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Policymaking under Uncertainty: Perspective and Culture

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WORLD READY

Outline

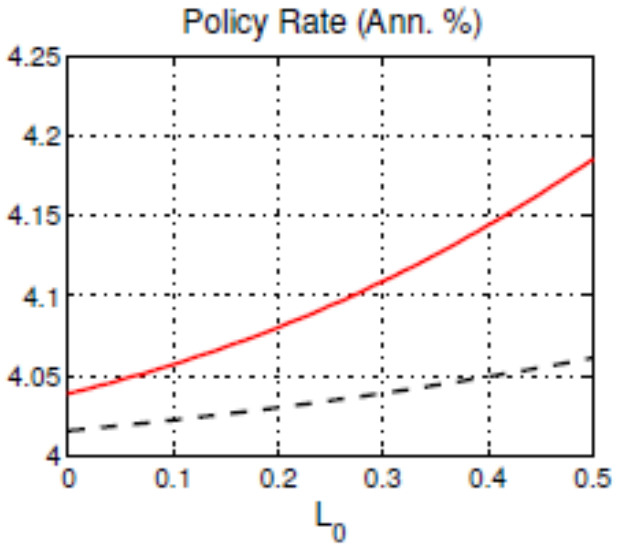
- Perspective
  - Credit and Crises
  - Regulation
- Culture

Key result

Robust policymaker who is uncertain about

Loan Growth $\Rightarrow$ Probability of Crisis

Will be more aggressive:



If L goes from 20% to 50%
(real Loan growth 3.7% a.r to 8.5% a.r.)
the policy rate goes from up about 10 bps.

Note: There is a now a consensus that interest rates should *react* to asset prices.

What does uncertainty do?

Gradualism:

Walking along the edge cliff at night: be cautious!

Robustness:

See a small fire burning in the kitchen: be aggressive!

Credit and Crises

- Relating the probability of crisis to debt:

$$\gamma = \frac{\exp(h_0 + h_1 L)}{1 + \exp(h_0 + h_1 L)}$$

- γ is the probably of crisis
- L is the growth rate of real bank lending over 5 years
- Parameterization implies:

  ΔL from 20% to 30% (+10pp)

  γ from 4.9% to 5.6% (+1pp)

Questions

1. Are the estimated probabilities realistic?

2. Is this a important source of uncertainty?

Uncertainty

- Crisis probability:

Impact of Uncertainty		
Sensitivity of Crisis Probability to Credit	5yr Growth in Real Bank Loans	
	20%	30%
Low	3.74%	4.02%
Baseline	4.65%	5.56%
High	5.78%	7.66%
Source: Ajello et al, equation (4) using parameters from Table 3.		

If L=0, then prob = 3.24%

TABLE A1: CRISIS DATES BY COUNTRY, 1870–2008

Australia	1893	1989							
Canada	1873	1907	1923						
Switzerland	1870	1910	1931	2008					
Germany	1873	1891	1901	1907	1931	2008			
Denmark	1877	1885	1902	1907	1921	1931	1987		
Spain	1883	1890	1913	1920	1924	1931	1978	2008	
France	1882	1889	1907	1930	2008				
U.K.	1873	1890	1974	1984	1991	2007			
Italy	1873	1887	1891	1907	1921	1930	1935	1990	2008
Japan	1882	1900	1904	1907	1913	1927	1992		
Netherlands	1893	1907	1921	1939	2008				
Norway	1899	1922	1931	1988					
Sweden	1878	1907	1922	1931	1991	2008			
USA	1873	1884	1893	1907	1929	1984	2007		

Sample	Number of Crises	Number of Observations	Probability
1870 to 2008	79	1932	4.09%
1870 to 1914	38	616	6.17%
1914 to 1945	31	448	6.92%
1945 to 2007	10	868	1.15%
1945 to 2008	18	882	2.04%

Source: Schularick and Taylor (2012).

Questions

1. Are the estimated probabilities realistic?

   Estimates rely on pre-WWII data.

Uncertainty with recalibration

Impact of Uncertainty				
Sensitivity of Crisis Probability to Credit	5yr Growth in Real Bank Loans			
	20%		30%	
	h_o=-3.96	h_o=-4.3	h_o=-3.96	h_o=-4.3
Low	3.74%	1.55%	4.02%	1.67%
Baseline	4.65%	1.94%	5.56%	2.33%
High	5.78%	2.42%	7.66%	3.25%
Source: Ajello et al, equation (4) using parameters from Table 3.				

Baseline probability of crisis falls from 4.65% to 1.94%.

Sensitivity falls by more than half.

(If L=0, then prob = 3.24% and 1.34% respectively.)

Questions

1. Are the estimated probabilities realistic?

   Estimates rely on pre-WWII data.
   Calibration closer to post-WWII is less dramatic.

