

Global Economy

dr Wioletta Nowak

Lecture 9

- Financial crisis
- Exchange rate regimes

- Financial liberalisation and global market integration: a primary cause of the world's financial crises
 - the European financial chaos in 1992–1993;
 - the bond-market crash in industrial countries in 1994;
 - the Mexican peso debacle of 1994–1995;
 - the Asian financial crisis of 1997–1998;
 - the Russian ruble collapse in 1998;
 - Brazil's financial crisis in 1998–1999;
 - Turkey's currency run in 2000–2001;
 - Argentina's debt trouble in 2001–2002;
 - the US sub-prime loan crisis in 2007.

International capital liberalisation

- The relaxation of capital controls: the US, Canada, Germany, and Switzerland by 1973, the UK in 1979, Japan in 1980.
- In the 1980s, many advanced countries made significant progress in liberalising capital movements.
- France and Italy maintained their controls until 1990, and Spain and Portugal until 1992.
- The 1990s – pressure on developing countries to remove their controls.

International capital liberalisation

- Throughout much of the 1990s, FDI outflows from the major industrialised countries to industrialising countries rose at approximately **15 per cent** annually. FDI flows among the industrialised countries themselves rose at about the same rate.
- Virtually all capital controls have now been abolished among industrial countries, and there are no formal barriers to cross-border flows of capital.

- **Capital control** is used to suppress the destabilizing effects of volatile capital flows.
- Liberalisation may lead to instability and may not promote growth, as markets are not perfect or complete but are limited in the information that they possess.
- Total capital flows: long-term foreign direct investment (FDI) in real projects and short-term hot capital for use in financial speculation.
- Foreign direct investment may stimulate growth, but hot money negatively affects stability.
- Various negative externalities (financial contagion) due to short-term capital flows.

- Free capital mobility may bring about serious market distortions as a result of various external costs in situations of financial risk.
- Speculation has created untenable **housing bubbles** in many parts of the world and has caused an **extreme global surge of oil and food prices** over the past several years.
- Capital controls can be used to limit the distancing of private equilibrium from social optimisation, reducing loss of welfare resulting from distorted incentives for externality creation by international capital flows.

- Managed capital flows under capital controls are clearly preferred to free capital flows under market manipulation, and a country can open its capital market more widely only if its financial system is greatly strengthened.
- Without capital control, it is difficult to protect the stability of **exchange rates** while policies surrounding **interest rates** become far less effective at limiting economic fluctuations caused by international capital flows.

Typology of financial crises

- Financial crisis
- Banking crisis
- Public debt crisis
- Balance of payment crisis
- Currency crisis

Typology of financial crises

- *Financial crisis* a sudden decline in confidence in relation to the ability of a country's government/central bank and banking sector with respect to their liabilities (on committed terms).
- *Banking crisis* refers to actual or potential bank runs or failures that induce commercial banks to suspend the internal convertibility of their liabilities.
- A *public debt crisis* occurs when a government cannot service its foreign and/or domestic debt.

Typology of financial crises

- A *balance of payment crisis* involves a structural imbalance between a deficit in the current account (absorption) and capital and financial accounts (sources of financing) that leads to a currency crisis after international reserves are exhausted.

The Balance of Payments (BOP) comprises

The Current Account

The Capital Account

The Financial Account

The Current Account

- **The current account** is the net change in current assets from trade in goods and services (balance of trade), net factor income (such as dividends and interest payments from abroad), and net unilateral transfers from abroad (such as foreign aid, grants, gifts, remittances etc).

The Capital Account

- The capital account records the international flows of transfer payments relating to capital items. It therefore records a country's inflows and outflows of payments and transfer of ownership of fixed assets (capital goods).

The Financial Account

- **The financial account** shows net acquisition and disposal of financial assets and liabilities.
- The financial account = long-term foreign direct investment (increase in foreign ownership of domestic assets – increase of domestic ownership of foreign assets) + short-term portfolio investment (which includes trade in bonds and stocks – inflows and outflows of debt and equity) + other investment (which includes transactions in currency and bank deposits, hot money flowing in/out of banking system).

Typology of financial crises

- *Currency crisis* is defined as a sudden decline in confidence in a given currency, usually leading to a speculative attack against it.
- Currency crises can be detected by either substantial depreciation in a given currency, a decline in a country's international reserves, or both.

