# Discussion: The Effects of Tax on Bank Liability Structure

## by Gambacorta, Ricotti, Sundaresan, and Wang

Darrell Duffie

Graduate School of Business, Stanford University

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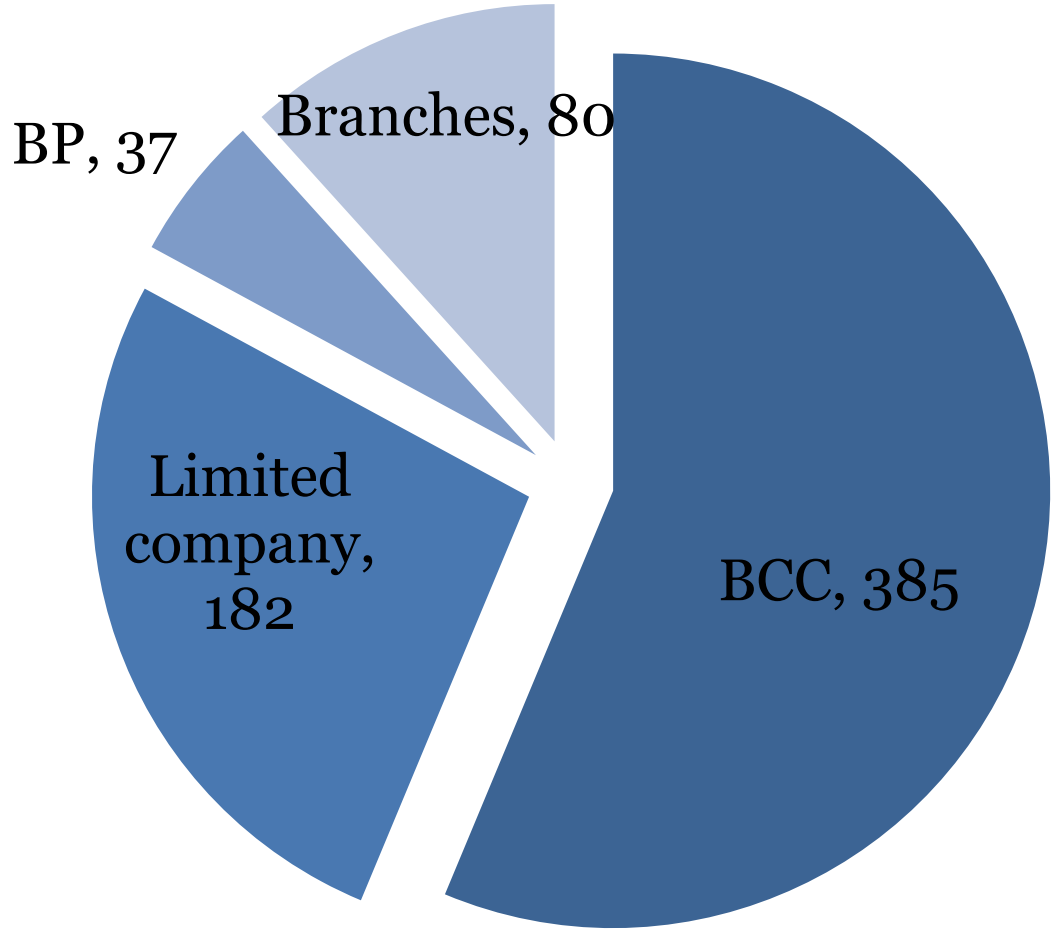
# Main results

- Empirically, when regional tax rates for Italian cooperative banks go down, their non-deposit liabilities are reduced significantly more than their deposit liabilities, controlling for other effects.

- The reduced-form regression model is motivated by a variant of the structural model of Sundaresan and Wang (2016).

