THE EVOLUTION OF THE EUROZONE RISK MORPHOLOGY

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Contract professor of Financial Mathematics at Bocconi University, Milan

Ph.D. Lecturer in Mathematical Finance at London Graduate School

The ideas and positions expressed in the work are personal views of the author and cannot be attributed to the institutions to which he belongs.

Université Nice Sophia Antipolis

THE EVOLUTION OF THE EUROZONE RISK MORPHOLOGY

- Risk assessment at the origin
- The financial crisis turnaround on the risk structure
- The «whatever it takes» re-definition of the risk shape
- Proposals for risk normalization

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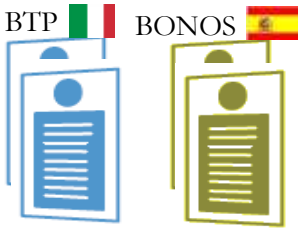
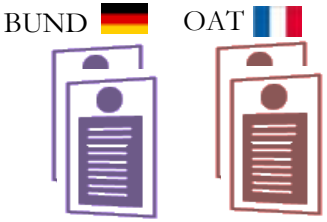
The Germanization of the interest rates

Convergence Trades

BUY bonds issued by **Peripheral** governments



SELL bonds issued by **Core** governments



The Germanization of the interest rates

Convergence Trades

BUY bonds issued by **Peripheral** governments

BTP BONOS

excess demand

Peripheral

funding costs go down

SELL bonds issued by **Core** governments

BUND OAT

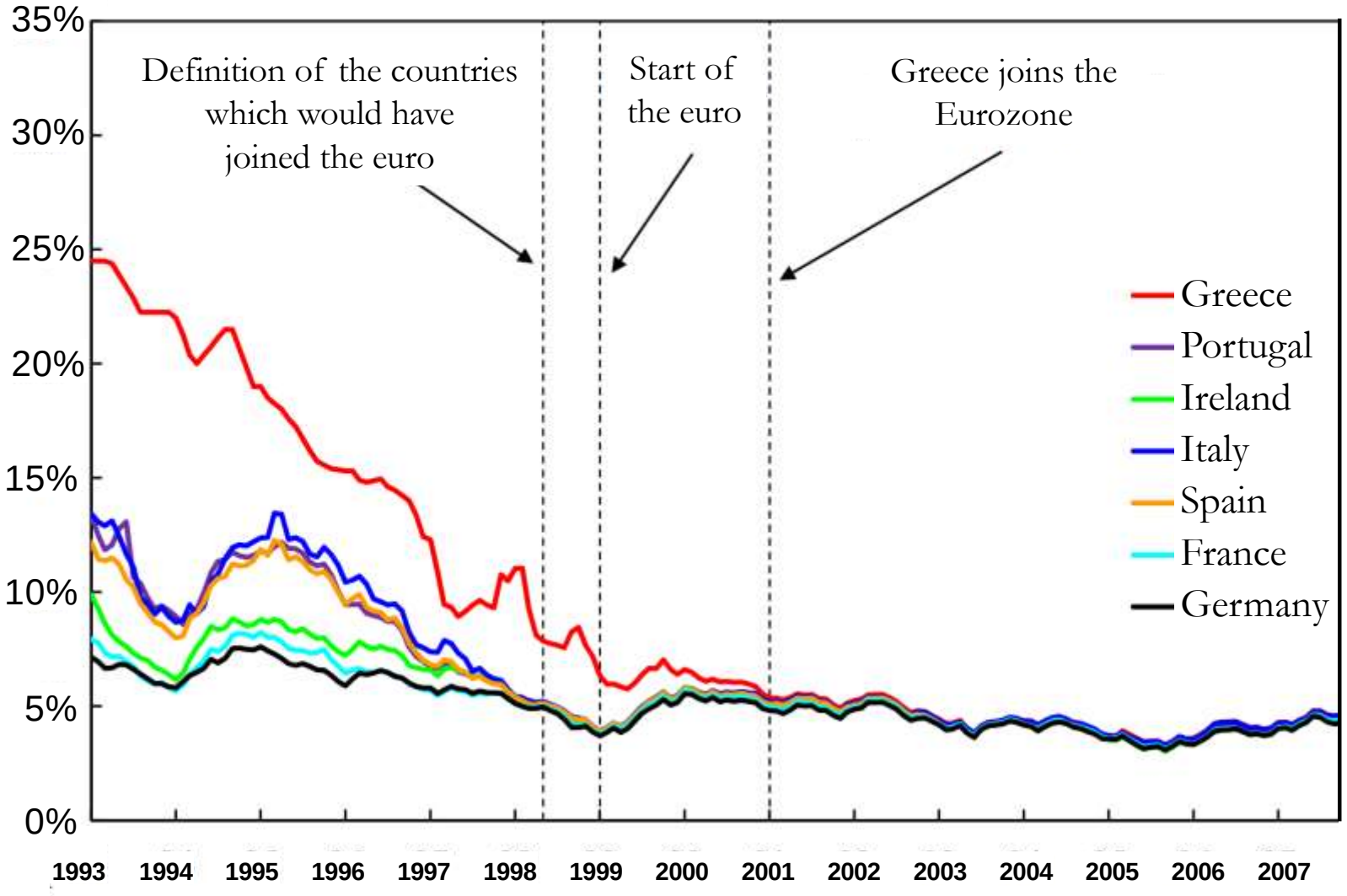
excess supply

Core (Germany)

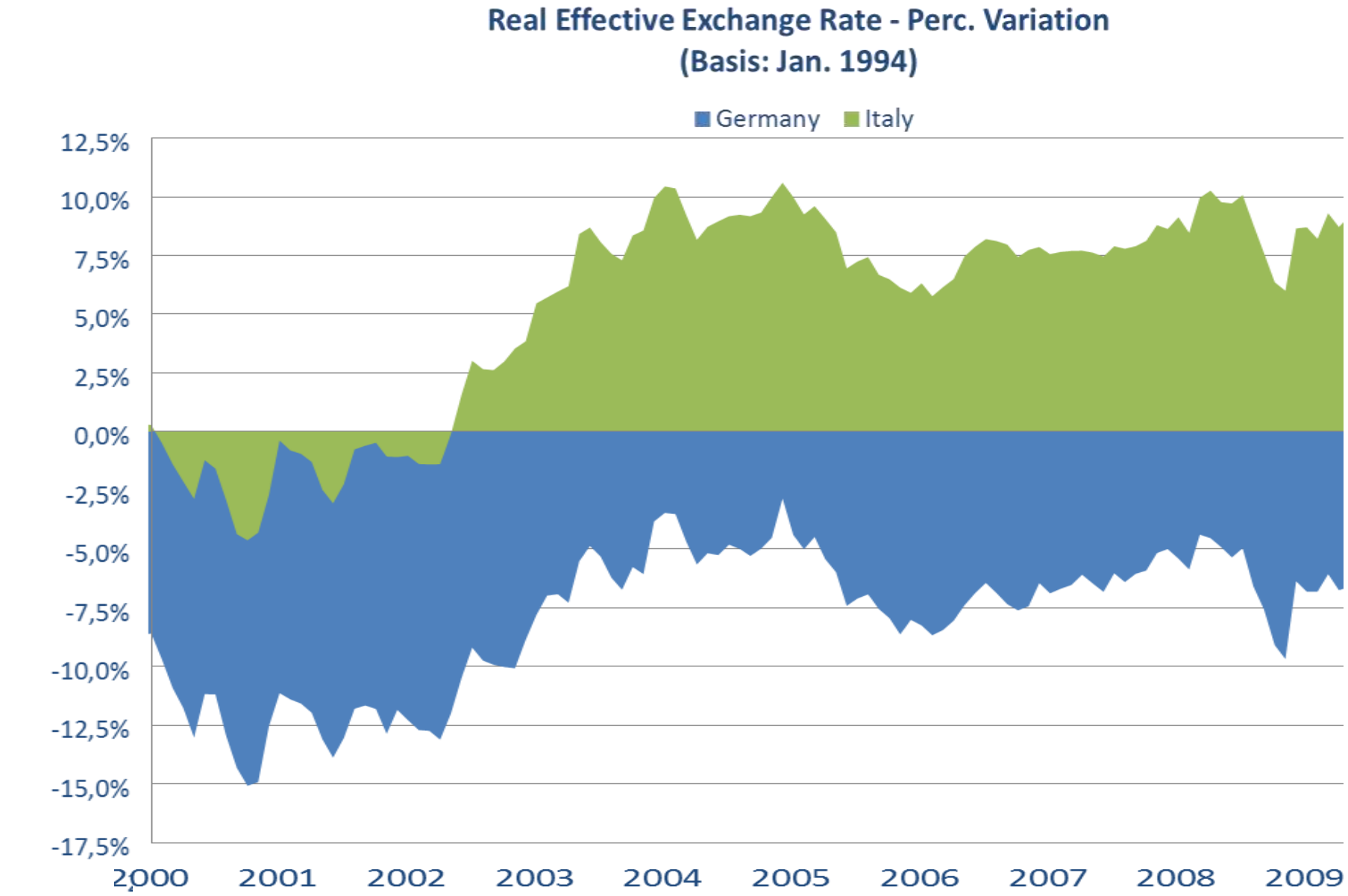
funding costs go up

The Germanization of the interest rates

10-year sovereign yields



The Italianization of the exchange rates



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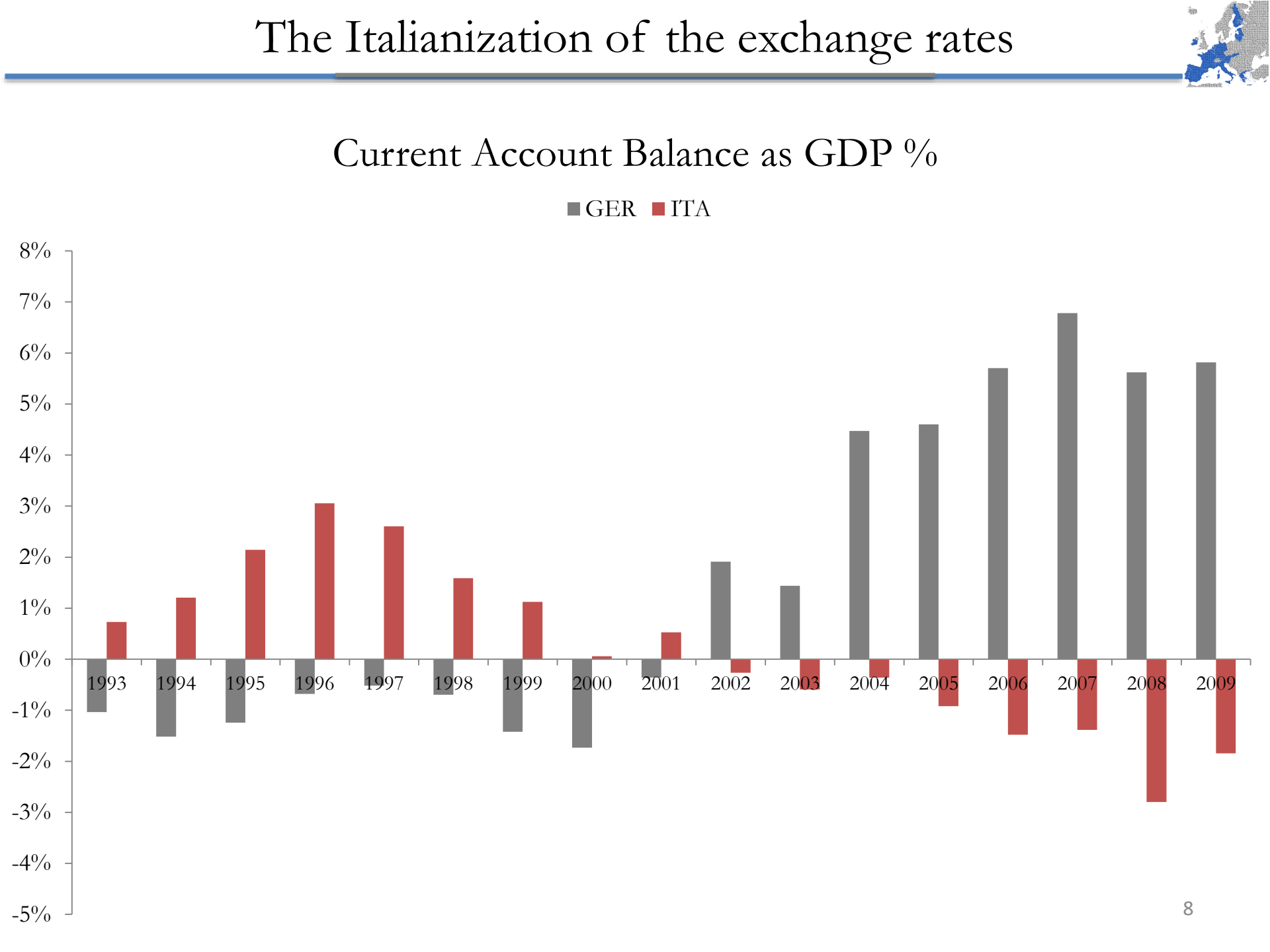
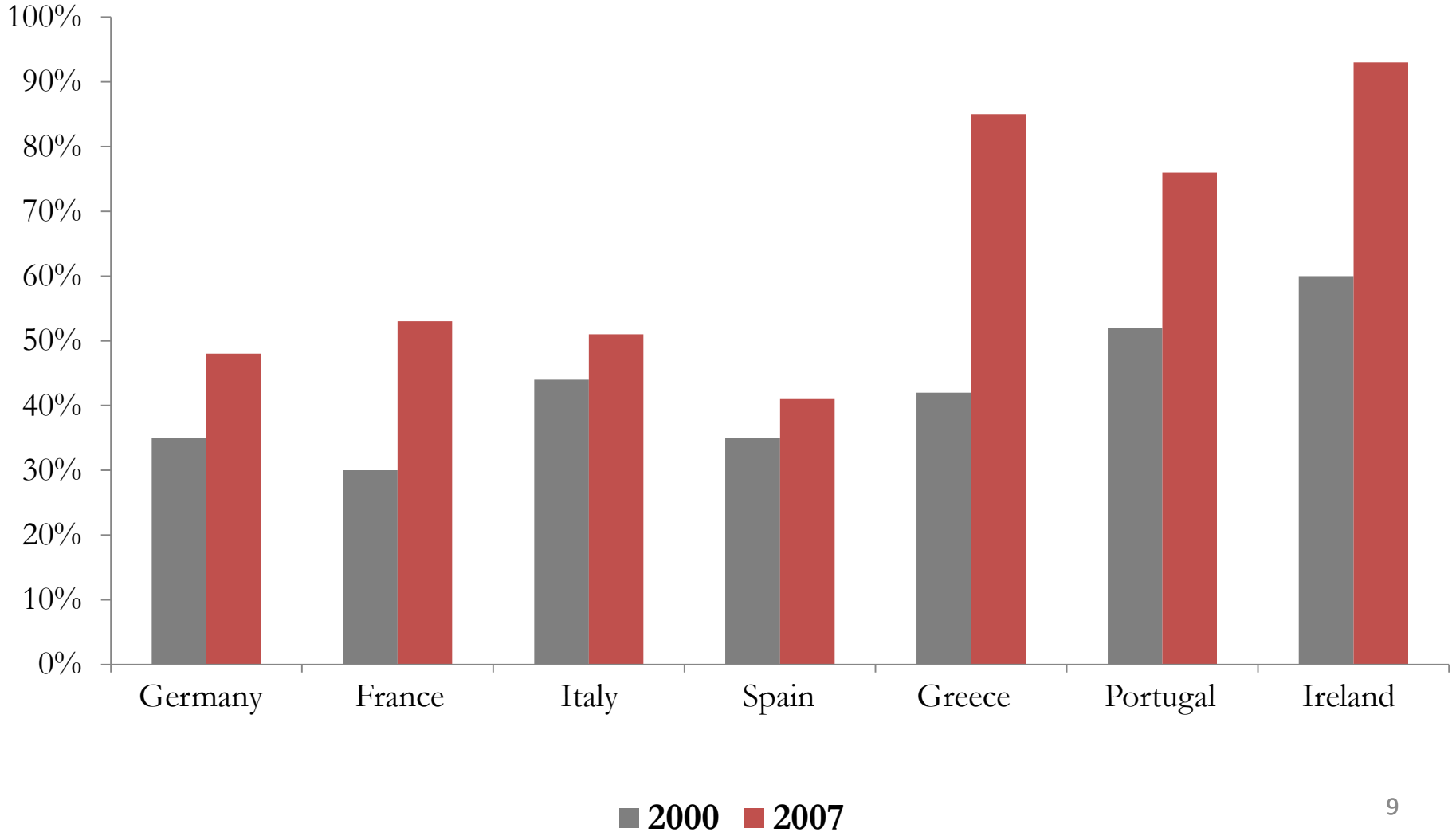


Public Debt Europeanization

Eurozone – Share of government Debt held by Foreign Investors



- Risk assessment at the origin
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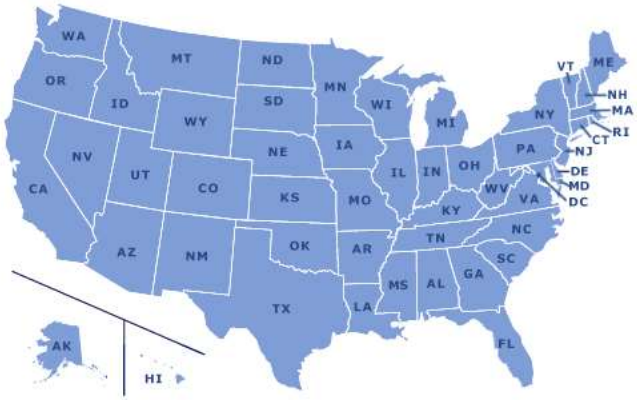
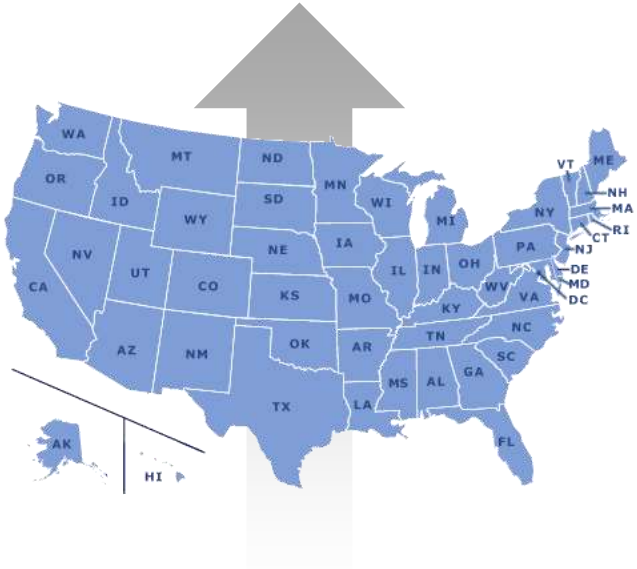
International Financial Crisis – Propagation to Europe



2007: *subprime crisis*

2008: Lehman Brothers default

CREDIT RISK MEASUREMENT



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International Financial Crisis – Propagation to Europe

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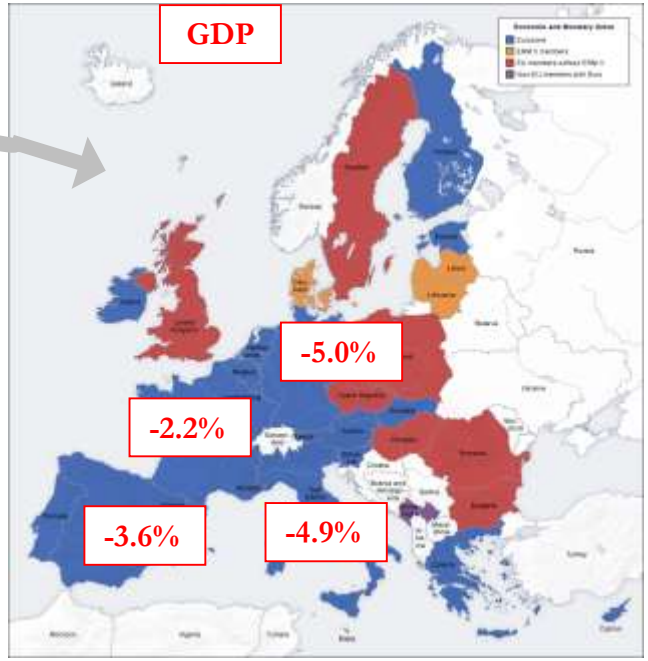

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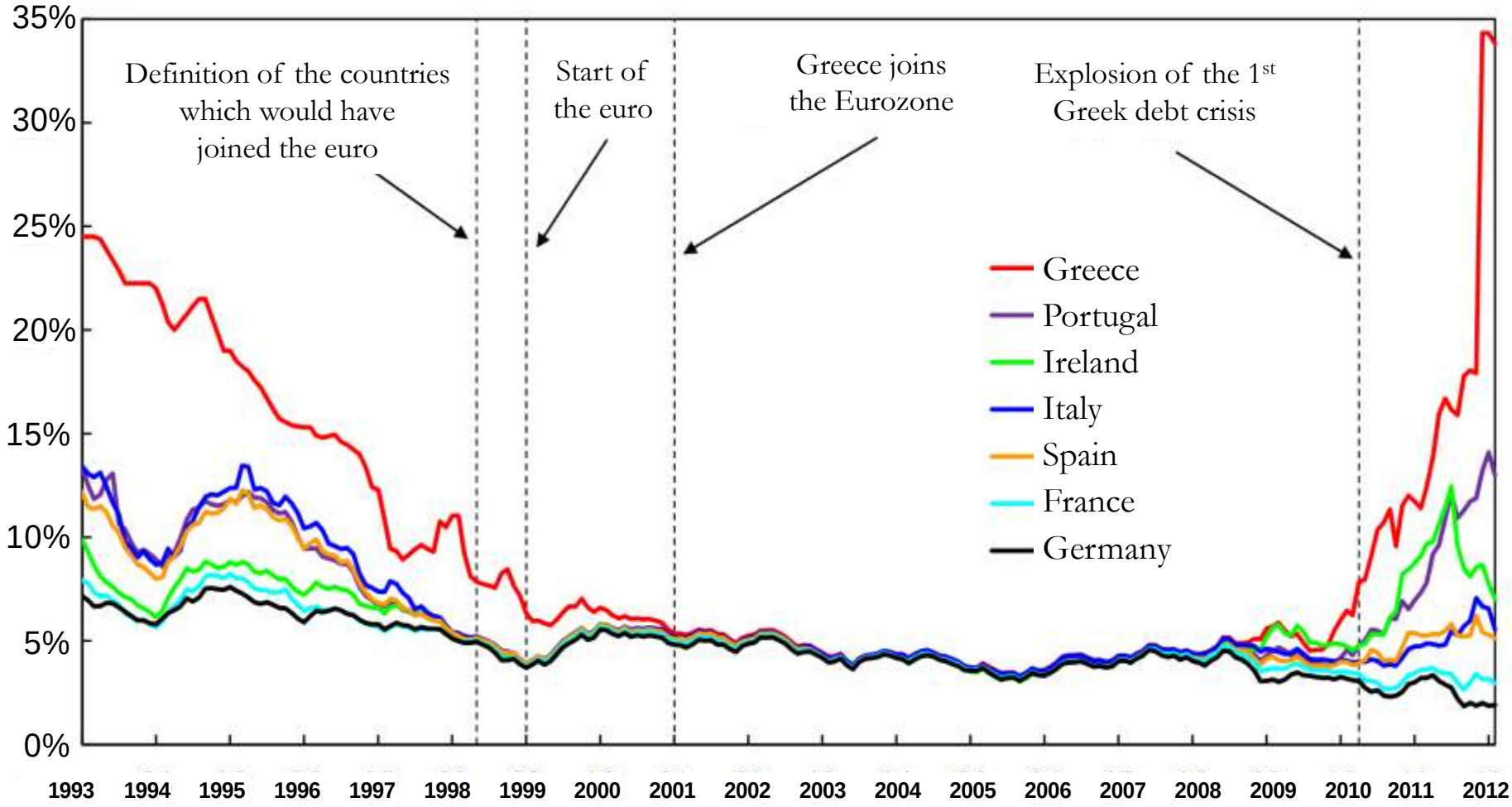
The break up of the single interest rates curve

10-year sovereign yields



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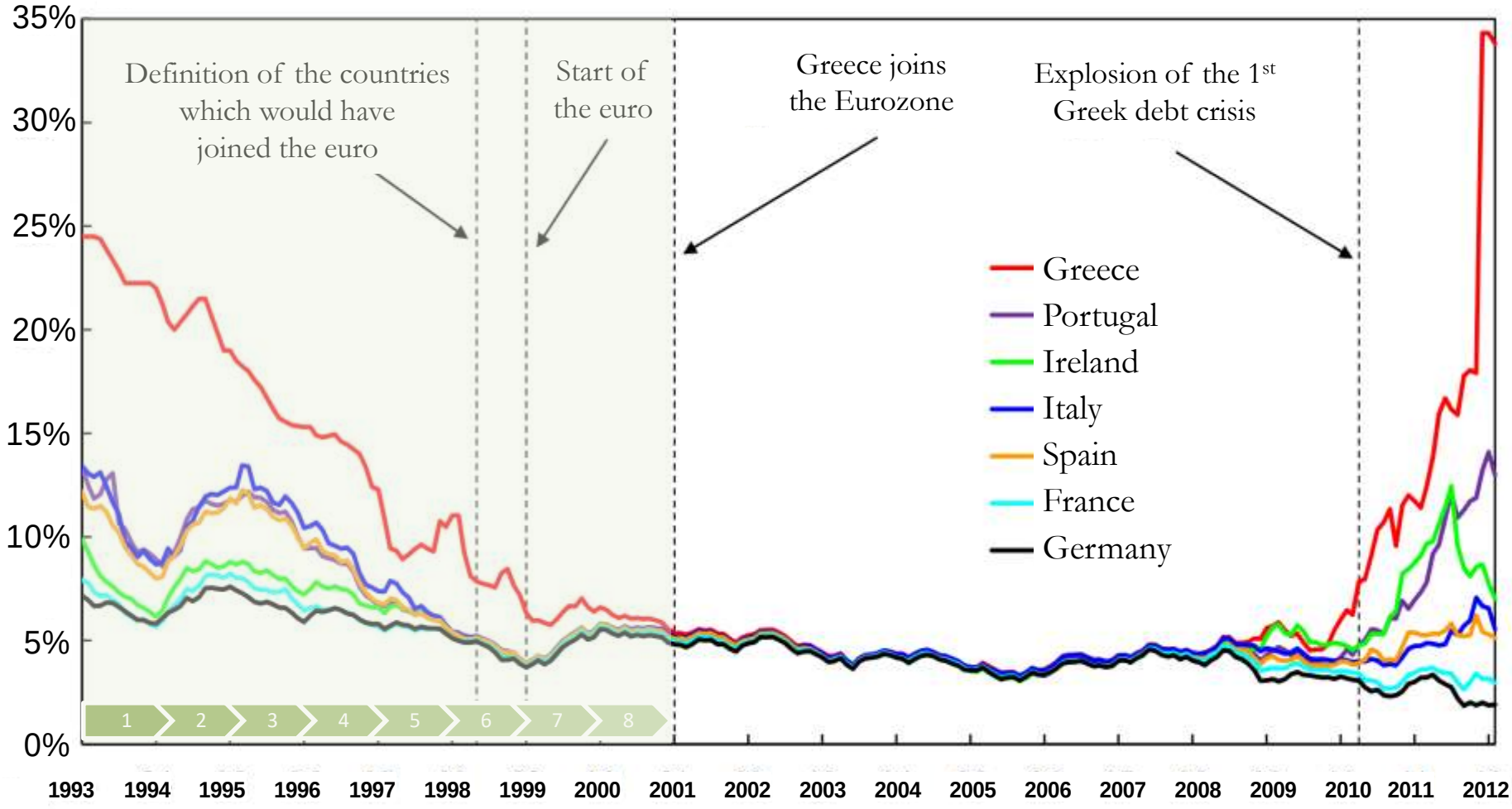

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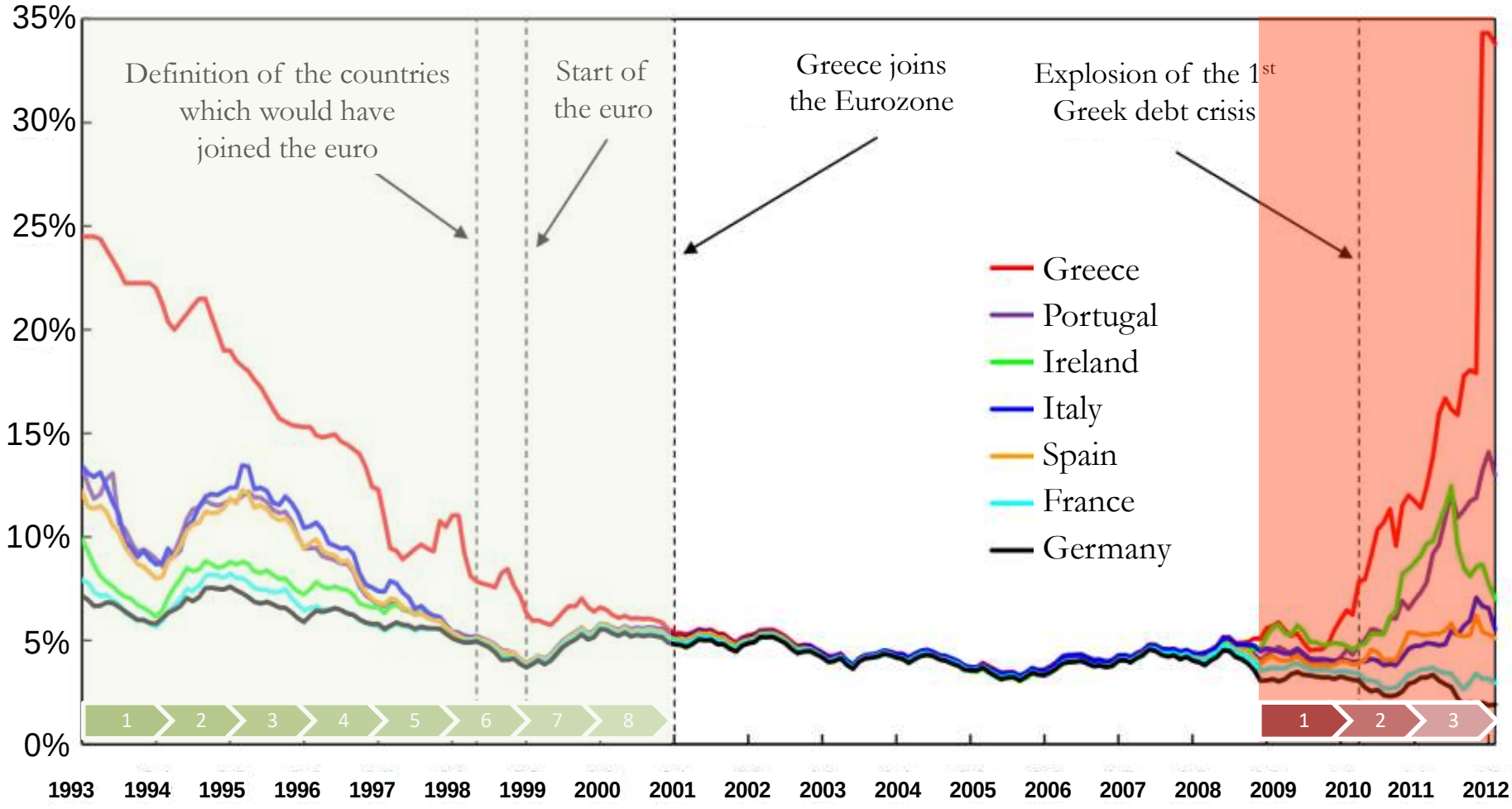
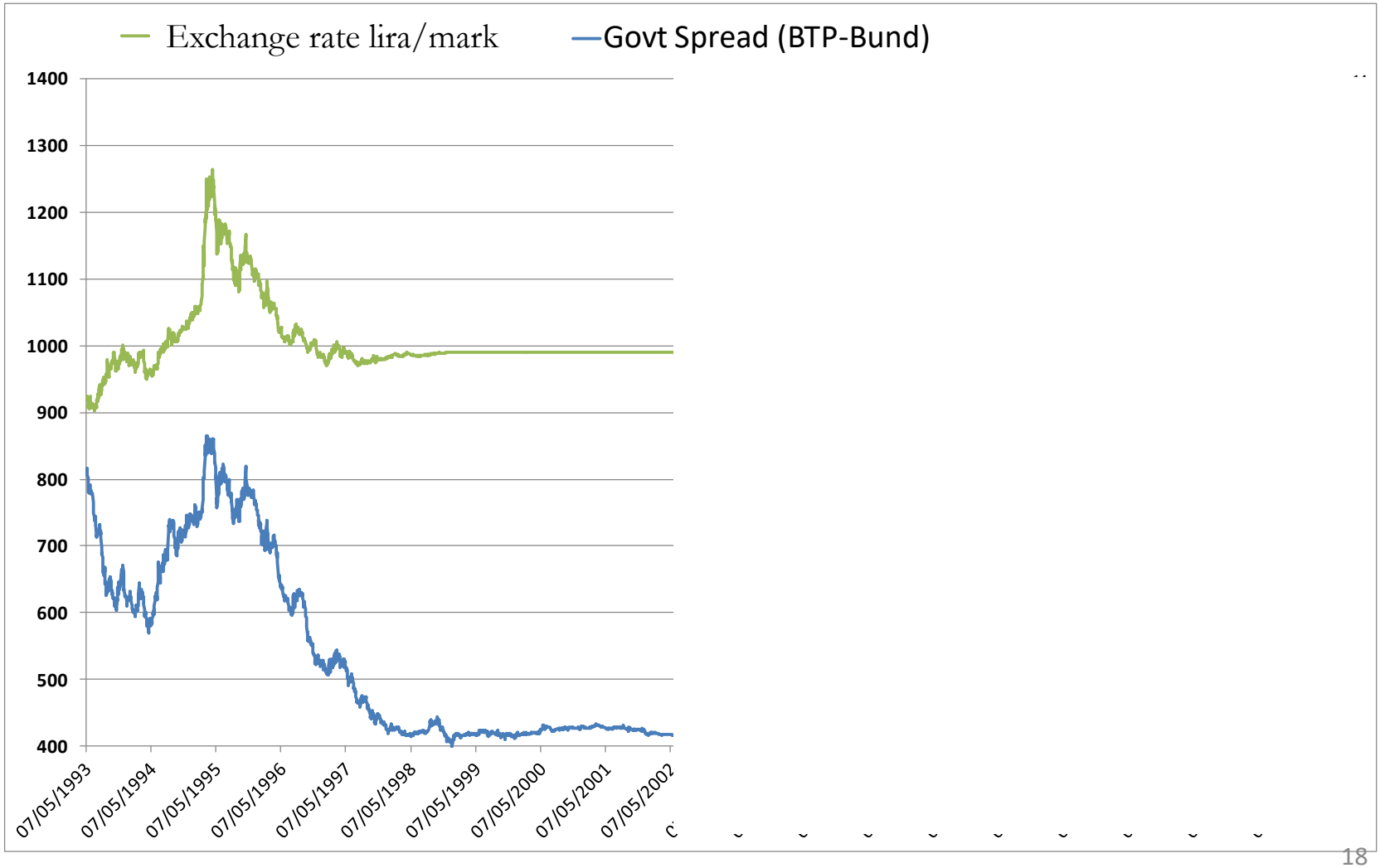


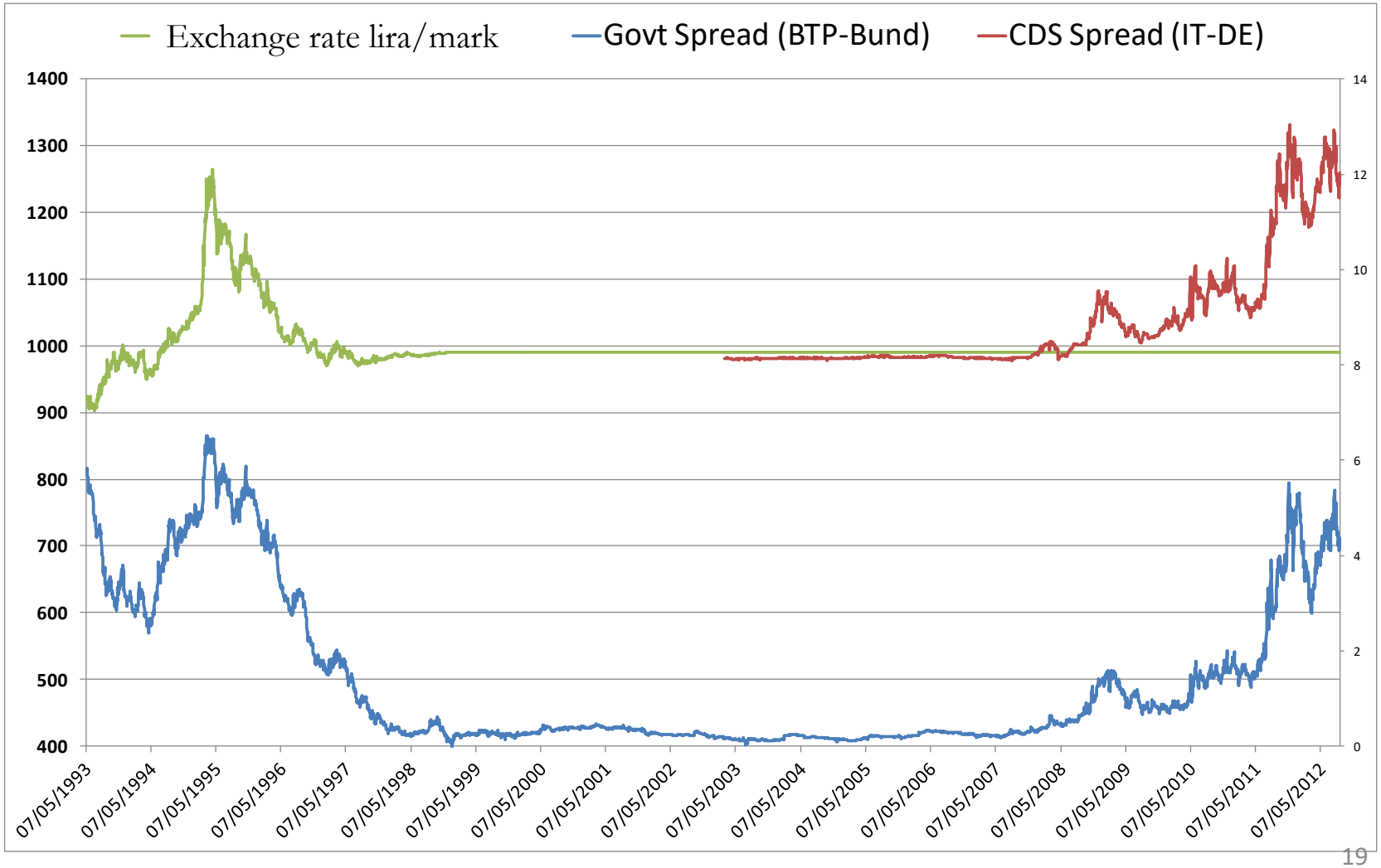
Shadow Currencies/Exchange Rate

Interest Rate Parity Theory: a full picture of German/Italian economics



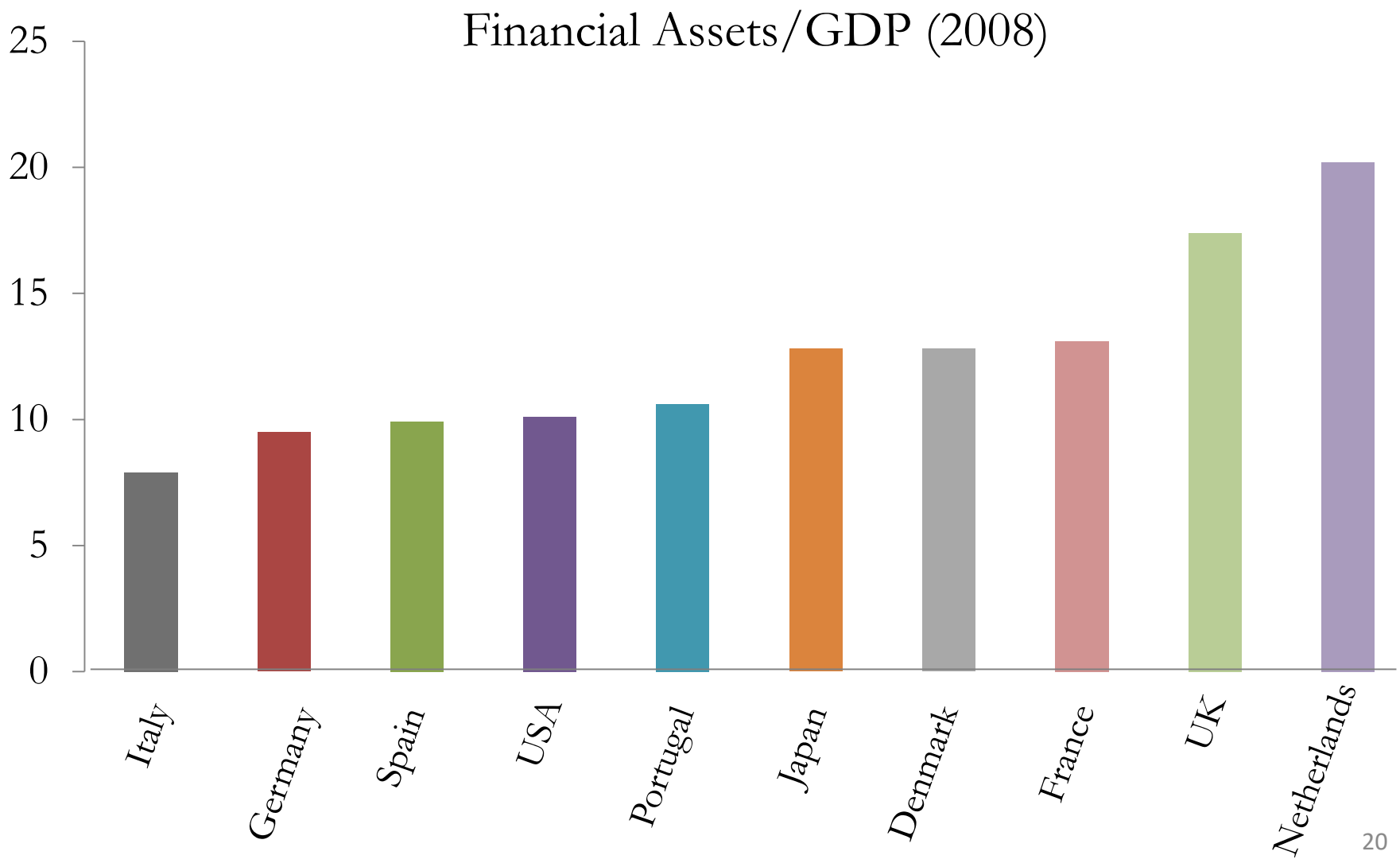
Shadow Currencies/Exchange Rate

Interest Rate Parity Theory fails: only credit risk

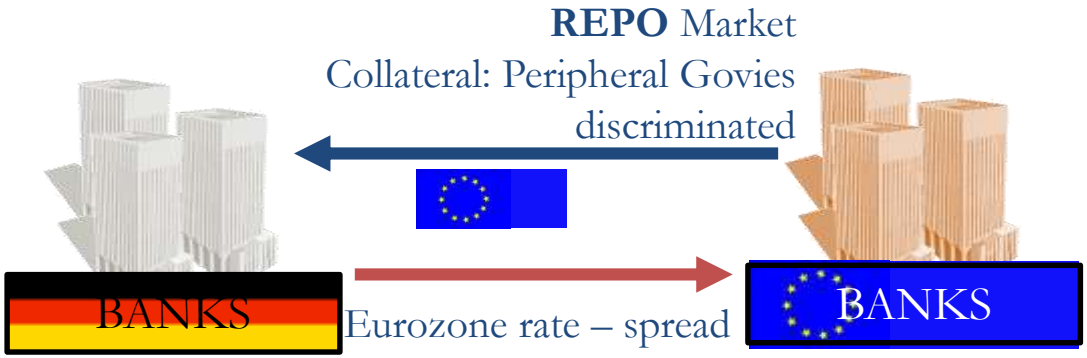


Shadow Currencies/Exchange Rate

Large Financialisation of the Economy



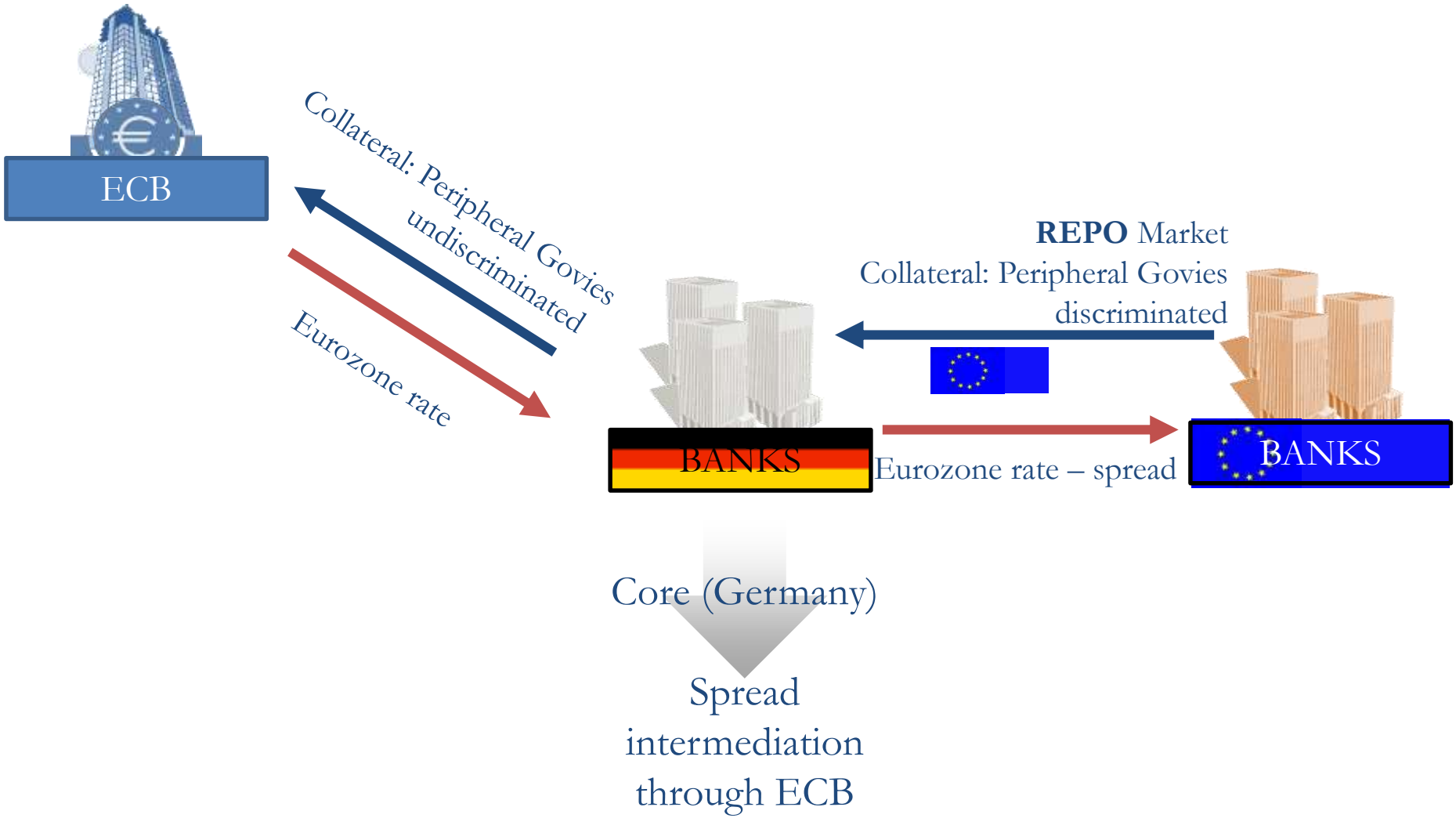
2nd implication Collateral discrimination, spread intermediation



Peripheral

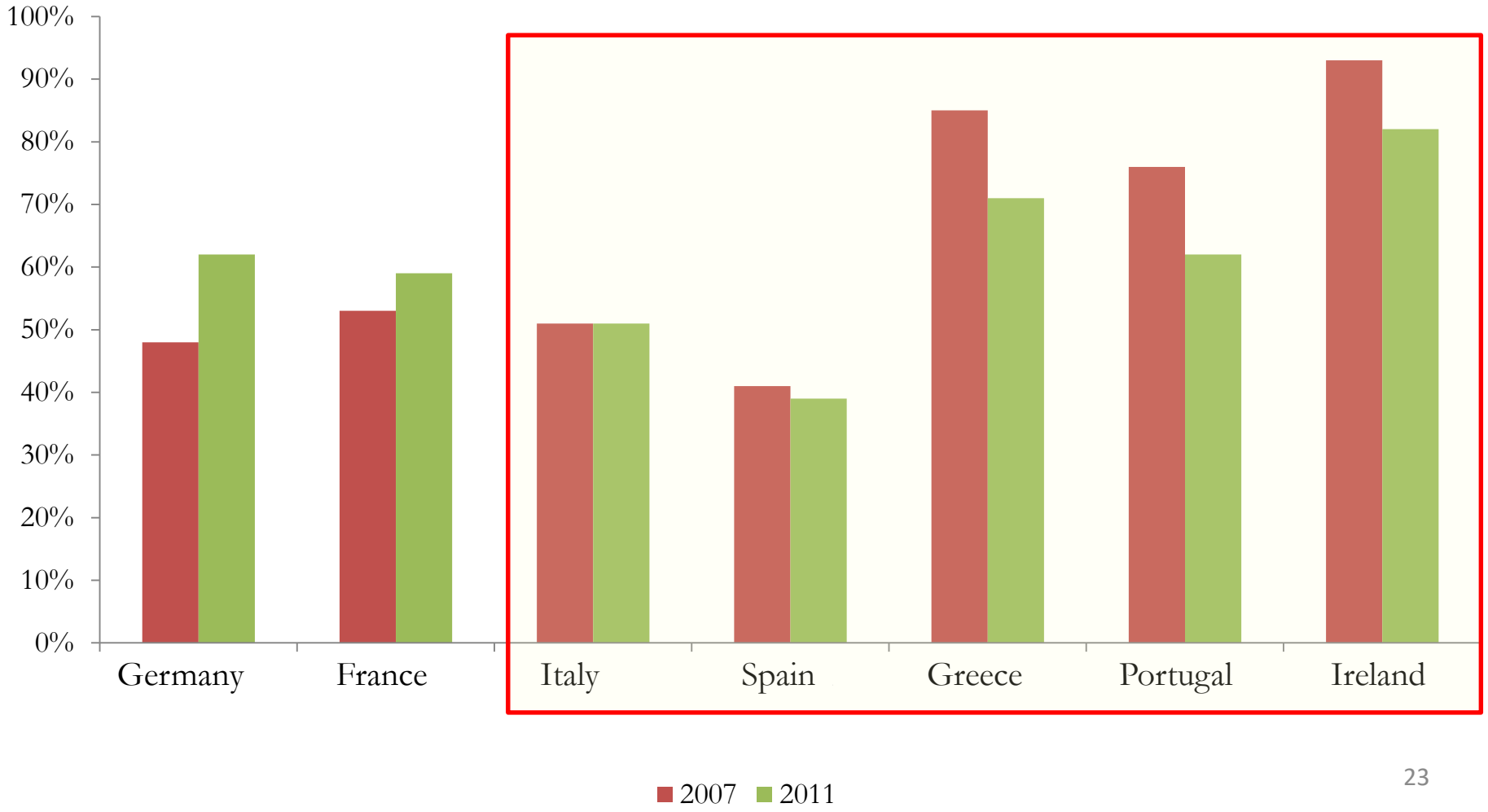
funding costs
rise

2nd implication Collateral discrimination, spread intermediation



Public Debt Nationalization

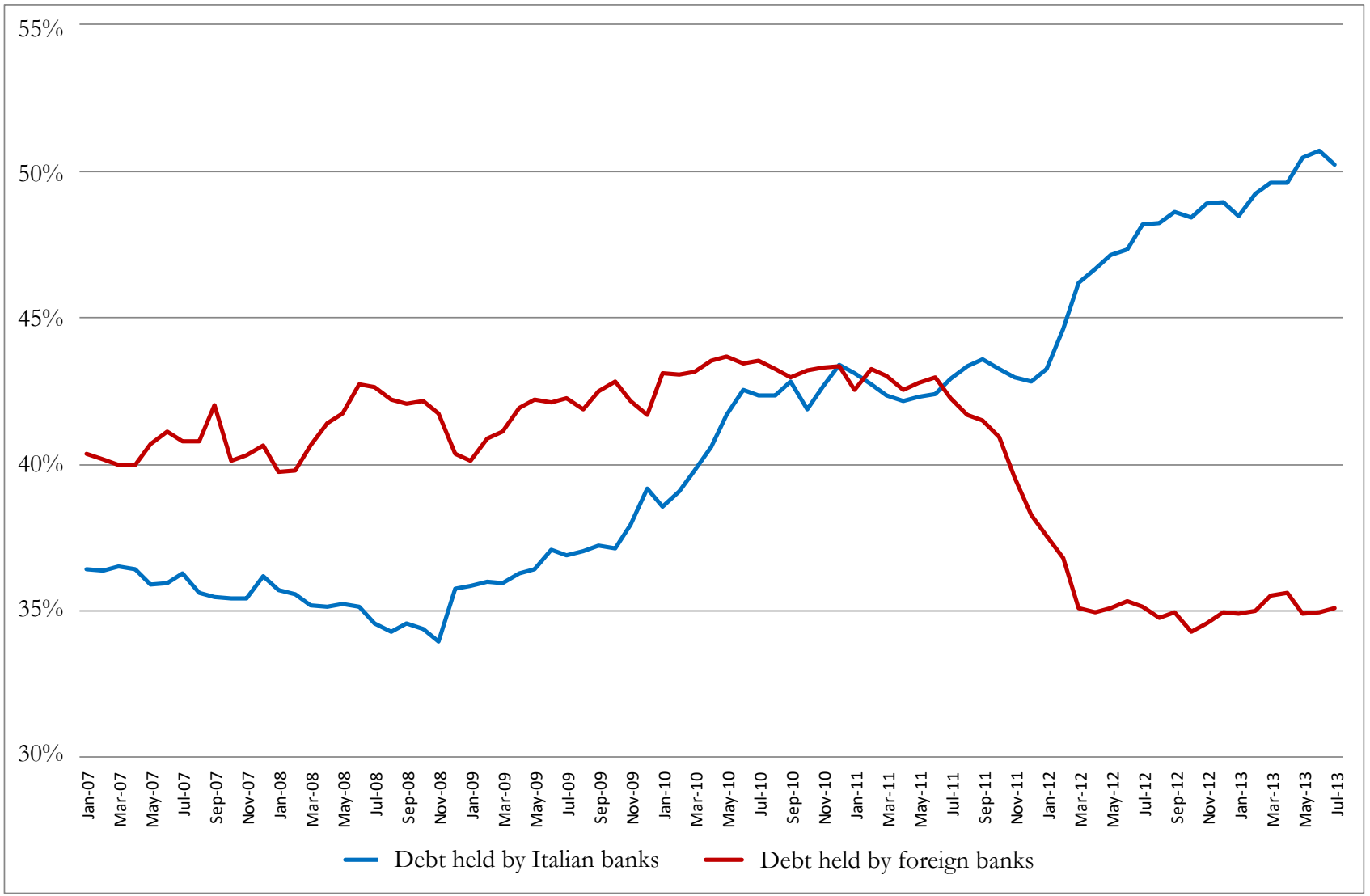
Eurozone – Share of Government Debt held by Foreign Investors



