

International Finance

Session 1 — The International Financial System

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September 2026

KEDGE Business School

Welcome

What this course is actually about

We are going to build a set of **operational models** of how international financial markets work. Then we are going to spend most of our time on where they break.

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No textbook. Reference: Mishkin, F.S. & Eakins, S.G. (2008), *Financial Markets and Institutions*, 7th ed., Pearson.

Course description on LEARN: <http://learn.kedgebs.com>

Course content

Session	Topic	Preliminary reading / assignment
1–2	International financial system	Monasterolo (2020), <i>Climate Change and the Financial System</i> , Ann. Rev. Resource Econ. 12
3–4	Securities markets	Sartzetakis (2021), <i>Green bonds as an instrument to finance low carbon transition</i> , Econ. Change & Restructuring 54
5–6	Financial institutions and firms	Muñoz (2020), <i>Board of trustees, financial and sustainable performance of</i>

Evaluation

Group work — analysis of a security, groups of 5, 12-minute presentation.

Final exam — individual, written.

Documents allowed.

A **calculator is required** for most sessions.

	Assignment	Group work
Weight	20%	40%
When	Session 7 (20 min)	Session 8
Documents	Not allowed	Security analysis

Group work: security analysis

Maximum 5 students per group · 12-minute presentation.

1. What are the **characteristics** of the security studied?

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3. What is the **international dimension** of this market?
4. What are the **risks and opportunities** in it?

Session 1 — where we are going

Four prices and one accounting identity. That is the whole session.

1. The **financial system** — who saves, who borrows, and what sits in between
2. The **balance of payments** — every euro that crosses the border, written down twice
3. The **interest rate** — the price of money
4. The **exchange rate** — the price of a currency, and who pays to defend it
5. Discussion: **Monasterolo (2020)** — what climate does to all four

Two questions before we start

1 · Where do you want to work after this?

Finance or audit · Marketing · Business development · Consulting · Management · Logistics · Something else

Tick as many as apply.

2 · Which of these have you already met?

Exchange rates · Balance of payments · Interest rates and yield curves · Financial crises · Derivatives and hedging · Central banks · None of them yet

Also tick as many as apply. No wrong answer — this tells me where to slow down.

QR appears here

put your form link in survey_url

your form link

What the room said

Put the form's `/viewanalytics` link in `results_url` to activate this slide.

Charts redraw on every refresh — reload once the last hand goes down.

1 · The financial system

Where does your salary sleep at night?

You are paid on the 28th. Part of it sits in a current account until the rent leaves. That balance does not sit still.

- Right now it is being lent to a firm buying a machine, or to a government rolling over a bond.

photo idea: a high-street bank branch, or the ECB tower in Frankfurt — search “bank branch facade” or “ECB Frankfurt”

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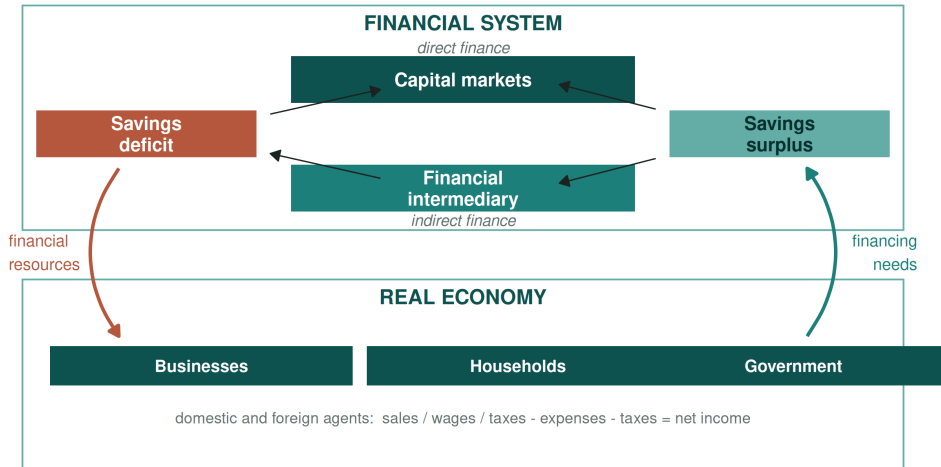
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- **Somebody chose for you — a market, or a bank. That choice is section 1.**

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1 · The financial system and the real economy



1 · Two ways of channelling savings

Market-based

Financial **markets** do the allocation of loanable funds. Savers hold securities directly; the price does the screening.

Bank-based

Intermediaries allocate the funds. Banks screen, monitor and transform maturity between savers and borrowers.

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Germany and Japan built one; the U.S. and the U.K. built the other. What actually differs? Think **competences, decision tools and information** — not just who ends up holding the paper.

