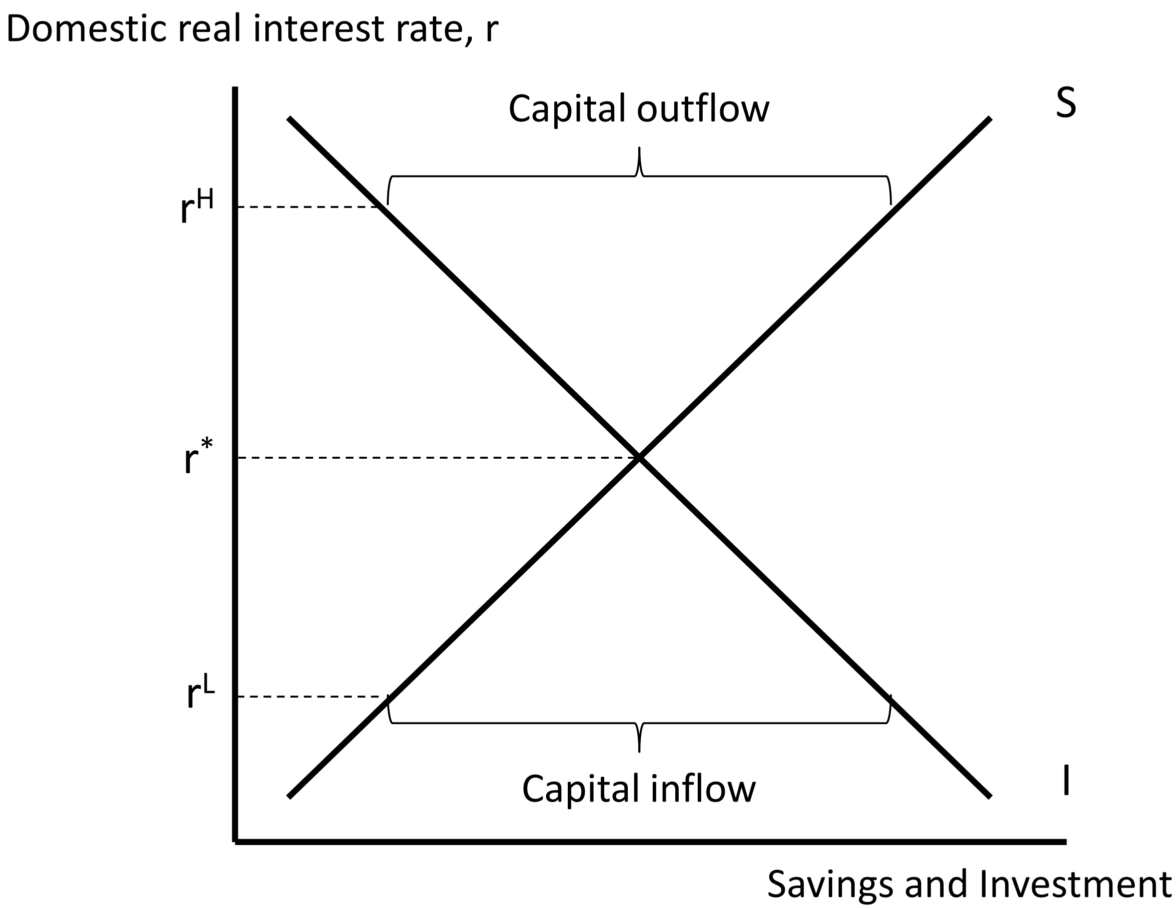
If Australia produces stuff that it saves but doesn't invest (including in inventories), then it must send that stuff abroad

A current account surplus ($X > M$) implies a capital account deficit ($S > I$; sending money abroad)

