

# Capital Regulation

Discussion of Rezende et al (2019) Pelli et al (2020) and use of bank capital in macroprudential policy

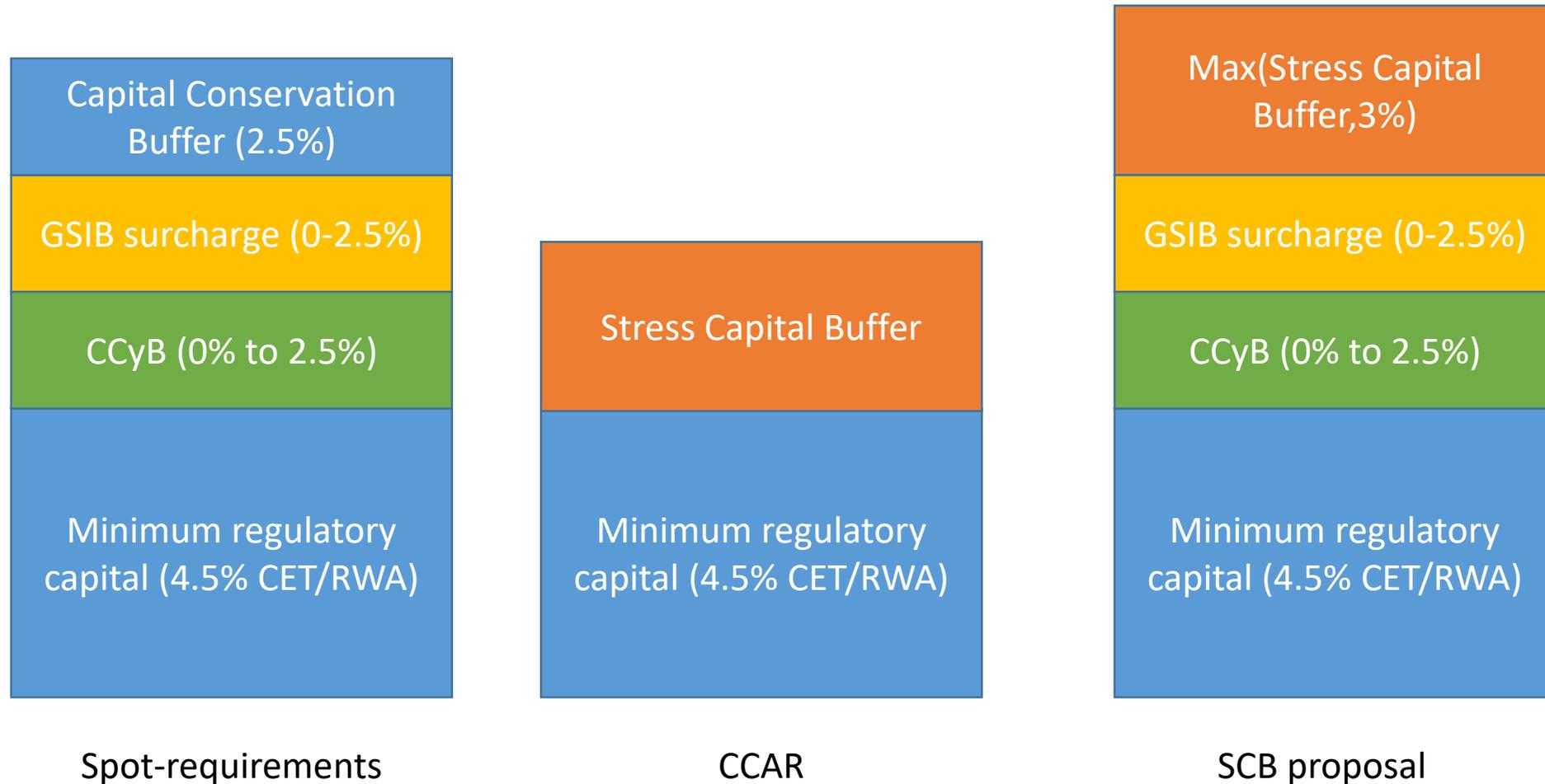
# Favara, Ivanov, and Rezande (2019)

