

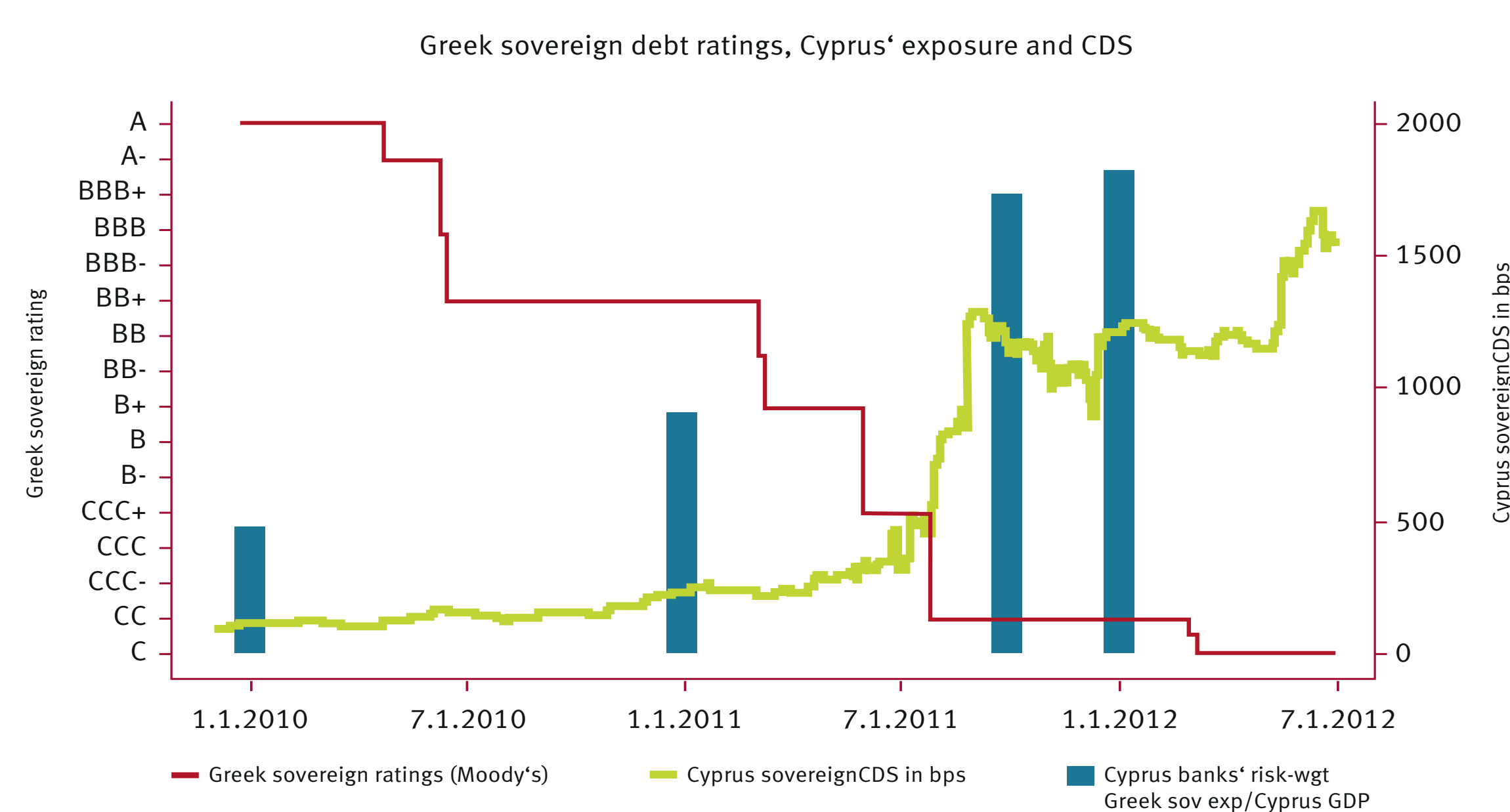
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# Zero Risk Contagion – Banks' Sovereign Exposure and Sovereign Risk Spillovers

