

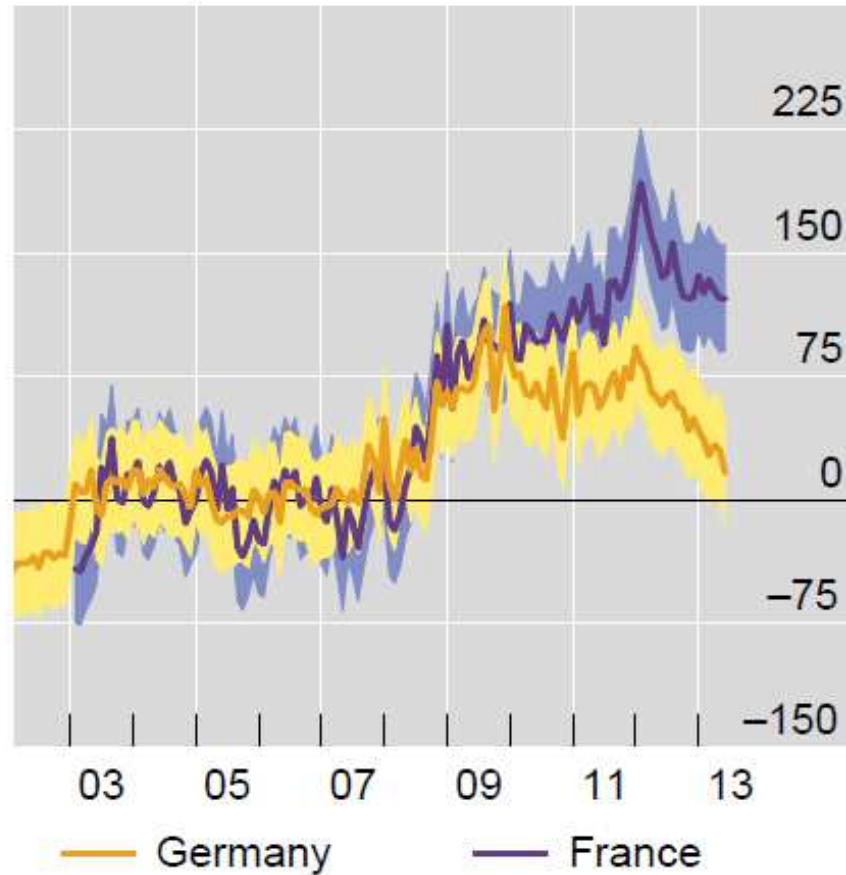
Bank Capital and Monetary Policy Transmission

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Presentation at panel on
Financial Regulation and Monetary Policy Transmission