   Key result will still hold, but smaller.
   (Smaller than the baseline +10bps when L went from 20% to 50%.)

   An aside: What happens when real bank lending is falling?

Questions

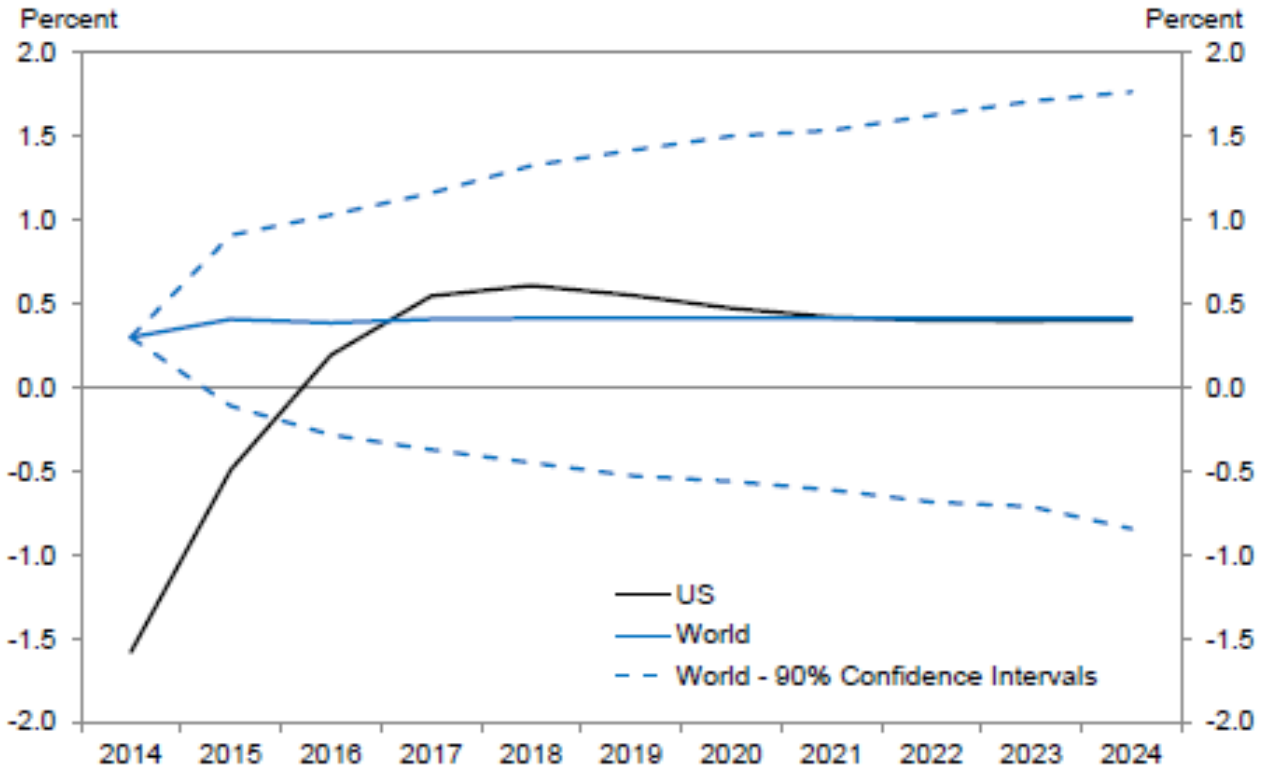
1. Are the estimated probabilities realistic?