JOSEF KORTE (GOETHE UNIVERSITY) UND SASCHA STEFFEN (UNIVERSITY OF MANNHEIM &amp; ZEW)

## 1 Cyprus' sovereign credit risk and bank exposure to sovereign risk

### ZERO RISK CONTAGION

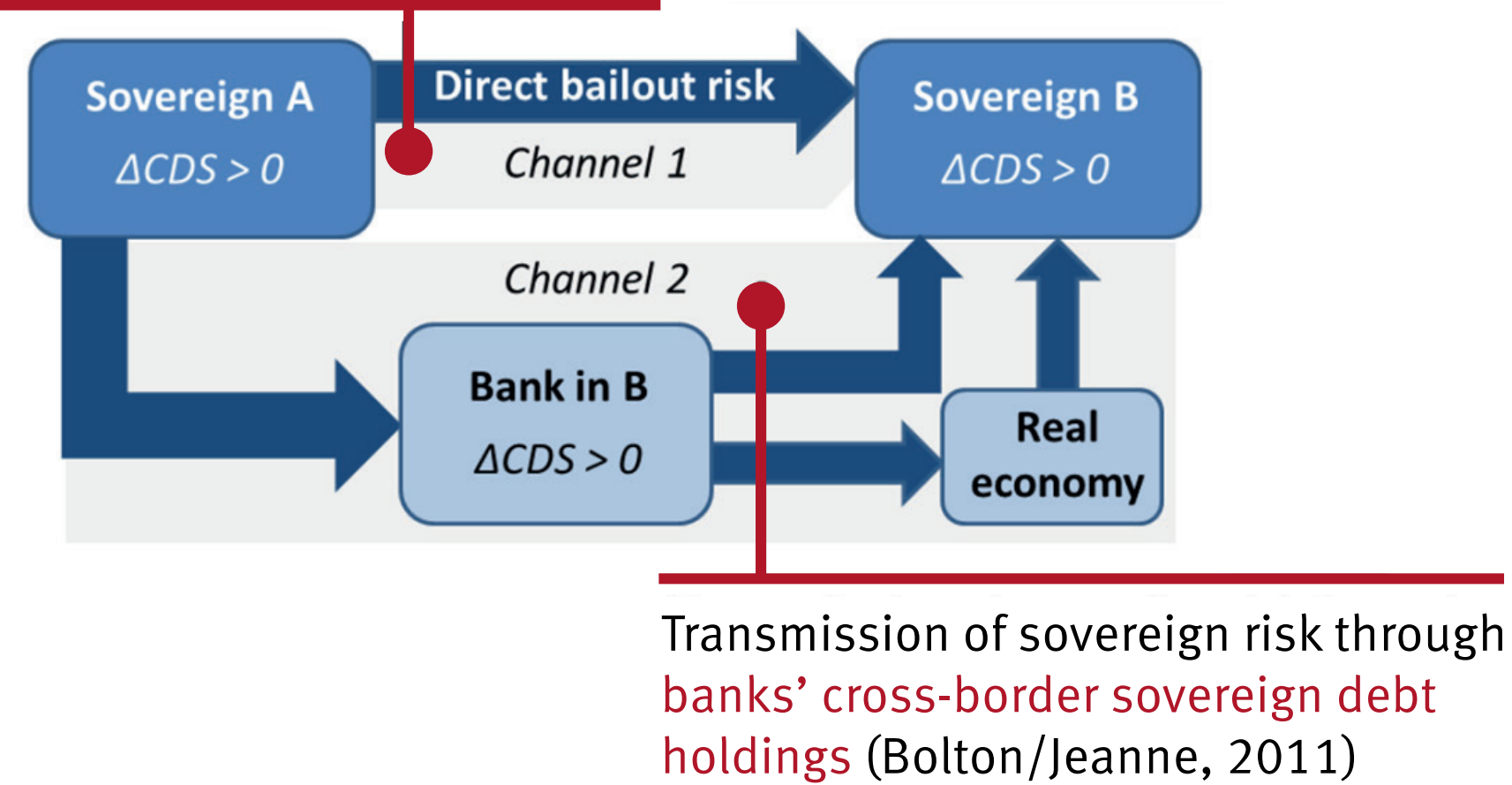


## 2 Why banks accrue too much leverage

- The principle (Basel II/III)
  - Capital buffer against risk-weighted assets
- The European exemption (CRD III/IV)
- Standard approach: favorable treatment of EU sovereign debt (“zero risk weight” for sovereign debt in domestic currency of that sovereign)
- IRB approach: IRB can be substituted by standardized approach for sovereign portfolio (IRB permanent partial use)
- Banks accrue too much leverage investing in risky sovereign debt

## 3 Theoretical framework

Common bailout responsibility in a monetary union (Buitier/Kletzer, 1990)



## 4 Contribution to the debate

- We show that sovereign spreads exhibit a larger co-movement with other European CDS spreads if banks have large exposures for which they do not hold capital.
- We emphasize the transmission of sovereign risk from weak to strong sovereign governments through the holdings of banks (and the implicit expectation that governments bail out their domestic banks).

What we do not show:

- We do not document that zero risk weights for EU sovereign debt caused European banks to hold too much risky sovereign debt;
- We do not show that because of these low risk weights banks tended to invest in nondomestic sovereign debt.

## 5 Data

- Market data (Bloomberg, Datastream)
  - Sovereign CDS spreads (5yr) and sovereign bond yields (10yr)
  - Sovereign ratings (3 rating agencies)
  - Financial market indicators (iTraxx, equity index, VSTOXX, EONIA, Euribor)
- Bank / banking sector non-domestic sovereign exposures (BIS, EBA)
  - BIS consolidated banking statistics on country level (comprehensive, quarterly since 2010-Q4, few countries)
  - EBA stress test exposure data on bank level (non-comprehensive, 5 cross-sections between 2010 and 2012, more countries)
