



FEDERAL RESERVE BANK
OF SAN FRANCISCO

Cleveland Fed Systemic Risk Indicator

2018 RiskLab/BoF/ESRB Conference on Systemic Risk Analytics

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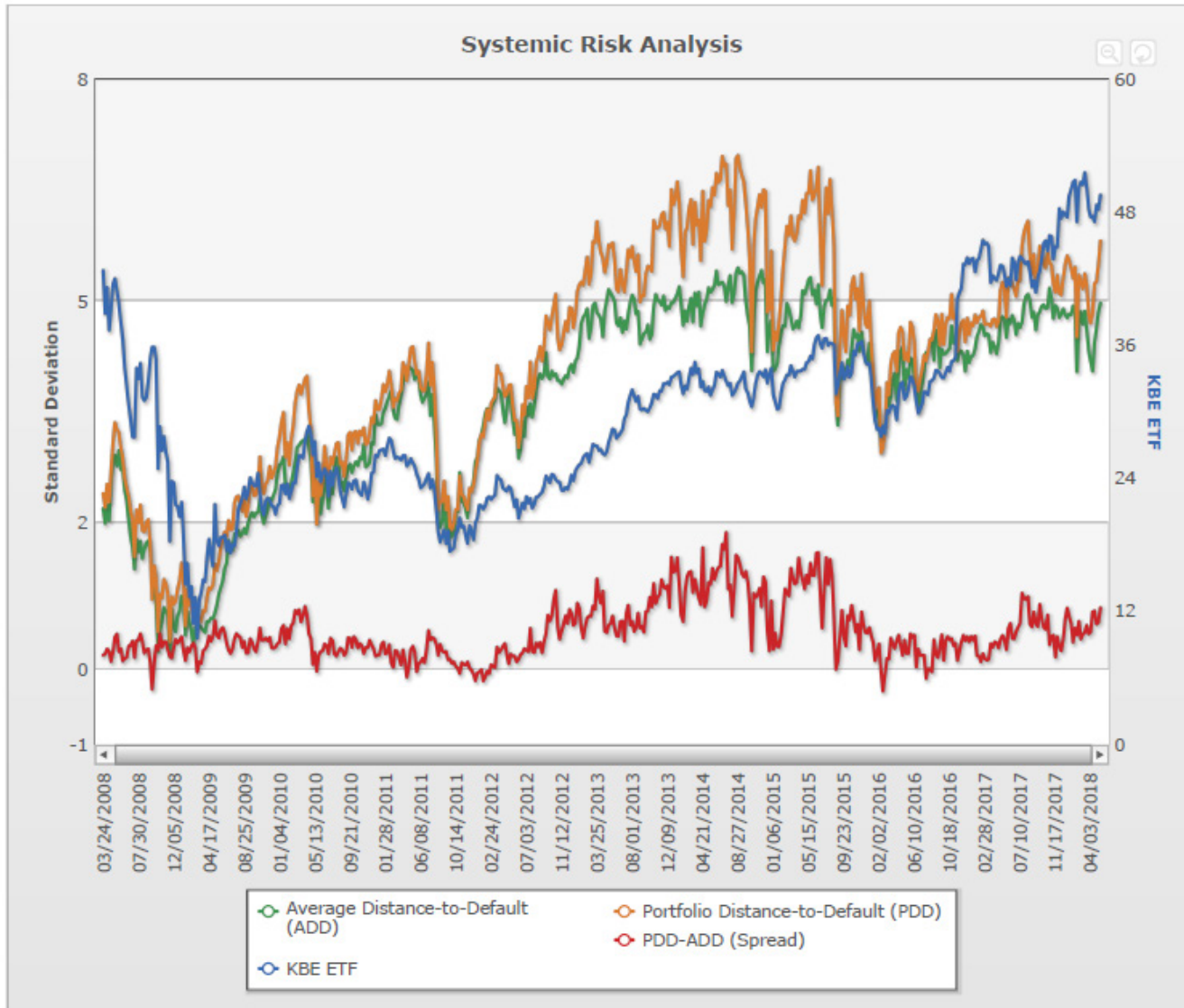
Federal Reserve Bank of San Francisco

Views are my own and do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, Federal Reserve Bank of Cleveland, or of the Board of Governors of the Federal Reserve System.

