# Have Big Banks Gotten Safer?

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September 2016

# Regulatory Community Asserts System is Safer Today

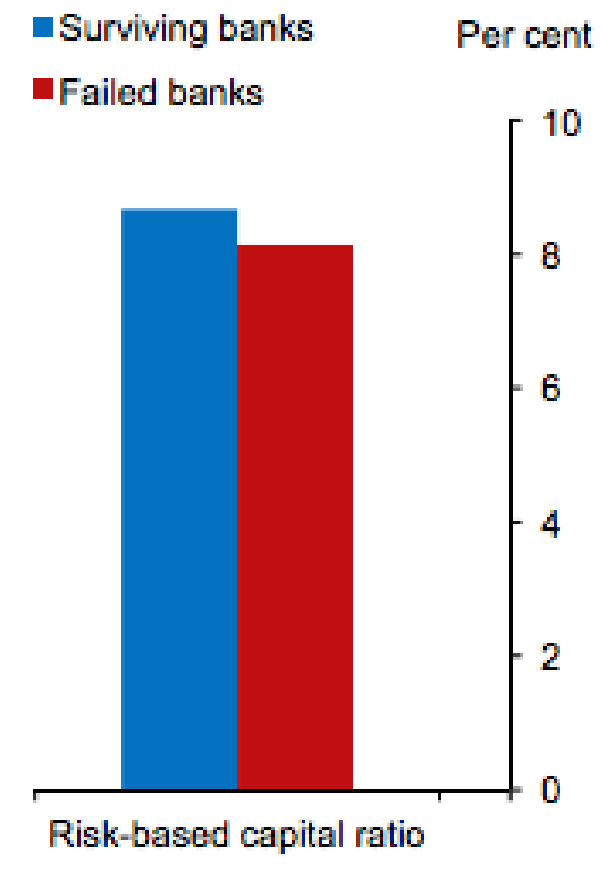
- "The capital requirements of our largest banks are now ten times higher than before the crisis...This substantial capital and huge liquidity gives banks the flexibility they need to continue to lend to UK businesses and households, even during challenging times."
  - Mark Carney, 2016
- "We have put into place numerous steps...that will strengthen these institutions, force them to hold a great deal of additional capital, and reduce their odds of failure. There will be much lower odds that a so-called systemic firm will fail..."
  - Janet Yellen, 2014

# Market Risk Measures Contain Important Information

## Haldane and Madouros (2012)

- "Consider a straight horse-race between the most complex measure of banks' capital position (the Basel Tier 1 ratio) and the simplest (the market value of equity relative to unweighted assets). The explanatory power of the simple measure [for bank failures] is about 10 times greater than the complex measure."
- No statistically significant difference between levels of regulatory capital of banks that failed and those that survived.

## Global Banks' Capital Ratios, end-2006




Haldane and Madouros (2012)

# Market Measures of Risk

- We consider
  - Volatility measures
    - Historical volatility
    - Future volatility (implied by option prices)
    - Put option delta
    - Beta
    - Acharya et al. systemic risk measure (SRISK%)
  - Expected returns measures
    - CDS spreads
    - Preferred stock yields
    - Earnings price ratios

# Big 6 Institutions

| Measure | Pre–crisis average | Post–crisis average | 2015 average |
|---|---|---|---|
| Volatility | 24.70 | 33.07 | 20.67 |
| Volatility/market | 1.55 | 1.80 | 1.71 |
| Implied volatility | 22.90 | 30.84 | 22.96 |
| Implied volatility/market | 1.91 | 2.13 | 1.61 |
| Option delta | 0.036 | 0.074 | 0.046 |
| Beta | 1.18 | 1.59 | 1.23 |
| CDS spread | 31.85 | 139.04 | 93.58 |
| PE/market PE | 0.67 | 1.22 | 0.68 |
| Preferred stock price | 24.91 | 20.15 | 20.74 |
| SRISK% | 5.76 | 10.44 | 10.18 |

# Midsize Domestic Financial Institutions

| Measure | Pre–crisis average | Post–crisis average | 2015 average |
|---|---|---|---|
| Volatility | 25.54 | 29.89 | 21.58 |
| Volatility/market | 1.68 | 1.68 | 1.78 |
| Implied volatility | 25.54 | 32.06 | 26.73 |
| Implied volatility/market | 2.13 | 2.28 | 1.90 |
| Beta | 0.96 | 1.27 | 1.05 |
| CDS spread | 23.20 | 94.52 | 68.11 |
| PE/market PE | 0.79 | 0.75 | 0.73 |