- Taking results at face value, as GSIB surcharge implemented from 2015 to 2017, increasing required capital at affected banks by as much as 2.25% (50 percent of final amount) of risk-weighted assets
  - Leveraging within firm variation due to firm-year fixed effects, risk profile of firms borrowing from affected banks becomes more conservative
    - More guarantees and collateral, but better obligor risk ratings
  - Loan commitments on average switch from affected to unaffected banks, total borrowing does not change
  - No impact on interest rates to the borrower
- What is the mechanism?
  - Through Funds Transfer Pricing, higher capital requirements result in higher cost of funding for LOBs in affected banks (2.25% x 10% difference in cost of capital => 22.5 bps)
  - Operating in competitive market, and unable to pass through higher costs, affected banks responded to higher capital charges by:
    - Demanding better non-price terms to offset cost of higher capital charges
    - Making non-conservative changes to wholesale scorecard ratings (models and/or overrides)
  - Some borrowers have adequate market power to switch from affected to unaffected banks, others concede the non-price terms
- What does it all mean?
  - Implementation of the GSIB surcharge made the system safer, largely by reducing the size and risk profile of largest institutions, but not increasing capital, without real cost to borrowers, by making smaller institutions more competitive
  - However, results suggest obligor risk ratings of the same firms became less conservative at GSIB banks relative to non-GSIBs, with MRM and supervisors watching
  - Authors may want to experiment with different empirical strategies to identify effect of interest independent of other factors affecting GSIBs disproportionately over this time period

# Basten, Briukhova, Pelli (2020)

- Taking results at face value, following SNB activation of CCyB in 2013
  - Cantons financed by non-banks were the most overheated but least affected
  - Cantons financed more by banks were most affected (as measured by HPI), with impact large in the bank-dependent single-family sector but not the less bank-dependent condo sector
- What is the mechanism?
  - Through funds transfer pricing, higher capital requirements at regulated banks result in higher cost of lending
  - Where banks had market power, mortgage rate increased and economy moved along demand curve, reducing borrower purchasing power and ultimately affecting home prices
  - Where banks did not have market power, no impact on mortgage rates or home prices
- What does it all mean?
  - Limited ability to use CCyB to offset excesses driven from outside the banking sector
  - Using CCyB to offset excesses created by non-banks has inefficiencies even if aggregate objectives met
  - Might need finer tools (sectoral CCyB) as part of a larger macrofinancial stability framework to improve the balance of aggregate impact and inefficiency cost

# Capital as a macroprudential tool



# Objectives of CCyB

[Quarles 3/29/2019]

- “the primary objective for activating the CCyB is to **build financial-sector resilience** during periods when the risks to financial stability have risen to meaningfully above normal levels and there is an elevated possibility of potential losses within the banking sector that could place strains on the supply of credit or otherwise substantially impede economic and financial activity”
- “A secondary objective for using the CCyB is its potential to **limit the buildup of financial vulnerabilities** by slowing the rate of credit expansion--that is, the possibility that the CCyB may "lean against the wind" of credit fluctuations. This secondary objective, both in the original Basel discussions and in the Federal Reserve's framework, is less central”

# CCyB calibration

[Quarles 3/29/2019]

- A notable feature of the [US] framework is the decision to maintain a 0 percent CCyB when vulnerabilities are within their normal range.
- Because we set high, through-the-cycle capital requirements in the United States that provide substantial resilience to normal fluctuations in economic and financial conditions, it is appropriate to set the CCyB at zero in a normal risk environment. Thus, our presumption has been that the CCyB would be zero most of the time.
- U.K. Financial Policy Committee (FPC) has set the CCyB would equal 1 percent in standard risk conditions, but undertook a one-time adjustment to its other capital buffers in order to offset part of this increase.
- In practice, the U.K. framework appears to have provided the FPC with additional flexibility, as it has adjusted the CCyB with evolving financial risks associated with, for example, Brexit.
  - Systems similar to the United Kingdom's, where the CCyB is positive during normal times, may allow policymakers to react more quickly to economic, financial, or even geopolitical shocks that occur amid otherwise normal conditions, without relying on the slow-moving credit aggregates contemplated in the original Basel proposal.
  - Moreover, this setting of the CCyB permits more gradual adjustments in the CCyB, especially in periods with a high degree of uncertainty about the level of financial vulnerabilities.
  - Another possible benefit of a system that has additional flexibility is the ability to coordinate the setting of the CCyB with the setting of monetary policy in situations where such coordination is valuable.