2. Is this a important source of uncertainty?

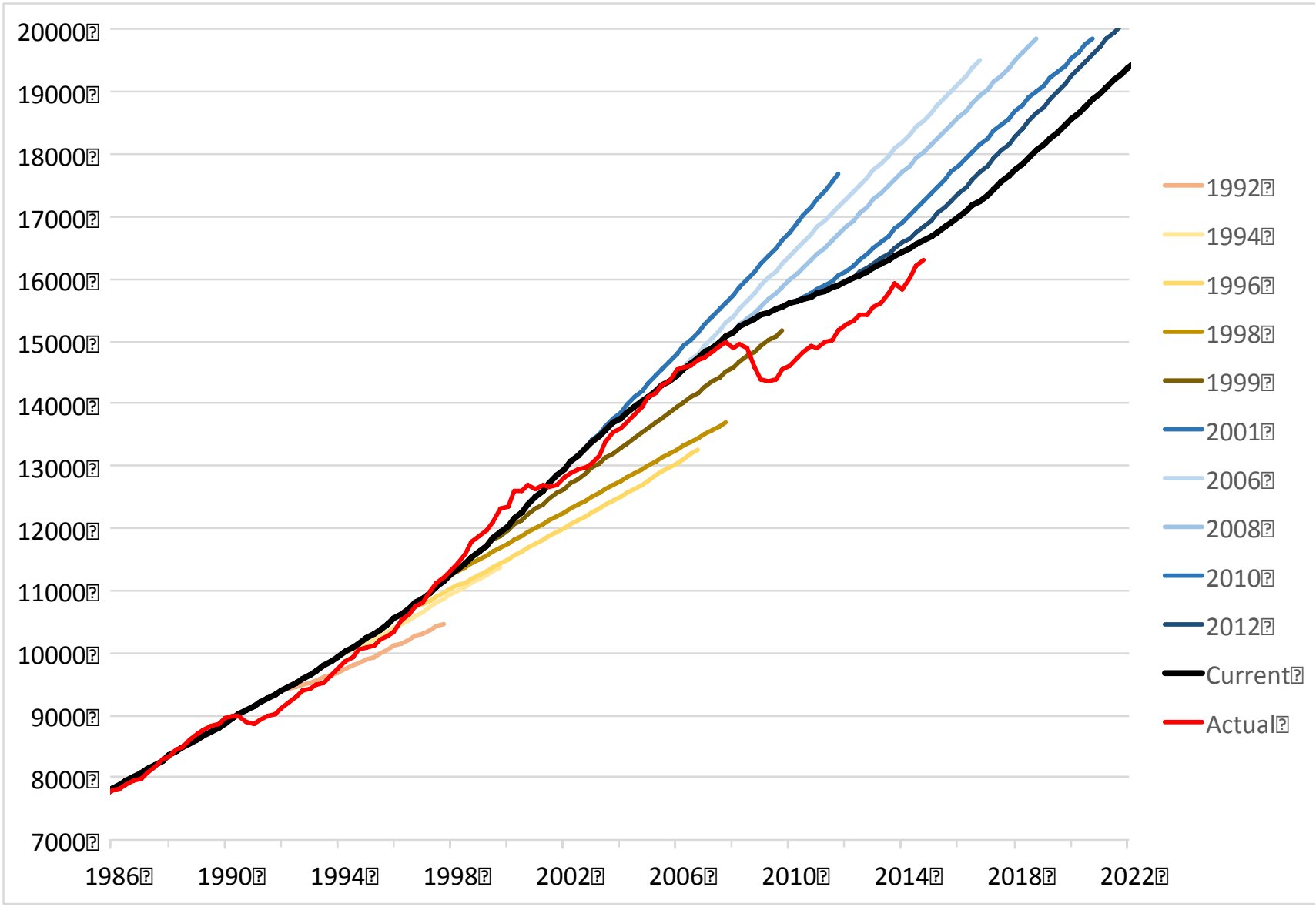
Important sources of uncertainty

- The neutral real interest rate
- Potential growth

Exhibit 5.3. Forecasts for U.S. and long-run world real rates implied by (5.4) and (5.5) along with 90% confidence intervals for the latter.



Source: Hamilton, Harris, Hatzius and West, “The Equilibrium Real Funds Rate: Past, Present and Future,” U.S. Monetary Policy Forum, February 2015.



Source: CBO, Federal Reserve Bank of St. Louis (ALFRED).

Questions

1. Are the estimated probabilities realistic?

   Key result will still hold, but smaller.
   (Smaller than +10bps for the case when L went from 20% to 50%.)

2. Is this a important source of uncertainty?

   The neutral real rate and potential output appear to be bigger problems.

   Uncertainty is in likely 10 to 20 times bigger.

Regulation and Financial Crises

- Improved capital and liquidity regulation
  - Reduce leverage
  - Reduce liquidity mismatch
  - Reduce maturity mismatch
  - Reduce currency mismatch
- Central clearing
  - Reduce gross exposures
  - Reduce concentrations
  - Reduce interconnections
  - Impose consistent margining practices

Table 3

The impact of capital and liquidity on the probability of systemic banking crises

(In percent)

	All models	Models unable to assess changes in liquid assets	Models incorporating changes in liquid assets		
TCE/RWA	No change in liquid assets	No change in liquid assets	No change in liquid assets	Meeting NSFR (NSFR = 1)[1]	NSFR = 1.12[2]
6	7.2	8.7	5.8	4.8	2.7
7	4.6	5.1	4.1	3.3	1.8
8	3.0	3.1	2.8	2.3	1.2
9	1.9	1.9	2.0	1.6	0.9
10	1.4	1.3	1.5	1.2	0.7
11	1.0	0.9	1.1	0.9	0.5
12	0.7	0.6	0.8	0.7	0.4
13	0.5	0.5	0.6	0.5	0.3
14	0.4	0.4	0.5	0.4	0.2
15	0.3	0.3	0.3	0.3	0.2
# models	*6*	*3*	*3*	*3*	*3*

[1] Meeting the NSFR is modelled as a 12.5% increase in the ratio of liquid assets over total assets. [2] The NSFR equals 1.12 if liquid assets increase by 50% for the average bank.

