

Statistics and analyses

## Risk Outlook

11

April 2016



**CONSOB**  
COMMISSIONE NAZIONALE  
PER LE SOCIETÀ E LA BORSA

The Risk Outlook analyses the current economic situation and the trends in financial markets in order to identify the main risks affecting the achievement of Consob's institutional objectives.

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## La congiuntura e i rischi

Nella prima parte del 2016 i mercati azionari europei hanno fatto registrare una significativa correzione al ribasso per effetto di numerosi fattori, quali la riduzione della redditività attesa del settore bancario, il propagarsi di turbolenze che hanno interessato i mercati di alcuni grandi paesi emergenti e la riduzione del prezzo del petrolio, che ha avuto un effetto negativo sui conti di alcune grandi imprese operanti nel settore energetico. Sono peggiorate le attese sulle prospettive future dei corsi azionari, è aumentata l'avversione al rischio e si sono deteriorate le condizioni di liquidità. I moltiplicatori del settore bancario europeo si sono ridotti in misura significativa e vi sono evidenze di una sottovalutazione rispetto ai valori fondamentali. Le politiche monetarie non convenzionali, incluso il *quantitative easing* e i tassi negativi sulle riserve presso la banca centrale, hanno portato a zero il rendimento sui titoli di Stato decennali in Germania e Giappone. In molti paesi dell'area euro i tassi sono prossimi allo zero anche sulle scadenze a medio termine. Le condizioni positive sul mercato dei titoli di Stato si sono trasmesse a quello *corporate*, dove le emissioni nette di obbligazioni sono rimaste elevate sia in Europa che negli USA e gli *spread* si mantengono su livelli contenuti per tutte le classi di rating.

I bilanci 2015 delle maggiori imprese non finanziarie europee mostrano una forte flessione dei ricavi in Italia e Regno Unito, dovuta, tuttavia, quasi interamente alla dinamica di alcune grandi imprese operanti nei settori petrolifero e dell'energia, mentre EBIT e utile netto sono risultati in flessione in tutti i principali paesi europei. I dati contabili mostrano, comunque, una minore vulnerabilità della situazione reddituale e finanziaria e gli *spread* obbligazionari segnalano una qualità del credito in media superiore ai rating ufficiali. I bilanci 2015 delle maggiori banche europee mostrano una crescita della redditività (ad eccezione delle banche tedesche) e dei ricavi. Le principali banche italiane hanno fatto registrare un lieve aumento dei ricavi, nonostante la flessione del

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margine di interesse, e hanno rafforzato i requisiti patrimoniali. A partire dall'avvio del *quantitative easing* hanno venduto titoli di Stato domestici per oltre 30 miliardi di euro ma la loro esposizione al rischio sovrano non è diminuita rispetto a fine 2010 e la correlazione fra rischio bancario e rischio sovrano rimane elevata rispetto ai principali paesi dell'area euro. Per la prima volta dal 2009, si registra una flessione, sia pure di modesta entità, dei crediti deteriorati ma, in media, il rischio di credito delle banche italiane implicito nelle quotazioni dei CDS è aumentato nella prima parte del 2016 e risulta più elevato di quello implicito nei rating delle agenzie. I prestiti bancari alle imprese non finanziarie italiane continuano a contrarsi, sebbene le banche abbiano reso meno stringenti gli standard di concessione del credito, mentre è in ripresa il settore dei mutui immobiliari.

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## Trends and risks

In the first months of 2016 European stock market fell sharply, mainly driven by bank stocks sell off, turbulences originating in emerging countries and expectations of poor profitability of large listed companies in the energy sector due to falling oil prices. The outlook on future European stock prices has worsened, risk aversion has increased and liquidity on secondary markets has deteriorated. Bank stocks' multipliers have fallen significantly in European markets, but there are some evidence of undervaluation.

Unconventional monetary policies, including quantitative easing and negative rates, have driven 10-years bond yields to zero in Germany and Japan. In most euro area countries government bond yields are close to zero even at medium-term maturities. Positive conditions on the Government bond market spread to the corporate bonds sector, where net issues remained large both in Europe and US, with tight spreads across all rating classes.

Accounting data for 2015 of listed European non-financial companies show a strong reduction in net sales for Italian and UK firms, though almost entirely attributable to some few large companies in the oil and energy sector, while EBIT margins and net profit fell in almost all large countries. However, profit and financial vulnerability have reduced and bond spreads point to a higher credit quality than the one implied in official ratings.

Balance sheet of major European banks are recovering. Accounting data for 2015 show an increase in revenues and profitability (except for German banks). In spite of a decrease in net interest margins, main Italian banks recorded a slight improvement in revenues, due to increased net fees and trading profits, and have strengthened their regulatory capital. Since the start of QE, Italian

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banks have been large net sellers of domestic government bonds but their exposure to sovereign risk remains significant and has not reduced compared to 2010. For the first time since 2009, NPL of Italian banks are declining, though for marginal amounts, but credit risk of main listed banks implied in CDS has increased in 2016 and is higher than the credit risk implied in official ratings. Bank loans to non-financial Italian firms continue to shrink, though banks have considerably softened credit standards, while mortgages are recovering.

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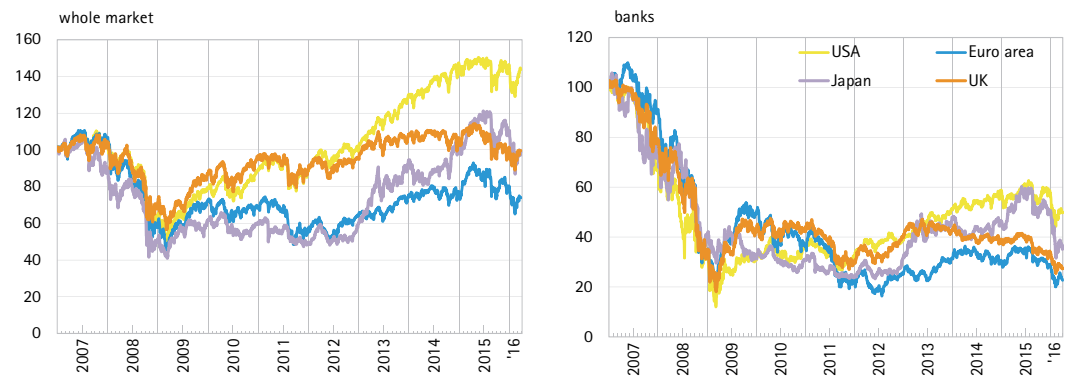
## Equity markets

In Q1 2016 stock markets fell sharply in advanced countries, mostly driven by banks stocks sell off.

Equity prices declined significantly in China as well, while being more stable in other large emerging countries.

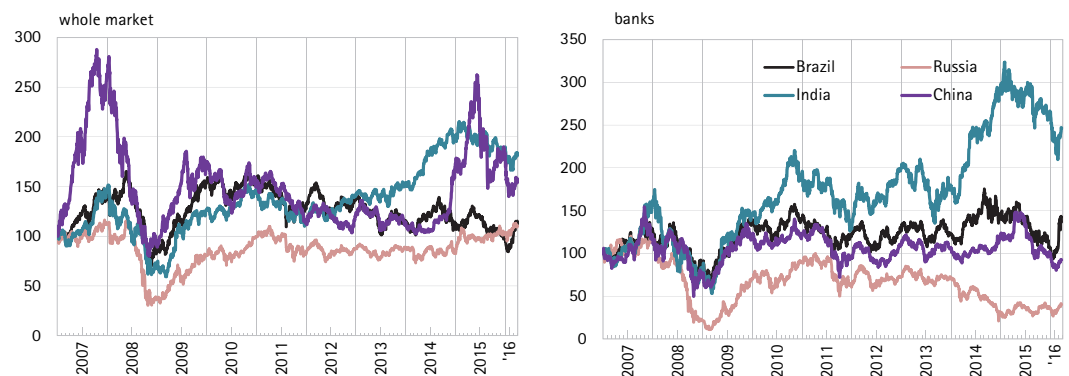
German stock market is still largely over-performing other EU markets, but bank indices are getting back close to the lowest level since the 2007 crisis.

**Figure 1.1 – Advanced countries stock index prices**  
(daily data; 01/01/2007 – 31/03/2016; 01/01/2007 = 100)



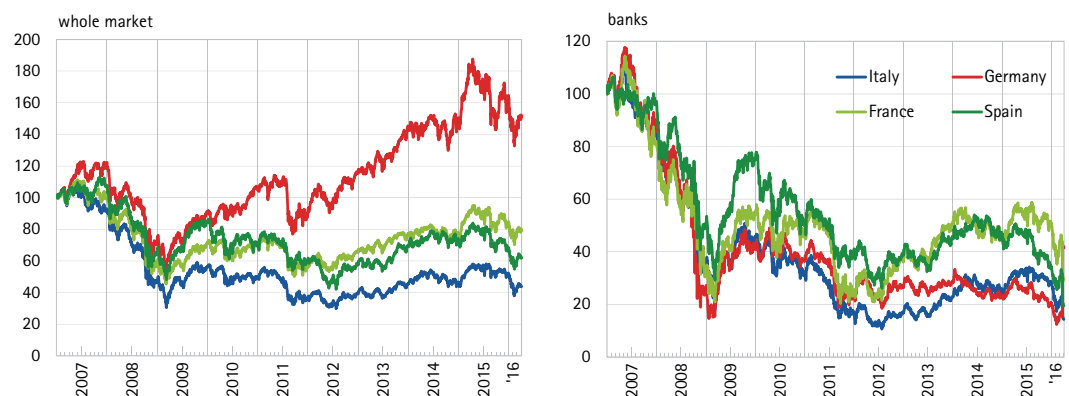
Source: Thomson Reuters Datastream. Stock indexes represented in the left graph are: S&P500 (USA), Nikkei 225 (Japan), Ftse100 (UK), Euro Stoxx 50 (euro area). Stock indexes represented in the right graph are: S&P500 Banks, Euro Stoxx Banks, Japan Ftse Banks and UK Ftse Banks.

**Figure 1.2 – BRIC stock indexes**  
(daily data; 01/01/2007 – 31/03/2016; 01/01/2007 = 100)



Source: Thomson Reuters Datastream. Stock indexes represented in the left graph are: Ftse Mib (Italy), Cac40 (France), Ibex35 (Spain), Dax30 (Germany). Stock indexes represented in the right graph are domestic Ftse Banks indexes.

**Figure 1.3 – Stock indexes of the main Euro area countries**  
(daily data; 01/01/2007 – 31/03/2016; 01/01/2007 = 100)



Source: Thomson Reuters Datastream. Stock indexes represented in the left graph are: Bovespa (Brazil), Micex (Russia), Sensex (India), Shanghai Schenzen 300 CSI (China). Stock indexes represented in the right graph are Ftse Banks indexes.

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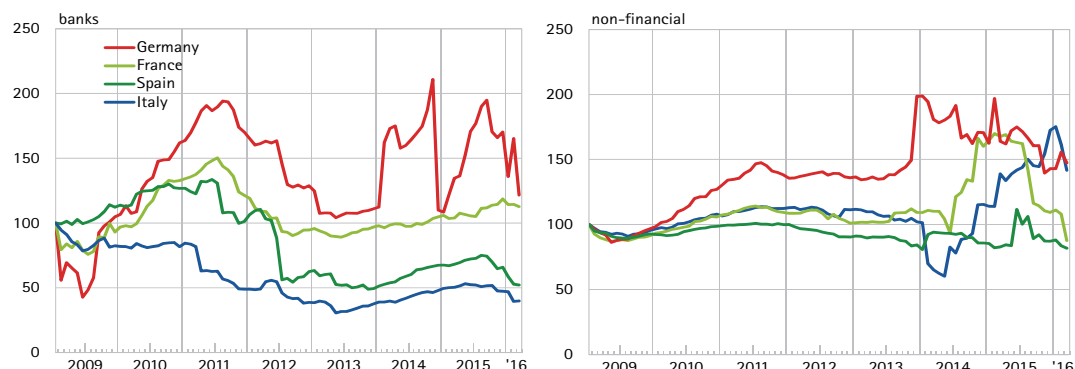
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Bank prices in Italy and Spain reflect poor profit expectations. Expected profits are higher for French banks, while they are very volatile for German banks.

**Figure 1.4 – Expected operating profits in the Euro area banking sector**

(1-year horizon; monthly data; January 2009 – March 2016; January 2009=100)

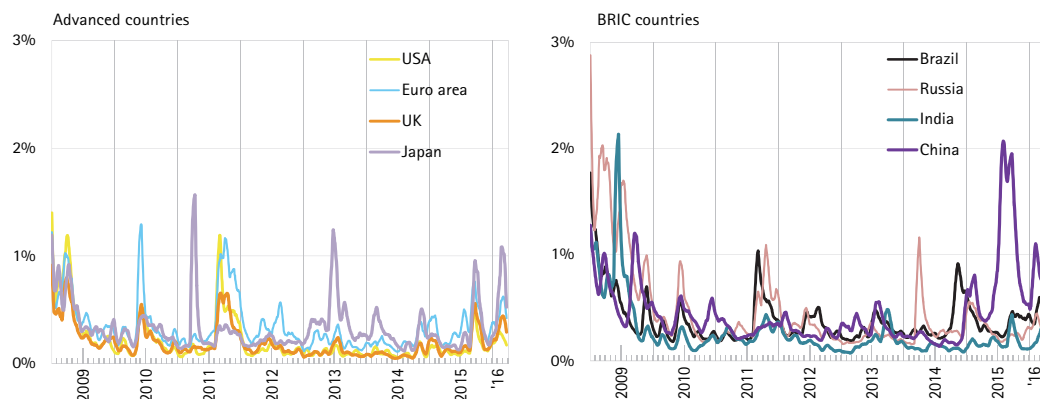


The sample includes euro area main listed banks and non-financial companies (Datastream nonfinancial indexes). Calculations are based on Thomson Reuters data.

In the second half of 2015 and in the first quarter 2016, rising market turbulence in China led to volatility spillovers in advanced countries ...

**Figure 1.5 – Stock index historical volatilities**

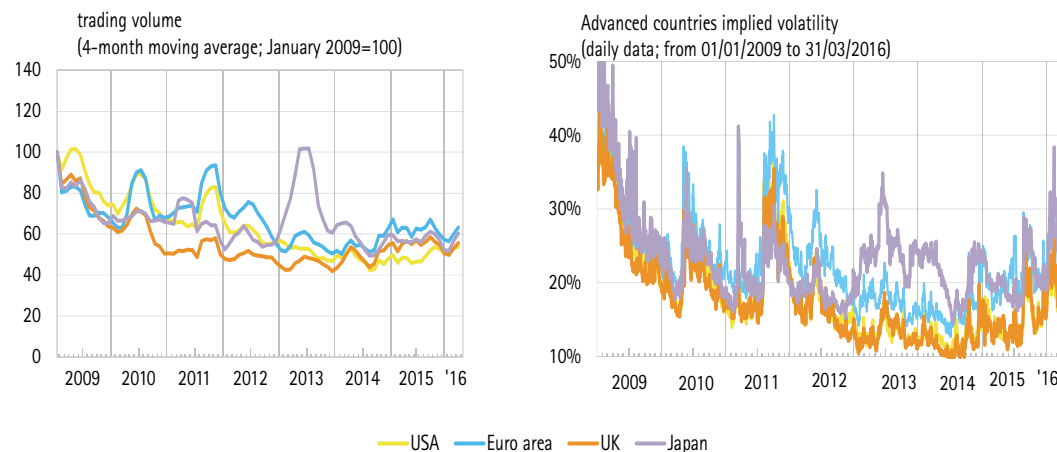
(daily data; 01/01/2009 – 31/03/2016; annualized volatilities in percentage terms; 1-month moving average)



Stock indexes represented in the left graph are: S&P500 (USA), Nikkei 225 (Japan), Ftse 100 (UK), Euro Stoxx 50 (euro area). Stock indexes represented in the right graph are: Bovespa (Brazil), Micex (Russia), Sensex (India), Shanghai Schenzen 300 CSI (China). Historical volatilities are estimated by applying multivariate Garch models. Calculations are based on Thomson Reuters data.

...though trading volumes remained quite stable.

**Figure 1.6 – Trading volume and implied volatilities in advanced countries**



Trading volume is deflated on the basis of stock index prices. The sample includes S&P500 (USA), Nikkei 225 (Japan), Ftse 100 (UK), Euro Stoxx 50 (euro area), Bovespa (Brazil), Micex (Russia), Sensex (India), Shanghai Schenzen 300 CSI (China) stock indexes. Calculations are based on Thomson Reuters data.



In main Euro area countries, volatility strongly increased in Q1 2016 ...

...and liquidity conditions worsened.

Global contagion indicator slightly increased in the first quarter 2016. In the Euro area contagion phenomena were not relevant in the banking sector.

