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FINANCIAL INTEGRATION AND CRISES
2021

Lecture 13

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The Euro debt crisis and the Covid crisis

- The Euro debt crisis
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  - The default premium
- The end of the Euro debt crisis
  - The ECB as a Lender of Last Resort
- The Covid crisis and debt sustainability
- The response of EU Institutions
  - ECB Quantitative Easing
  - The Next Generation EU Initiative

References: De Grauwe (2011, 2013); Favero-Missale (2016); ECB (2020); EC (2020); Buti-Messori (2020).

The European Sovereign Debt Crisis

- **The European debt crisis started in late 2009** when the Greek Government announced a much bigger deficit than previously reported: 12.7% of GDP

- After a wave of downgrading of Euro sovereign debts and finacial turmoil, **in May 2010, Greece received financial assistance** by the Euro area Member States and the IMF amounting to €110 billions.

- Greece was soon followed by **Ireland and Portugal.** In Ireland the public debt had increased sharply due to bank bailouts, in Portugal because of fiscal measures to counter the financial crisis; Ireland obtained a €85 billion rescue package in November 2010 and Portugal a €78 billion in May 2011.

- By mid 2011 the Euro debt crisis spread to other countries, in particular **Italy and Spain**, and became evident in the widening of interest-rate differentials, i.e. **bond-yield spreads over Germany**.

  We shall see that such spreads measure the probabiliy of default

Euro area yield spreads on 10-year bonds
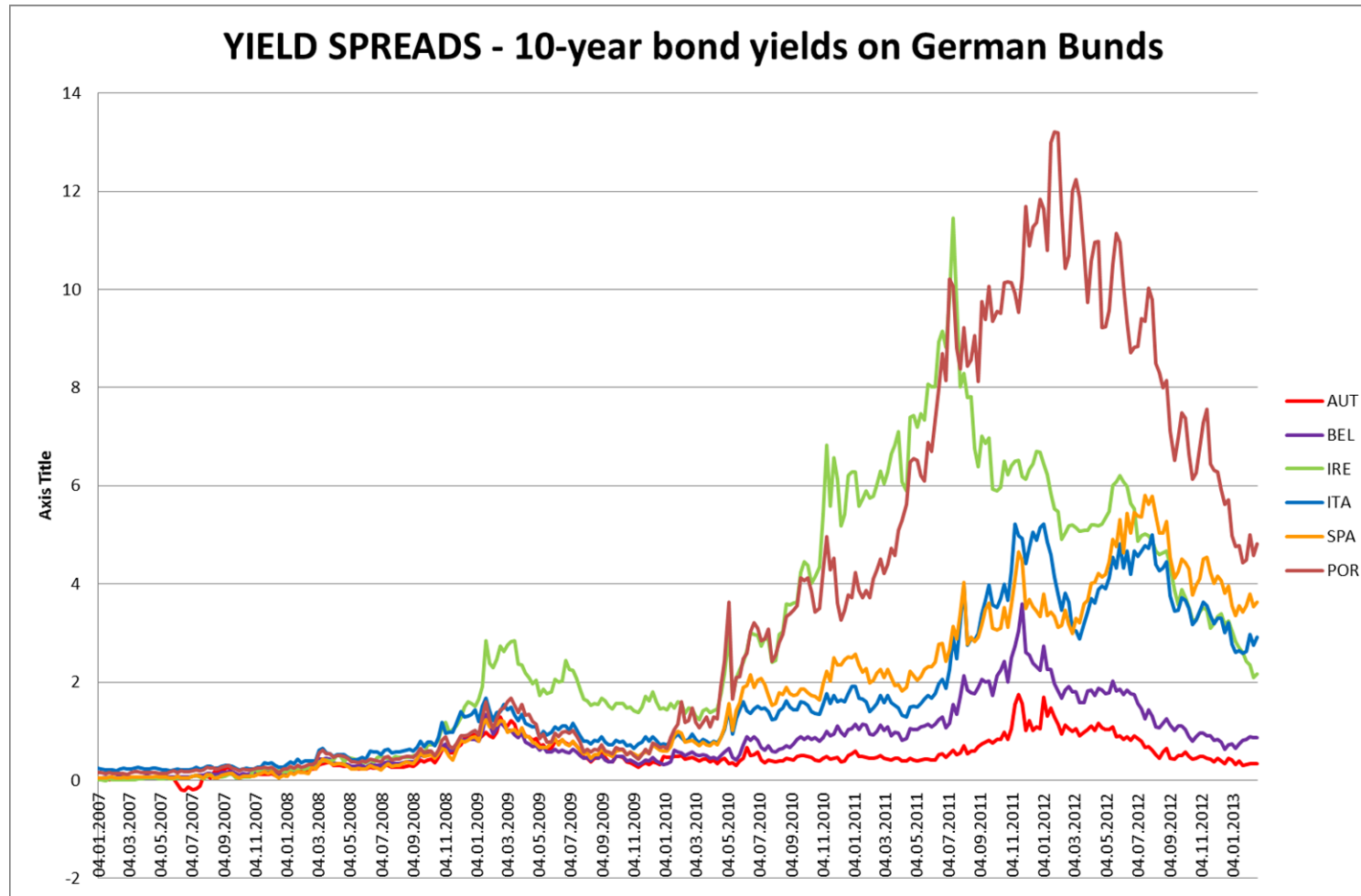
The Crisis of the Euro