Three generations of theoretical models of currency crises

- The *first-generation* models
- The *second-generation* models
- The *third-generation* models

The first-generation models

- Developed by Krugman (1979) and Flood and Garber (1984) in response to a series of currency crises in Latin America in the 1970s and early 1980s.
- They focused on the inconsistency between the exchange-rate peg and expansionary macroeconomic policies.
- In these models, the central bank accommodates any changes in domestic money demand through purchases or sales of international reserves.

The first-generation models

- If domestic credit expansion (typically caused by monetization of a fiscal deficit) exceeds the money demand, international reserves will decline at the rate of credit expansion, ultimately leading to their depletion.
- Once economic agents understand that the collapse of an exchange-rate peg is unavoidable, they will trigger speculative attacks to avoid losses or to earn speculative gains.
- Thus, the moment of a currency crash can be hastened relative to the pace of reserves depletion under “normal” circumstances.

The second-generation models

- Developed by Obstfeld (1994, 1997), Drazen (1999) after speculative attacks against the Exchange Rate Mechanism in Europe in 1992 and the Mexican peso in 1994.
- The government can choose between defending an exchange-rate peg and abandoning it.
- The latter choice could be justified, for example, by the expected output/employment losses caused by the high interest rates required to stop speculative attacks on the currency.

The second-generation models

- Economic agents are not certain which option will be chosen, which creates room for uncertainty and various market-game strategies.
- Therefore, the behavior of economic agents is determined not only by their perception of macroeconomic fundamentals (as in the first-generation models) but also by the expected reaction by the government.

The third-generation models

- Developed by McKinnon and Phil (1996) Krugman (1998, 1999) Corsetti, Pesenti and Roubini (1998).
- The experience of the Asian crises in 1997–1998 led to a third generation of models that focus on the moral-hazard driven over-borrowing by large but poorly regulated banks, other financial institutions and non-financial corporations.
- Microeconomic over-borrowing plus negative external spillovers and contagion.

The third-generation models

- According to these models, an economic agent may expect a government rescue operation for a large bank or corporation with good political connections in the event that it faces solvency problems.
- Therefore, part of private sector “over-borrowing” can be understood as implicit government debt (a contingent fiscal liability), which may eventually have to be monetized.

Currency crises in post-Soviet economies

The first-generation models

- Collapse of the Soviet ruble (1989–1993)
- Monetary instability in the FSU (1992–1995)
- Russian and CIS financial crisis of 1998–1999

The third-generation models

- Fallout from the global financial crisis of 2007–2009

The second and third-generation models

- The most recent episode of 2014–2016

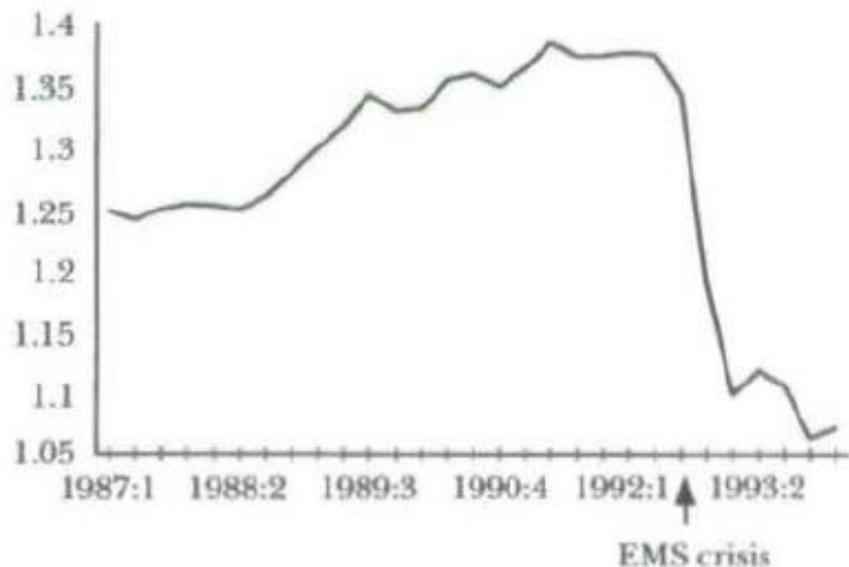
Source: Dabrowski M., 2016. *Currency crises in post-Soviet economies – a never ending story?* Russian Journal of Economics 2, 302–326.