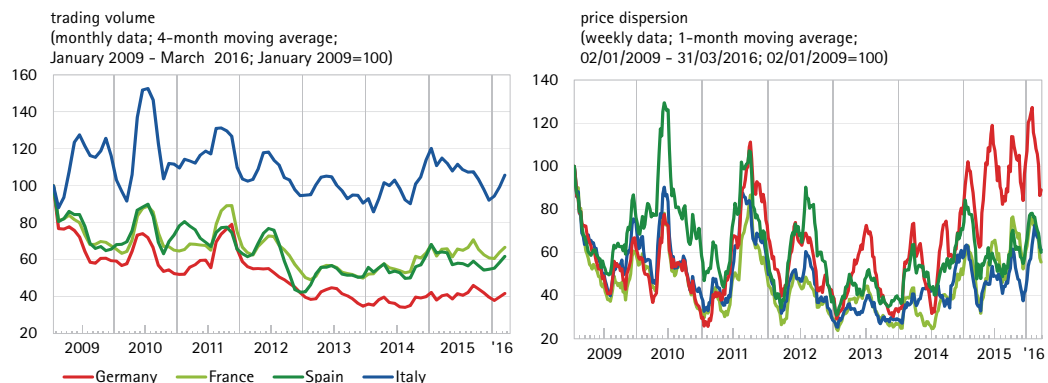
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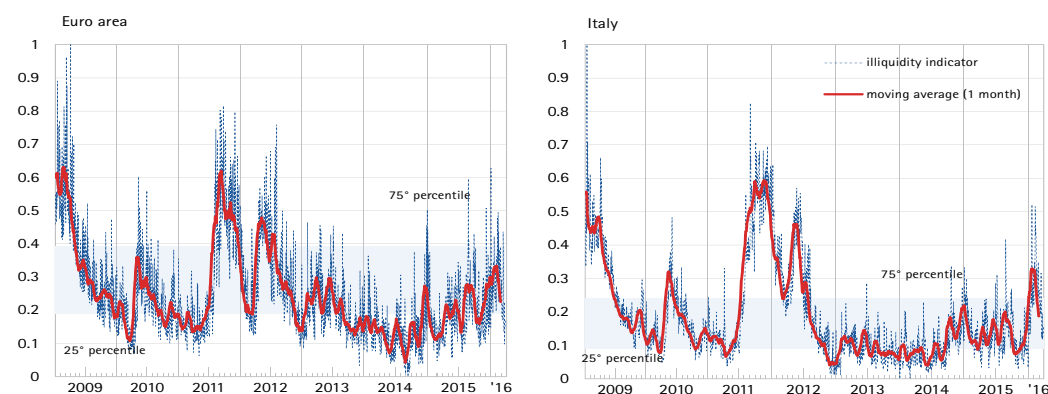
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**Figure 1.7 – Trading volume and price dispersion in the Euro area**



Trading volume is deflated on the basis of stock index prices. The sample includes Ftse Mib (Italy), Cac40 (France), Ibex35 (Spain), Dax30 (Germany). Price dispersion is computed as the difference between the highest intraday price and the lowest intraday price. Calculations are based on Thomson Reuters data.

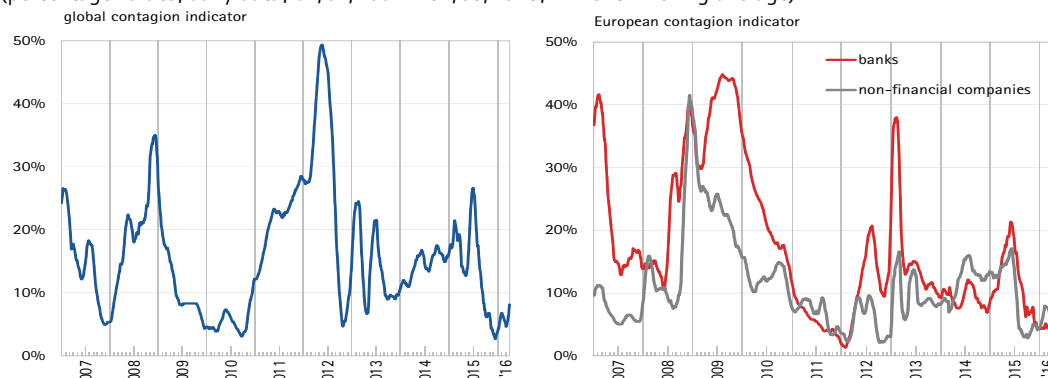
**Figure 1.8 – Stock market illiquidity in the Euro area**  
(daily data; 01/01/2009 – 31/03/2016)



The illiquidity indicator is the principal component estimated on illiquidity and volatility measures applied on Euro Stoxx 50 (euro area) and Ftse Mib (Italy) stock indexes: price impact (Amihud, 2002), bid-ask spread, implied volatility and historical volatility (range based estimator). The indicator is rescaled between zero (= high liquidity) and one (= low liquidity). The first and the third quartile of liquidity indicator sample distribution are reported. Calculations are based on Thomson Reuters data.

**Figure 1.9 – Stock index price contagion indicator**

(percentage values; daily data; 01/01/2007 – 31/03/2016; 2-month moving average)



On the left graph contagion is measured on the following stock index return time series: Merval (Argentina), Bovespa (Brazil), Micex (Russia), Sensex (India), Shenzhen SE (China), MSCI Turkey, S&P500 (USA), Euro Stoxx 50 (euro area), Ftse 100 (UK) and Topix (Japan). On the right graph contagion is measured on UK, Germany, France, Italy, Spain, Greece, Portugal, Ireland, Netherlands, Austria and Finland MSCI stock index return time series. For the methodology see Consob Working paper no. 72, 2012. Calculations are based on Thomson Reuters data.

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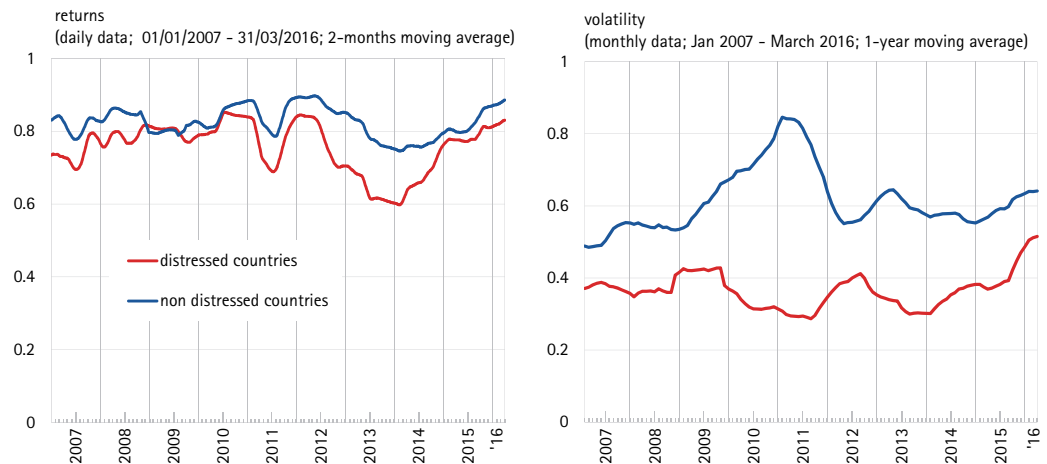
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Sensitivity to common shocks across main Euro area equity markets increased for both returns and volatility ...

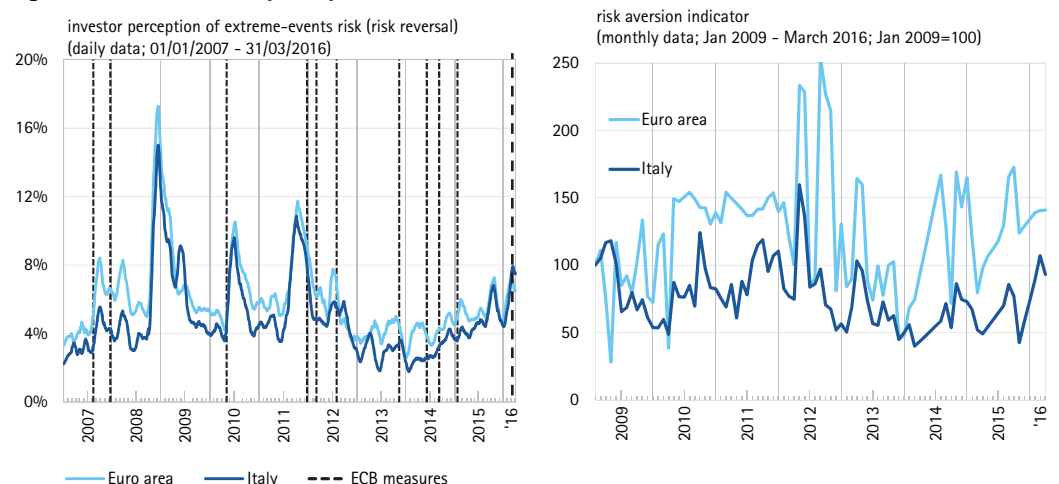
**Figure 1.10 – Euro area stock market level of sensitivity to common shocks**



Left graph represents the explanatory power of common factor equity portfolio (see ECB- Financial integration in Europe, 2014), which is the average R-square of the following regression:  $return\_index_{i,t} = \alpha_{i,t} + \beta_{i,t}\theta_{i,t} + \varepsilon_{i,t}$ , where  $\theta_{i,t}$  is the return on the first common factor equity portfolio (first principal component) for country  $i$  on day  $t$ . Regressions are estimated recursively (200 observations window). Right graph represents variance ratios (see Baele et al., 2004, and see ECB- Financial integration in Europe, 2014), which are computed in two steps. Firstly, domestic historical volatility time series are estimated by applying asymmetric Garch models ( $\sigma_{i,t}^2$ ). Secondly, the following regression is run for each country  $i$ :  $\sigma_i^2 = \alpha_i + \beta_i\sigma_{euro}^2 + \gamma_i\sigma_{usa}^2 + \varepsilon_i$ , where  $\sigma_{euro}^2$  and  $\sigma_{usa}^2$  are respectively EuroStoxx 50 and S&P500 stock index volatilities. The variance ratio indicator is computed as the average of  $VR_{usa,i} = \frac{\beta_i\sigma_{usa}^2}{\sigma_i^2}$  and  $VR_{euro,i} = \frac{\beta_i\sigma_{euro}^2}{\sigma_i^2}$ . Non-distressed countries included in the sample are: Germany, France, Netherlands, Austria, Finland. Distressed countries included in the sample are: Italy, Portugal, Spain, Ireland. Calculations are based on Thomson Reuters data.

... together with growing risk perception and risk aversion.

**Figure 1.11 – Investor perception of extreme events and risk aversion indicator**



Risk neutral probability distributions are estimated on S&P500 and Euro Stoxx 50 option prices. The indicator of risk reversal (right graph) is defined as the difference between implied volatilities computed on put and the call out of the money options characterized by the same maturity (2 months) and equal risk premium sensitivity to the variations of the underlying asset price (delta equal to 25); the sample includes options on Euro Stoxx 50 (euro area) and on Ftse Mib (Italy). Higher values of the risk reversal indicator signals a higher perception of extreme-events risk (negative returns). The unconventional policy measures adopted by ECB and reported in the right graph are: 09/08/2007, injection of liquidity; 12/12/2007, swap agreement with Fed to inject liquidity in US dollars in exchange of guarantees in euro; 09/05/2010, Securities Market Programme; 20/12/2011, long-term refinancing operations (LTRO); 28/02/2012, LTRO; 26/07/2012, OMT announcement programme; 07/11/2013, interest rates cut; 05/06/2014, interest rates cut and TLTRO announcement; 04/09/2014, interest rates cut and ABSPP/CBPP3 announcement; 22/01/2015, PSPP announcement; 10/03/2016, ECB prolonged QE. Calculations are based on Thomson Reuters and Bloomberg data.

## 1. Equity markets

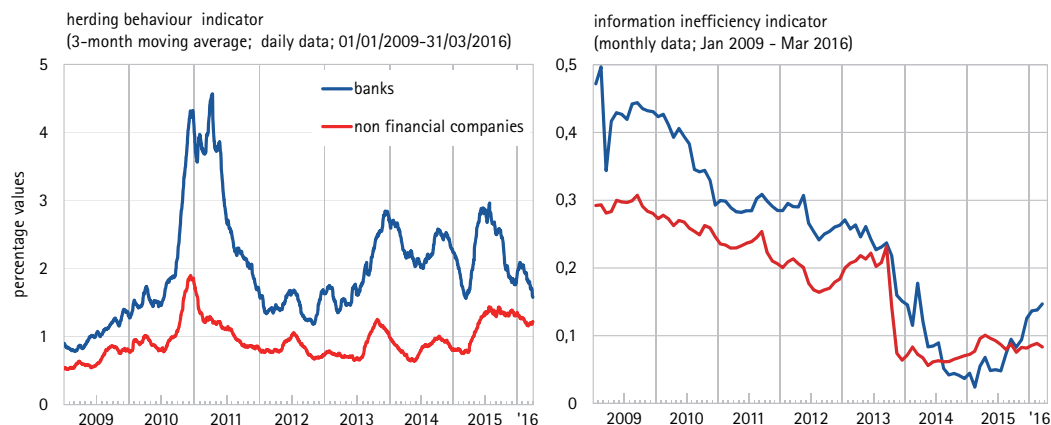
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Herding behavior in the banking sector remains higher than in the non-financial sector and information inefficiency worsened.

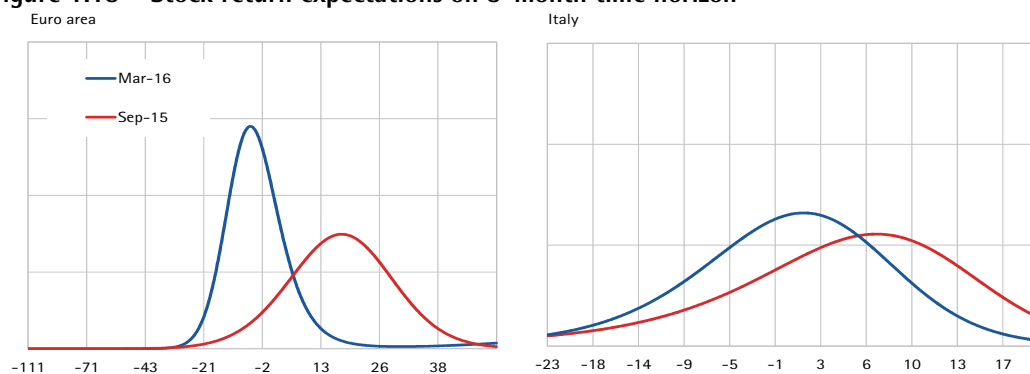
**Figure 1.12 – Herding behaviour and information inefficiency in the Euro area stock markets**



The indicator of herding behaviour is computed as the inverse of the standard deviation of stock market returns referring to main blue chips in the euro area (Chang, E., Cheng, J. and Khorana, A. 2000). A lower dispersion (i.e. a higher level of the indicator) signals that the investors adopt more frequently similar or imitative investment strategies and, therefore, that the herding behaviour phenomenon is more intense. The information inefficiency indicator is the absolute value of the first order stock index return autocorrelation. The indicators are computed on the stocks included in the euro area Datastream non-financial indexes and in Euro Stoxx Banks index. Calculations are based on Thomson Reuters data.

Stock market outlook has strongly worsened in the Euro area.

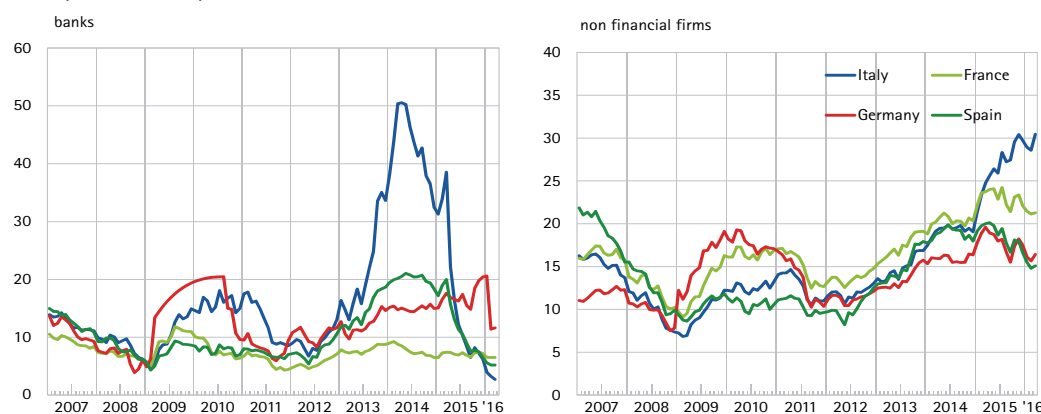
**Figure 1.13 – Stock return expectations on 3-month time horizon**



Risk neutral probability distributions are estimated on Ftse Mib and Euro Stoxx 50 option prices. Calculations are based on Thomson Reuters data.

Price-earnings ratios fell sharply in the banking sector especially in Italy and Germany. Still banks' P/E in Germany are much higher than in other large Euro area countries.

**Figure 1.14 – Price earnings ratio adjusted for the business cycle in the Euro area**  
(monthly data; January 2009 – March 2016)



The sample includes Euro area main listed banks and non-financial companies (Datastream nonfinancial indexes). The price-earnings ratio is calculated on the earnings-per-share adjusted for the business cycle (Hodrick-Prescott filter). Calculations are based on Thomson Reuters data

## 1. Equity markets

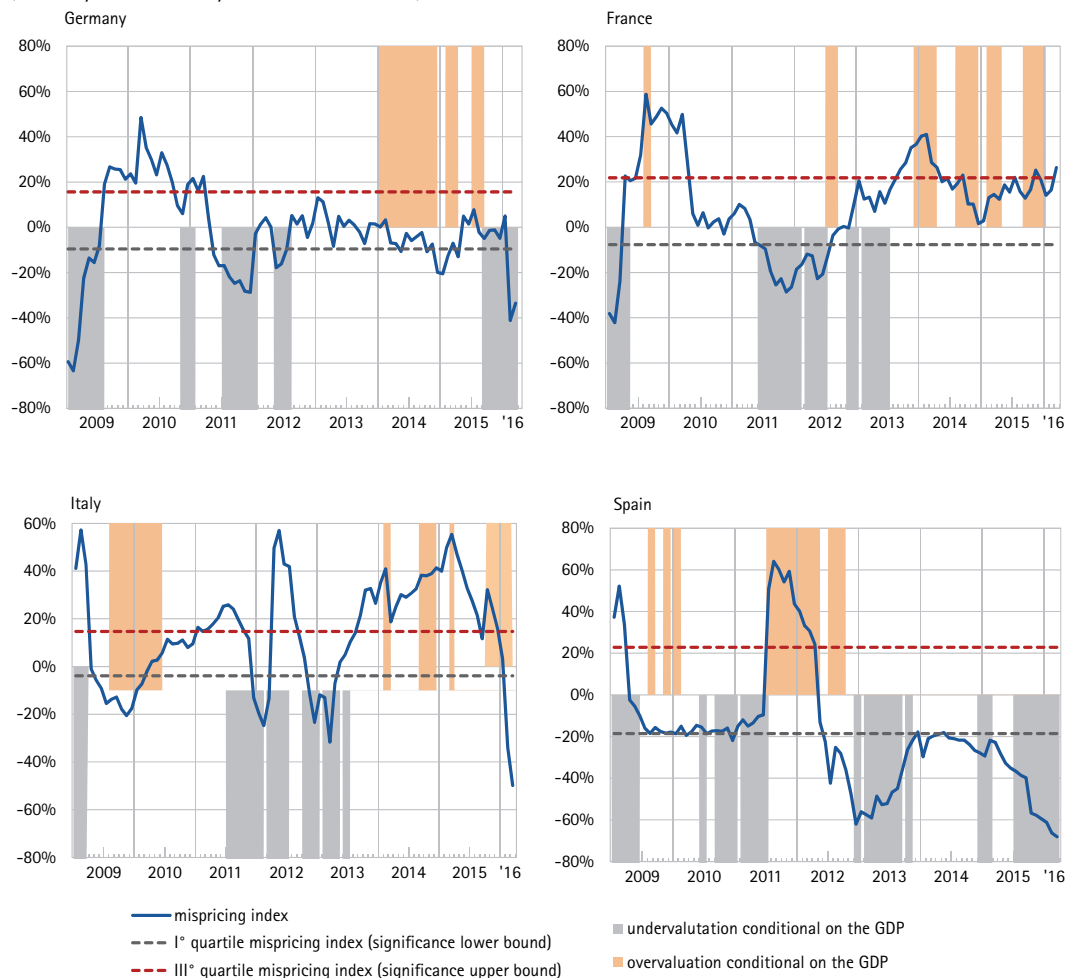
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For bank stocks, misalignment between market prices and fundamentals has been widening (except for France) signaling large undervaluation against E/P, risk premia and the business cycle.