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savings $\geq$ investment $\Rightarrow$ savings surplus

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savings $\leq$ investment $\Rightarrow$ savings deficit

1 · Problem 1.1 — savings by institutional sector, France

Data

France (EUR bn)	2000	2005	2010	2015	2020	2023	2024
Non-financial corporations	-2.4	5.7	24.0	1.5	-3.3	35.0	37.3
Financial corporations	9.5	27.3	29.7	17.2	6.7	-38.3	-39.4
Public administrations	-19.3	-61.8	-142.8	-85.7	-207.1	-151.7	-168.6
Households	40.9	40.8	82.4	62.7	155.9	123.5	168.8
NPISH	0.4	0.7	0.9	-0.1	3.2	4.6	5.7
Total economy	29.0	12.6	-5.7	-4.5	-44.6	-27.0	3.8

Net lending (+) / net borrowing (−) by institutional sector. NPISH = non-profit institutions serving households.

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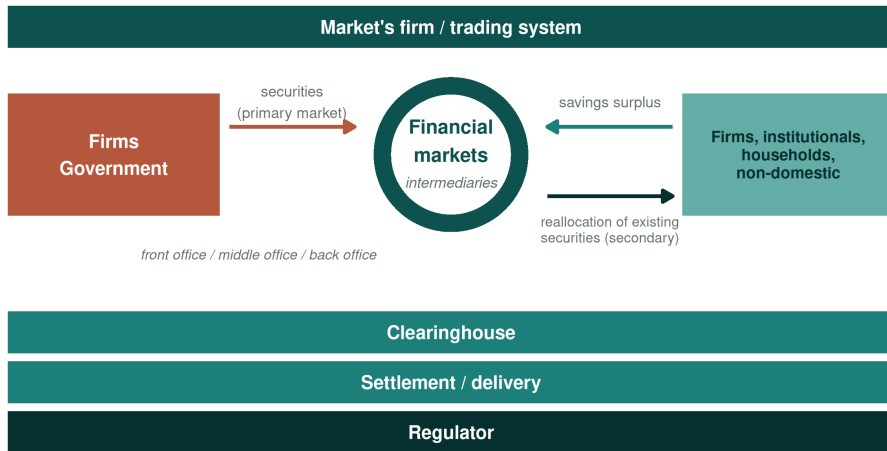
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1 · An organised architecture



1 · The three dimensions for firms

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- **Market imperfections.** Legal restrictions, transaction and transport costs, information asymmetry and discriminatory taxation are what motivate MNCs to locate production overseas in the first place.
- **Expanded opportunity set.** Firms can produce anywhere and raise funds in any capital market; investors can diversify internationally.

1 · International trade

The approach

- Firms **export** to penetrate markets
- Firms **import** to obtain supplies at low cost

The firms

- Large MNCs generate a large share of sales from exporting
- Small businesses account for more than 20% of the value of all U.S. exports

Why trade rather than invest

- The firm places **none of its capital** at risk
- It can stay away from high-risk countries
- It can reduce or discontinue flows easily

Trade is the low-commitment way of being international. FDI is the high-commitment one — that is the choice behind most of this course.

1 · The consequences of free trade

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- domestic production falls to 100

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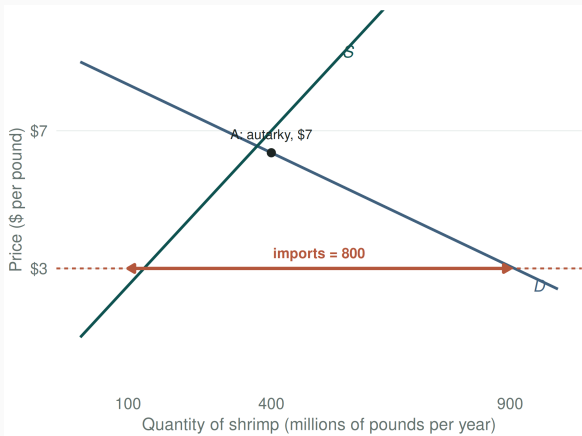
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Who gains, who loses, and by how much? Careful — “the country gains” is not an answer.



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The mirror image runs against exports: foreign producers who compete with U.S. goods complain loudest, foreign consumers who gain stay silent, and U.S. exporters are not constituents of that foreign government.

So: a bias against imports **at home**, and a bias against your exports **abroad**. Every country does this to every other country. Where does that leave a small open economy?

1 · The antidotes to the policy bias

All-or-nothing agreements

In a bilateral or multilateral agreement, two or more countries agree to trade freely in many goods — or all goods — **simultaneously**. Bundling defeats the concentrated lobby, because every protected group faces every exporting group at once.

The WTO

By setting standards for acceptable and unacceptable trade restrictions, and ruling in specific cases, the WTO has some power over national trade policy.