ECB Conference
Sintra, 26 May 2014

Germany and France



Italy and Spain

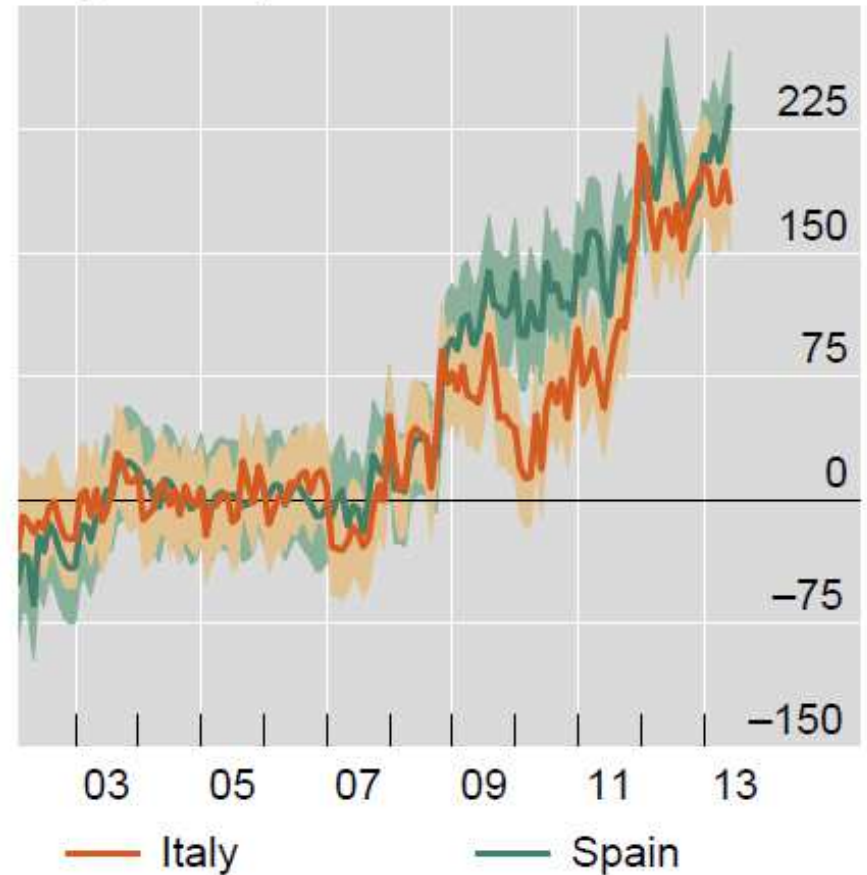


Figure 1. Spread between actual loan interest rate to non-financial firms and predicted rate based on pre-crisis sample up to August 2008 from a cointegrating model of interest rates; bands indicate 90% confidence intervals (Source: Iles and Lombardi, BIS Quarterly Review, September 2013)

Determinants of Bank Lending

If we define:

$$\text{Leverage} = \frac{\text{Assets}}{\text{Equity}}$$

Then

$$\text{Assets} = \text{Equity} \times \text{Leverage}$$

This is a tautology. But understanding how **equity** and **leverage** change over the cycle sheds light on:

- Determinants of lending over the cycle
- Pass-through of policy rates to lending rates

Three Modes of Leveraging Up

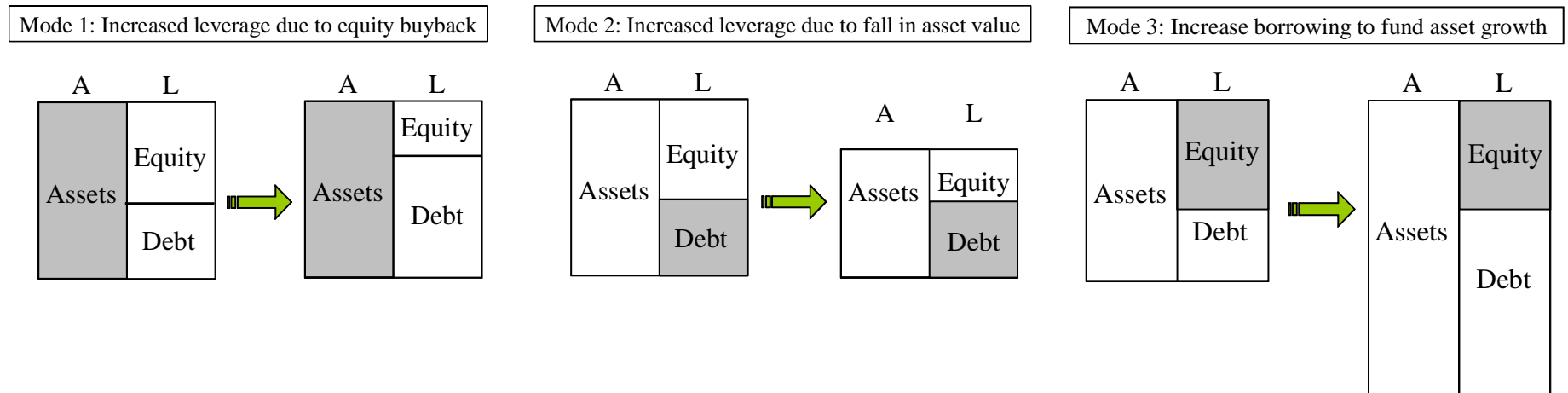


Figure 2. **Three modes of leveraging up:** Mode 1 is through an equity buyback through a debt issue. Mode 2 is through a dividend financed by asset sale. Mode 3 is through increased borrowing to fund new assets. In each case the grey area indicates balance sheet component that is held fixed

Annual changes in assets, equity and debt for a large European bank (1999 - 2010)