**Figure 1.15 – Boom and bust episodes of bank stock price in the Euro area**  
(monthly data; January 2009 – March 2016)



The figure plots two mispricing indicators: a micro indicator (blue line) and a macro indicator (shaded areas).

The micro mispricing index is the percentage difference between the observed price and the fundamental value (Campbell and Shiller, 1988; Nelson, 1999; De Bondt et al., 2010). The fundamental value is estimated by applying a VECM co-integration model on stock prices, earnings per share adjusted for the business cycle, and risk premium (earnings yield premium). The micro mispricing indicator signals undervaluation (overvaluation) if it is lower than its I° quartile (greater than its III° quartile). The quartiles are computed on micro mispricing indicator's distribution estimated by taking into consideration time series starting from January 2000.

The macro mispricing indicator signals undervaluation (overvaluation) with respect to the business cycle. It is computed by estimating the time series of the  $p_t^{I^{\circ}quartile,GDP}$  ( $p_t^{III^{\circ}quartile,GDP}$ ) of the stock index price distribution conditioned on the GDP (trend component estimated by applying the Hodrick-Prescott filter). The indicator signals undervaluation (grey area) if  $p_t < p_t^{I^{\circ}quartile,GDP}$ ; the indicators signals overvaluation (orange area) if  $p_t > p_t^{III^{\circ}quartile,GDP}$ ; white areas correspond to a statistically insignificant mispricing level (Quiros and Timmermann, 2001; Cassola and Morana, 2002; Detken and Smets, 2004). Calculations are based on Thomson Reuters Datastream data on main listed Euro area banks.

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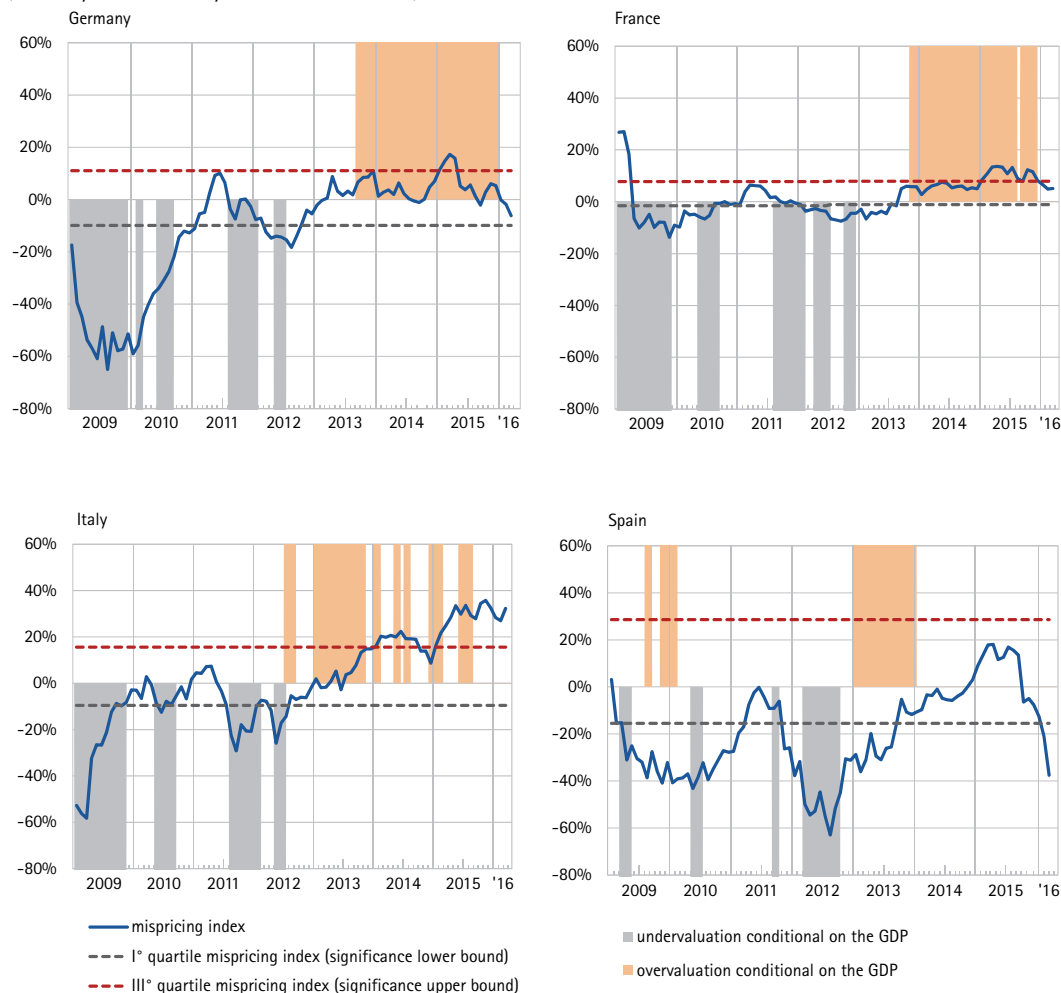
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For non-financials, differences between market prices and fundamentals is quite uneven across countries. In Germany and France there are no clear signs of over/under-valuation, while Italian non-financials appear over-valued and Spanish undervalued.

**Figure 1.16 – Boom and bust episodes of non-financial firms stock price in the Euro area**  
(monthly data; January 2009 – March 2016)



The figure plots two mispricing indicators: a micro indicator (blue line) and a macro indicator (shaded areas).

The micro mispricing index is the percentage difference between the observed price and the fundamental value (Campbell and Shiller, 1988; Nelson, 1999; De Bondt et al., 2010). The fundamental value is estimated by applying a VECM co-integration model on stock prices, earnings per share adjusted for the business cycle, and risk premium (earnings yield premium). The micro mispricing indicator signals undervaluation (overvaluation) if it is lower than its I° quartile (greater than its III° quartile). The quartiles are computed on micro mispricing indicator's distribution estimated by taking into consideration time series starting from January 2000.

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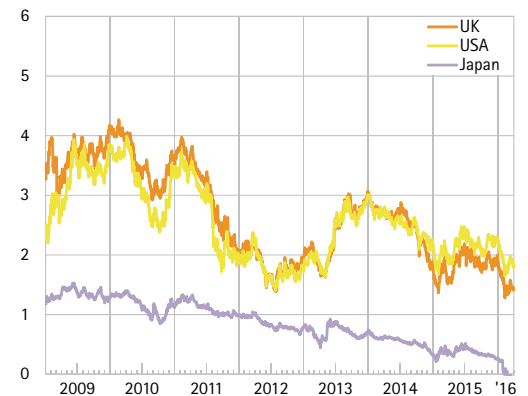
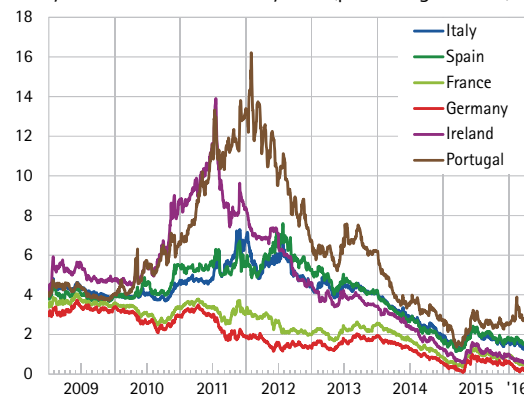
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## Non-equity markets

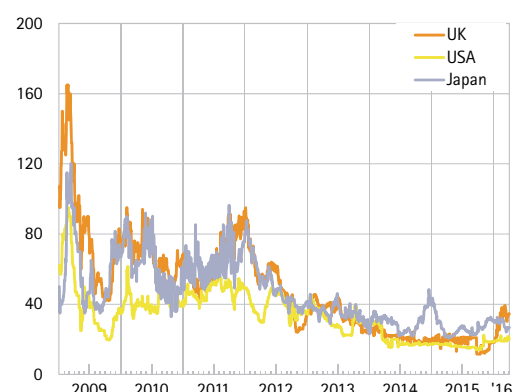
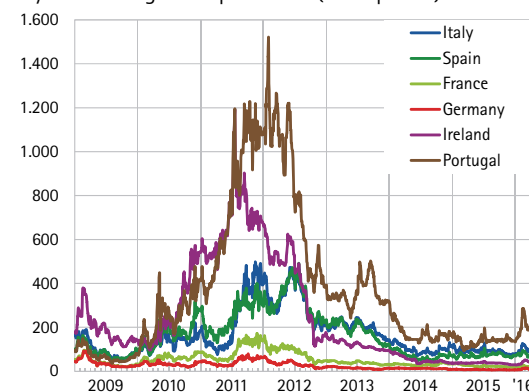
Long-term government yields have approached zero in Germany and Japan. Unconventional monetary policies, including quantitative easing and negative rates, keep government spreads highly compressed.

**Figure 2.1 – Government bond yields and CDS on public debt in advanced countries**  
(daily data; 01/01/2009 – 31/03/2016)

10- year Government bond yields (percentage values)



5-year sovereign CDS premiums (basis points)

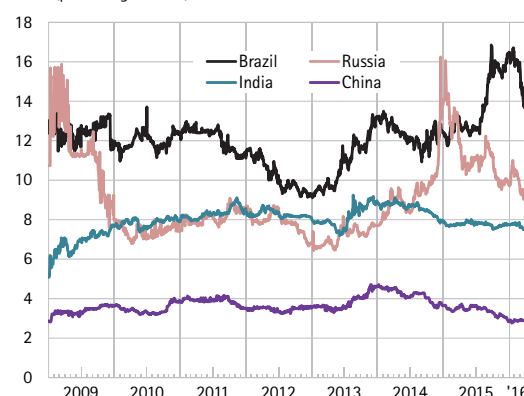


Source: Thomson Reuters.

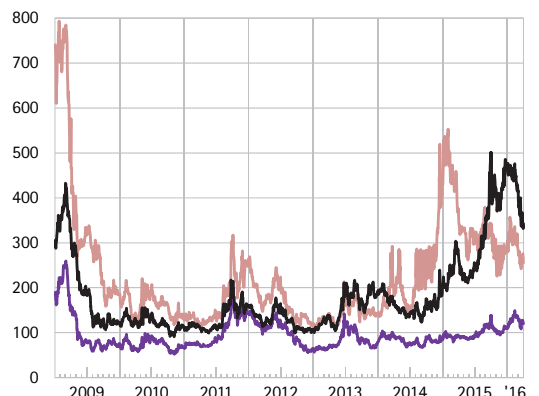
Spreads have declined in some large emerging markets as well.

**Figure 2.2 – Government bond yields and CDS on public debt in selected emerging countries**  
(daily data; 01/01/2009 – 31/03/2016)

(percentage values)



(basis points)



Source: Thomson Reuters. Only 10-year bid-yields are available for Brazil, Russia, India, and China (hereafter BRIC). Indian CDS market kicked off in December 2011; CDS data for India are not available.

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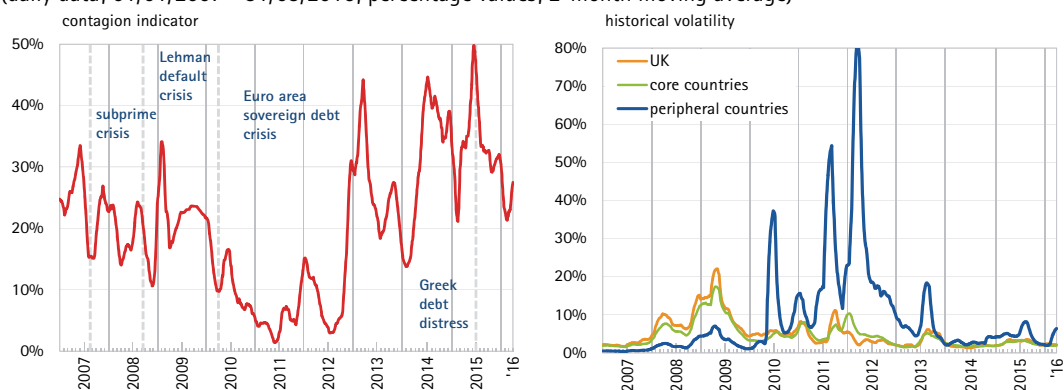
## 4. Banks

Spreads volatility remains at very low levels, though the contagion indicator has slightly risen in early 2016.

Short rates have become negative in all large Euro area countries. In France and Germany medium term rates are also negative.

**Figure 2.3 – Contagion and historical volatility of 10-year sovereign bond spreads for some European countries**

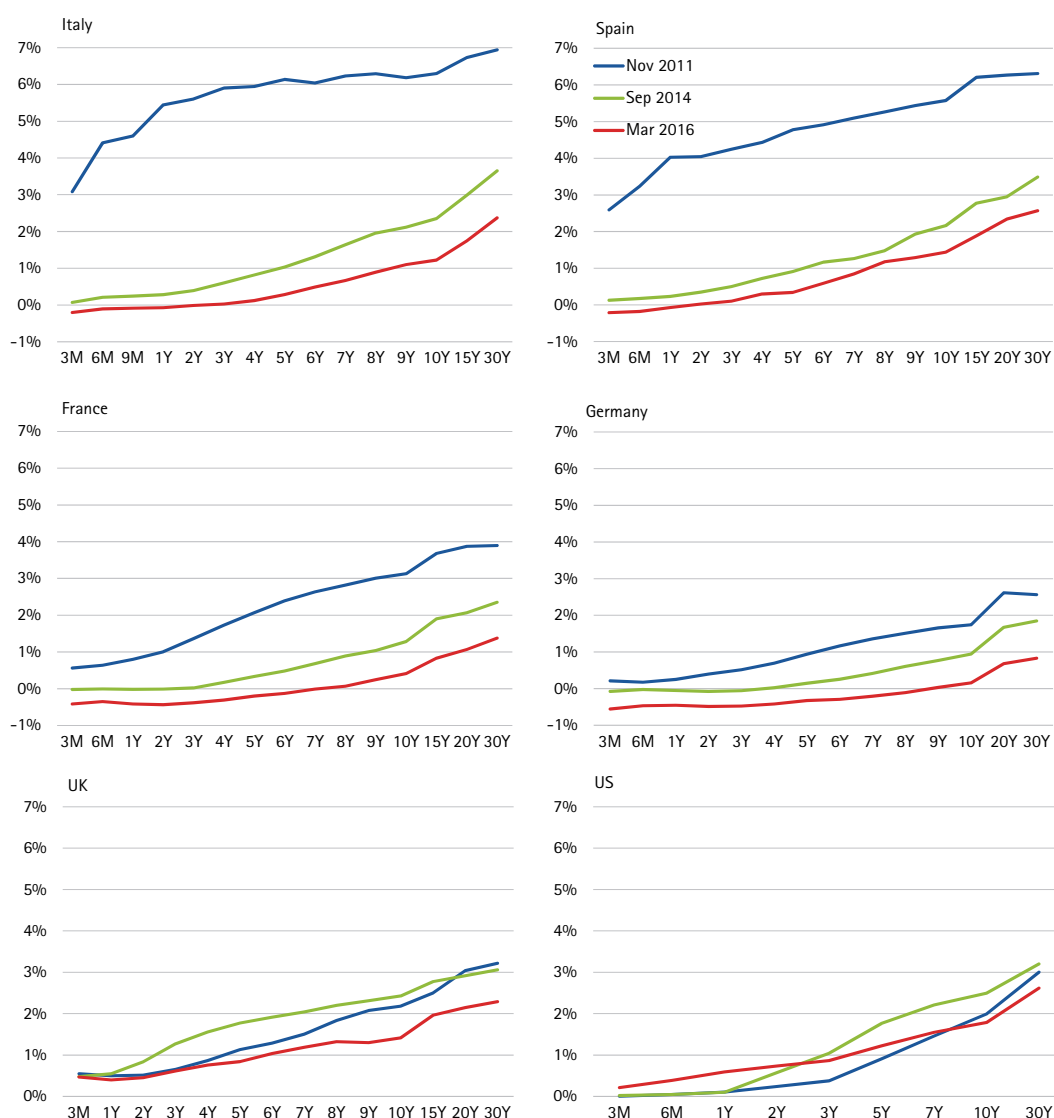
(daily data; 01/01/2007 – 31/03/2016; percentage values; 2-month moving average)



For the methodology applied to estimate the contagion indicator see Consob Working paper no. 72, 2012 (left graph) and Note Figure 2.2 RO no. 9.

