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Institutions and the Crisis:
A Few Reflections on the Sovereign-Bank Nexus

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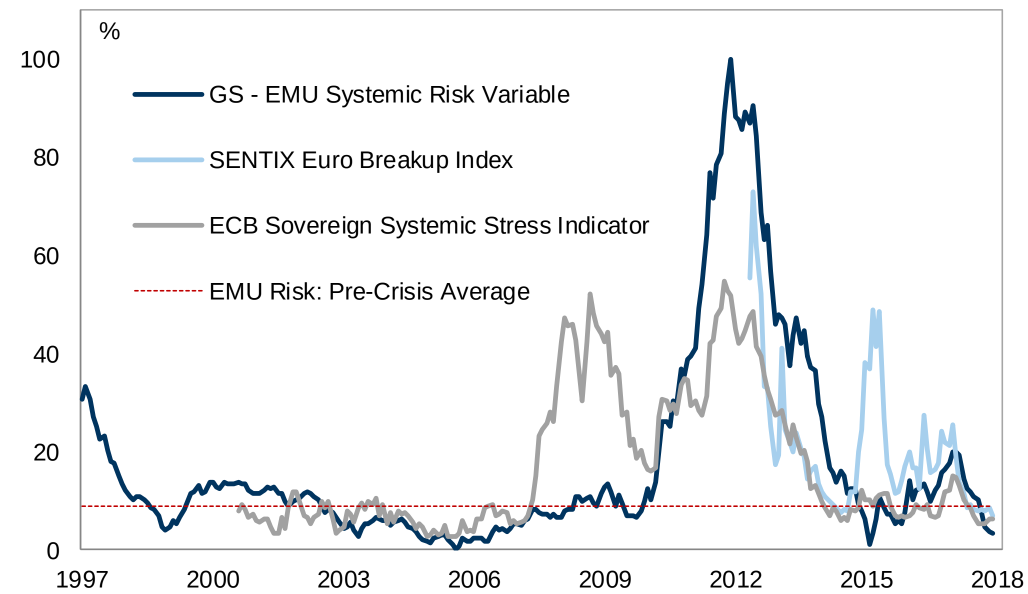
‘EMU Break-Up’ Risk Back to Pre-Crisis Levels

Measures of EMU systemic risk, and sensitivity of selected EMU sovereigns

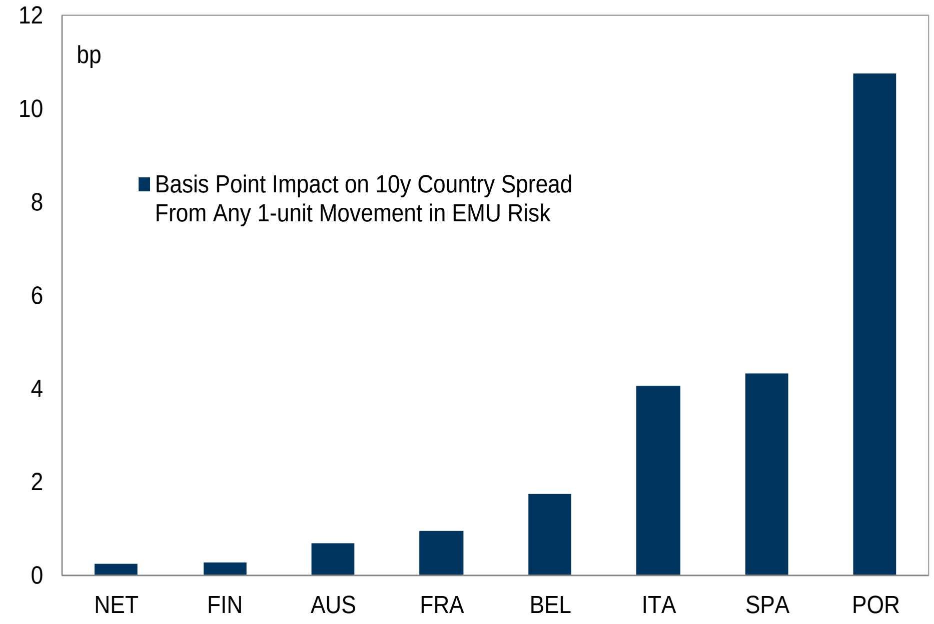
EMU Systemic Risk Has Returned to Its Pre-Crisis Norms

