Benefits and Costs of Bank Capital

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http://www.imf.org/external/pubs/ft/sdn/2016/sdn1604.pdf

The views in this presentation are those of the authors and do not necessarily represent those of the IMF, its Management, or Executive Board

How much bank capital is enough?

- How much bank capital would have been enough to…
  - absorb bank losses
  - prevent bank recapitalizations

…in past banking crises?

How much bank capital is enough?

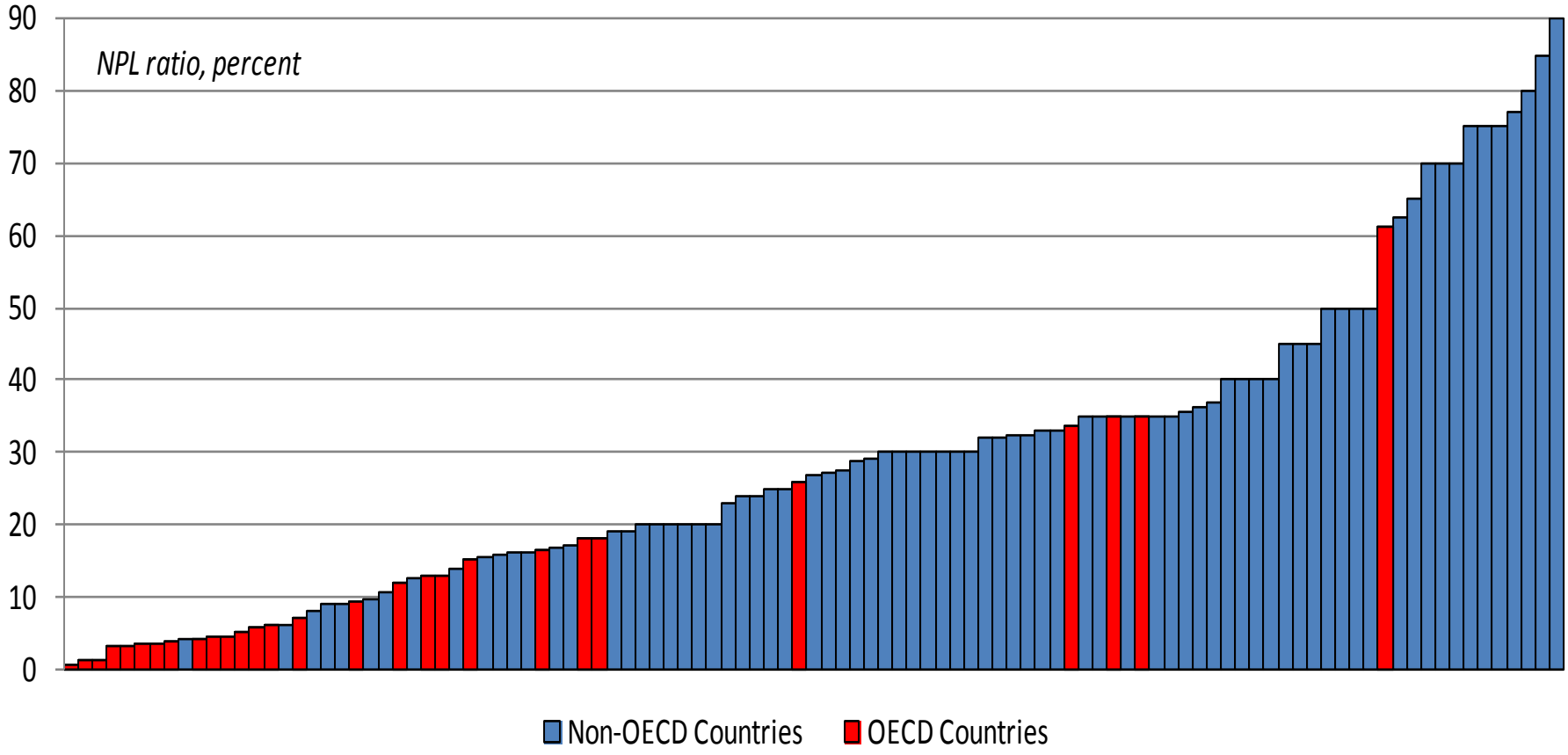
1. Capital 15-23 % RWA avoids creditor losses / bank recaps in a majority of past banking crises in AE
   - Further increases have only marginal benefits
   - CARs could be lower due to buffers, other regulations