The second-generation models

- The Bank of England lost \$5 billion in a few hours to prevent collapse of the pound in Sept. 1992.
- Mexico spent \$25 billion in reserves and borrowed \$ 25 billion to defend the peso's dollar peg in 1994 (peso collapsed at year-end)
- Sweden began to peg its krona to EMS currencies in May 1991. On Sept. 16, 1992 in attempt to defend the krona's peg against massive speculative pressure, Sweden's central bank raised its marginal overnight lending rate to 500 per cent and held on to that level for four days. Speculators renewed their assault in mid-November. On November 19, Sweden abandoned its fixed exchange rate and let the krona float.
- Depreciation of the krona + capital losses on foreign exchange positions

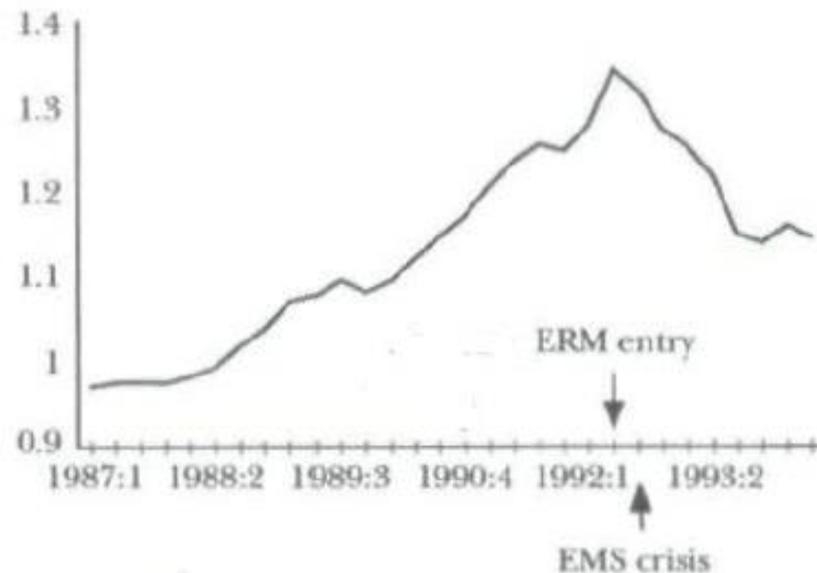
Real exchange rates against the Deutsche mark for European countries

Real lira/DM exchange rate
Quarterly data, 1987:1–1994:1



Italy

Real escudo/DM exchange rate
Quarterly data, 1987:1–1994:2

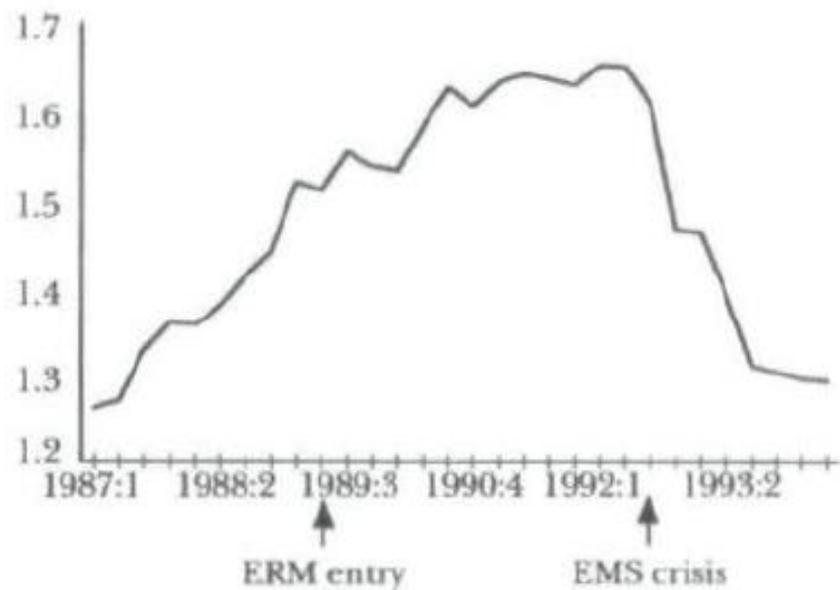


Portugal

Source: Obstfeld M., Rogoff K., 1995, *The Mirage of Fixed Exchange Rates*, Journal of Economic Perspective, 9(4), 73-96

