

Market Quality, Financial Crises, and TFP Growth in the US: 1840 – 2014

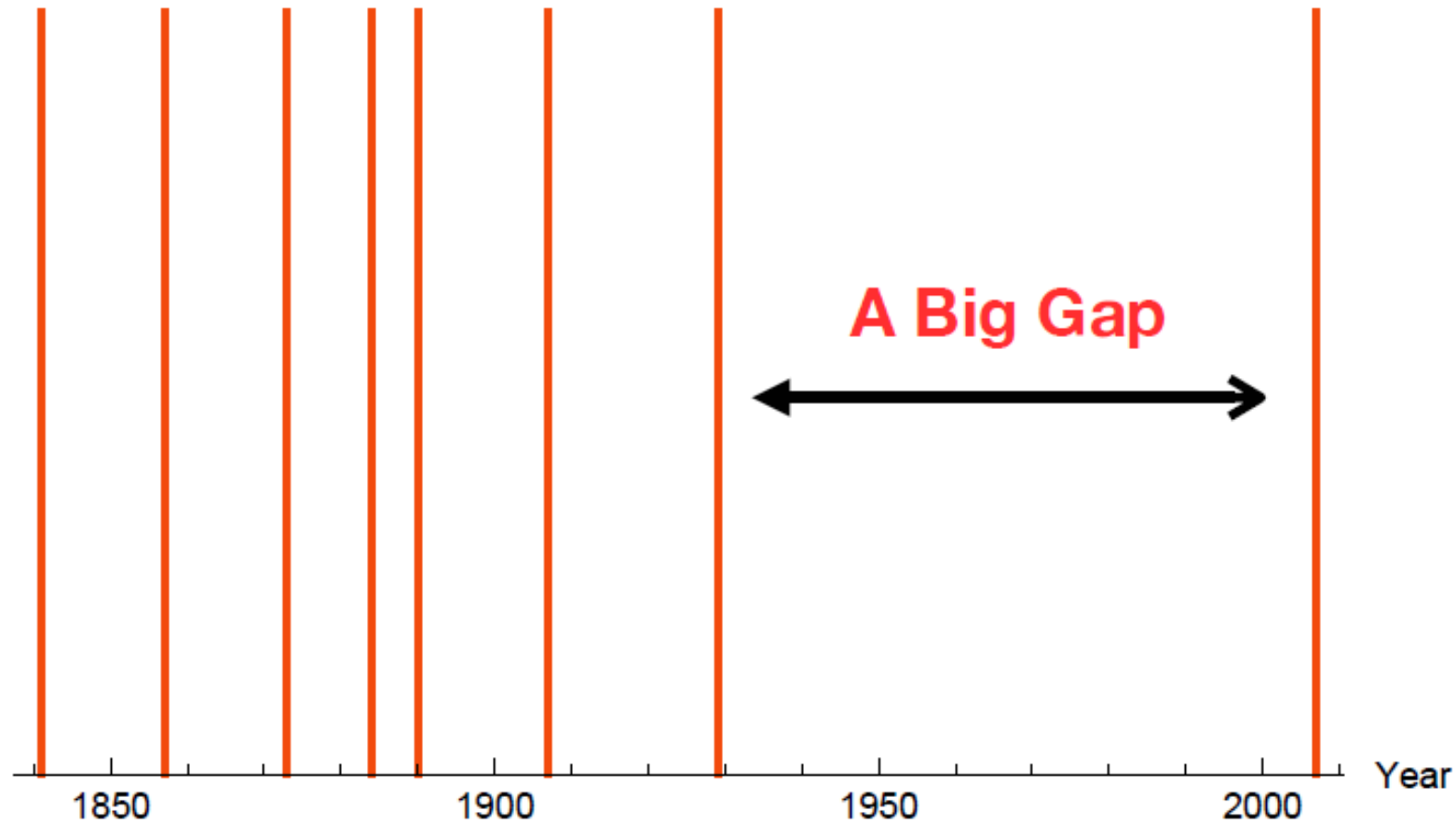
Systemic Risk Centre Conference

LSE

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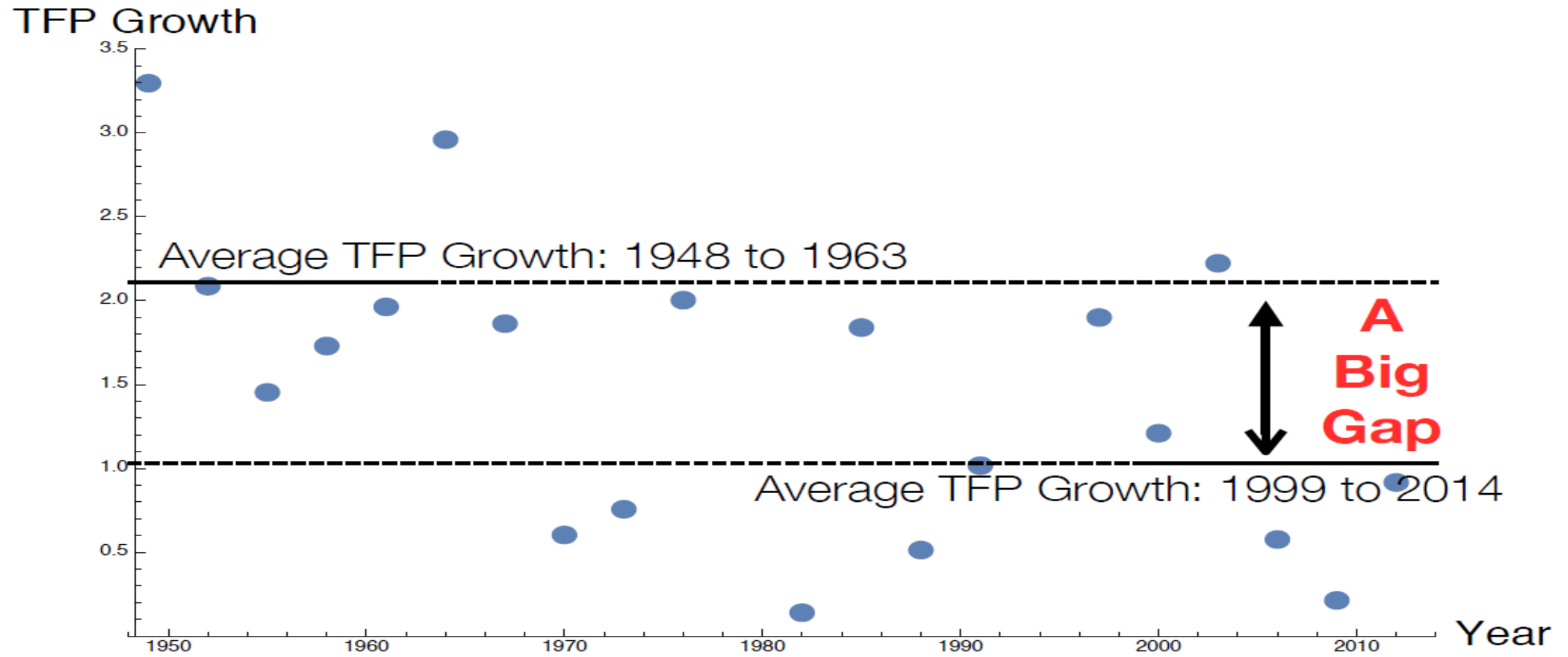
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US Financial Crises



Crisis Date Series: Reinhart and Rogoff (2010), Major Banking Crises dropping those related to wars (1861, 1864, 1914)

US TFP Growth



Source: Fernald (2012, updated), San Francisco Fed

Main Findings

- Market opacity (US Equity Market) has varied substantially over time and during the SEC regime (1934-1995) this opacity was significantly reduced.
- That TFP growth and Major Financial Crises are associated with the degree of market opacity
- The channel is thought to act via Market opacity leading to “short-termist” corporate strategies which induce risky /less innovative behaviour

Main contributions

- Enhances the debate on the recent decline in TFP growth which is a major issue for developed economy growth and one which is not fully understood
- Enhances knowledge on the role of the SEC and financial market regulation on preventing crises and promoting economic growth

Literature Review

- Survey paper on Finance and Economic growth (Popov, 2017) highlights the lack of research in the area of market quality/financial intermediation on economic growth