Selected measures of EMU systemic risk:
GS, SENTIX and ECB



Peripheral Spreads Are More Responsive to Swings in EMU Systemic Risk

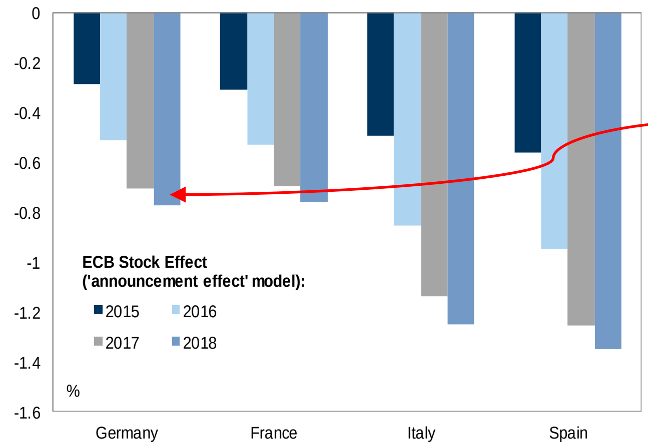
SURE estimated coefficient - response of selected country spreads to a 1% increase of the EMU systemic risk variable



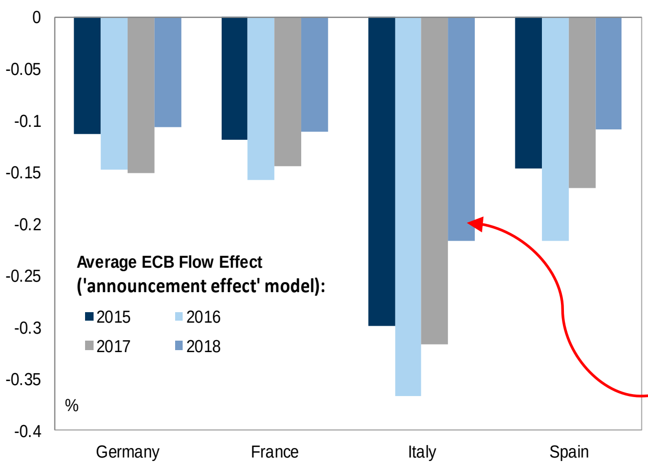
Source: Bloomberg, Goldman Sachs Global Investment Research

EMU Rates: A Lasting ‘Stock Effect’ But ‘Flow Effect’ Lower

ECB QE: ‘stock’ and ‘flow’ effects and PSPP gross purchases



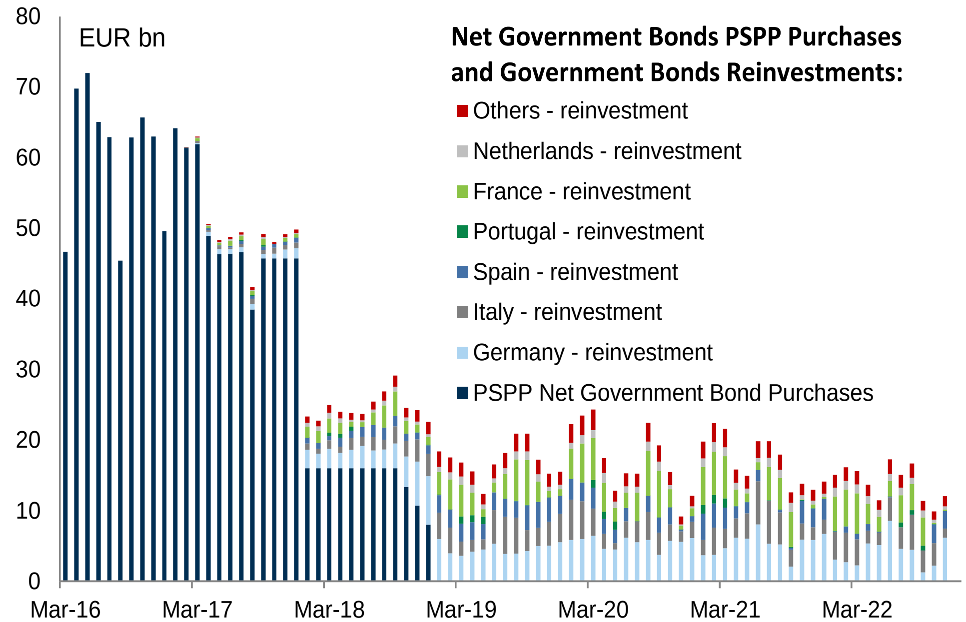
Our estimates put the cumulative impact of ECB QE at around 50-80bp for the ‘core’ markets



The QE ‘flow effects' have diminished over time but remain economically significant

Reinvestments Counterbalancing the Reduction in ECB QE Flows

GS projections of the monthly ECB PSPP reinvestment profile



Source: ECB, Bloomberg, European Commission, Goldman Sachs Global Investment Research, Global Markets Analyst: ECB QE Withdrawal Syndrome?