# CCyB process and Financial Stability Report

- Annual, Board must vote on CCyB, consultation with FDIC and OCC, 12 month effective period
- Federal Reserve's view on the current level of vulnerabilities documented in November 2019 Financial Stability Report:
  - **Asset valuations.** Asset prices remain high in several markets relative to income streams. However, risk appetite measures that account for the low level of long-term yields on U.S. Treasury securities are more aligned with historical norms for most markets. With the exception of riskier corporate debt, commercial real estate (CRE), and farmland markets, these measures point to a reduction in risk appetite from the elevated levels of 2017 and 2018.
  - **Borrowing by businesses and households.** Borrowing by businesses is historically high relative to gross domestic product (GDP), with the most rapid increases in debt concentrated among the riskiest firms amid weak credit standards. By contrast, household borrowing remains at a modest level relative to income, and the amount of debt owed by borrowers with credit scores below prime has remained flat.
  - **Leverage in the financial sector.** The largest U.S. banks remain strongly capitalized, and the leverage of broker-dealers is at historically low levels. However, several large banks have announced plans to reduce their voluntary capital buffers. Leverage among life insurance companies is moderate, while hedge fund leverage remains elevated relative to the past five years.
  - **Funding risk.** Estimates of the total amount of financial system liabilities that are most vulnerable to runs, including those issued by nonbanks, remain modest. Short-term wholesale funding continues to be low compared with other liabilities, and the ratio of high-quality liquid assets to total assets remains high at large banks.
- Stresses in Europe, such as those related to Brexit; stresses in emerging markets; and an unexpected and marked slowdown in U.S. economic growth are among the near-term risks that have the potential to interact with these vulnerabilities and pose risks to the financial system.

# Effectiveness of SCB as macroprudential tool

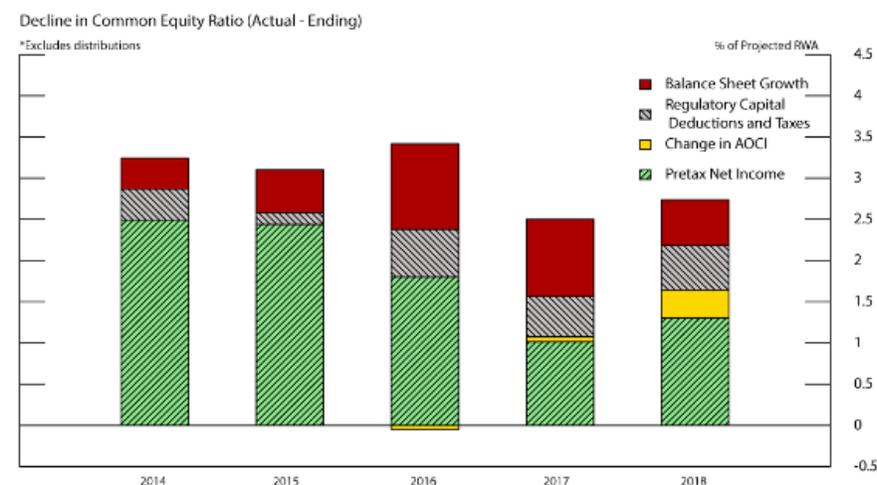
Table 1: Certain Scenario Variables, Supervisory Severely Adverse Scenario, CCAR 2014 to CCAR 2018

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	2014 Severely Adverse	2015 Severely Adverse	2016 Severely Adverse	2017 Severely Adverse	2018 Severely Adverse
Unemployment rate	↑4 p.p. to 11-1/4%	↑4 p.p. to 10%	↑5 p.p. to 10%	↑5-1/4 p.p. to 10%	↑5-3/4 p.p. to 10%
House prices	↓25%	↓25%	↓25%	↓25%	↓30%
CRE prices	↓35%	↓35%	↓30%	↓35%	↓40%
BBB-bond rate spread	↑3 p.p. to 5 p.p.	↑3-1/2 p.p. to 5 p.p.	↑3-1/2 p.p. to 5-3/4 p.p.	↑3-1/2 p.p. to 5-1/2 p.p.	↑4-1/4 p.p. to 5-3/4 p.p.
Equity prices	↓50%	↓60%	↓50%	↓50%	↓65%

Source: Board of Governors of the Federal Reserve System, "Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule" (Washington, DC: Board of Governors) for the years 2014 through 2018, available at <https://www.federalreserve.gov/supervisionreg/ccar.htm>.

Figure 5: Decomposition of Stress Test Severity



Note: Sample includes a balanced panel of the 28 firms that have participated in the stress tests since 2014. Values are taken under the Supervisory Severely Adverse scenario. The dashed line represents the average non-distribution stress test effect observed in CCAR 2014 through 2018. Capital is measured using tier 1 common in 2014 and 2015, and CET1 thereafter. RWA is measured using the generalized approach for 2014 and 2015, and the standardized approach thereafter. AOCI does not flow through tier 1 common.

Source: Staff estimates derived from CCAR results.

[Accessible version](#)

[https://www.federalreserve.gov/econres/notes/feds-notes/cyclical-ity-and-the-severity-of-the-us-supervisory-stress-test-2014-to-2018-20190607.htm?mod=article\\_inline](https://www.federalreserve.gov/econres/notes/feds-notes/cyclical-ity-and-the-severity-of-the-us-supervisory-stress-test-2014-to-2018-20190607.htm?mod=article_inline)