OR

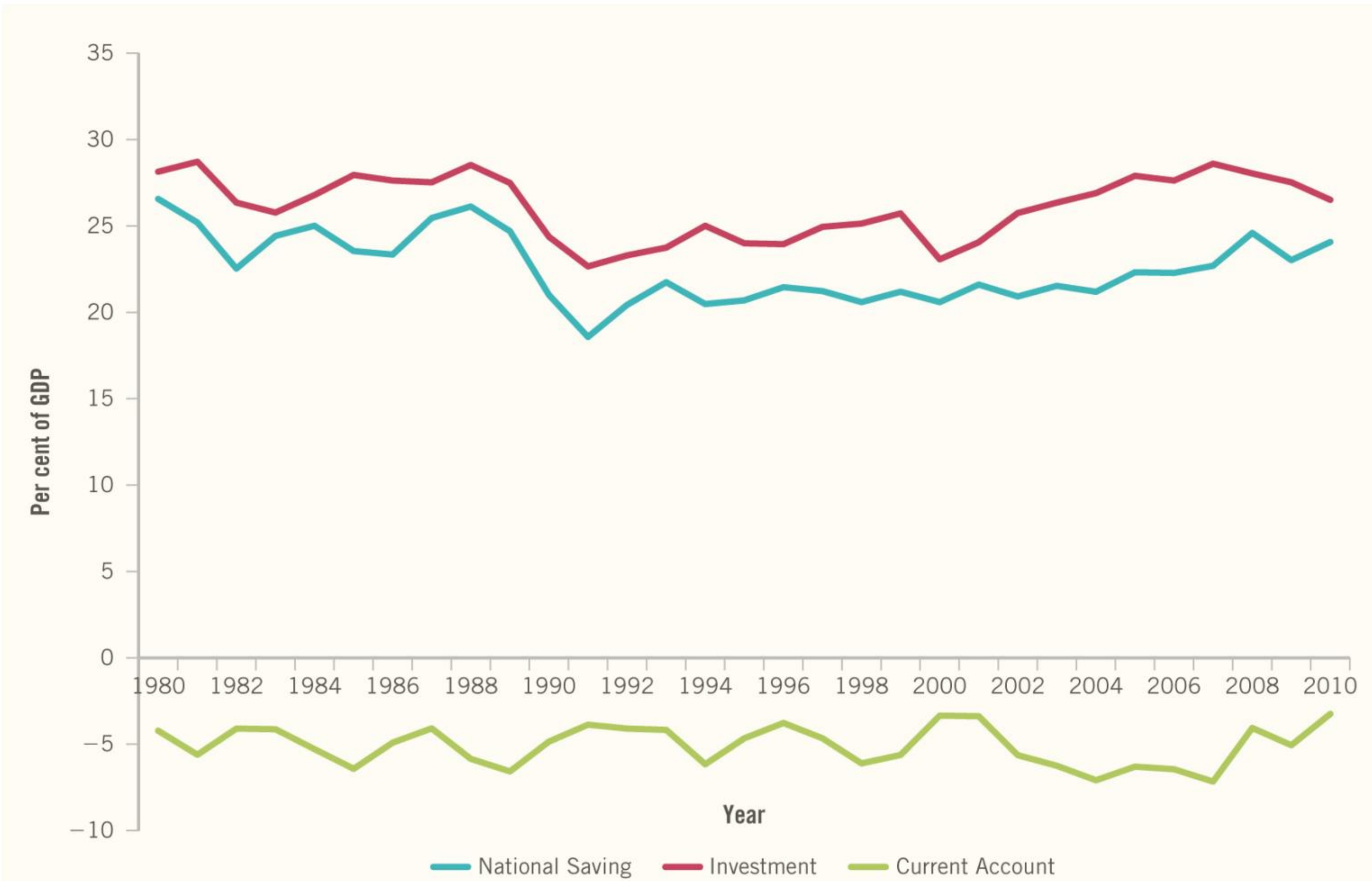
Low savings at home means low net exports

When a country saves more than it invests, there is a capital outflow, and vice versa



Australia consistently runs a current account deficit (import > export, borrowing from abroad).

Australian national savings, investment and current account, % of GDP



Is a current account deficit/capital account surplus good or bad?