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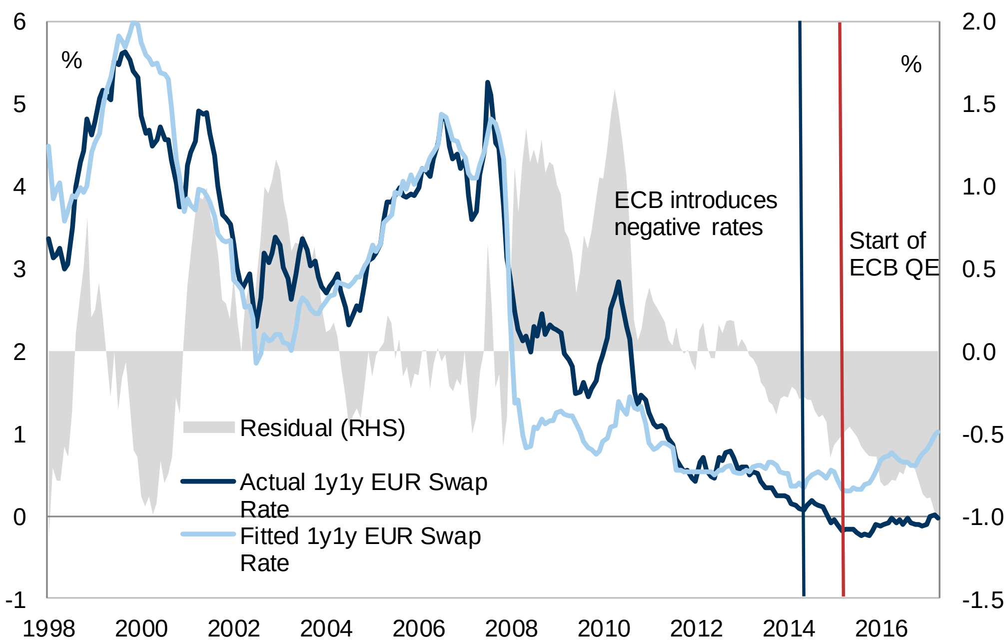
QE Has Boosted the ECB's Forward Guidance

GS estimates EONIA forward rates and their sensitivity to macro 'surprises'

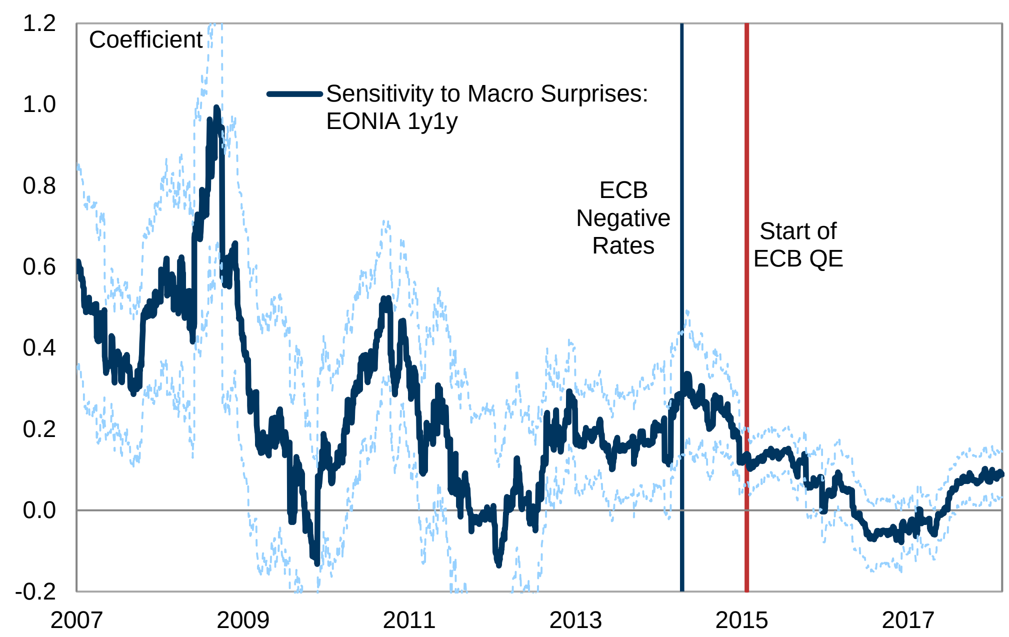
Since 2014, the Front-end of the EUR Swap Curve Has Decoupled from Past Relationships with Macro Factors