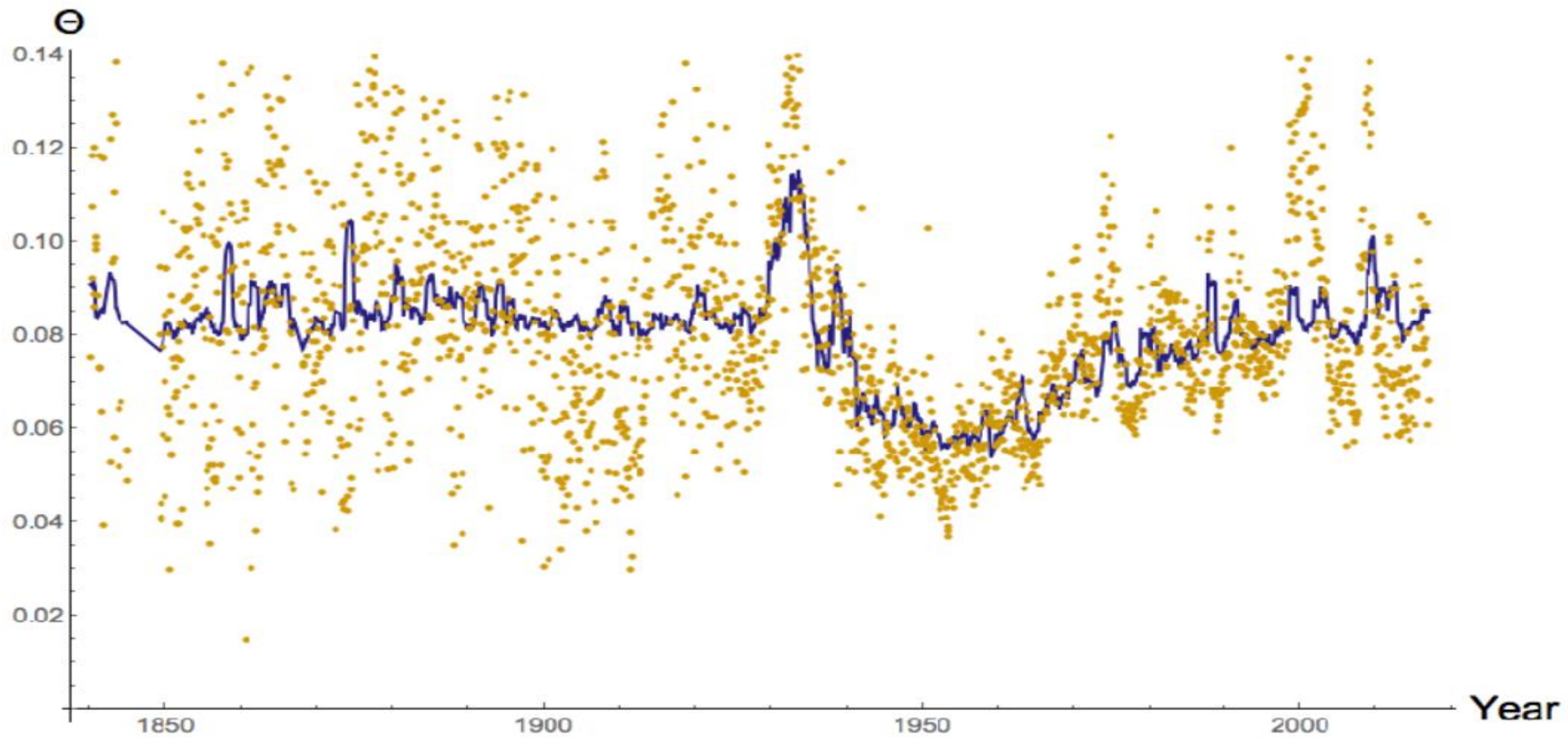
Theta – degree of Opacity

Managers aim to signal their firm's value in a market which may obscure that signal due to opacity