**Figure 2.4 – Sovereign yield curves in major advanced countries**

(percentage values)



Source: calculations on Thomson Reuters data.



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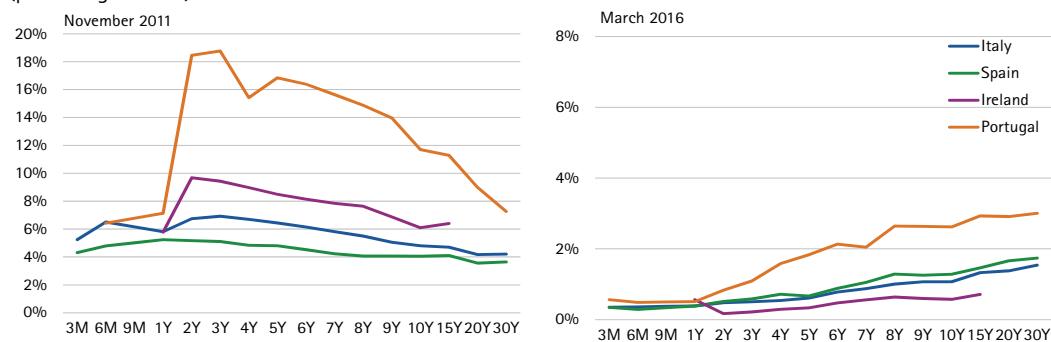
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Spreads against German rates have reduced significantly, with less dispersion across peripherals.

Credit quality implied in government bond spreads remains much higher than official ratings for all peripherals.

**Figure 2.5 – Term structure of yield spreads between peripheral euro area countries and Germany**

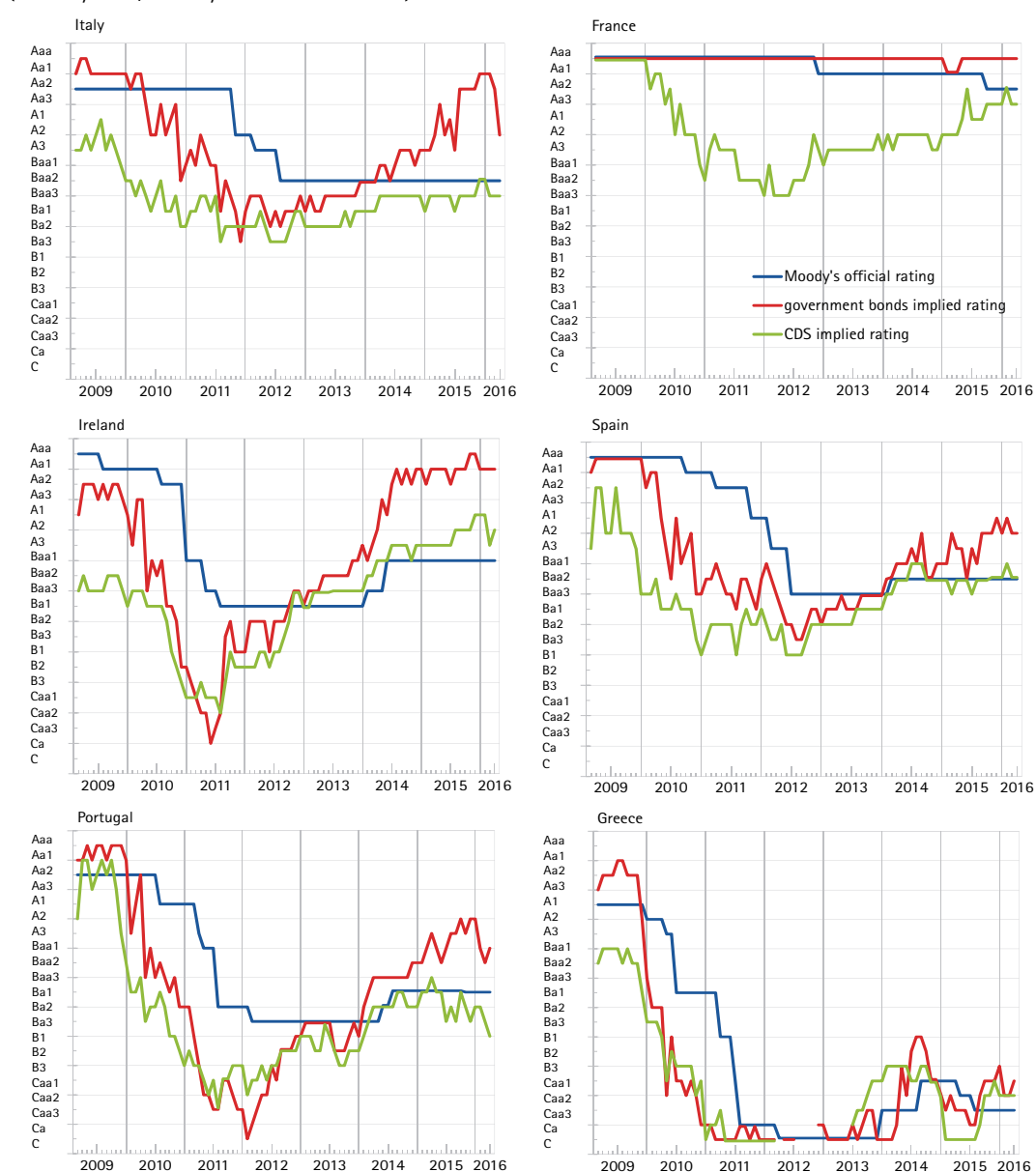
(percentage values)



Source: calculations on Thomson Reuters data.

**Figure 2.6 – Sovereign bond and CDS implied ratings in some euro area countries**

(monthly data; January 2009 – March 2016)



Source: calculations on Moody's data.



## 1. Equity markets

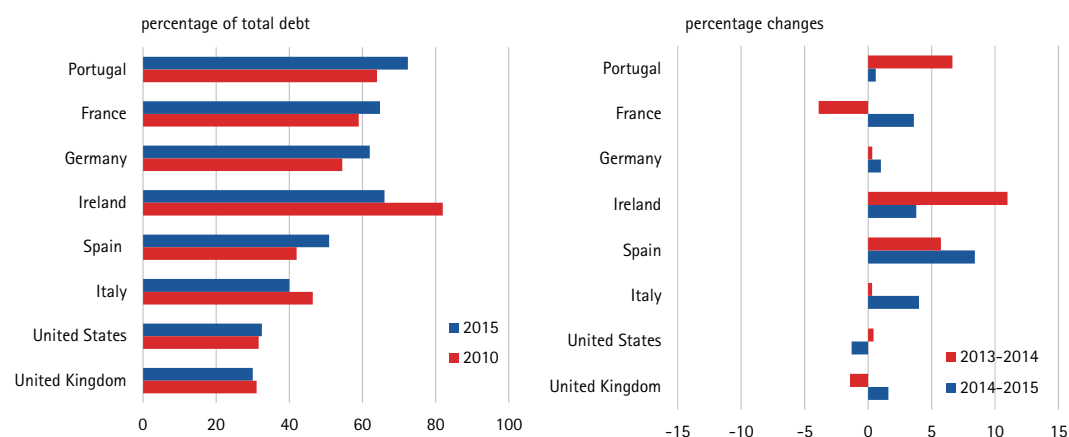
## 2. Non-equity markets

## 3. Non-financial companies

## 4. Banks

Since the start of the debt crisis, the share of foreign holdings of government debt has increased in Spain and Portugal. For Italy, there have been significant net buyings by non-residents in 2014–2015, but overall they have reduced their exposure since 2010.

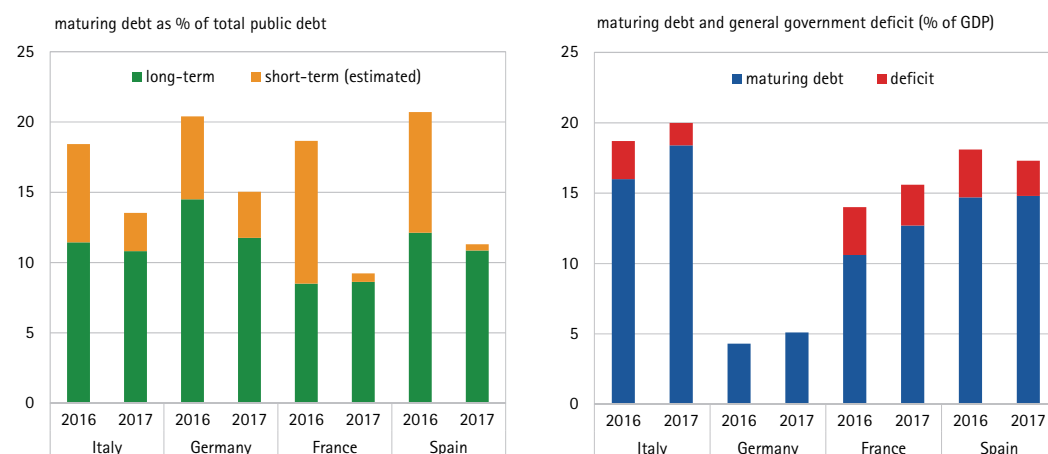
**Figure 2.7 – Non-resident holdings of general government debt in selected countries**  
(percentage values)



Source: calculations on data from IMF Fiscal Monitor Bruegel database of sovereign bond holdings developed in Merler and Pisani-Ferry (2012; [www.bruegel.org](http://www.bruegel.org)).

For 2016, refinancing needs due to maturing short-term bonds and new deficit remain large in most Euro area countries ...

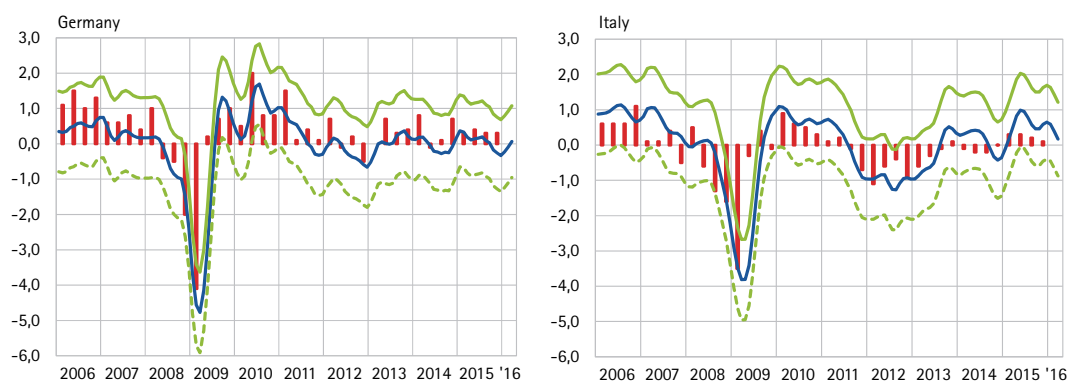
**Figure 2.8 – The refinancing needs of general government debt in main euro area countries**  
(percentage values)



Source: calculations on data from Thomson Reuters Eikon and EU Commission.

... and, except for Spain, weak economic growth make significant budget corrections unlikely.

**Figure 2.9 – GDP nowcasts for some euro area countries**  
(percentage values)



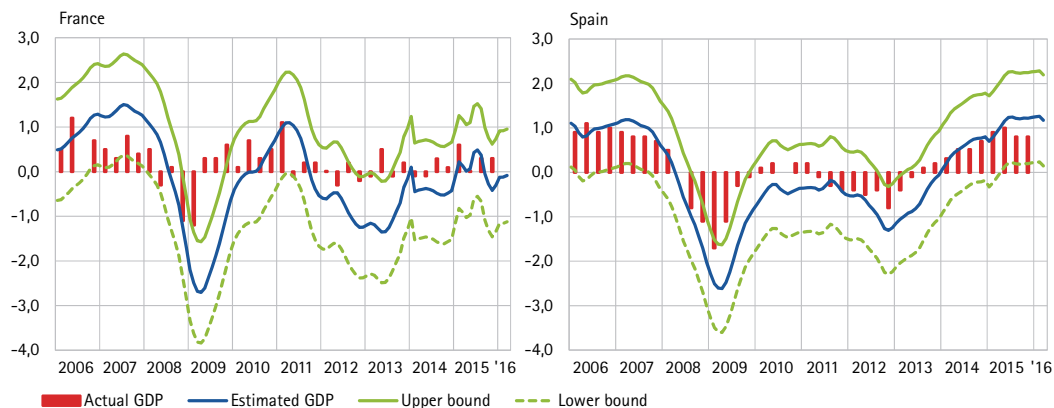
## 1. Equity markets

## 2. Non-equity markets

## 3. Non-financial companies

## 4. Banks

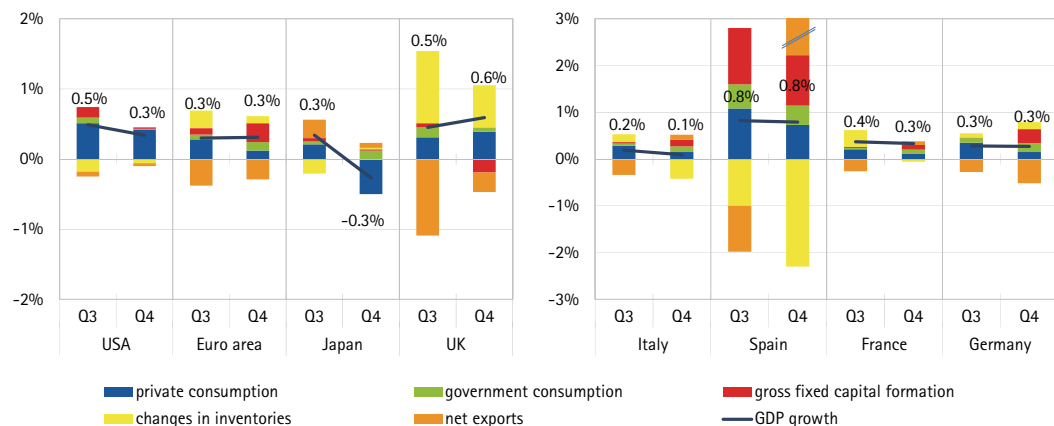
Figure 2.9 (cont.)



Source: calculations on data from EU Commission, Istat, Insee, Bundesbank, Ine. The sample used to construct the forecast ranges from June 2002 to February 2016. The methodology applied to construct the forecast is based on a small-size state space model, using 11 hard and soft indicators (preliminary and final estimates of GDP; hard indicators: Exports, Industrial Production Index, Retail Sales, Employment; soft indicators: Economic Sentiment Indicator, Business Confidence Indicator, Consumer Confidence Indicator, Building Confidence Indicator) adapted from Camacho and Perez-Quiros (2010). The Kalman filter methodology is used to extract a common factor. The model is estimated separately for each country (Germany, Italy, France, Spain).

In the last 2 quarters of 2015, similarly to US, growth in the Euro area has been supported mainly by private consumptions and investments, while net exports gave a negative contribution.

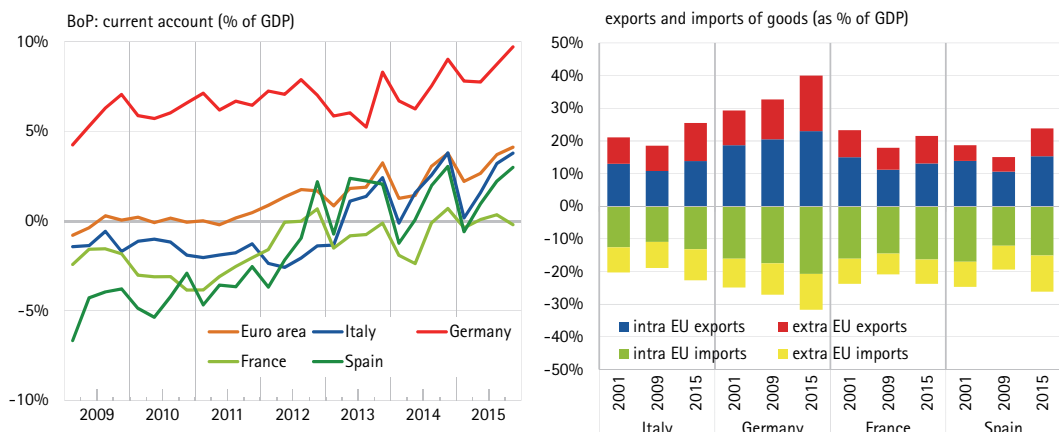
Figure 2.10 – Contributions to GDP growth for selected advanced economies (changes from previous quarter in 2015)



Source: calculations on Thomson Reuters data.

However, most Euro area countries are running large current account surpluses ...

Figure 2.11 – Current account balances and trade pattern of selected euro area countries



Source: calculations on data from Thomson Reuters and Eurostat.

... because of improved terms of trade.