Public Debt Nationalization

THE ITALIAN CASE STUDY

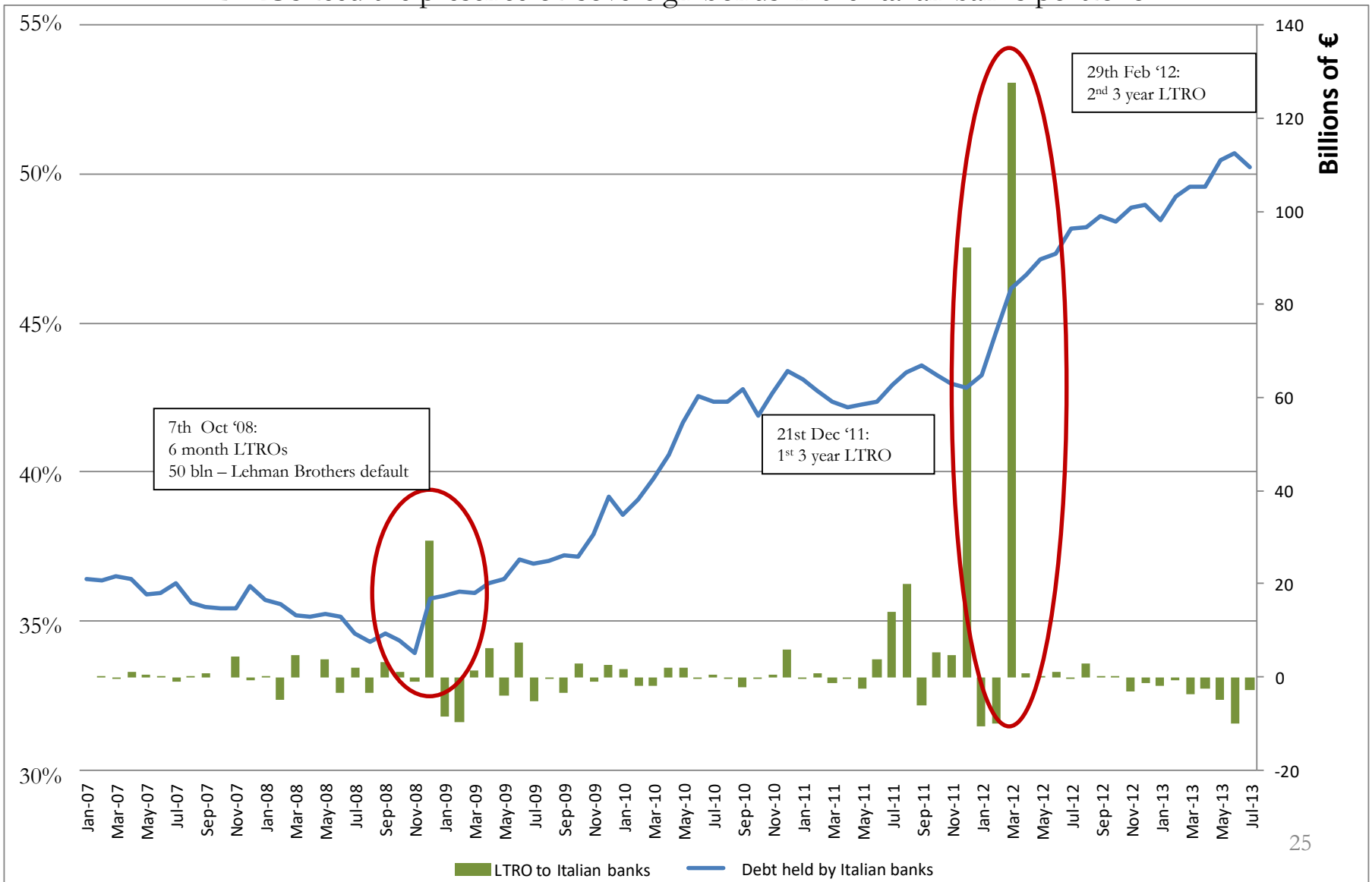
Sovereign Debt - sectorial breakdown (2007-2013)



Public Debt Nationalization

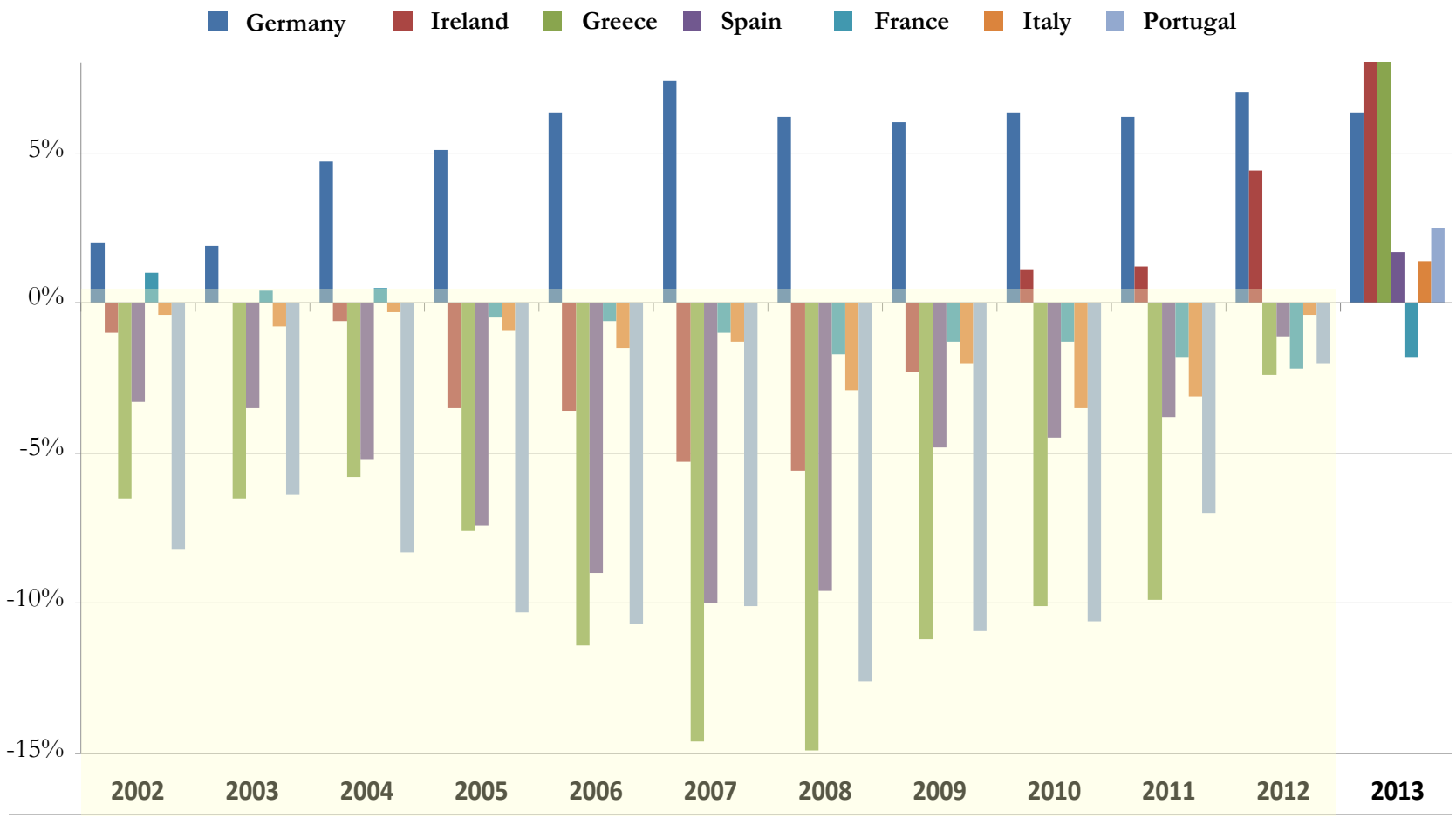
THE ITALIAN CASE STUDY

LTROs feed the presence of sovereign bonds in the Italian banks portfolio



Competitiveness gaps between member countries

Balance of trade (Eurostat 2002 – 2013)



Competitiveness gaps between member countries

Balance of trade (Eurostat 2002 – 2013)

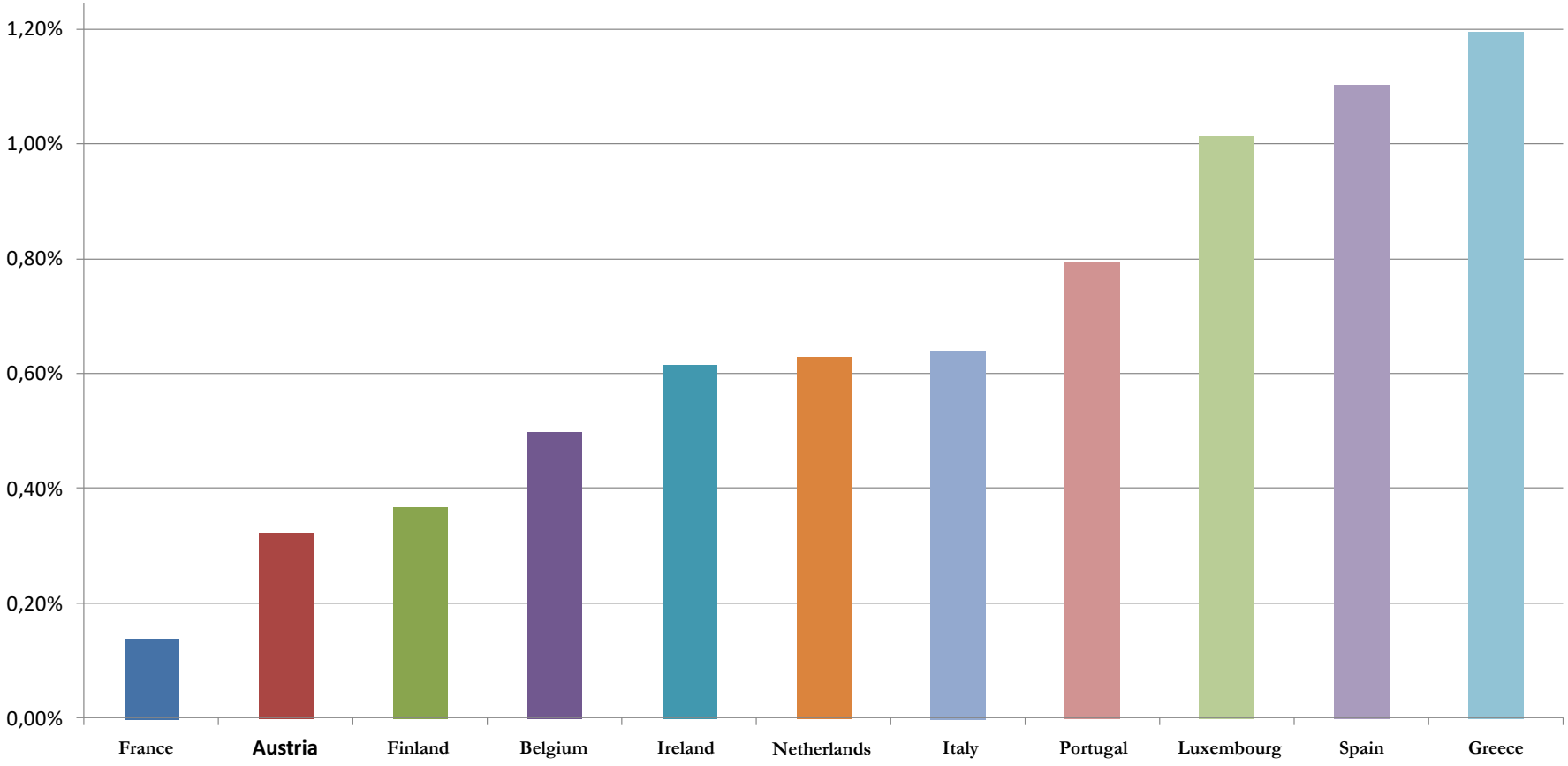
In 2013 the balance of trade of most Eurozone countries is back in surplus due to a collapse of imports, a severe recession and a deflationary scenario that is reaching alarming levels

Drivers of the trade surplus

THE GERMAN CASE STUDY

INFLATION

Excess in annual average inflation of some Eurozone countries w.r.t. Germany (1999 – 2013)



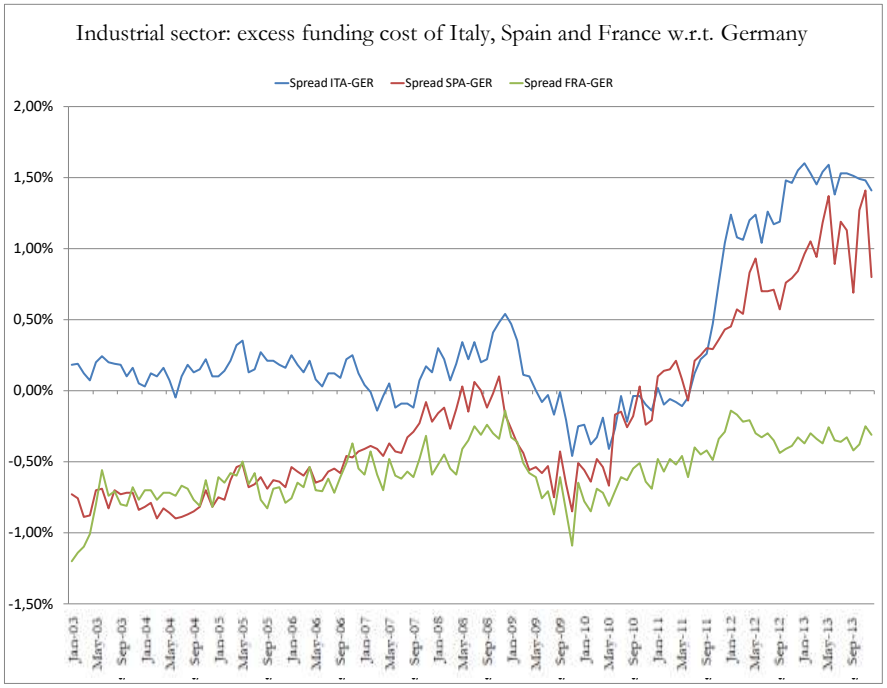
EUROSTAT Data and Eurozone Central Banks Data

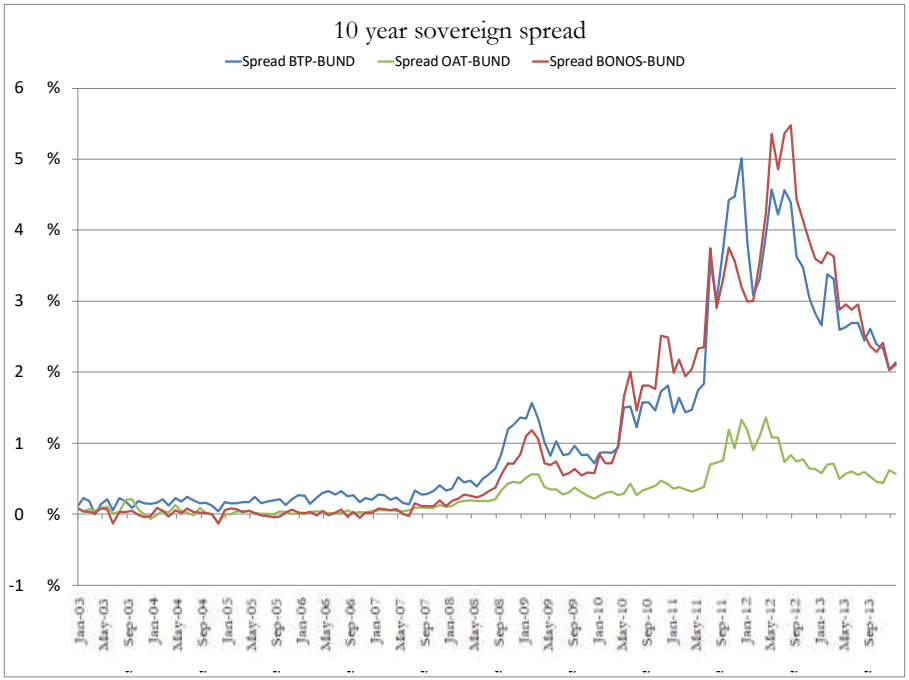
Drivers of the trade surplus

THE GERMAN CASE STUDY

SPREADS

spread on industrial borrowing rates and sovereign spread





EUROSTAT Data, Eurozone Central Banks Data and Bloomberg

Drivers of the trade surplus

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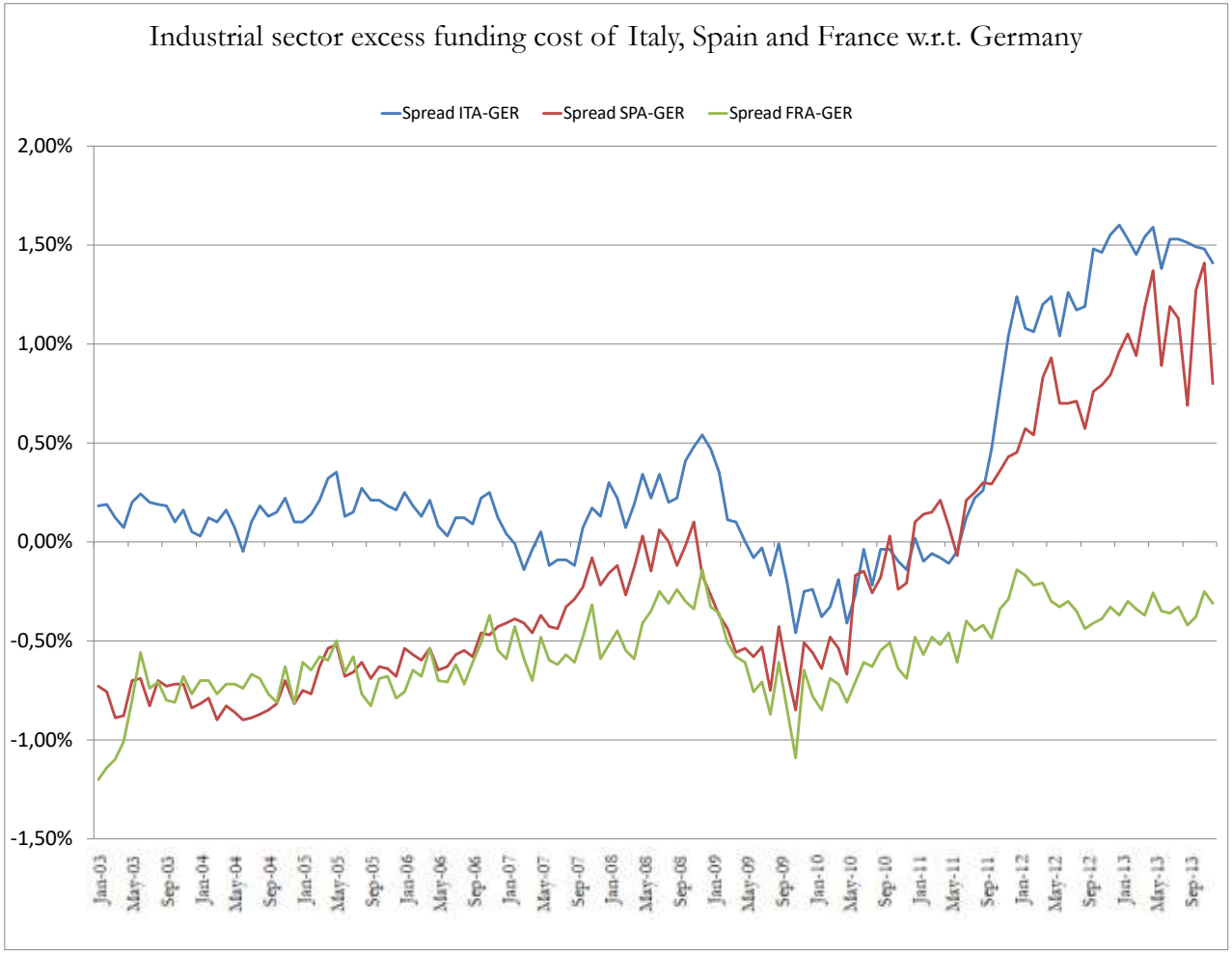

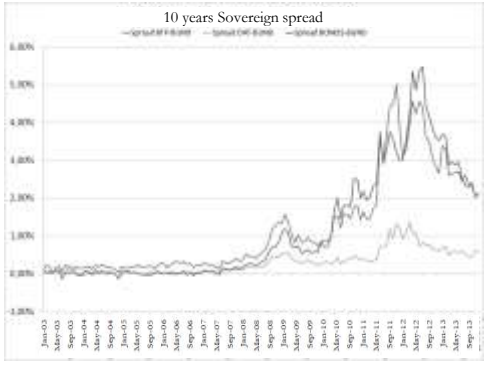

Drivers of the trade surplus

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SPREADS

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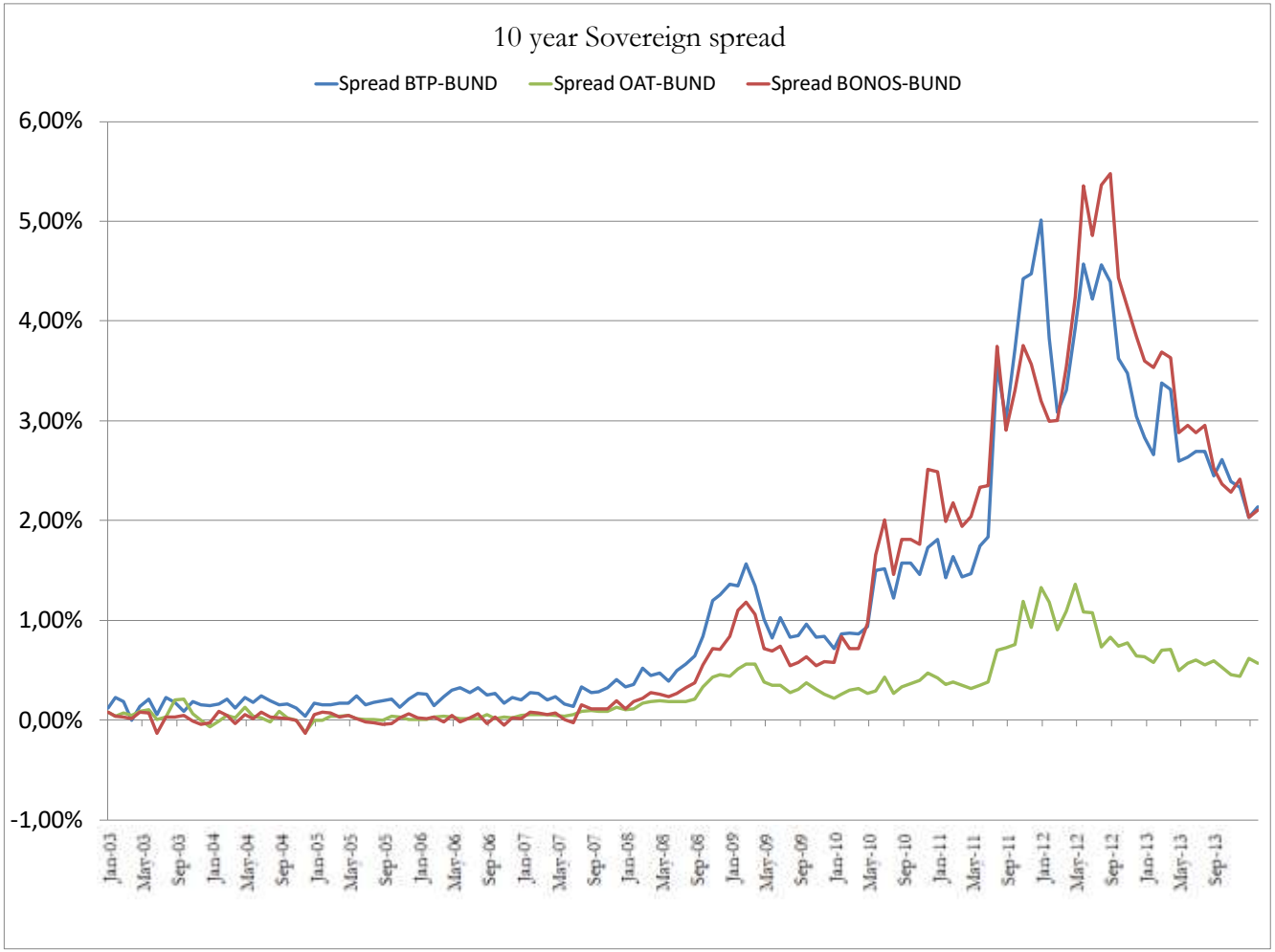


INFLATION + SPREADS

Price

1999 10 $

Price

1999 10 $

INFLATION + SPREADS

Price

1999 10.0 $

2013 11.7 $

Price

1999 10.0 $

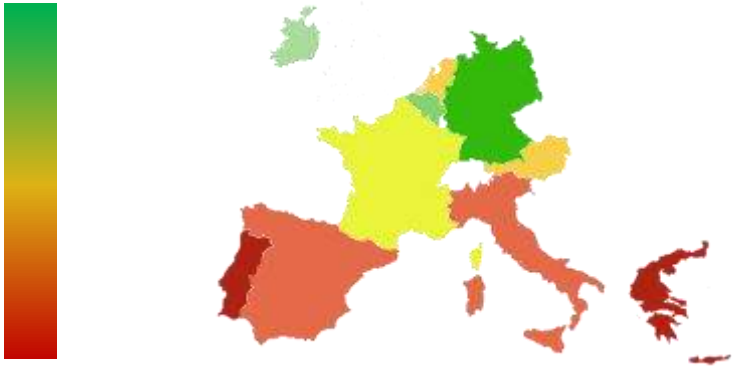
2013 13.6 $

+1.9 $

Drivers of the trade surplus

THE GERMAN CASE STUDY

EURO as a fixed exchange rate regime



Relative size of the trade balance among some members of the Monetary Union (year 2003)

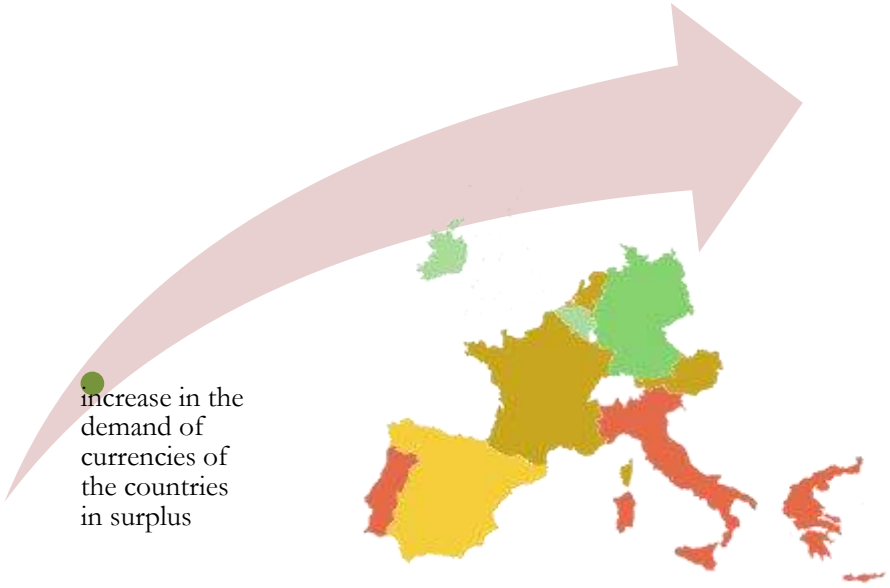
Drivers of the trade surplus

THE GERMAN CASE STUDY

EURO as a fixed exchange rate regime

Relative size of the trade balance among some members of the Monetary Union (year 2003)

Before the Eurozone
multiple currencies



Drivers of the trade surplus

THE GERMAN CASE STUDY

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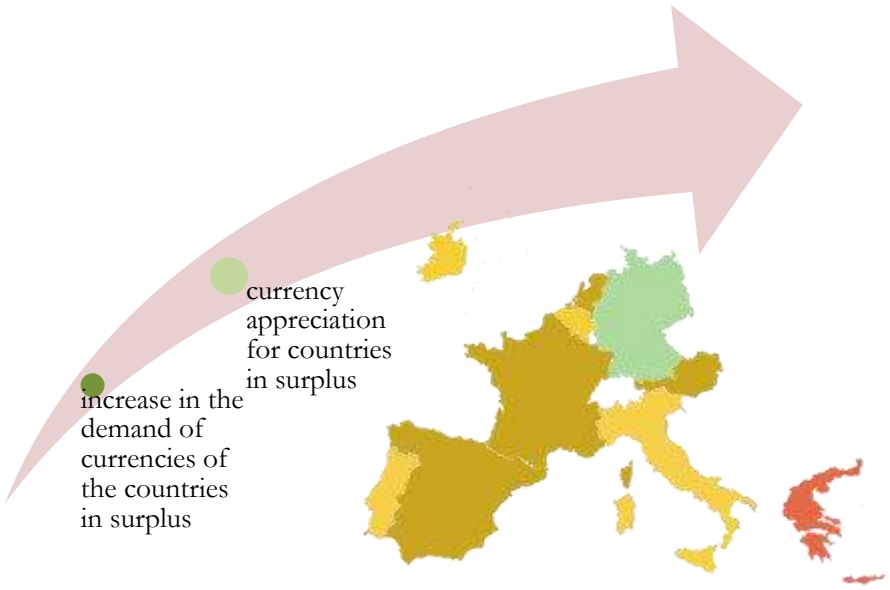

Drivers of the trade surplus

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EURO as a fixed exchange rate regime

Before the Eurozone
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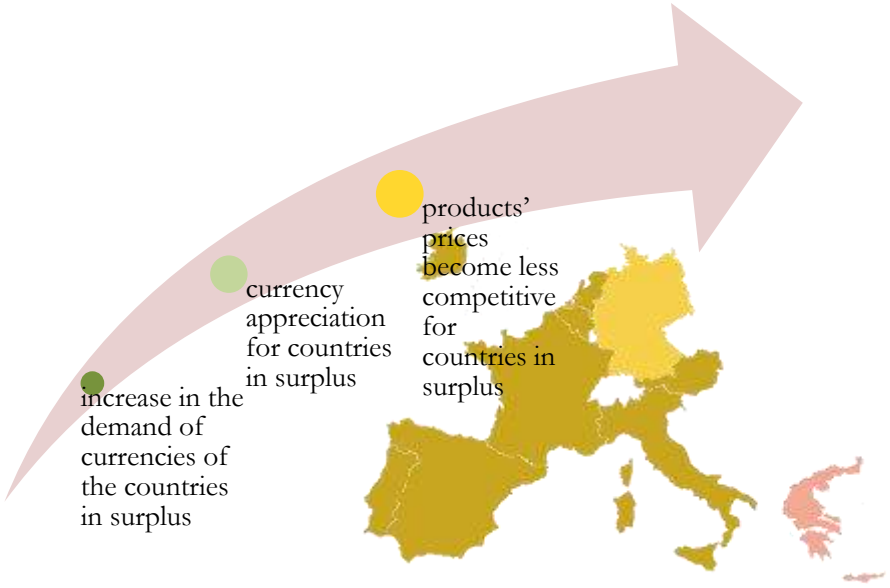

Drivers of the trade surplus

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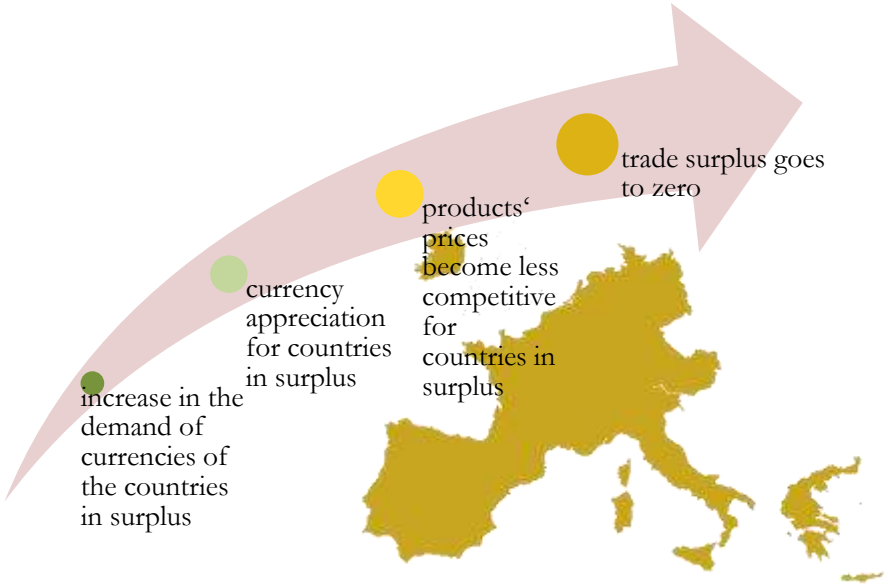

Drivers of the trade surplus

THE GERMAN CASE STUDY

EURO as a fixed exchange rate regime

With the Eurozone
single currency

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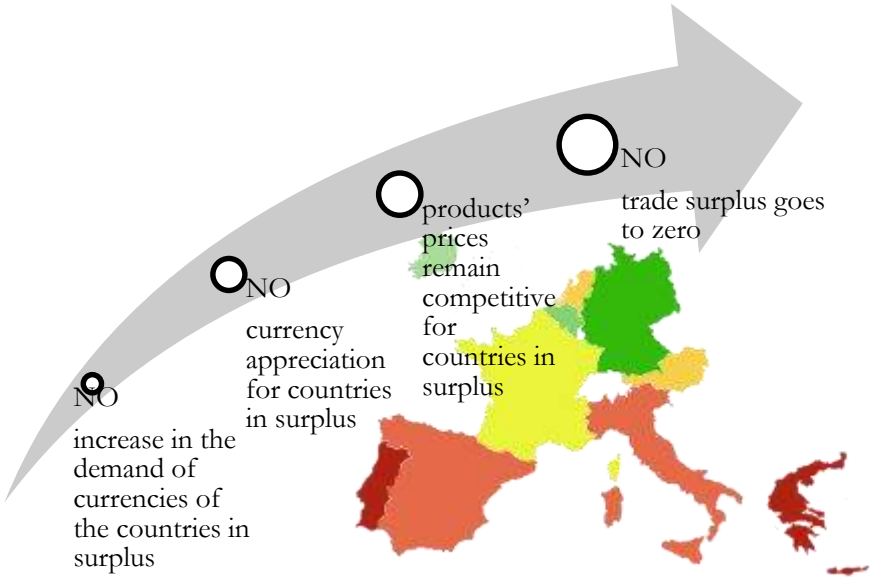
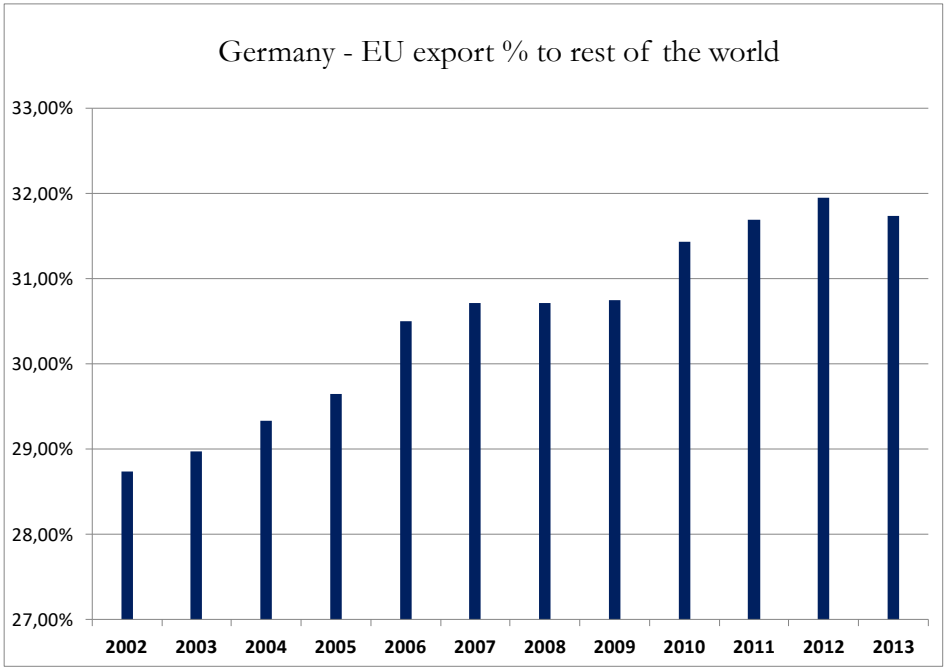
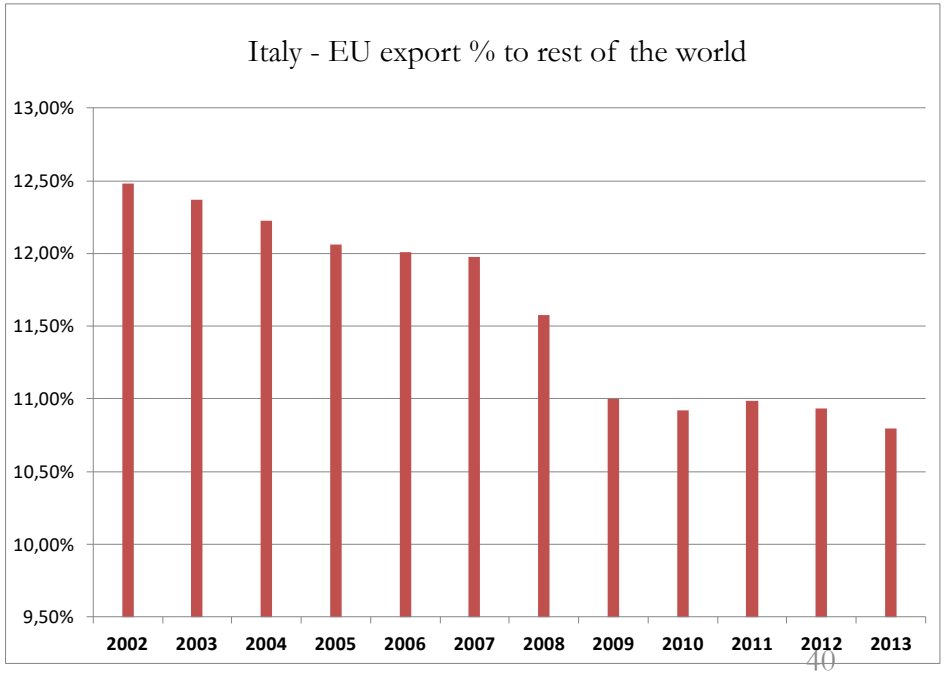


4th implication Competitiveness gaps between member countries

EU export % to rest of the world – opposite trends





EUROSTAT Data and Eurozone Central Banks Data

EZ members' Public debts become "substantially" denominated in foreign currency

1997 – Public Debts

(Billions of national currency)

Germany	Greece	Spain	France	Italy
German mark	Greek drachma	Spanish peseta	French franc	Italian lira
1,143	105	333	751	1,239
60% of GDP	97% of GDP	66% of GDP	59% of GDP	117% of GDP

EUROSTAT Data

National Central Banks could control the money supply

5th implication

EZ members' Public debts become "substantially" denominated in foreign currency

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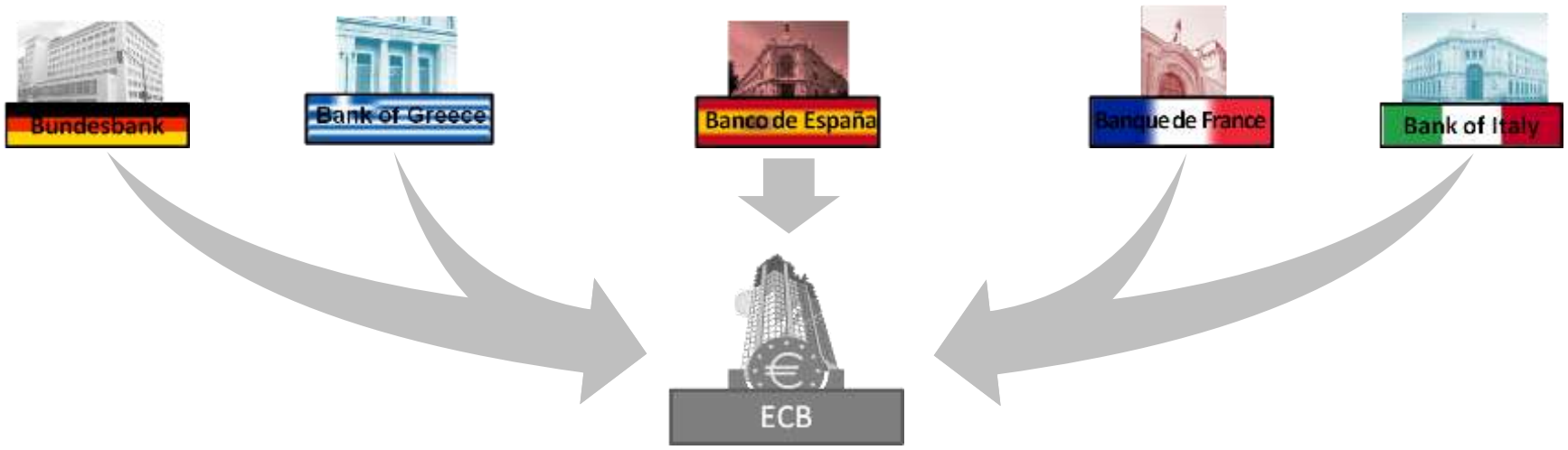

Euro involves the transfer of monetary sovereignty to the ECB

2013 – Public Debts

(Billions of Euro)

Germany	Greece	Spain	France	Italy
2,147	318	960	1,925	2,069
78% of GDP	175% of GDP	94% of GDP	93% of GDP	133% of GDP

5th implication

EZ members' Public debts become "substantially" denominated in foreign currency

The public debt denominated in foreign currency is unsustainable when around 70% of GDP

	Year of default	Public debt denominated in foreign currency on GDP
Argentine	1982	55.1%
	2001	50.8%
Iran	1992	41.8%
Mexico	1982	46.7%
Russia	1991	12.5%
	1998	58.5%
Turkey	1978	21.0%
Venezuela	1982	41.4%
…..	…..	…..
Average of 36 cases of default on public debt denominated in foreign currency between 1970-2008		**69.3%**

Source: *This time is different – Eight Century of Financial Folly* - C. Reinhart, K. Rogoff.

2013 – Public Debts

(Billions of Euro)

Germany	Greece	Spain	France	Italy
2,147	318	960	1,925	2,069
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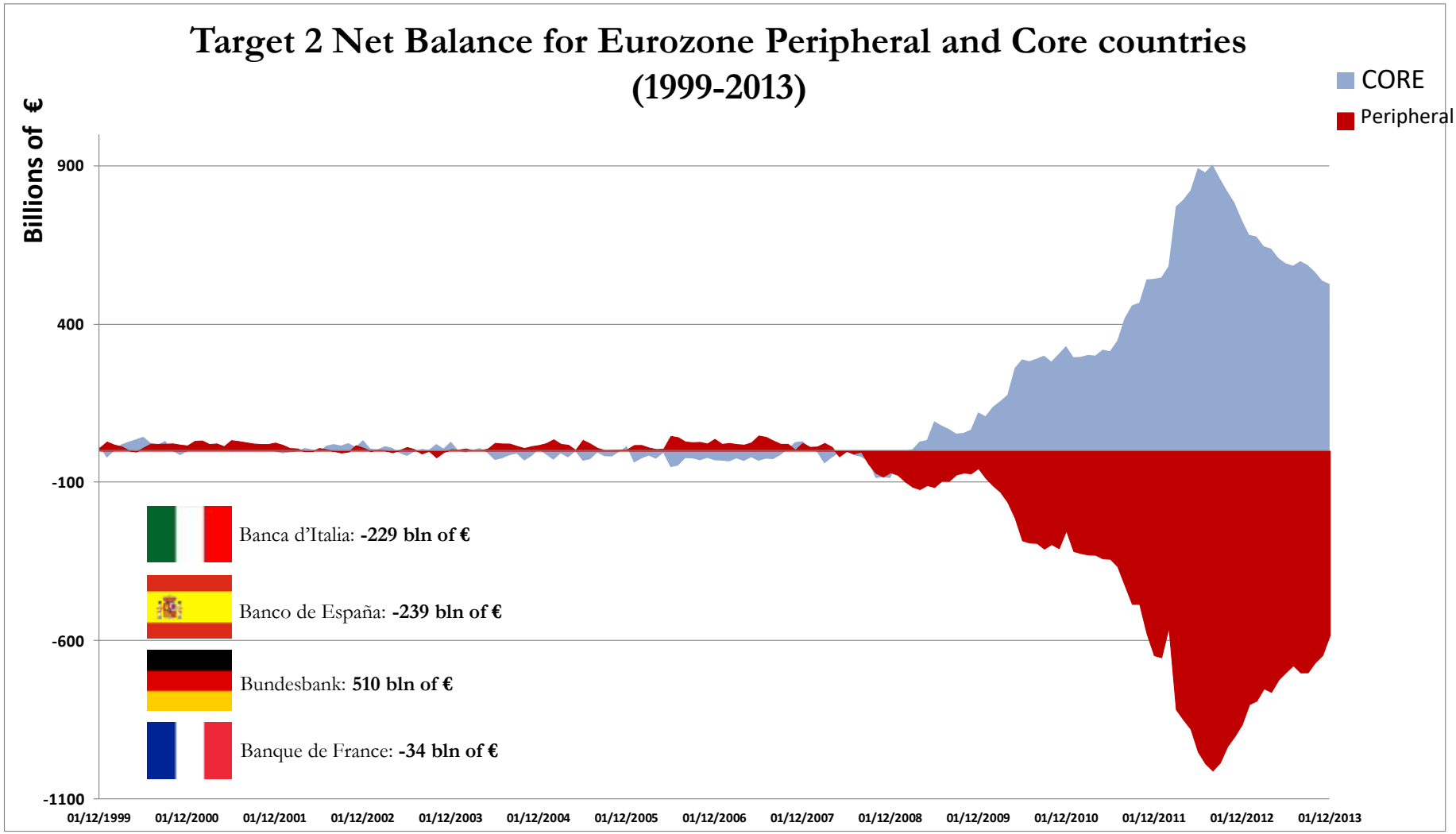
Systematic Target2 imbalances



Eurozone Central Banks Data

Target2 payment system

Assets	Liabilities
	Debt 100

Assets	Liabilities
Credit 100	

Credit Risk Exposure

Target2 payment system

Assets	Liabilities
	~~Debt 100~~

Assets	Liabilities
~~Credit 100~~	
Cash 100	

CREDIT RISK TRANSFER
to Central Banks

Assets	Liabilities
	Debt 100

Assets	Liabilities
Credit 100	

Target2 payment system

Assets	Liabilities
	~~Debt 100~~

Assets	Liabilities
~~Credit 100~~	
Cash 100	

This risk is guaranteed by European System of Central Banks

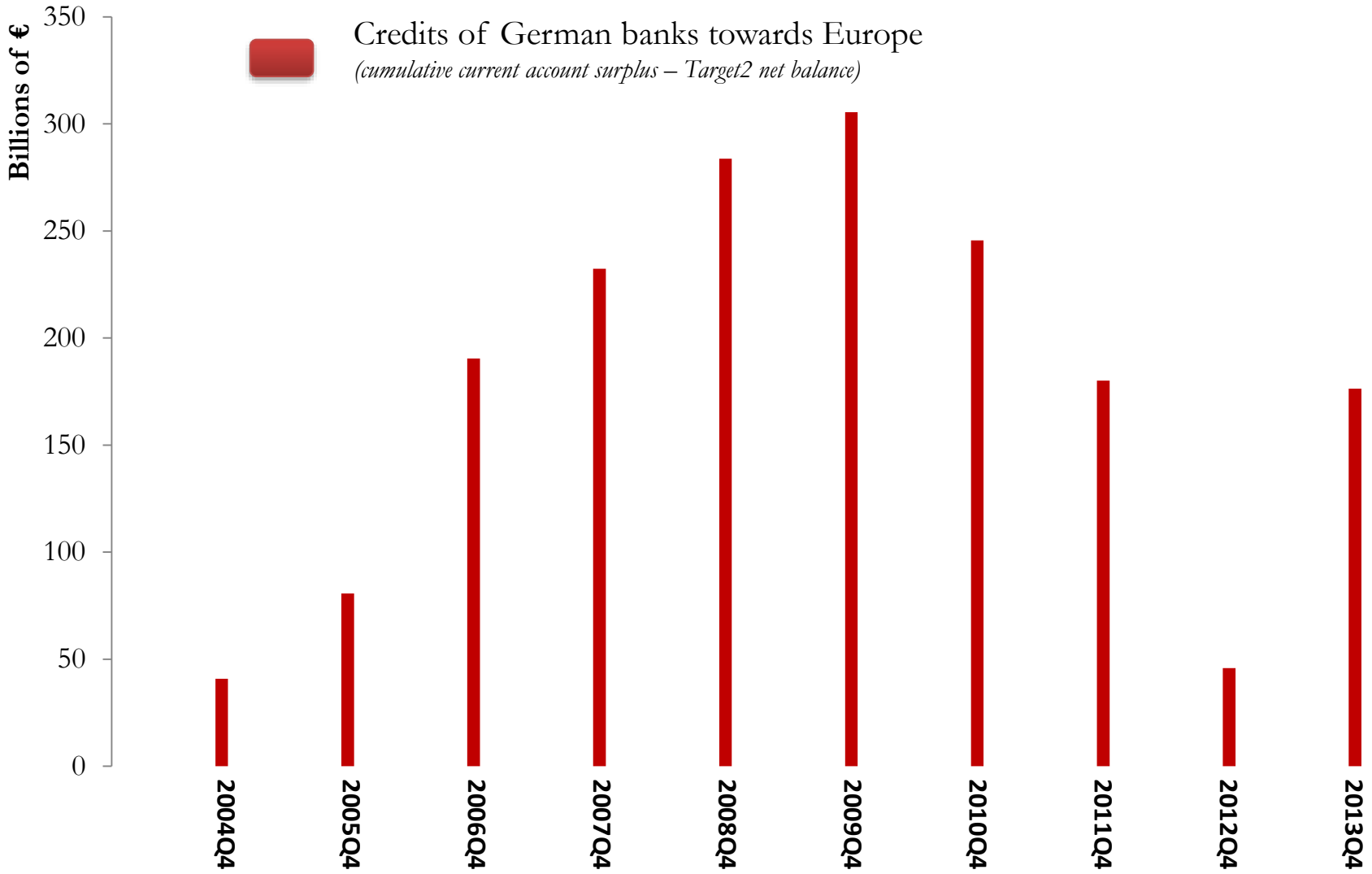
CREDIT RISK MUTUALIZATION

Assets	Liabilities
	Debt 100

Assets	Liabilities
Credit 100	

Target2: Mutualization of the credit risk borne by private banks

THE GERMAN CASE STUDY

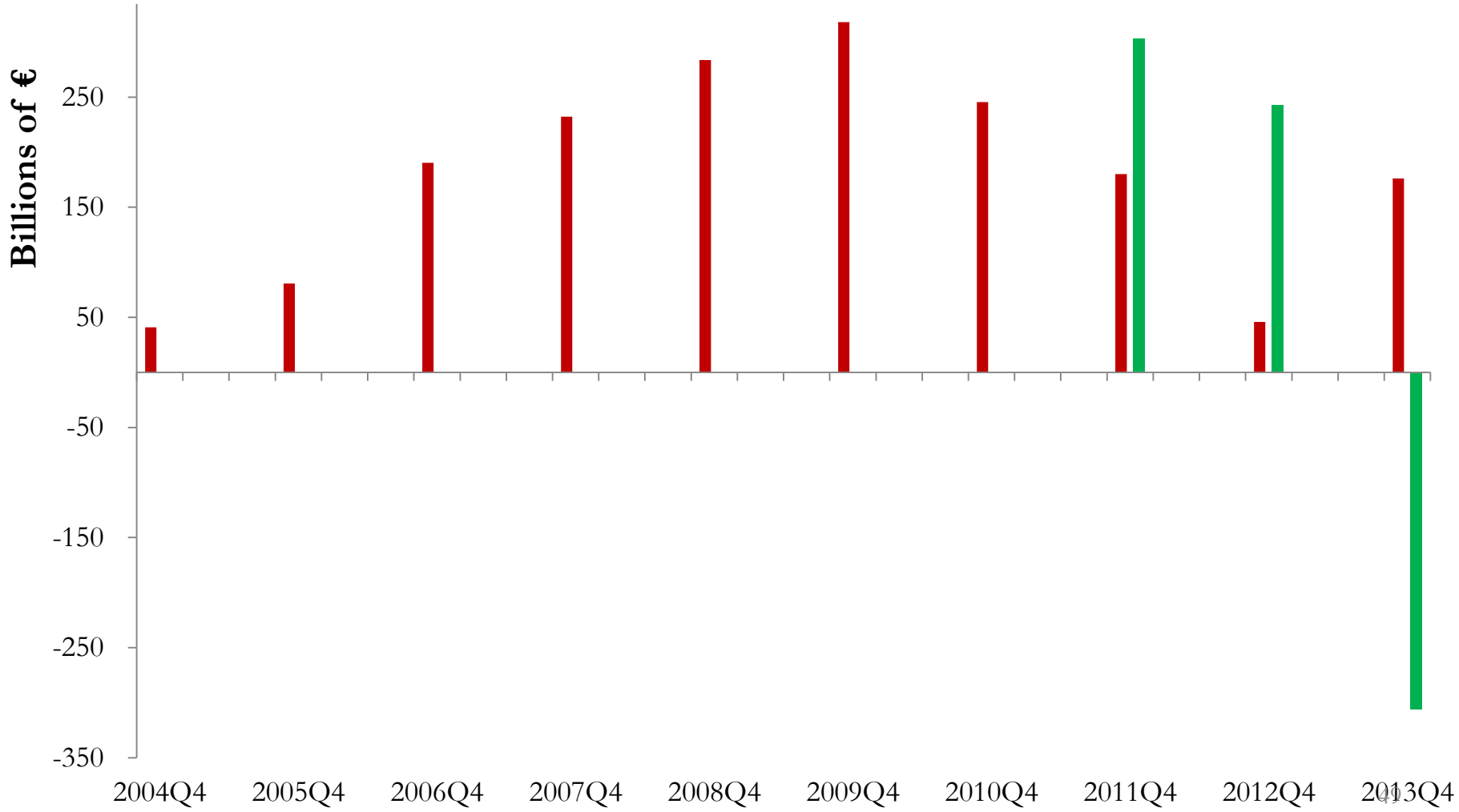


EUROSTAT Data and Eurozone Central Banks Data

Target2: Mutualization of the credit risk borne by private banks

Credits of German banks towards Europe
(cumulative current account surplus – Target2 net balance)