Current Account Deficits (/ Capital Account Surpluses)

Advantages	Disadvantages

• More capital available for the economy to grow/converge (remember Solow-Swan, Lecture 9)
 	
• Drives up the value of domestic assets
	• Foreign investment is fickle, and can disappear if there is political risk/low returns
	    • Developing countries received “hot money” since 2008
	
	• Interest repayments abroad means less available to spend at home
	
	• Debt crisis if cannot repay loans
	    • Unproductive investment (eg housing)
	    • Use loans for consumption

The punchline: it depends on if the capital inflow is used for good I or C/ bad I

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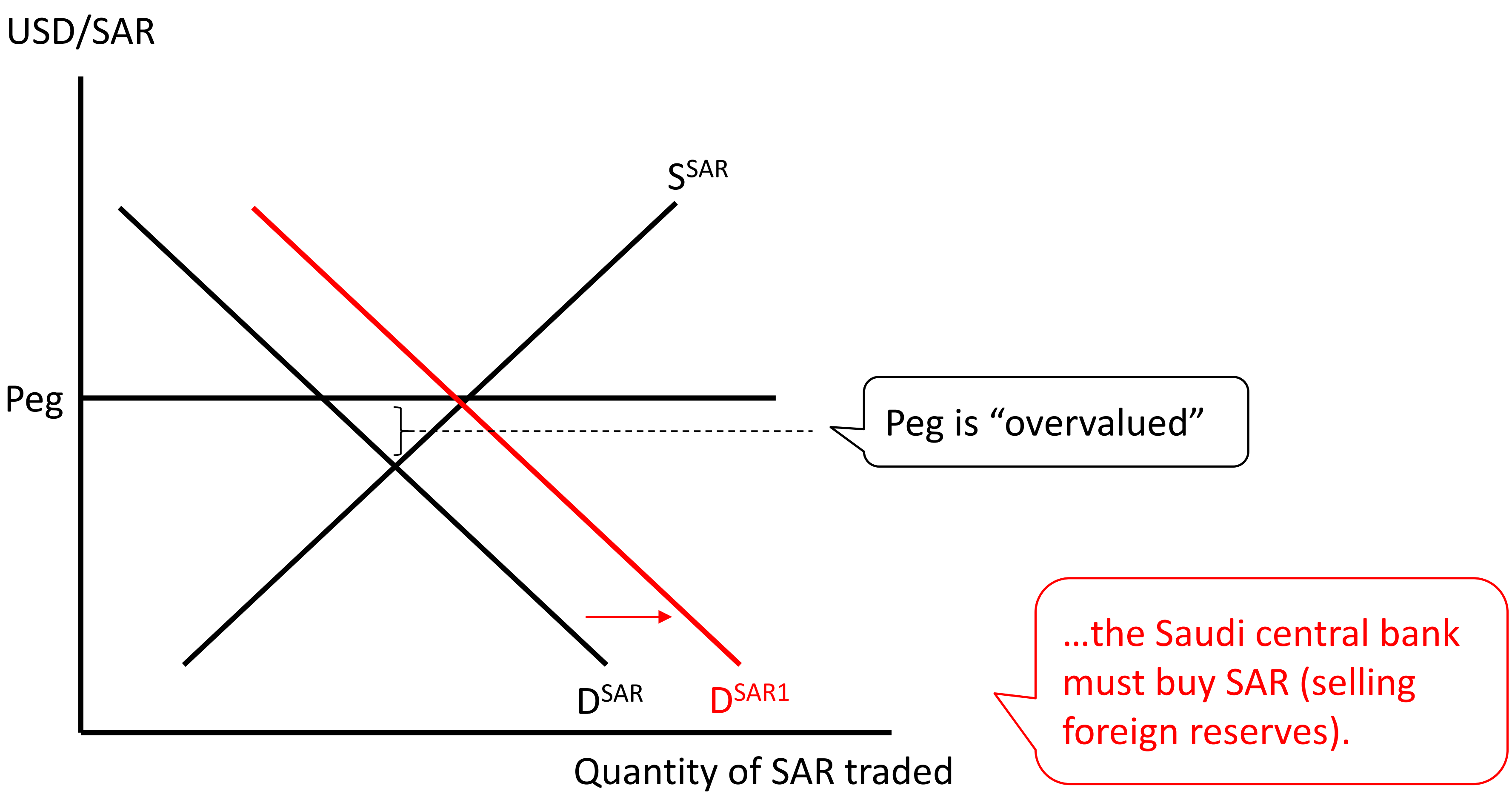
Recall from earlier that when Saudi Arabia "defends" an overvalued peg, it must buy SAR by selling down its stock of foreign exchange reserves