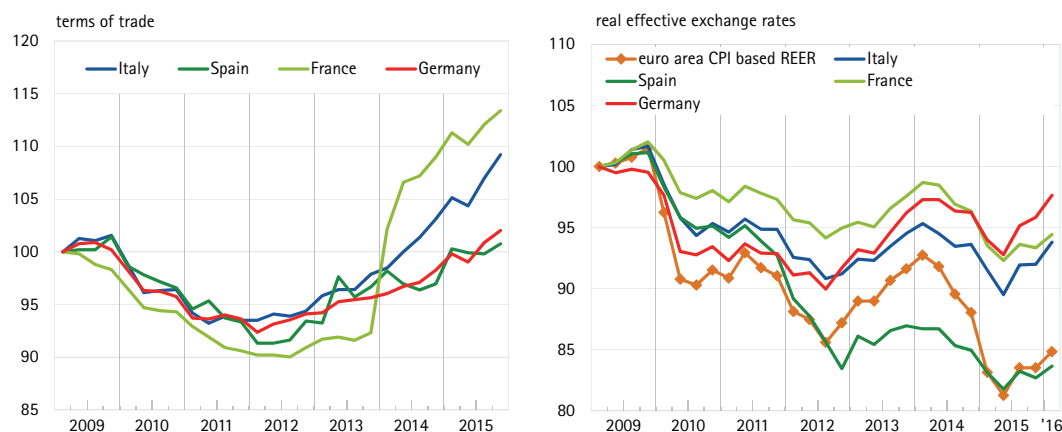
## 1. Equity markets

## 2. Non-equity markets

## 3. Non-financial companies

## 4. Banks

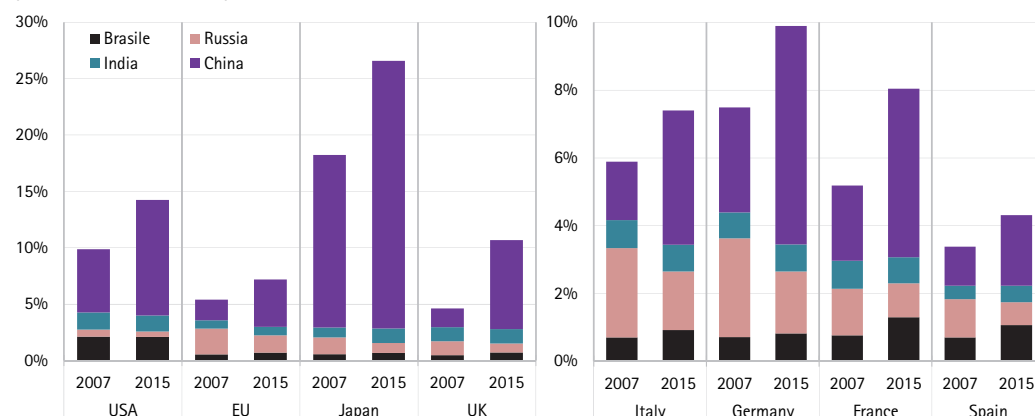
**Figure 2.12 – European terms of trade and real effective exchange rates**  
(quarterly data; Q1 2009 = 100)



Source: calculations on data from Thomson Reuters. In the right graph, for the main euro area countries data refer to ULC based REER.

China is by far the largest market for all advanced countries' exports, and its importance has grown significantly in last decade.

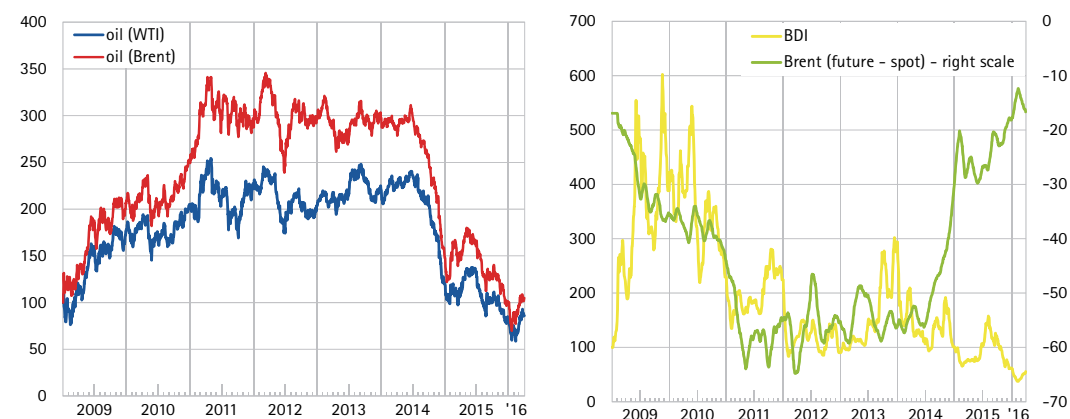
**Figure 2.13 – Exports to selected emerging economies of advanced economies in 2015**  
(percentage of total exports)



Source: calculations on data from IMF Direction of Trade Statistics.

In spite of some volatility, oil prices are 3 times lower than the 2011–2013 average, and future prices do not signal significant changes in the short run.

**Figure 2.14 – Oil prices and the Baltic Exchange Dry Index**  
(01/01/2009 = 100)



Source: calculations on data from Thomson Reuters. Price and index series: 01/01/2009 = 100. The future - spot differential is computed as the monthly moving average of the difference between the re-scaled series.

## 1. Equity markets

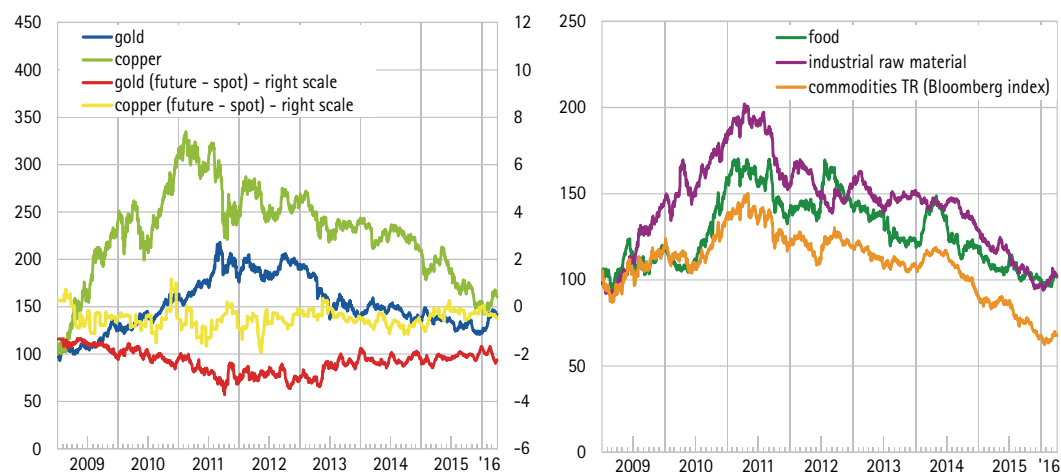
## 2. Non-equity markets

## 3. Non-financial companies

## 4. Banks

Other commodities' price exhibits similar declining trend

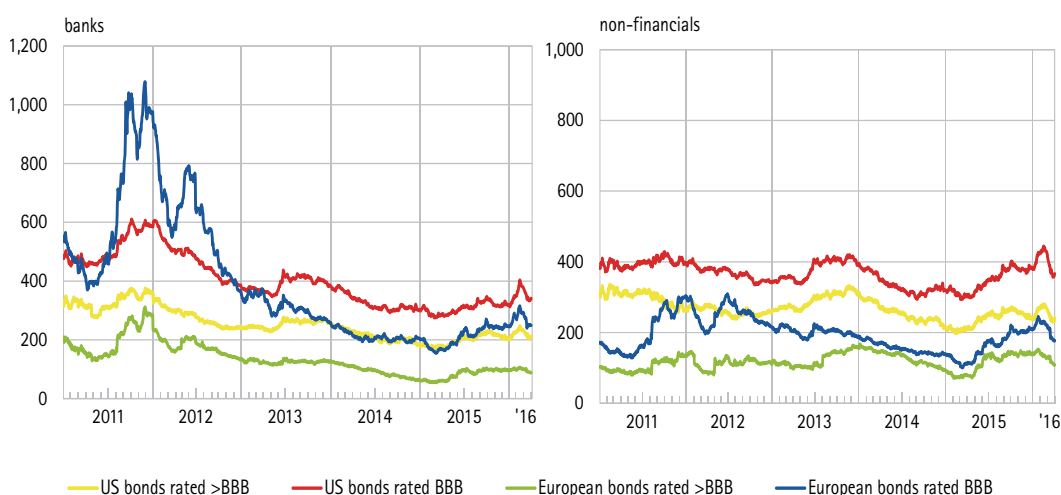
**Figure 2.15 – Commodity prices**  
(01/01/2009 = 100)



Source: calculations on data from Thomson Reuters. Price and index series: 01/01/2009 = 100. The future - spot differential is computed as the monthly moving average of the difference between the re-scaled series.

Bond spreads of private companies have slightly increased since mid-2015, but they remain at quite low levels both in EU and USA.

**Figure 2.16 – Bank and non-financial corporate bond yield spreads over IRS**  
(basis points; daily data; 01/06/2010 – 31/03/2016)



Source: Calculations on Thomson Reuters Eikon data. Spreads refer to Markit Iboxx (overall) average bank and non-financial corporate bond yields and the 3-year EUR and USD IRS respectively. Spreads for bonds rated ">BBB" computed relative to simple average of A, AA and AAA bond yields.

## 1. Equity markets

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In 2015, net issues of non-financial bonds have strongly increased in the US, while in Europe they were close to the 2011–2014 average.

**Figure 2.17 – Non-financial corporate bonds issues and maturities**  
(billions of euro)



Source: calculations on Dealogic data. European issuance data refer to companies with registered office in Italy, France, Germany, Spain, the Netherlands and the UK and their subsidiaries (even those established in other countries). Maturities refer to bonds issued since 2009.

## 1. Equity markets

## 2. Non-equity markets

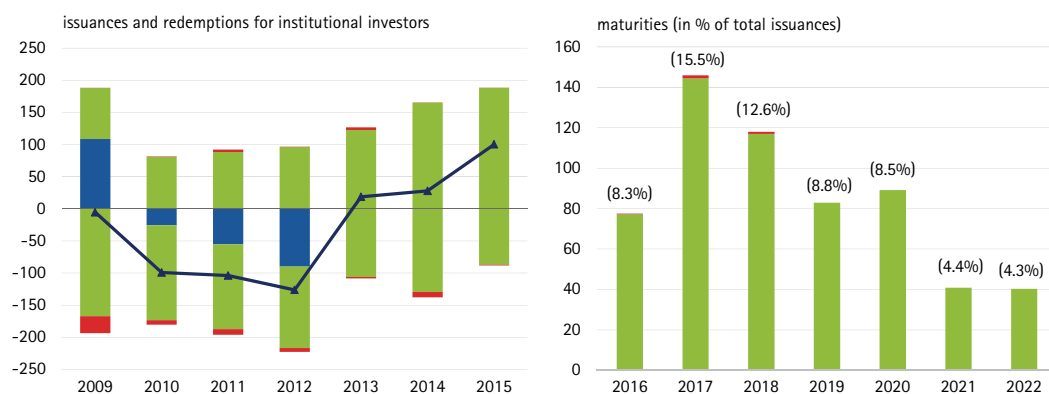
## 3. Non-financial companies

## 4. Banks

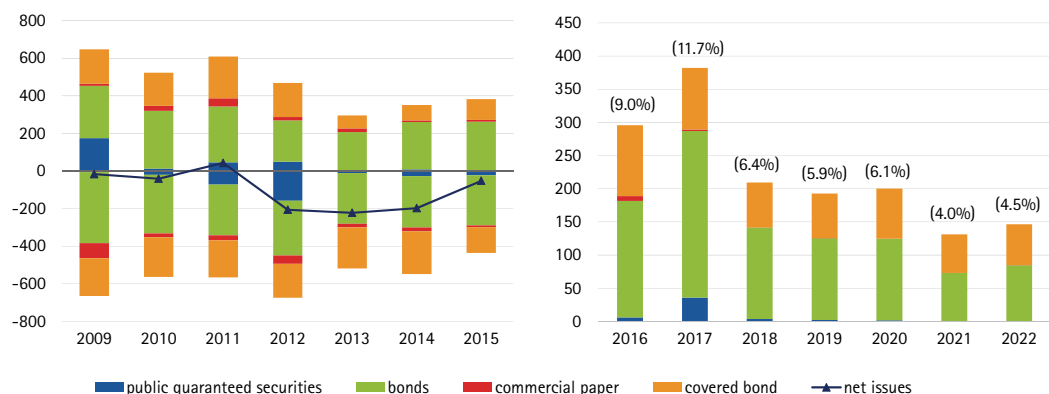
In 2015, net bond issuance by banks has returned to large positive values in the US, while it is still negative in EU (and especially in Italy).

**Figure 2.18 – Bank bonds issues and maturities**  
(billions of euro)

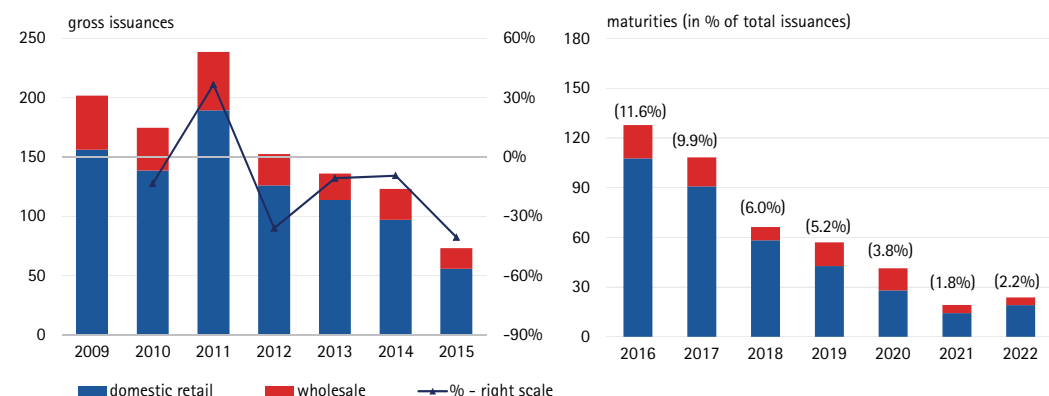
## USA



## EUROPE



## ITALY



Source: calculations on Dealogic data. European issuance data refer to companies with registered office in Italy, France, Germany, Spain, the Netherlands and the UK and their subsidiaries (even those established in other countries). Gross issuance change for 2015 is computed relative to 2014. Maturities refer to bonds issued since 2009.

Securitizations seems to be recovering in EU, while in the US the market is still dominated by agencies.

## 1. Equity markets

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**Figure 2.19 – Securitisation issuances**  
(billions of euro)



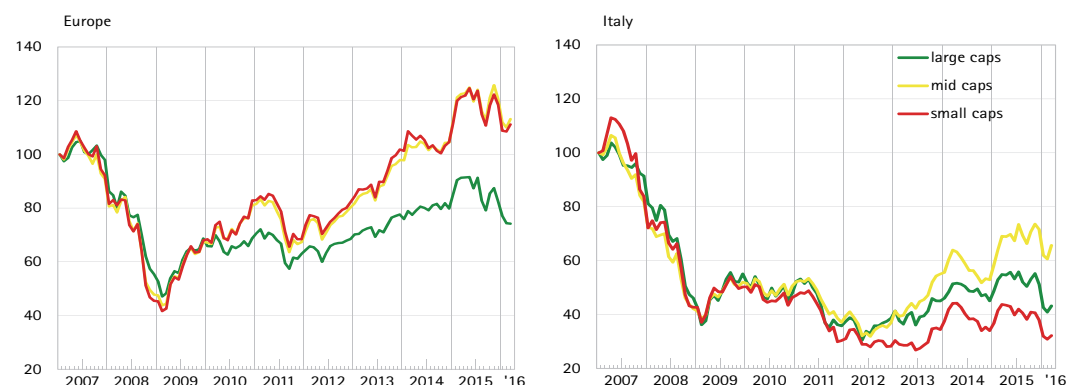
Source: calculations on Dealogic data. The data for Europe refer to asset-backed securities of companies with registered office in Italy, France, Germany, Spain, the Netherlands and the UK and their subsidiaries.

1. Equity markets
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## Non-financial companies

The stock price of European non-financial companies recorded a significant downward correction since the end of 2015, which was rather homogenous across firm sizes.

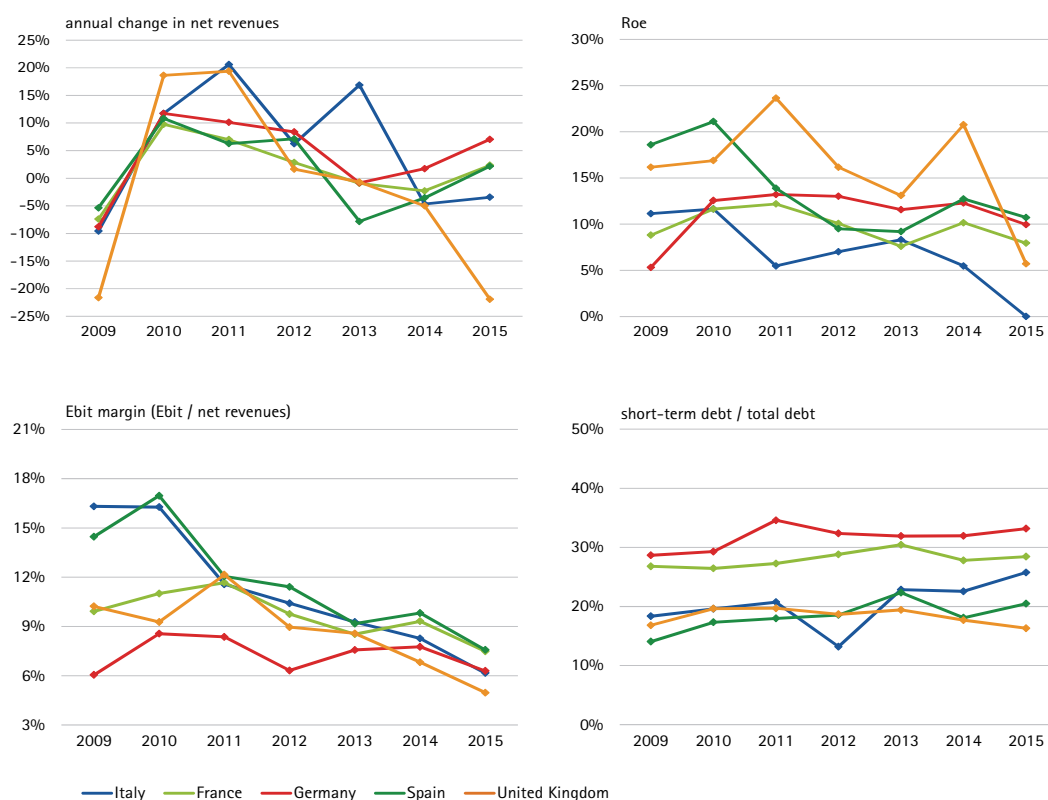
**Figure 3.1 – Relative stock performance of European non-financial listed companies by size**  
(monthly data; January 2007=100)



Source: Thomson Reuters data for the Stoxx600 (Europe) main sectorial indexes ex financials. Mid and small size company indexes are represented by the Stoxx600 (Europe) and the Ftse Italia All Share sub-indices, respectively for European and Italian companies. The Europe Stoxx50 and Ftse Mib indexes are used as proxies for large caps.