EUR 1-yr 1-yr forward swap rate and OLS fitted value (on OIS 1-yr1yr forwards swap rate, expected inflation and current ECB deposit rate)



Net Purchases Have Reduced the Sensitivity of EONIA Rates to Macroeconomic Surprises

Rolling coefficient estimates of 1-yr EONIA 1-yr forward on index of Euro area macroeconomic surprises (vs. Bloomberg consensus)



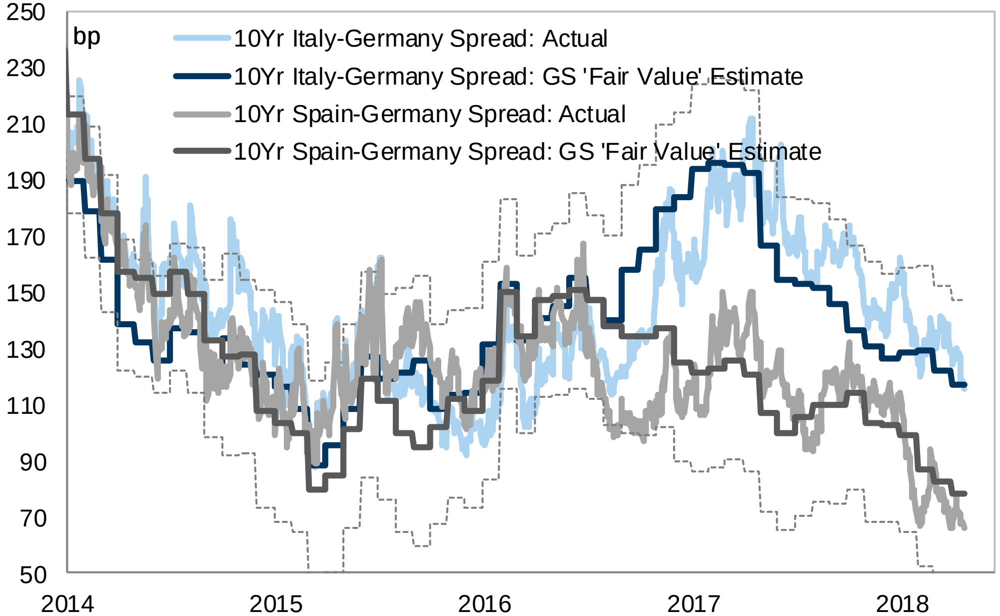
Source: Bloomberg, Consensus Economics , Goldman Sachs Global Investment Research

Sovereign Risk Low But Responsive to Macro Outlook

Italy and Spain 10-yr government bonds: overall valuations and macro factors

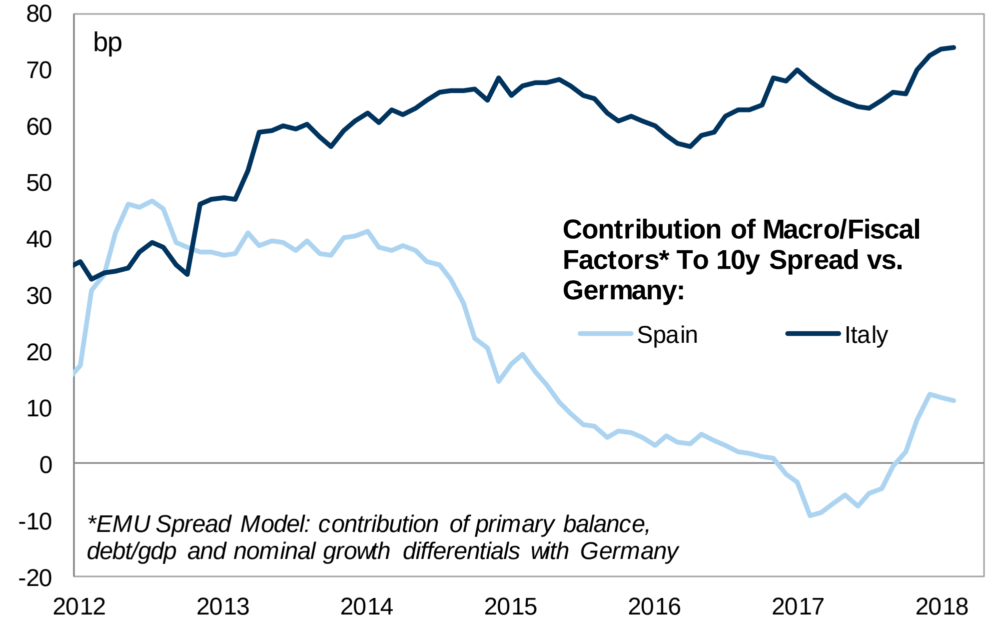
Spanish Bonds Have Outperformed Their Italian Counterparts Since 2016...