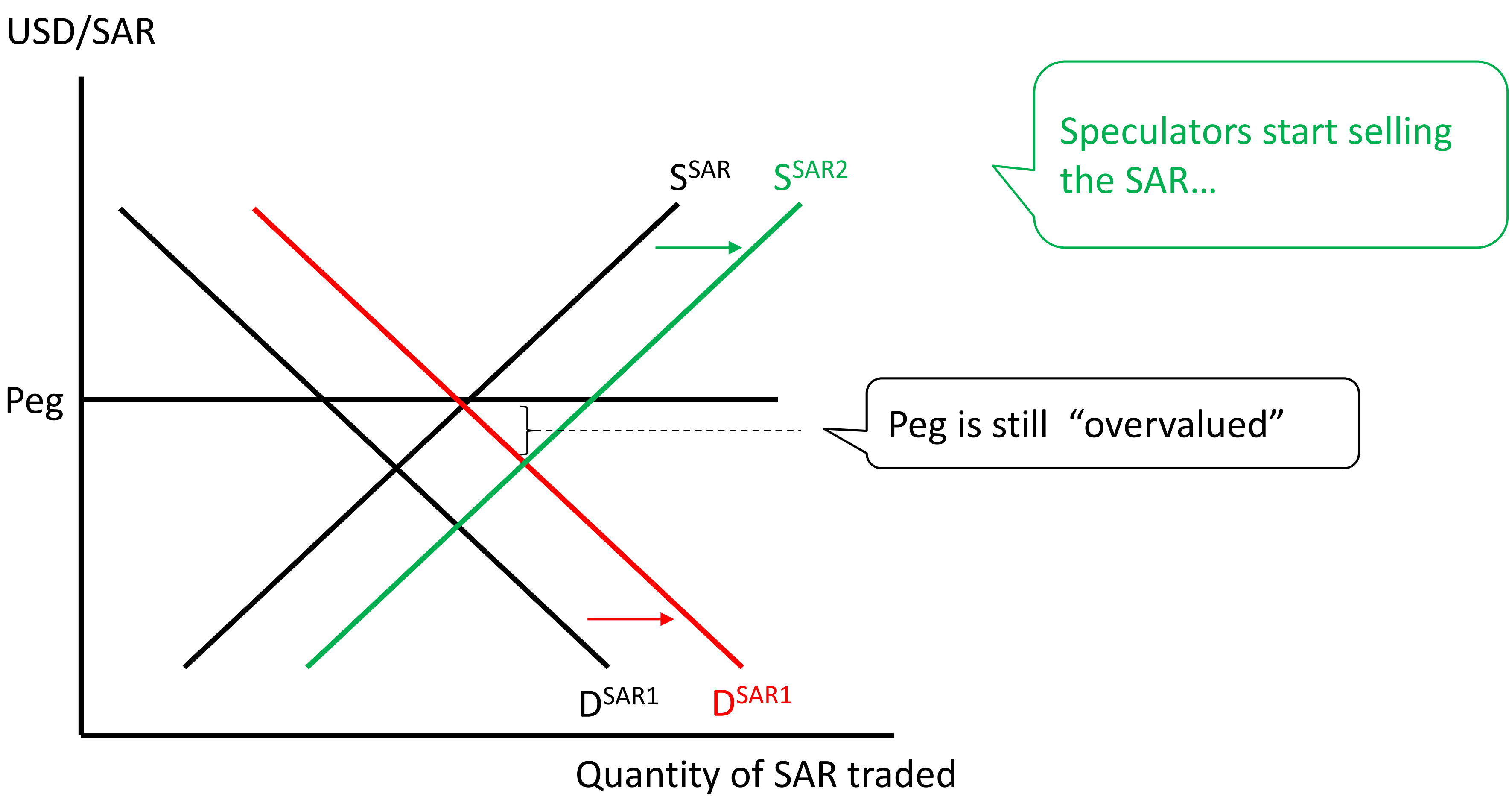
Selling foreign reserves leads to an inflow of currency (bonds out, currency in), so is a credit on the Capital Account