Outline

- What is it
- How to interpret
- Why relevant

Cleveland Fed Systemic Risk Indicator



Cleveland Fed Systemic Risk Indicator

- https://www.clevelandfed.org/~//link.aspx?_id=09AC7CD8006847FC9F1819BAD77152D4&Z=Z
- Published online since 2016
- Update weekly

Cleveland Fed Systemic Risk Indicator

- Contingent claims analysis of the Distance-to-Default of the US financial services industry using equity and option market data.
- Average Distance-to-Default (ADD) of financial firms that make up the S&P Bank Index.
- Portfolio Distance-to-Default (PDD) of the S&P Bank Index (KBE ETF).

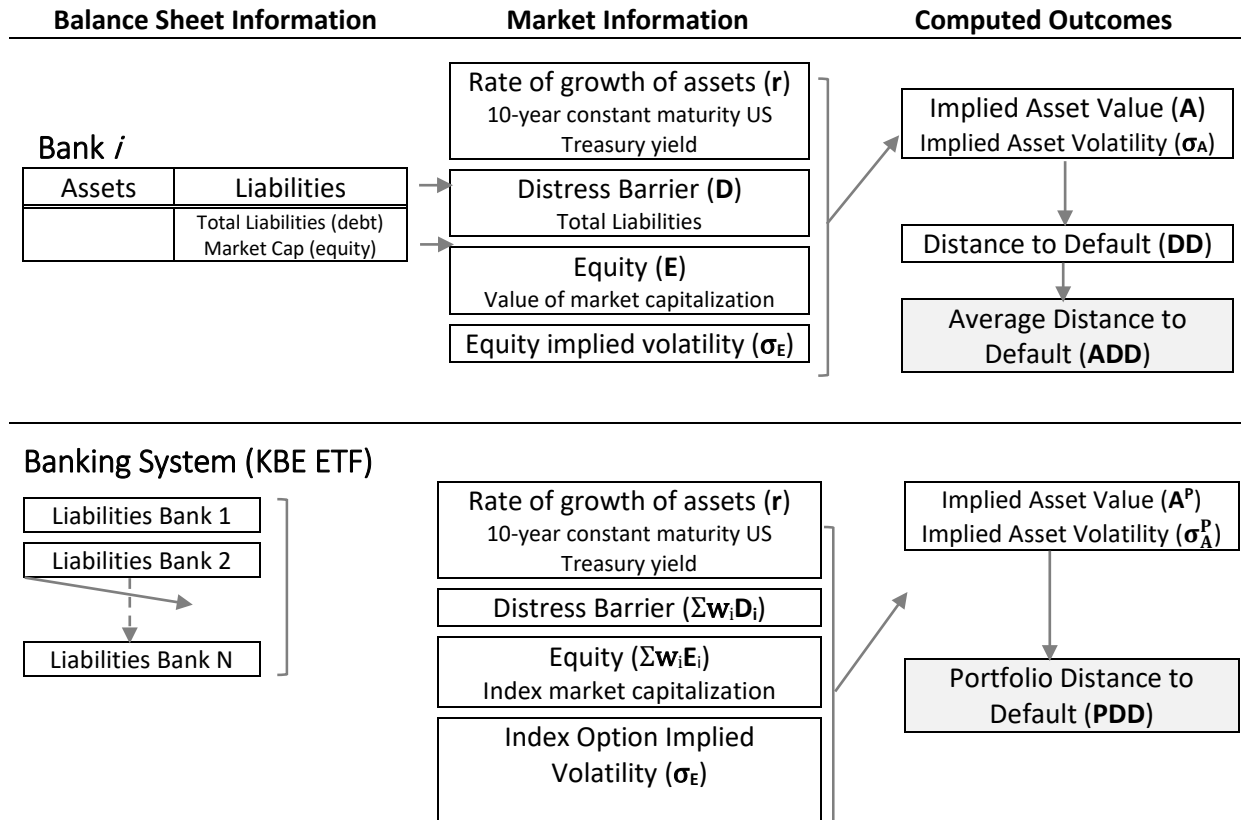
Related literature

- Financial Stability Board (2009)
- International Monetary Fund (2011)
- Saldias (2013)

Cleveland Fed Systemic Risk Indicator

- Pros
 - Market data (Forward looking, High frequency)
 - Theoretically appealing
 - Transparent
 - Replicable
- Cons
 - Market data (Overshoot, Illiquidity)
 - Short track record