- Other data sources: SNL Financial, OECD, ECB

## 6 Modeling sovereign risk spillovers – Our baseline regression model

$$\Delta \ln CDS_{i,t} = \alpha + \beta_1 * \Delta \ln CDS index_t + \beta_2 * sovereign\ subsidy_{i,p} / GDP_{i,p} + \beta_3 * [\Delta \ln CDS index_t * sovereign\ subsidy_{i,p} / GDP_{i,p}] + \delta_t + \gamma_{i,p} + \varepsilon_{i,t}$$

Change in the CDS spread of sovereign i (“home sovereign”)

Change in a sovereign CDS index weighted by the importance of sovereign j in the sample's full sovereign exposure in period p (quarterly)

Time fixed effects and country-quarter fixed effects or control variables

Main variable of interest: Effect of sovereign subsidy beyond simple sovereign risk correlation

## 7 Key results

- Sovereign CDS spreads co-move more strongly the larger the risk-adjusted sovereign subsidy
- Zero risk weights do not apply to non-EU government debt
- Countries with higher ECB share have higher CDS spread changes if sovereign risk increases
- Countries with better capitalized banks show lower spillovers

## 8 Implications

- Application of risk-weights impairs financial stability.
  - Zero-risk weights associated with EU sovereign debt exposures creates a huge subsidy for the banking sector.
  - Effect of this subsidy is smaller if banks are less aggressive in terms of their leverage or, more generally, have higher capital ratios.
- Favorable treatment of banks (i.e. subsidy) comes from regulators not modeling economic losses.
  - Inconsistent even if e.g. banks build provisions for expected losses
  - Not fully accounted for in stress tests (Acharya and Steffen, 2014)
  - Problems extend far beyond sovereign but all assets that have too low risk weights
  - “Complexity of regulation” (Behn, Haselmann and Vig, 2015)
- Stress tests in Europe still rely on risk-weights (Acharya and Steffen, 2014).
- Implications for current debate to introduce risk-weights in SSM supervision.