

Optimal Capital Ratios for Banks in the Euro Area

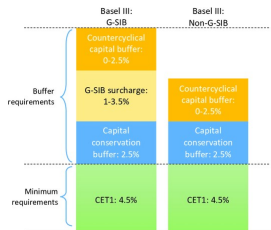
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The views expressed do not necessarily reflect the official position of the CPB.

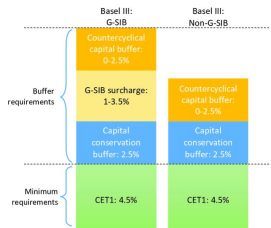
The relevance of bank capital ratios

- Capital ratios protect banks to financial shocks (Adamati et al, 2010; Meh and Moran, 2010)



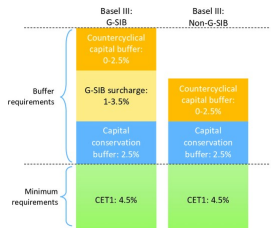
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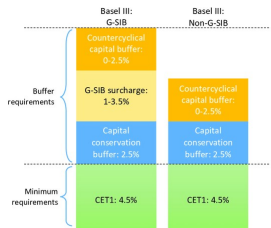
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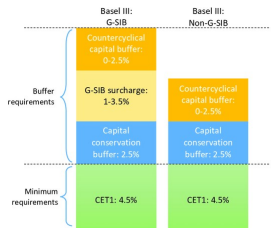
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- Financial frictions might result in more diverse outcomes for euro area member states
- Current minimum set with Basel III, at around 13% for G-SIBs. But what is optimal for banks in the Euro Area?
- The literature shows ranges between 10-15% for panel of advanced economies, 10-20% for the UK and 12-25% for the US. For the euro area only theoretical, at 15%.



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- ① We provide first set of results of optimal capital ratios for banks in the euro area
- ② Optimal ratios may vary across member states
- ③ We have methodological improvements, such as
 - ▶ Various distributions of crisis episodes
 - ▶ Bootstrapping of equity betas
 - ▶ Approximation of non-linear results

Mechanism: marginal costs

The Mechanism of Societal costs:

- ① Banks hold more equity \Rightarrow
- ② Equity is more expensive than debt \Rightarrow
- ③ Banks funding costs increase \Rightarrow
- ④ Lending costs (from banks to firms & households) increase \Rightarrow
- ⑤ Real economy is hurt.

Mechanism: marginal benefits

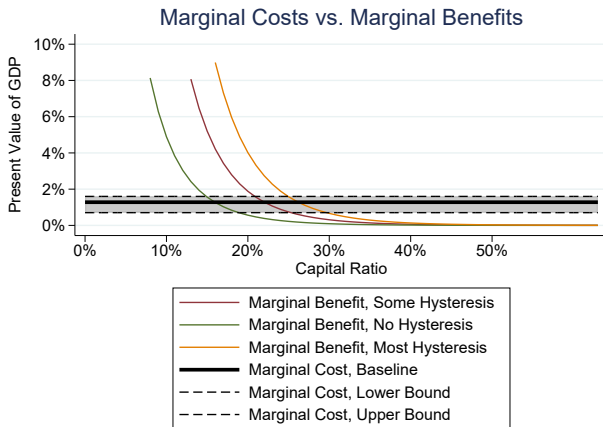
The Mechanism of Societal benefits:

- ① Real economic fluctuations are largely exogenous \Rightarrow
- ② Losses of GDP lead to defaults on loans \Rightarrow
- ③ Bank assets deteriorate \Rightarrow
- ④ Banks lose capital \Rightarrow
- ⑤ Once banks are without capital, a banking crisis erupts \Rightarrow
- ⑥ Banking crisis leads to further loss of GDP.

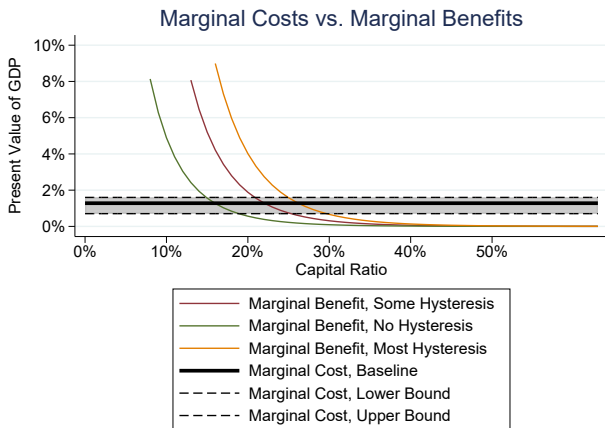
Recent CET1 ratios, December 2019

Country	Mean	Country	Mean
BG	21.95	IE	15.25
CY	17.14	IT	17.03
DE	14.31	LT	14.95
EL	15.01	MT	15.87
EO	12.39	NL	18.19
ES	12.60	OE	14.39
FN	17.74	PT	12.20
FR	17.97	SK	14.95
EA	16.08		

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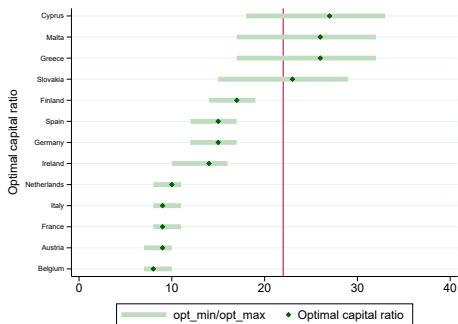
- Baseline costs and benefits result in optimal ratio of 22%
- Assumptions on costs and benefits result in total spread of 15-30%
- Mainly extreme benefit assumptions drive spread (no or full permanent effects)
- Robustness checks (changing parameters, sample, bootstrapping, distributions, etc.) give optimal ratios within original range.

Differences across member states

- Costs can be higher in countries with less stable economies or financial markets.
- Benefits potentially higher for more volatile economies, more prone to crisis events.

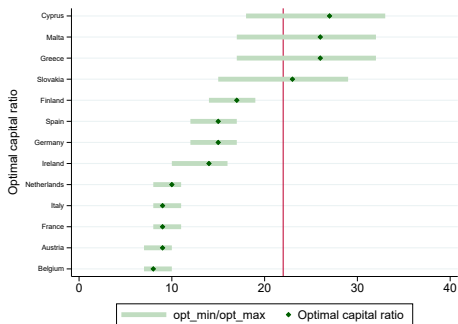
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- Optimal ratios range from 8% in Belgium to 27% in Cyprus
- Suggest that outcomes are inversely related to resilience of national economies and ease to raise capital

Conclusion

- Optimal capital ratio of 22% for banks in the euro area
 - ⇒ Important are the assumptions of costs and benefits
 - ⇒ Optimal ratios range between **15-30%**
- Substantial differences across member states
 - ⇒ Range from 8% in Belgium to 27% in Cyprus
 - ⇒ This suggests that optimal ratios are likely inversely related to the resilience of national economies and ease of raising capital.
- Policy recommendation: capital requirements should be increased
- Future research: include all banks, investigate cross-border activities and importance of sovereign debt levels, explore drivers of differences across countries