In 2015, due to the negative dynamic of commodity prices, revenues of large UK non-financials fell sharply, because of the large exposure to oil, energy and related sectors. Sales growth rate of Italian firms was negative for the second consecutive year, and average ROE went close to zero. However, this dynamic is largely due to the performance of few large companies in the oil and energy sector. Sales are recovering in other large Euro area countries, but Ebit margins have reduced significantly.

**Figure 3.2– Profitability and financial structure of major European non-financial listed companies**  
(full year percentage values)



Source: calculations on Bloomberg data for the top 30 non-financial companies by market capitalisation as of end of December, 2015 for Italy, France, Germany, Spain and UK. Sample size and constituents may be adjusted to take into account leavers/joiners movements in the top 30 ranking and historical data availability. The annual change in net revenues is computed with respect to the end of previous year. In a few cases, data might be preliminary or partly estimated.



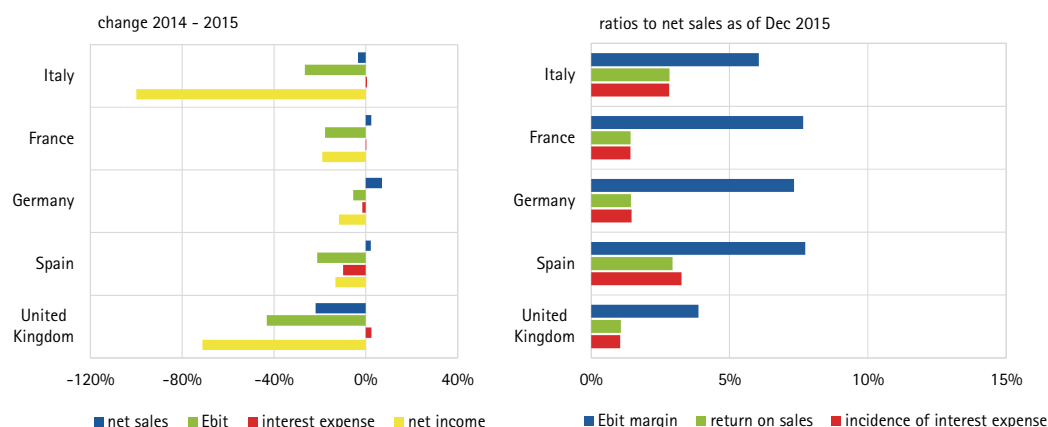
1. Equity markets
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In 2015 net income of large European non-financials declined strongly, especially in Italy and UK, mainly because of the decline in revenues.

Despite the contraction of net income, profit vulnerability is improving, especially in France and Germany....

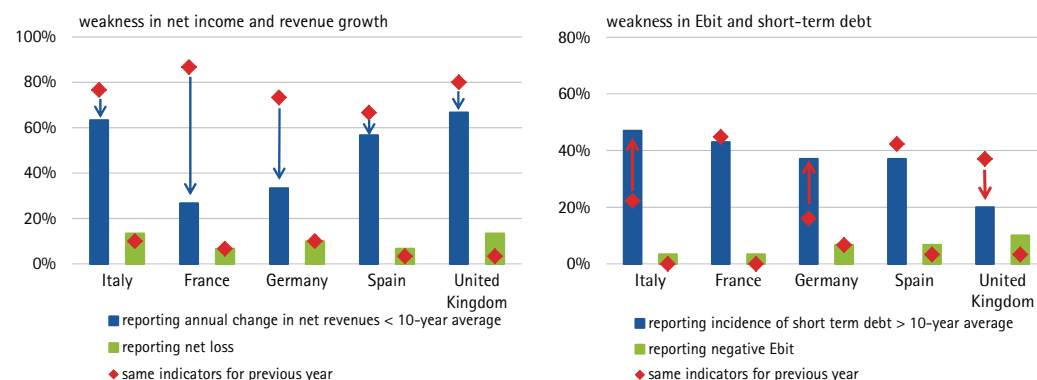
...but the share of companies with increased leverage and lowered coverage ratio remains quite high in most EU countries.

**Figure 3.3 – Margin analysis for major European non-financial listed companies**  
(full year percentage values)



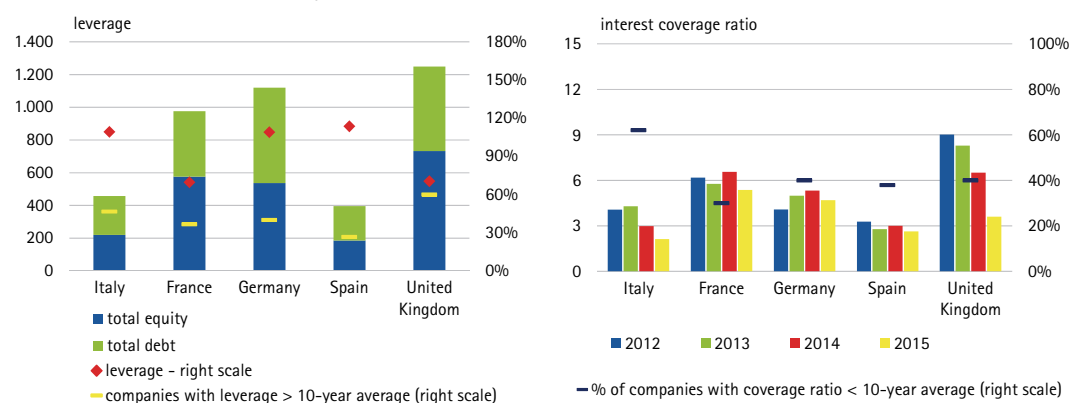
Source: calculations on Bloomberg data (see Note to Figure 3.2). In a few cases, data might be preliminary or partly estimated. The return on sales is the ratio between net income and net sales.

**Figure 3.4 – Profit vulnerability of major European non-financial listed companies**  
(number of companies in percentage of the sample as of December 2015)



Source: calculations on Bloomberg data (see Note to Figure 3.2). In a few cases, data might be preliminary or partly estimated.

**Figure 3.5 – Leverage and interest expense coverage of large European non-financial listed companies**  
(amounts in billions of euro and percentage values as of December 2015)



Source: calculations on Bloomberg data (see Note to Figure 3.2). The leverage is computed as total debt divided by total equity. The interest coverage ratio is computed as Ebit divided by interest expenses. In a few cases, data might be preliminary or partly estimated.

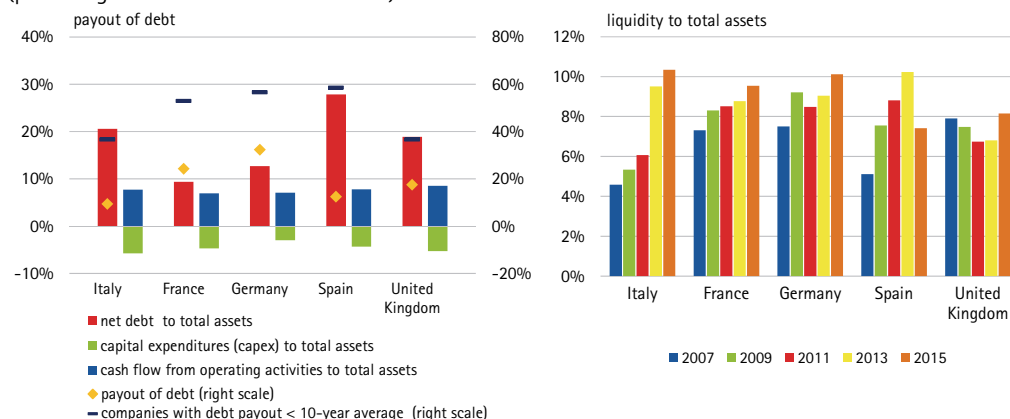
1. Equity markets
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Italian and Spanish companies have a higher level of net debt to total asset and a lower debt-pay-out ratio, while cash flows from operations relative to total assets are in line with other EU countries. Since the 2007 financial crisis cash holdings have significantly increased, especially for Italian firms.

Financial vulnerability indicators are generally improving in most countries.

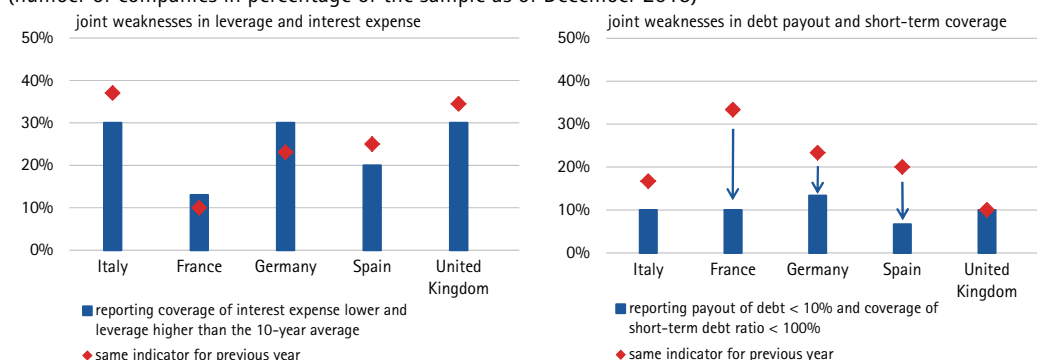
Bank lending to non-financial companies keeps reducing in Italy and Spain, but credit quality of large listed firms is improving.

**Figure 3.6 – Payout of debt and liquidity of major European non-financial listed companies**  
(percentage values as of December 2015)



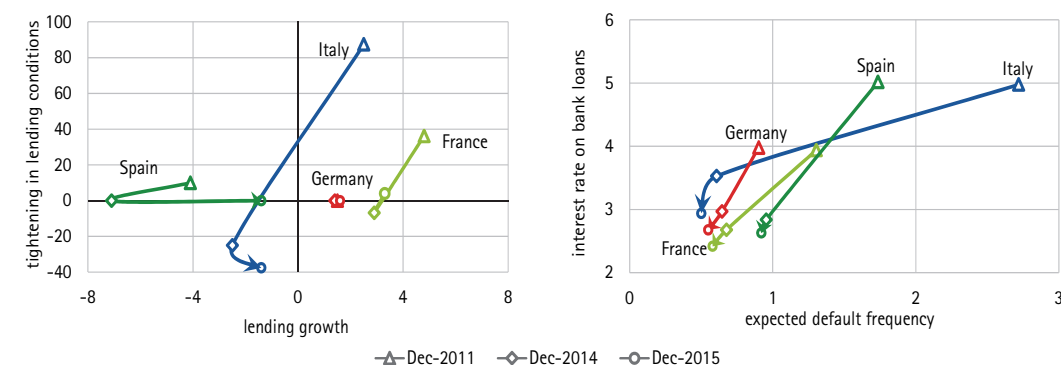
Source: calculations on Bloomberg data (see Note to Figure 3.2). The payout of debt is the ratio between operating cash flow net of capital expenditure and net financial debt. Liquidity is calculated as cash plus short-term assets. In a few cases, data might be preliminary or partly estimated.

**Figure 3.7 – Financial vulnerability of major European non-financial listed companies**  
(number of companies in percentage of the sample as of December 2015)



Source: calculations on Bloomberg data (see Note to Figure 3.2). In a few cases, data might be preliminary or partly estimated.

**Figure 3.8 – Trends in bank lending to non-financial companies and expected default frequencies in main euro area countries**  
(percentage values as of December 2015)



Source: 'ECB Bank lending survey' and Moody's Credit Edge data. Tightening in lending conditions is the net percentage of banks reporting a tightening in credit standards (for Italy, Germany and Spain) and the net percentage of banks reporting a tightening in credit standards weighted for the share of each bank in the total loan outstanding amount in the sample (for France). Lending growth is the annual growth rate of bank loans to non-financial companies. Corporate EDF (one year) are the average of the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles; the sample comprises publicly traded firms.

1. Equity markets
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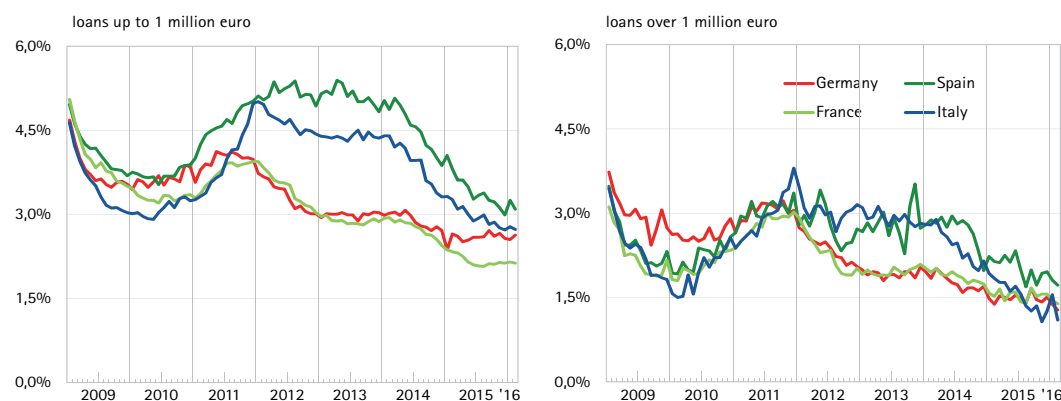
The cost of bank debt is converging in large Euro area countries, especially for small firms.

The demand of bank loans is improving in most countries, mainly driven by the low interest rates.

Market perception of credit risk for large European listed firms slightly increases in the first part of 2016...

**Figure 3.9 – Interest rates on bank loans to non-financial corporations in major euro area countries**

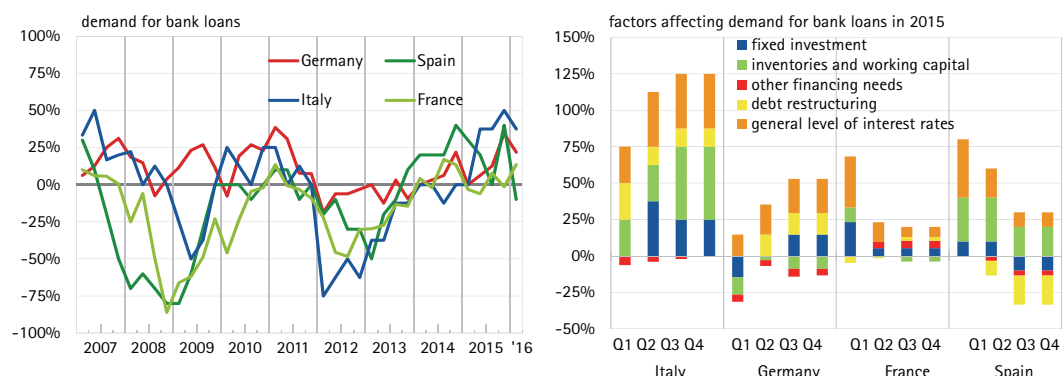
(monthly data; January 2009 – February 2016)



Source: ECB; interest rates on new loans.

**Figure 3.10 – Demand for bank loans from non-financial corporations in main euro area countries**

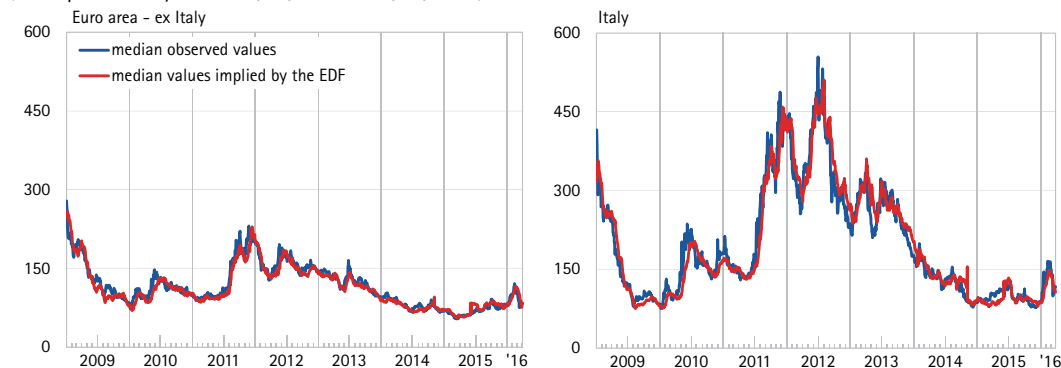
(quarterly data)



Source: ECB Bank lending survey. The demand for bank loans is defined as the net percentage of banks reporting an increase in demand. Factors are defined as the difference between the percentage of banks reporting that the given factor contributed to increasing demand and the percentage reporting that it contributed to decreasing demand. 'Other financing needs' are calculated as the unweighted average of 'internal financing', 'loans from other banks', 'loans from non-banks', 'debt securities issuance', 'equity issuance' and 'mergers/acquisitions and corporate restructuring'.