The Balance of Payments

Current Account (CA)	Capital Account (private) (KA)

Capital account (official)
Buy SAR/Sell US bonds (credit)

If the capital account is open, then speculators will respond by selling SAR, so the currency remains overvalued



If the SAR is overvalued ($i^{SAR} > i^{USD}$), and the capital account is open, then private flows will offset any official flows (eg Soros)

The Balance of Payments

Current Account (CA)

- No effect on currency
- No effect on imports/exports

Capital Account (private) (KA)

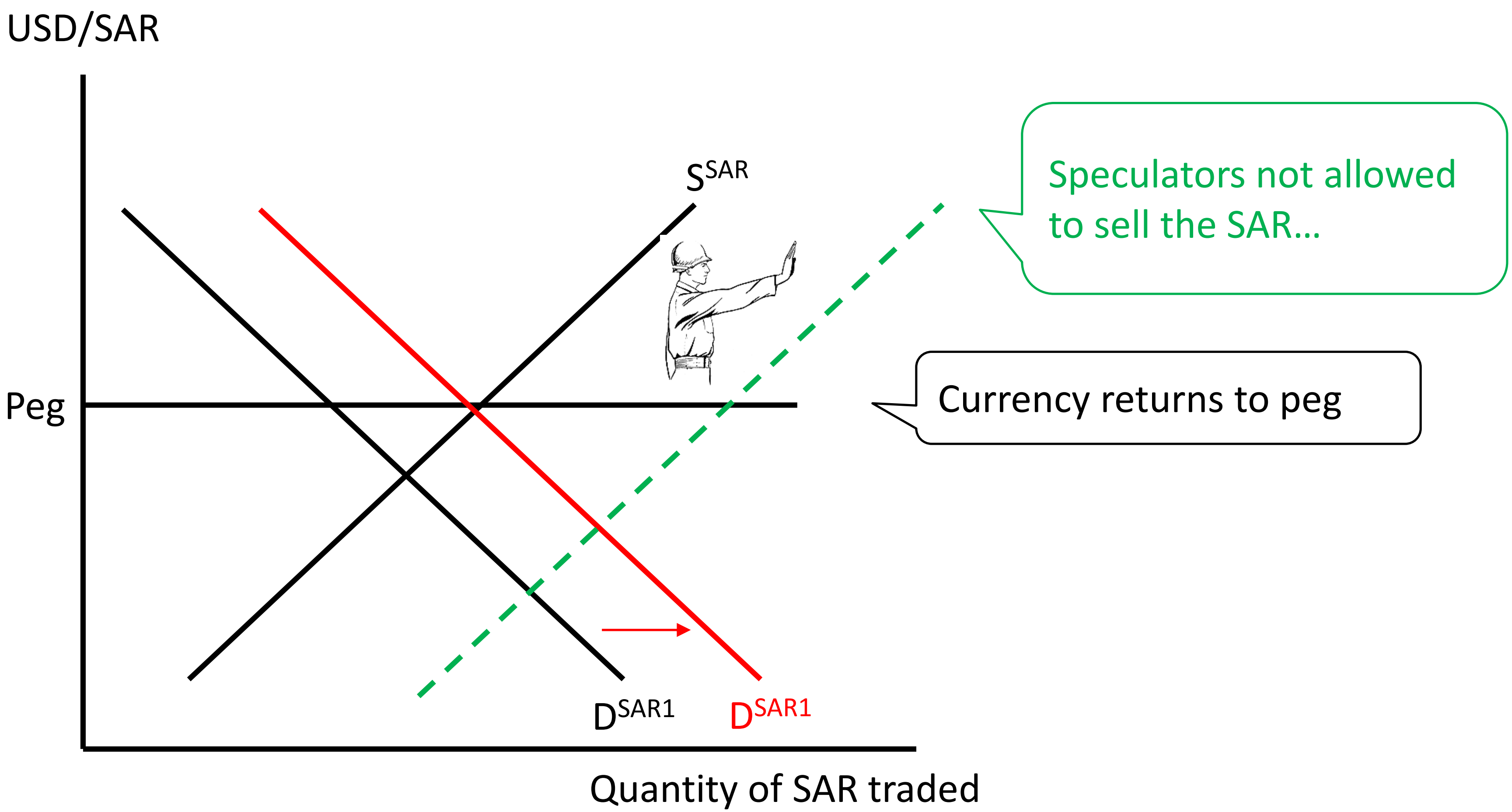
Sell SAR/Buy US bonds (debit)

Capital account (official)

Buy SAR/Sell US bonds (credit)

The impossible trinity!