❑ By november 2011, Italian and Spanish yield spreads over Germany had become sizeable: 5.5% in Italy.

❑ Fears of default led foreign investors to liquidate their positions and debt ended up in domestic banks. This created the so called "**diabolic loop**".
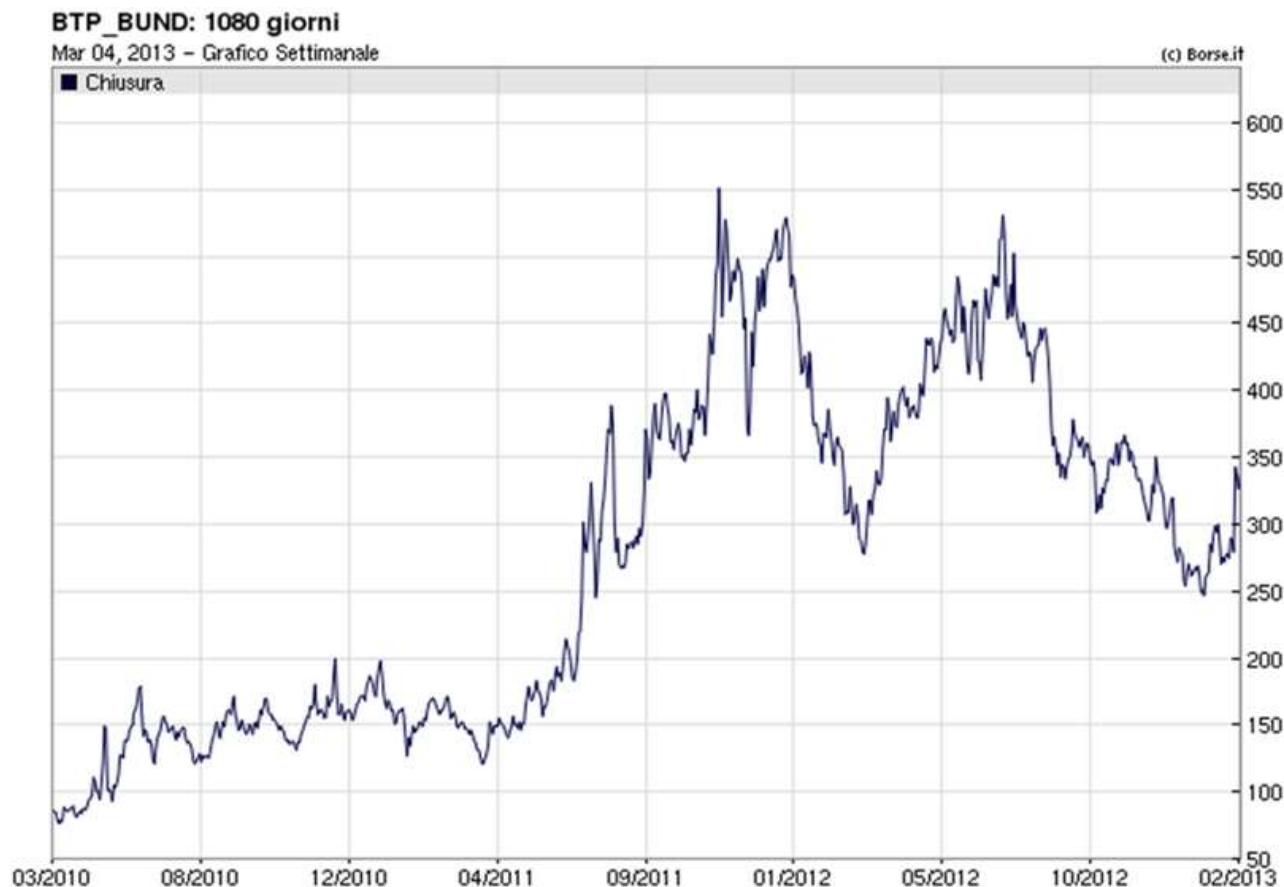
❑ Greece defaulted in February 2012.