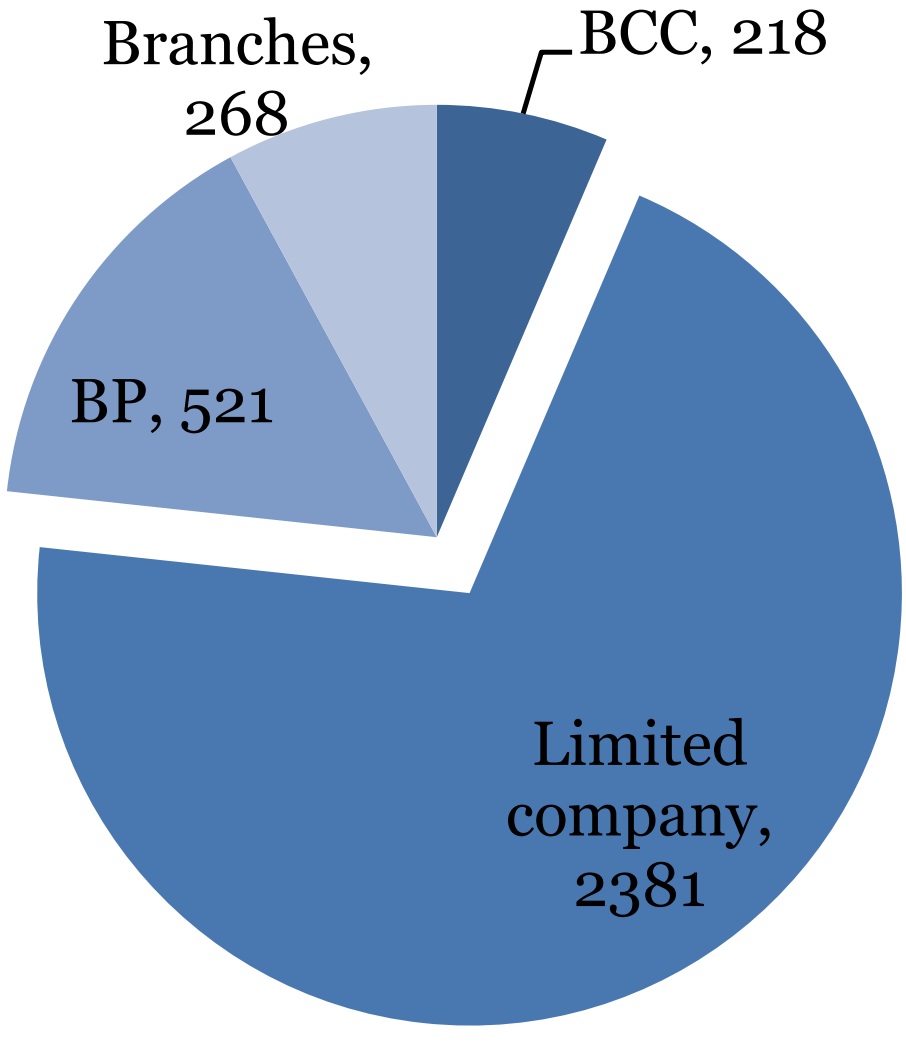
- Stronger banks respond to lower tax rates with more assets. Weaker banks respond by “cleaning up” their balance sheets.

## Number of banks by type (tot. number 684)




Source: Bond, Ham, Maffini, Nobili, and Ricotti (2015)

## Assets in billions of euro, by type




Source: Bond, Ham, Maffini, Nobili, and Ricotti (2015)