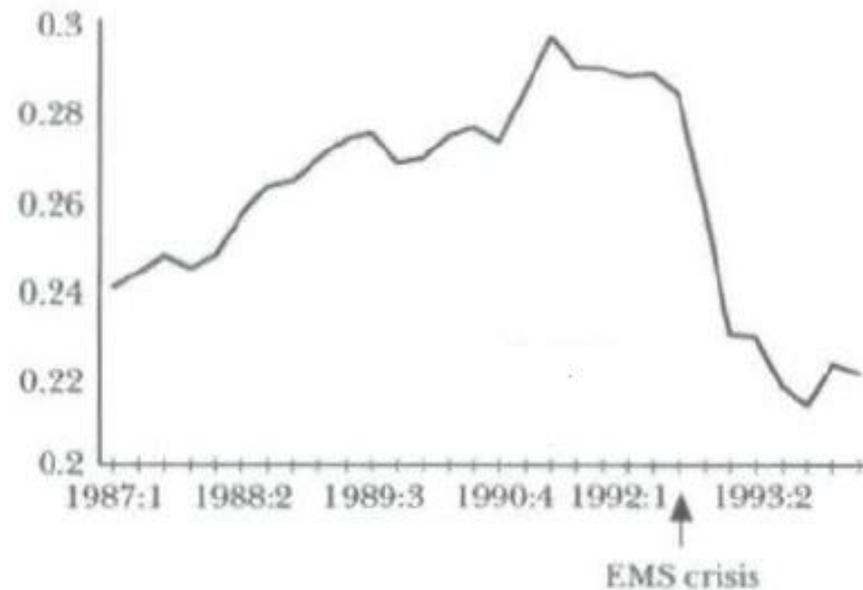
Real exchange rates against the Deutsche mark for European countries

Real peseta/DM exchange rate
Quarterly data, 1987:1–1994:2



Spain

Real krona/DM exchange rate
Quarterly data, 1987:1–1994:2



Sweden

Source: Obstfeld M., Rogoff K., 1995, *The Mirage of Fixed Exchange Rates*, Journal of Economic Perspective, 9(4), 73-96

Background Milestones of the Mortgage Crisis

- **1977** - the Community Reinvestment Act (CRA), a United States federal law, came into force.
- The CRA tightened credit standards for the US commercial banks.
- **1995** - the credit standards were further eased as new US regulation required banks to provide more loans to low-income borrowers.

Background Milestones of the Mortgage Crisis

- **1997** – the first securitization between Union Bank and Bear Stearns – it started a wave of similar transactions/investment
- Securitization is a modern financial process whereby traditional bank assets (for example, mortgages or receivables from credit cards) are pooled and repackaged into securities that are then sold to investors.