The crisis of the Euro

❑ **By mid 2012 the crisis had become a banking and Sovereign debt crisis, threatening the very existence of the Euro.**

Fears of default – How can be measured?

Interest rate differential between 10-year Italian and German bonds denominated in Euro - 2010 – 2013. Difference in Basis points

Yield Spread of Italian BTP over German Bunds

Default premium

- As all bonds are denominated in euro, interest rate differentials, **bond yield spreads over Germany mainly reflect the probability of default** of the issuers (as perceived by the market).

Default premium

- Investors may require a higher interest rate to be compensated for the probability of default, that is, for the possibility that the debtor does not repay its obligations in full or in part (or in Euro because of *redenomination*).

Assumptions

- Free capital mobility;
- Bonds have same characteristics: maturity, liquidity, currency of denomination.
- Zero default probability for the reference country, say Germany (simplyfing).

Default premium - Derivation

Definitions

- $p \equiv$ probability of default of domestic country
- $1 - x \equiv$ recovery rate; ie the fraction of the debt that is repaid; x is called the "haircut"

Expected return for each euro invested in the risky asset (Italian bond):

- $ER^I = (1 - p)(1 + i^I) + p(1 - x)(1 + i^I) = (1 + i^I) - px(1 + i^I)$ (1)
- $ER^G = 1 + i^G \equiv$ return on the safe asset (German bond) (2)

Risk neutrality: investors only care about the expected return.
The expected return on Italian bonds must be the same as on German bonds:

- $(1 + i^I) - px(1 + i^I) = (1 + i^G)$ (3) ← (1)=(2)

As $px\, i^I$ is negligible:

- $i^I \cong i^G + px$ (4)

Yield Spread

The yield spread, under the hypotheses of risk neutrality and same liquidity

- $i^I - i^G \cong px$ $px \equiv$ **expected loss**

measures the **default premium** that increases with the probability of default, p, and the haircut, x:

❏ Example: for $i^I - i^G = 2\%$ and $x = 0.5$, the probability of default is $p = 0.04$, i.e. 4% per year (with $x = 0.33$, $p =$6%).

❏ With different liquidity, a **liquidity premium** is required to compensate investors for the loss of value and/or transaction costs eventually incurred by selling the bond.

❏ **With risk aversion** there is a **risk premium**

- $i^I - i^G = px + liquidity\ premium + risk\ premium$

and, for given spread, risk aversion implies that the probability of default is lower.

The lack of a Lender of Last Resort exposes member States to the risk of default

De Grauwe (2011, 2013) argues that Euro Area countries are exposed to the risk of default because they have debts denominated in euros, that is, a foreign currency that cannot be controlled by national CBs.

De Grauwe (among others) points to a faulty EMU governance

❑ **The ECB cannnot act as a Lender of Last Resort**, which makes the EMU particularly vulnerable to a crisis.

❑ Before the European Stability Mechanism (ESM) was established in 2012, **there was no EU institution providing financial assistance** (as the IMF) to countries in distress.

But other economists contended that the probability of default just depend on bad fundamentals

Fundamentals or self-fulfilling run?

Favero and Missale (2012, 2016) show that

- If taken *per se*, fiscal fundamentals (deficit and debt) are not significant.

- **Fundamentals determine the extent to which countries are exposed to global risk:** Countries with weak fiscal fundamentals are more exposed to the high spreads of similarly weak countries.

- **Spillover effects predominate:** each country's spread strongly depends on (a weighted average of) other countries' spreads.