Industries as consumers

“Consumers” includes any buyer of a product — a firm using it as an **input**. When the good is a large part of their costs, those firms lobby *for* free trade.

In late 2004 the U.S. textile industry lobbied the Bush administration to slow the rise of clothing imports from China. U.S. clothing retailers and importers, for whom clothing is an input, lobbied hard against any barrier.

2 · The balance of payments

Ireland exports more than it makes

In 2024 Ireland ran a goods surplus of **€177 bn** and a primary income deficit of **€129 bn**. Money arrives for the goods and leaves again for the shareholders, most of whom live somewhere else.

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- Section 2 is learning to read the table well enough to see the story inside it.

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Every credit is matched by a debit. A receipt from foreigners is a credit (+) and creates demand for your home currency. A payment to foreigners is a debit (−) and creates demand for the foreign currency, i.e. supply of yours.

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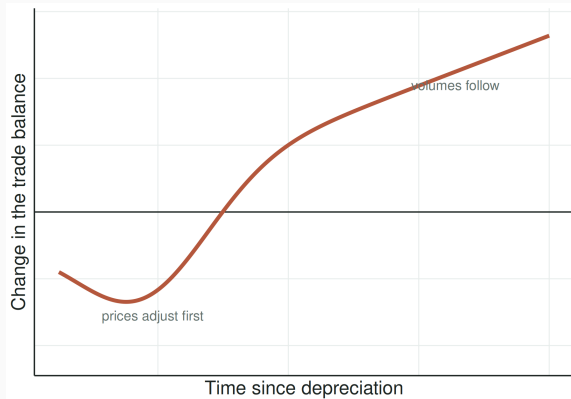
2 · The current account, BCA

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- **Factor income** — interest, dividends and other income on foreign investments previously made.
- **Unilateral transfers** — foreign aid, reparations, official and private grants, gifts. Unlike the rest, these flows are **one-directional**.

2 · The J-curve

Following a depreciation the trade balance may **first deteriorate** and only then improve.

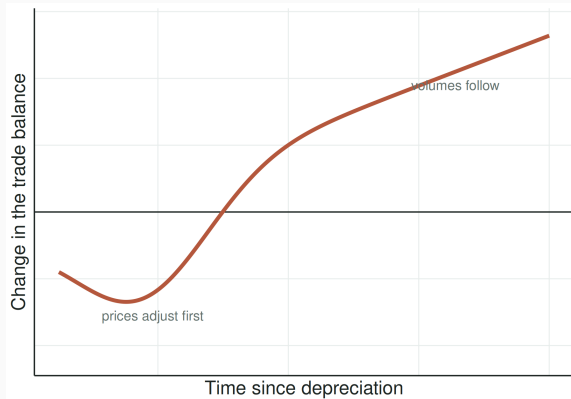
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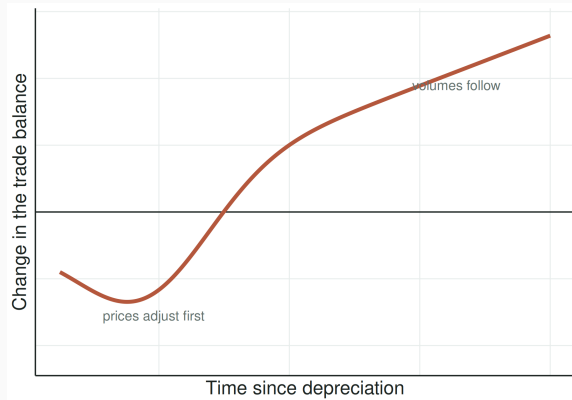
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- The shape depends on the **elasticities** of imports and exports.
- Marshall–Lerner: the balance improves only once $|\varepsilon_x| + |\varepsilon_m| > 1$.



2 · The financial and capital account, BKA

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- **Statistical discrepancy** — omitted and misrecorded transactions.

2 · The official reserve account, BRA, and the identity

The overall balance indicates the international payment gap that must be compensated by official reserve transactions.

Deficit — the central bank runs down official reserve assets (gold, foreign exchange) or borrows from foreign central banks.