**Figure 3.11 – Prices of 5-year CDS observed and implied by the expected default frequencies (EDF) for euro area non-financial firms**

(basis point; daily data; 01/01/2009 – 31/03/2016)

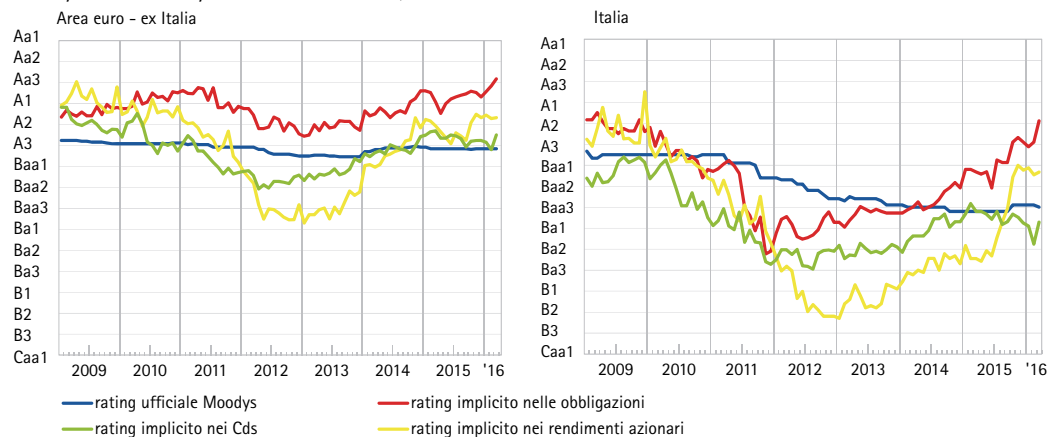


Source: calculations on Thomson Reuters Datastream and KMV – Credit Edge data. The sample includes listed firms in the euro area, which belong to Thomson Reuters corporate CDS indexes and under Moody's rating and of 8 Italian non-financial listed firms.

1. Equity markets
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...but average credit quality implied in bond spreads and equity prices remains above official rating.

**Figure 3.12 – Official and market implied ratings for euro area non-financial firms**  
(monthly data; January 2009 – March 2016)



Source: calculations on Moody's Implied Rating data. Average values, referring to *corporate* firms included in the Euro Stoxx 50 index for the euro area (excluded non-financial Italian firms) and to Italian non-financial companies included in the Ftse Mib.

1. Equity markets
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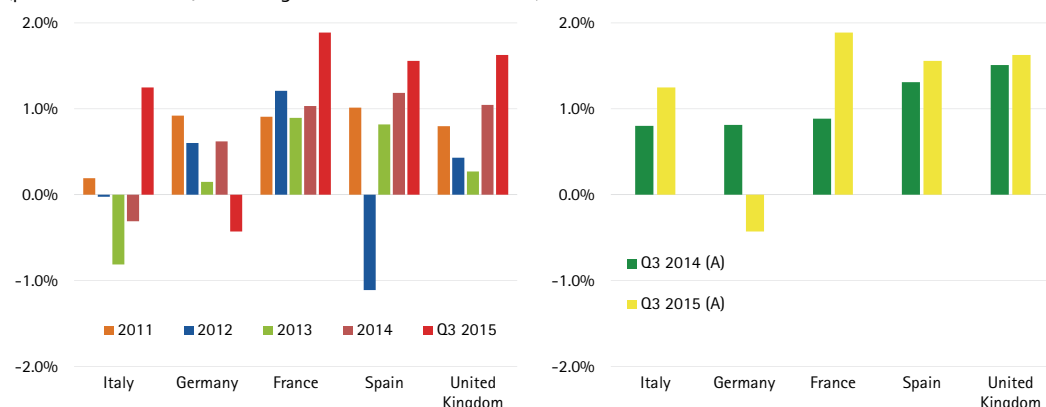
## Banks

Profitability of main European banks is improving, except in Germany where Q3 2015 data show aggregate net losses.

Positive Q3 2015 results are supported mainly by a significant increase in gross income, and, for UK and Italy, by cost reductions.

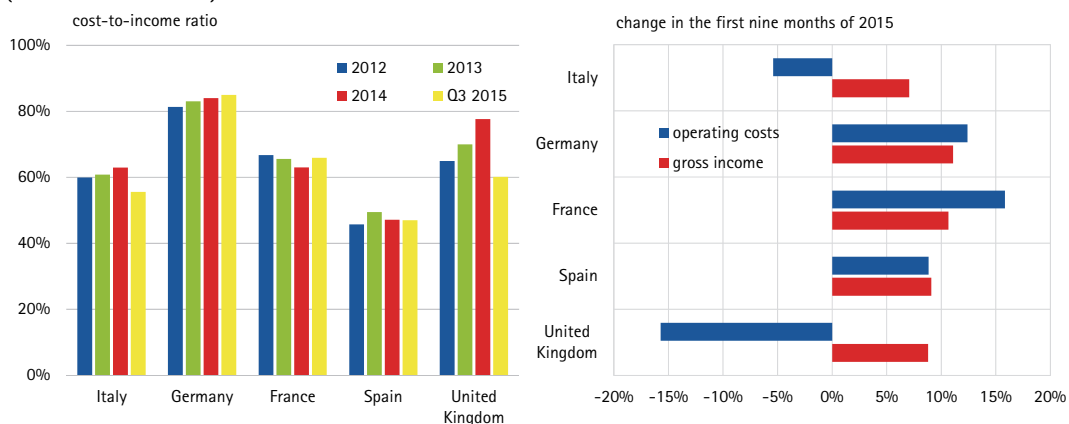
Capital adequacy has strongly improved in Italy and UK and the weight of RWA on total assets is stable in all major European countries.

**Figure 4.1 – Profitability of main listed European banks**  
(profit before taxes / risk-weighted assets as of Q3 2015)



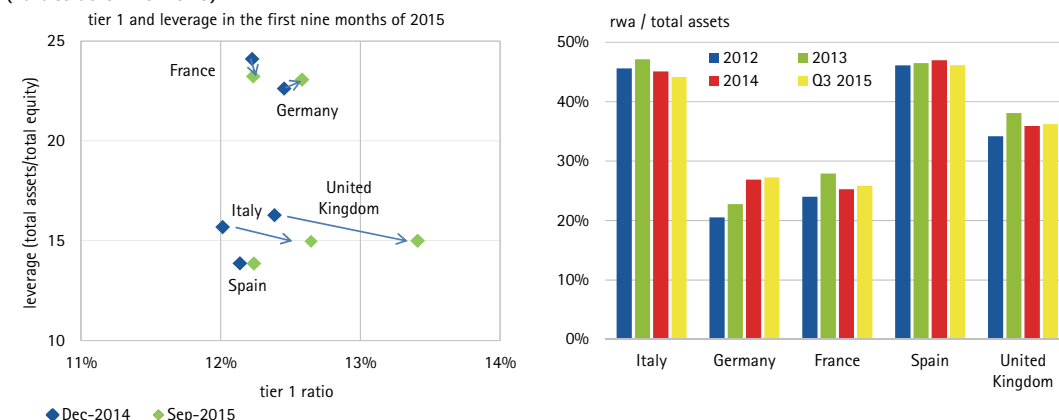
Source: calculations on data from consolidated annual and interim reports of main listed European banks (24 groups). The profit before taxes is calculated excluding goodwill impairment. Q3 figures are annualised and partly estimated.

**Figure 4.2 – Change in efficiency and profitability of main listed European banks**  
(values as of Q3 2015)



Source: calculations on data from consolidated annual and interim reports of main listed European banks (24 groups). The figures as at September 30 are annualised and partly estimated.

**Figure 4.3 – Capital adequacy and leverage of main listed European banks**  
(values as of Q3 2015)



Source: calculations on data from consolidated annual and interim reports of main listed European banks (24 groups). The figures as at September 30 are partly estimated.

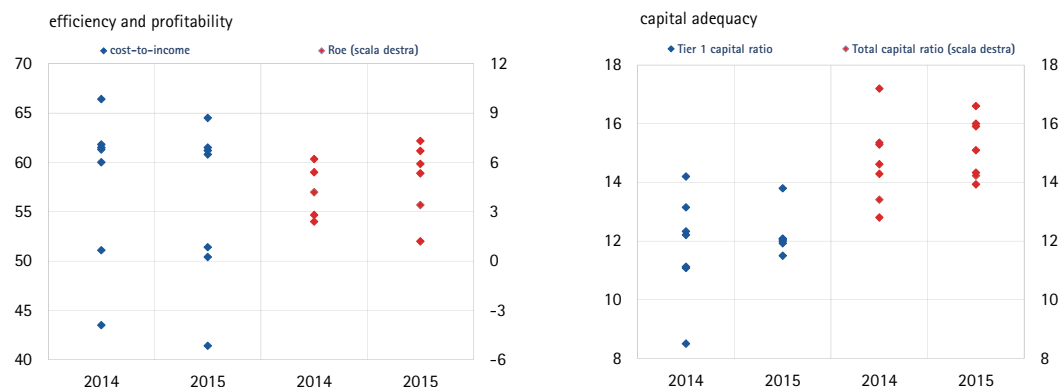
1. Equity markets
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ROA and cost-income ratio of major Italian banks have improved in 2015. Most banks have Tier 1 very close to 12%.

Net interest income has reduced, but total revenues have slightly increased due to the growth in net fees and trading profits.

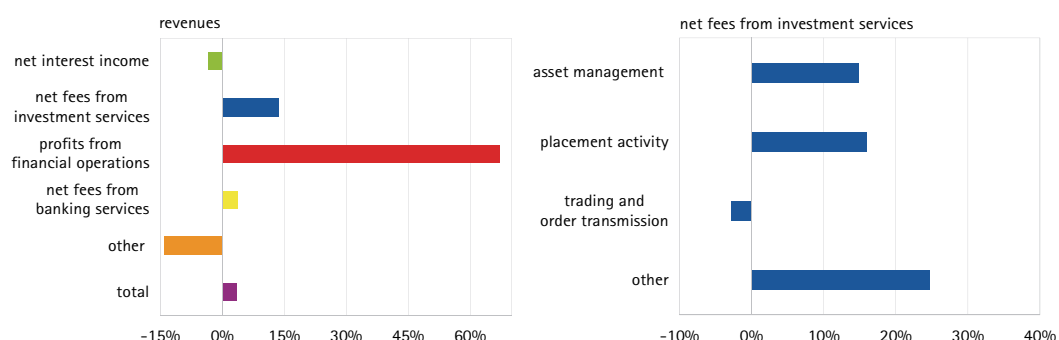
The share of financial assets has grown to almost 24% of total assets. More than 95% is made of sovereign and corporate bond.

**Figure 4.4 – Income and solvency ratios of major Italian banking groups**



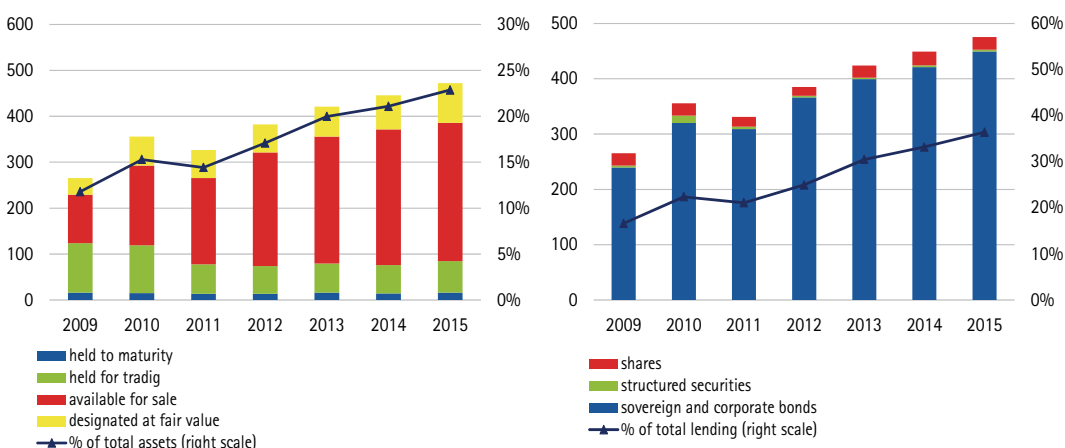
Source: calculations on data from consolidated annual and interim reports of the 8 largest groups.

**Figure 4.5 – Breakdown of revenues of the major Italian banking group**  
(percentage change 2014 - 2015)



Source: calculations on data from consolidated annual and interim report of the 8 largest groups.

**Figure 4.6 – Financial assets of the major Italian banking groups**  
(end of period balances; billions of euro)

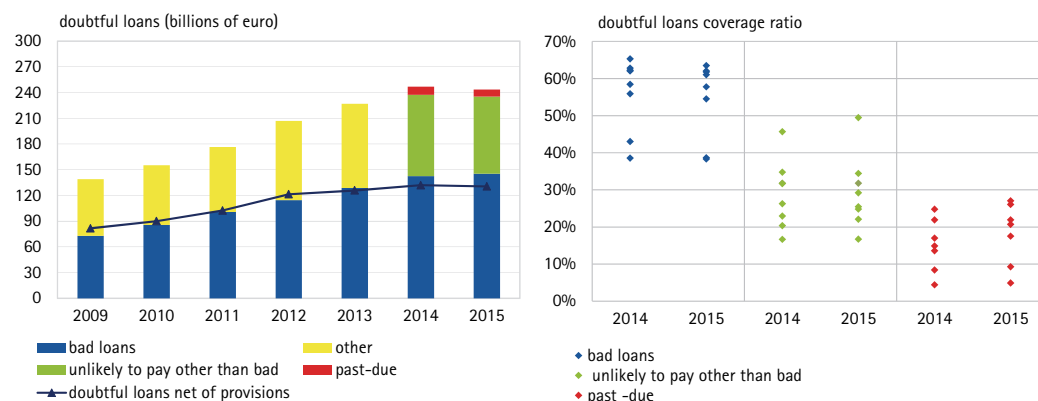


Source: calculations on data from consolidated annual and interim reports of the 8 largest groups. Financial assets other than securities (i.e. credit facilities or loans) and assets sold and not cancelled or impaired are excluded. UCITS are included in sovereign and corporate bonds.

1. Equity markets
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Credit quality is improving. Gross and net NPL are slightly declining for the first time since 2009. The average coverage rate remains substantially stable.

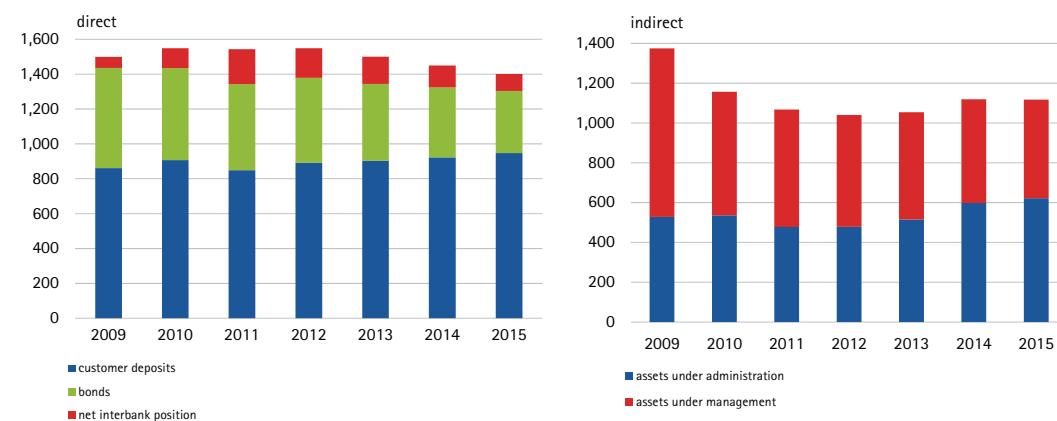
**Figure 4.7 – Credit quality of major Italian banking groups**



Source: calculations on data from consolidated annual and interim reports of the 8 largest groups. The half-yearly figures are annualised. Starting from the first quarter of 2015 the classification of loans into risk classes was updated in order to reflect the changes provided in Bank of Italy Circular 272 (see also section A.2 Accounting Policies of Explanatory Notes); this update adjusts the previous classification instructions to the definition of "Non-Performing Exposure" (NPE) introduced by the European banking authority (EBA) through the issue of EBA/ITS /2013/03/rev1 24/7/2014. The total volume of loans classified in the previous categories that made up the perimeter of impaired loans as at December 31, 2014 (Bad Loans, Doubtful, Restructured, Past-due) were reallocated to new risk classes (Bad Loans, Unlikely to pay other than bad, Past-due).

Since 2012 direct funding has significantly reduced, due to the contraction in net interbank positions and net bond issuance.

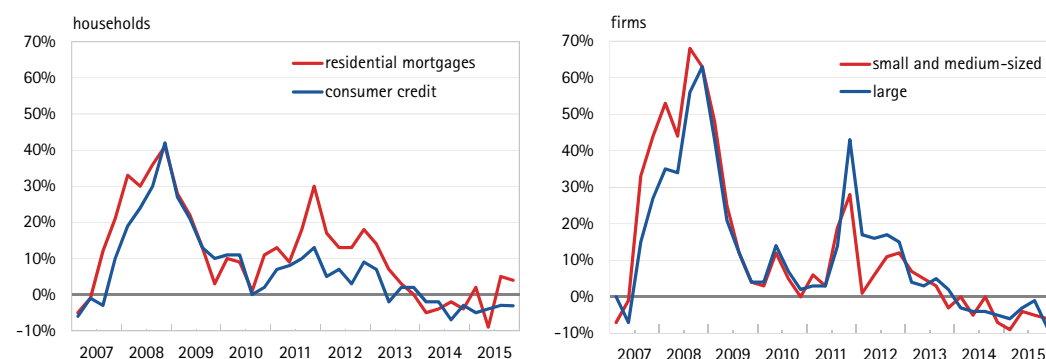
**Figure 4.8 – Funding of major Italian banking groups**  
(end of period balances; billions of euro)



Source: calculations on data from consolidated annual and interim reports of the 8 largest groups. Asset management includes technical reserves for insurance and welfare products for group companies. Subordinated and trading liabilities are excluded from direct deposits.

Euro area banks are further softening credit standards to non-financial firms...