2. Losses in crises in EM >> in AE
   as a share of bank assets, not as a share of GDP
   - 15-23 RWA limits bank losses to 3 percent of GDP

3. Costs of transitioning >> long-term costs of higher capital
   - Impose gradually
   - Encourage to raise equity rather than reduce assets

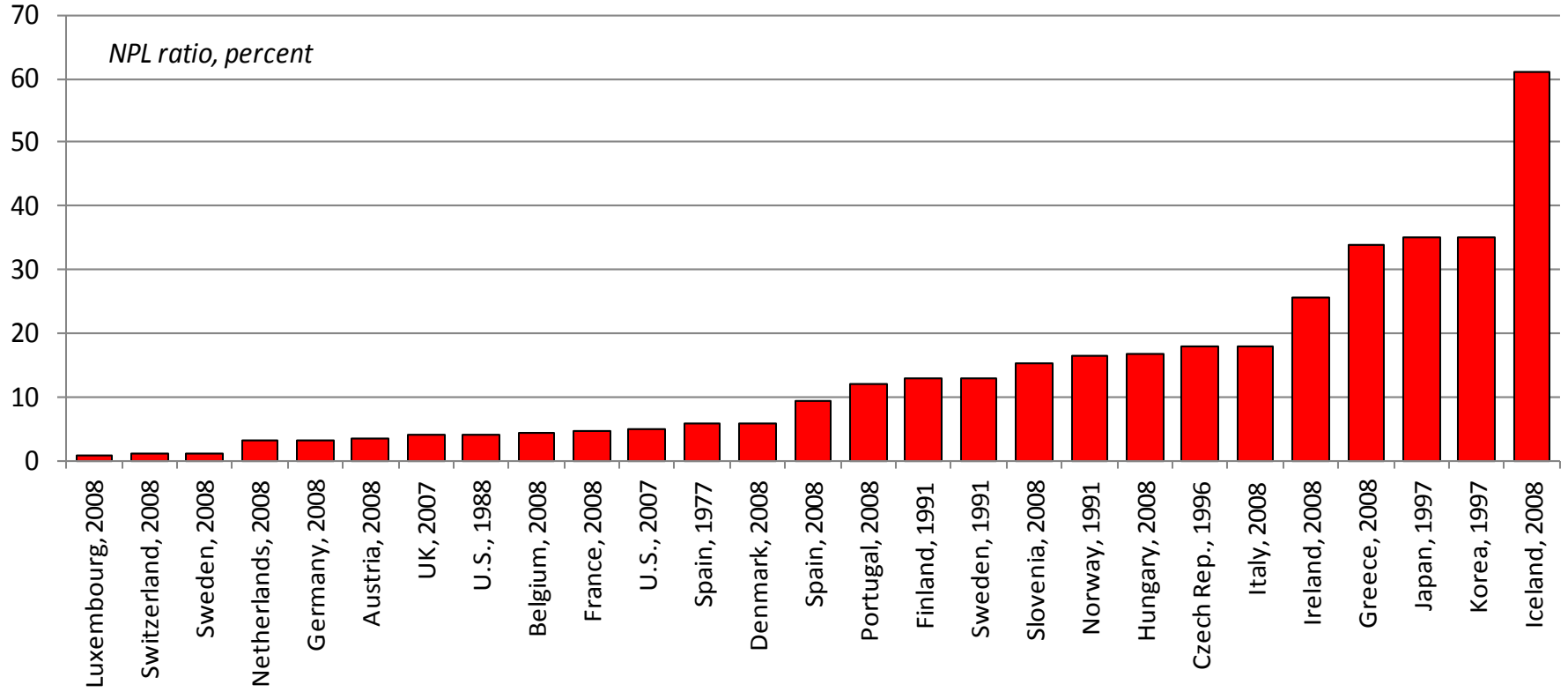
Assessing benefits of bank capital

Approach 1: NPLs in Banking Crises



Source: Laeven and Valencia, 2013 (IMF-ER)