Surplus — it retires foreign debt or acquires reserve assets from foreigners.

$$BCA + BKA + BRA = 0$$

Pure float, no intervention:

$$BCA = -BKA$$

Fixed regime, $BCA + BKA \neq 0$:

$$BCA + BKA = -BRA$$

2 · Problem 1.2 — the balance of payments of France

Data

Balance of payments (EUR m)	2021 credits	2021 debits	2021 balance	2022 credits	2022 debits	2022 balance
1. Current account	1 217 059	1 207 192	9 867	1 305 182	1 361 853	-56 671
1.1. Goods	622 099	701 546	-79 447	669 608	813 875	-144 267
1.2. Services	303 452	262 453	40 999	343 419	288 781	54 638
1.3. Income	236 992	139 916	97 076	245 451	164 373	81 078
1.4. Current transfers	54 516	103 277	-48 761	46 704	94 824	-48 120
2. Capital account	11 819	485	11 334	12 510	1 196	11 314
3. Financial account	570 363	592 038	-21 675	646 671	708 366	-61 695

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2 · Europe in 2024 — current and capital account

Country	Current account	Goods	Ser- vices	Primary income	Secondary income	Capital account
EU	493.5	384.1	191.1	28.4	-110.4	-34.9
Euro area	425.9	371.9	169.0	53.6	-168.5	6.3
Germany	246.7	235.5	-74.0	149.0	-63.8	-20.4
France	11.6	- 58.1	55.1	61.8	-47.2	5.9
Italy	24.8	64.0	-7.0	-15.8	-16.4	-0.6
Spain	48.1	- 32.3	100.4	-8.1	-11.8	18.5
Nether- lands	112.7	99.0	38.2	-15.8	-8.6	-3.4
Ireland	91.5	176.6	48.5	-129.0	-4.6	-18.2
Poland	1.7	-6.4	40.2	-28.5	-3.7	2.3

2 · Europe in 2024 — the financial account

Coun- try	Financial account, net	Direct inv., assets	Direct inv., liab.	Portfolio inv., assets	Portfolio inv., liab.	Reserve assets
EU	591.6	190.4	-117.9	641.9	769.6	45.5
Euro area	491.8	196.5	-49.1	734.0	848.4	4.6
Ger- many	239.4	73.8	43.4	219.8	188.4	-1.4
France	-21.9	43.5	51.6	240.9	259.9	1.4
Italy	51.0	31.5	20.1	93.2	166.9	2.1
Spain	69.8	48.4	29.8	90.7	87.8	1.3
Nether- lands	105.8	11.2	-13.0	64.3	4.9	-0.7
Ire- land	83.1	62.7	3.7	443.6	391.5	-0.1

3 · The interest rate

The week a number moved a pension fund

September 2022, the UK. Gilt yields jumped after the mini-budget. Pension funds running leveraged liability-driven strategies got collateral calls, sold gilts to meet them, and pushed yields higher still. The Bank of England had to step in and buy.

- Nobody's view of the British economy changed that fast. The **price of money** did.

The week a number moved a pension fund

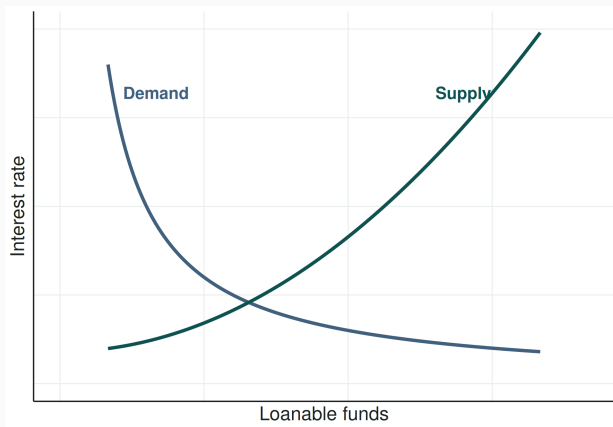
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- Nobody's view of the British economy changed that fast. The **price of money** did.
- An interest rate is not a number on a screen. It is the price that reprices everything you own.

3 · Supply and demand for loanable funds

The interest rate is the price that clears the market for **loanable funds**.

Everything in the next two slides is a shift of one of these two curves. Ask yourself which one, and in which direction.



3 · What shifts the supply of funds

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- **Economic conditions improve** (inflation, unemployment, growth) → the flow of funds to the country increases