**Figure 4.9 – Credit standard indicators for bank loans in the euro area**  
(quarterly data; Q1 2007 – Q4 2015)



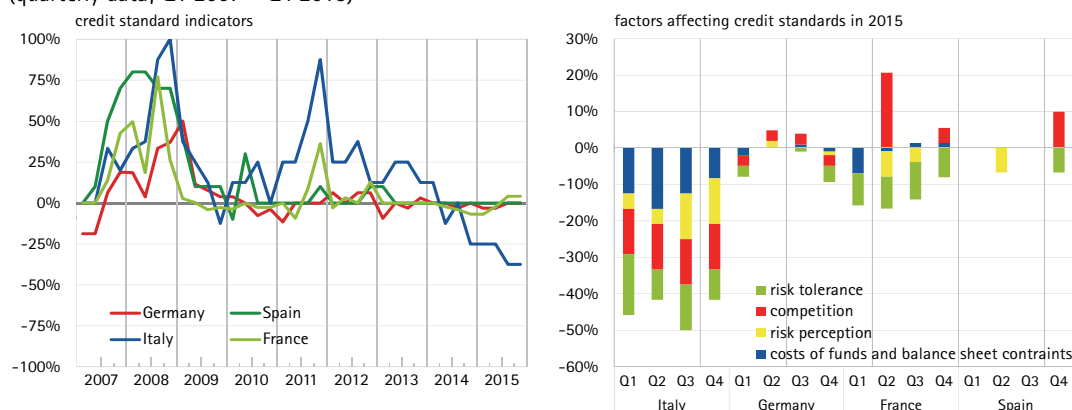
Source: ECB, 'Bank lending survey'. Net percentage of banks reporting a tightening in credit standards.

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...especially in Italy, due to lower cost of funds and risk perception.

**Figure 4.10 – Credit standards of supply of bank loans to non-financial companies in main euro area countries**

(quarterly data; Q1 2007 – Q4 2015)

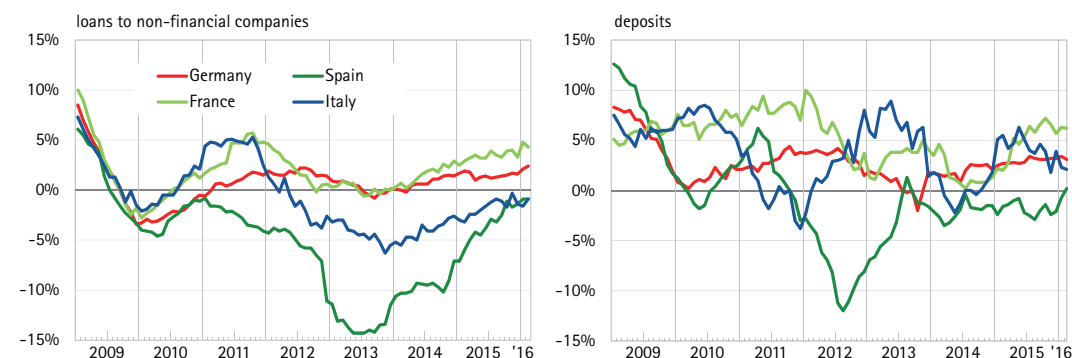


Source: ECB, 'Bank lending survey'. The credit standard indicator is the net percentage of banks reporting a tightening in credit standards (for France net percentages are weighted based on the amounts outstanding of loans of the individual banks in the sample). Factors are defined as the difference between the percentage of banks reporting that the given factor contributed to a tightening and the percentage reporting that it contributed to an easing. 'Cost of funds and balance sheet constraints' is calculated as the unweighted average of 'capital position', 'access to market financing' and 'liquidity position'; 'risk perception' is calculated as the unweighted average of 'expectations regarding general economic activity', 'industry-specific risk' and 'risk on collateral demanded'; 'competition' is calculated as the unweighted average of 'bank competition', 'non-bank competition' and 'competition by market financing'.

However, bank loans to non-financial firms are still contracting in peripheral countries.

**Figure 4.11 – Annual growth rate of loans to non-financial companies and deposits in main euro area countries**

(monthly data; January 2009 – February 2016)

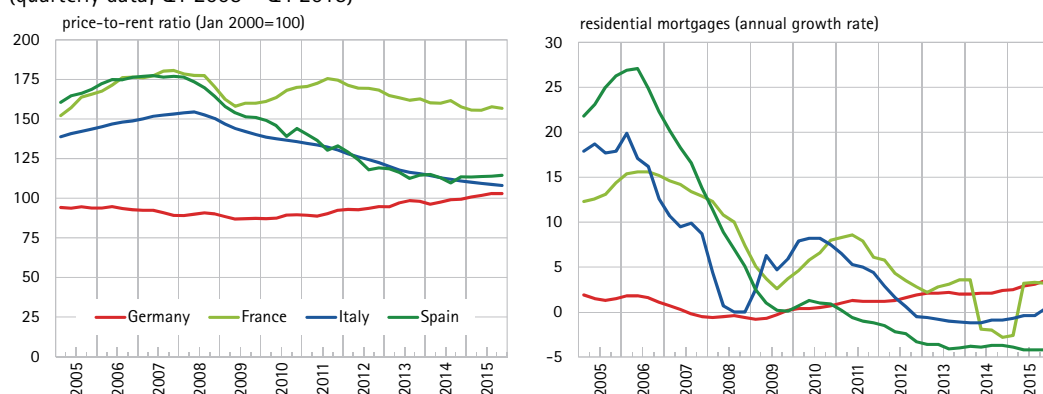


Source: ECB.

Residential mortgages are growing in France and Germany, while they are recovering in Italy.

**Figure 4.12 – House prices and residential mortgages in main euro area countries**

(quarterly data; Q1 2005 – Q4 2015)



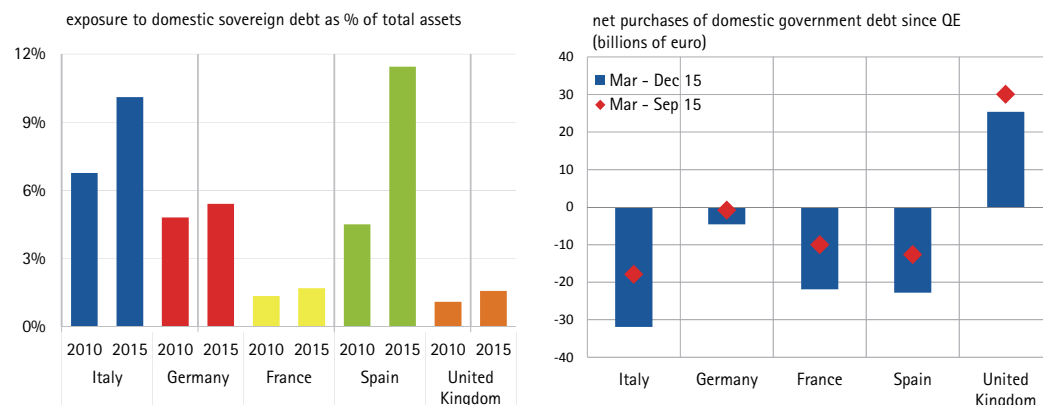
Source: calculations on Thomson Reuters, BIS and ECB data.



1. Equity markets
2. Non-equity markets
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Since the start of QE, Italian and Spanish banks have been large net sellers of domestic government bonds but their exposure to sovereign risk remains significant.

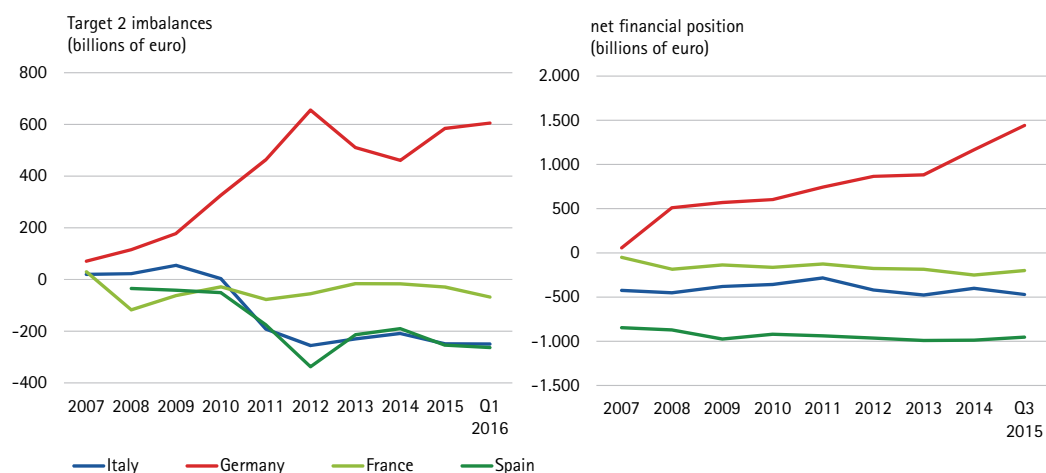
**Figure 4.13 – Banks' exposures to domestic sovereign debt in main European countries**



Source: calculations on Bruegel database of sovereign bond holdings and ECB data. Figures refer to total banking system of Italy, Germany, France, Spain and the United Kingdom. ECB data about net purchases of sovereign debt securities refer to financial transactions in domestic government debt securities held by banks summed up over period, with the exception of the United Kingdom for which data refer to differences between the outstanding amounts at the end of each period.

Target 2 imbalances remain very large in Italy and Spain, and are starting to grow significantly in France as well.

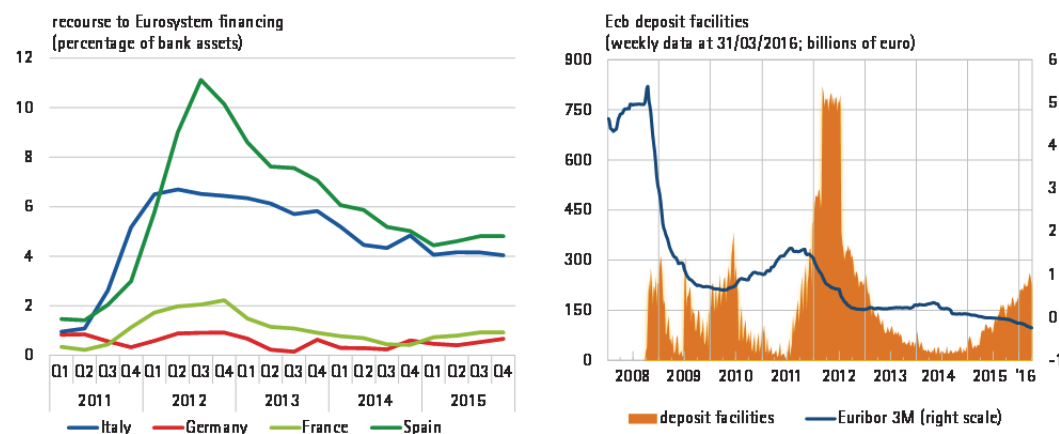
**Figure 4.14 – Target 2 imbalances and net financial position for main euro area countries**



Source: calculations on ECB and Central banks data.

Negative rates on ECB deposits are driving down interbank rates and bank liquidity on the ECB deposit facility is growing.

**Figure 4.15 – Reliance on Eurosystem funding by credit institutions of main euro area countries and ECB deposit facility**



Source: calculations on ECB and national central banks data.

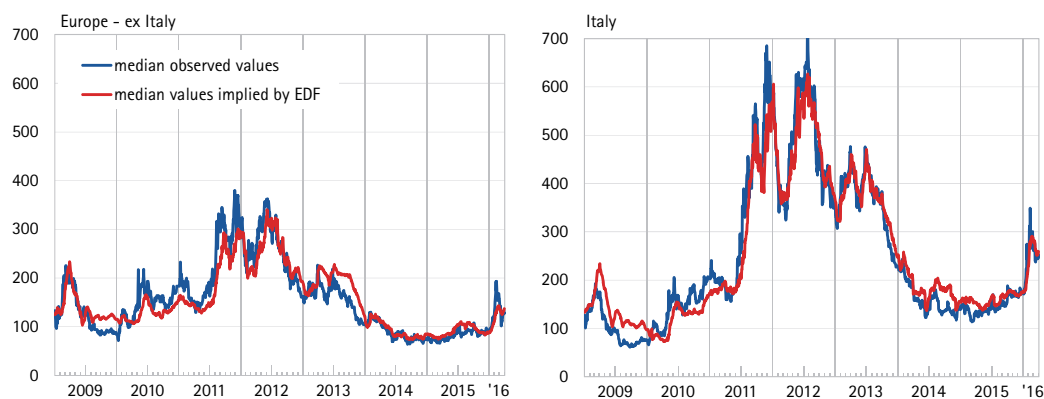
1. Equity markets
2. Non-equity markets
3. Non-financial companies
- 4. Banks**

Credit risk implied in CDS of large European listed banks has on average increased in Q1 2016...

....and remains much higher than official ratings.

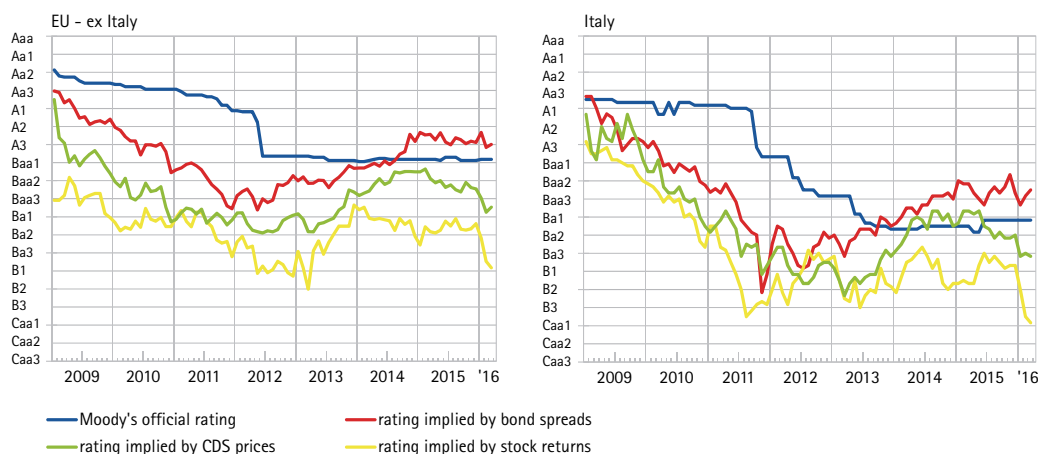
Increased credit risk perception is also signaled by the peak in the indicator of joint probability of default in early 2016.

**Figure 4.16 – Average 5-year CDS prices observed and implied by the expected default frequencies (EDF) for main listed European banks**  
(basis points; daily data; 01/01/2009 – 31/03/2016)



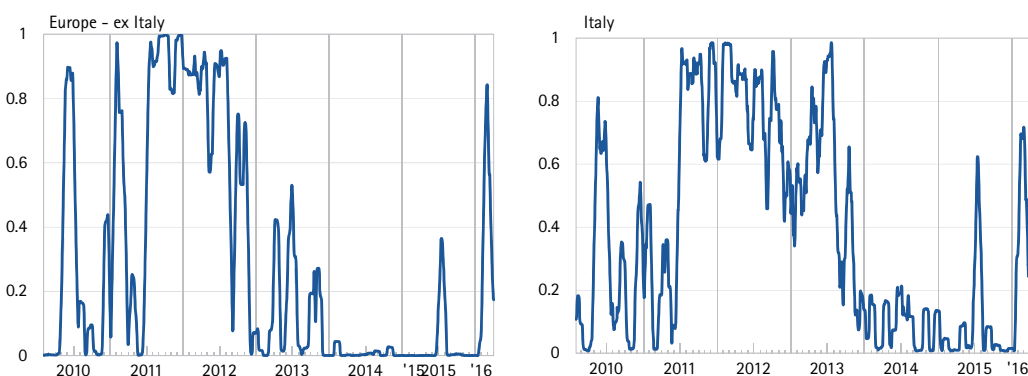
Source: calculations on Thomson Reuters Datastream and KMV - Credit Edge data for main listed groups (6 for Italy and 15 for Europe).

**Figure 4.17 – Official and market implied rating for main listed European banks**  
(monthly data; January 2009 – March 2016)



Source: calculations on Moody's Implied Rating data. We report the average values for main listed European banks (23 groups).

**Figure 4.18 – Indicator of joint probability of default implied by CDS**  
(daily data; 20-days moving average; from 01/02/2010 to 31/03/2016)



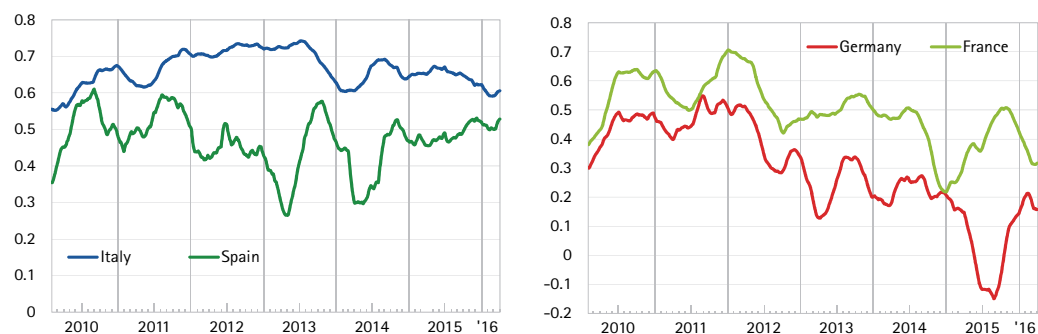
Probabilities are estimated by applying Markov switching regime model on daily variations of 5-year credit default swap prices. The indicator is normalised between zero (= low probability of default) and one (= high probability of default). Calculations are based on main European listed banks.

1. Equity markets
2. Non-equity markets
3. Non-financial companies
- 4. Banks**

Contagion risk between sovereigns and banks is declining in Italy, but remains much higher than in core countries.

**Figure 4.19 – Dynamic correlation between sovereign CDS spreads and bank CDS spreads for main European banks**

(daily data; six month moving average; from 01/02/2010 to 31/03/2016)



Calculations based on main listed banks Thomson Reuters Datastream data. We report the dynamic correlation Indicator Engle (2002).