NPL in OECD

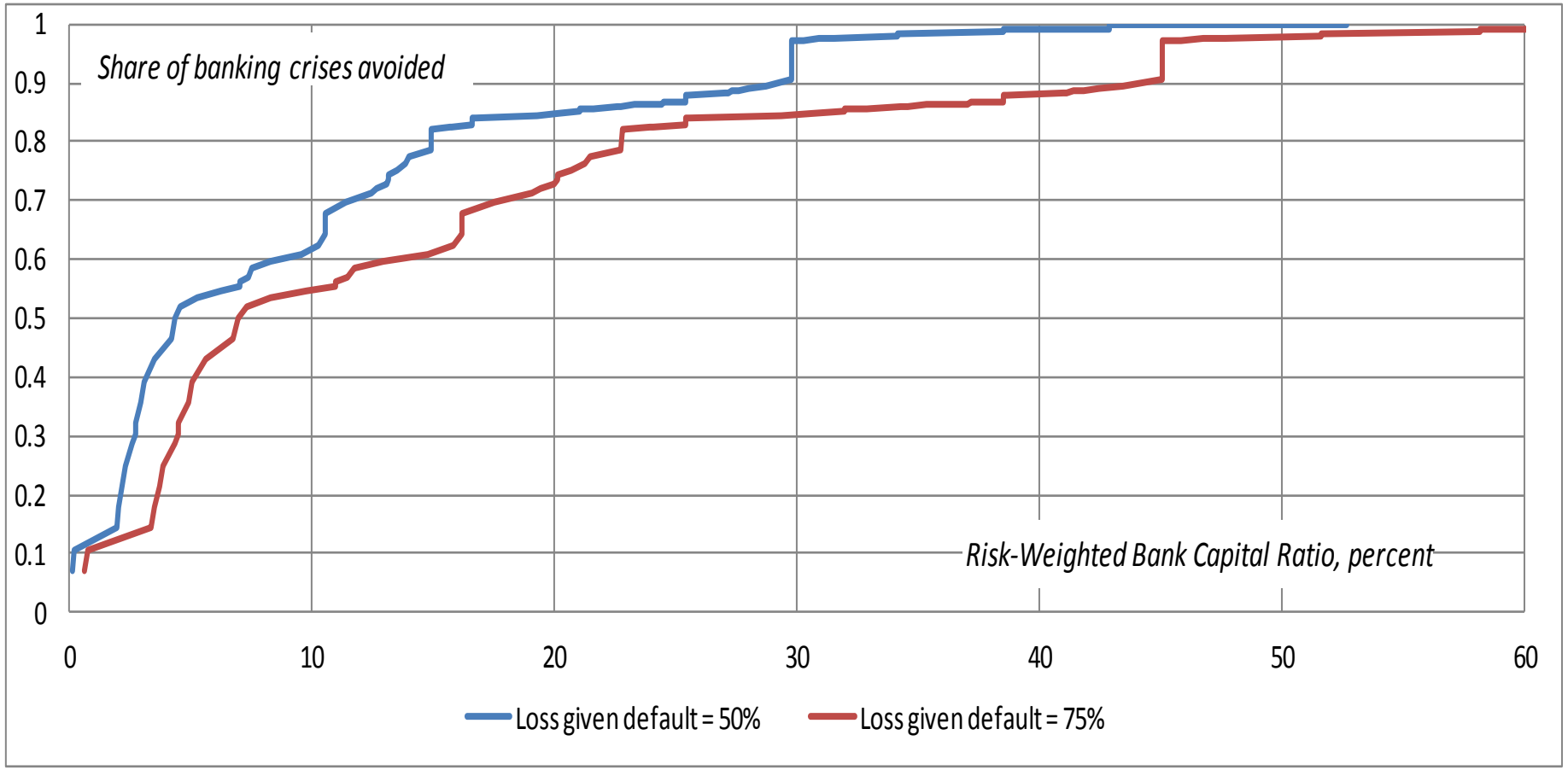

NPL ratio, percent
70
60
50
40
30
20
10
0
Luxembourg, 2008
Switzerland, 2008
Sweden, 2008
Netherlands, 2008
Germany, 2008
Austria, 2008
UK, 2007
U.S., 1988
Belgium, 2008
France, 2008
U.S., 2007
Spain, 1977
Denmark, 2008
Spain, 2008
Portugal, 2008
Finland, 1991
Sweden, 1991
Slovenia, 2008
Norway, 1991
Hungary, 2008
Czech Rep., 1996
Italy, 2008
Ireland, 2008
Greece, 2008
Japan, 1997
Korea, 1997
Iceland, 2008

Simulations subject to uncertainty

- Loss given default (from 25% to 75%)
- Conversion to RWA (ratio up to 250%)