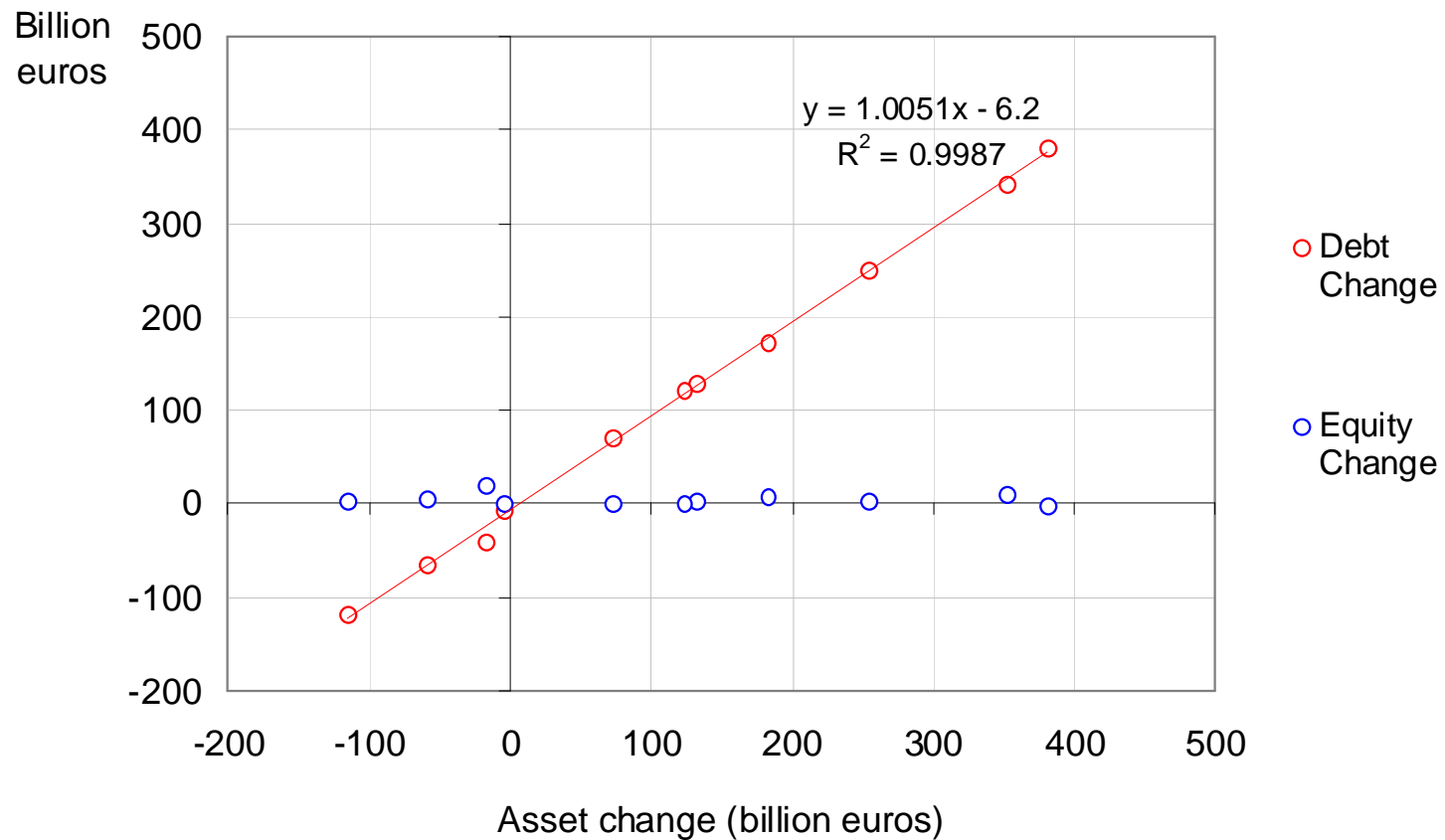


Figure 3. Scatter chart showing how much of the change in assets is accounted for by changes in debt and equity, respectively. Annual changes in billions of euros are shown for a large European bank (1999-2010)

Observations on Scatter Chart

Pattern revealed in scatter chart turns out to be quite general; banks change leverage according to **Mode 3**

- Scatter chart of asset change and debt change has slope of 1
 - Assets change one-for-one with change in debt
 - Change in equity is insensitive to change in assets
 - Leverage is procyclical
- No kink in relationship between asset change and debt change
 - During booms, bank expands through debt not equity

An Analogy

- Bank equity \mapsto Foundations of building
- Bank lending \mapsto Building itself
- Leverage \mapsto Height of building relative to its foundations

During credit boom, the bank adds new floors to the building on the same foundations



Figure 4. Sutyagin House, Archangel

Asymmetry between Booms and Busts

- Building new floors during credit boom is easy
- But dismantling the building during downturn is difficult and painful
 - Credit growth halts
 - Borrowers that rely on banks (e.g. SMEs) face credit squeeze and higher risk premium
- Anything that chips away at foundations of building makes pain worse