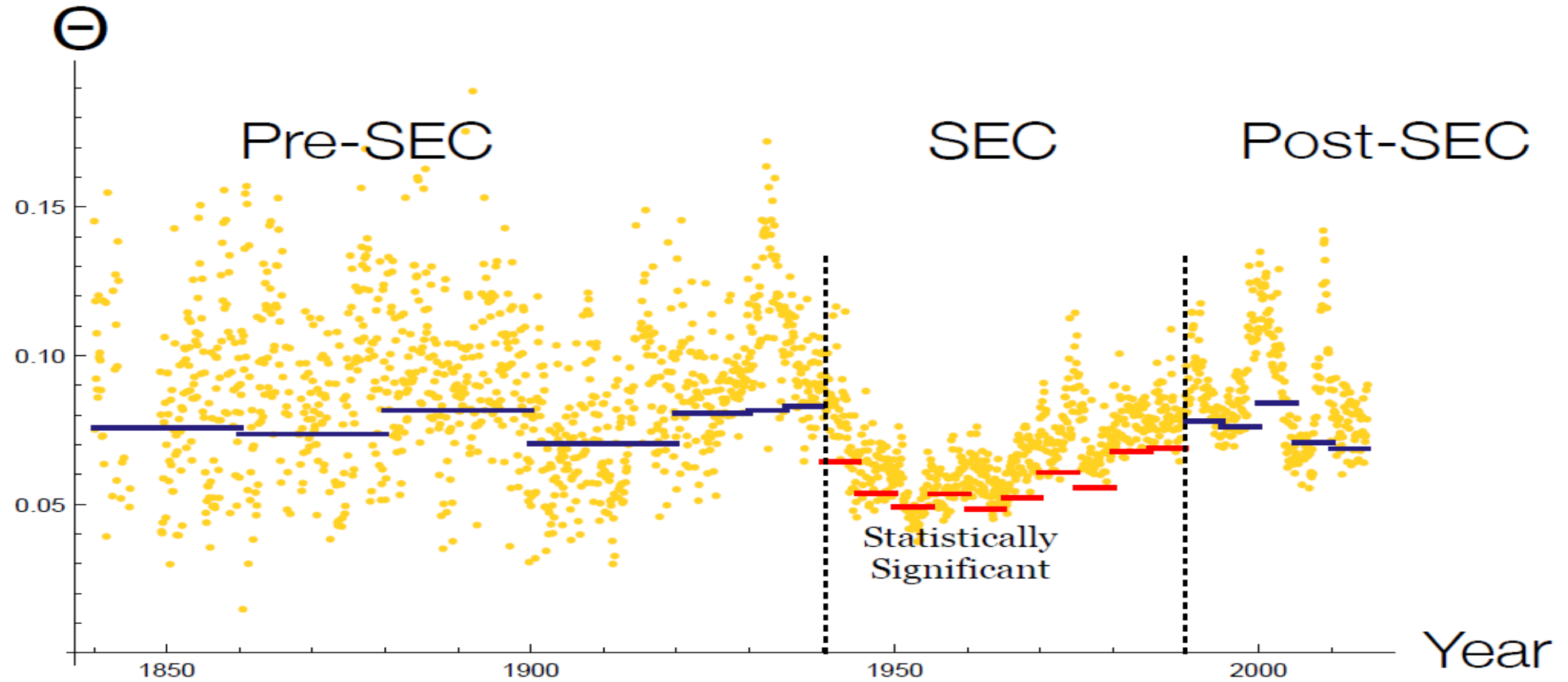
This opacity is represented by;

Θ = The standard deviation of idiosyncratic firm returns (σ) net of transitory market effects

The evolution of Θ



The evolution of σ : Time dummies Alone



A. No Long Term Trend

B. The SEC Reforms Mattered

Firms' signalling choices

Flash:

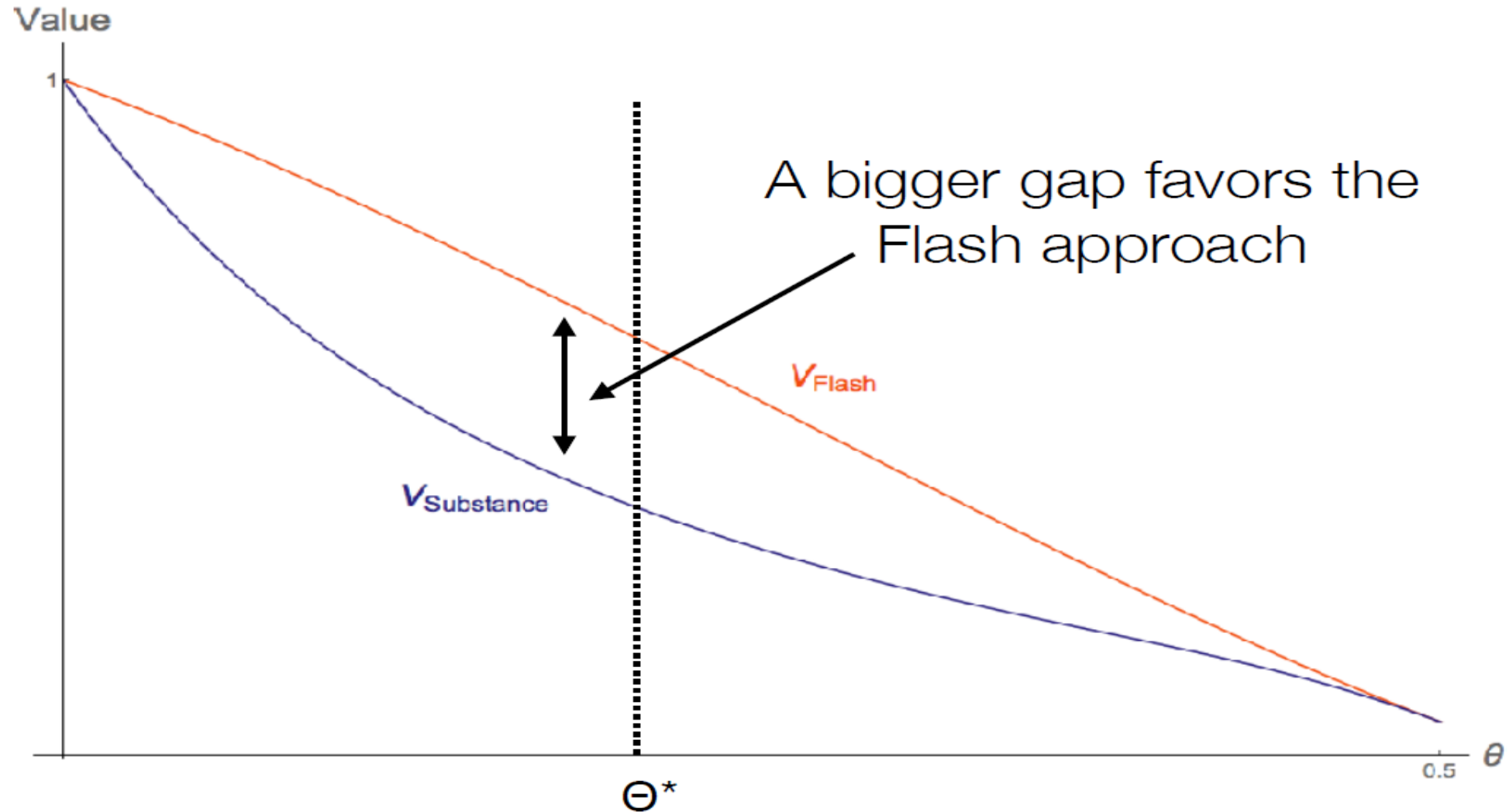
Management focuses upon producing immediate results (in model terms: more signals of project type) while ignoring longer term consequences (more risk, fewer fundamental innovations).

Substance:

Management focuses on project value assuming it clears the short-run hurdle, so fewer signals of project type but less long term risk and more fundamental innovation;

As Opacity increases, the sigma increases for all firms and firms shift from lower sigma "Substance" approaches to higher sigma "Flash Approaches"

Market Quality, Expected Firm Value, and Firm Approach



Theta Θ

As market opacity increases, firms are more likely to pursue **Flash strategies**;