Italian and Spanish 10y government bond yields: actual and GS 'fair value' estimates.



...Reflecting a Stronger Relative Economic Outlook vs. Core Countries

Contribution of macro/fiscal factors to our model estimates of 10y BTP-Bund spread and Bonos-Bund spread in bp.



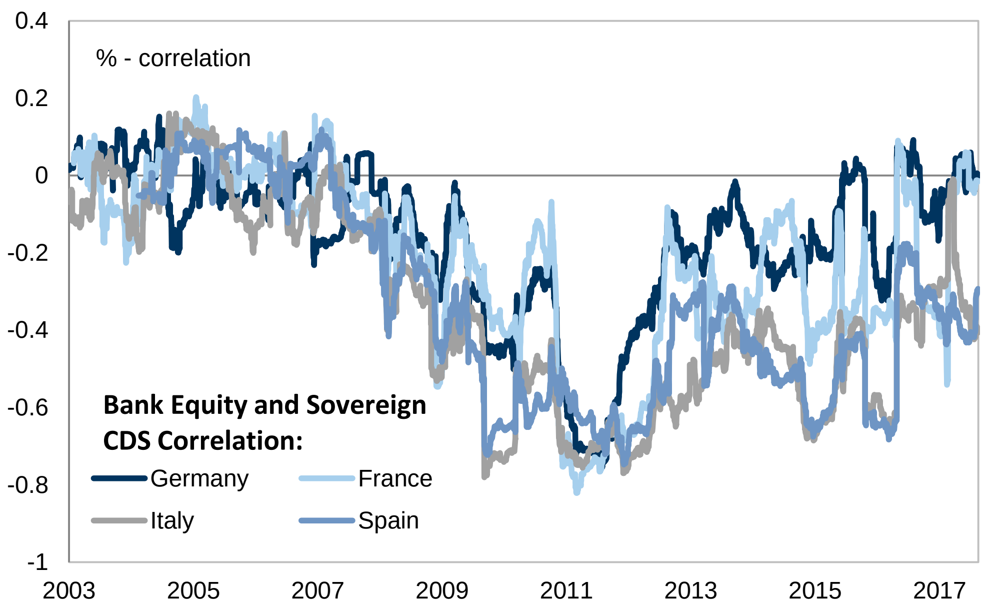
Source: Bloomberg, Goldman Sachs Global Investment Research

Bank-Sovereign Credit Loop Still at Play in Periphery

EMU-4 Sovereign and bank CDS, and rolling 6-mth correlations

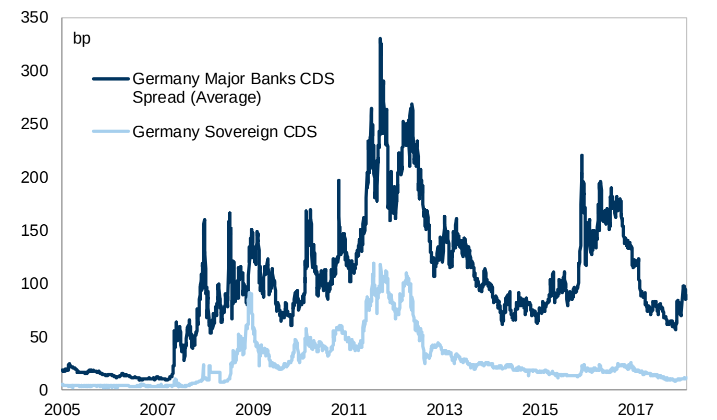
Bank Equity Returns and Sovereign Risk Still Co-moving in Peripheral Countries

