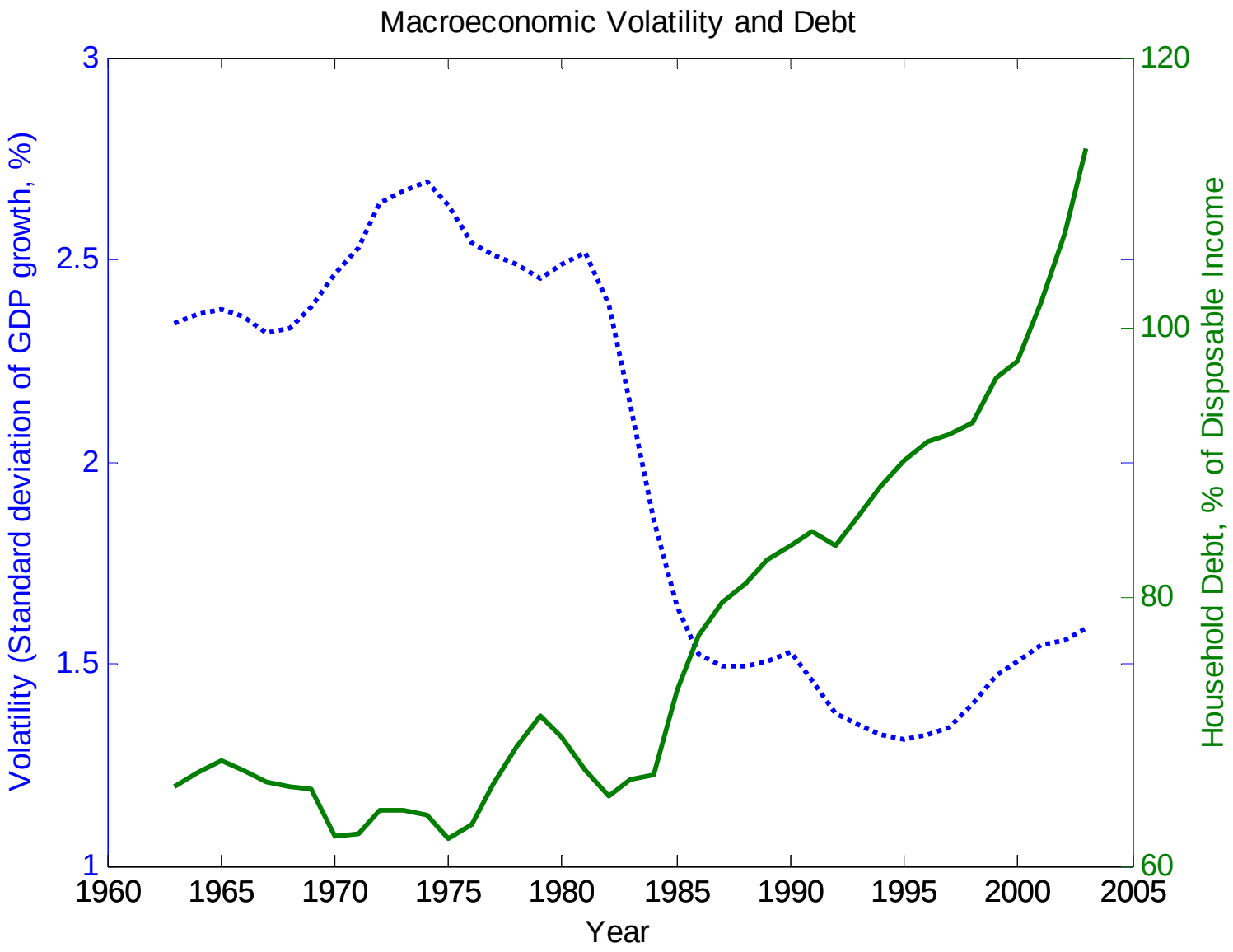
Discussion of Campbell and Hercowitz "The Role of Collateralized Household Debt in Macroeconomic Stabilization"

Matteo Iacoviello
Boston College


Macroeconomic Volatility and Debt
Volatility (Standard deviation of GDP growth, %)
Household Debt, % of Disposable Income
Year
3
2.5
2
1.5
1
120
100
80
60
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005

THIS PAPER

- Question: Can financial deregulation explain the Great Moderation?
- Answer: Yes
- How: Affecting the incentives to work of borrowing constrained agents for given technology shocks

THE TRANSMISSION MECHANISM IN THE PAPER

1. Following a positive technology shock, the desired increase in durable goods purchases needs to be accompanied by a smaller increase in hours worked if downpayment requirements are small

2. Because the volatility of hours is smaller, this generates a financial decelerator: lower downpayments imply more equilibrium debt but smaller sensitivity of the economy to given economic shocks

RELATIONSHIP TO FINANCIAL ACCELERATOR LITERATURE

1. In many financial accelerator models (Kiyotaki and Moore, BGG), the availability of internal funds works to amplify given disturbances. High debt –> high volatility