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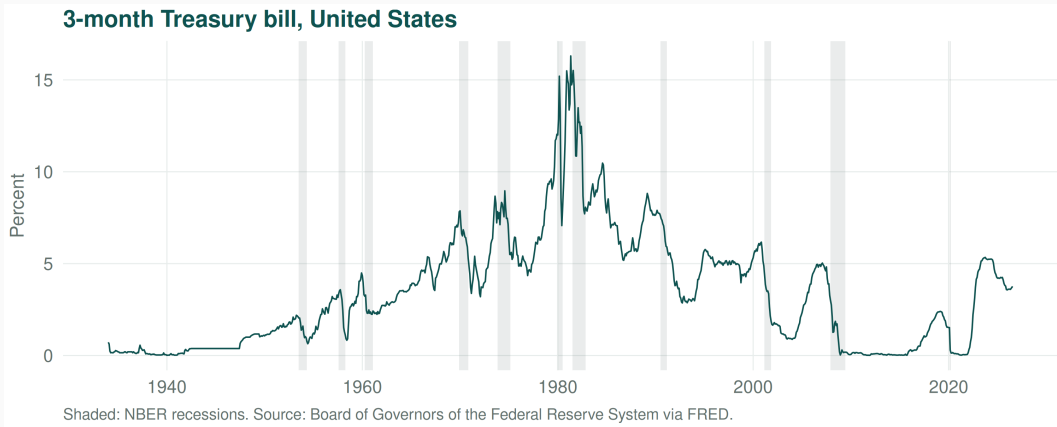
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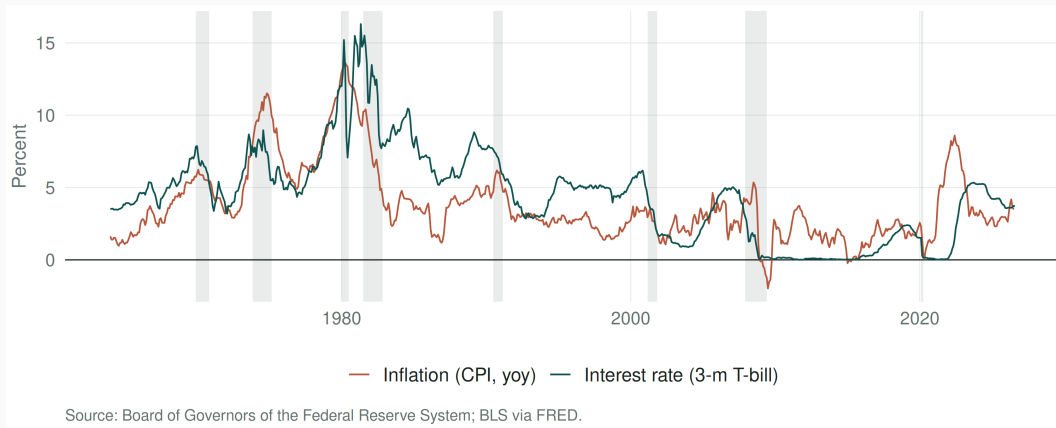
The ECB's 2022–2023 hiking cycle: which curve moved, which way, and did the **quantity** of loanable funds rise or fall? (The rate going up does not settle it.)

3 · The interest rate over the business cycle



What is the relationship between the business cycle and interest rates — and which way does the causality run?

3 · The interest rate and the CPI

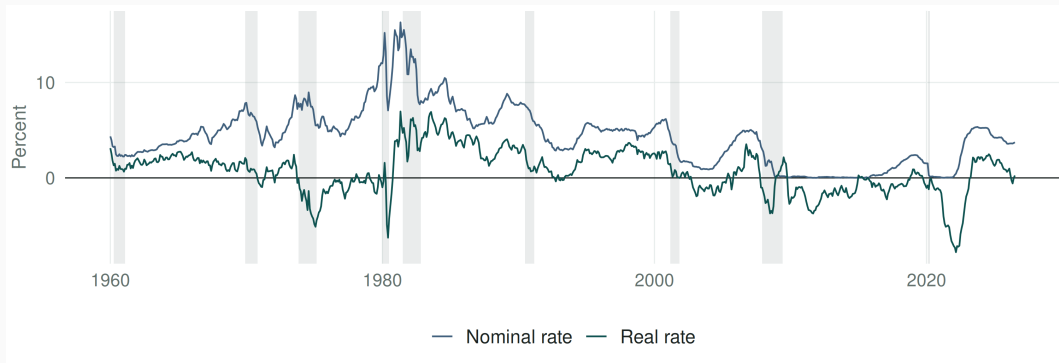


What is the relationship between the interest rate and the CPI?

3 · Real and nominal

$$i_r = i - \pi^e$$

The real rate is the nominal rate adjusted for **expected** changes in the price level. It reflects the true cost of borrowing.



3 · Risk and term structure

Default risk

The risk that the issuer is unable or unwilling to make interest payments as promised.

Bonds with no default risk — U.S. Treasuries, which can raise taxes or print money — are the benchmark. The **risk premium** is the spread between a bond with default risk and a default-free bond.

Liquidity

A liquid asset is quickly and cheaply converted into cash. Demand is higher for more liquid assets, so the premium reflects **both** default risk and liquidity.

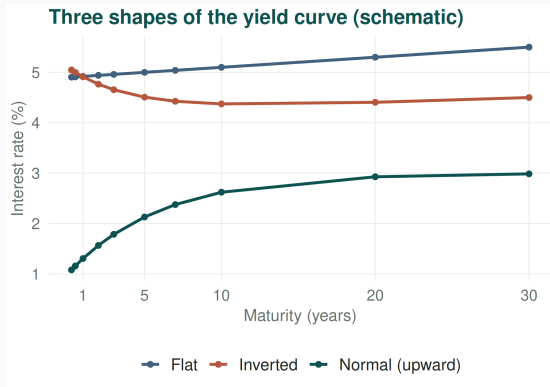
Taxation

Tax exemption acts like an increase in expected return. U.S. municipal bonds are exempt from federal income tax; Treasuries are exempt from state and local income tax.