LTRO EU (Net of Germany)

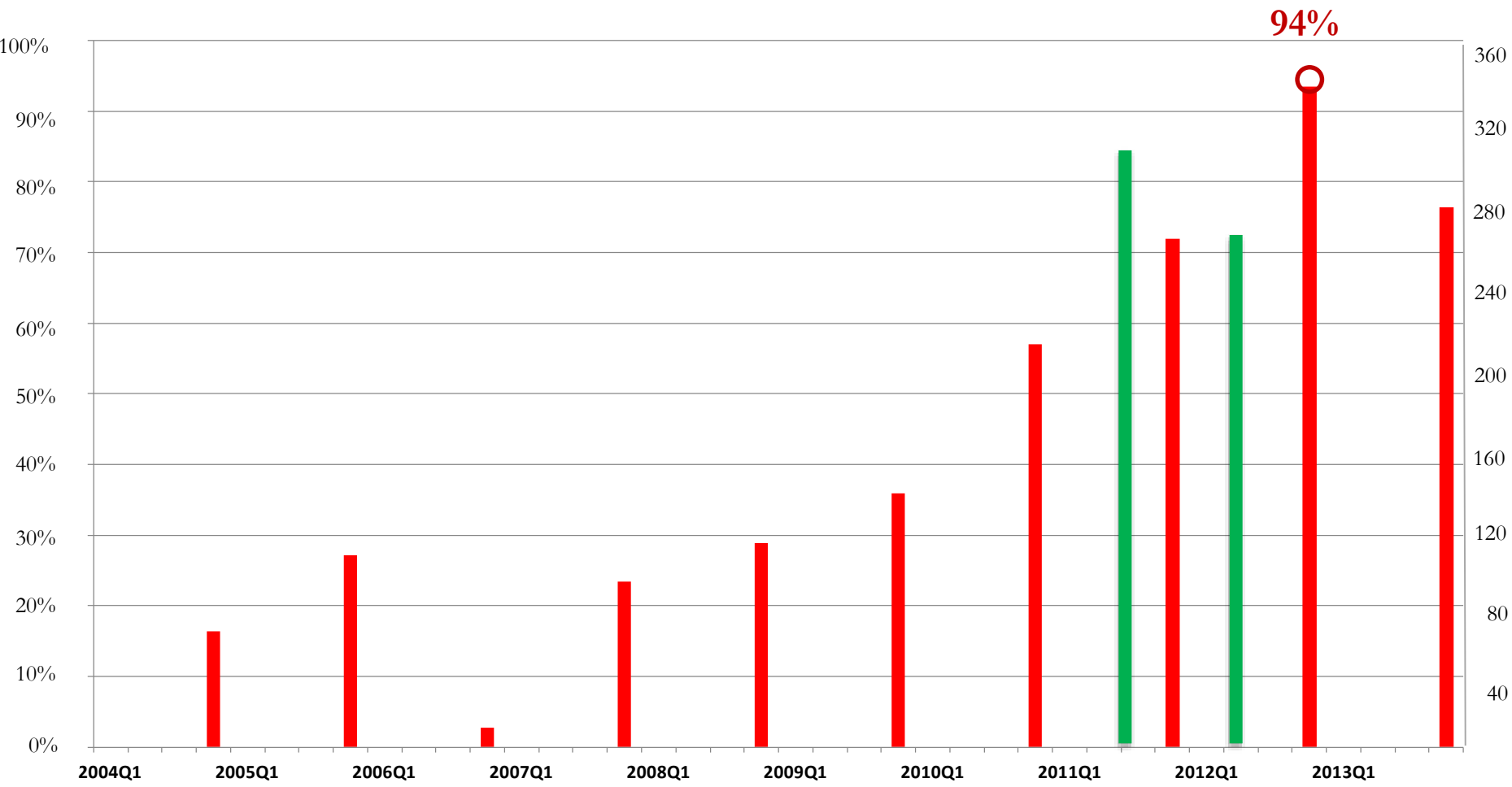


EUROSTAT Data and Eurozone Central Banks Data

Target2: Mutualization of the credit risk borne by private banks

Systemic credit risk transferred from the German banking system to the Eurosystem
(Target2 net balance/cumulative current account surplus)

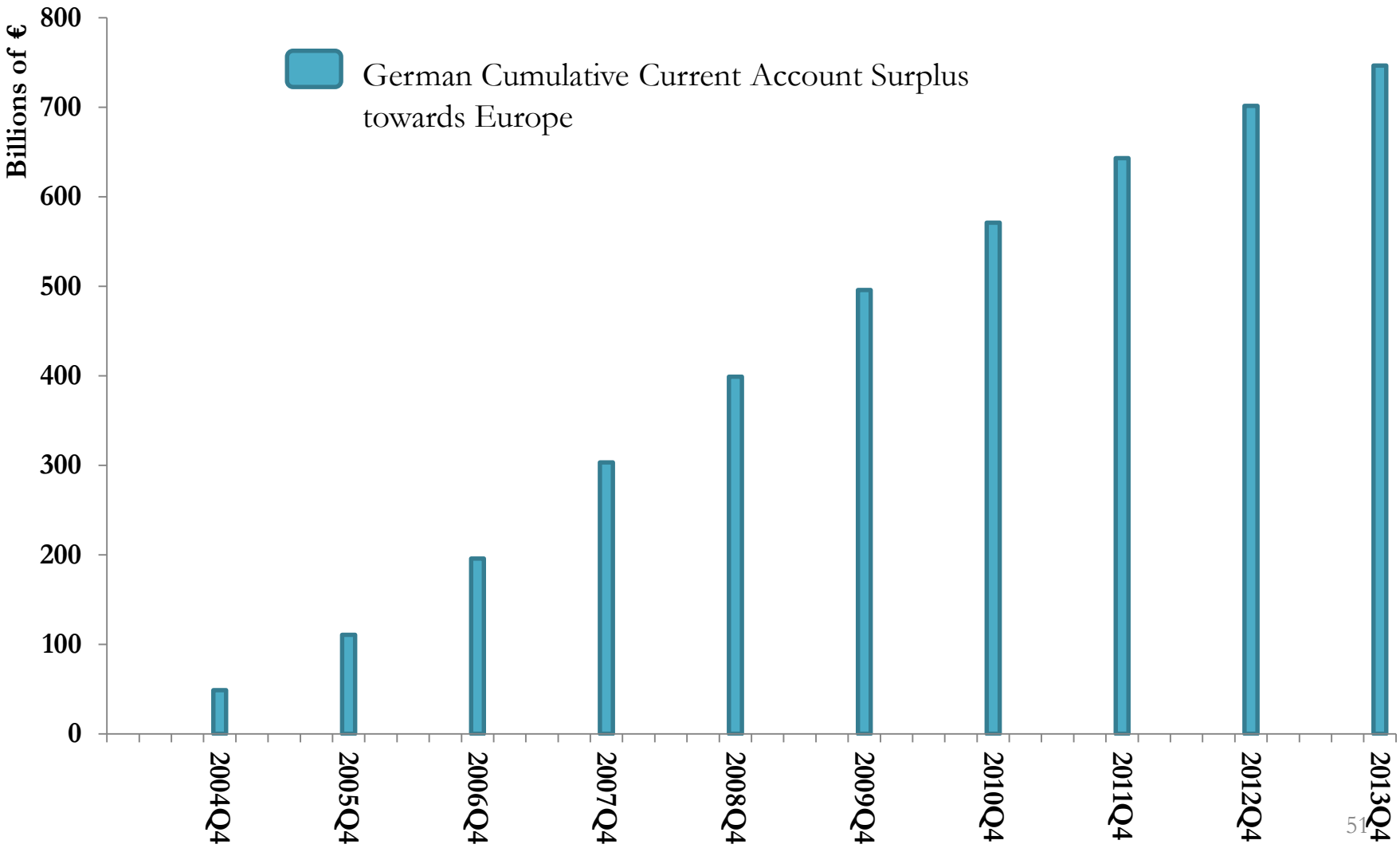
LTRO EU (Net of Germany)



EUROSTAT Data and Eurozone Central Banks Data

Vendor financing – credit recovery

THE GERMAN CASE STUDY



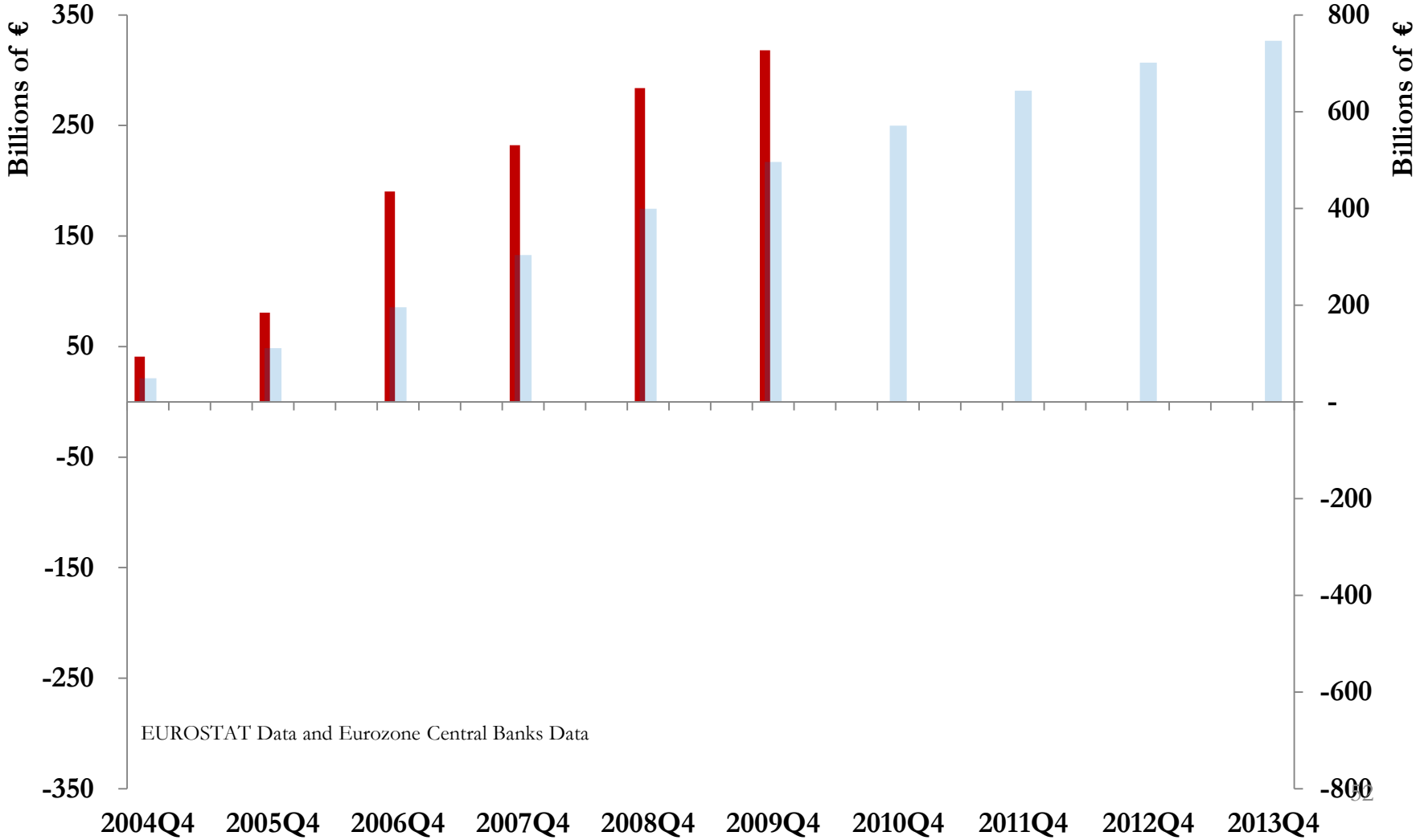
EUROSTAT Data and Eurozone Central Banks Data

Vendor financing

The German banking system expands credit to the periphery to support the German current account surplus

Credits of German banks towards Europe (LHS)
(cumulative current account surplus – Target2 net balance)

German cumulative current account towards Europe (RHS)



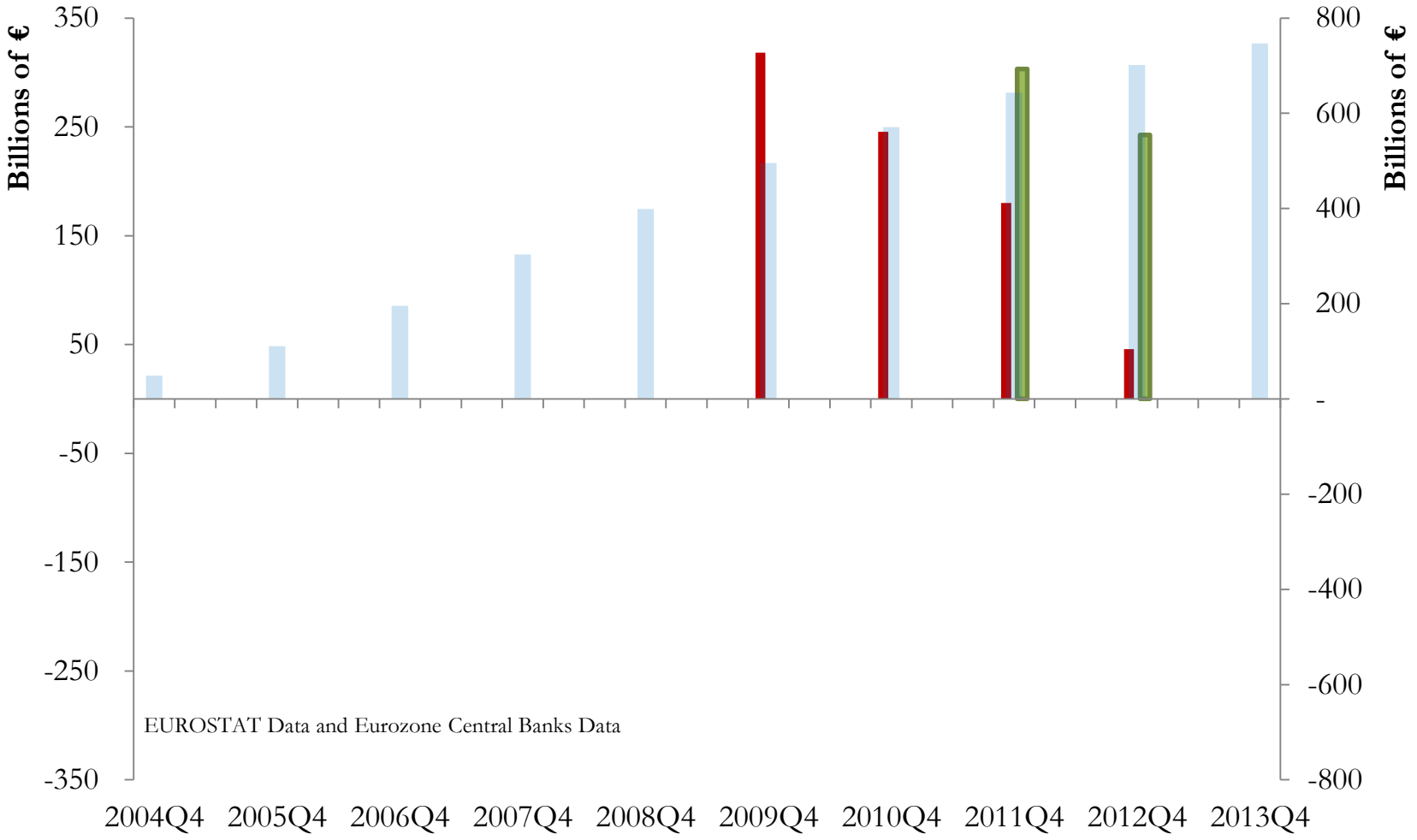
Credit recovery

The German banking system collects its credits towards Peripheral Countries

Credits of German banks towards Europe (LHS)
(cumulative current account surplus – Target2 net balance)

LTRO EU (Net of Germany) (LHS)

German cumulative current account towards Europe (RHS)



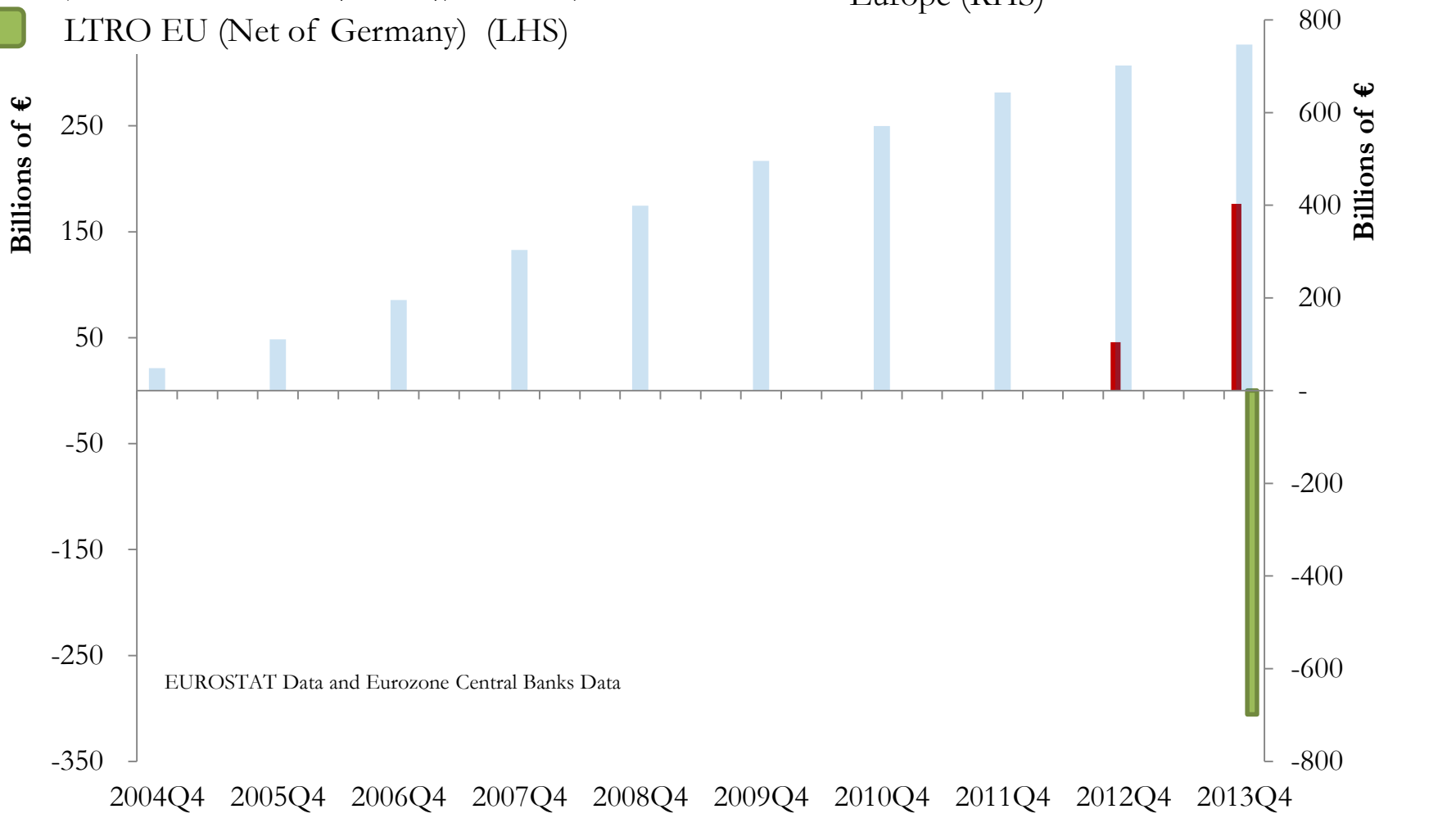
Vendor financing

The German banking system collects expands credit to support the German current account surplus

Credits of German banks towards Europe (LHS)
(cumulative current account surplus – Target2 net balance)

German cumulative current account towards Europe (RHS)

LTRO EU (Net of Germany) (LHS)

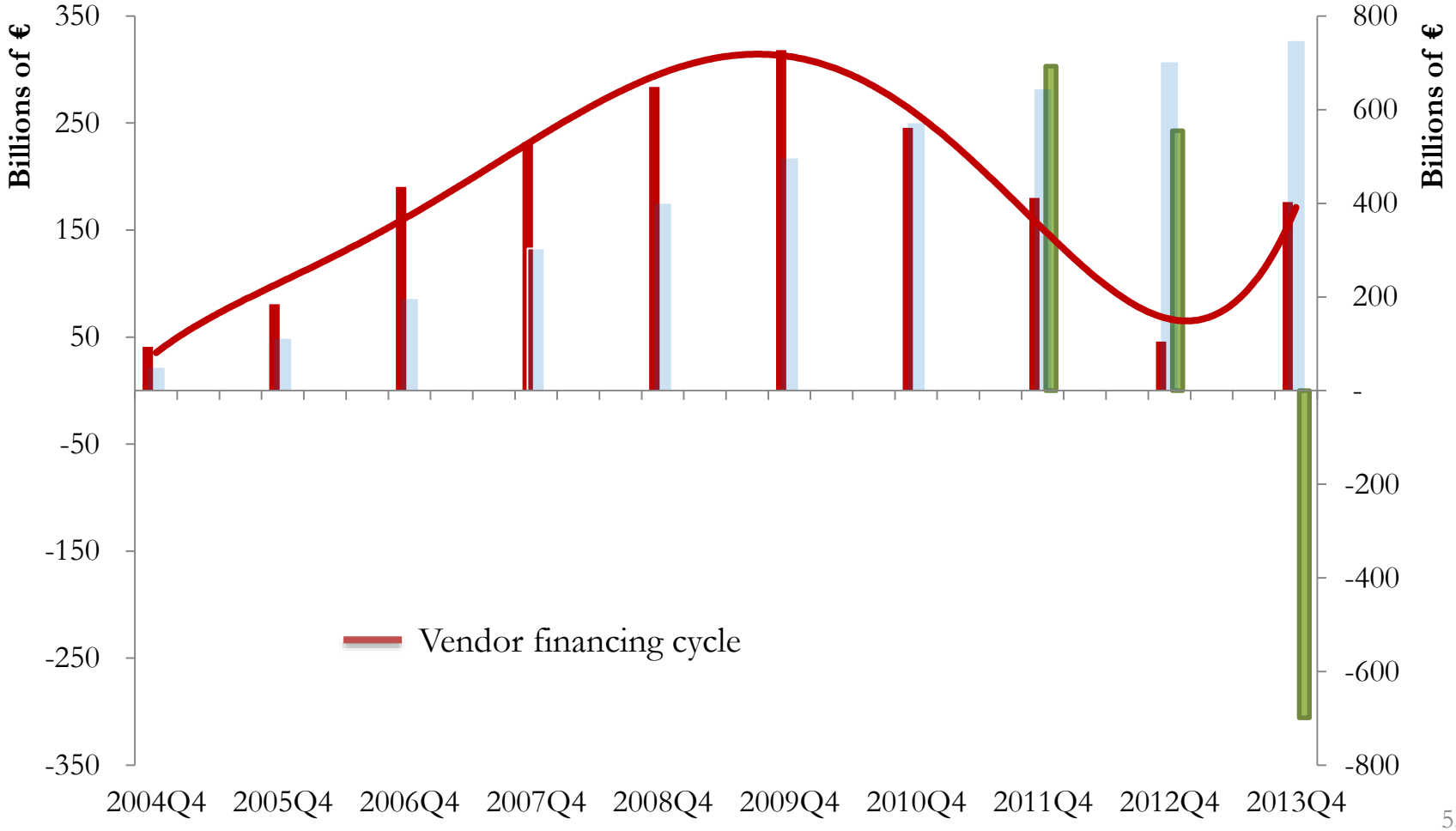


Vendor financing EU-cycle (2004-2013)

Credits of German banks towards Europe (LHS)
(cumulative current account surplus – Target2 net balance)

German cumulative current account towards Europe (RHS)

LTRO EU (Net of Germany) (LHS)

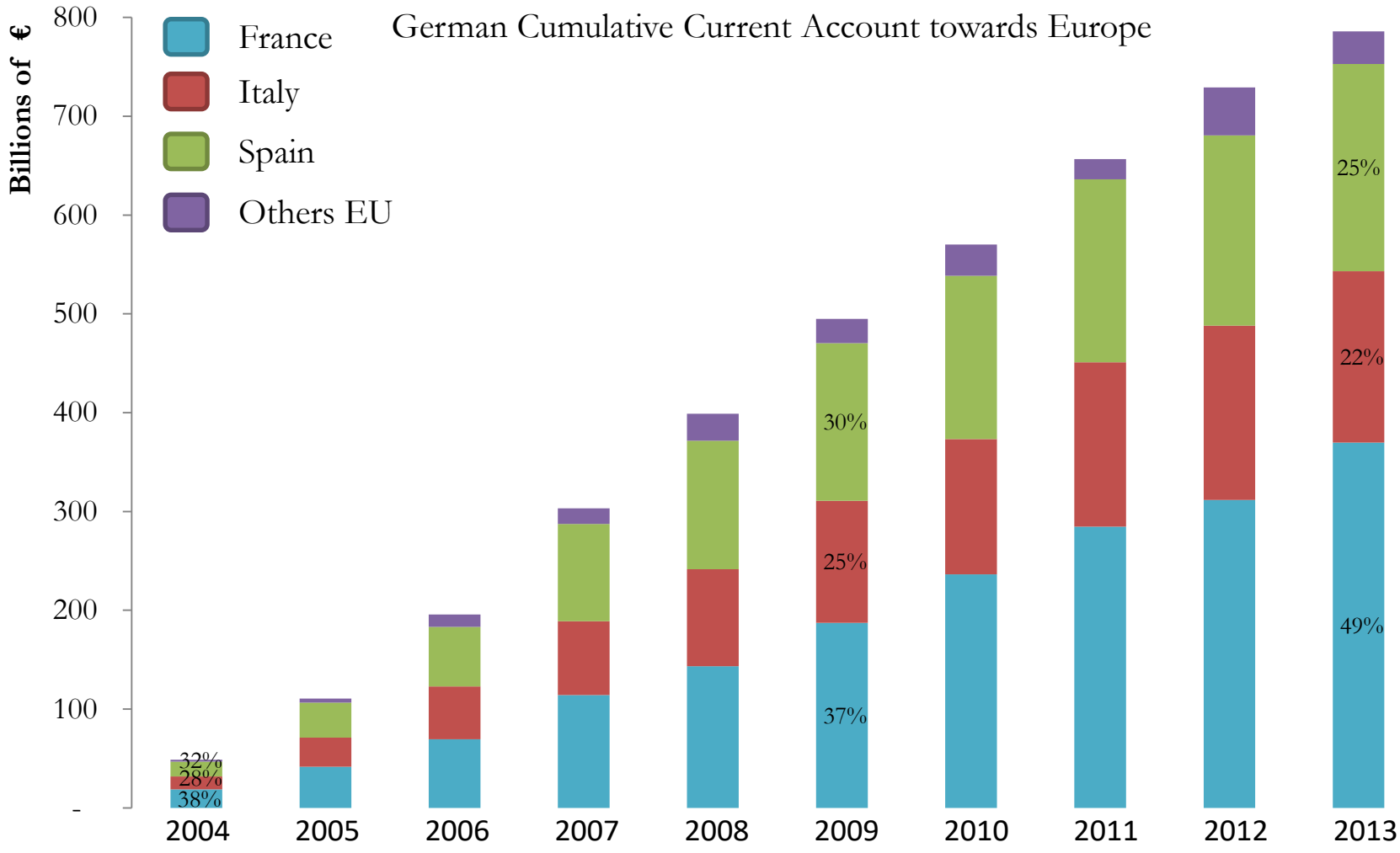


EUROSTAT Data and Eurozone Central Banks Data

Vendor financing EU-cycle (2004-2013)

break down by countries

Peripheral Counties cannot longer support the German Current Account.
France is the only EU country that still does it.



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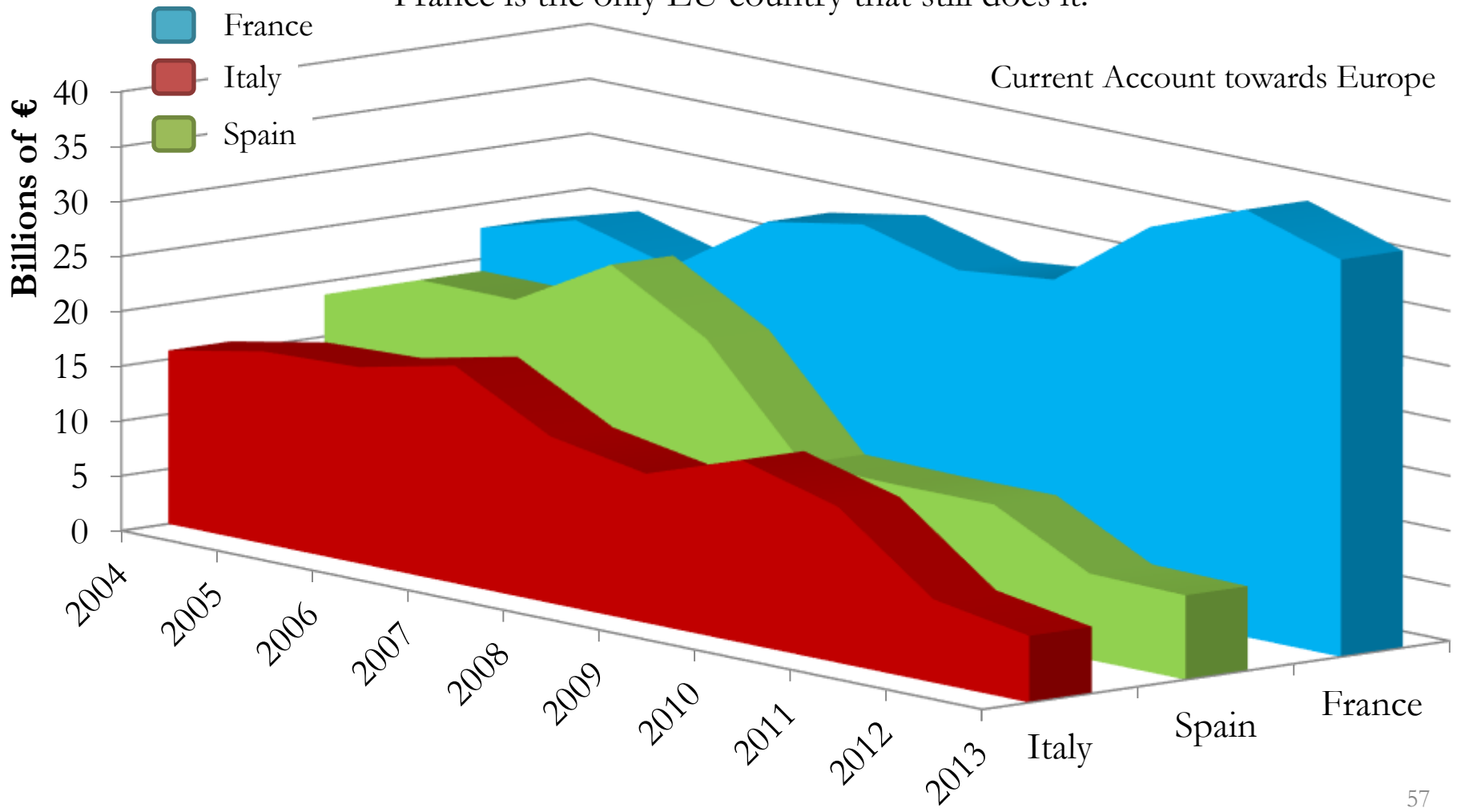
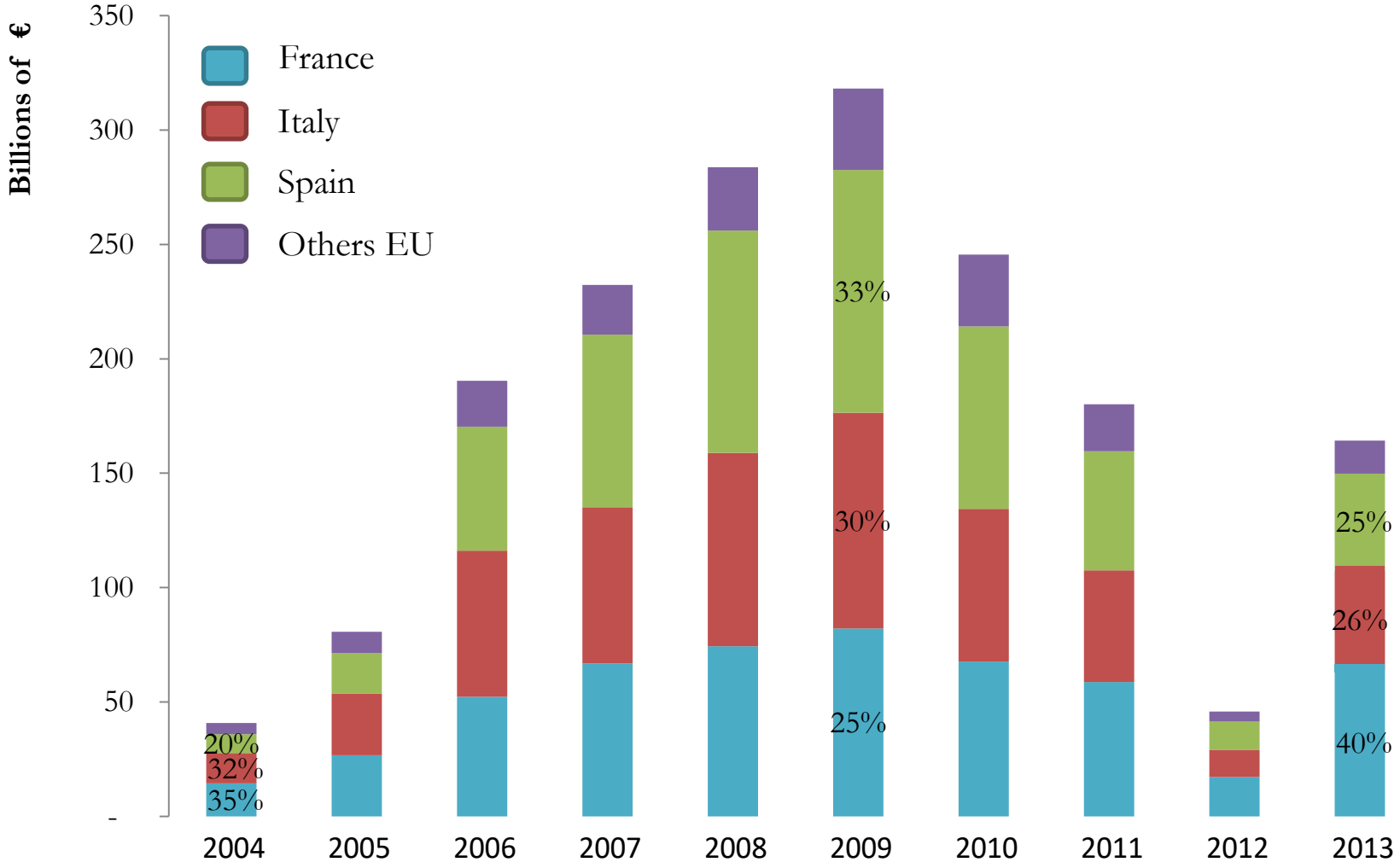


Vendor financing EU-cycle (2004-2013)

break down by countries

The drop of demand in Peripheral Countries reduces their credit demand to German banks.
France increases its liabilities towards German banks



Vendor financing EU-cycle (2004-2013)

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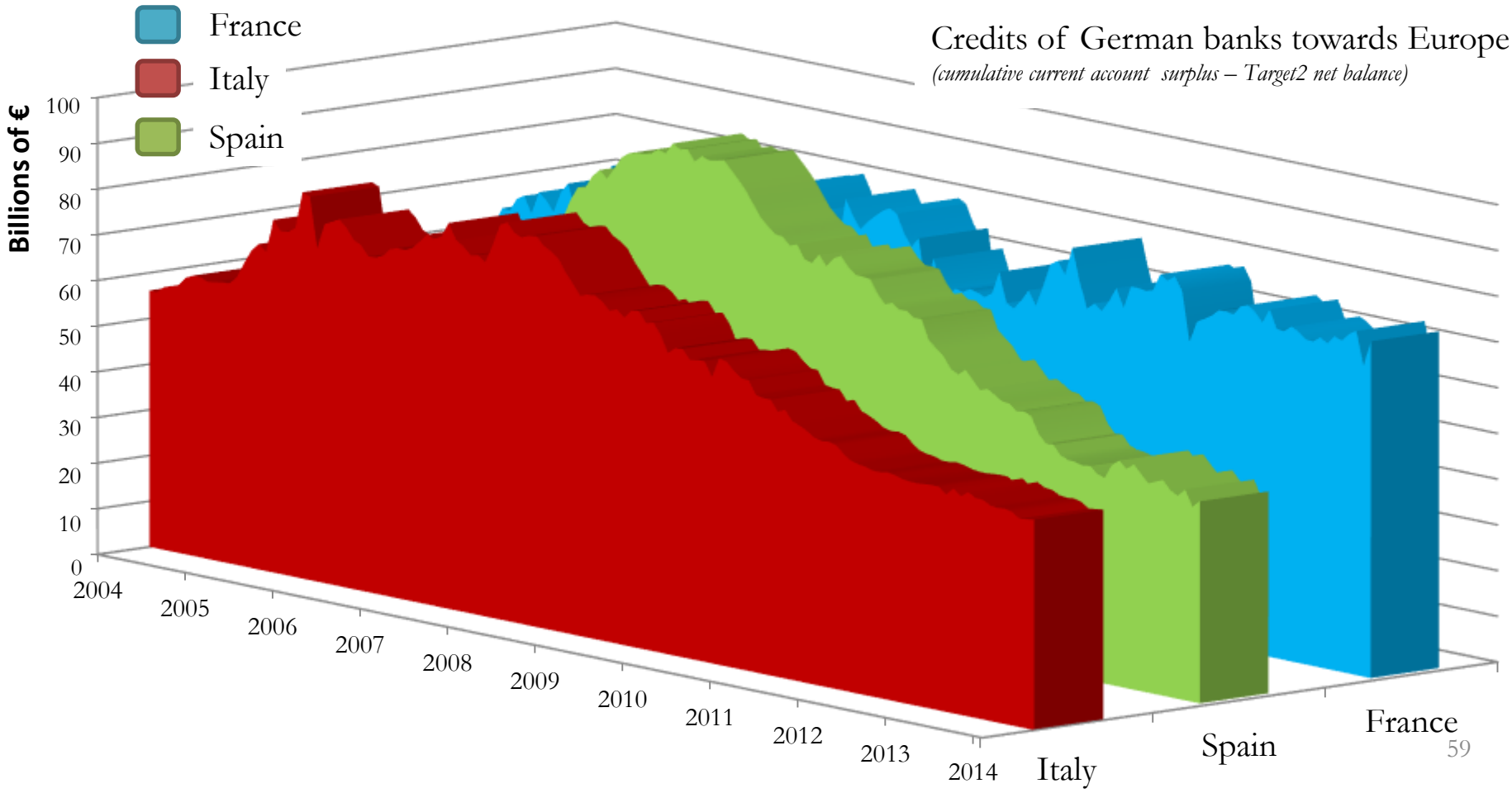
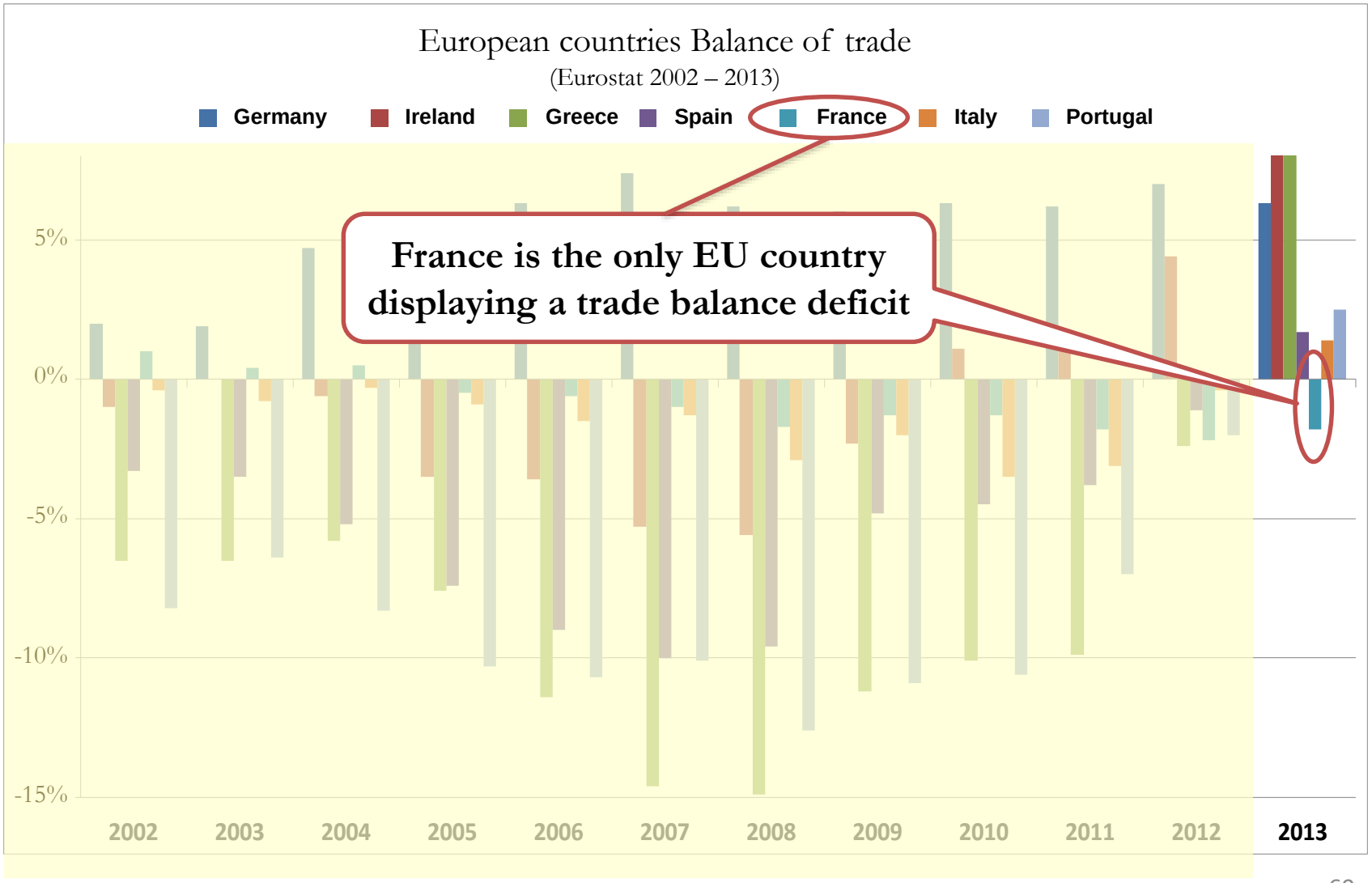
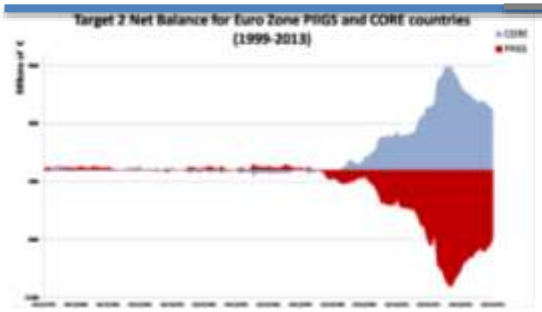


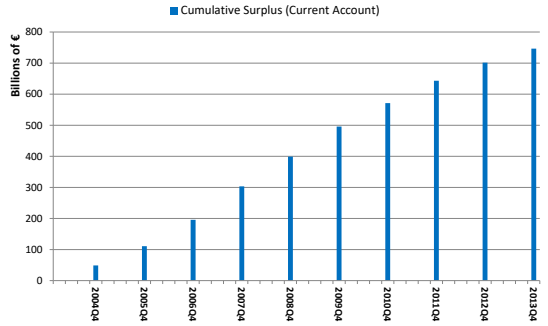
Vendor financing – Credit recovery EU-cycle

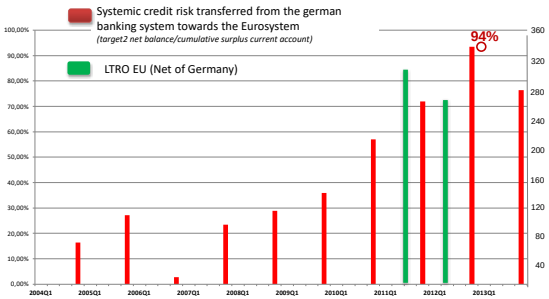
break down by countries



Target2 and LTRO – Impact on real economy







The European mechanisms and interventions have allowed:

Germany:

- to finance its trade surplus;
- to transfer the risk of its banks on the European System of Central Banks;

Positive impact on German real economy

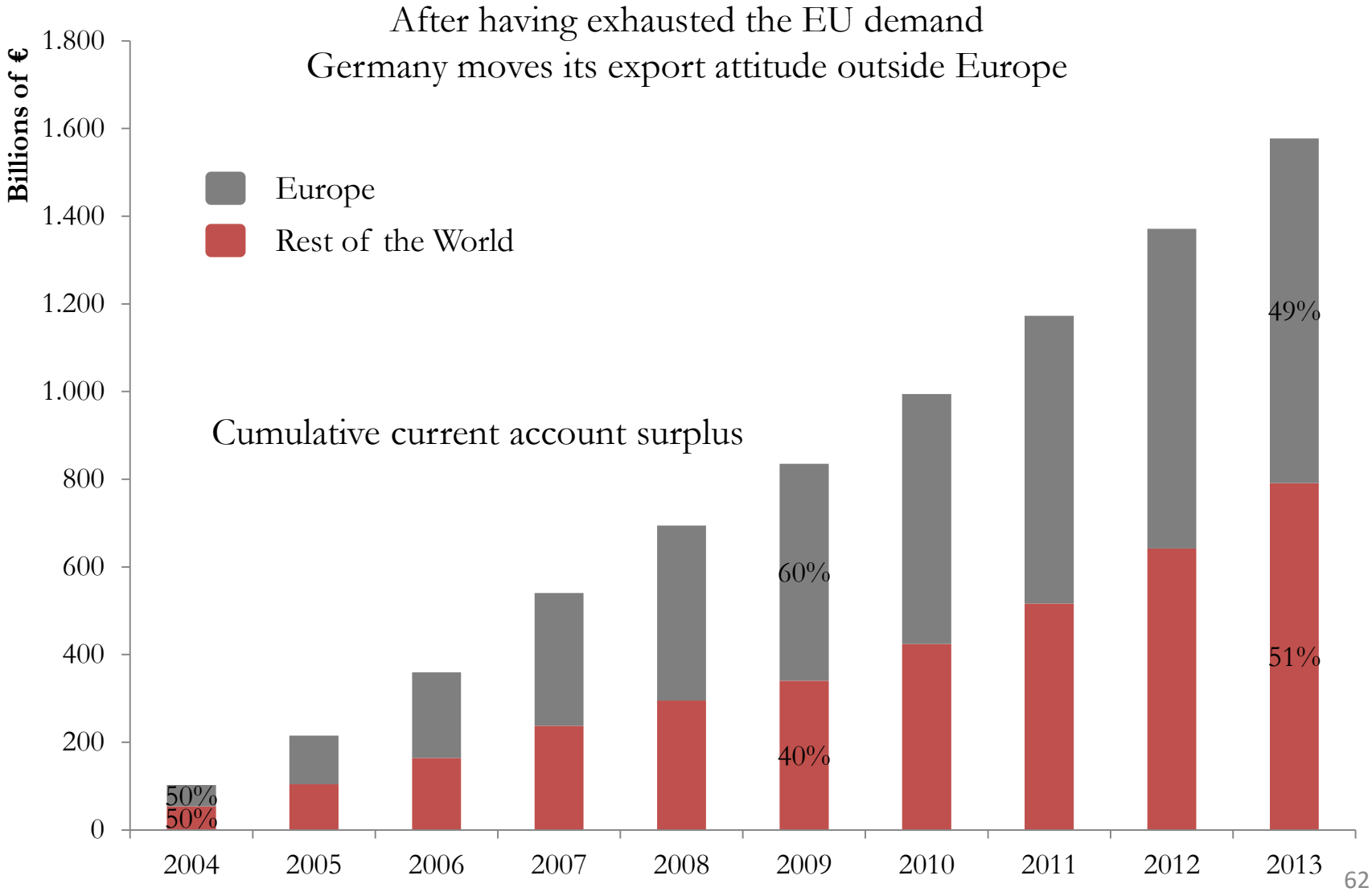
Peripheral Countries:

- to re-pay their debts to Germany;
- to nationalize their sovereign debt.