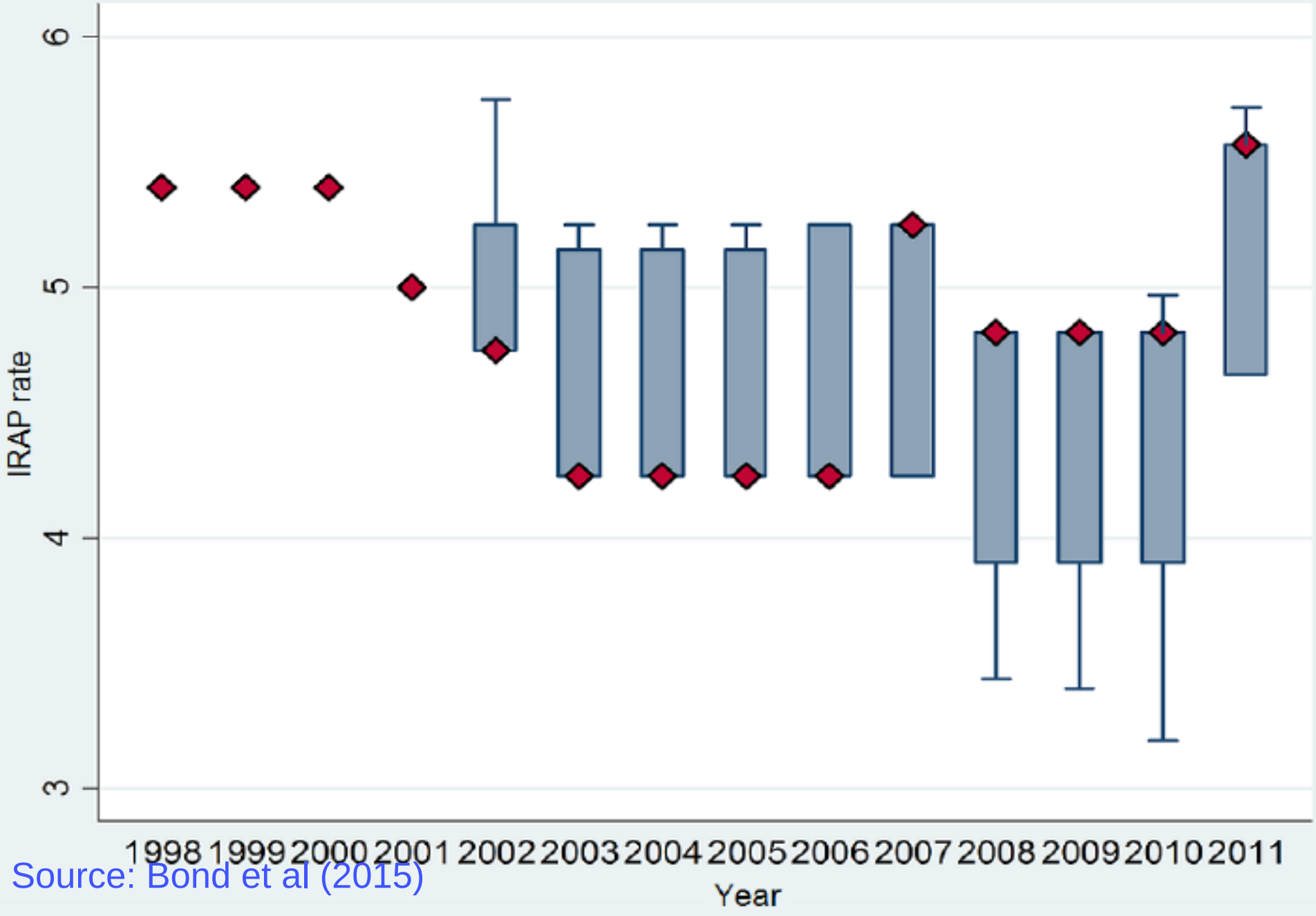
# High-level Remarks

- The finding of a key differential effect on liabilities is novel and important when predicting the effectiveness of fiscal stimulus to bank credit markets. Discuss magnitudes more?

- The conceptual explanation, that deposit liabilities are relatively desirable because of their ancillary benefits, makes good sense and is well modeled in Sundaresan-Wang 2016.

- The CCB sample nicely mitigates a lot of complexity.

- I would like to learn more about the degree to which panel variation in IRAP tax rates is exogenous to demand for credit.




Source: Bond et al (2015)

# Exogeneity of imposta regionale sulle attivita' produttive (IRAP)?

The authors:

*Exogeneity in tax changes is motivated by the nature of the IRAP rate that is a regional surcharge adopted to finance regional health care expenditure. These changes in IRAP are unrelated to bank balance sheet conditions and are decided autonomously by the (local or national) government.*

The authors do control for some macro effects.