Daily changes in sovereign CDS spreads and daily returns on equity financial index: 6-month rolling correlation

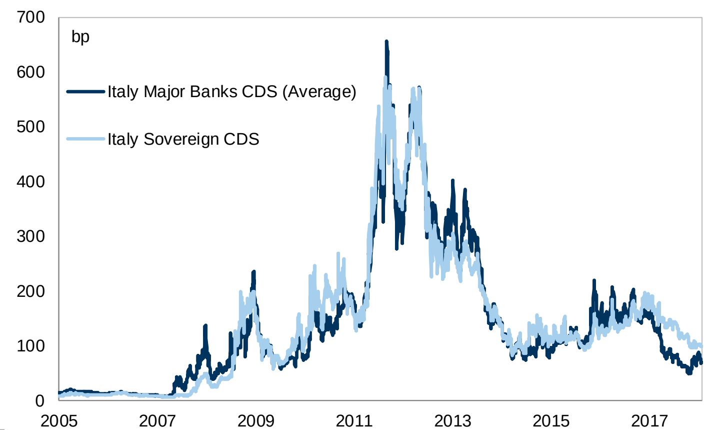


Source: Bloomberg, Consensus Economics , Goldman Sachs Global Investment Research

German SIFI Risk Not Affecting the Sovereign



Italy's SIFIs Credit Risk Correlated To Gyrations in Sovereign Risk



The Pricing of Sovereign & Bank Risk: Issuer Specific

Systemic risk down, but credit differentiation is at play

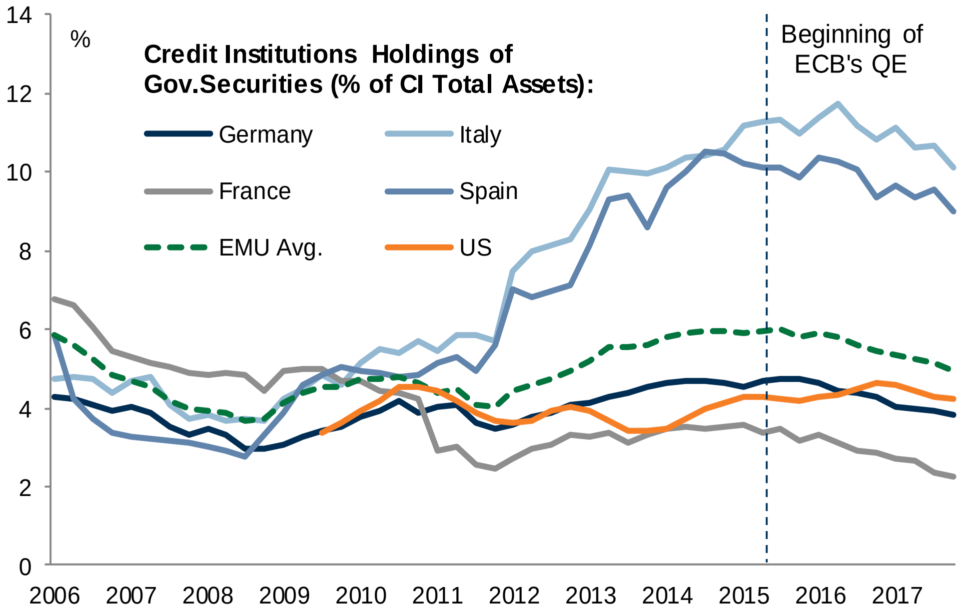
- ✓ **Systemic, or ‘EMU break-up’ risk is back at pre-crisis levels. This reflects the business cycle, a counter-cyclical stimulus (negative rates, QE), and the upgrade to the institutional architecture (ESM, SRM etc.) – probably in that order.**
- ✓ **Markets are differentiating among EMU issuers on the basis of macro fundamentals, particularly growth (see, for ex., the pricing differential between Italy and Iberia, adjusted for liquidity).**
- ✓ **The ‘stock effect’ of QE (ca. 50-80bp on German 10-year Bunds) should remain in place for some years; national central banks will intervene in secondary markets at EUR 15-20bn/pm., with operational discretion.**
- ✓ **Nonetheless, EMU bond yields will rise on the back of a normalization of ECB policy rates, and spill-over effects from a rise in US rates.**
- ✓ **Fiscal interventions/ backstops have shifted the risk equilibrium in the banking sector of peripheral countries from ‘pooling’ to ‘separating’. This has encouraged the private sector to step into the NPL market.**
- ✓ **Until public debt is on a sustained downward trajectory peripheral banks will continue to trade with a higher cross-sectional correlation with sovereign risk – reflecting to the capital and funding channels.**