Negative impact on Peripheral Countries' real economy

Vendor financing WW-cycle

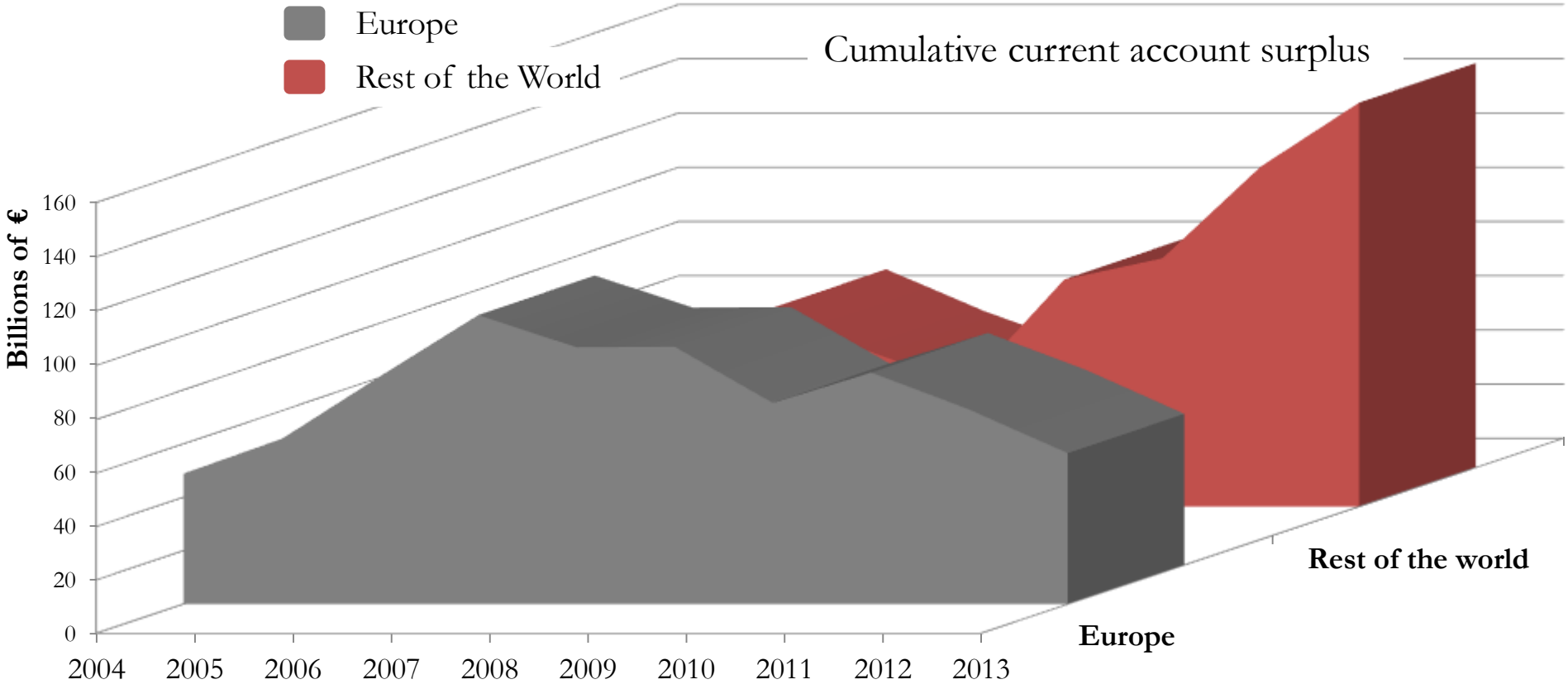
THE GERMAN CASE STUDY



Vendor financing WW-cycle

THE GERMAN CASE STUDY

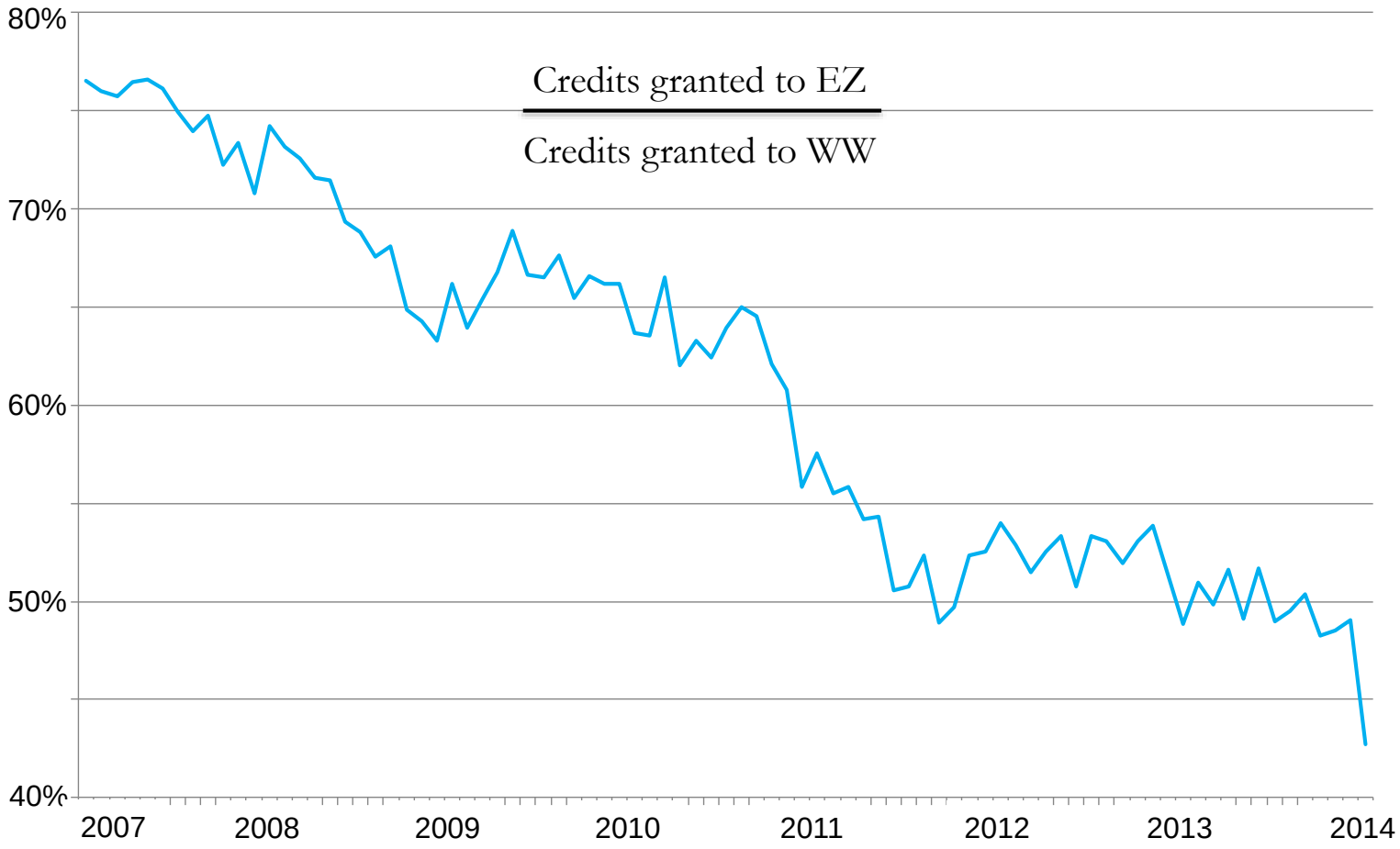
After having exhausted the EU demand
Germany moves its export attitude outside Europe



Vendor financing WW-cycle

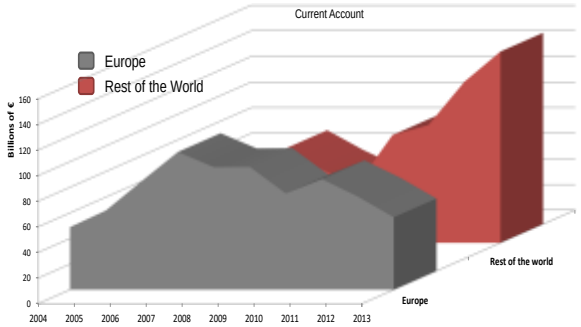
THE GERMAN CASE STUDY

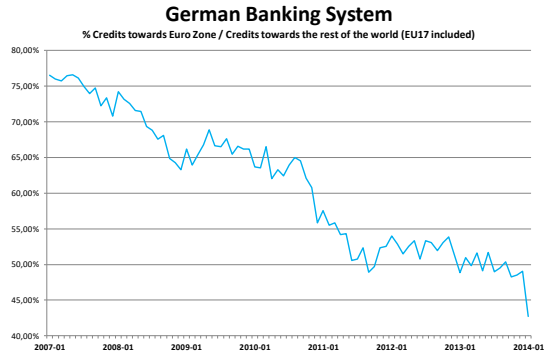
In order to finance its exports Germany expands its credit towards the rest of the world while reducing its exposure to EU countries



THE GERMAN CASE STUDY

The next vendor financing cycle would have likely unfolded on a global scale.





Any new support from the ECB to the German banking system should have envisaged the **de-leveraging of credits granted to extra-EU entities**

The "traditional" **LTRO-Target2 scheme** was no longer handy in this environment since only EU banks had access to LTRO loans

This issue should have affected the structuring of the ECB ***Quantitative Easing***

THE GERMAN CASE STUDY

The next vendor financing cycle would have likely unfolded on a global scale.

Any new support from the ECB to the German banking system should have envisaged the **de-leveraging of credits granted to extra EU**

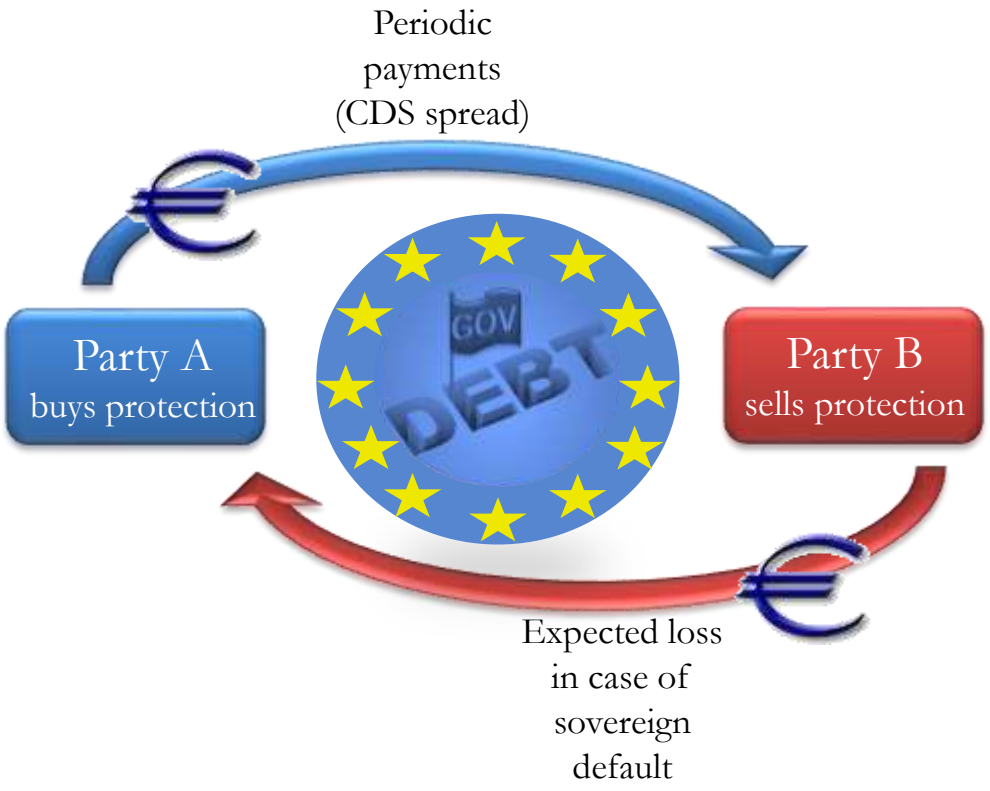
But this scenario has been averted by a series of mostly exogenous factors (trade tensions, increased downside risk to global growth, etc.)

no longer handy in this environment since only EU banks had access to LTRO loans

This issue should have affected the structuring of the ECB ***Quantitative Easing***

Euro break up probability

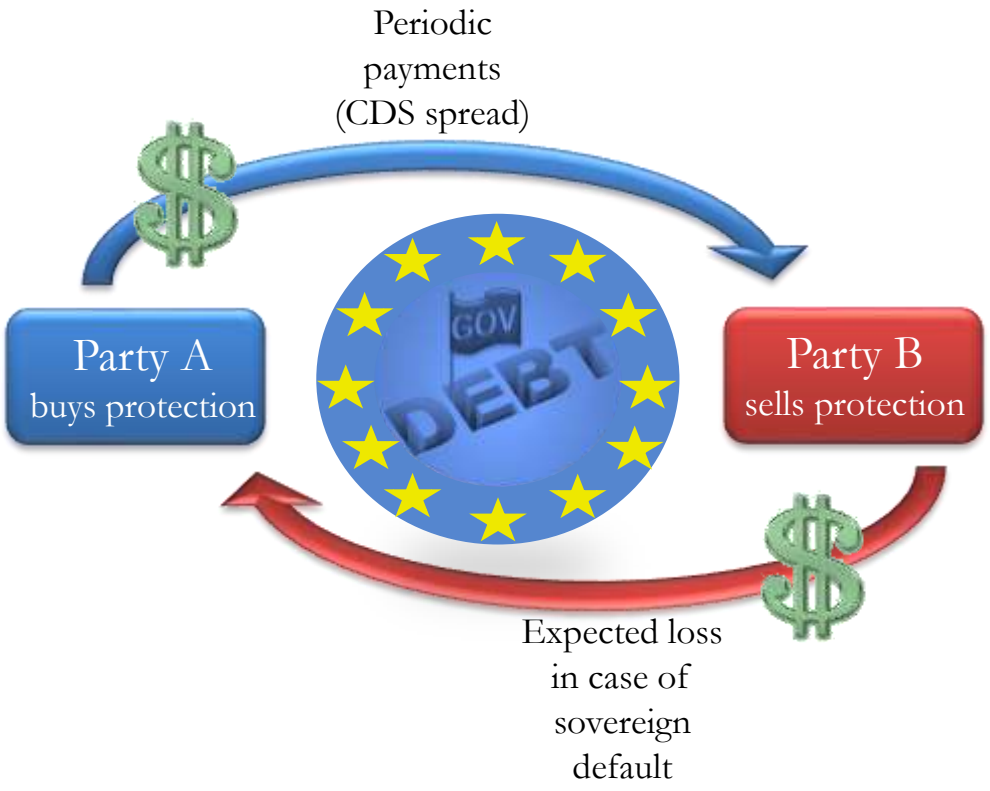
Sovereign CDS in euro



Protection against sovereign default

Euro break up probability

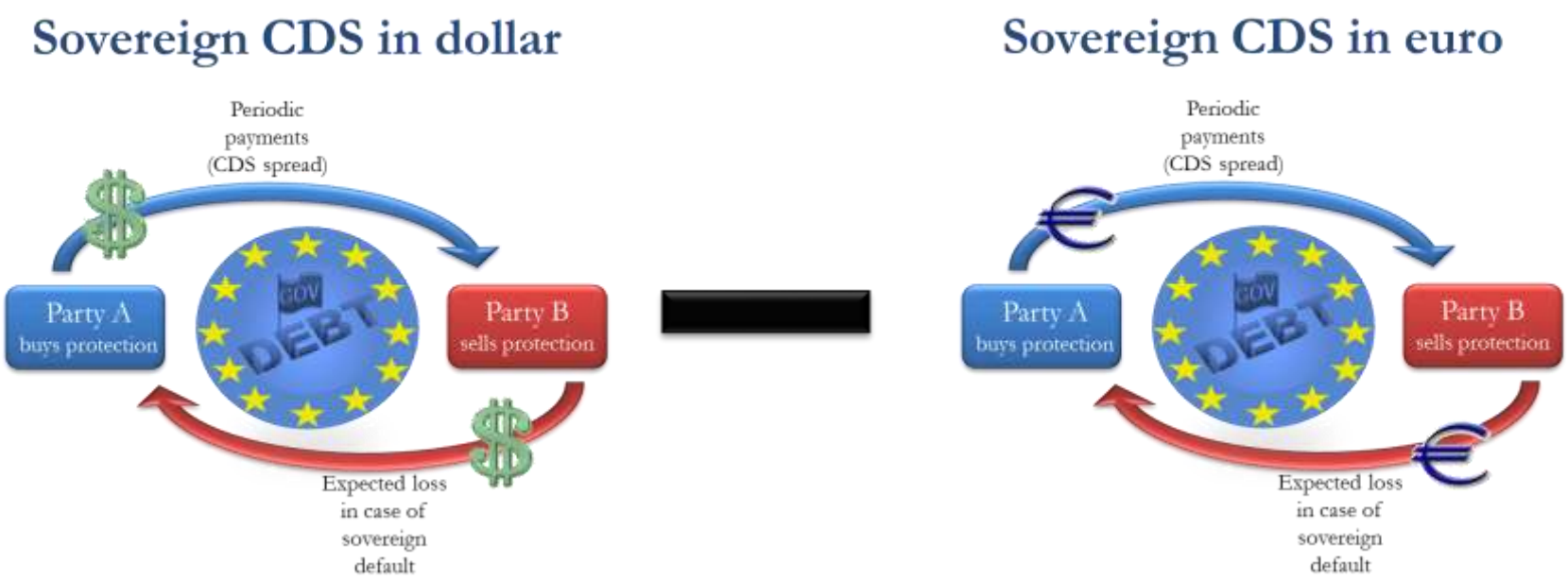
Sovereign CDS in dollar



Protection against
sovereign default + Euro break up

Euro break up probability

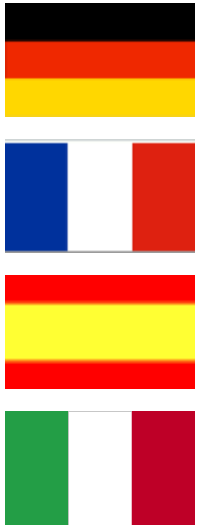
Sovereign Quanto CDS spread



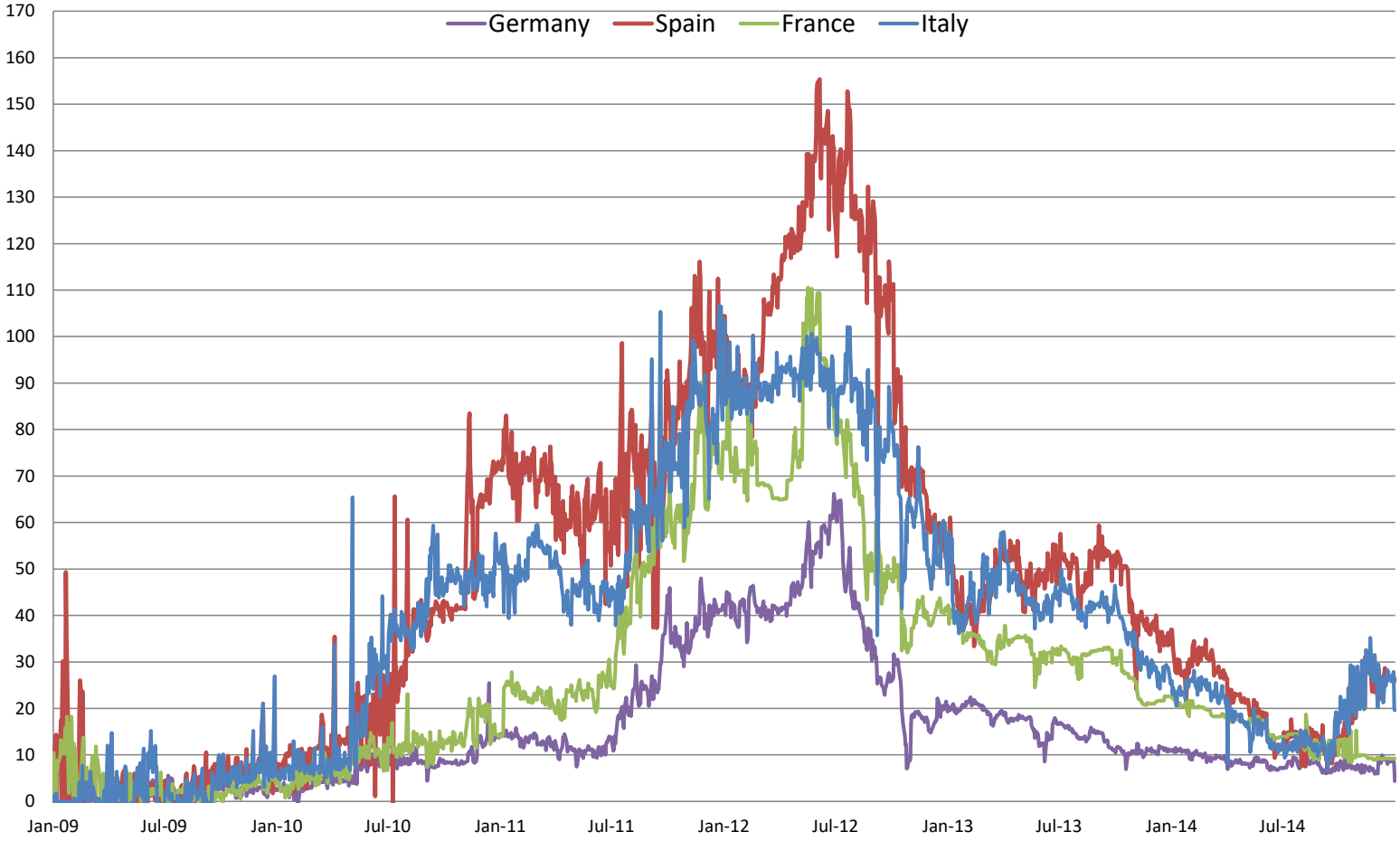
Premium for the protection against Euro break up

Euro break up probability

Quanto CDS Spread

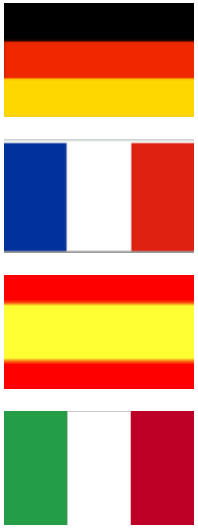


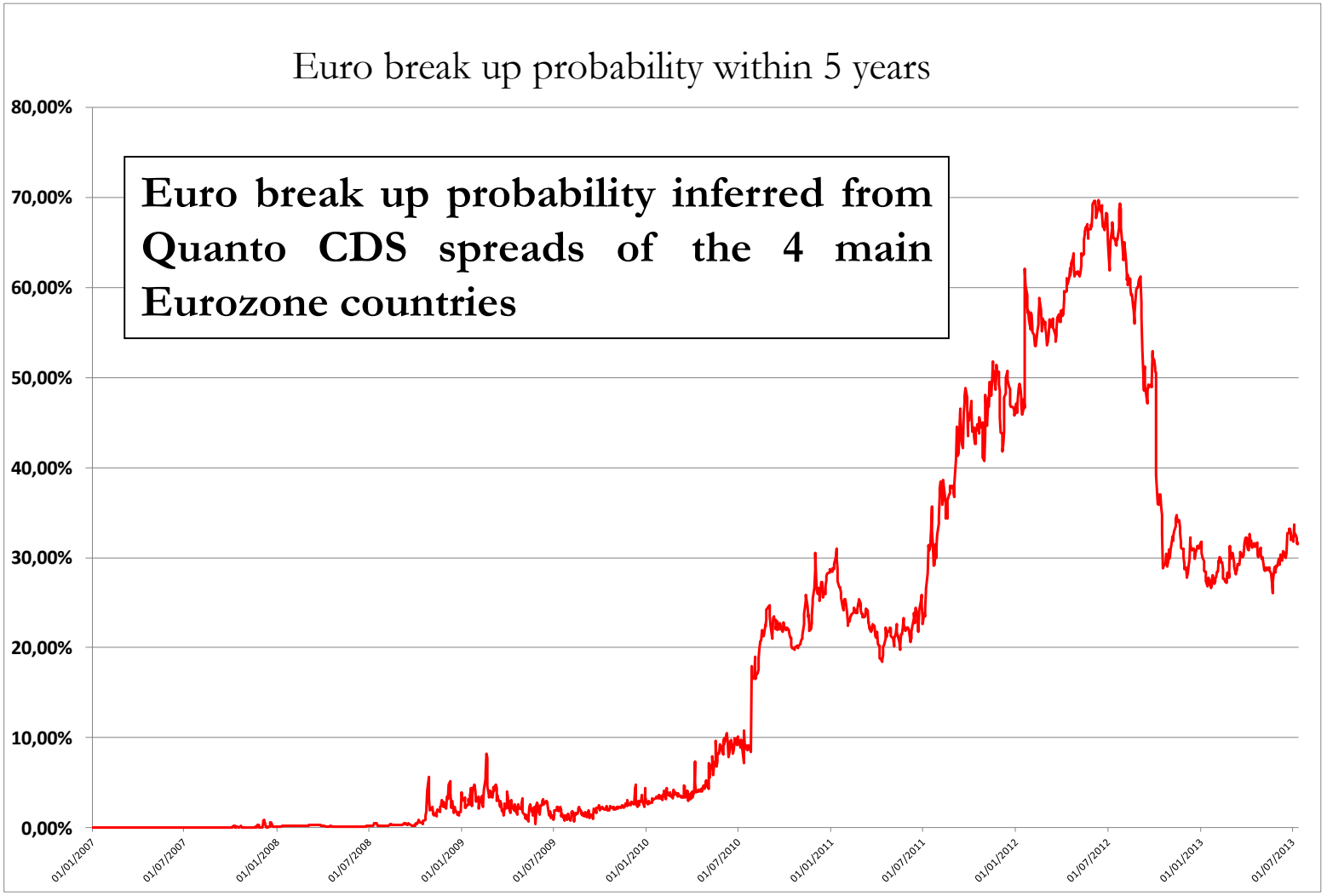
Evolution of 5-Year *Quanto Spreads* (Period 2009-2014)



Euro break up probability

Quanto CDS Spread





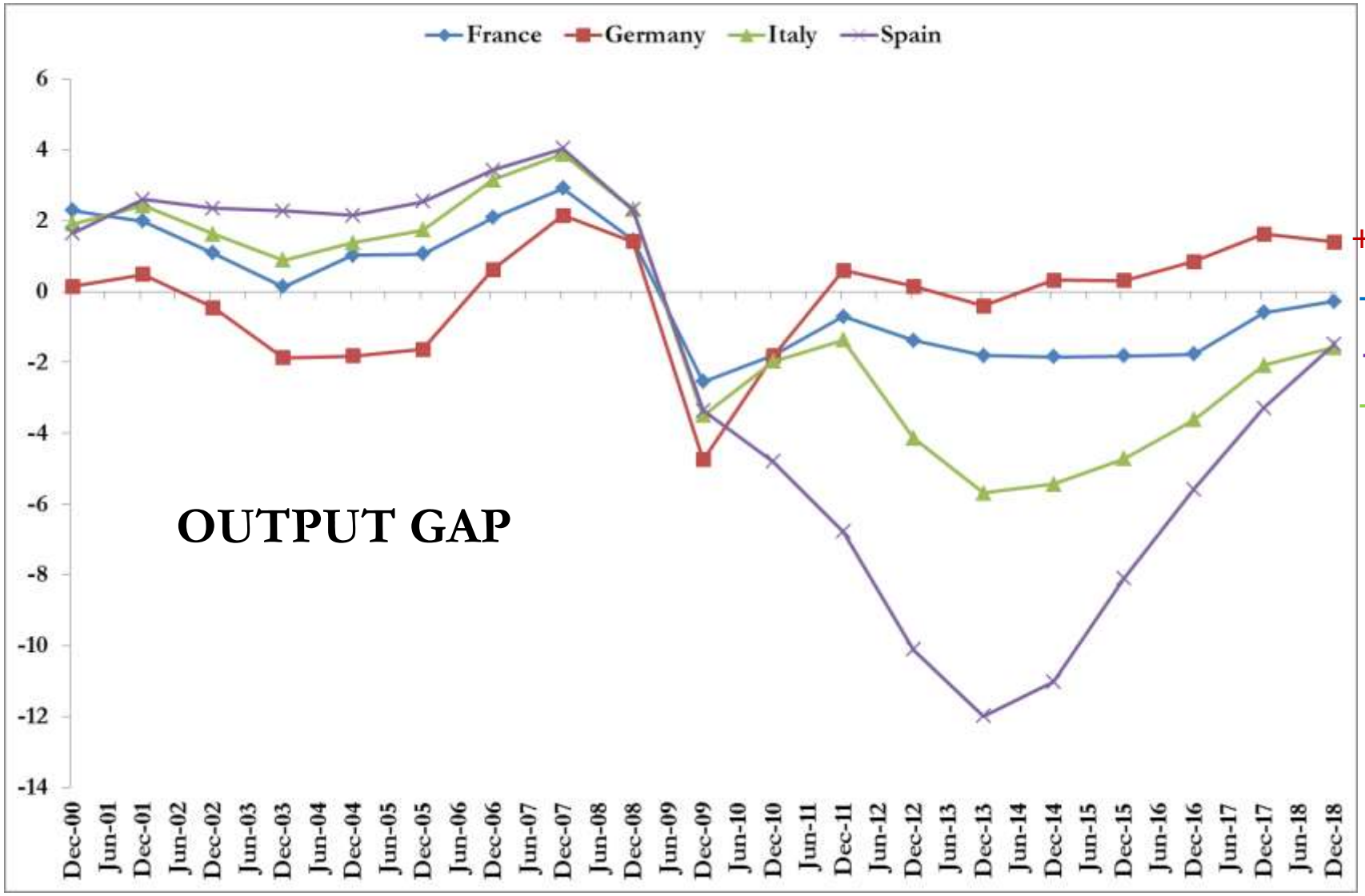
- Risk assessment at the origin
- The financial crisis turnaround on the risk structure
- **The «whatever it takes» re-definition of the risk shape**
- Proposals for risk normalization

The «whatever it takes» helps deflating some symptoms but…
…it remains persistent divergence across member countries

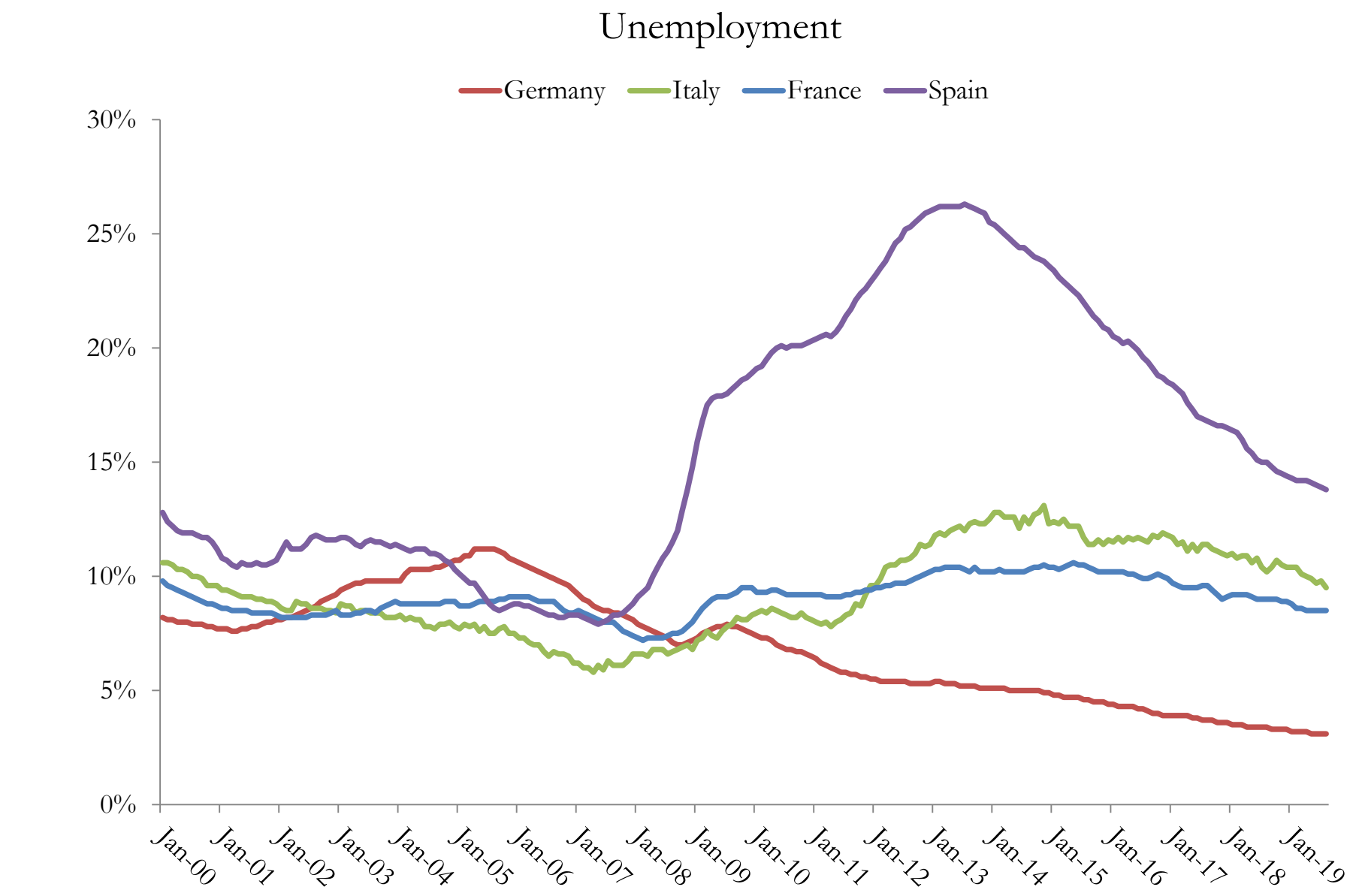
- Genetic flaws: no fiscal union, no political union, monetary orthodoxy
- ECB's inflation target to be pursued as weighted *average value* across States
- Unsound policies to manage the crisis and increase Eurozone resilience:
  - Deauville meeting – Agreement on Private Sector Involvement
  - PSI at work: the second Greek debt crisis
  - Fiscal Compact
  - Nationalization of public debts of peripheral countries
  - CACs on EZ Govies from Jan.2013
  - Collateral discrimination
  - Spread Intermediation
  - Burden sharing and bail in regulation
  - No agreement on EDIS
  - NCBs as insurance providers within the PSPP
  - …

and still: «all on the same boat»

Countries are often at different '*severity levels*' in the cycle



Persistent divergence across member countries



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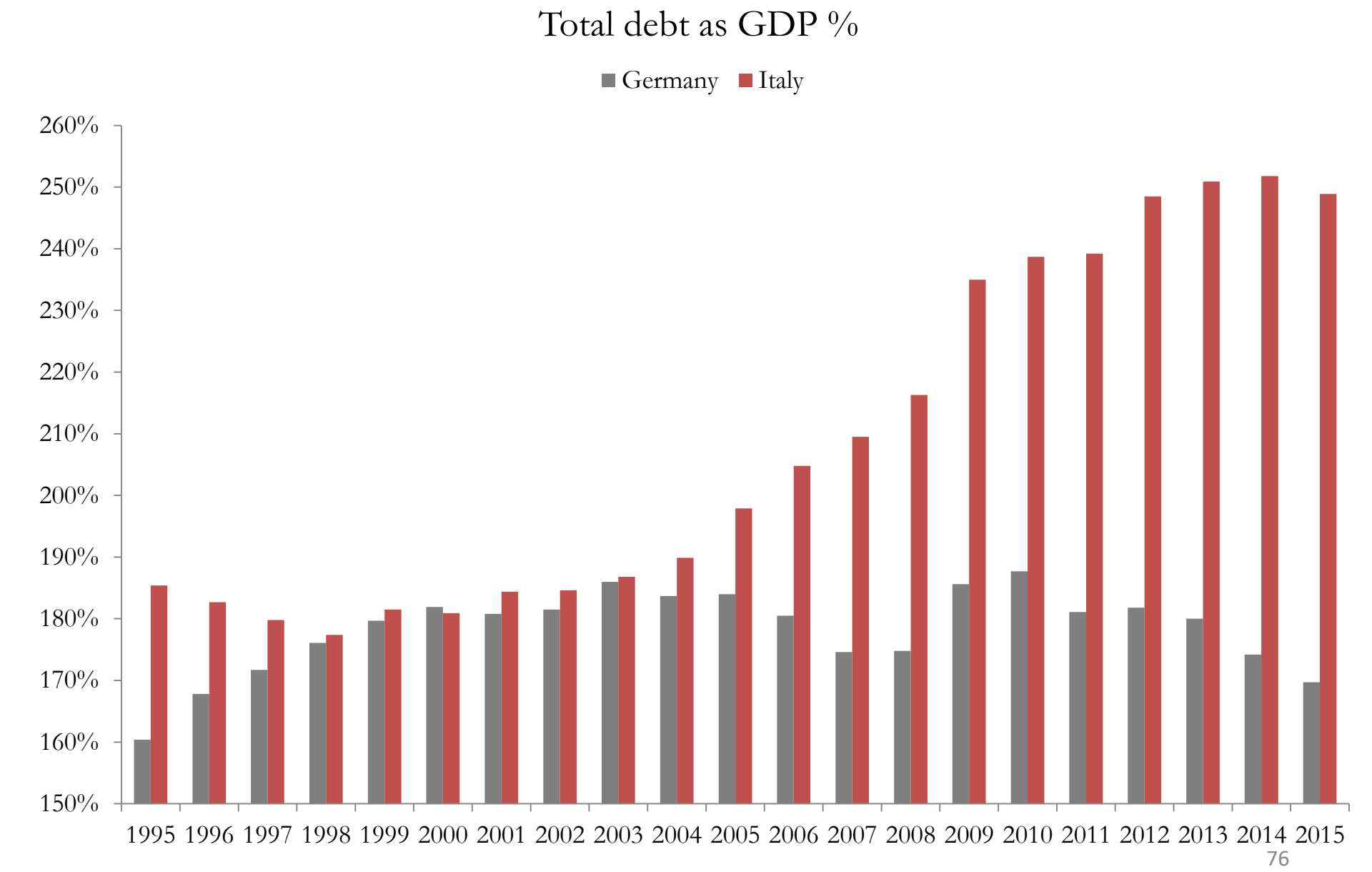

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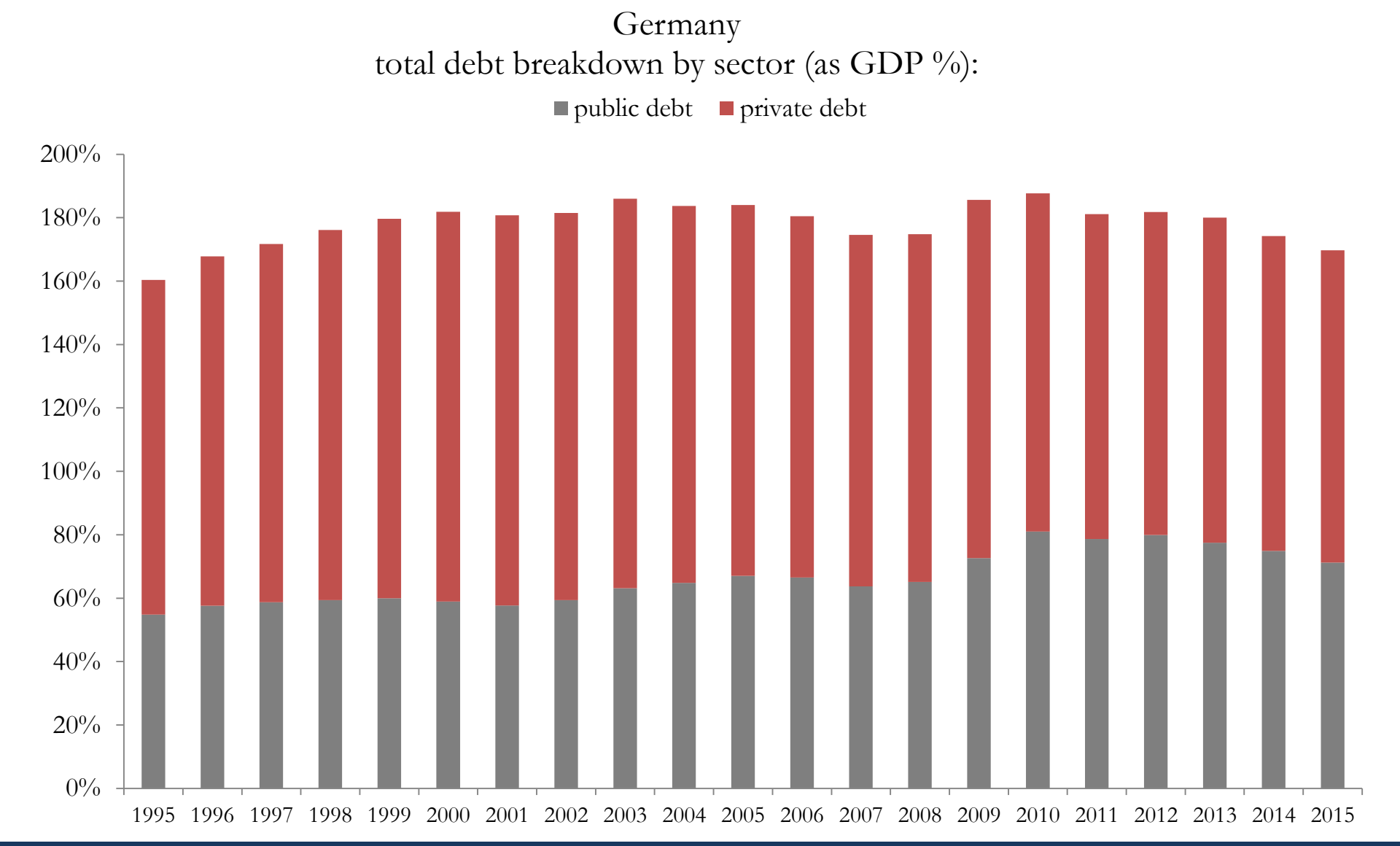
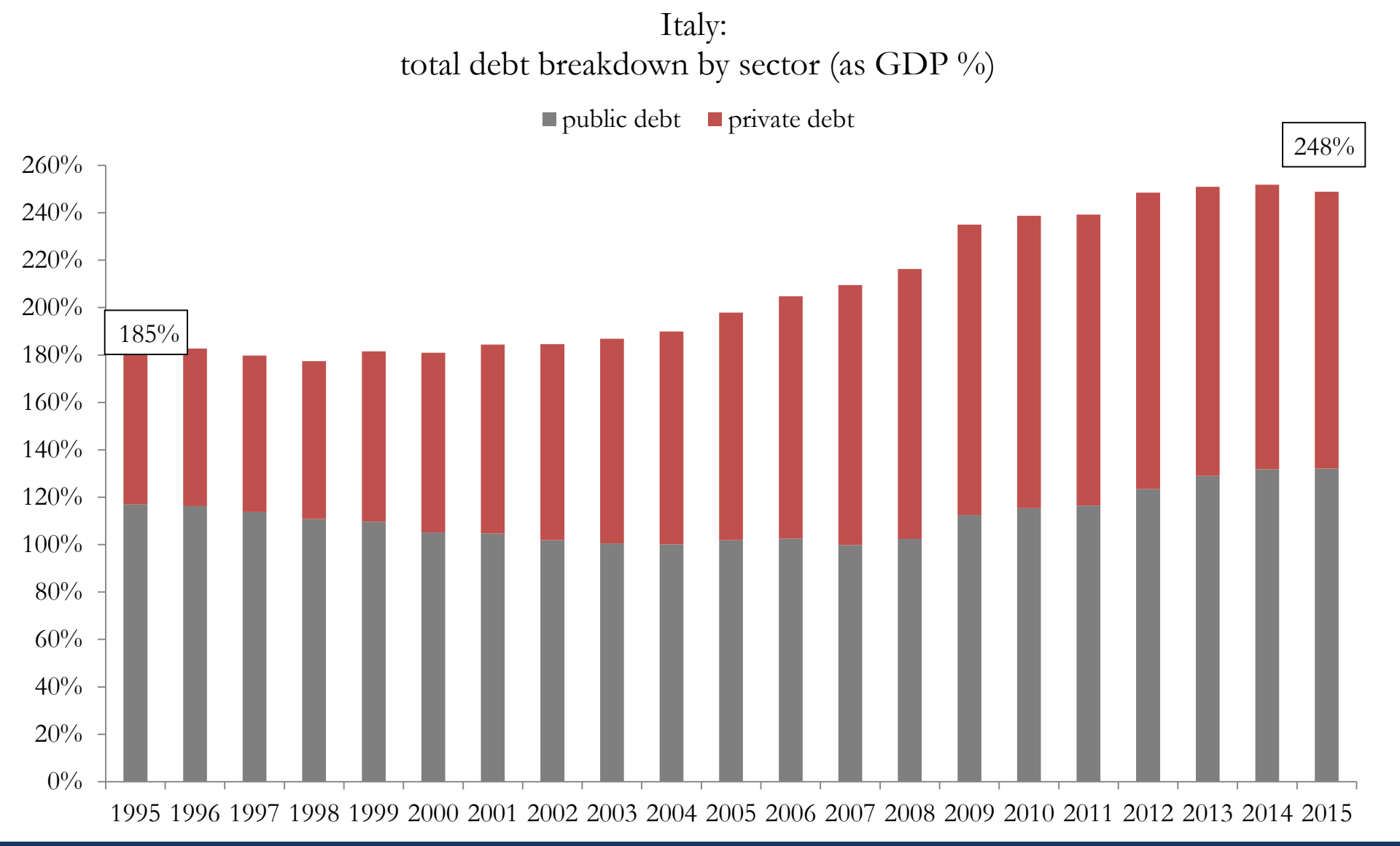


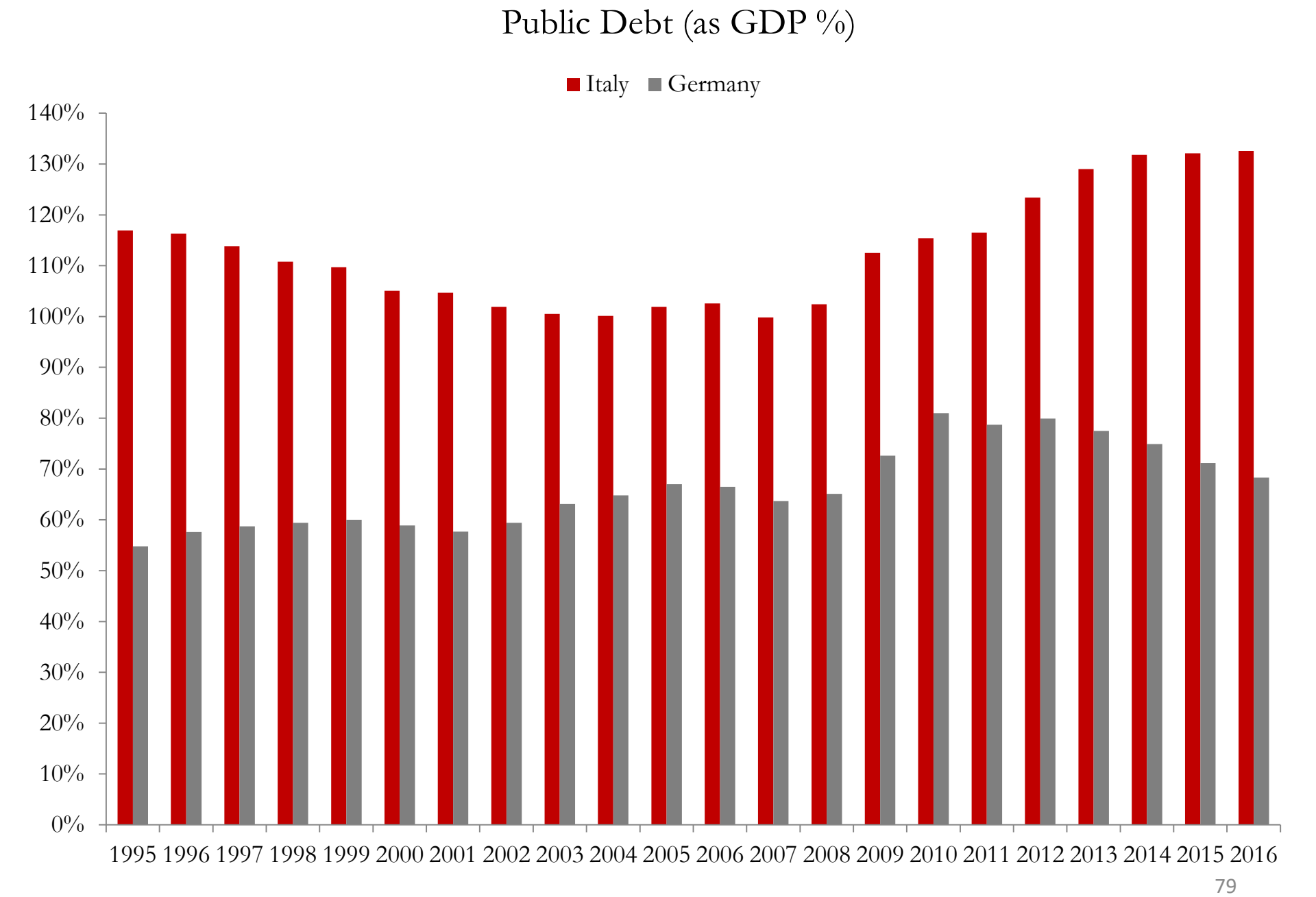
The overall *leverage* of the German system increased just 10% in 20 years

Persistent divergence across member countries



The overall *leverage* of the Italian system increased by more than 60% in 20 years

Persistent divergence across member countries



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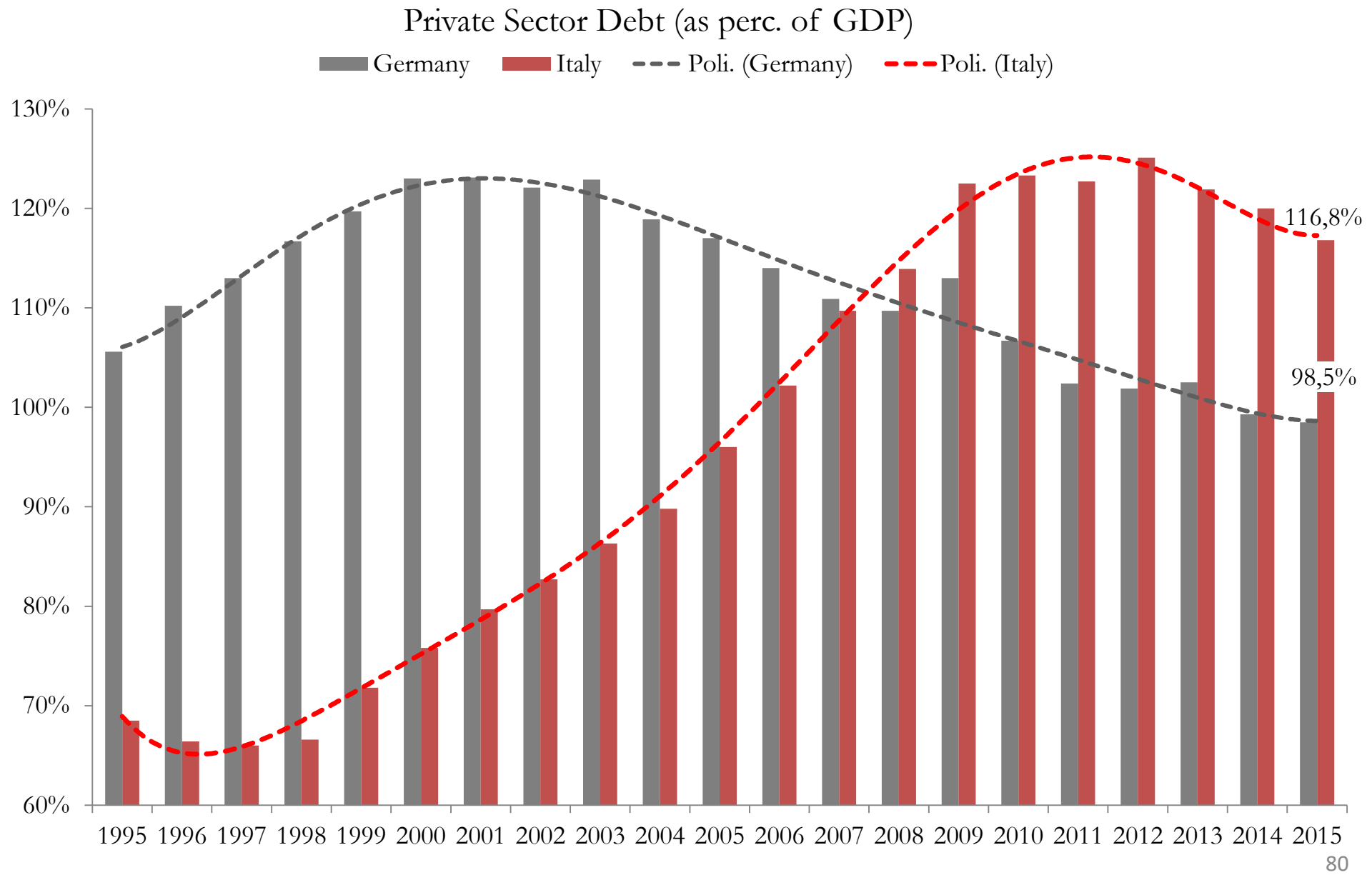

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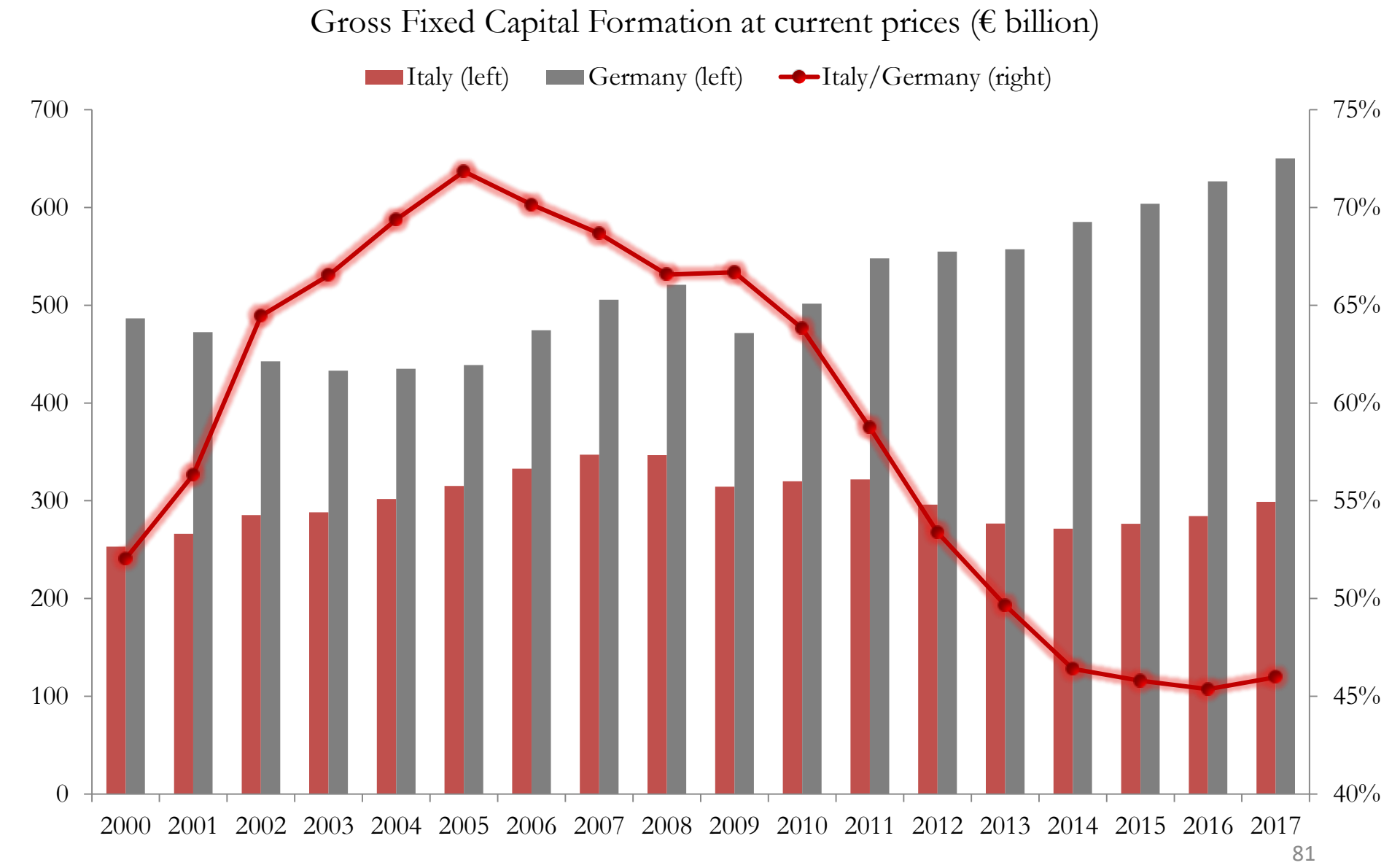