- **There is strong evidence of Contagion**: The relationship between yield spreads and their determinants is unstable; i.e. subject to changes in market sentiment. The sensitivity of Italian and Spanish spreads to global risk factors became much higher in 2011-2012.

But the best evidence of the self-fulling nature of the Italian and Spanish crisis is that it vanished with the ECB announcements in the summer of 2012

The ECB stops the run acting as a LLR

❑ The risk of a Euro break-up intensified by mid 2012 and provided the legal basis for ECB intervention.

The ECB took on itself the role of Lender of Last Resort

❑ On August 2, 2012, one week after the famous Draghi's 'Whatever It Takes' speach, the ECB announced **Outright Monetary Transactions**: the possibility to buy on the secondary market unlimited amounts of bonds of countries in financial distress receiving assistance from the **European Stability Mechanism (ESM)** conditional on implementing an adjustment program.

❑ **The ECB announcement was enaugh to stop the run; not a single euro was ever spent on the program** an indication of the expectational nature of the crisis.

❑ The monetary + ESM backstop works as a deposit insurance: it reassured investors that the ECB would eventually buy any debt investors did not want to hold, thus ruling out the liquidity crisis equilibrium.

The market reaction to OMT announcement Italian yield spread relative to Germany

BTP_BUND: 1080 giorni
Mar 04, 2013 – Grafico Settimanale

(c) Borse.it

■ Chiusura

OMTs
2 Aug 2012

Lessons from the Euro debt crisis

Two important lessons

- A high level of debt exposes a country to the risk of a confidence crisis even if the debt is stable relative to GDP, and has a long maturity
- The Central Bank plays a key role in ensuring debt sustainability; the possibility to act as a Lender of Last Resort* rules out the run equilibrium (to the extent the debt is denominated in the currency controlled by the CB)

Since 2015, the ECB program of large-scale purchases of government bonds, i.e. Quantitative Easing, has also helped to reduce the debt burden of Member States by lowering interest rates and borrowing costs.

*Note that the ECB is not a genuine Lender of Last Resort since OMTs are subject to conditionality needed for financial assistance by the ESM.

The danger of high debt

A high debt-to-GDP ratio exposes to the risk of a debt crisis even if the debt ratio is stable

- Consider debt dynamics. Debt relative to GDP evolves as:

  - $$b_t = \frac{(1+i_t)}{(1+\pi_t)(1+g_t)} b_{t-1} - s_t \qquad (1)$$

    where s_t = budget surplus/GDP; g_t = GDP growth

  - $$b_t - b_{t-1} \cong (i_t - \pi_t - g_t)b_{t-1} - s_t \qquad (2)$$

- With a high debt ratio **the dynamics of the debt is dominated by GDP growth and debt service costs**. A fall in GDP growth, g_t, unexpected deflation, higher interest rates, may set the debt on an usustainable path.

Note that a long maturity debt makes the cost of debt service, i_t, insensitive to a rise in interest rates (eg to a widening of the yield spread) but the latter negatively affects GDP growth through a reduction in investment demand and a contraction of credit supply due to the deterioration of banks' balance sheets when banks hold large amounts of government bonds.

Covid pandemic crisis: Debt sustainability

The Covid crisis has led to a deep recession and high budget deficits that make the debt-to-GDP ratio increase dramatically

❑ Italy entered 2020 with a stable but very high debt ratio $b_{t-1} = 135\%$.

❑ The Covid pandemic has led to a deep recession, $g_t = -8.8\%$, low GDP inflation $\pi_t = 1\%$ and a striking primary deficit, $s_t = -7\%$ (almost 5% of new measures and 4% due to GDP contraction). With debt service costs equal to $i_t = 2.7$

❑ The debt reached almost 160% of GDP at year end

▪ $b_t \cong (1 + i_t - \pi_t - g_t)b_{t-1} - s_t$

▪ **156** $\cong (1 + 0.027 - 0.01 + 0.088)135 + 7$

Why didn't a debt crisis break up? Why didn't interest rates move?

The ECB has bought huge amounts of debt. In the case of Italy, debt purchases were approximately equal to the deficit caused by the Covid crisis.