QE Has Allowed Banks to Reduce Sovereign Exposure

Commercial and central bank holdings of government bonds

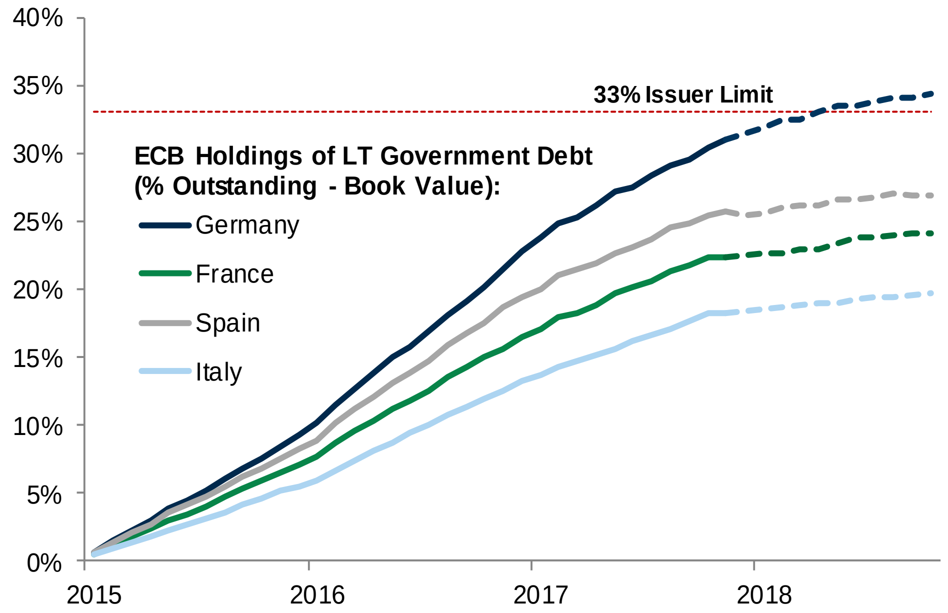
Commercial Bank Ownership of Government Bonds Has Fallen Since 2015...

Credit institutions holdings of government securities as share of total assets, in selected countries



...As National Central Banks Have Purchased More Debt Securities

ECB holdings of government debt,
% outstanding – at book value (excludes SMP holdings)



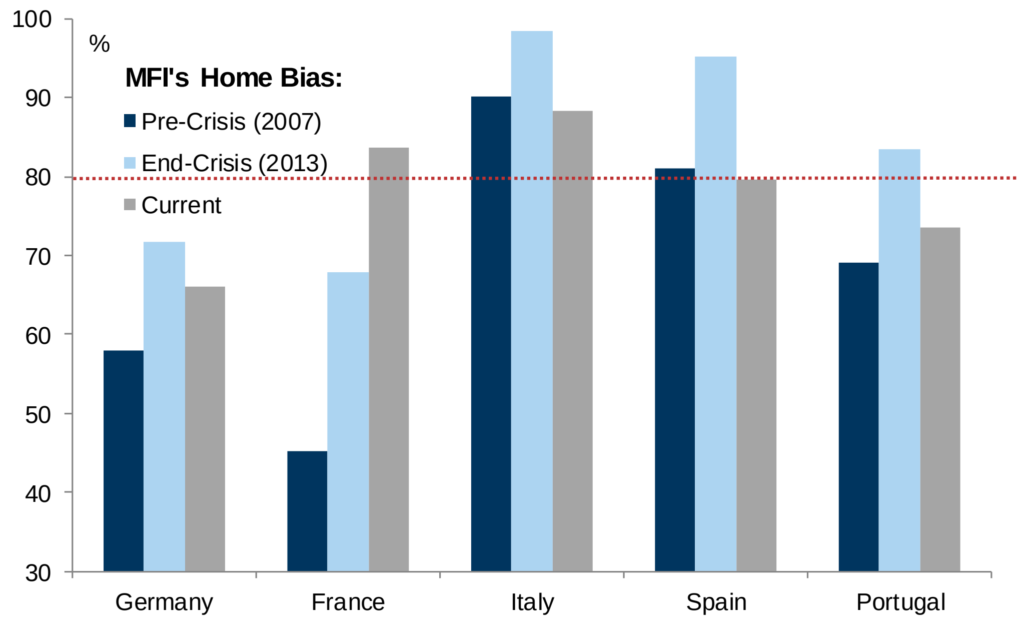
Source: Bloomberg, Goldman Sachs Global Investment Research