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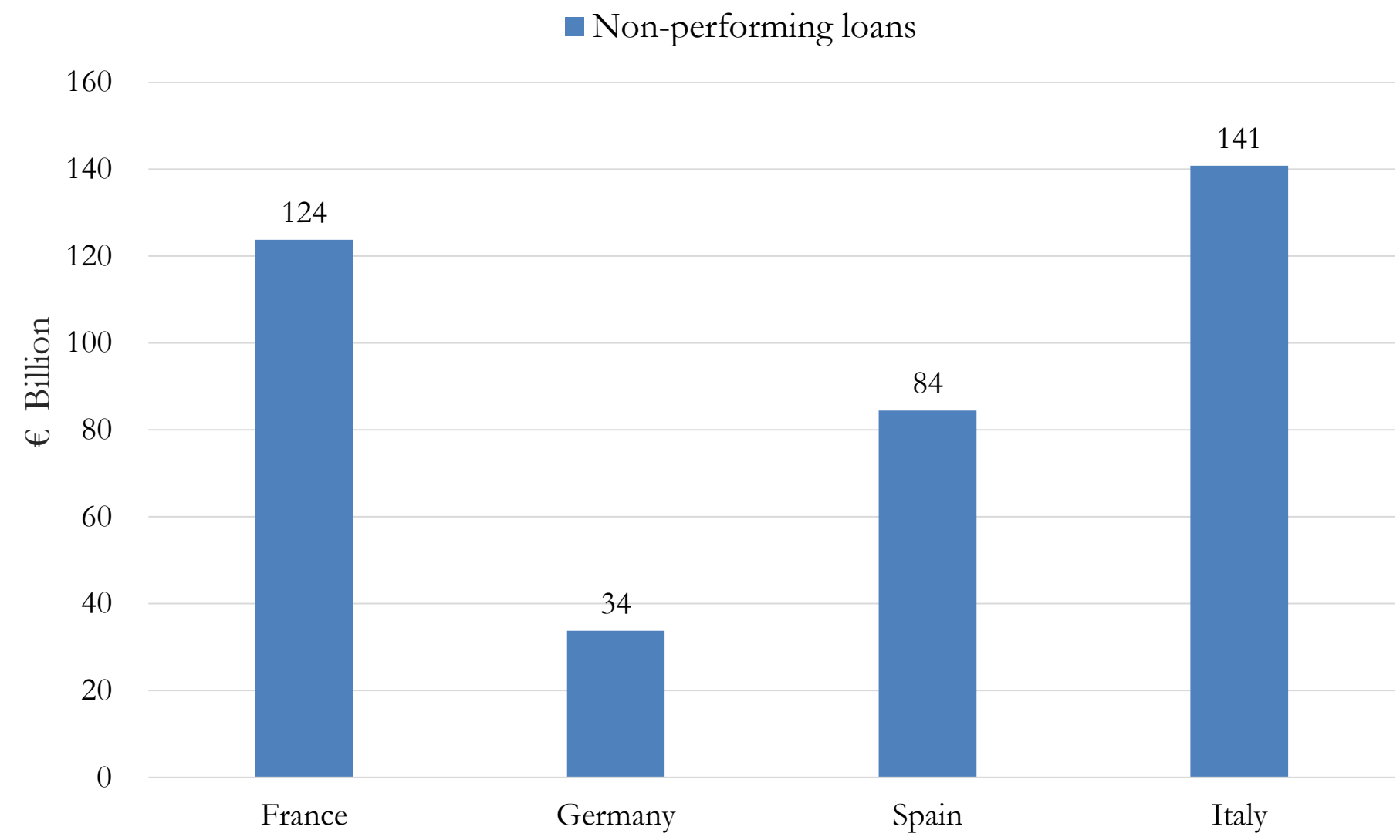

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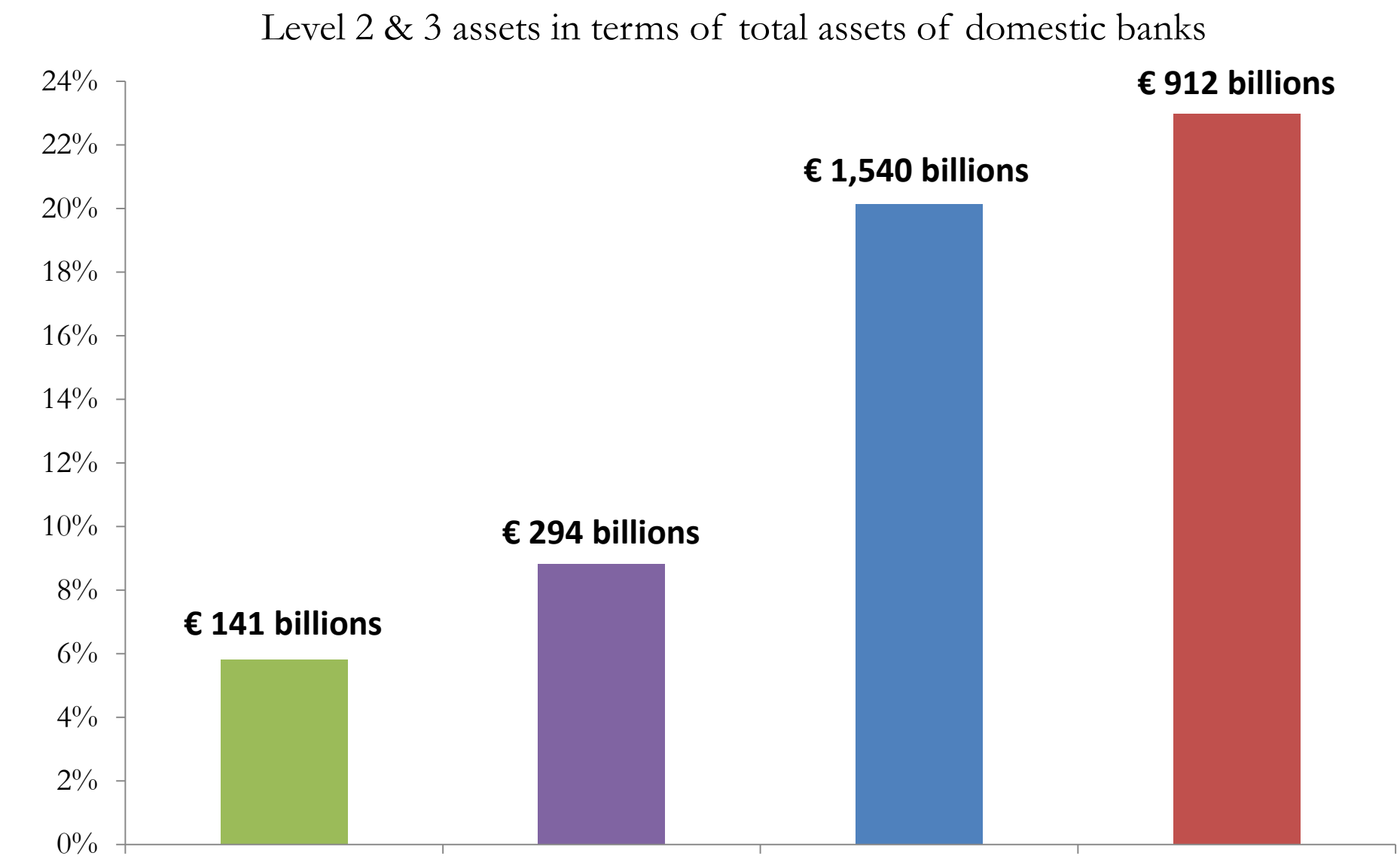
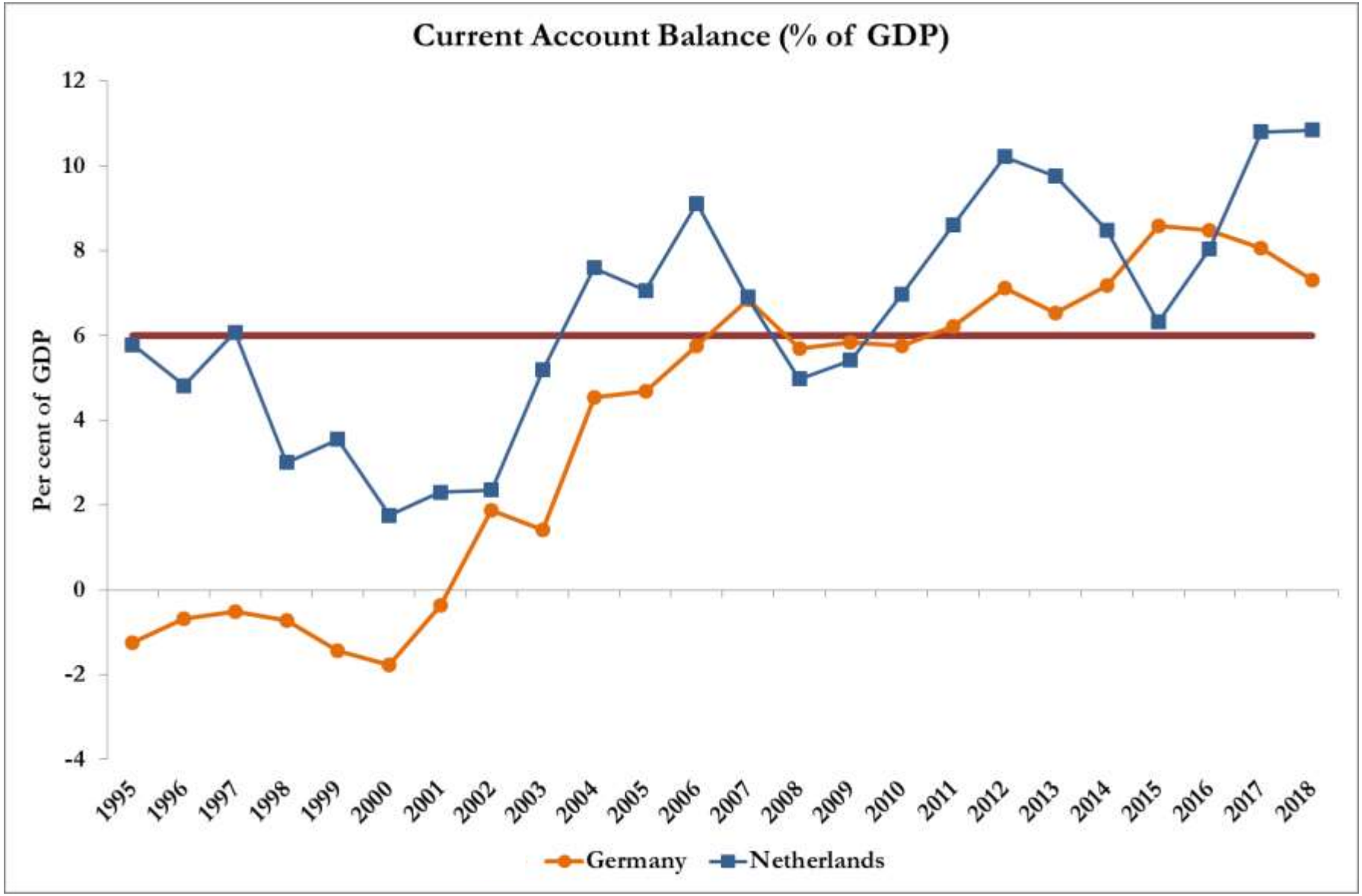
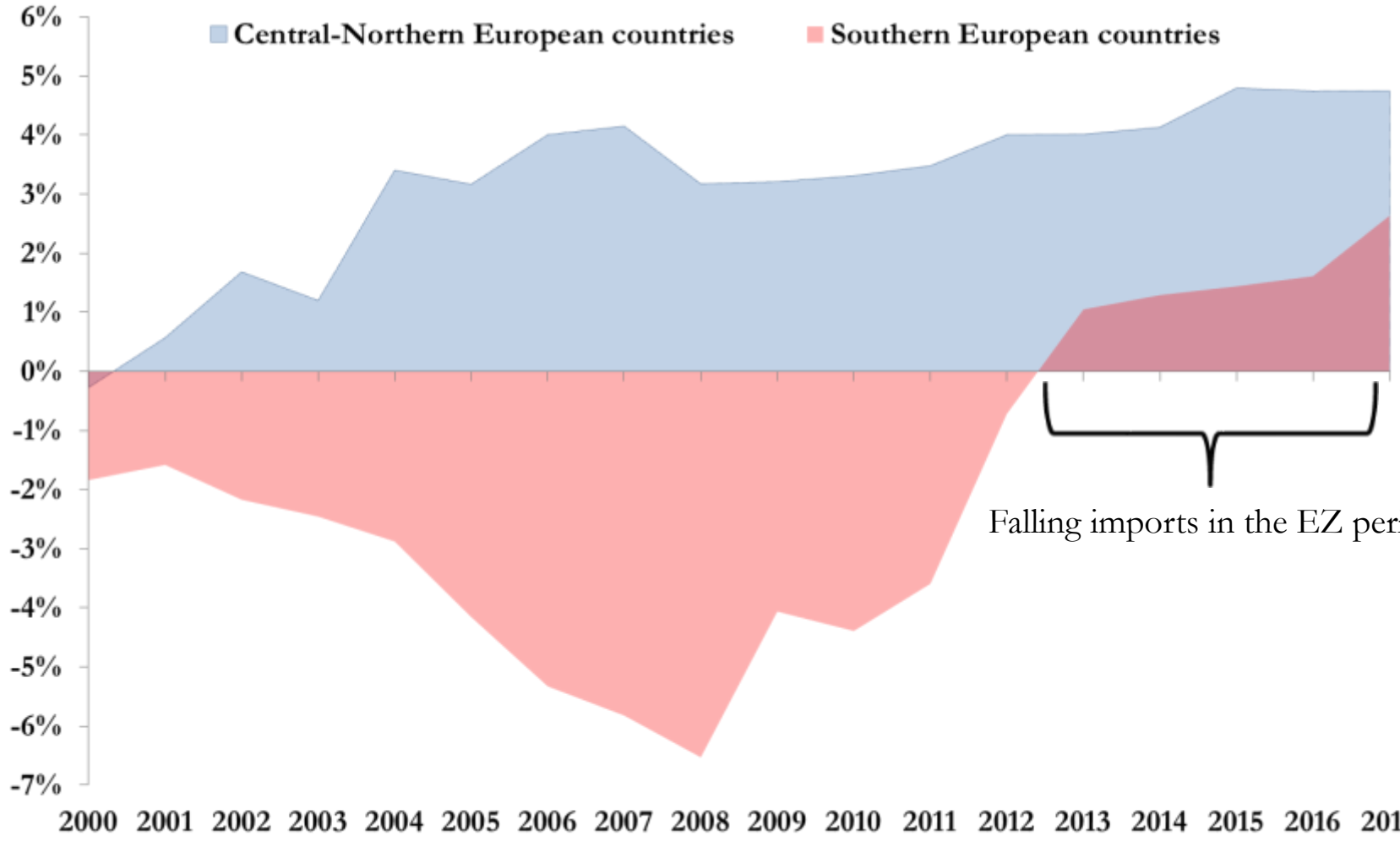


Competitiveness gap risk



Competitiveness gap risk

Large Current Account Imbalances (data in GDP %)

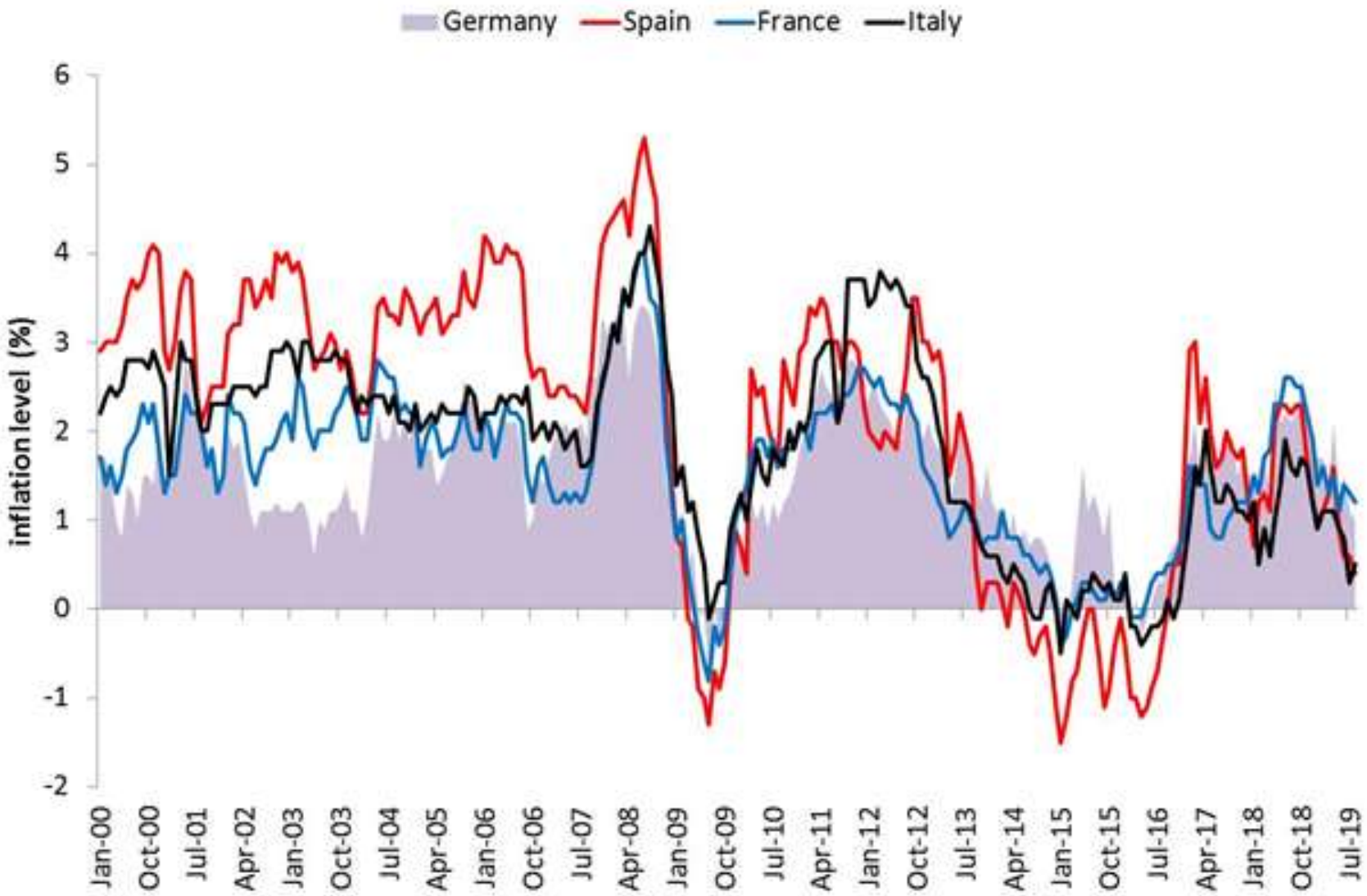


Falling imports in the EZ periphery

Source: Author's calculations on Eurostat data

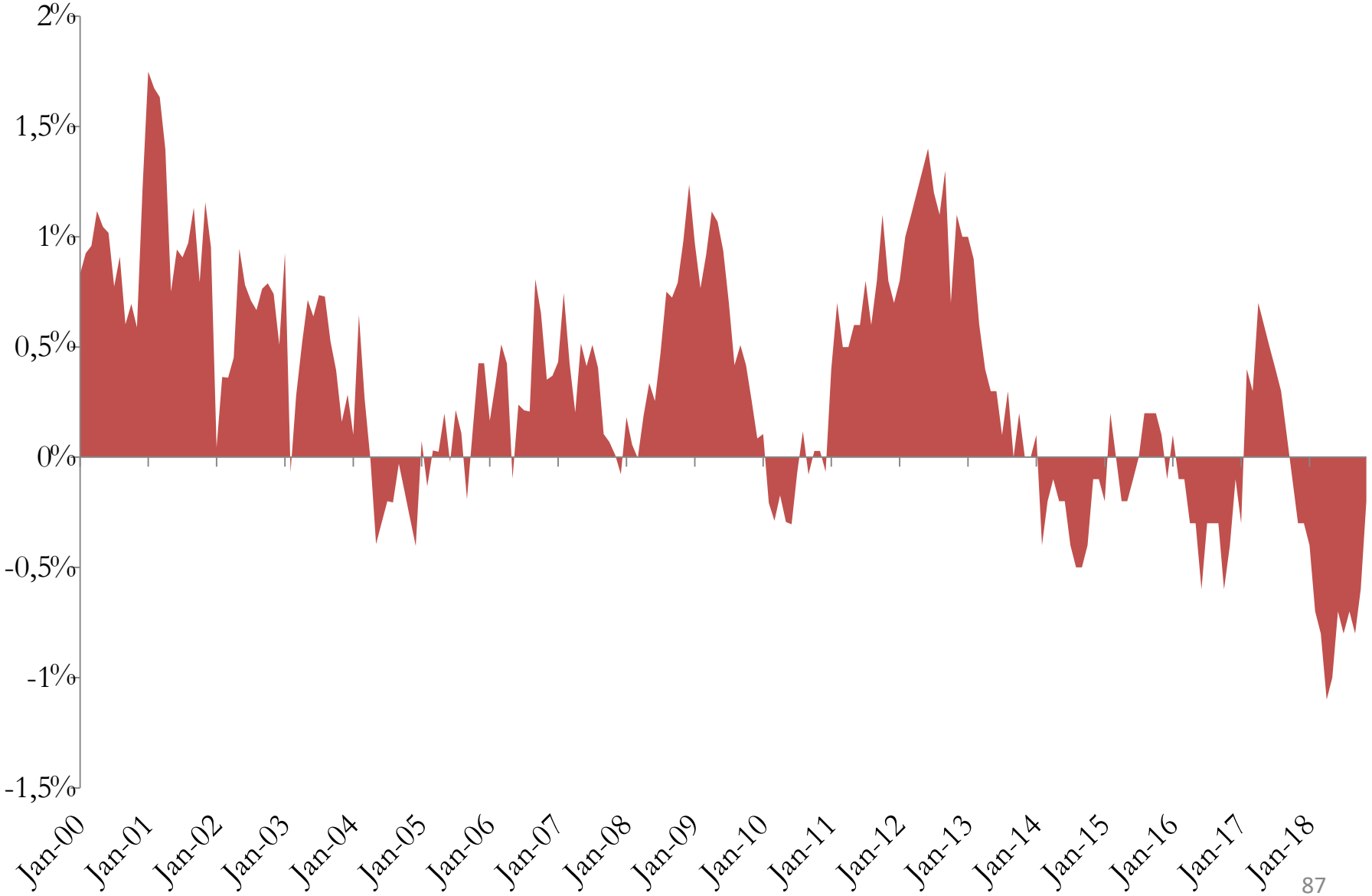
Competitiveness gap risk

Endless inflation differentials



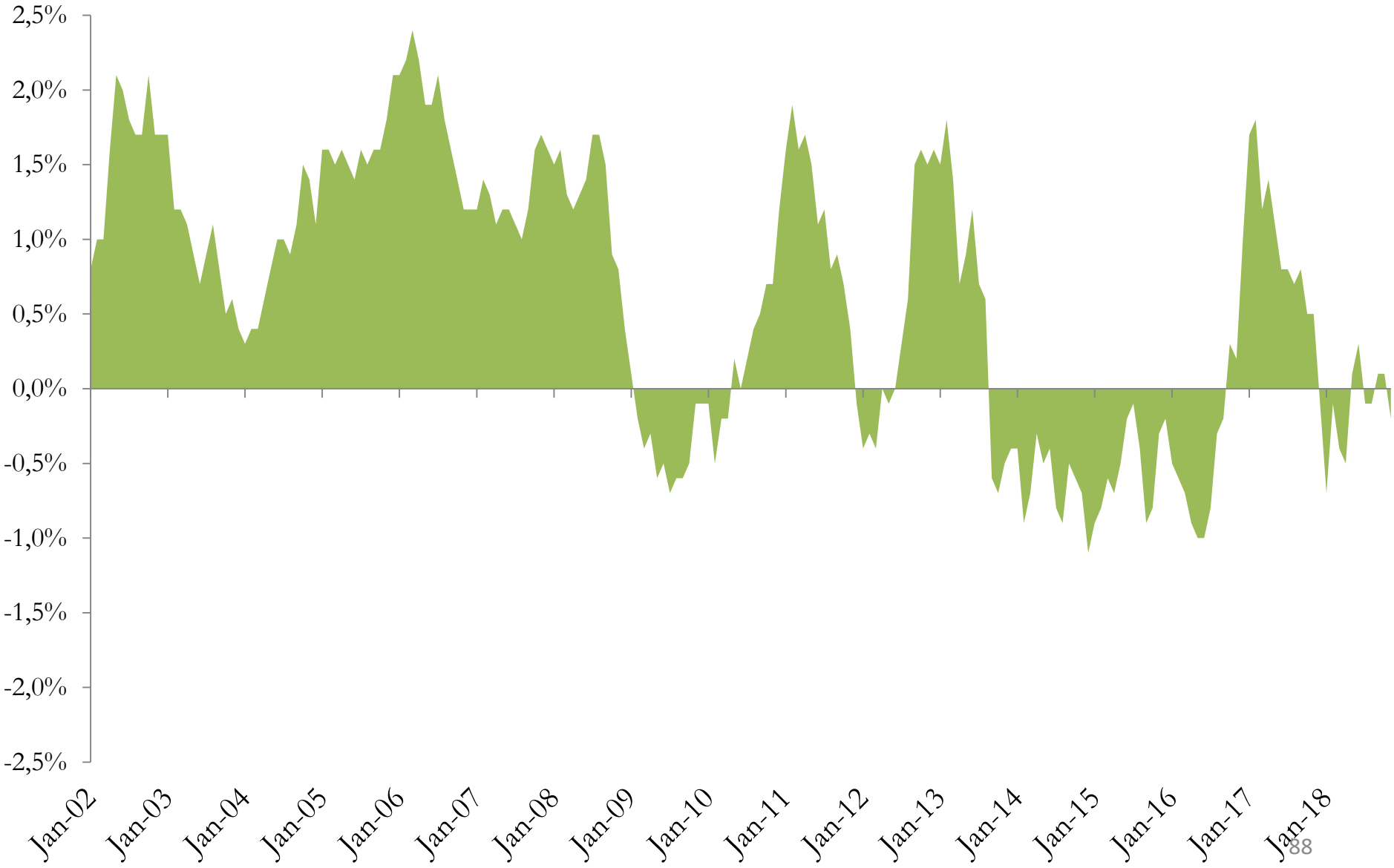
Competitiveness gap risk

Endless inflation differentials: Italy vs Germany



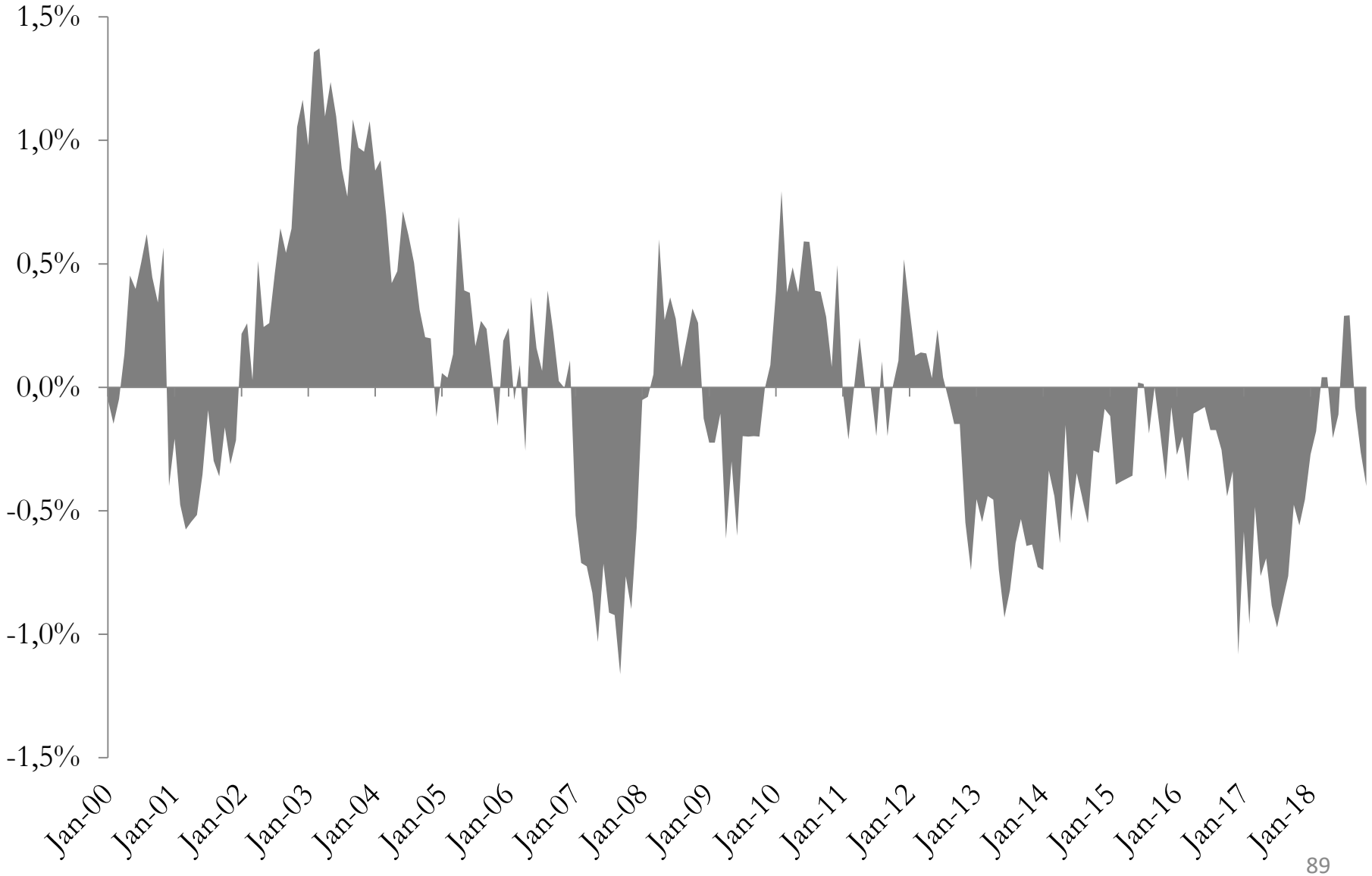
Competitiveness gap risk

Endless inflation differentials: Spain vs Germany



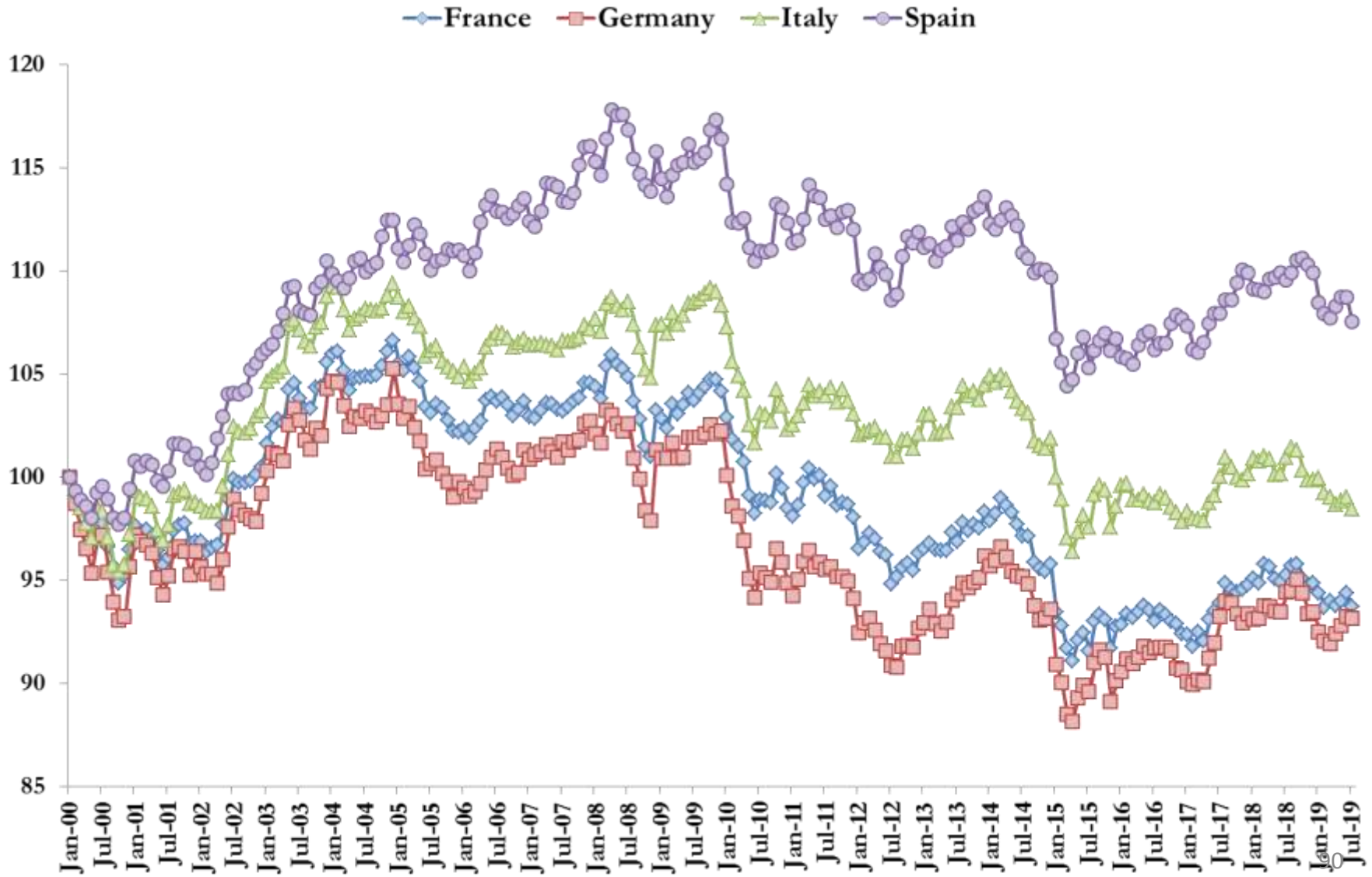
Competitiveness gap risk

Endless inflation differentials: France vs Germany



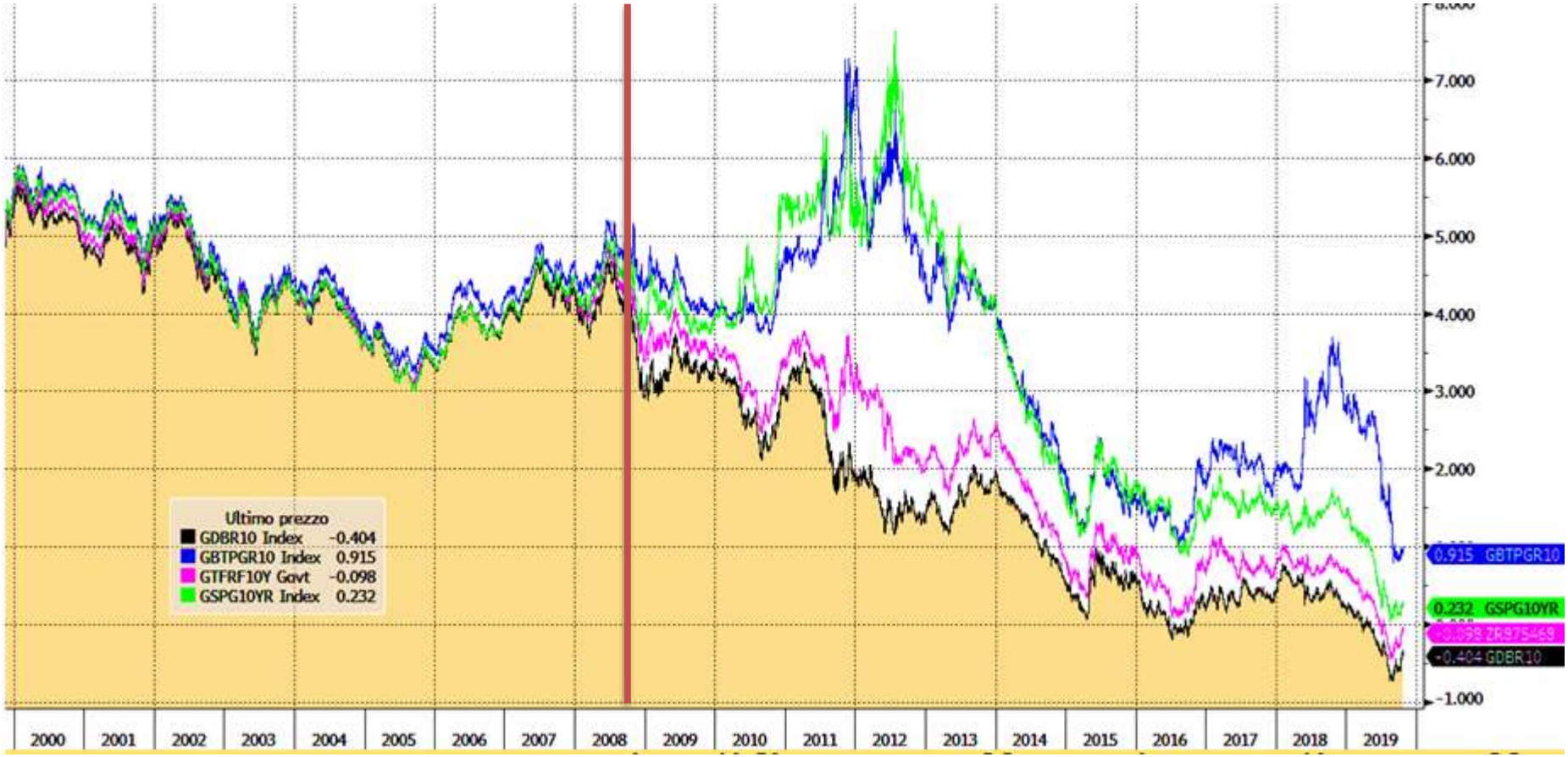
Competitiveness gap risk

Diverging Real Effective Exchange Rates



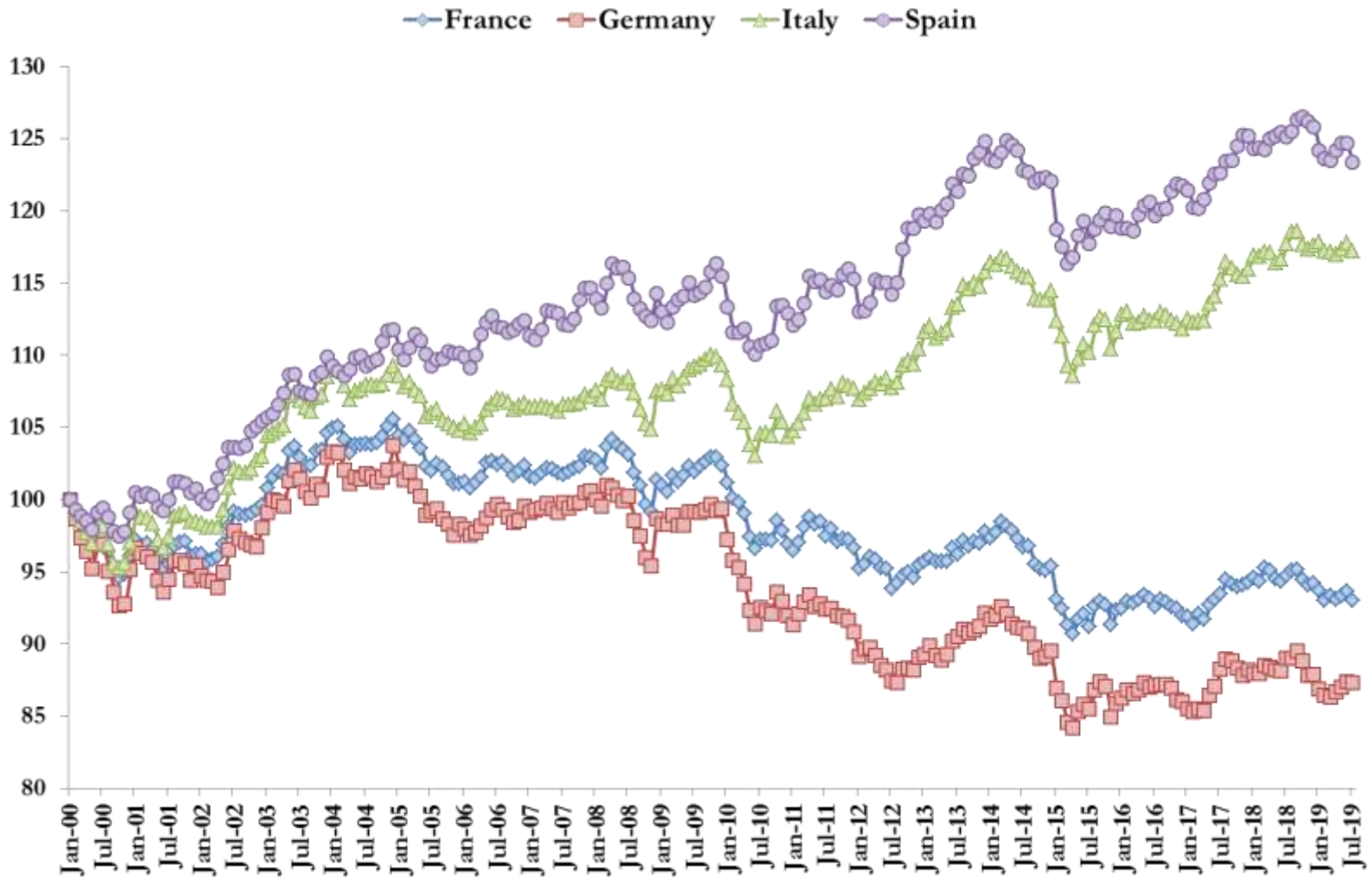
Competitiveness gap risk

Credit risk discovery and dissolution of the single interest rates curve

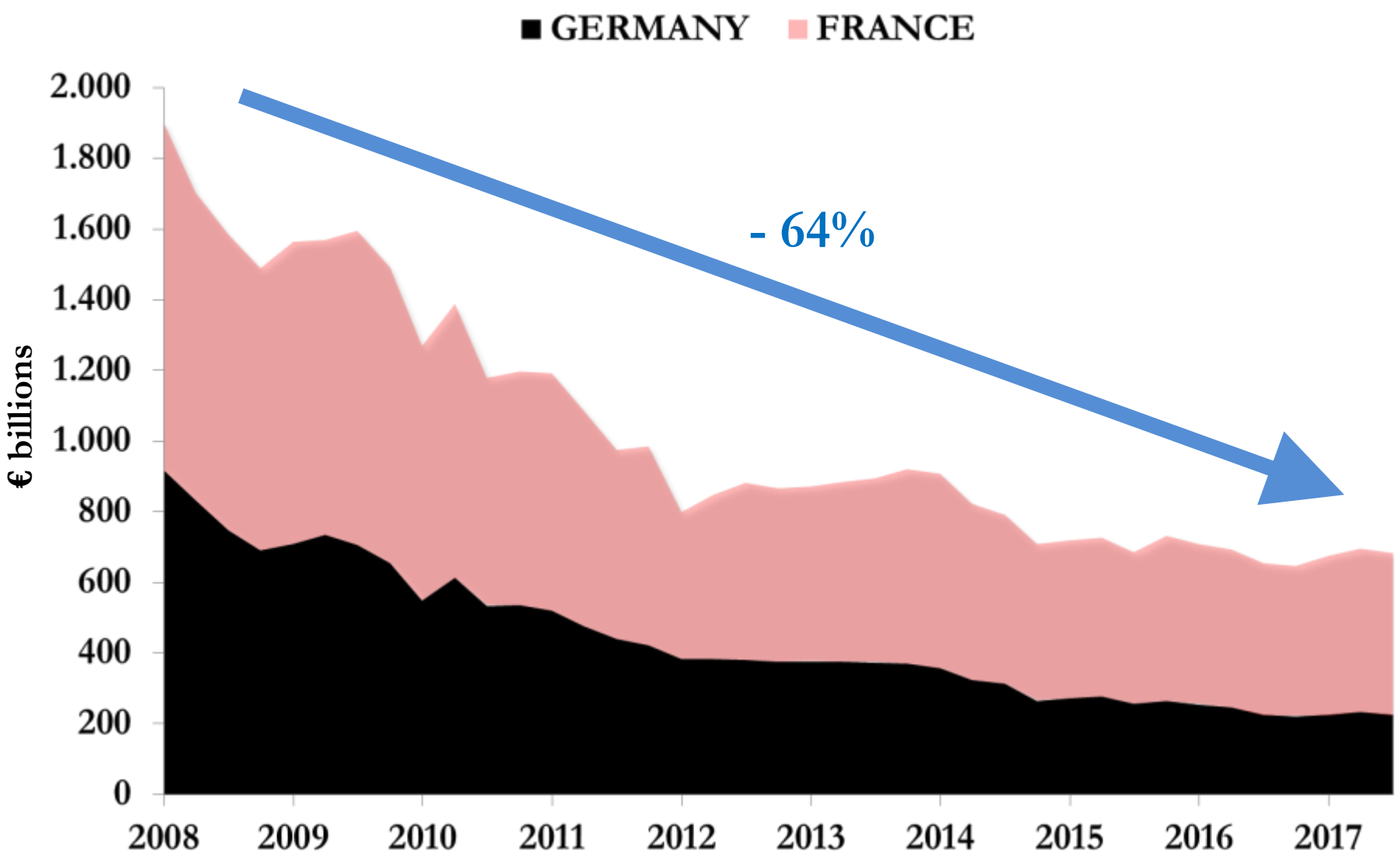


Competitiveness gap measures

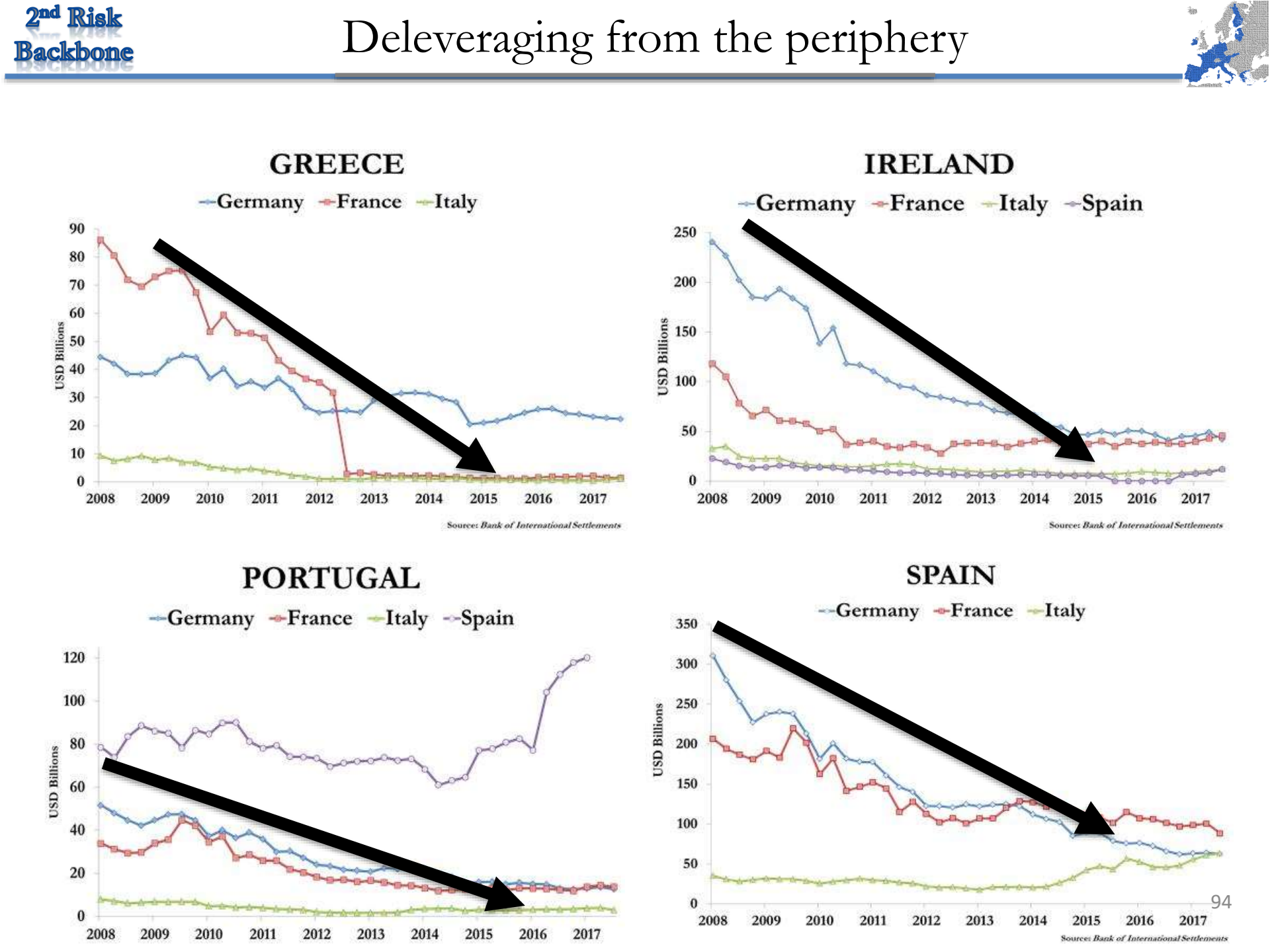
Financial Real Effective Exchange Rate (F-REER)