Maturity

Rates at different maturities move together. When short rates are low, yield curves tend to slope steeply upward; when short rates are high, the curve tends to slope gently downward. Most of the time it slopes **upward**

3 · Yield curves



Most of the time the curve slopes upward. The two other shapes are the interesting ones.

An **inverted** curve has preceded most U.S. recessions. Does that make it a forecast, or a symptom?

Live curve: U.S. Treasury daily yield curve rates. Pull the current one before class — the shape today is the best slide you have.

4 · The exchange rate

For three years the Swiss National Bank had promised it would not let the franc strengthen past 1.20 per euro. That morning, it stopped. The franc jumped by roughly a fifth against the euro within the day, and several retail FX brokers did not survive the week.

- A fixed exchange rate is a **promise**, and a promise is worth exactly the reserves standing behind it.

photo idea: the EUR/CHF chart of 15 Jan 2015, or a Swiss franc note — search “EURCHF january 2015 chart”

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- A fixed exchange rate is a **promise**, and a promise is worth exactly the reserves standing behind it.
- Section 4: who makes the promise, what it costs to keep, and what happens on the day it breaks.

photo idea: the EUR/CHF chart of 15 Jan 2015, or a Swiss franc note — search “EURCHF january 2015 chart”

4 · Exchange rate regimes

Regime	Definition	In favour	Against
Fixed	Rates held constant or fluctuating within very narrow boundaries	MNCs operate more easily	Government may alter the value of a currency
Free float	Rates determined by market forces, no intervention	Problems in one country spread less easily; no intervention policy needed; market efficiency enhanced	MNCs must manage the exposure; countries with severe problems may struggle
Managed float	Market forces with government intervention		Governments manipulate the rate for their own benefit

4 · Exchange rate policy

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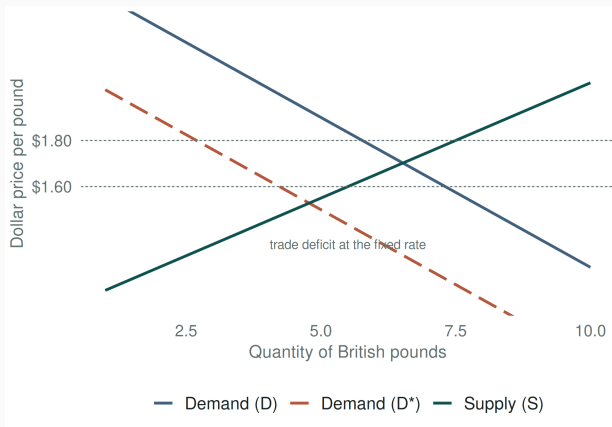
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 - fixing short-term interest rates to prevent capital flight,
 - buying and selling on the foreign exchange market,
 - controlling exchanges through quantitative restrictions on capital movements.

4 · Fixed versus flexible: the pound market

The rate starts at 1.60 \$/£ and the U.S. runs a trade deficit.

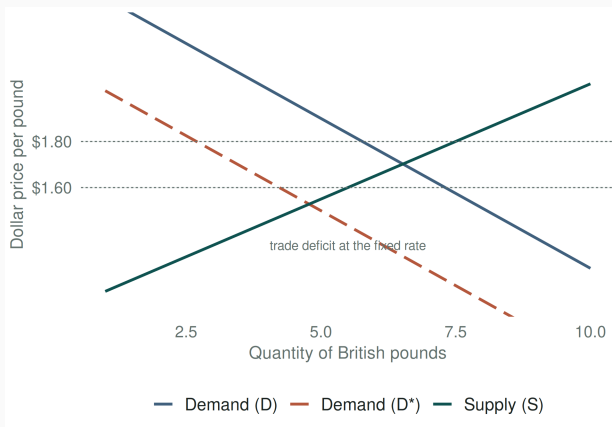
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4 · Fixed versus flexible: the pound market

The rate starts at 1.60 \$/£ and the U.S. runs a trade deficit.

- **Flexible:** the dollar depreciates to 1.80 \$/£ and the deficit disappears.
- **Fixed:** the rate stays at 1.60 and the Fed supplies pounds out of reserves — or runs contractionary policies to shift demand back.



4 · The Mundell–Fleming model

A small open economy with perfect capital mobility, so $i = i^*$.