# What causes changes to IRAP?

- IRAP went up nationally, post-crisis, due to fiscal stress.
- Could regions under more fiscal stress respond with IRAP changes, beyond the effect of health-care cost inflation?
- Credit demand, savings, bank profitability, and credit spreads for banks are likely correlated with panel variation in fiscal regional strength.
- So, is it possible that some of the measured impacts of tax changes are related to external macro effects that are not fully controlled for in the model?

# IRAP: A Broad Corporate VAT

- Precedents: Michigan Single Business Tax, since 1976; New Hampshire Business Enterprise Tax, since 1993.

- The IRAP "allowed for a significant reduction in the rate of profit taxation" across a broad corporate base (Panteghini, Bordignon, Giannini, 2001).

- If IRAP directly affects broad corporate *demand* for loans, then the authors' estimated impact on banks' *desired supply* of corporate loans could be overstated.

# Macro Controls

- In robustness checks, the authors control for some regional macroeconomic variables: GDP, GDP per capita, and the employment ratio.

- Because CCBs focus heavily on SMEs, perhaps the authors might also try to control for after-tax SME profit.

# Prior evidence: Keen and DeMooji (2012)

- 14,000 commercial banks in 82 countries, 2001 to 2009.
- A 1% increase in the tax rate leads to 1.8% rise in bank leverage in the short run, 2.7% in the long run, a much larger short-run effect than the 0.15% shown in today's paper for CCBs.
- The leverage of weaker banks is less sensitive to tax rates than that of stronger banks, a finding confirmed in this paper.

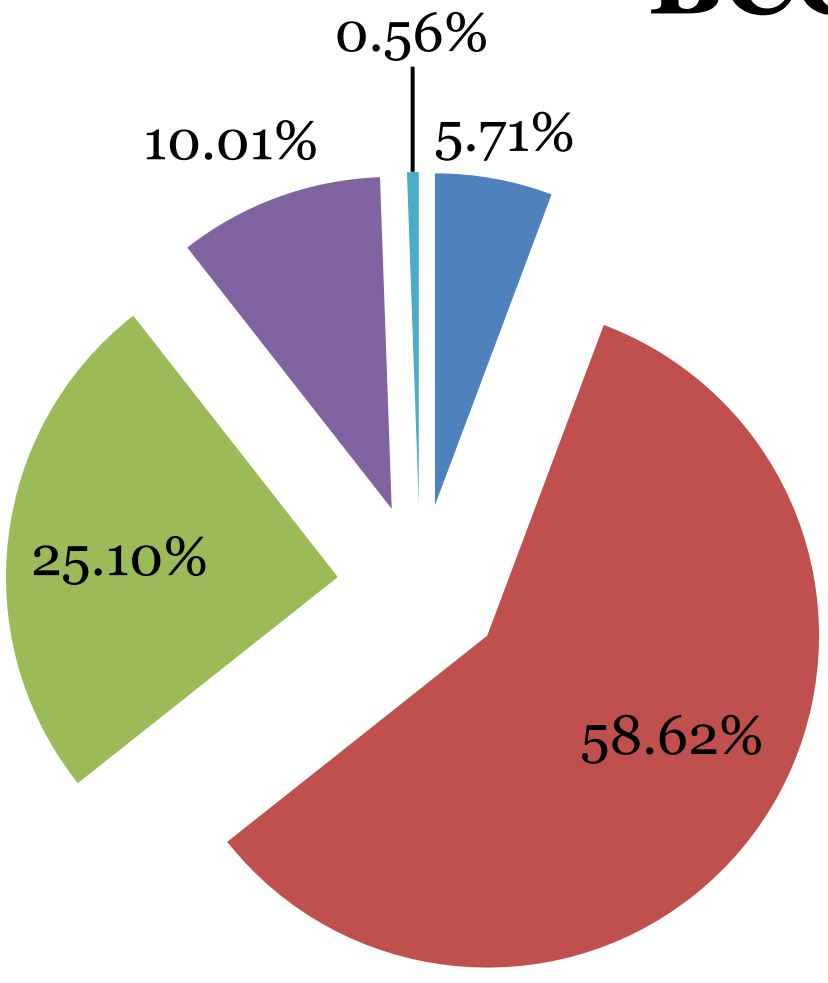
# Prior evidence: Hemmelgarn and Teichmann (2013)

- 112,000 bank-years, 87 countries, 1997 to 2011.
- A 1% increase in the tax rate leads to 0.27% increase in leverage in the short run, 1.04% increase in the long run.
- This short-run effect is closer to that of today's paper. Can the authors help us understand the big difference between short-run and long-run effects in prior work?