Deleveraging from the periphery

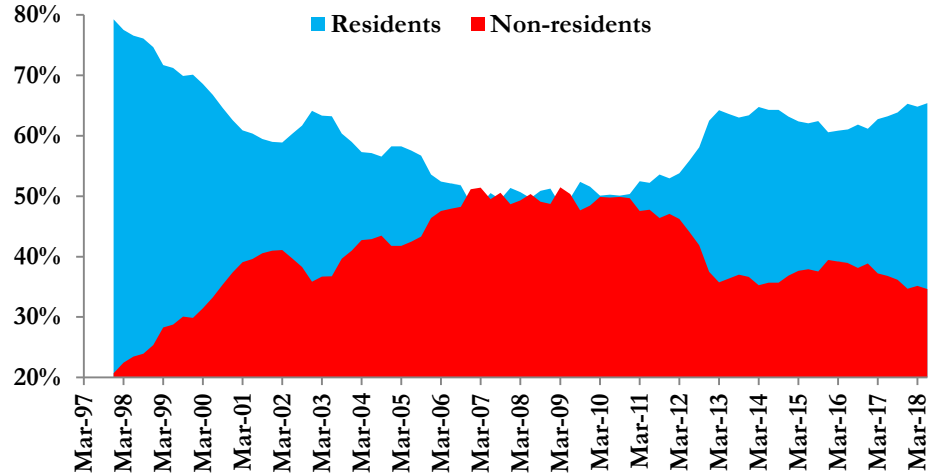


Deleveraging from the periphery

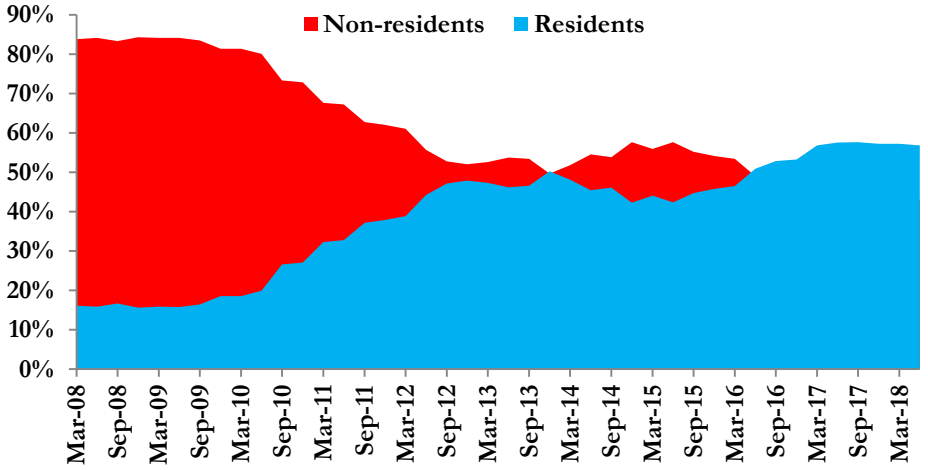


Public Debt Nationalization within the EZ periphery

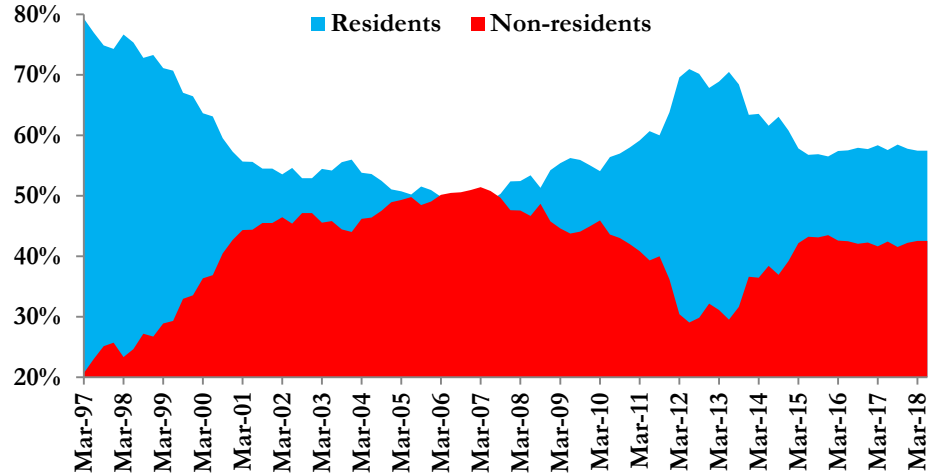
Italy



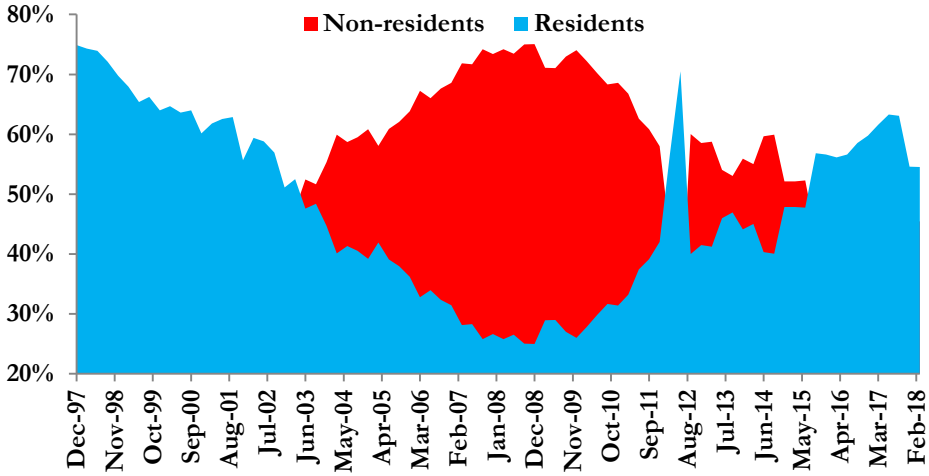
Portugal



Spain



Greece



Source: Bruegel Database on Sovereign Debt Holdings

Italy – capital flight and risks nationalization under the LTROs

FOREIGN BANKS

BTP

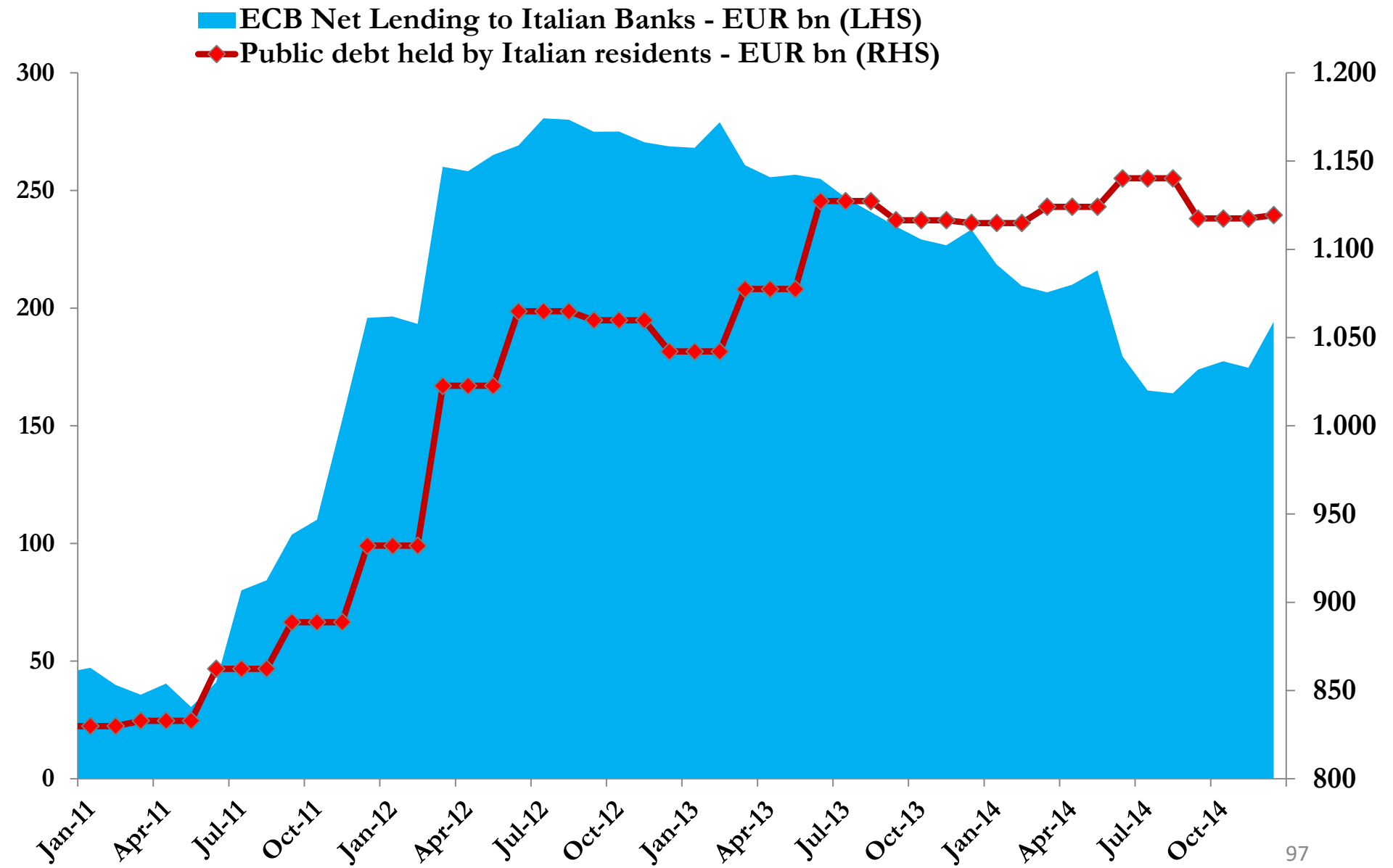
€ 50 BILLION OF
DEBTS' REPAYMENT

***LTRO* (MAXIMUM AMOUNT LENT)**
(€ 270 BILLION AT 05/31/2012)

€ 220 BILLION OF BTP PURCHASES
FROM THE ITALIAN MARKET

ITALIAN BANKS

Public debt nationalization in Italy and ECB lending to Italian banks



Italy – capital flight and risks nationalization under the QE

ECB

FOREIGN MARKETS

BANK

BTP

32.6% OF PURCHASES FROM FOREIGN MARKETS

INVESTMENTS IN FOREIGN MUTUAL FUNDS, BONDS AND SHARES

QUANTITATIVE EASING
(€ 370 BILLION AT 12/31/2018)

BANCA D'ITALIA

BTP

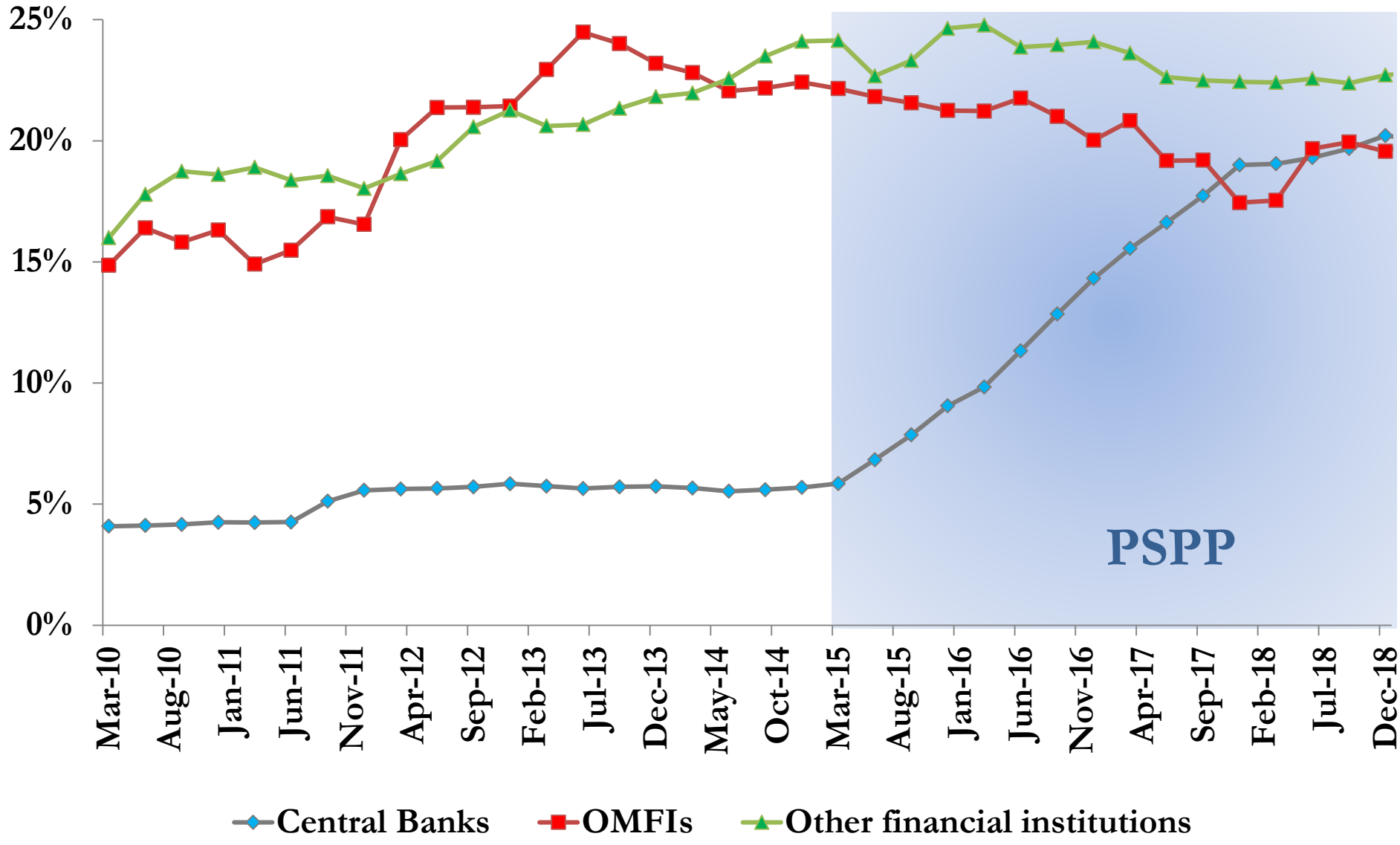
67.4% OF PURCHASES FROM NATIONAL MARKETS

NATIONAL MARKETS

BANK

Public Debt Nationalization in Italy

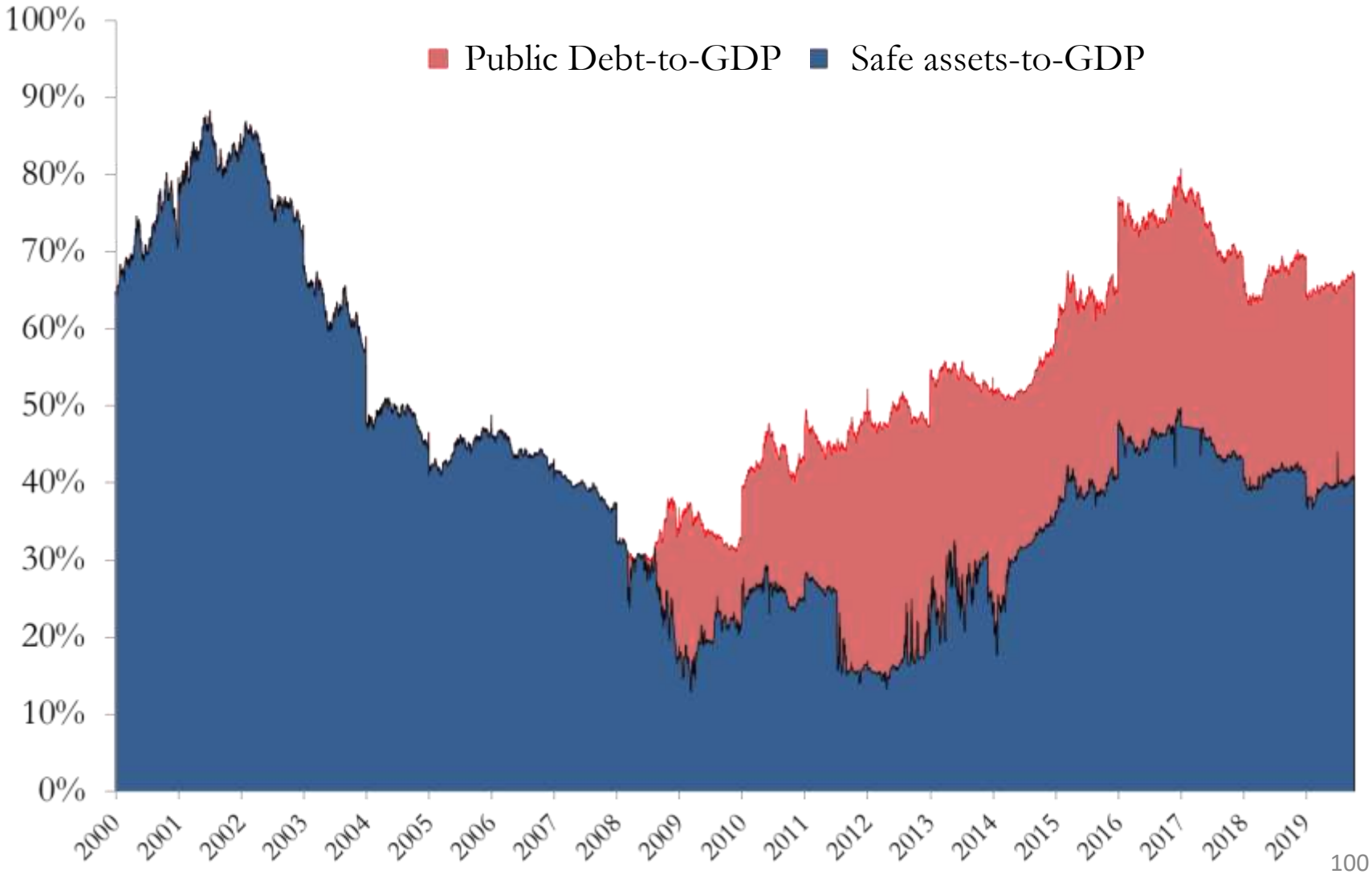
The role of NCBs during the PSPP



Source: Bruegel database on sovereign debt holdings

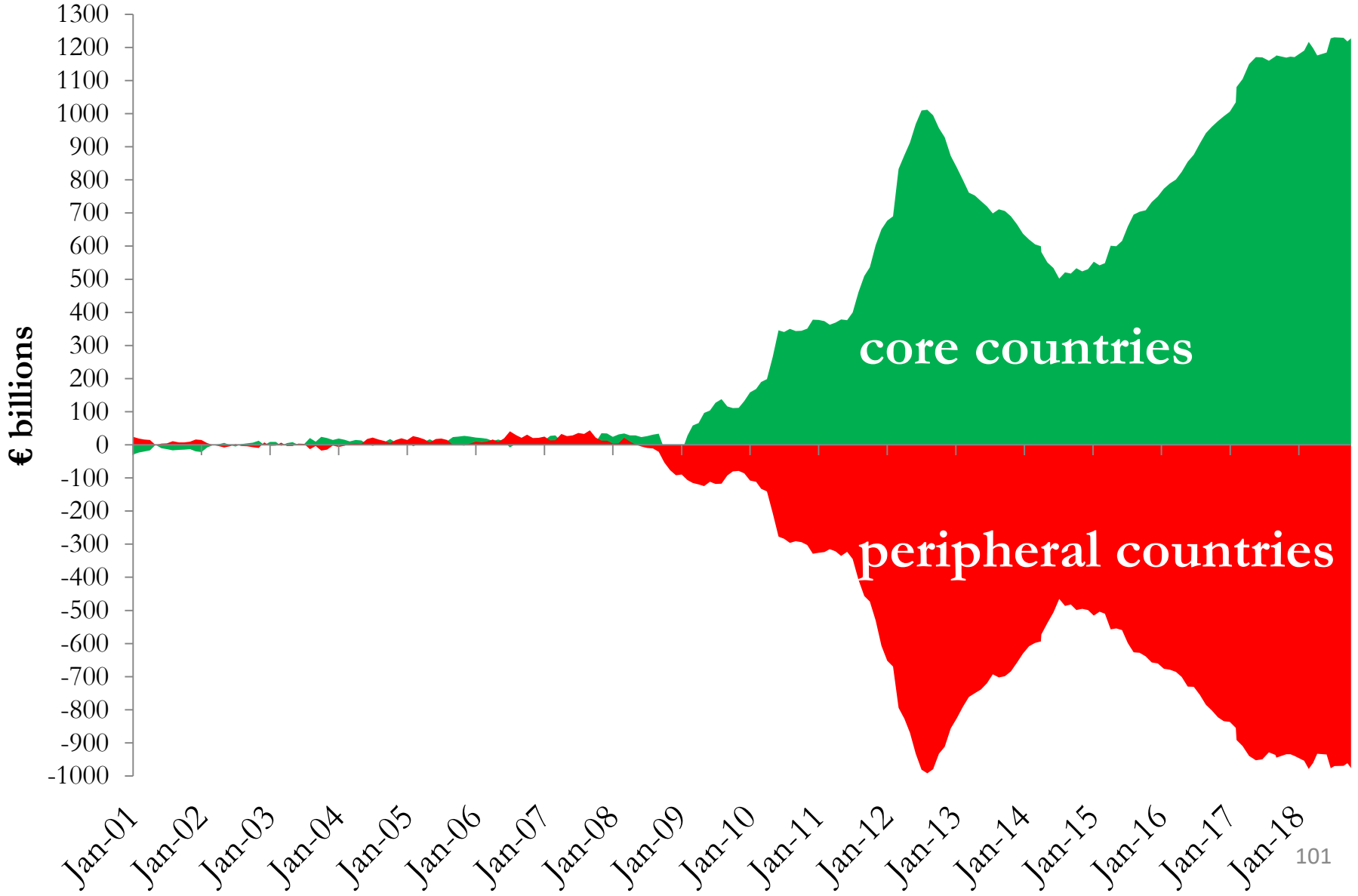
Chronic shortage of safe assets

Safe assets and public debt w.r.t. the Eurozone GDP



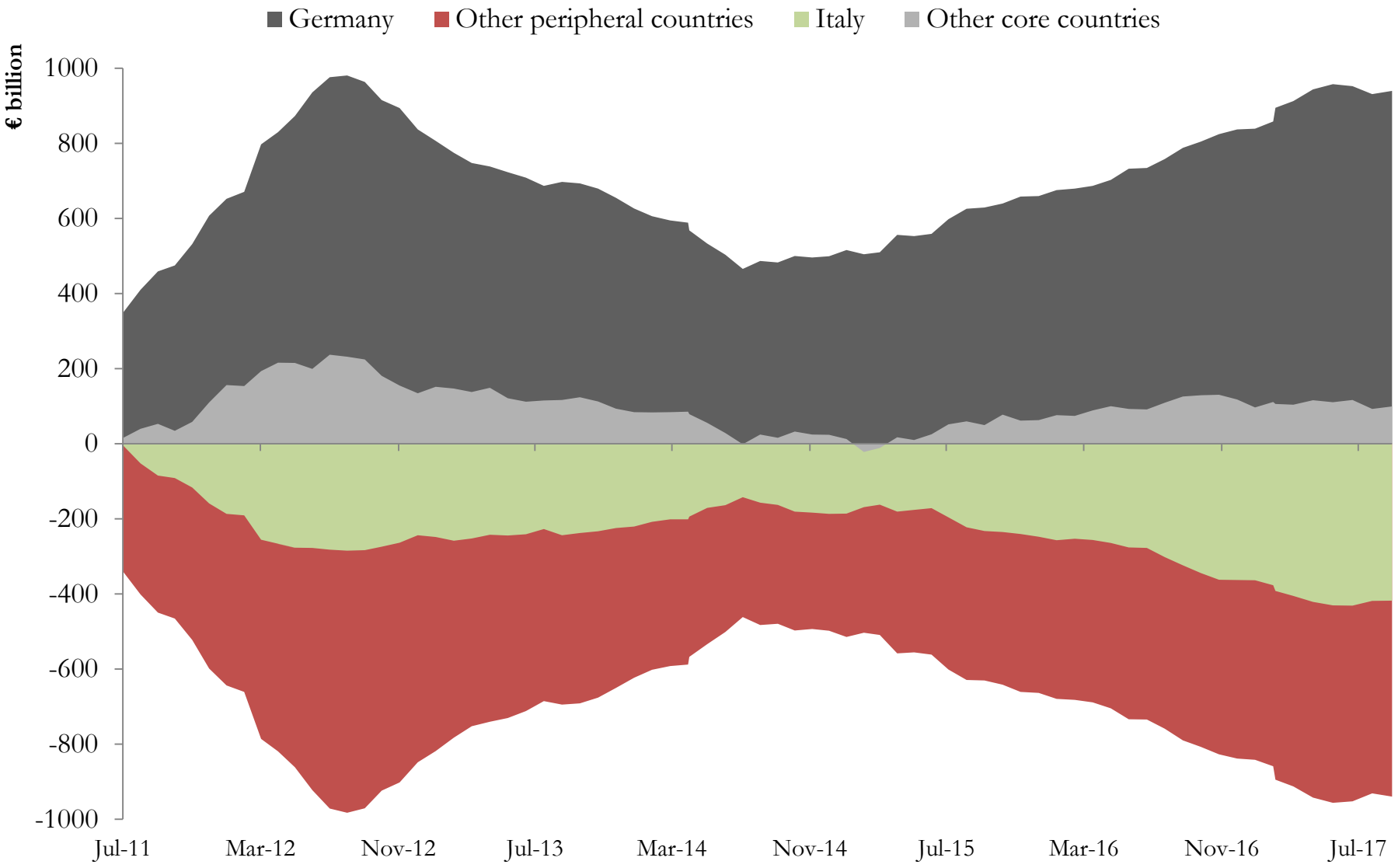
Target2 imbalances

Evolution of the Target2 balances of core and peripheral Eurozone countries



Target2 imbalances

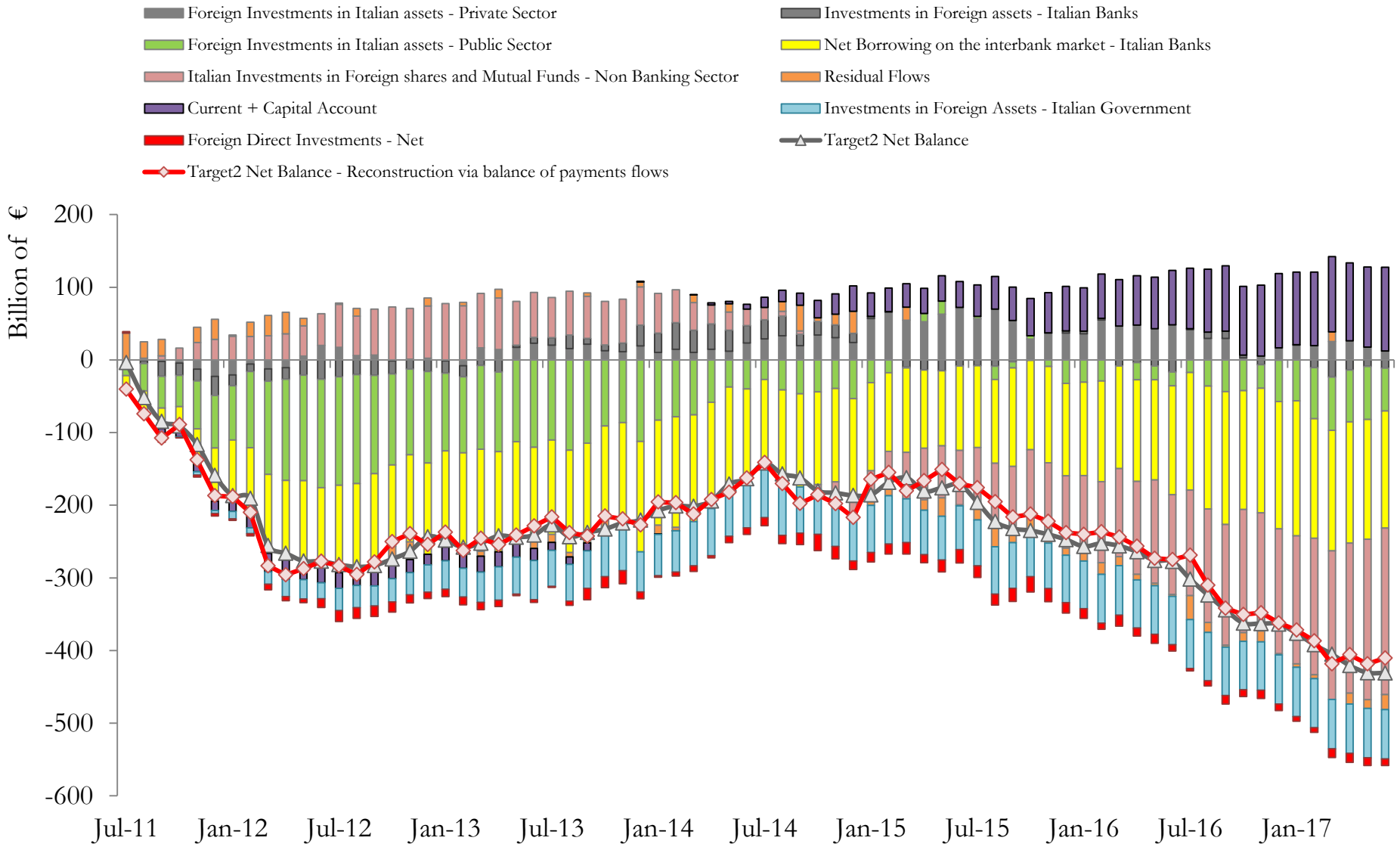
Target2 net balance - Breakdown by main area



Source: ECB

Target2 imbalances

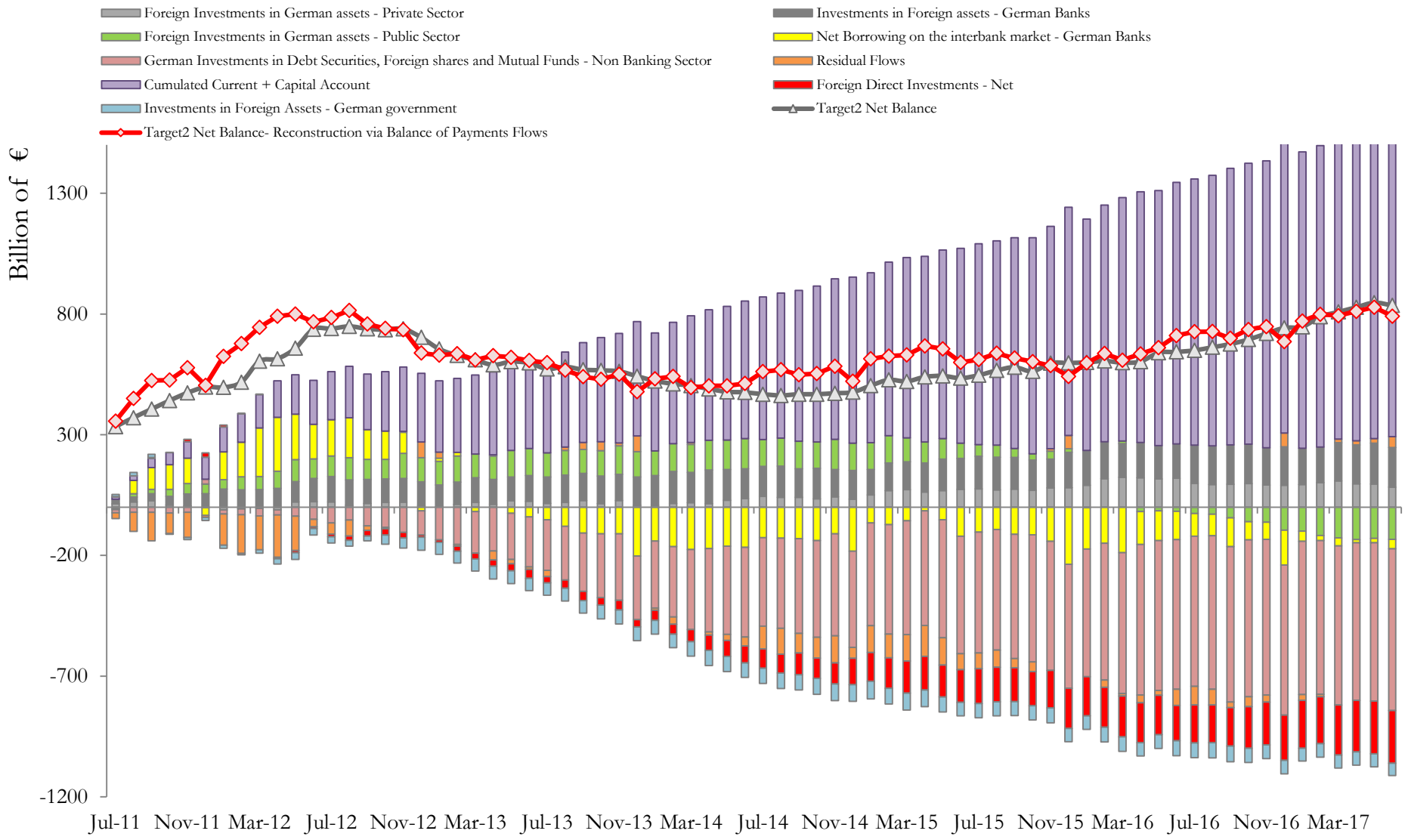
Italy - Target2 Net Balance - Decomposition via Balance of Payments flows



Source: Eurostat

Target2 imbalances

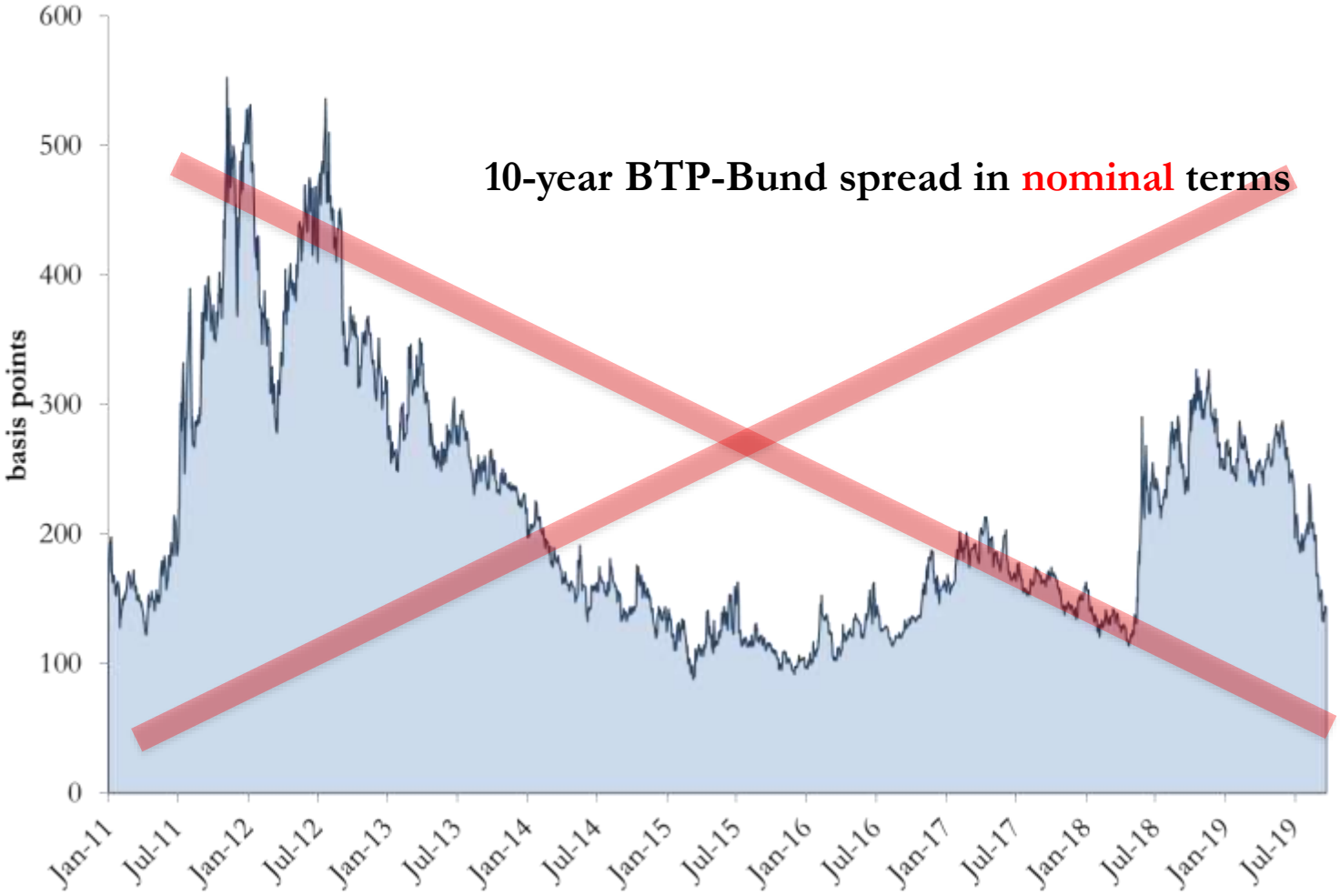
Germany - Target2 Net Balance - Decomposition via Balance of Payments flows



Source :Eurostat

Risk Segregation Measures

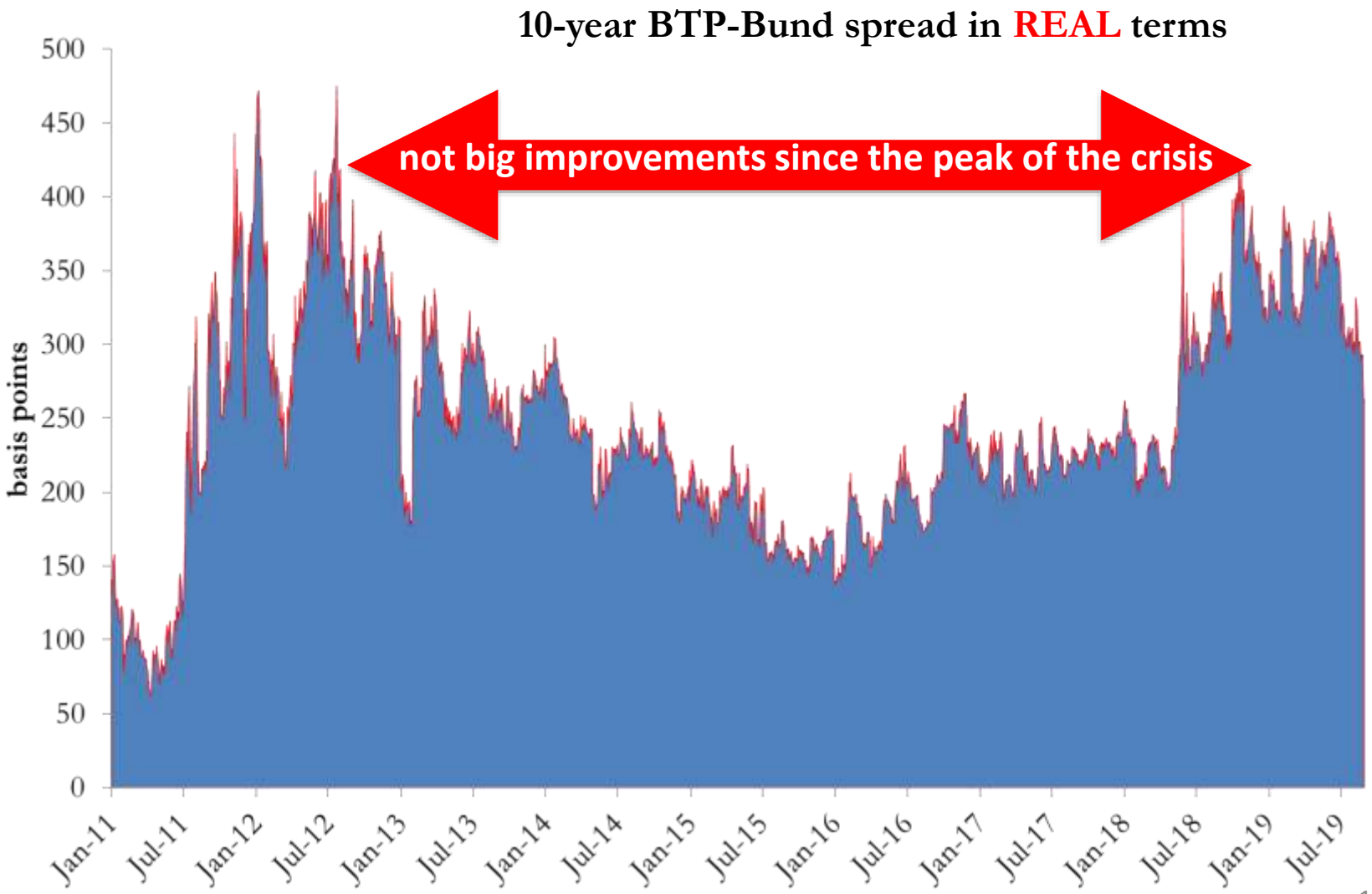
Real (sovereign) yield spreads



Source: Bloomberg

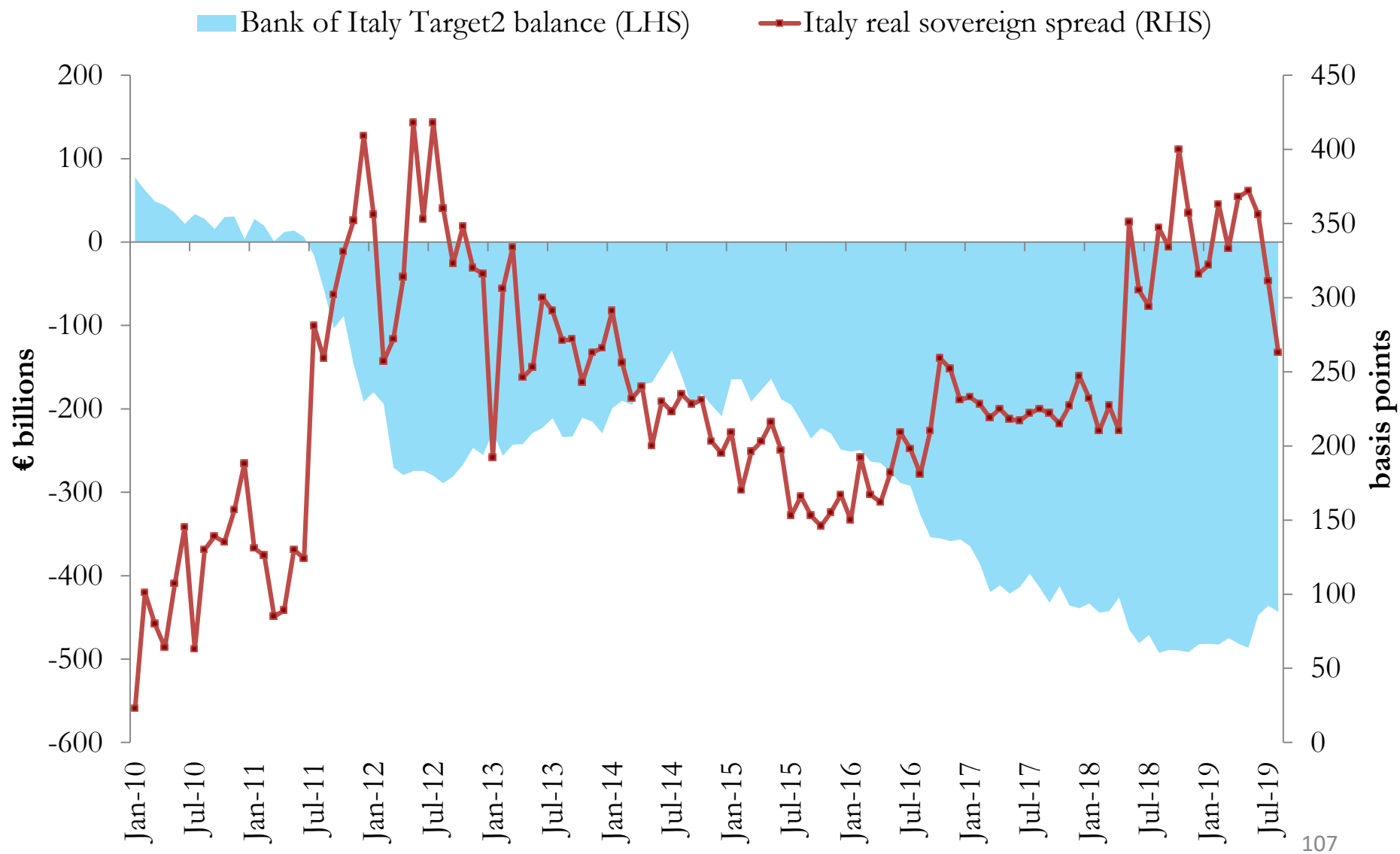
Risk Segregation Measures

Real (sovereign) yield spreads



Risk Segregation Measures

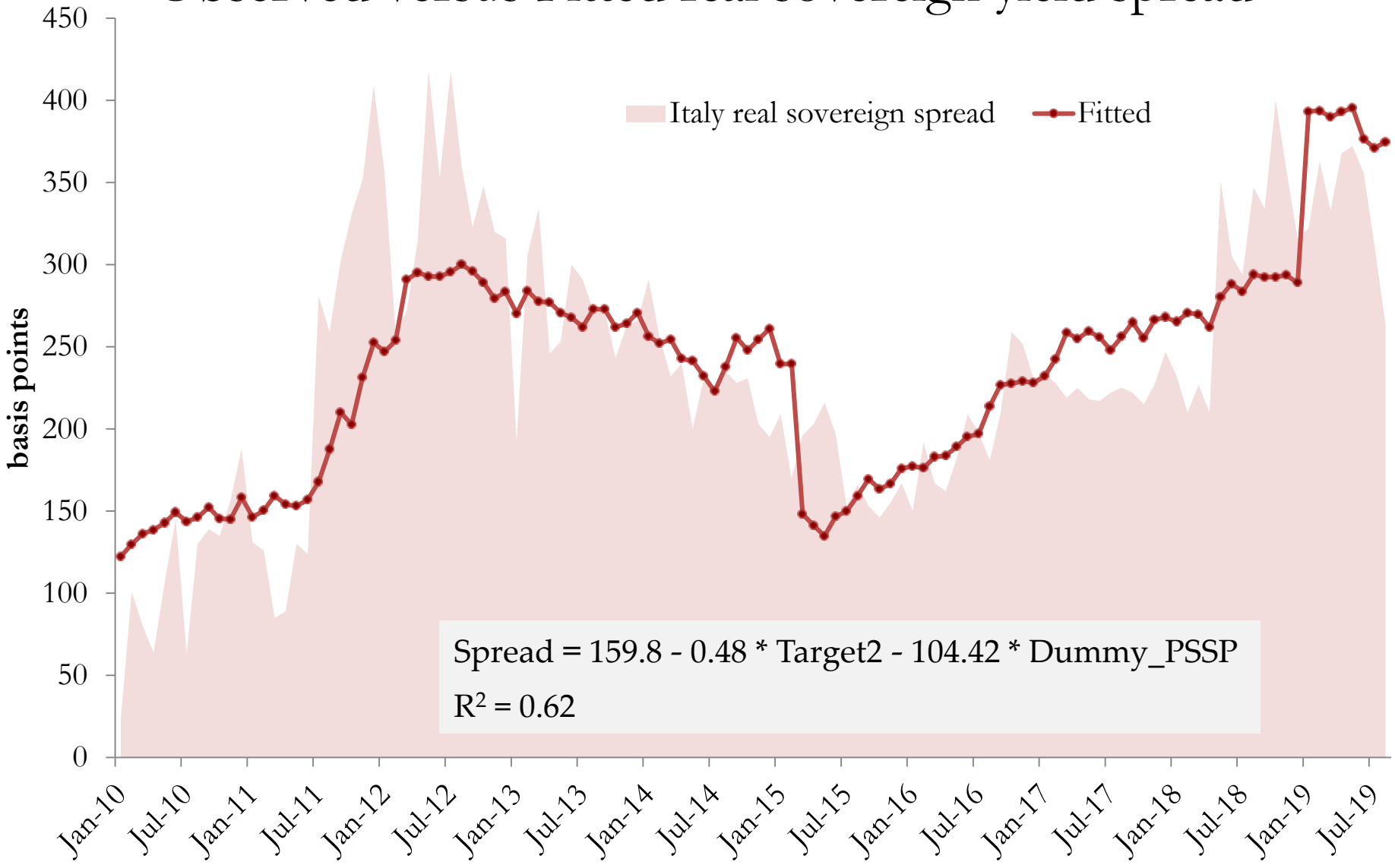
Italy: Target2 Balance and real sovereign yield spread



Source: Bloomberg

Risk Segregation Measures

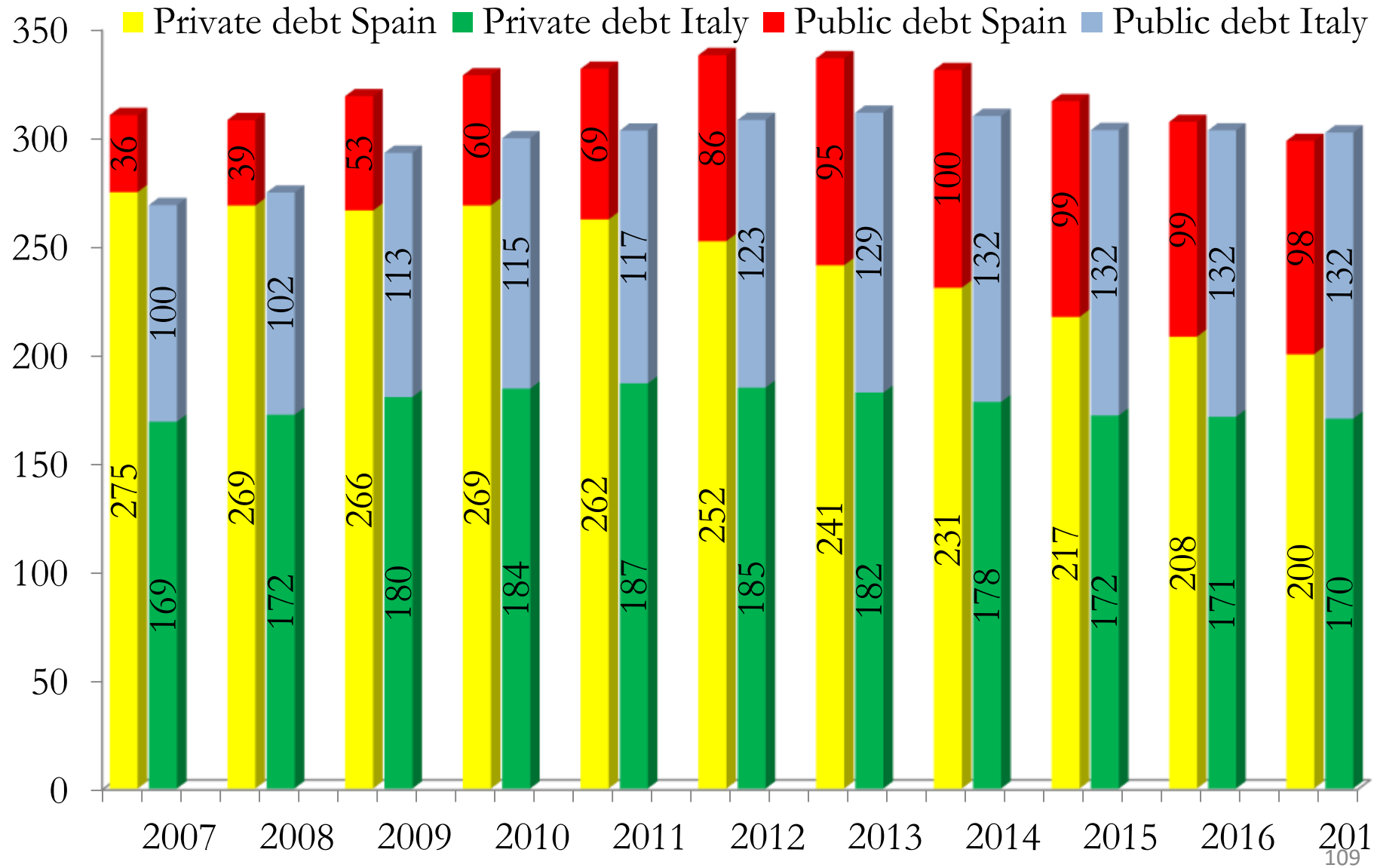
Observed versus Fitted real sovereign yield spread



Source: Author's calculations

Peripheral Risk Assessment

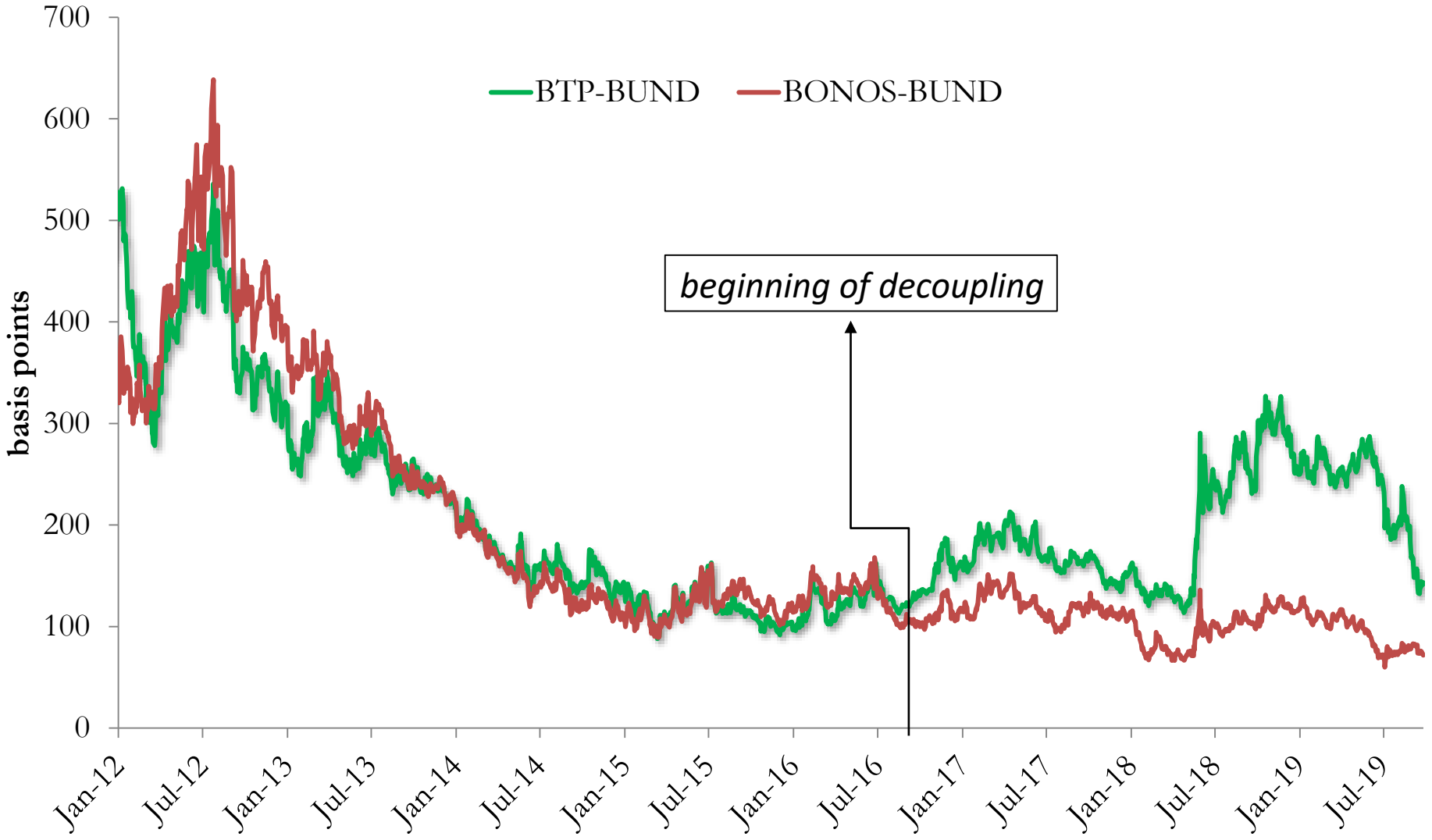
Spain and Italy: private and public debt in GDP terms