- Margin of safety (1% to 3%)

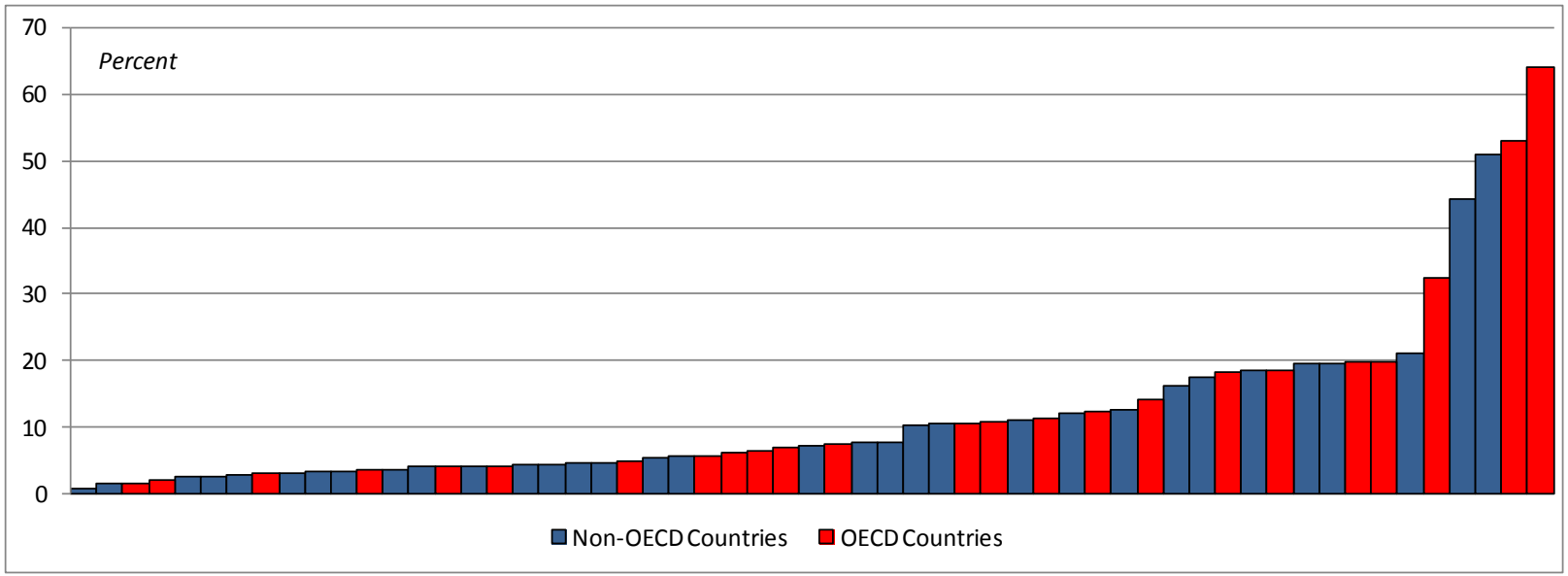
Parameters	Values (in percent)	Values (in percent)	Values (in percent)
1. NPL during a banking crisis	18.0	18.0	18.0
2. Loss given default	**75.0**	50.0	50.0
3. Loan losses (1*2) (Mean point)	13.5	9.0	9.0
4. Absorbed by prior provisionning	1.5	1.5	1.5
5. Loan losses net of provisions (3-4)	12.0	7.5	7.5
6. Margin of Safety (Residual capital)	1.0	1.0	**3.0**
7. Capital to assets ratio (5+6)	13.0	8.5	10.5
8. Total assets/RWA	175.0	**250.0**	175.0
9. Capital ratio (percent of RWA) (7*8)	22.8	21.3	18.4