Source: Basel Committee on Banking Supervision, *An assessment of the long-term economic impact of stronger capital and liquidity requirements,* August 2010, pg. 15.

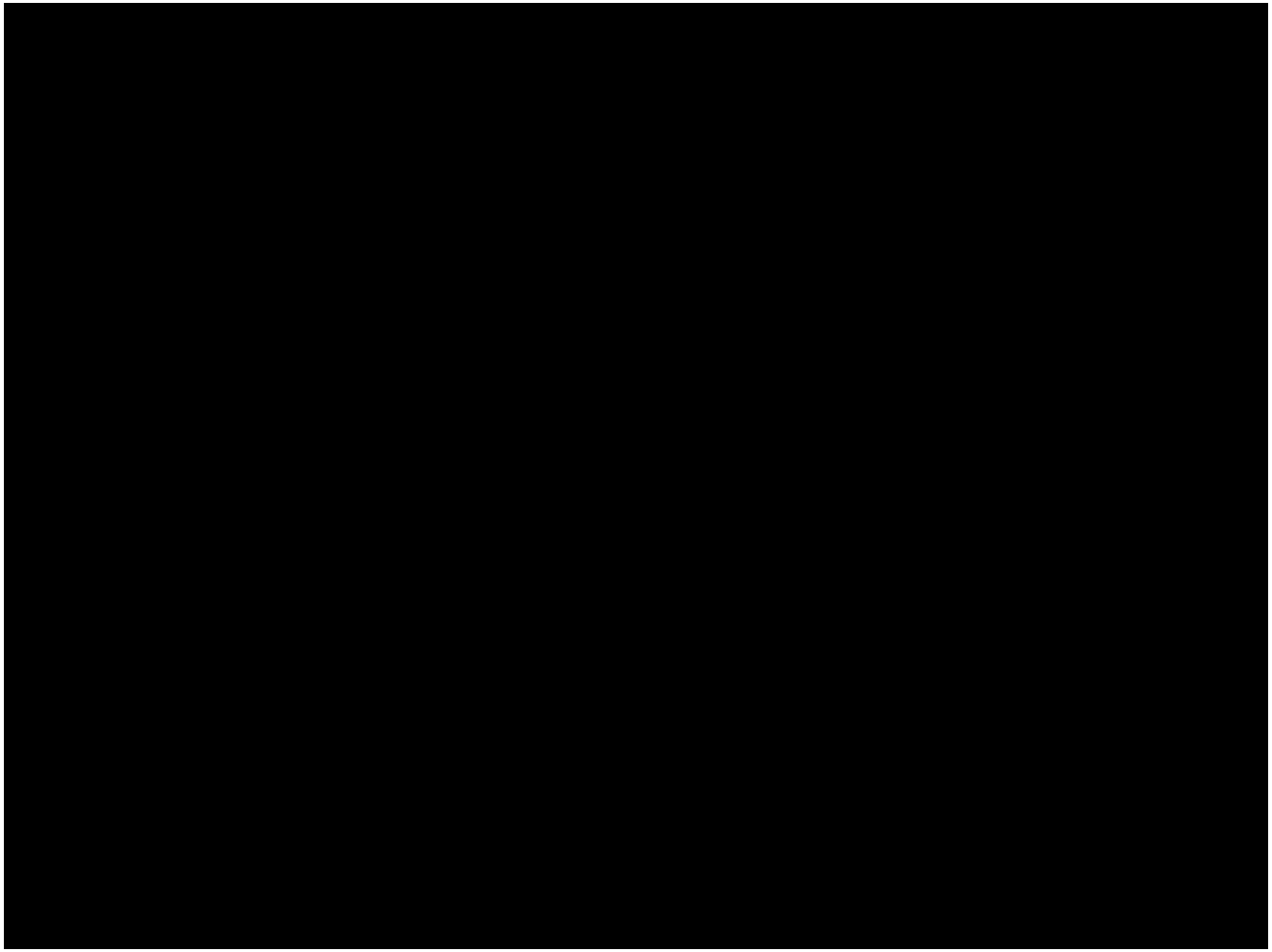
Regulation and Financial Crises

- Prudential tools look like the right tool.
- Just because you are worried you might see a fire, you shouldn’t go around making everything wet.
- What is the role for interest rate policy?

The culture of policymaking

- Why are Americans more optimistic than Europeans?
- The American approach to risk management.

The American Approach



The culture of policymaking

- Why are Americans more optimistic than Europeans?
- The American approach to risk management:
  tame your nightmares.
- What would the European kid have done?

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