Cleveland Fed Systemic Risk Indicator

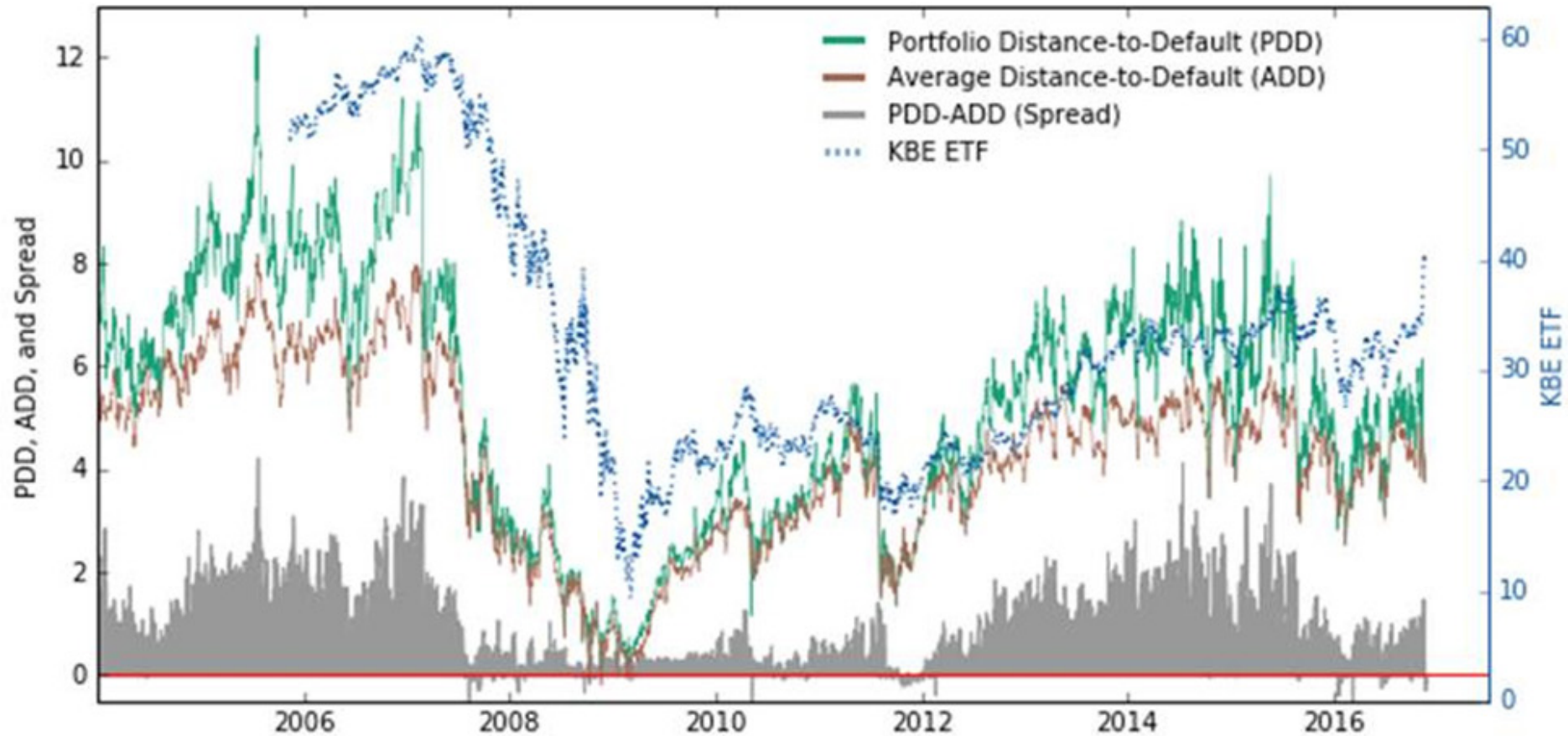


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Cleveland Fed Systemic Risk Indicator

- S&P Banks Select Industry Index includes 64 publicly traded US financial institutions
 - Diversified Banks (11)
 - Regional Banks (31)
 - Asset Management and Custody Banks (2)
 - Thrifts and Mortgage Finance (5)
 - Other Diversified Financial Services (15)

Cleveland Fed Systemic Risk Indicator



Interpretation

- ADD, basket of options, informative of the build-up (speed and intensity) of distress in financial services industry; does not incorporate heterogeneity, correlation, and systematic tail risks.
- PDD, option on basket, tracks the lower bound of joint probabilities of distress; accounts for risk interdependence among firms.

Financial Stability Monitoring

- Market based indicator of financial stress
 - High frequency
 - Option prices lead stock prices and bond prices
- Capture financial firms' common exposure
- Capture interconnectedness
- Can incorporate forbearance/subsidy
- Well suited for bank-centric economies
- Only one of many tools/metrics

Future Research

- Predictive power in cross country setting
- Implications for Supervision and Regulation
- Implications for Macroprudential policy



Thank You!