Similar 'Home Bias' Among SIFIs

MFI and SIFI: breakdown of government bond exposure

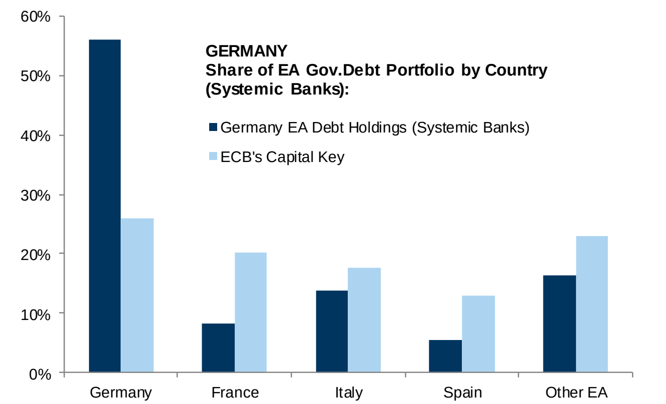
'Home Bias' Prevalent Across All EA Banks, Especially in the Smaller, Weaker Ones

MFI's holdings of domestic government debt as share of total government debt portfolio

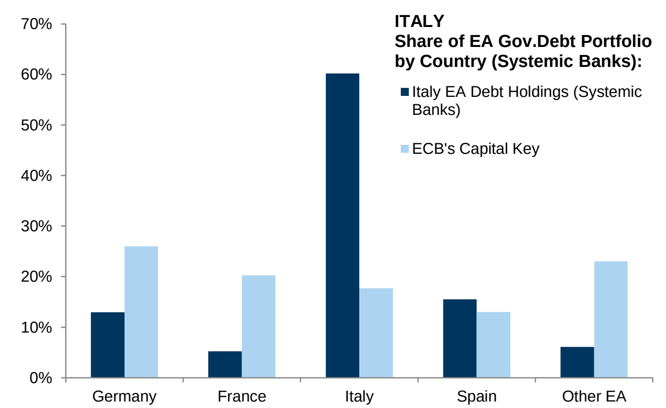


Source: Bloomberg, Consensus Economics , Goldman Sachs Global Investment Research

German SIFIs Underexposed Mostly to France and Spain



Italian Banks Need to Reallocate Towards 'Core'



The ‘Capital-Key’ Portfolio as the EA Risk-Free Bond

ESBies, Concentration Risk Charges Regulation

- **<u>Issue</u>: EA banks should reduce ‘wrong-way’ risk exposure to domestic government bonds. This will (maybe) unlock EDIS on the basis that risk reduction is required before any risk mutualisation.**
- **<u>Proposals</u>: Sovereign Concentration Charges, ESBies: For both, the benchmark is a ‘ECB capital key’ portfolio.**
- **ESBies: Long gestation, many thoughtful discussions, ECB QE portfolio could potentially be used to create volume.**
- **<u>Limitations</u>:**
  - **Underlying sovereign bonds are already liquid, and diversification benefits are disputed (underlying macro-economic correlation).**
  - **Uncertain ‘signalling effects’, and unclear behaviour in extreme stress events.**
  - **Italy is (conceptually) in the junior tranche, Spain is at the cusp.**
  - **A EUR 1.3trn worth of ‘safe assets’ (senior tranche of capital key portfolio, sized at 5% of total bank assets), the junior trance (@ 30% attachment point) would imply a EUR 500bn, almost twice the current size of EUR HY.**
  - **Potential market dislocations depending on the regulatory treatment of national bonds left out of the securitization.**

- **Concentration risk charges approach looks like a more direct solution, note however that sovereign debt exposure is already subject to stress test (in the adverse scenario, EBA assumes 10% markdown on 10-yr BTPs), so a capital charge is already implicit (this also holds true for the 3% leverage charge).**
- **Open questions:**
  - **Where does the sovereign risk end up? Nonfinancial domestic private sector; foreign sector (i.e., somebody else’s problem)?**
  - **‘Diabolic loop’ can be mitigated, not eliminated, if bank assets are largely domestic.**

Disclosure Appendix

January 30, 2018

Disclosure Appendix

Reg AC

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