Background Milestones of the Mortgage Crisis

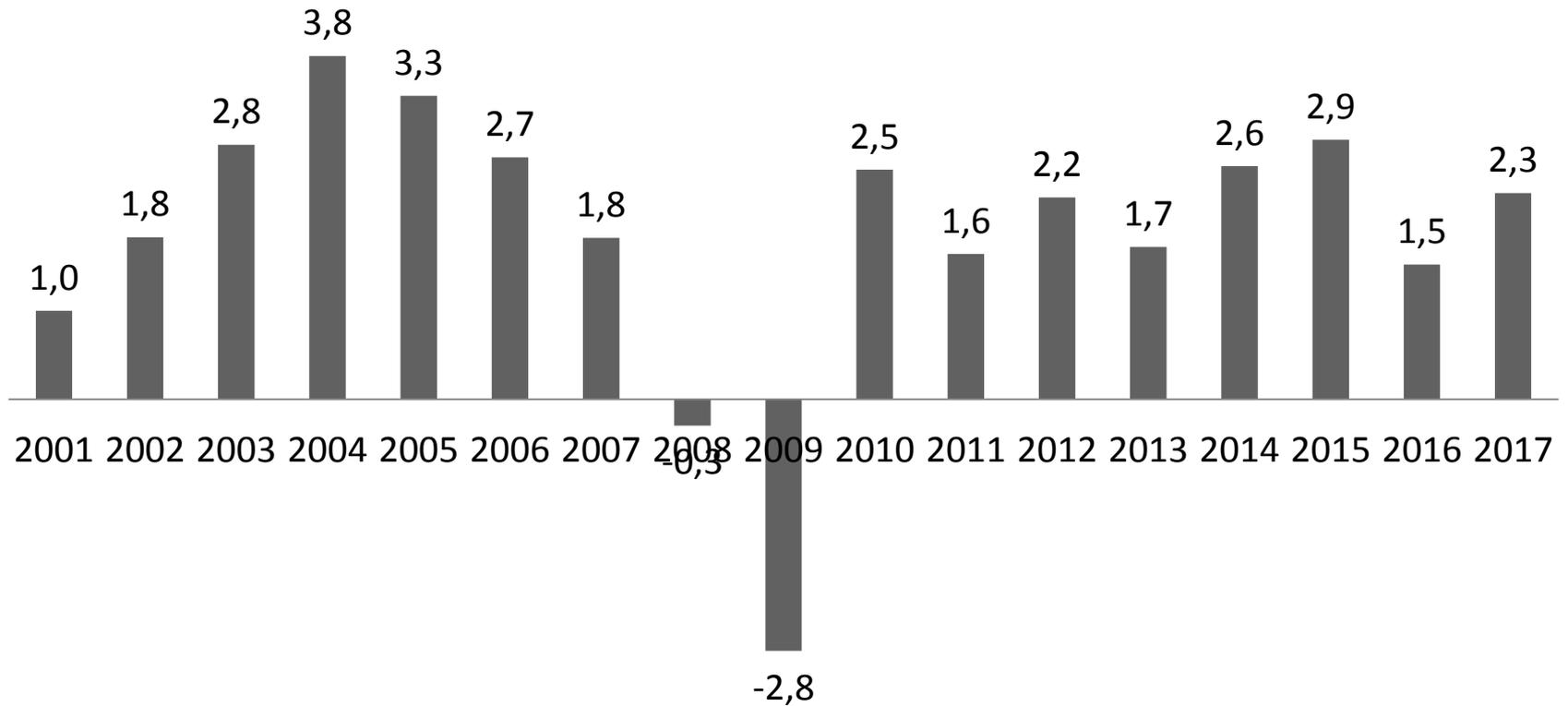
- **2003** – guarantees from US government to Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac)
- **In mid-2005**, the US market saw increasing delinquency rates on sub-prime adjustable-rate mortgages (ARM).
- Subprime lending - making loans to people who may have difficulty maintaining the repayment schedule (unemployment, divorce, medical emergencies).
- **In mid-2006**, the situation deteriorated as the US housing prices started to fall and delinquency rates on subprime mortgages surged, later also prime mortgages in a lesser extent.

- In the first phase, a virtual economy was affected through the subprime meltdown (cross-product contagion from mortgage-backed securities to credit derivatives markets, inter-bank markets, leverage lending markets etc.)
- During the second phase, the real side of the US economy was affected: household consumption, unemployment, lower disposable personal income, less money to repay debts (mortgages, auto loans, credit cards) and decline of aggregate demand.
- During the third phase the US troubles spread cross-border (foreign trade and global capital flows).

- The housing market and several major banks collapsed and the US economy proceeded to contract until the third quarter of 2009 in what was the deepest and longest downturn since the Great Depression.
- The US government intervened by using USD 700 billion to purchase troubled mortgage-related assets and propping up large floundering corporations in order to stabilize the financial system.
- It also introduced a stimulus package worth USD 831 billion to be spent across the following 10 years to boost the economy.

GDP growth (annual %), the US, 2001-2017

Source: World Bank Database



- A mix of factors, including low interest rates, widespread mortgage lending, excessive risk taking in the financial sector, high consumer indebtedness and lax government regulation, led to a major recession that began in 2008.
- The US sub-prime crisis had roots in macroeconomic imbalances of the US economy.

- The US economy has received support through expansionary monetary policies:
 - holding interest rates at the lower bound,
 - the unconventional practice of the government buying large amounts of financial assets to increase the money supply and hold down long term interest rates.