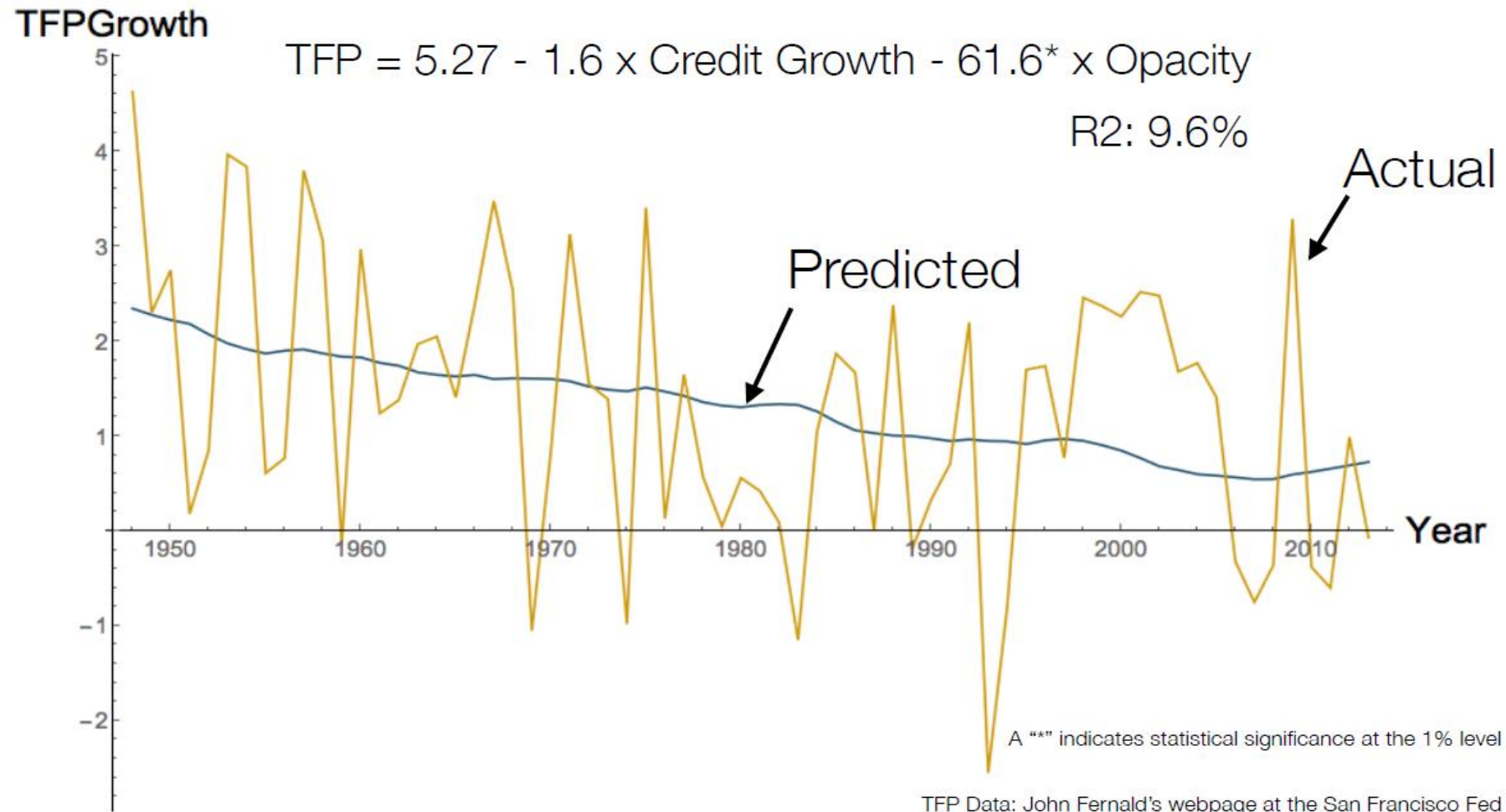
As more firms use **Flash strategies**,

- The risk of a crisis increases;
- Productivity growth falls.

Crisis Probability and Market Quality: Parametric Analysis

- Estimate the probability of a crisis using a logit as a function of credit booms and opacity:
 - $\text{Prob}[\text{Crisis}] = -9.19 + (62.8 \times \text{Credit Growth}) + (76.4 \times \text{Opacity})$
 - Credit Growth has the right sign, but it is not statistically significant ($t = 1.27$);
 - Opacity has the right sign, but is also (barely) not significant ($t = 1.54$)'
 - Of course, we have a very small sample!
 - Estimate the probability of a crisis as a function credit booms/high market quality interaction
 - Create Low Market Quality Dummy = 0 for 1935 to 1995, 1 Otherwise;
 - Credit Boom/Market Quality = Credit Growth x Low Market Quality
 - $\text{Prob}[\text{Crisis}] = -4.0 + (100 \times \text{Credit Boom/Market Quality})$
 - Interaction highly significant ($t = 5.27$)
 - $R^2 = 13\%$
 - Conclusion: Credit booms on there own don't increase crisis risk, credit booms in poor quality market increase crisis risk.
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Market Quality and TFP Growth



Discussion and New avenues (Theta-TFPG)

- The innovative approach is stimulating and in a neglected area of research
- TFP - Theta tests can and should be extended to other countries
- Can we find some way to look at firm behaviour in the cross section that shows how firms change as Theta varies?

Discussion and New avenues (Theta-Crisis)

- Cross-country analysis of crises and the “CreditGrowth*Low Market Quality Dummy” would enhance the power of the conclusions