# Prior evidence: Bond, Ham, Maffini, Nobili, and Ricotti (2015).

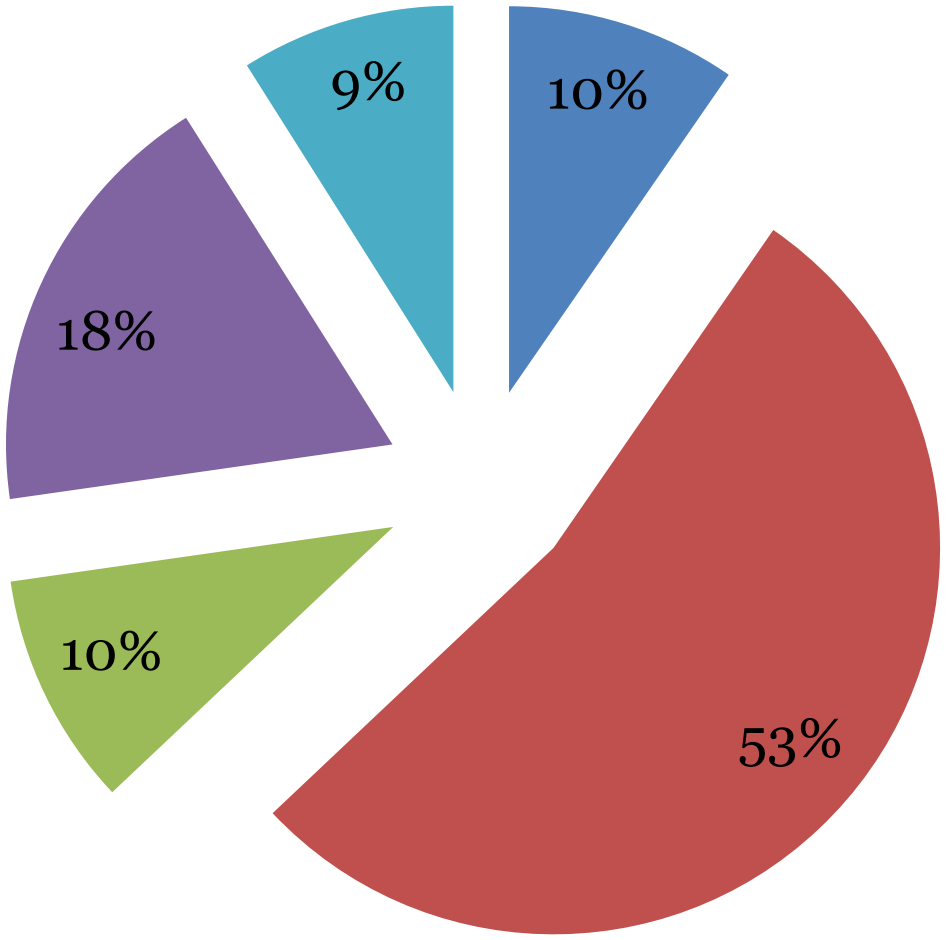
- A sample similar to that of this paper, 627 CCBs, 1998-2011.
- A 1% increase in the tax rate leads to 0.18% increase in leverage in the short run, 1.27% increase in the long run.
- Today's paper: 462 CCBs, 1999-2011. A 1% increase in the tax rate leads to a 0.15% increase in leverage.

# BCCs




Source: Bond, Ham, Maffini, Nobili, and Ricotti (2015)

# Non-BCCs




Loans to resident banks

Loans to Public Administration and other residents

Government bond

Securities issued by residents

Loans to non residents and securities issued by non residents

Source: Bond, Ham, Maffini, Nobili, and Ricotti (2015)