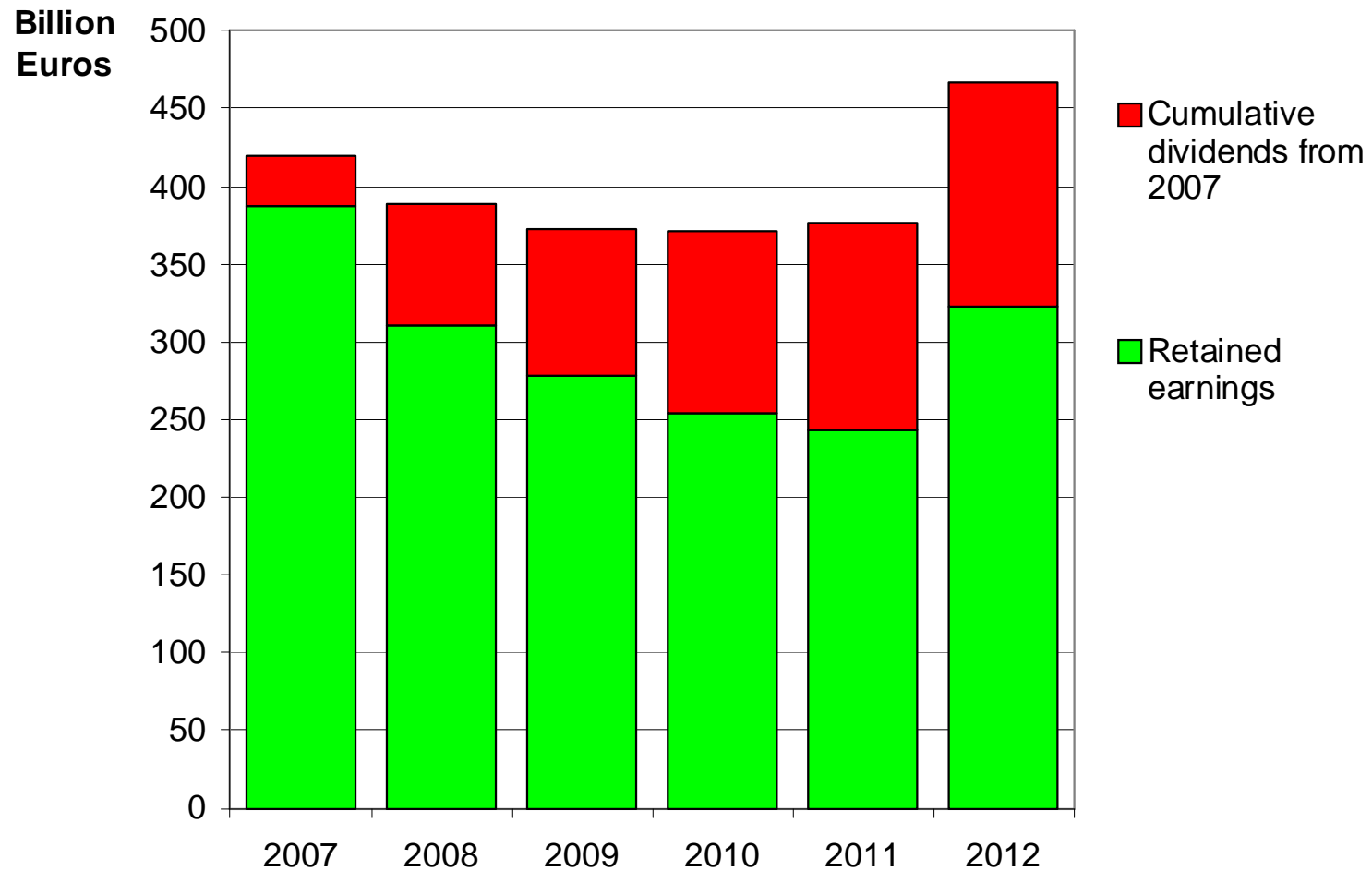


Figure 5. Retained earnings and cumulative dividends (from 2007) of 27 Euro area banks (Source: Bankscope)

Two Approaches to Bank Capital

1. Equity
2. Loss absorbing layer shielding depositors and tax payers
 - These two approaches to bank capital played out in 1988 Basel Accord; reflected in recognition of both Tier 1 and Tier 2 capital
 - Moderating cyclical variation in credit is easier when
 - Leverage is insensitive to cyclical variation of measured risks
 - Conservation of equity is achieved during downturns
 - CoCos convert at higher thresholds to conserve lending