Types of exchange rate

Floating exchange rate

Fixed exchange rate

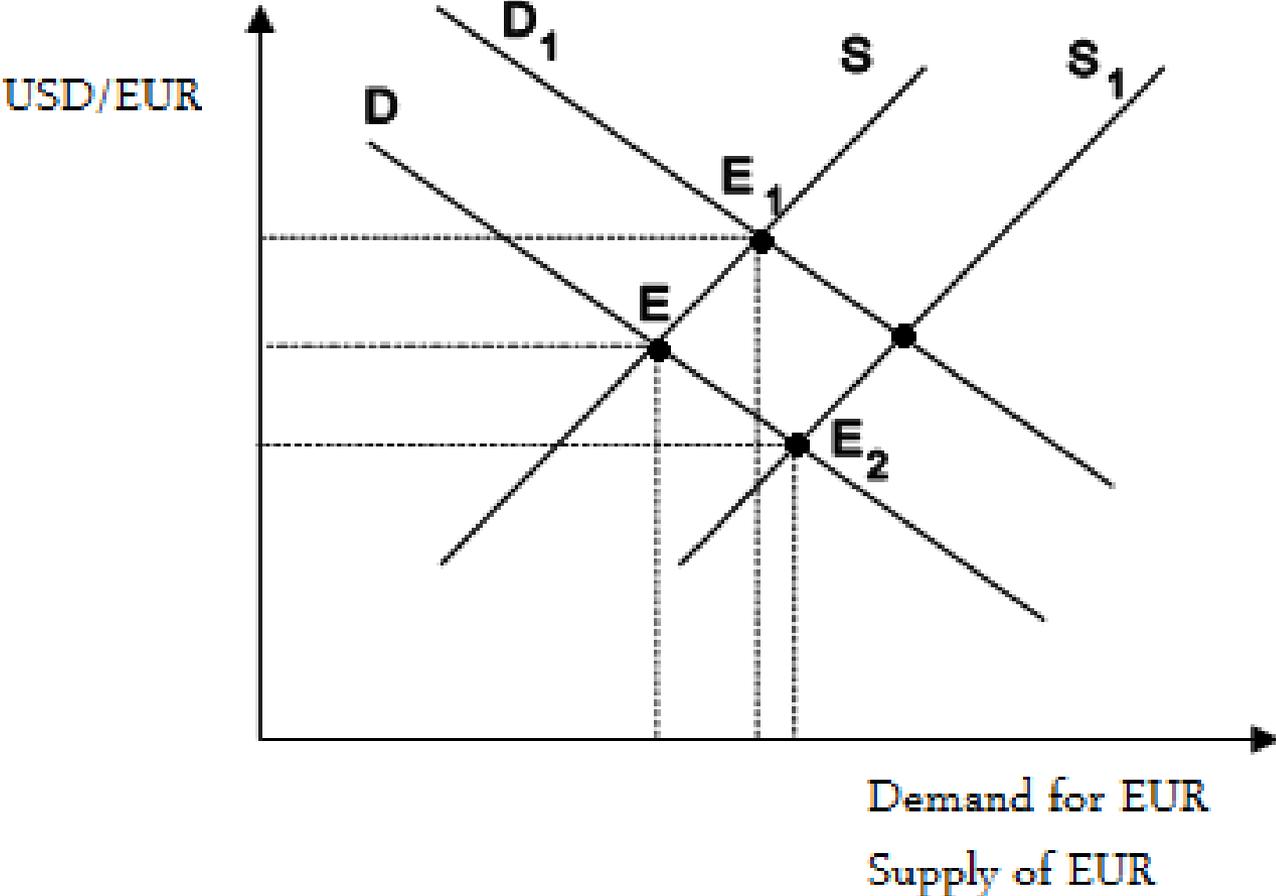
Floating exchange rate

- **Floating exchange rate** - a country's exchange rate regime where its currency is set by the foreign-exchange market through supply and demand for that particular currency relative to other currencies.
- Floating exchange rates change freely and are determined by trading in the foreign-exchange market.

Floating exchange rate

- Floating exchange rates tend to result in uncertainty as to the future rate at which currencies will exchange.
- If a currency value moves in any one direction at a rapid and sustained rate, central banks intervene by buying and selling its own currency reserves in the foreign-exchange market in order to stabilize the local currency.