Share of banking crises avoided, based on crisis NPL data, OECD

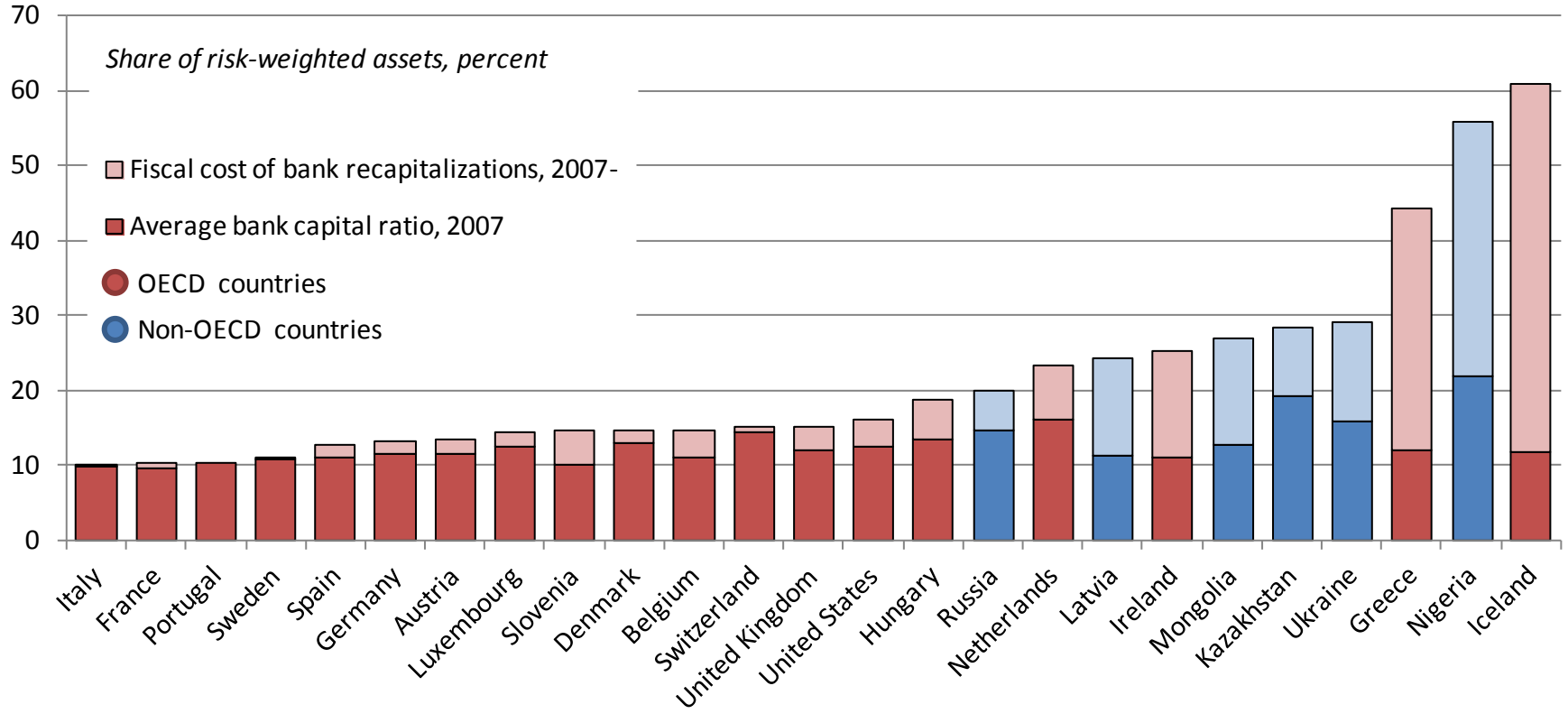


Other sources of uncertainty

- Security portfolios
  - Security losses comparable to loan losses (US data)
  - GFC: securities 5.2% vs loans 4.95%
  - "severely adverse" stress test: securities 3.6% vs loans 4.5%
- Bank heterogeneity → discuss later
- EMs: Losses larger as share of bank assets, not as share GDP