Source: IMF – Global Debt Database

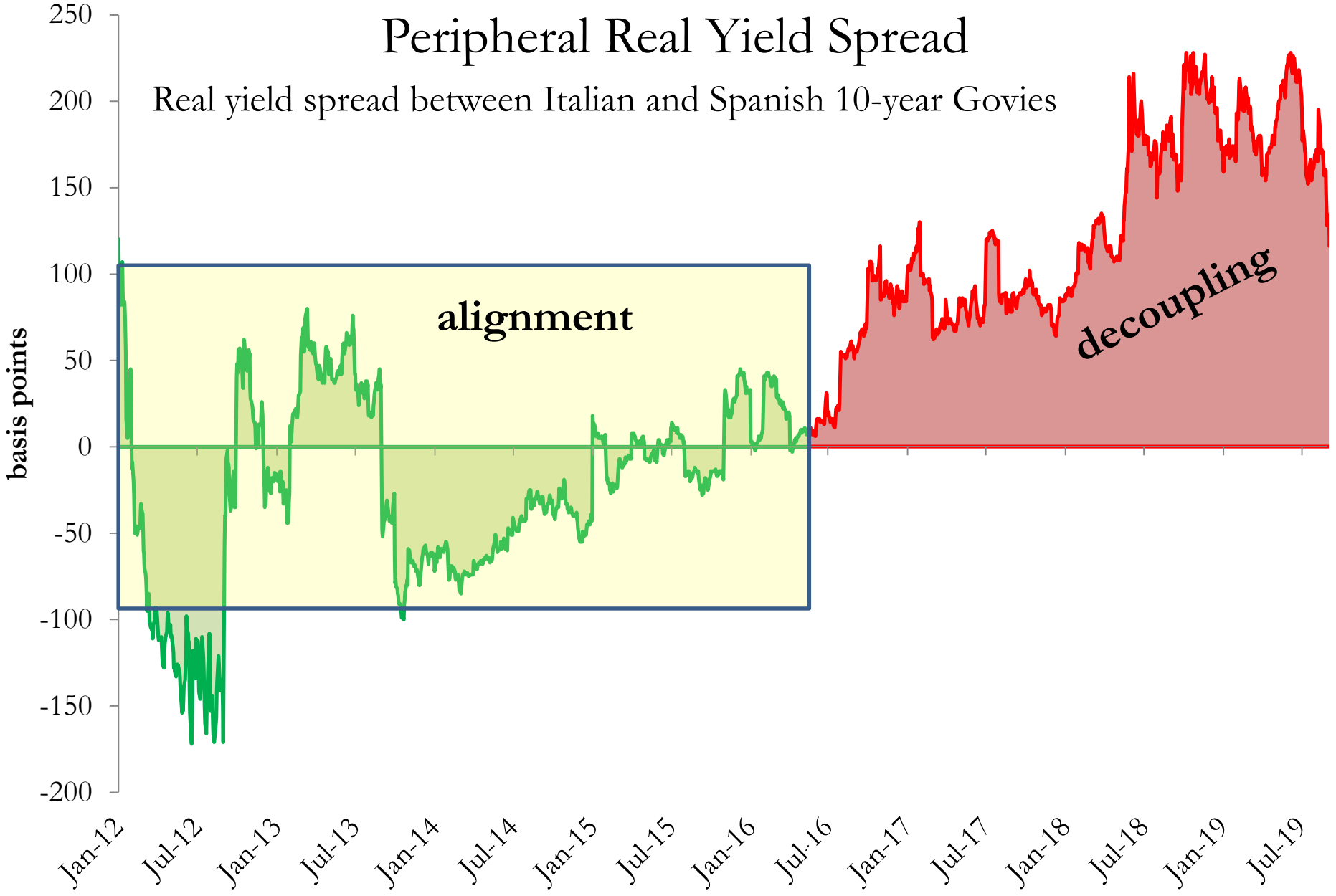
Peripheral Risk Assessment

Nominal yield spread of Italian and Spanish 10-year Govies wrt the German Bund



Source: Bloomberg

EU-Confrontational Risk measures

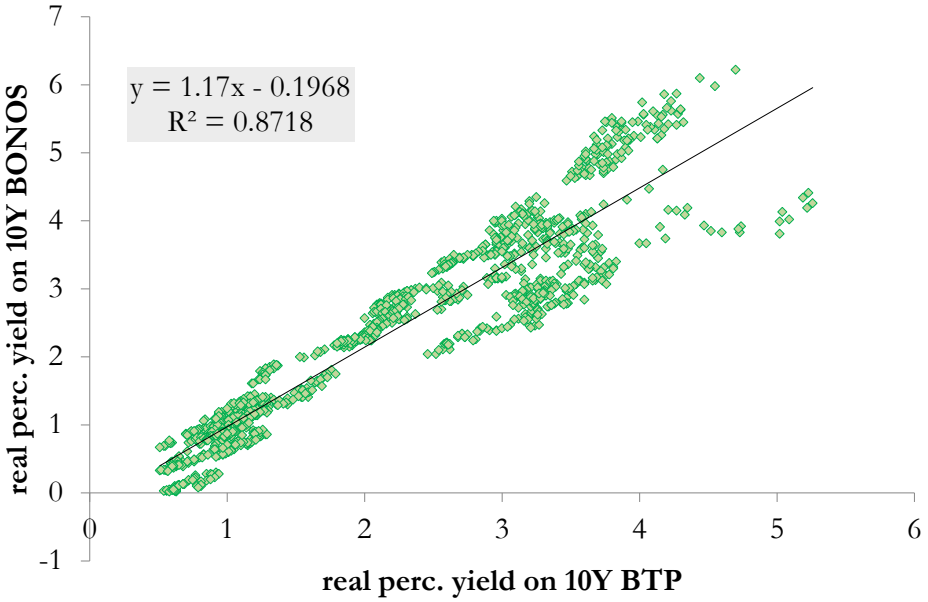


Source: Bloomberg

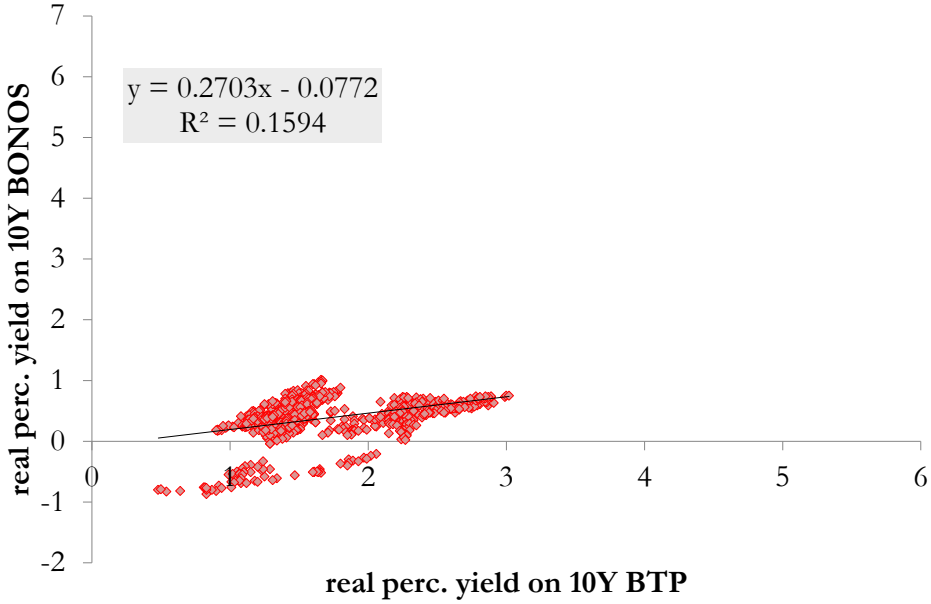
EU-Confrontational Risk measures

Scatter plots of the over two distinct periods

Jan. 2012-Sep. 2016



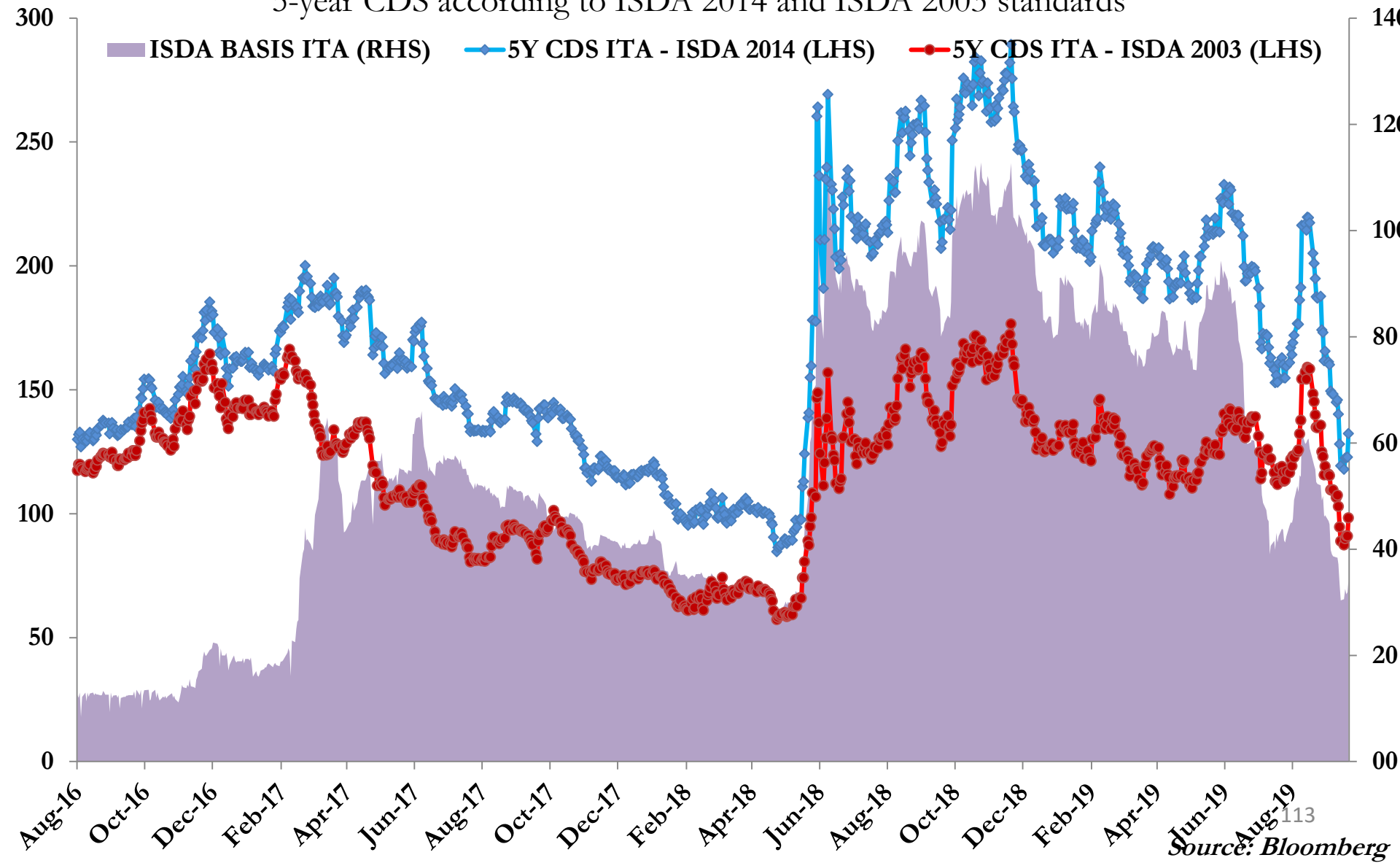
Oct. 2016-Aug. 2019



Source: Author's calculations on Bloomberg data

EurExit Risk Assessment

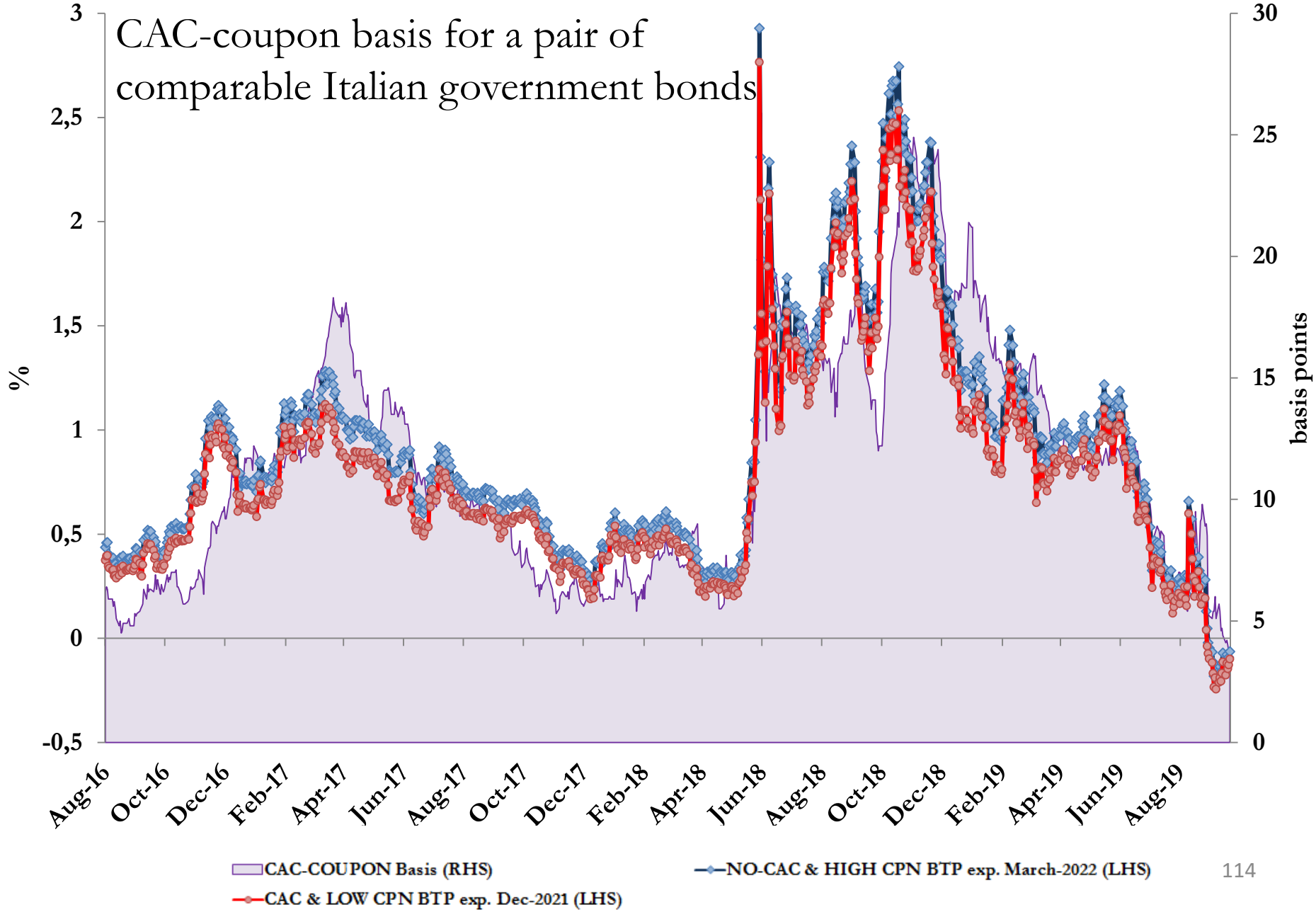
Italy ISDA Basis(bps)



Source: Bloomberg

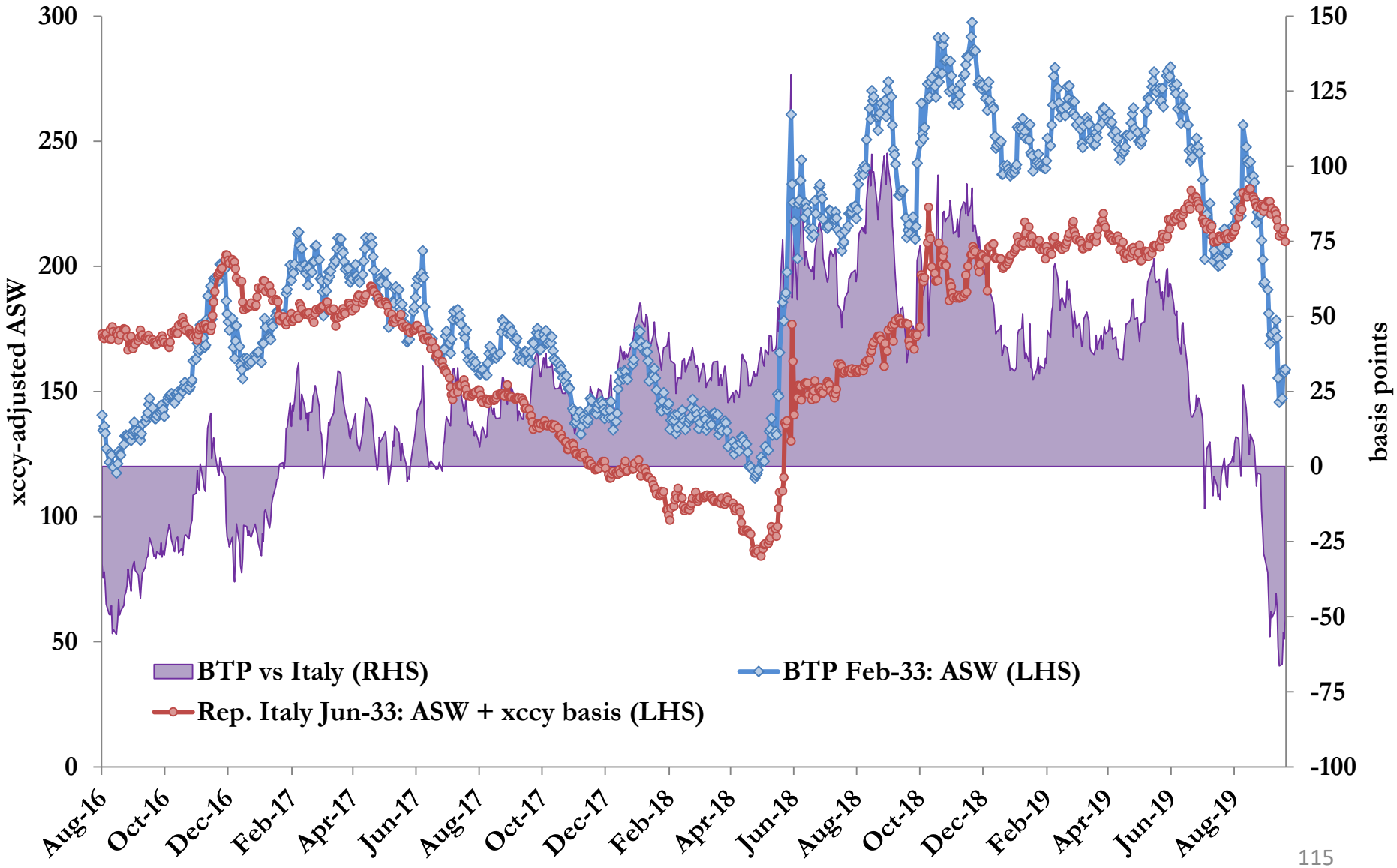
EurExit Risk Assessment

CAC-coupon basis for a pair of comparable Italian government bonds



EurExit Risk Assessment

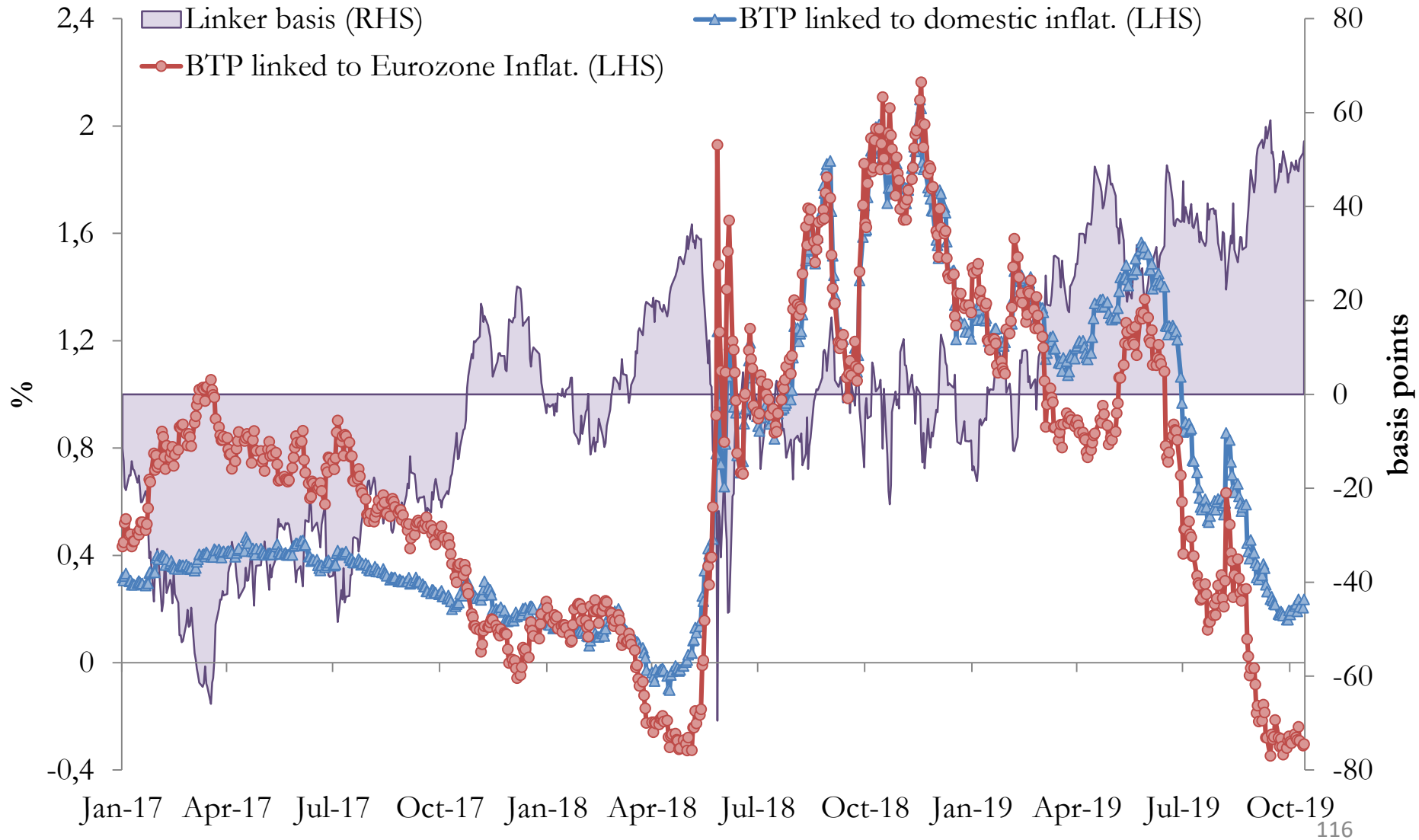
Quanto-Legal basis for a pair of Italian government bonds expiring in 2033



Source: Bloomberg

EurExit Risk Assessment

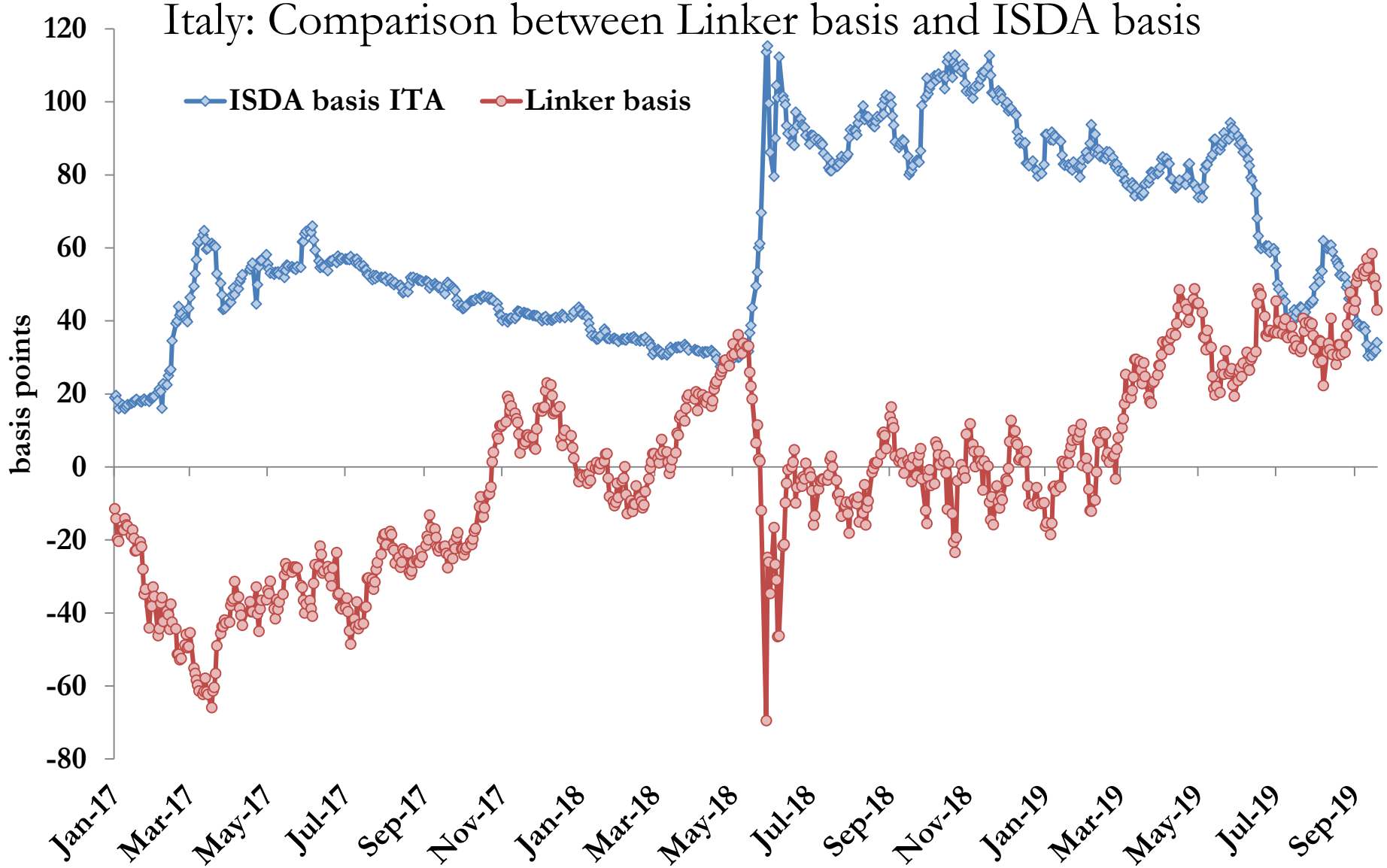
Linker basis for a pair of Italian government bonds expiring in 2024



Source: Bloomberg

EurExit Risk Assessment

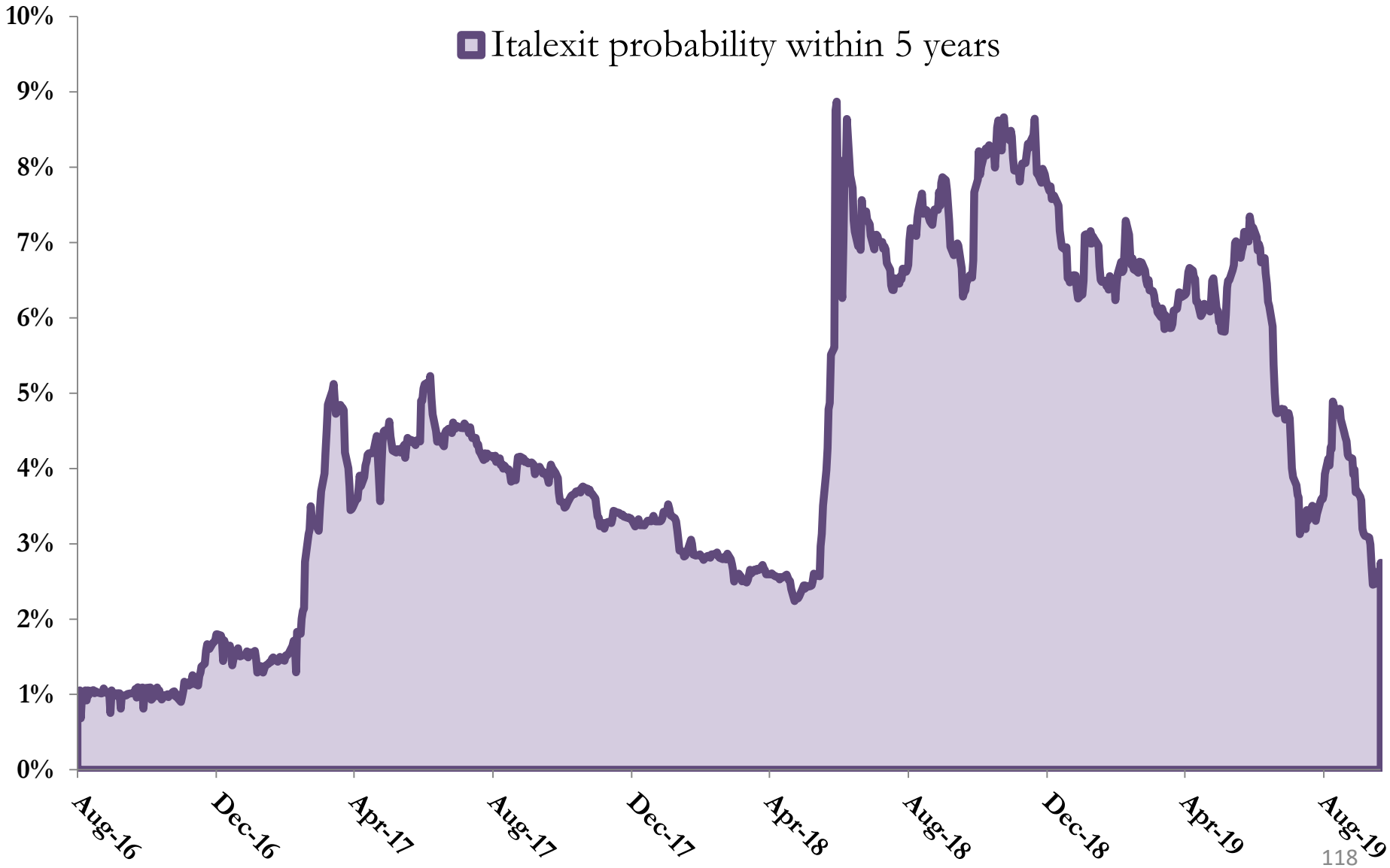
Italy: Comparison between Linker basis and ISDA basis



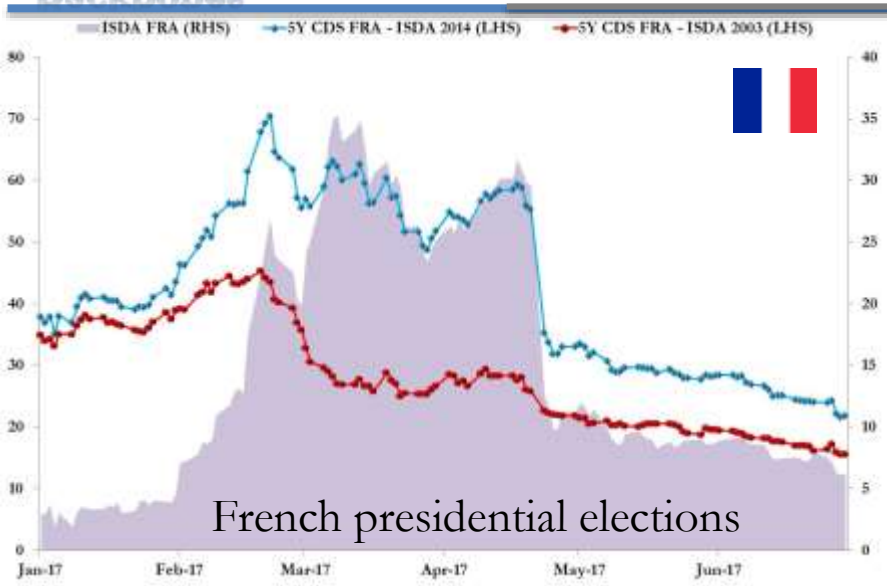
Source: Bloomberg

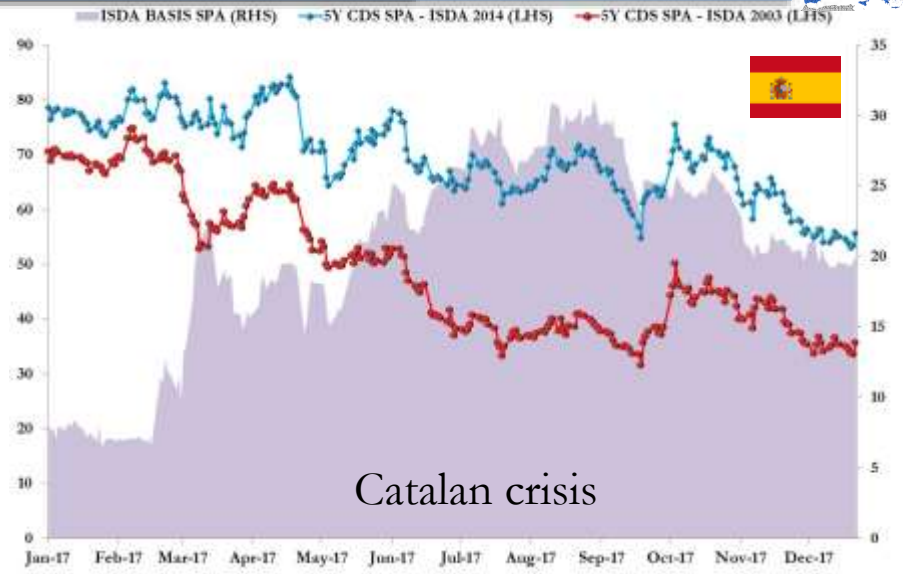
EurExit Risk Measures

ISDA Implied Exit Probability



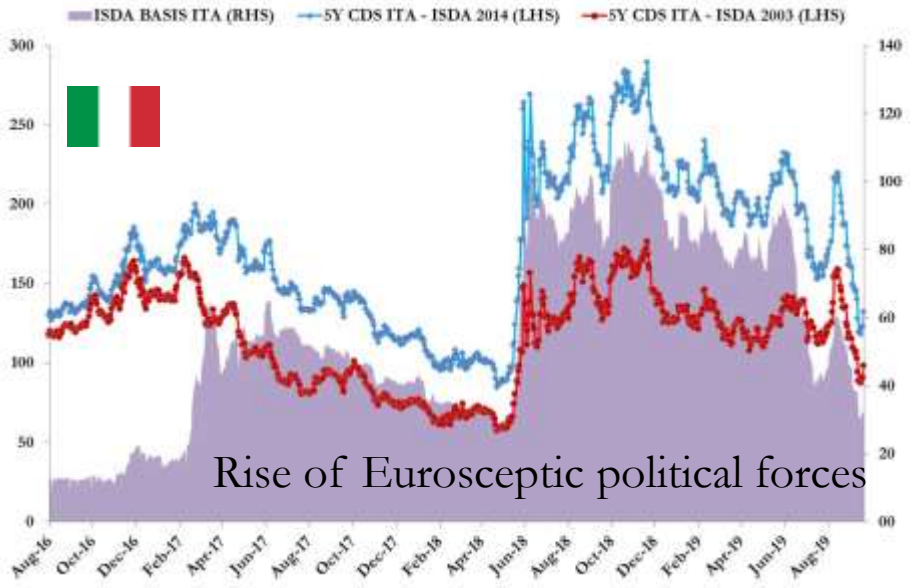
EurExit Risk Assessment

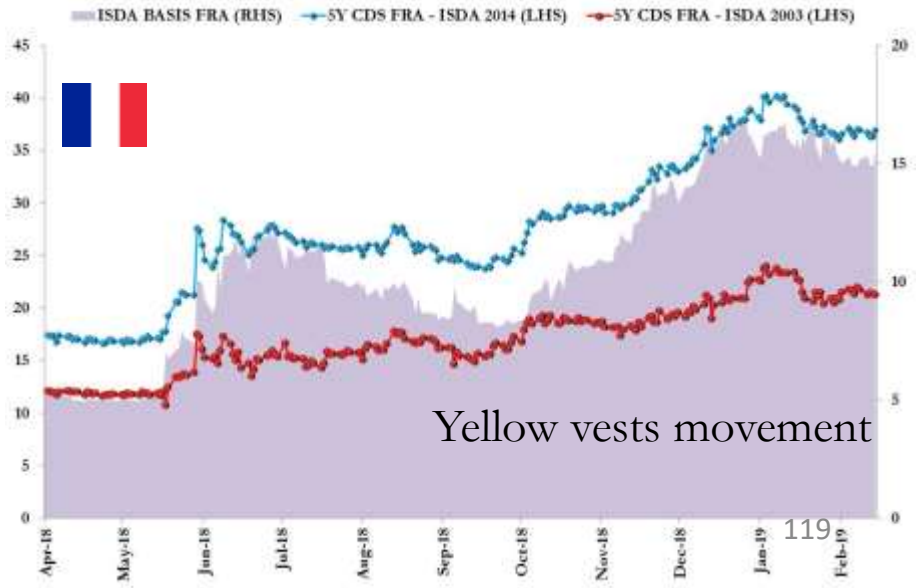




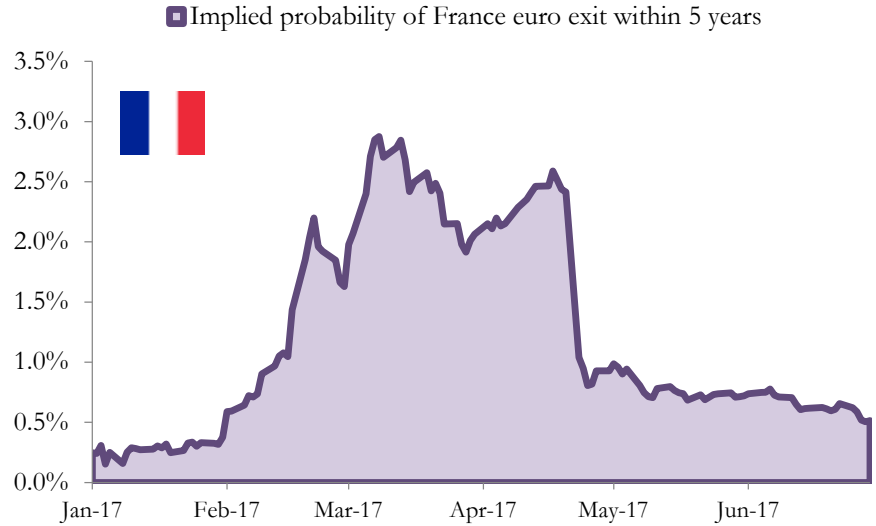
ISDA Basis for France, Spain and Italy (bps)

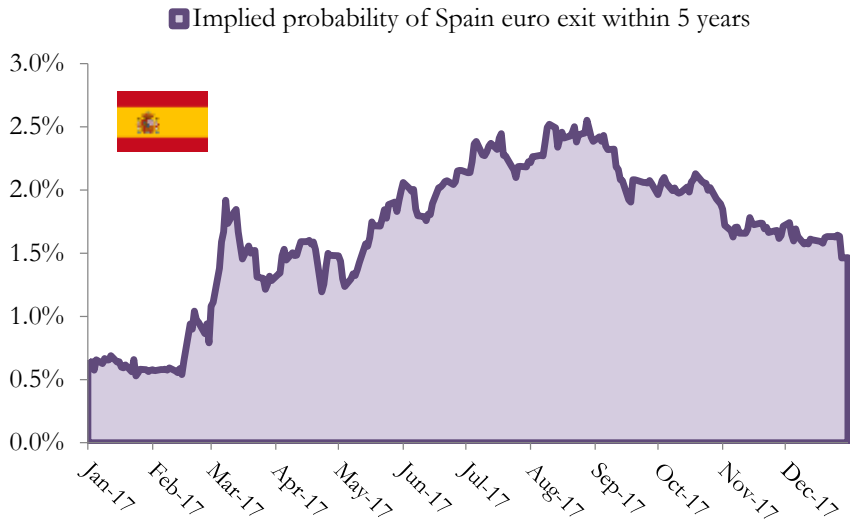
5-year CDS according to ISDA 2014 and ISDA 2003 standards





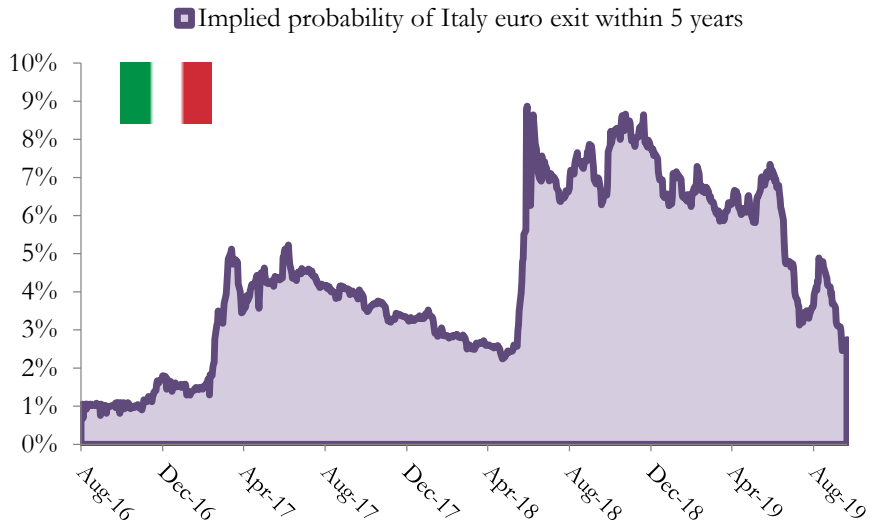
EurExit Risk Measures

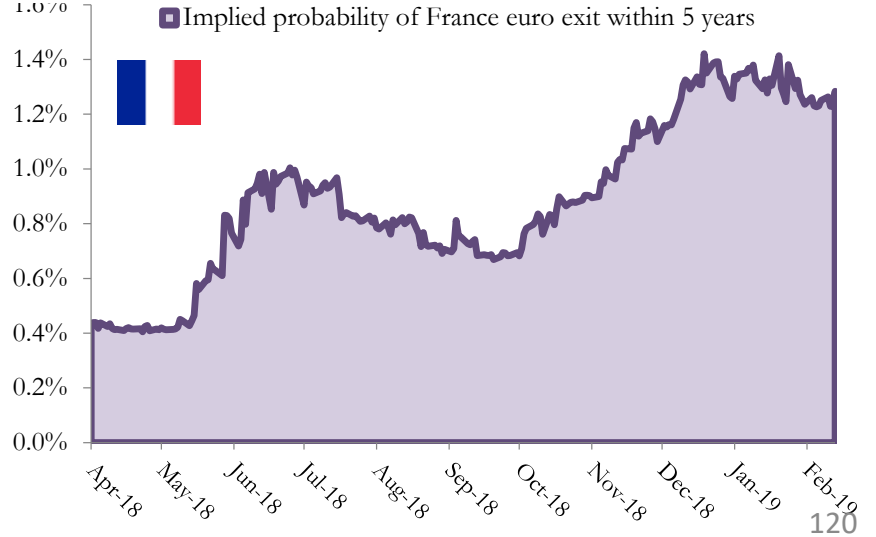




5-year implied probability of a euro exit

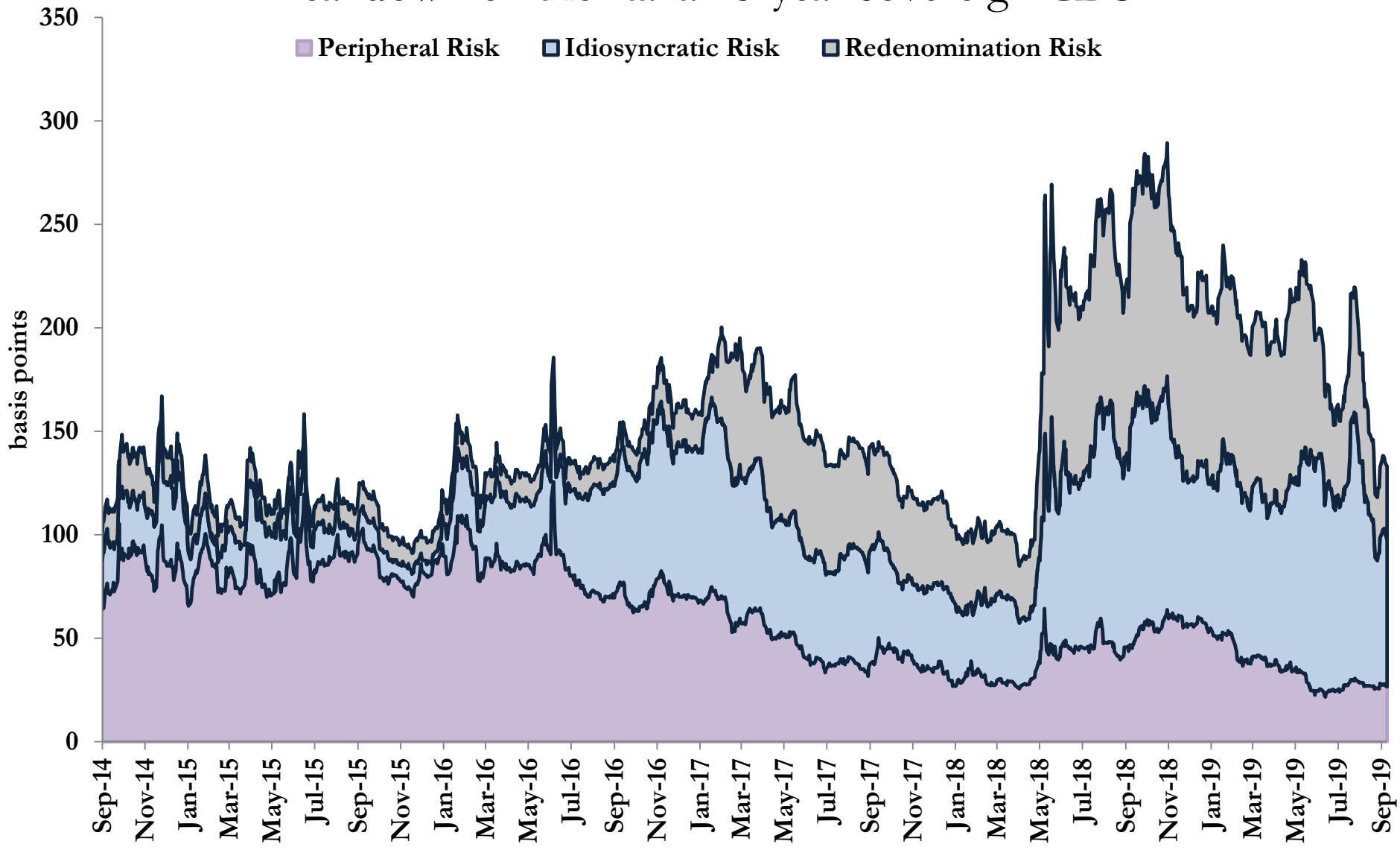
derived from the ISDA Basis for France, Spain and Italy





Italian Risk Decomposition

Breakdown of the Italian 5-year sovereign CDS



Source: Author's calculations on Bloomberg data

Centrifugal forces threaten EZ resilience

Target2 Balance

Real Sovereign Yield Spread

Financial Real Effective Exchange Rate (F-REER)

The new Eurozone Risk Morphology

1st risk backbone
Competitiveness Gap Risk

Peripheral Real Yield Spread

2nd risk backbone
Segregation Risk

ISDA Implied Exit Probability

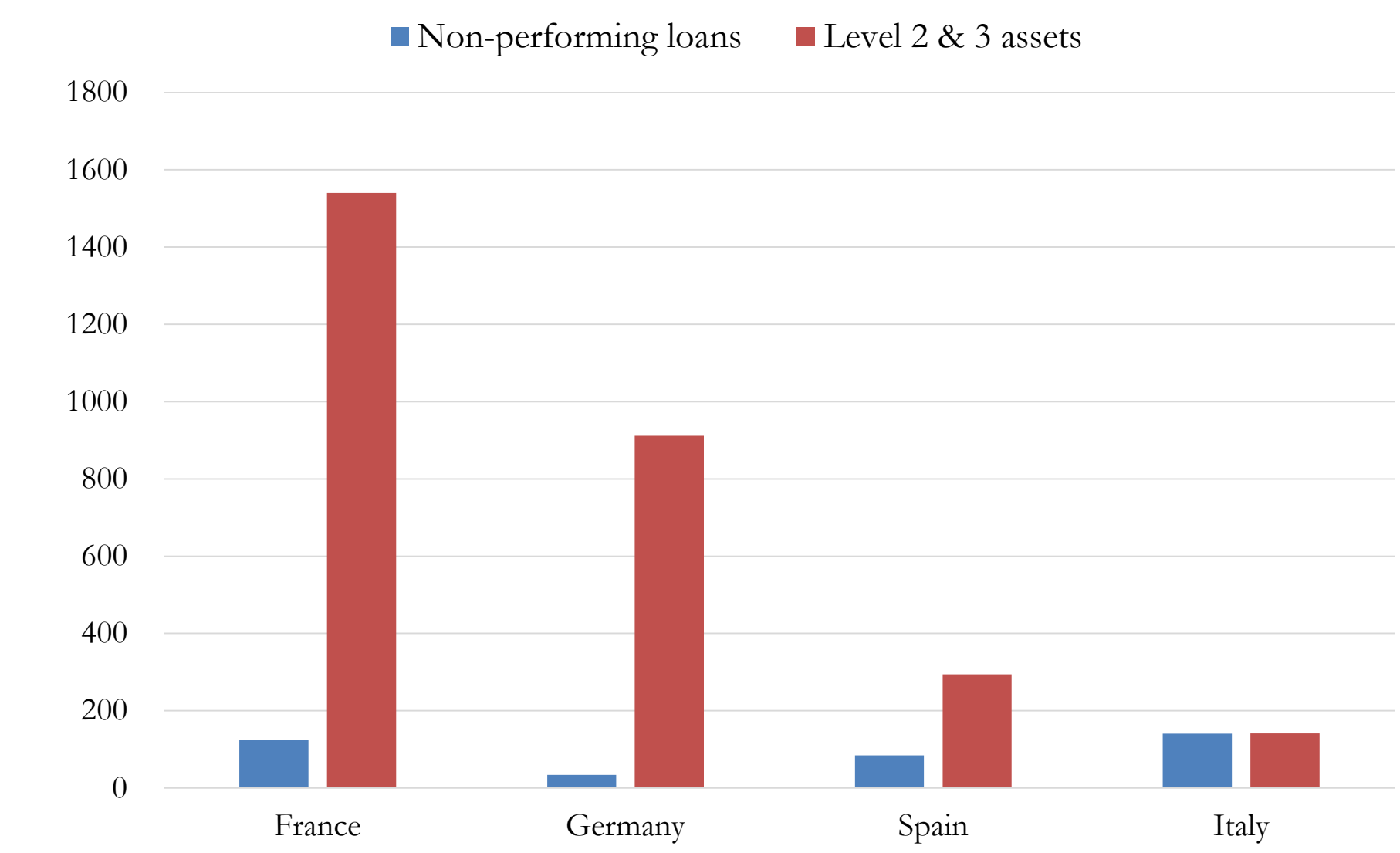
- Risk assessment at the origin
- The financial crisis turnaround on the risk structure
- The «whatever it takes» re-definition of the risk shape
- **Proposals for risk normalization**

Proposals for Risk Normalization

- True Banking Union:
  - Green light to EDIS
  - Coherent risk policies for UTP&NPL and Level 2&3 Assets
- 3-steps monetary policy to make room for the risk-sharing
- ESM reforms to get a gradual transition to Eurobonds and a EU-wide investment policy

  (see: Minenna, Dosi, Roventini, Violi, 2019, https://link.springer.com/article/10.1007%2Fs10479-019-03325-9)

Homogeneous Risk-based Asset Quality Review



3 steps of monetary policy to make room for the risk sharing

+ DEGREE OF RISK-SHARING -

Tweaking the Quantitative Easing

Leave the capital key criterion and allow the purchase of a greater share of securities for countries with higher spreads

Freezing of long-term government securities

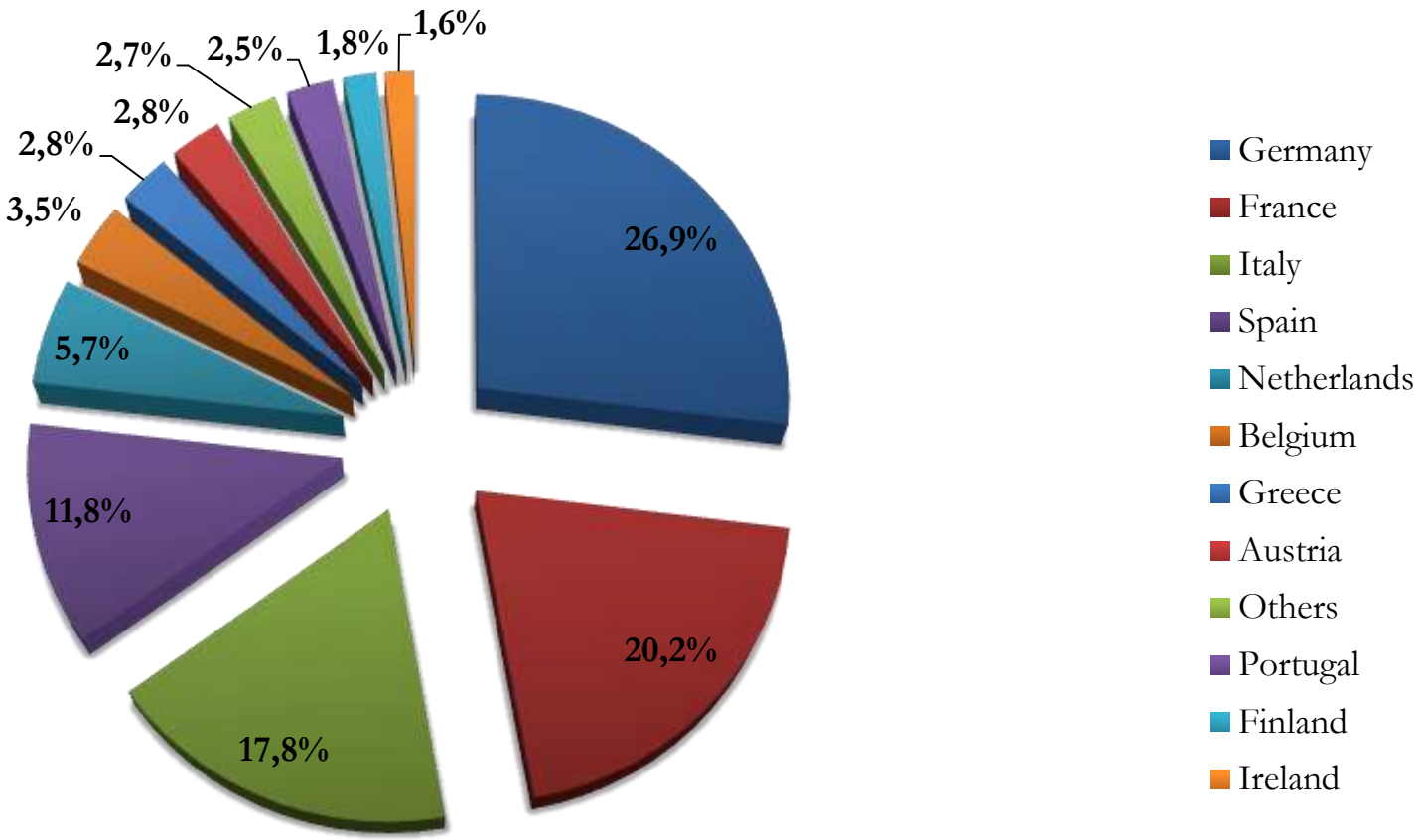
Re-modulation of the QE reinvestment program and of the 2nd round of net assets purchases in order to target only *ultra long* government bonds (over 30 year residual life)

Risk sharing swap

Centralization of government bonds' purchases at the ECB by exempting National Central Banks from direct securities' purchases and by accepting a full risk sharing on the securities already held by the Euro-system

ESM 1.0: what's wrong?