Floating exchange rate



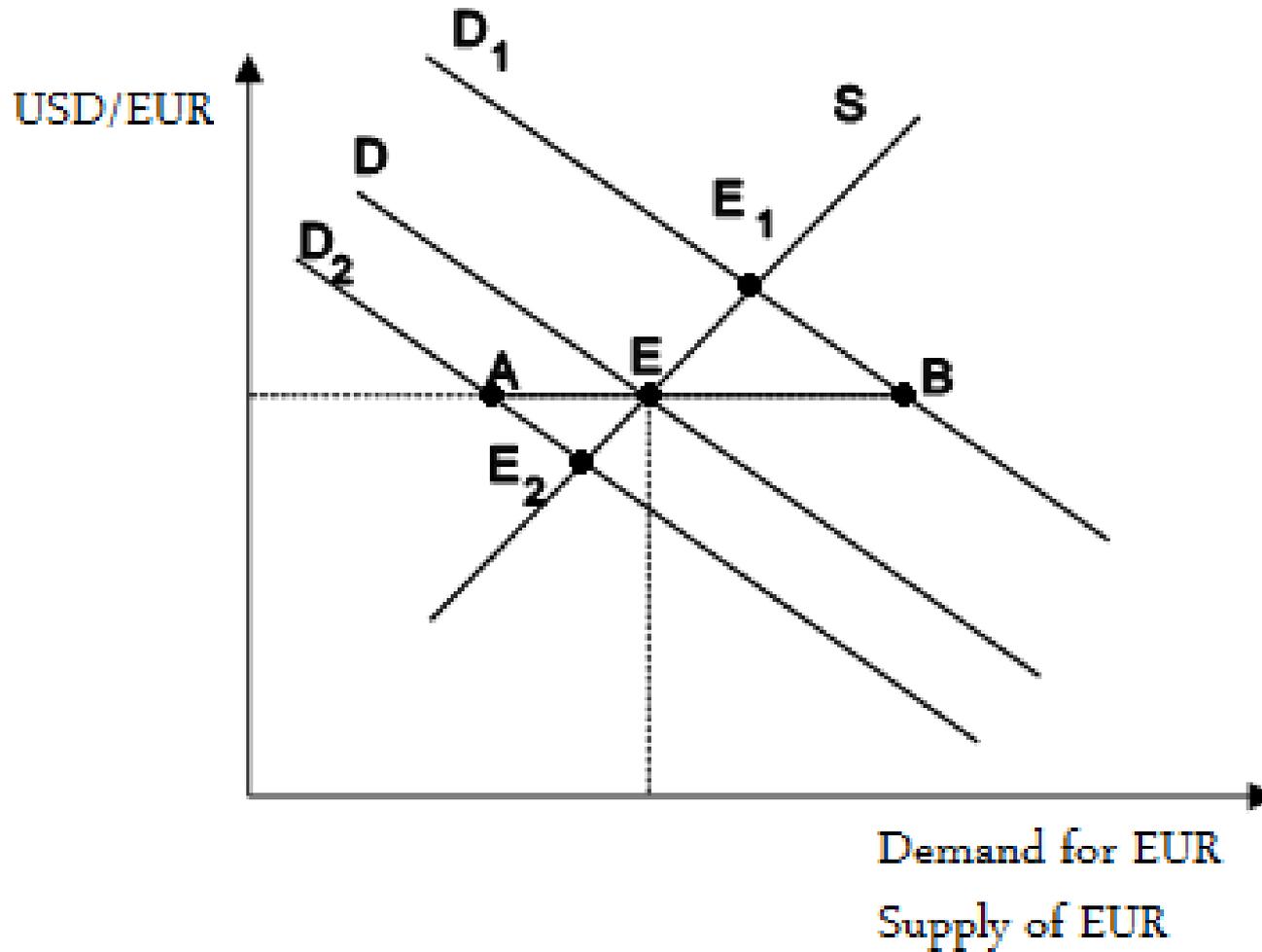
Fixed exchange rate

- **Fixed exchange rate** - a country's exchange rate regime under which the government or central bank ties the official exchange rate to another country's currency (or the price of gold).
- The purpose of a fixed exchange rate system is to maintain a country's currency value within a very narrow band.

Fixed exchange rate

- In order to keep currencies trading at the prescribed levels, government monetary authorities actively enter the currency markets to buy and sell according to variations in supply and demand.

Fixed exchange rate



- **Currency depreciation** – the loss of value of a country's currency with respect to one or more foreign reference currencies.
- **Currency appreciation** refers to an increase in value of a country's currency.
- **Devaluation** – deliberate downward adjustment to a country's official exchange rate relative to other currencies. In a fixed exchange rate regime, only a decision by a country's government (central bank) can alter the official value of the currency.
- **Revaluation** – calculated adjustment to a country's official exchange rate relative to a chosen baseline. The baseline can be anything from wage rates to the price of gold to a foreign currency. In a fixed exchange rate regime, only a decision by a country's government (i.e. central bank) can alter the official value of the currency.

- **Fixed exchange rate regime** – currency is pegged to the value of another currency or a basket of currencies.
- **Flexible exchange rate regime** implies that the exchange rates are settled freely according to supply and demand in the foreign exchange market.
- **Intermediate exchange rate regime**, whose fluctuations are framed by bands of fluctuation.

- The regime of **fixed exchange rates** – the central bank sets the exchange rate and its interventions in the foreign exchange market will lead to an increase or reduction of foreign reserves.
- **Flexible exchange rate regime** – the central bank does not intervene in the forex market and therefore retains control of foreign exchange reserves.
- Interventions – exceptional circumstances, generated by a high volatility of the exchange rate.
- Depending on how common these interventions are, we talk about **floating** or **managed floating pure**.