If the capital account is closed, then speculators will be prevented from selling SAR



If the capital account is closed, selling foreign exchange reserves will raise the exchange rate, raising imports and lowering exports

The Balance of Payments

Current Account (CA)	Capital Account (private) (KA)
• Currency stays high • More imports (↑ debit) • Fewer exports (↓ credit)	STOP — Restrict private capital (close KA)
	Capital account (official)
	Buy SAR/Sell US bonds (credit)

Debit = Credit

Summary

- The current account on the balance of payments records all transactions that involve the transfer of ownership of commodities or a direct transfer of income between the domestic country and the rest of the world.

- The capital account on the balance of payments records capital inflows and outflows, as well as changes to the central bank's holding of gold and foreign exchange reserves.

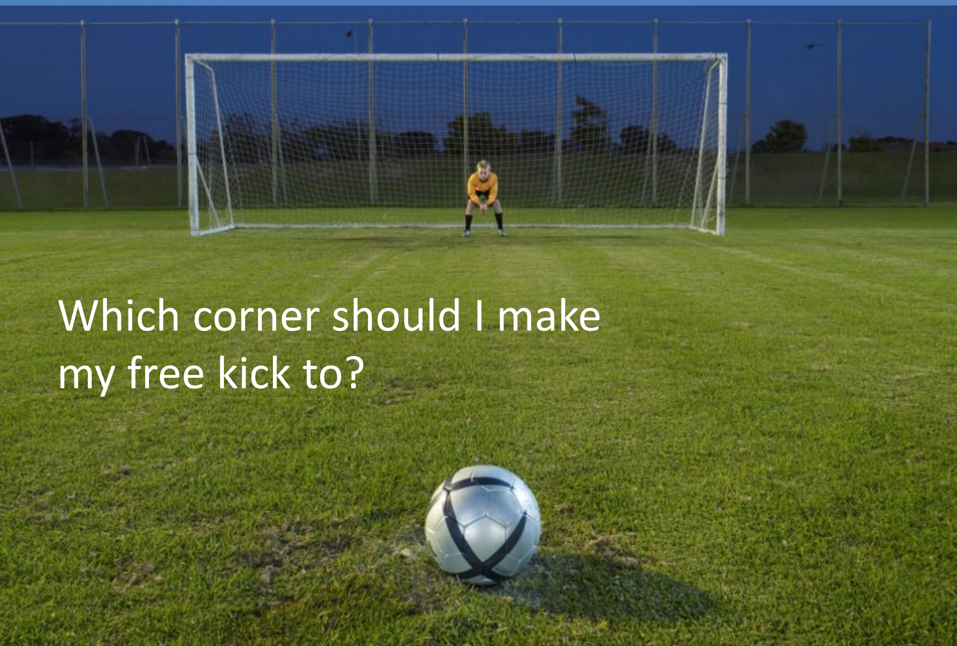
- The higher the real interest rate in a country and the lower the risk of investing there, the higher its capital inflows.

- A low rate of national saving is the primary cause of trade deficits.

What next?

Macroeconomics is awesome. You should study it. It answers interesting questions like:

Microeconomics is also cool



Where do economists work?

Australian Government

THE UNIVERSITY OF SYDNEY

BANK OF ENGLAND

THE WORLD BANK

INTERNATIONAL MONETARY FUND

IGC International Growth Centre

Google

OXFAM International

Goldman Sachs

McKinsey&Company

Evaluation

The university cares a lot about how well we teach. We do too. Please take a few seconds to evaluate the course online (and maybe win a prize)

http://sydney.edu.au/itl/surveys/complete/