# International Institutions

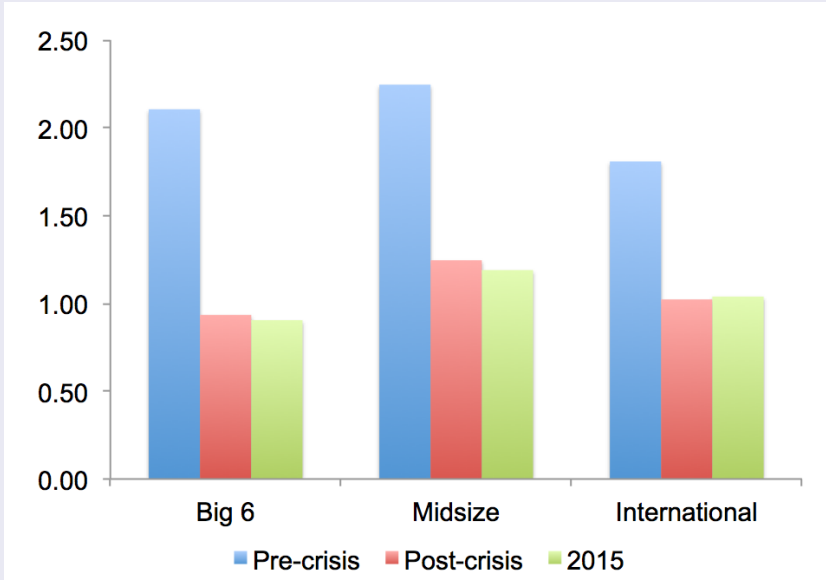
| Measure | Pre–crisis average | Post–crisis average | 2015 average |
|---|---|---|---|
| Volatility | 28.67 | 33.81 | 27.86 |
| Bank volatility/market | 1.51 | 1.67 | 1.43 |
| Implied volatility | 25.49 | 32.57 | 28.55 |
| Implied volatility/market | 1.51 | 1.52 | 1.36 |
| Beta | 0.82 | 1.05 | 1.01 |
| CDS spread | 14.18 | 142.21 | 111.85 |

# Possible Explanations

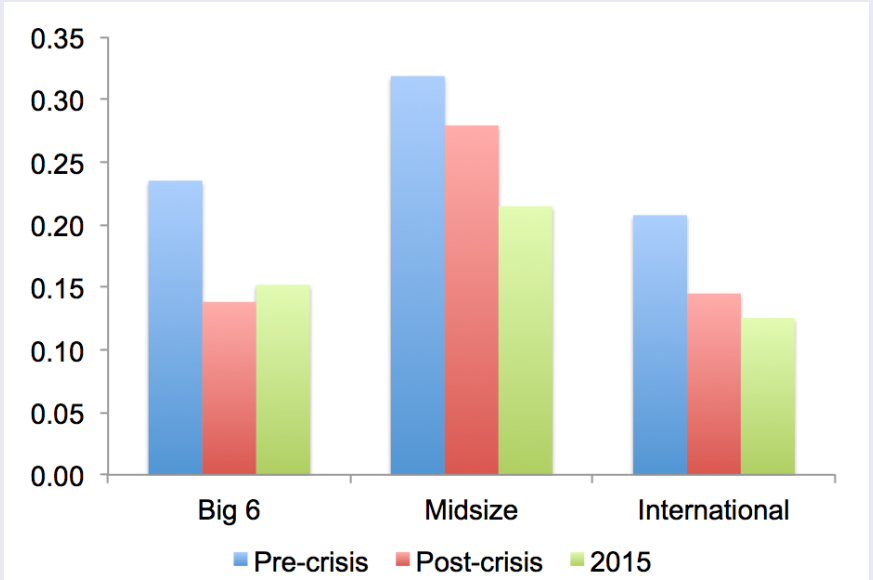
- Market error: Markets underestimated risk pre-crisis and have adjusted their views.
- Bank capital mismeasurement: Regulatory capital measures may be flawed, and may have become even more flawed over time.
- Declining franchise value: Even though banks less levered than previously, declines in market valuation of banks have been so large that measured on a market basis they have less equity relative to assets than they did previously.
    - We find this hypothesis most plausible and important for explaining our findings.

# Ratio of MVE/Assets and Price/Book Declining Over Time

## Average Price/Book




## Average MVE/Risk-Adjusted Assets



# Conclusion

- None of this suggests that approach taken by the regulatory community in the wake of the crisis seeking to contain risk-taking was inappropriate.
- But calls into question the view of many who believe large banks are far safer today than they were a decade ago.
- While banks have become better capitalized, they have also experienced declines in franchise value that have made them more vulnerable to adverse shocks.
- We would caution against complacency.