Pandemic Emergency Purchase Programme

- **The Pandemic Emergency Purchase Programme (PEPP)**, launched in March 2020 and extended in June 2020, foresees a total of 1350 billion euro for the purchase of private and public bonds over the period March 2020 - June 2021 [Further increased up to 1850 billion in December 2020]

- PEEP added to the existing **Asset Purchase Programme (APP)** started in 2015 and worth 30 billion euro per month since March 2020.

- The Italian public debt* that will be purchased by the ECB can be estimated to reach 170 billion euro in 2020 (and another 100 billion euro in 2021) about the new debt issued in the same period.

- By the end of 2020 the ECB is expected to hold about 1/4 of the Italian debt leaving on the market a debt equal to 120% of GDP.

*Note: The purchases of public bonds (about 80% of the total) is allocated across member States according to the capital key in the ECB of their national central banks (17% for Italy).

Monetary or Fiscal Policy?

- ❑ **Large scale asset purchase programs** like APP and PEPP better known as **Quantitative Easing** are non-standard monetary policies implemented when standard policy is ineffective because short-term rates are at the zero lower bound, as in the US, or even negative, as in the Euro area.

- ❑ **QE** was implemented in the US and UK in 2008 but only since 2015 in the Euro area because of political opposition by Member States with sound fiscal fundamentals.

- ❑ **QE** works through a reduction of long-term interest rates, exchange rate depreciation, expected inflation and the reduction of risk premia.

QE makes the distinction between fiscal and monetary policies blurred
- ▪ it allows for deficit financing at no cost
- ▪ it reduces the interest rates on government debt, thus increasing fiscal space; that is the room for other expenditures.

- ❑ **The effectiveness of QE in stimulating aggregate demand and resuming economic growth in the Euro area has poven to be limited.**

Next Generation EU – The Recovery Fund

- ❑ The recovery of EU economies (and reduction of their debt-to-GDP ratios) called for a recovery expenditure package financed by the EU budget.

- ❑ **Next Generation EU (NG-EU)** foresees the disbursement by the EU of
  - A. 390 billion euro in the form of transfers to member states;
  - B. 360 billion euro in long-term loans.

- ❑ The resources for NG-EU will be collected through bonds issued by the European Commission (EC) on behalf of the EU, that is, by common EU debt (Eurobonds) guaranteed by the difference between EU budget revenues (increased up to 2% of GDP) and EU budget disbursements.

- ❑ **The Recovery and Resilience Facility (RRF)** is the most important component of NG-EU, endowed with 672.5 billion of which 46% in transfers.

- ❑ The RRF is meant to finance investment and reforms in various areas as proposed in **National Recovery and Resilience Plans (NRRP)** to be approved by the EC. The aim is to support the recovery even though some conditions are required (be green, be digital).

Funding the Recovery Plan

Total Resources, Debt mutualisation and repayment

❑ Combining NG-EU and the long-term EU budget (the Multiannual Financial Framework) the total amount of funds available for the period 2021-27 will reach 1.8 trillion euro.

❑ The 750 billion of NG-EU Initiative will have to be spent over the period 2021-24 and will add to the 1050 billion of the EU budget 2021-27.

❑ The resources for NG-EU will be collected by the European Commission issuing its own debt, that is, by debt mutualisation, once a taboo.

❑ This **EU debt** will be repaid between 2027 and 2058
  ▪ The Transfer part of the debt (plus interests) will be repaid out of future long-term EU budgets, and by new taxes at the EU level;
  ▪ The Loan part will have to be reimbursed by the beneficiary countries.

Redistribution

The Initiative works through two effects:

- ❑ **A fiscal expansion effect** due to the front loading of expenditures financed by debt to be repaid over a 30-year horizons starting in 2027 using future EU budgets;

- ❑ **A redistributive effect** in that the 750 billion euro of transfers or loans are allocated to Member States depending on their fragility and the timing and asymmetrical intensity with which they were hit by the Covid pandemic while the contributions to the EU budget are roughly proportional to GDP.

Redistribution was possible because of:

- ▪ A 'moral imperative' to help countries most hardly hit;
- ▪ The political calculus that the economic integrity of the EU was at risk.
- ❑ The redistributive effect implies that Italy will be the greatest beneficiary of the Initiative while Germany, Netherlands, etc. the greatest contributors.
- ❑ But it is worth noting that, even in the case of Italy, net transfers (grants) will be a fraction of gross transfers (81 bn) and loans (127 bn) it will receive.