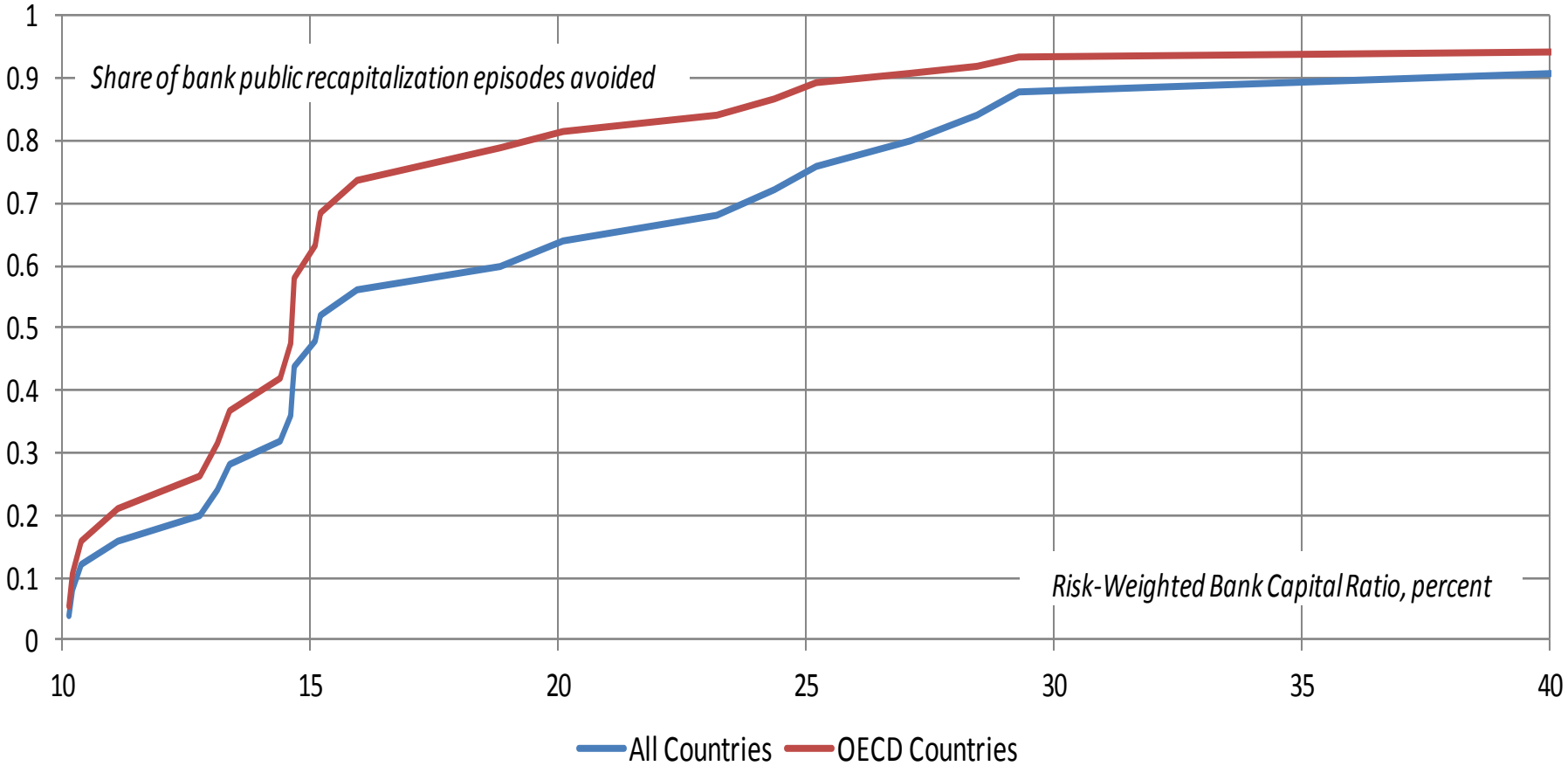


Approach 2:
Fiscal costs of bank recaps



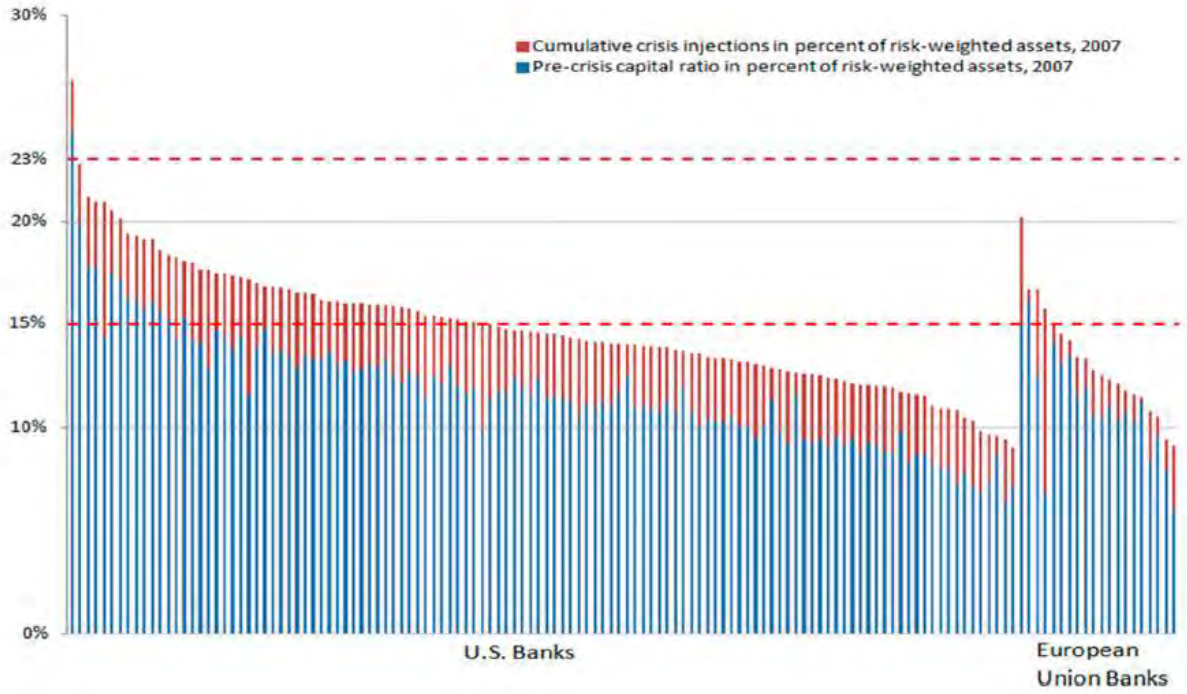
Source: Laeven and Valencia, 2013 (IMF-ER)

Share of public recaps avoided, depending on hypothetical pre-crisis bank capital ratios



Capital injections: Bank heterogeneity

Figure 8. Precrisis Bank Capital and Capital Injections during the Crisis



Sources: Fratianni and Marchionne 2013; SNL Financial; and authors' calculations.