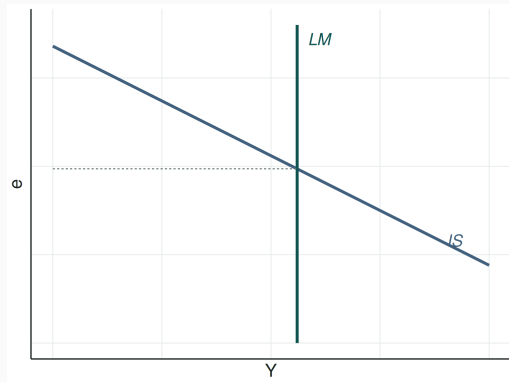
IS — goods market, for a given i^* :

$$Y = C(Y - T) + I(i^*) + G + NX(e)$$

LM — money market, for a given i^* :

$$M/P = L(i^*, Y)$$

LM is **vertical**: given i^* only one Y clears the money market, whatever e . That single fact drives every result on the next slide.



e = nominal exchange rate, foreign currency per unit of domestic currency.

4 · Problem 1.3 — policies in the Mundell–Fleming model

What is the consequence of a **fiscal expansion**, a **monetary expansion** and a **trade restriction** on the exchange rate and on output — under floating and under fixed rates?

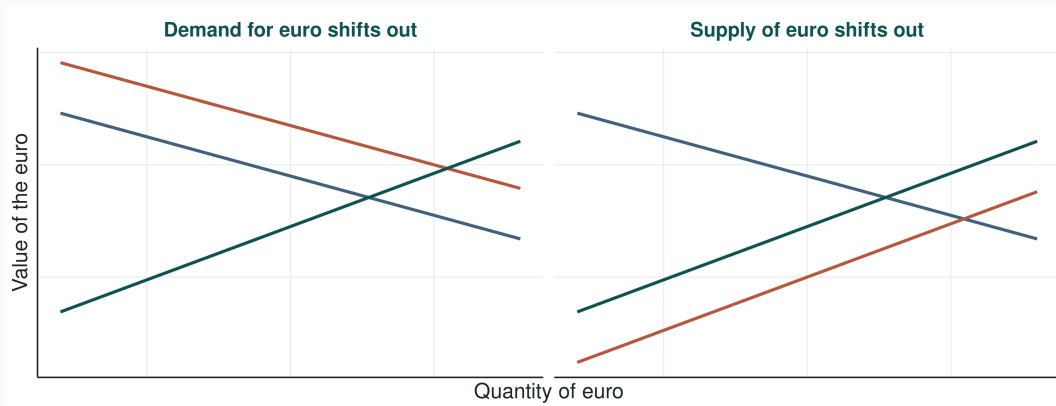
Policy	Floating: e	Floating: Y	Fixed: e	Fixed: Y
Fiscal expansion				
Monetary expansion				
Import restriction				

4 · Currency supply and demand

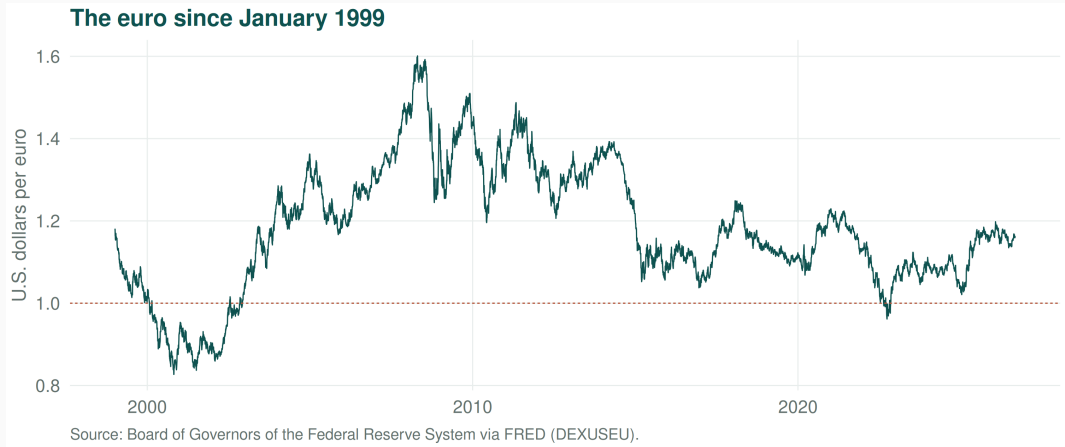
	Domestic currency supply	Domestic currency demand
Private sector	Purchase of foreign goods and services (imports) Income paid on non-residents' investments here Unilateral transfers out Net purchase of foreign assets by residents (capital outflow) Foreign debt repayment (cash outflow)	Purchase of domestic goods and services (exports) Income received on residents' investments abroad Unilateral transfers in Net purchase of domestic assets by non-residents (capital inflow) Settlement of foreign credit (cash inflow)
Central bank	Foreign currency purchased	Foreign currency sold

4 · Central bank intervention

What is the ECB's intervention in the foreign exchange market in each of these two situations?