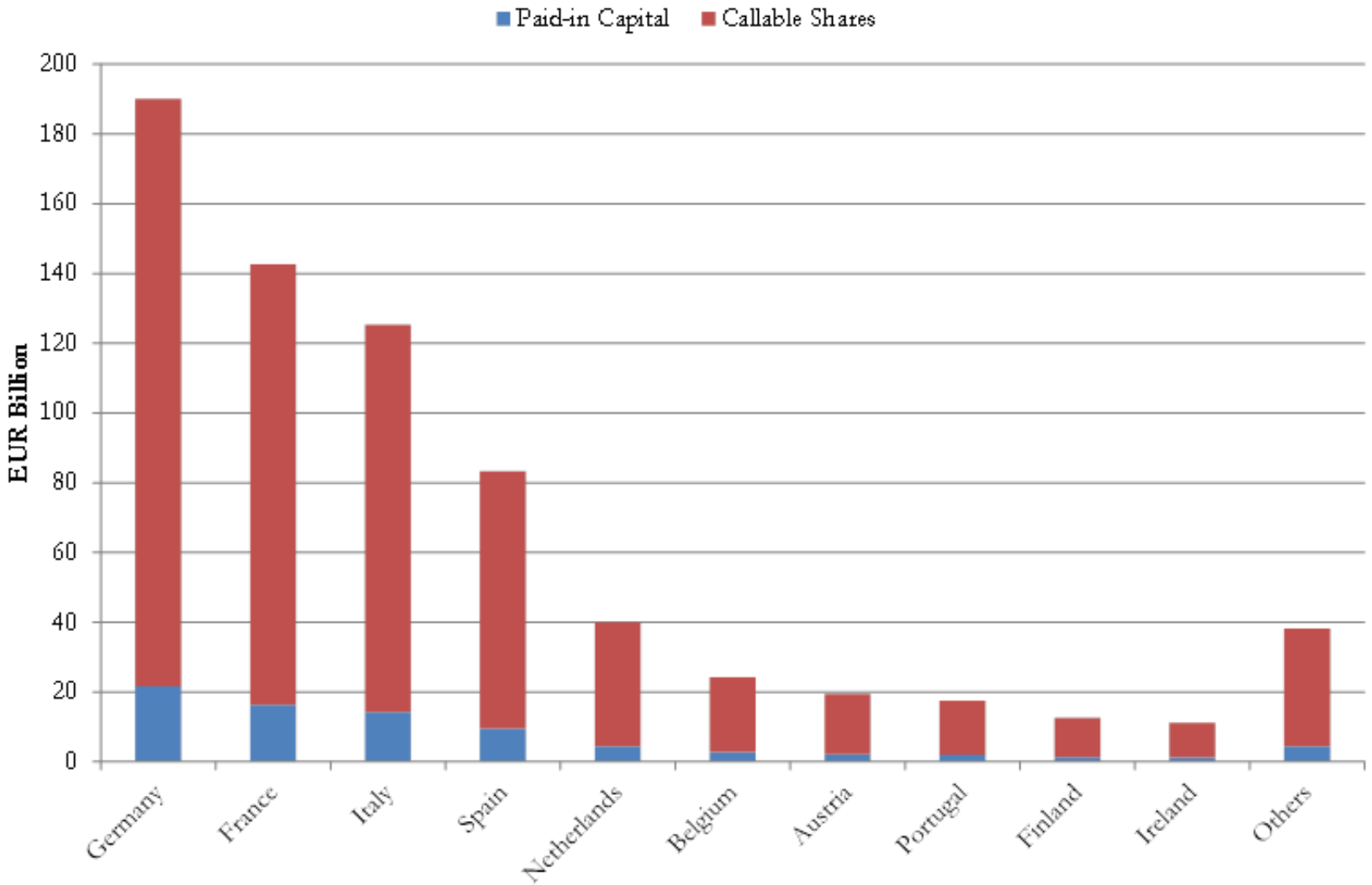
Current ESM Capital Key



Country-specific contribution scheme proportional to the contribute of each country to the GDP and population of the EU Community

ESM 1.0: what's wrong?

Two-tier capital configuration



€ 704 billion of authorized capital subscription

only €80.55 billion (i.e. the 11.4%) already paid in → the rest are callable shares

Open issues with the current set-up

- ✓ **Potential problems with the capital structure:** the large gap between subscribed and paid in capital exposes the ESM to a relevant insolvency/liquidity risk at the moment of the greatest need

- ✓ **Lending** is available only in deeply distressed scenarios

Open issues with the current set-up

✓ **Strict conditionality** : to become beneficiary of a ESM financial assistance program a country must:

- have signed the Fiscal Compact
- be compliant the EU budgetary rules
- have signed a MoU with a detailed list of committments to implement domestic reforms according to a precise schedule

✓ **No full reliance** on the 'democratic' principle of no discrimination among shareholders: the first three shareholders (Germany, France and Italy) can veto any decision even under the emergency procedure

ESM 1.0: what's wrong?

Open issues with the current set-up

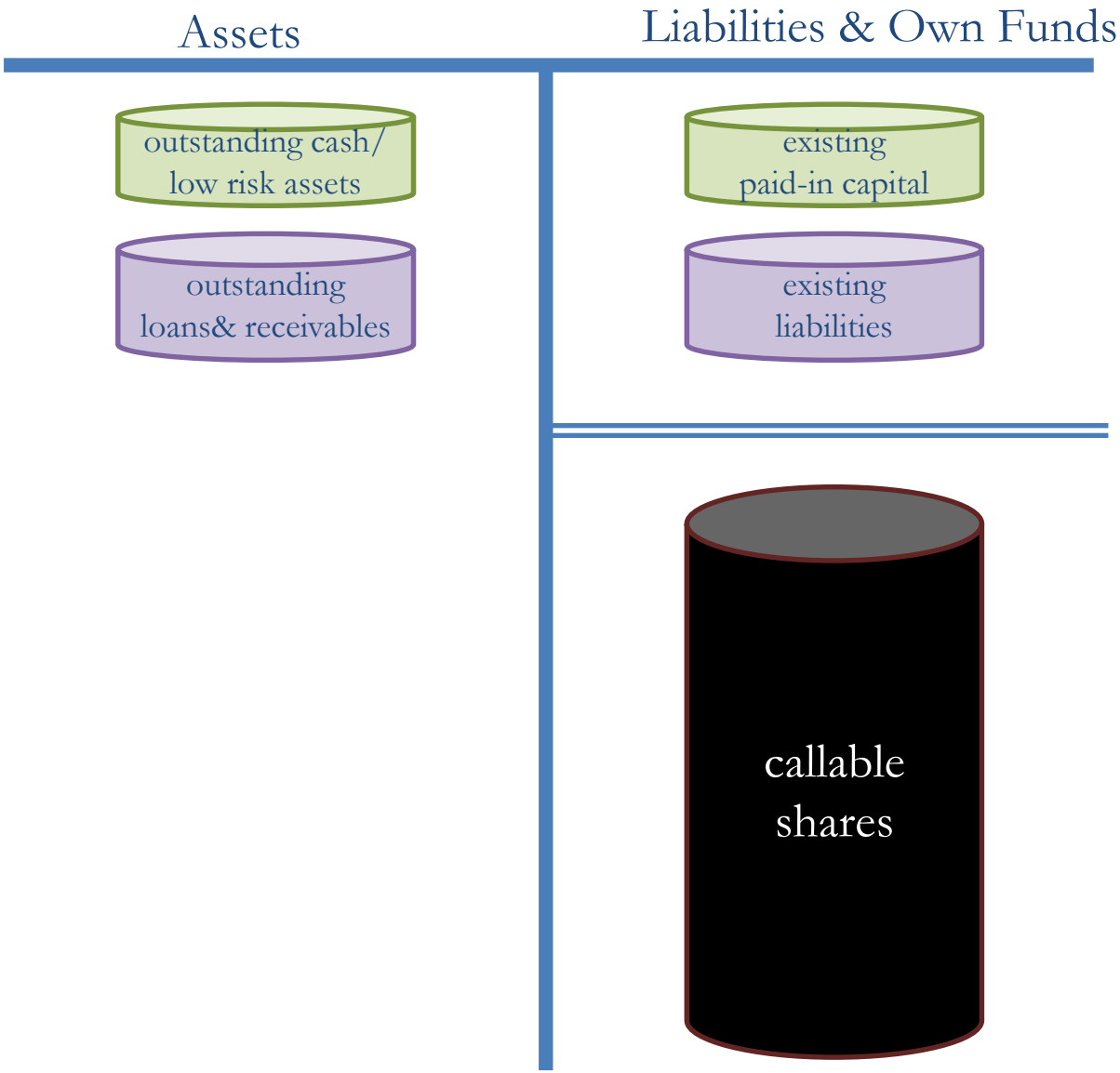
Strict conditionality and limited reliance on the no discrimination principle reflect the **risk segregation** attitude of the current Eurozone environment

Other phenomena related to risk segregation are:

- ✓ **large Target 2 imbalances**
- ✓ **lack of a Eurozone safe asset**

At the same time, the «No Bail Out» clause doesn't seem credible

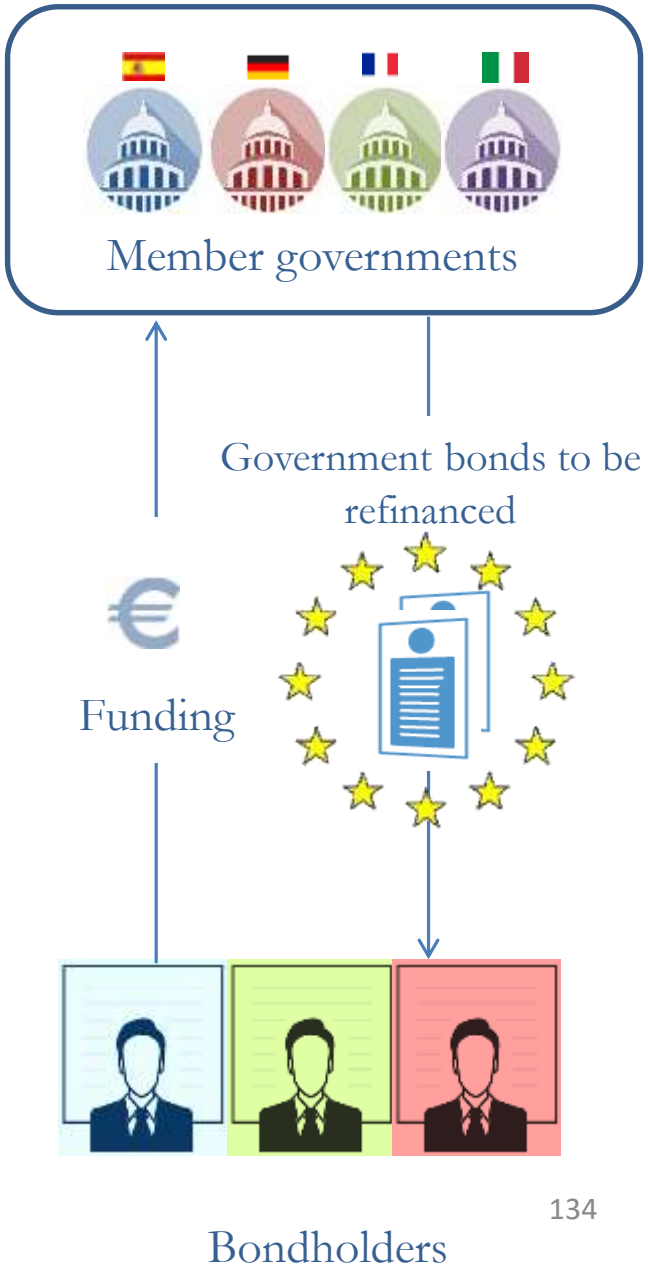
ESM 1.0: current balance sheet



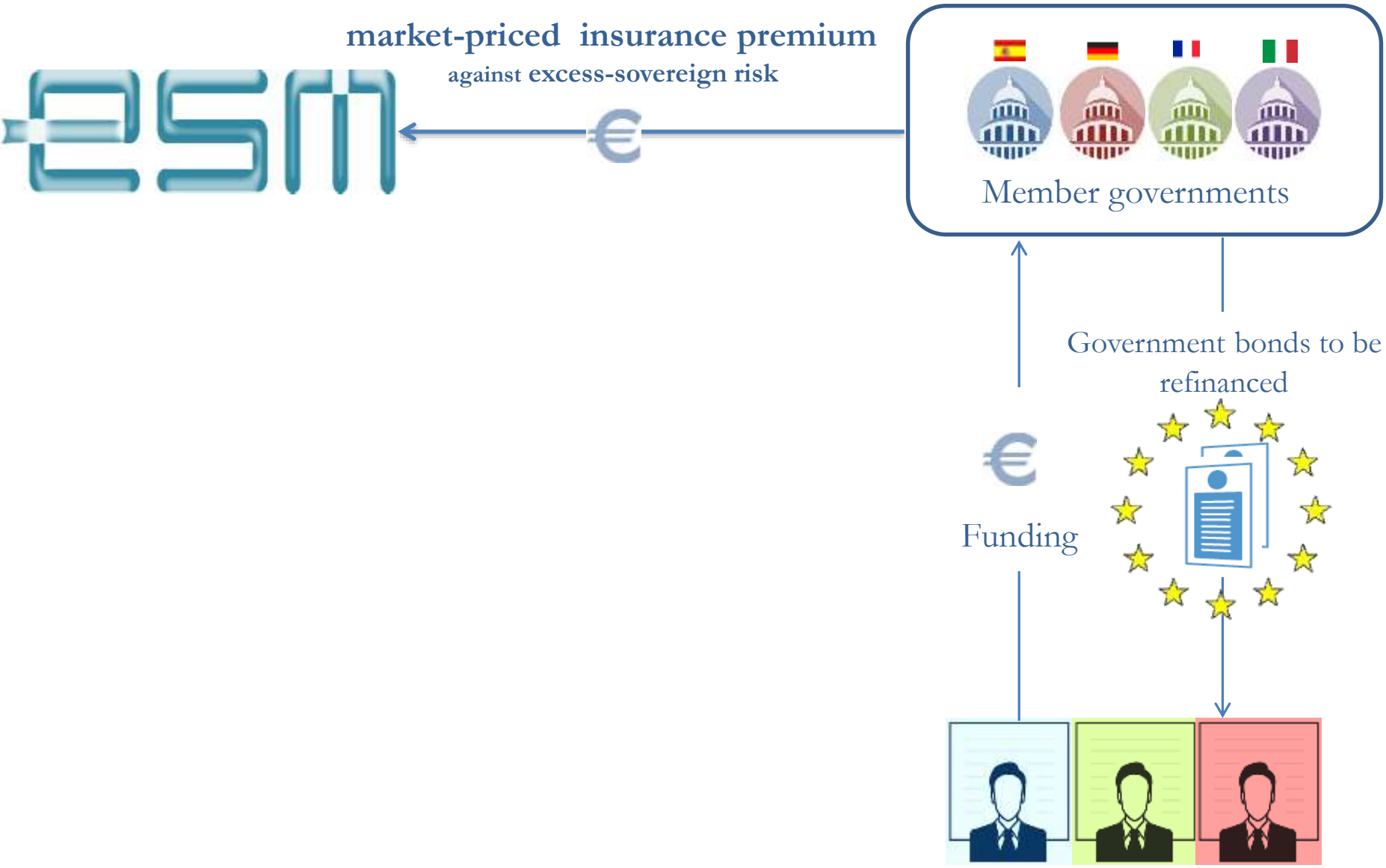
In a nutshell:

Architectural limits prevent the European Stability Mechanism from restoring a long-lasting stability in the Euro area

ESM 2.0: moving to risk sharing



ESM 2.0: moving to risk sharing



MUTUALISATION OF SOVEREIGN RISKS

ESM 2.0: moving to risk sharing

COMPLIANCE WITH MARKETS' LOGIC:

insurance premium depends on the distance of each country's sovereign CDS from the weighted average of Eurozone sovereign CDS

(riskier countries pay higher premia)

ESM 2.0: moving to risk sharing

if an **eligible** trigger event occurs

(contingent liability)

ESM

(with the ECB financial backing)

Member governments

€

Loss Given Default

€

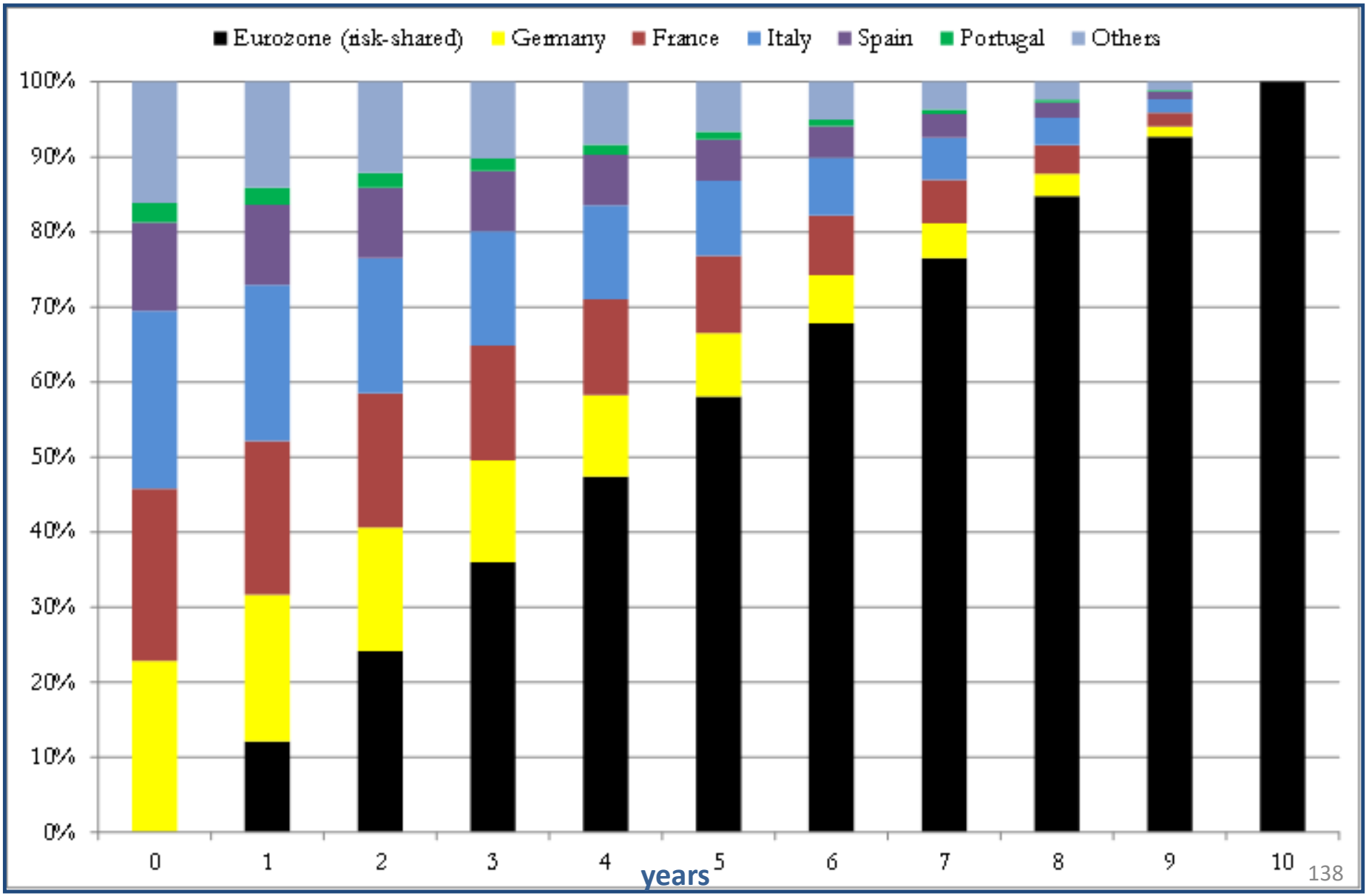
Recovery Amount

Bondholders

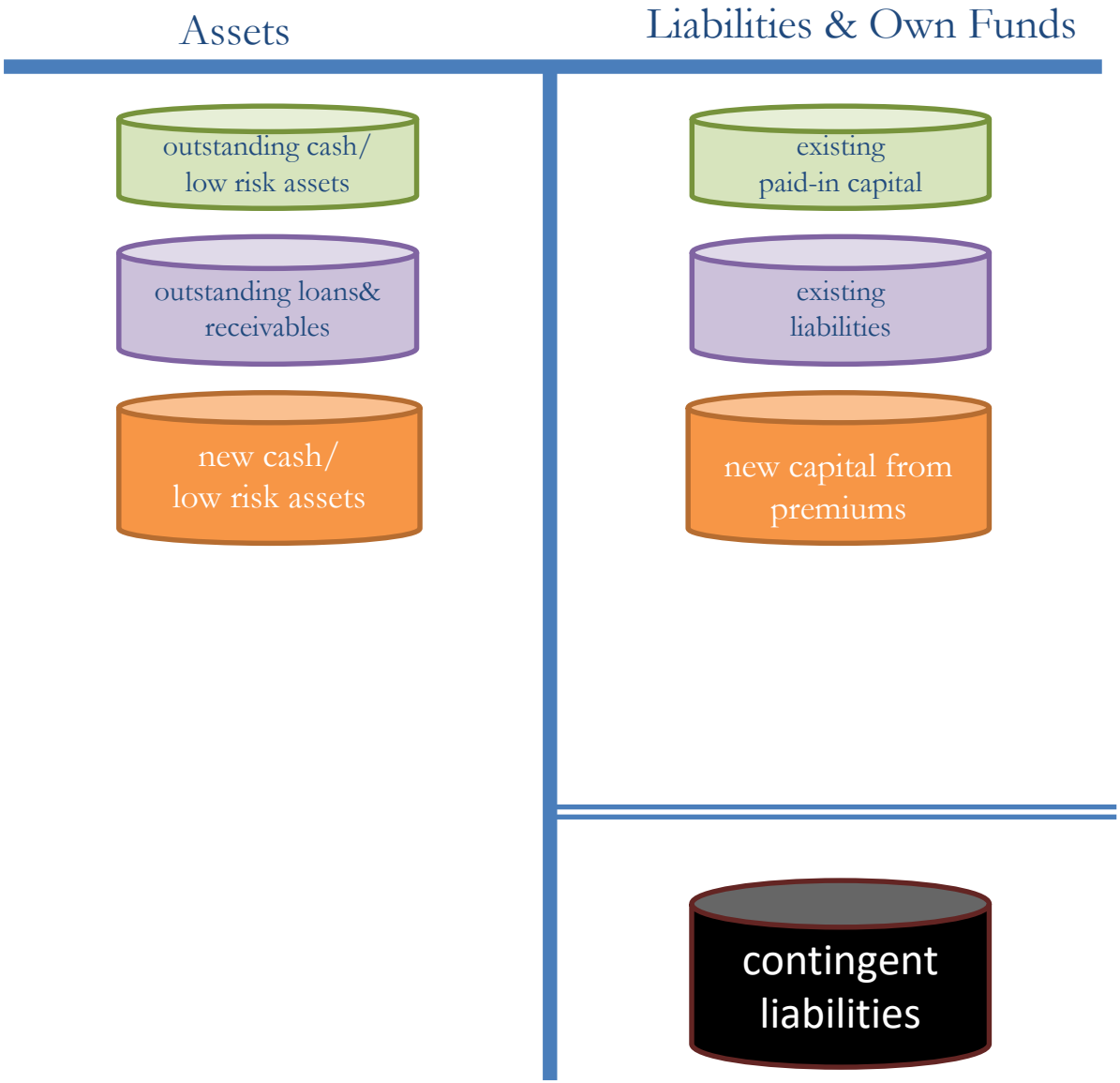
MUTUALISATION OF SOVEREIGN RISKS

ESM 2.0: moving to risk sharing

Gradual transition to a single Eurozone public debt



ESM 2.0: updated balance sheet

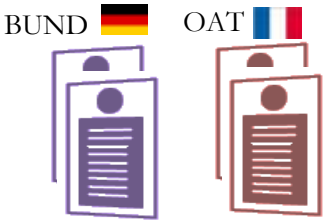


ESM 2.0: moving to risk sharing

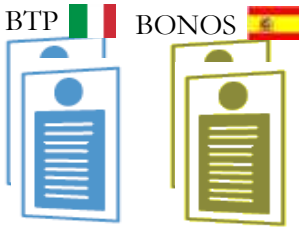
Markets' agents update their expectations:

resume to bet on the **convergence** of the interest rates curves of euro area countries

sell bonds issued by **core** governments



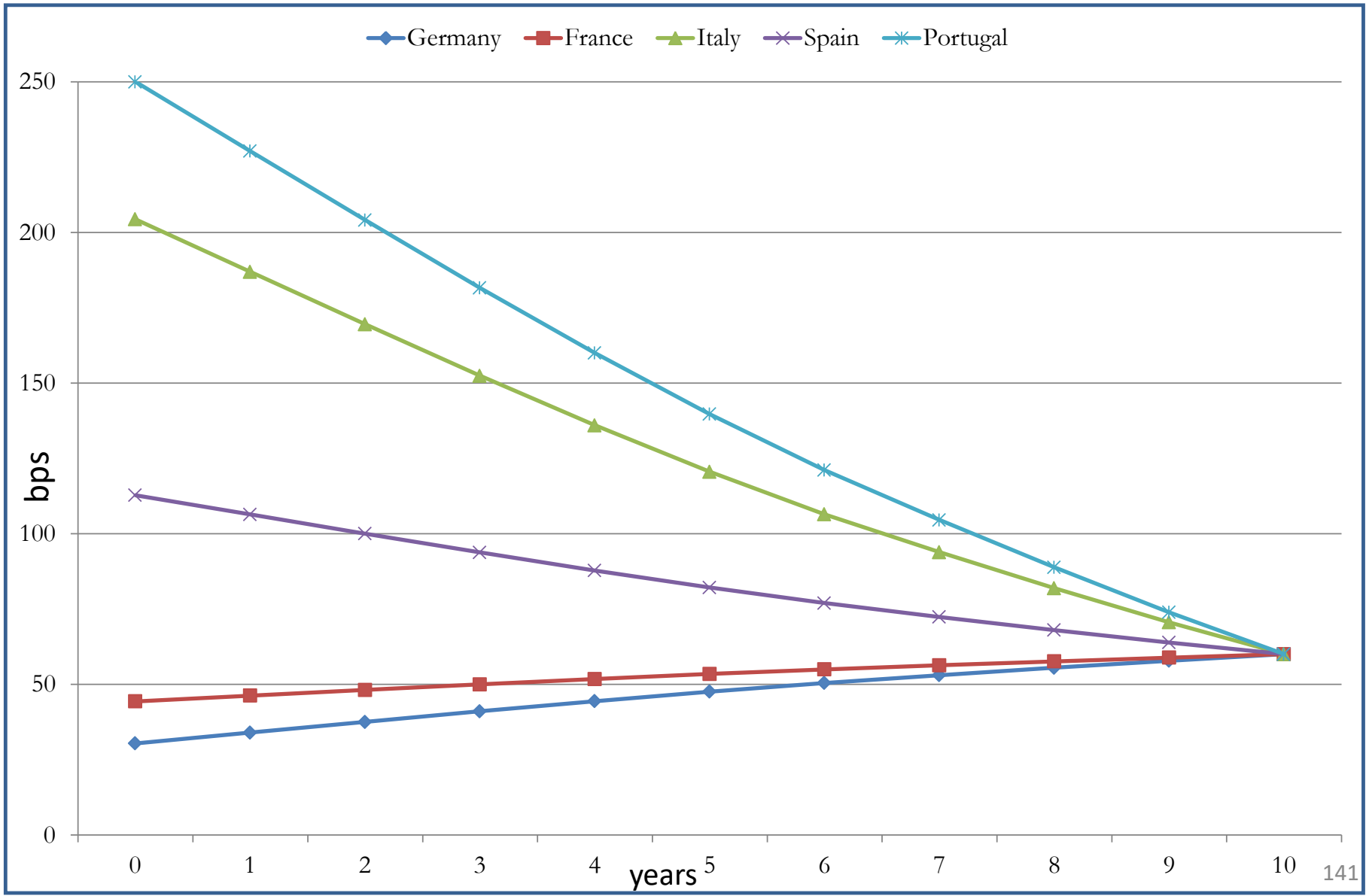
buy bonds issued by **peripheral** governments



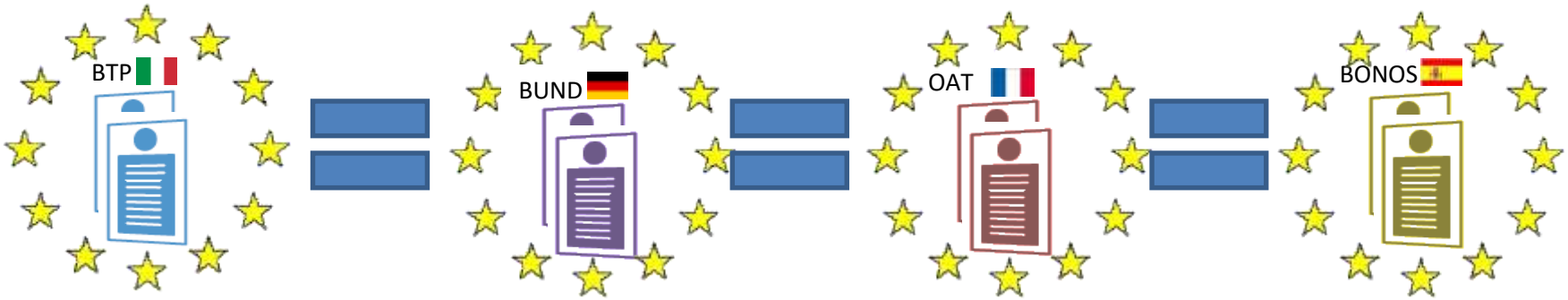
ESM 2.0: moving to risk sharing

Estimated pattern of 10-year sovereign CDS

(initial data as of September 2017)

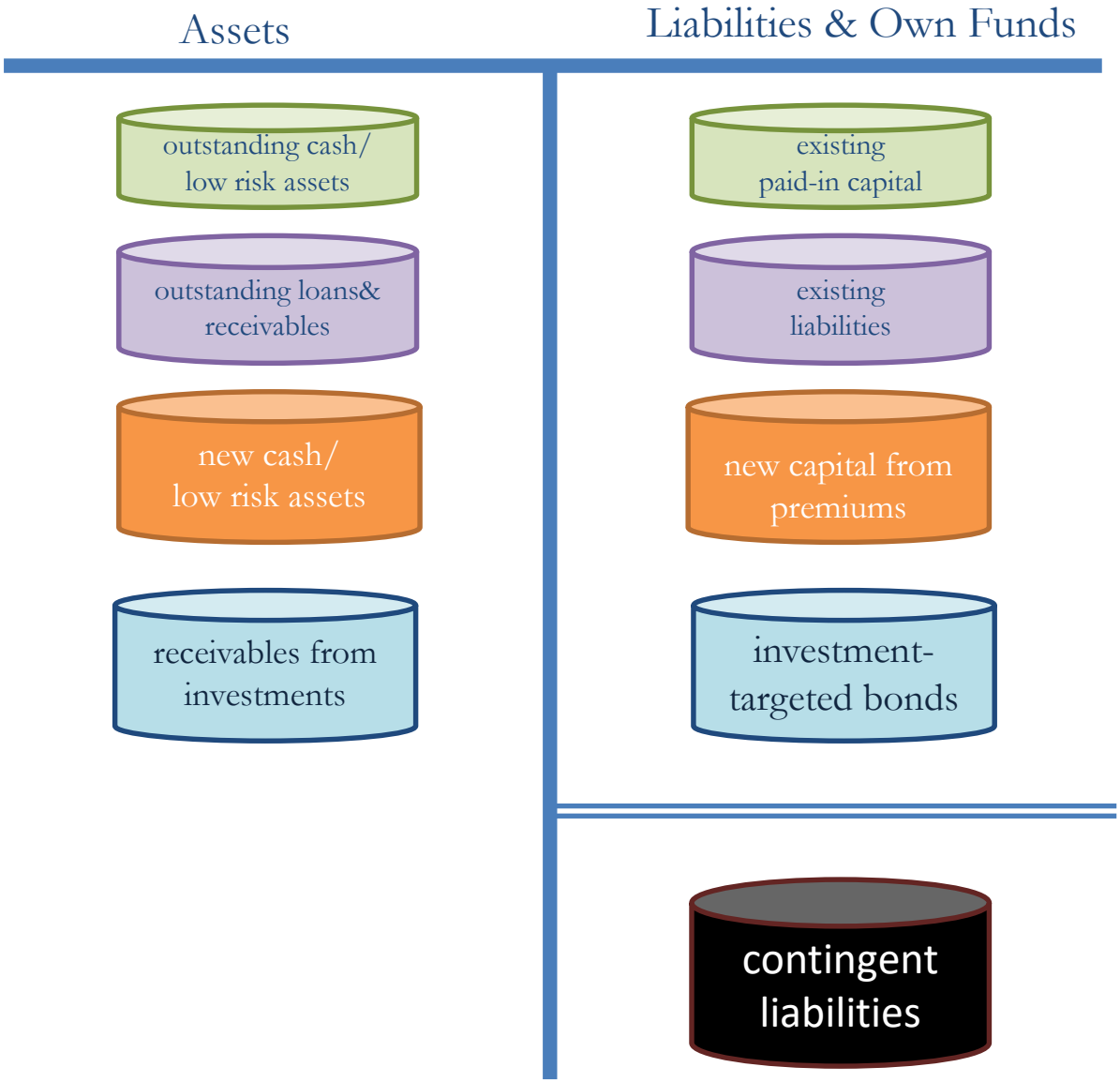


ESM 2.0: moving to risk sharing



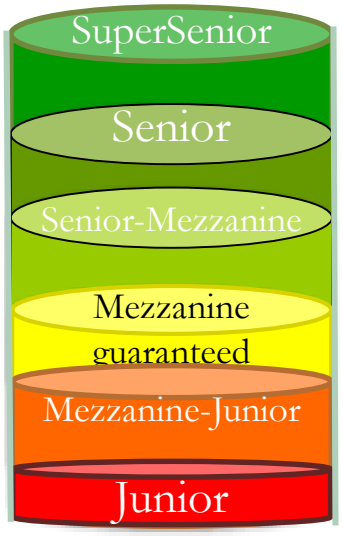
towards a *true* Eurozone safe asset

ESM 2.0: using leverage to stimulate investments



ESM 2.0: using leverage to stimulate investments

tranching



Maturity

5 years

10 years

15 years

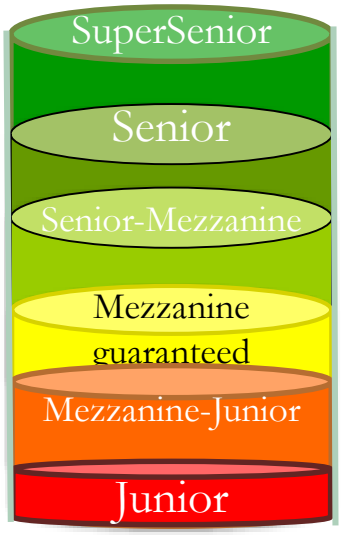
20 years

30 years

50 years

ESM 2.0: using leverage to stimulate investments

tranching



Maturity

5 years

10 years

15 years

20 years

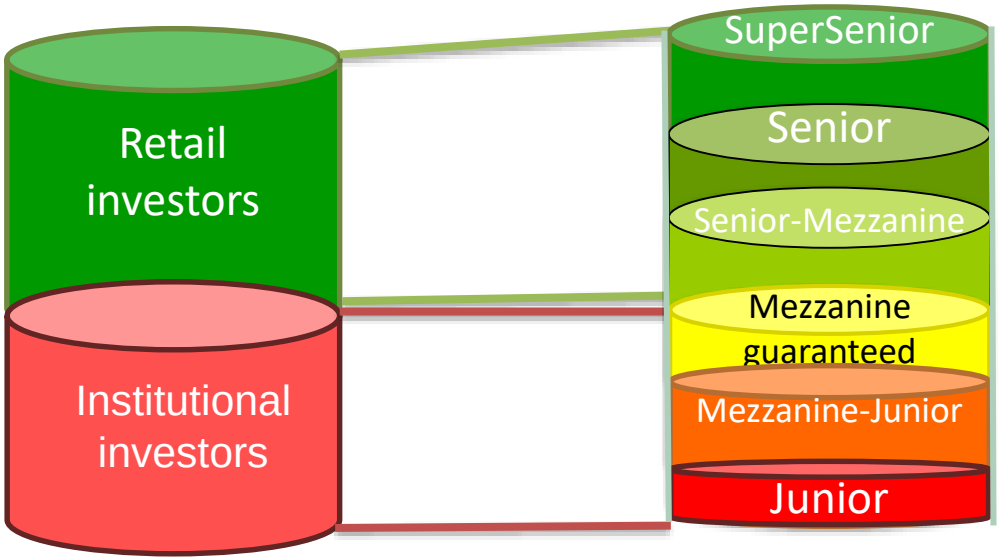
30 years

50 years

***Investment-Backed Securities (IBS)*:**

risk-return profile strictly related to the receivables on funded investment projects

ESM 2.0: using leverage to stimulate investments



Maturity

5 years
10 years
15 years
20 years
30 years
50 years

Investment-Backed Securities (IBS)

ESM 2.0: using leverage to stimulate investments

Investments under governance & oversight of EU institutions

€

ESM

€

Funding

Holders of ESM-issued notes

ESM 2.0: using leverage to stimulate investments

Investments under governance & oversight of EU institutions

ESM

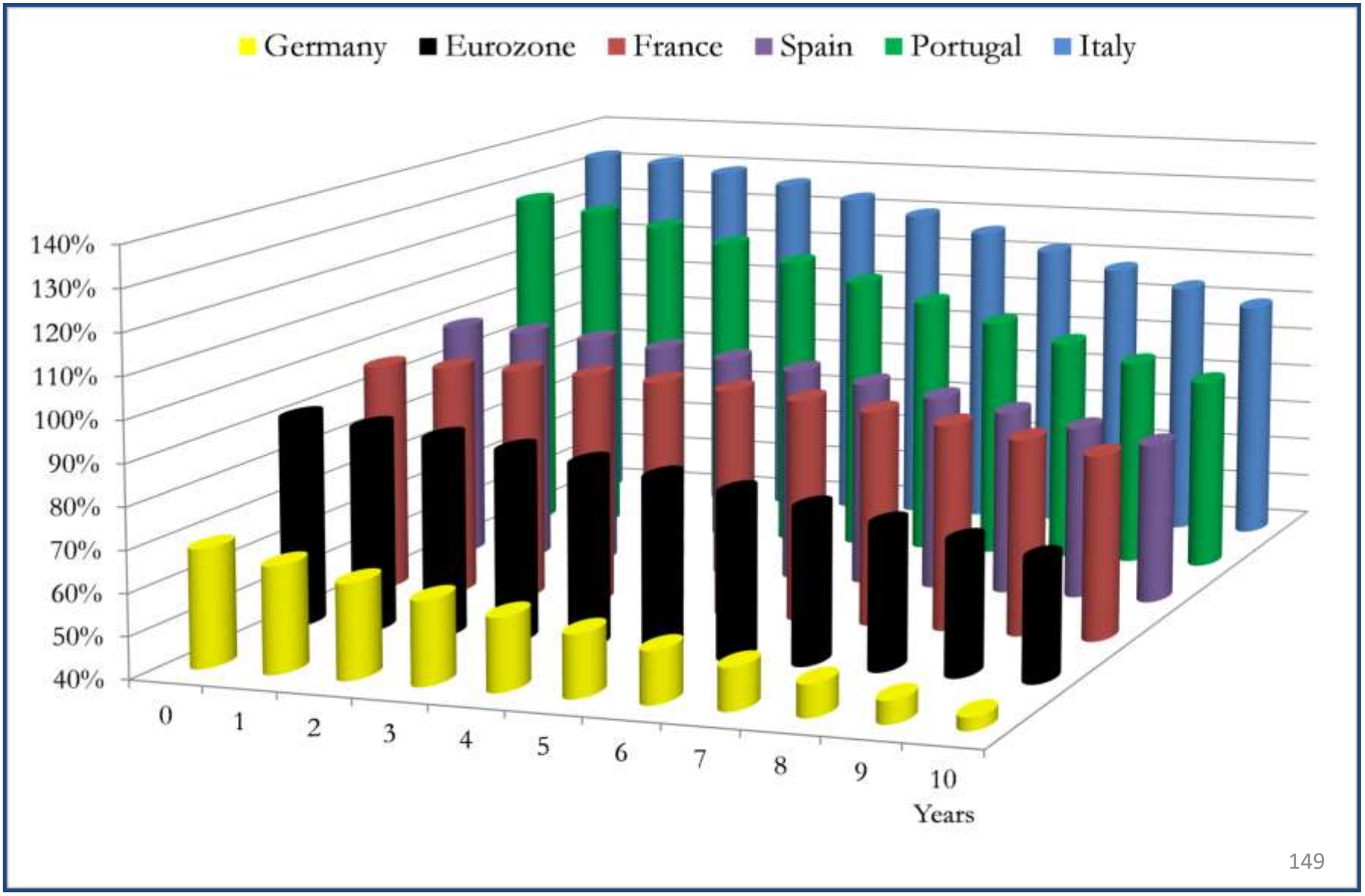
Focus on peripheral countries

Funding

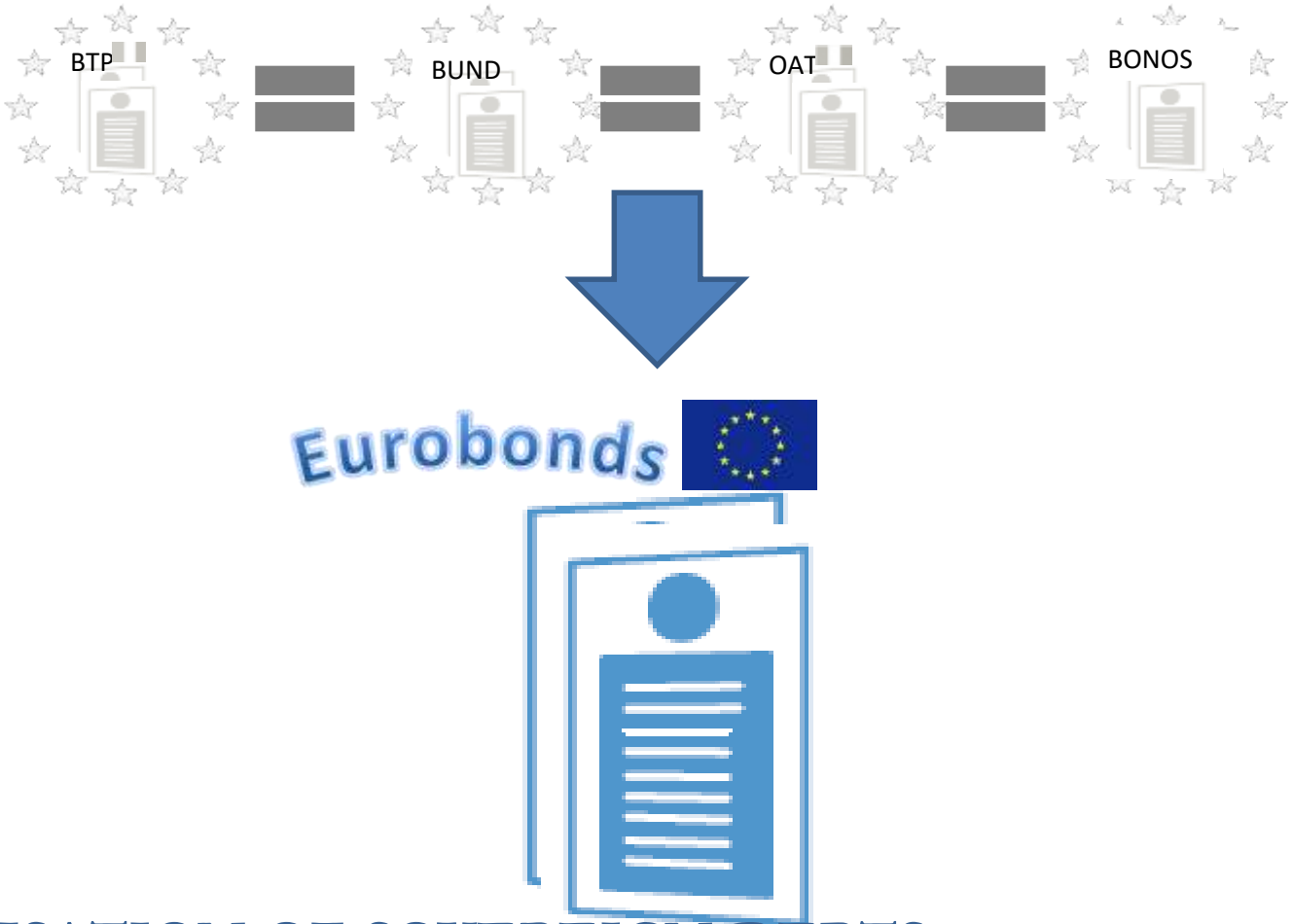
Holders of ESM-issued notes

ESM 2.0: moving to risk sharing

Estimated evolution of **theoretical** debt-to-GDP ratios

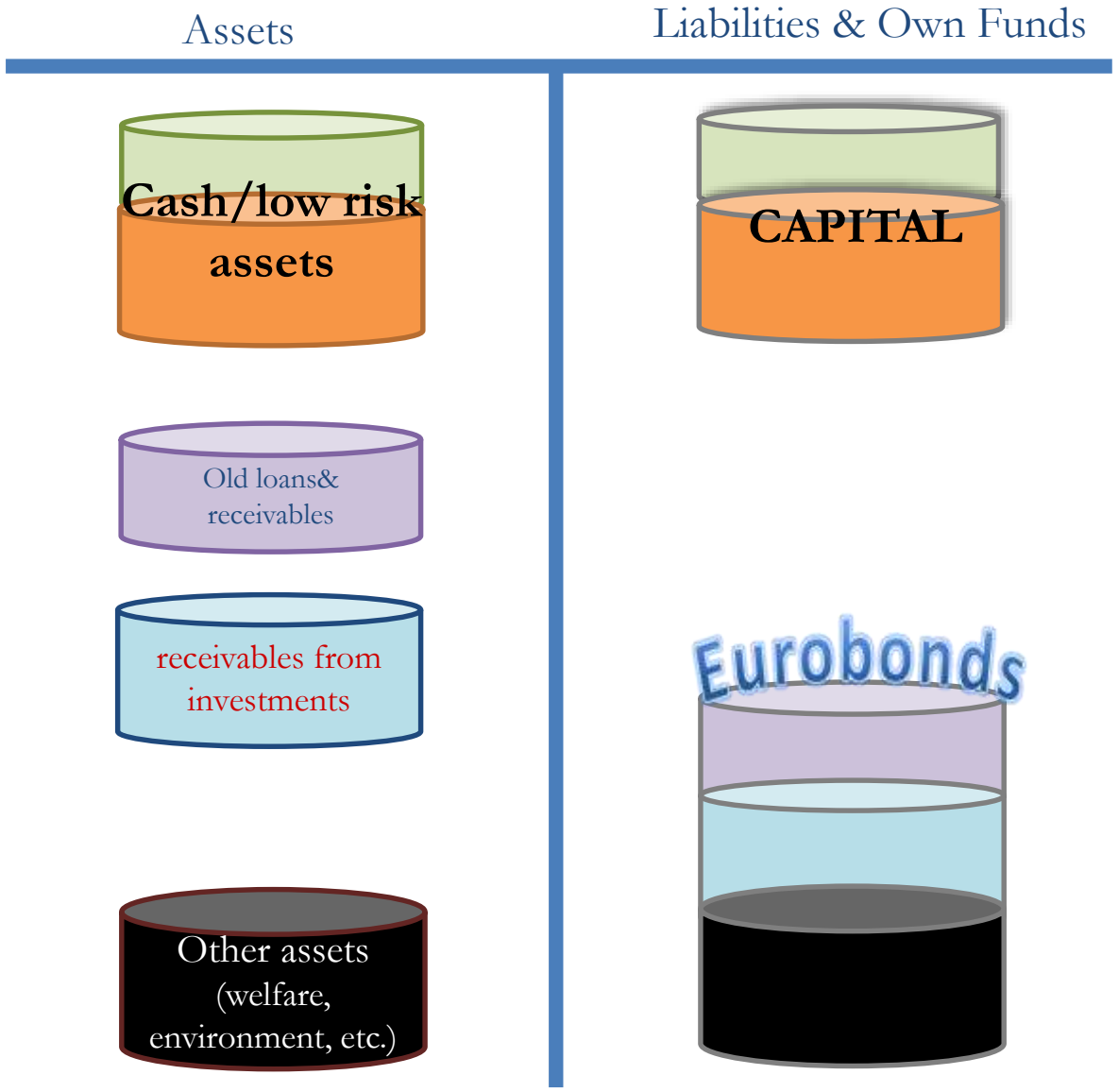


ESM 2.0: moving to risk sharing



MUTUALISATION OF SOVEREIGN DEBTS

ESM 2.0: moving to risk sharing



MUTUALISATION OF SOVEREIGN DEBTS

ESM 2.0: our proposal in a nutshell

PROS	CONS
The Eurozone sovereign bailout Fund would become, through a gradual market-based process, the guarantor of the Eurozone public debt	During the convergence process core countries would face modest increases in interest spending on public debt
Elimination of redenomination risk	
Reduction of moral hazard gains that a member country could achieve by leaving the Eurozone	
Elimination of sovereign yield spreads across EMU members	
Creation of a Eurozone safe asset with an outstanding notional appropriate to the needs of the economic and financial system of the Euro area	
Normalization of the existing imbalances on the Target2 system	
Elimination of the phenomenon of negative interest rates	

ESM 2.0: our proposal in a nutshell

PROS	CONS
Golden rule for public investments	
Elimination of the callable shares envisaged by the current ESM financial structure	
The ESM would be recapitalized at the expense of the member countries whose sovereign risk exceeds the Eurozone average	
Use of market pricing techniques for the creation of the financial structure of the ESM 2.0	
Provision of a 10-year or more transition period for the shift to: 1. a Eurozone public debt, 2. Eurobonds, 3. a federal budget of adequate size, 4. a European harmonized framework for the management of contracts and litigations	
Easier tapering	

Taming moral hazard

- Financial markets' discipline
- No-redenomination clause for the debt backed by ESM
- Public deficit cannot exceed the Fiscal Compact one plus the premia paid to the ESM
- ESM guarantee doesn't hold for not complying countries
- In case of opportunistic default, the country loses the premia paid to ESM and the debt with ESM guarantee is senior
- ESM can ask extra contributions to risky countries
- Strong benefits from lower interest rates and lower risk of financial market turmoil
- Part of the premia paid to the ESM are invested in the country

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THE EVOLUTION OF THE EUROZONE RISK MORPHOLOGY

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