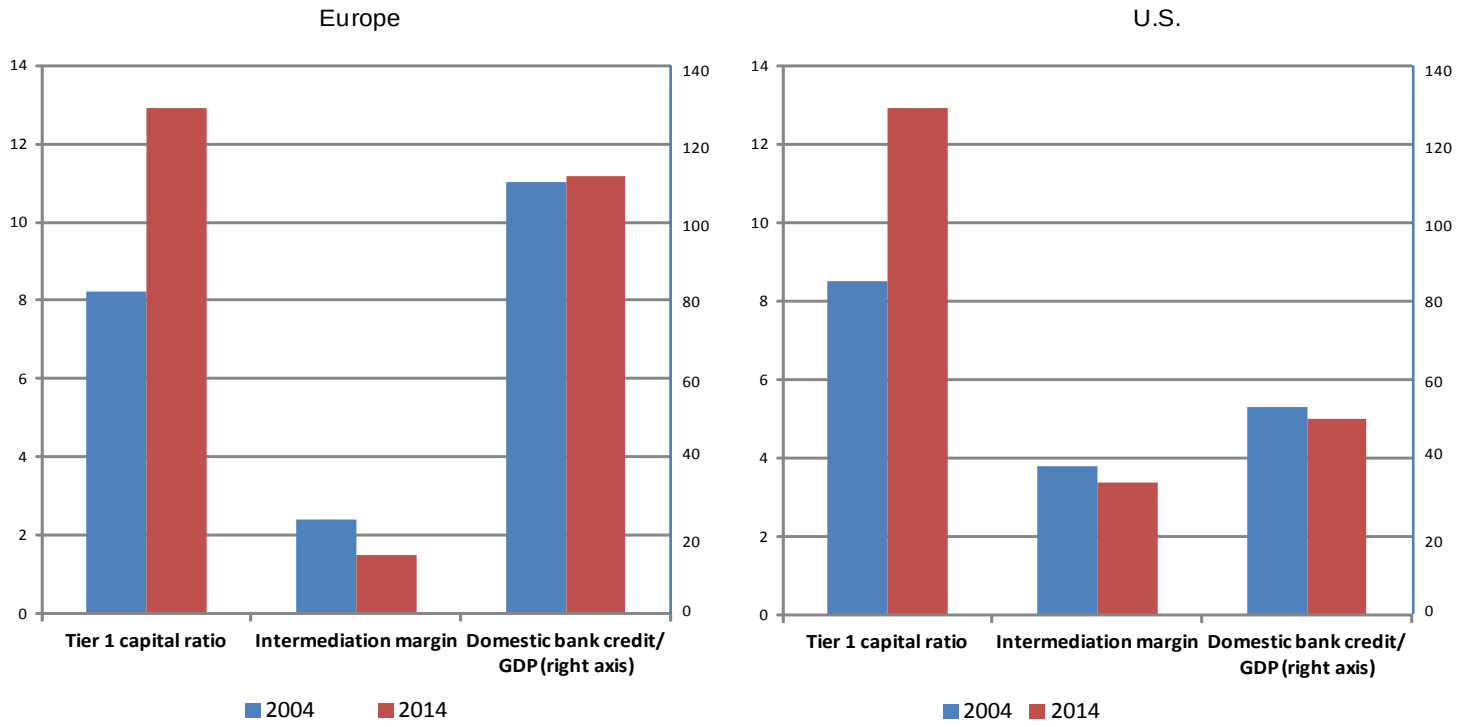
Assessing costs of bank capital

Much uncertainty on the cost side

- Estimates of steady-state costs (mostly calibrations): extremely small
- Estimates of transition costs (relatively well identified, but idiosyncratic): very large
- Transition costs >> Steady-state costs
- Therefore
  - Gradually, but market may demand adjustment upfront
  - Good economic times

Where does this take us?

- Much uncertainty on costs
- Evidence from the crisis suggests minimal effect of higher capital on credit



Notes: Averages for banks - U.S. and European G-SIBs (U.S.: (Bank of America, Citigroup, JPMorgan Chase, Wells Fargo; Europe: Barclays, HSBC, Royal Bank of Scotland, BNP Paribas, Credit Agricole, Societe Generale, Deutsche Bank, and Credit Suisse). Domestic bank credit/GDP for Europe is weighted average for France, Germany, UK.

Summary

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