4 · The euro against the dollar



4 · The Asian crisis (1)

- In 1997–98 Thailand was at the centre of a financial crisis.

How did the Thai central bank maintain the fixed rate — and why did it try?

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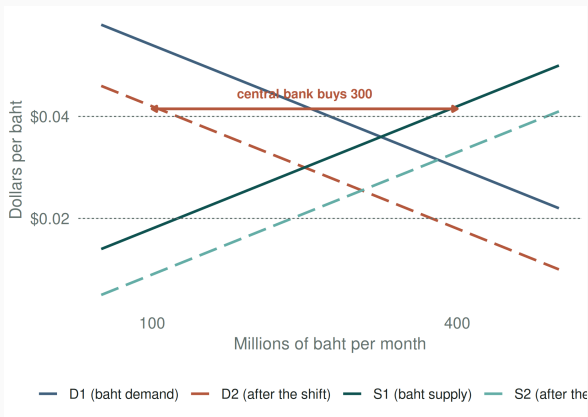
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- In July 1997 it ran out of reserves and let the baht float. It fell immediately from \$0.04 to \$0.02.
- Thai banks, counting on the fixed rate, had borrowed heavily in dollars and yen and lent in baht. **That currency mismatch is the crisis.**

How did the Thai central bank maintain the fixed rate — and why did it try?

4 · The Asian crisis (2)

At the fixed rate of \$0.04, once the equilibrium has fallen to \$0.02, the central bank must **buy 300 million baht a month** with dollars.

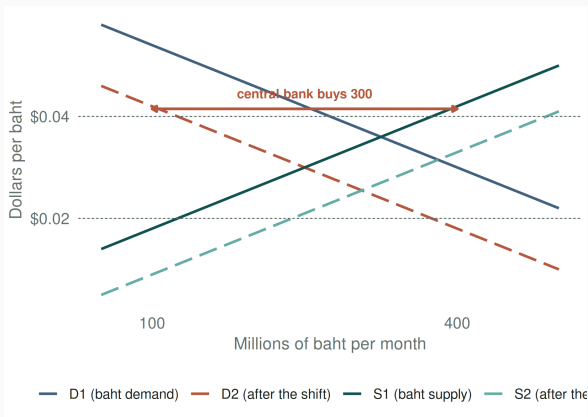
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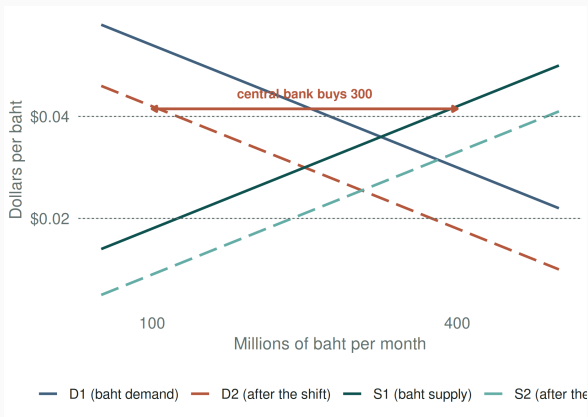
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- Speculators anticipate the drop, which lowers the equilibrium value further and increases the excess supply of baht.
- Defending the rate gets **harder the longer you defend it**.



5 · Reading discussion

The tragedy of the horizon

Mark Carney, at Lloyd's of London in 2015: the costs of climate change fall **beyond the horizon** of the business cycle, the political cycle and the investment cycle.

By the time it is unambiguously a financial risk, it is too late to treat it as one.

photo idea: flooded street, or a stranded coal plant — search “flooded street climate” or “abandoned coal power plant”

5 · Monasterolo (2020), *Climate Change and the Financial System*

The questions

- (a) Why is there a misalignment between climate impacts and investors' decisions?
- (b) What are the various climate **physical** risks?
- (c) What are the potential risks arising from **policy and regulatory** shocks?
- (d) Why is assessing climate risks challenging?

How to answer

- Answer (a) with the **horizons**: the tragedy of the horizon — climate damages fall outside the investment and electoral cycle, so they are not priced.

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- For (c), separate an orderly transition from a **disorderly** one. The risk to a portfolio is the disorderly path, not the transition itself.
- For (d), the honest answer is that the historical distribution does not contain the events we are pricing. That is a problem for every risk model in this course.

For the discussion

Session 2 finishes the international financial system.

Two things to bring: **Monasterolo (2020)**, read — and one security you might actually want to analyse for the group work. Not “a stock”. A specific one, with a ticker.

Press **O** for the slide overview · **C** to draw · **S** for speaker notes · **F** for fullscreen · **E** then print for a PDF of the slides.