- **Intermediate exchange regime** is characterized by a stabilization mechanism including a lens (constant or variable over a time period) and the maximum possible fluctuation band.
- If the central bank can not maintain the exchange rate within the fluctuation band set, then depreciation or appreciation is brought into play.

Frankel J.A., 1999. *No single currency regime is right for all countries or at all times*, NBER Working Paper 7338.

- No single currency regime is best for all countries.
- For a given country it may be that no single currency regime is best for all time.
- Countries have to trade off the advantages of more exchange rate stability against the advantages of more flexibility.

- The key determinants of the choice of the exchange rate regime are geographical location, trade links, country size, openness and internal shocks.
- An inadequate exchange rate management can be disastrous for economic development.

Inflation performance

- Pegged exchange rate regimes are associated with the best inflation performance.
- The exception – the peg is at an undervalued rate and the country is unable to offset the growth of the money supply that occurs when persistent current account surpluses and resulting accumulation of foreign reserves translate into excessive monetary growth.

- Domestic currency must be pegged to a **hard currency**, one that exhibits **strong monetary discipline**.
- Italy, Spain, and Portugal (had high inflation rates in the 1970s) tied their currencies to those of Germany and the rest of the EMS (European Monetary System) countries to import the inflation-fighting credibility of the Bundesbank.
- After the breakup of the Soviet Union, most of the 15 newly independent states reached the judgment that the Russian rouble did not offer a good nominal anchor.
- 1992 – the Baltic countries fixed their national currencies to the Deutsche Mark (Estonia), IMF Special Drawing Rights (Latvia) or the US dollar (Lithuania).

Trade links

- Countries in a monetary union have deeper trade links.
- Simple pegs are associated with better trade integration.
- Benefits for trade integration derive from intermediate regimes but to a lesser degree.

Capital flows

- The lower real exchange rate volatility under more rigid regimes fosters greater “stable” forms of capital flows such as foreign direct investment – than “hot money” portfolio flows.

Economic growth

- Growth performance is best under intermediate exchange rate regimes – those that maintain relatively rigid exchange rates but do not formally peg to a single anchor currency.
- Pegged exchange rate regimes are associated with better growth performance than floating regimes – but only if they are able to avoid real exchange rate overvaluation and loss of competitiveness.

Economic growth

- Domestic currency **overvaluation** is linked to the shortage of foreign currency, unsustainably high current account deficit, balance of payments crisis, and macroeconomic instability in general – all of which is extremely harmful to economic growth.
- In a large number of countries, periods of high growth are associated with undervalued local currency.
- This relationship applies only to **developing countries**. When a country reaches a certain level of development, link between the undervalued exchange rate and economic growth weakens.

Economic growth

Hard pegs work best	Mundell (1995), Moreno (2001), Ghosh, Gulde, & Wolf (2002), Jacob (2016)
Floats perform best	Levy-Yeyati & Sturzenegger (2003) Husain, Mody & Rogoff (2005)
Limited flexibility is best	Reinhart & Rogoff (2004)

Economic growth

- **Aghion, Bacchetta, Ranciere and Rogoff (2009)** prove that volatility of exchange rate leads to reduced economic growth rates in countries with poorly developed financial sector, while in financially developed countries, there is no significant impact of exchange rate volatility on economic growth.
- In developing countries which are characterised by hyperinflation, flexible exchange rate regime has led to reduction in the economic growth rate (**Husain, Mody, Rogoff, 2005**)

- **Pegged exchange rate regimes** are associated with lower inflation, lower nominal and real exchange rate volatility, and greater trade openness.
- But **pegged regimes** are more susceptible to exchange rate overvaluation, which hurts competitiveness and undermines growth performance.
- **Floating exchange rates** are at less risk for overvaluation, but they also fail to deliver low inflation, reduced volatility, or better trade integration.

Advantages of fixed rates

- **Reduce transaction costs and exchange rate risk which can discourage investment and trade.**
- **Provide a credible nominal anchor for monetary policy.**
- Policy oriented primarily to domestic policy goals.
- Eliminate competitive depreciation („currency wars”).

Advantages of floating rates

- **Autonomy of monetary policy.**
- Automatic adjustment to trade shocks.
- Retain seigniorage (profit made by a government by issuing currency, the difference between the face value of coins and their production costs).
- Avoiding crashes that hit pegged rates (speculative attacks).