2. However, this is not always the case.

   (a) The same mechanism makes stabilization policy easier (aggregate demand is more elastic)

   (b) Observed volatility comes from a combination of shocks, and not every shock can magnify fluctuations (inflation shocks when debt is not indexed)

COMMENTS

Great Moderation in US vs ROW

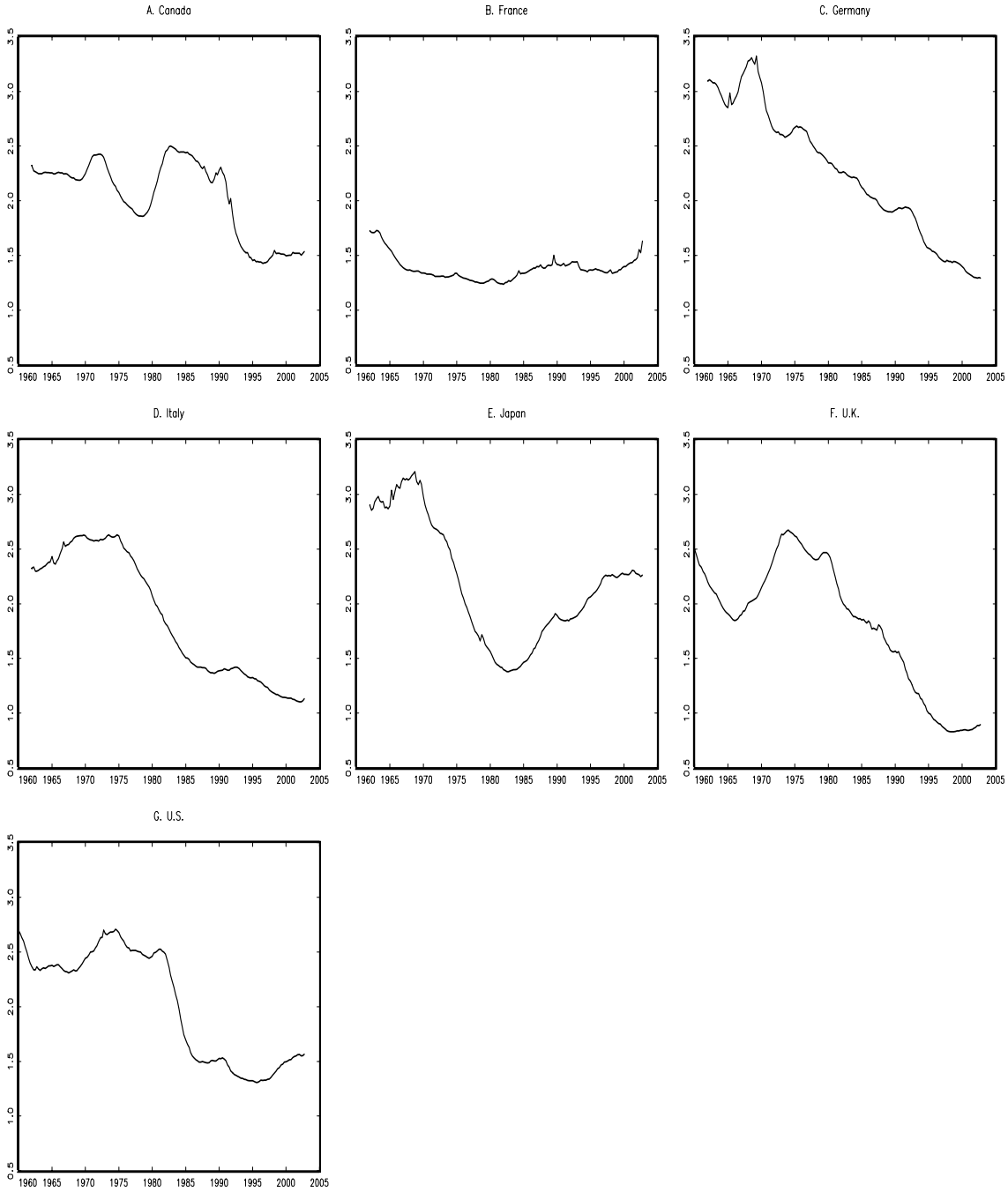
1. Every paper attempting to explain the Great Moderation faces the issue that the reduction in volatility in the US has been a single and permanent (maybe) episode...

2. This paper is successful, but it is like getting a $R^2 = 1$ in a regression with 2 data points and 2 regressors

3. However, more support for the evidence in the paper could come from the observation that the reduction in volatility has occurred in many other developed countries (exception: Japan; see figure, 1960-2001)

It would be nice to see whether the timing of financial reforms in other industrialized countries can explain debt and volatility reduction, since reduction in volatility has occurred at different rates in other countries

Figure 4. Estimated instantaneous standard deviation of 4-quarter GDP growth



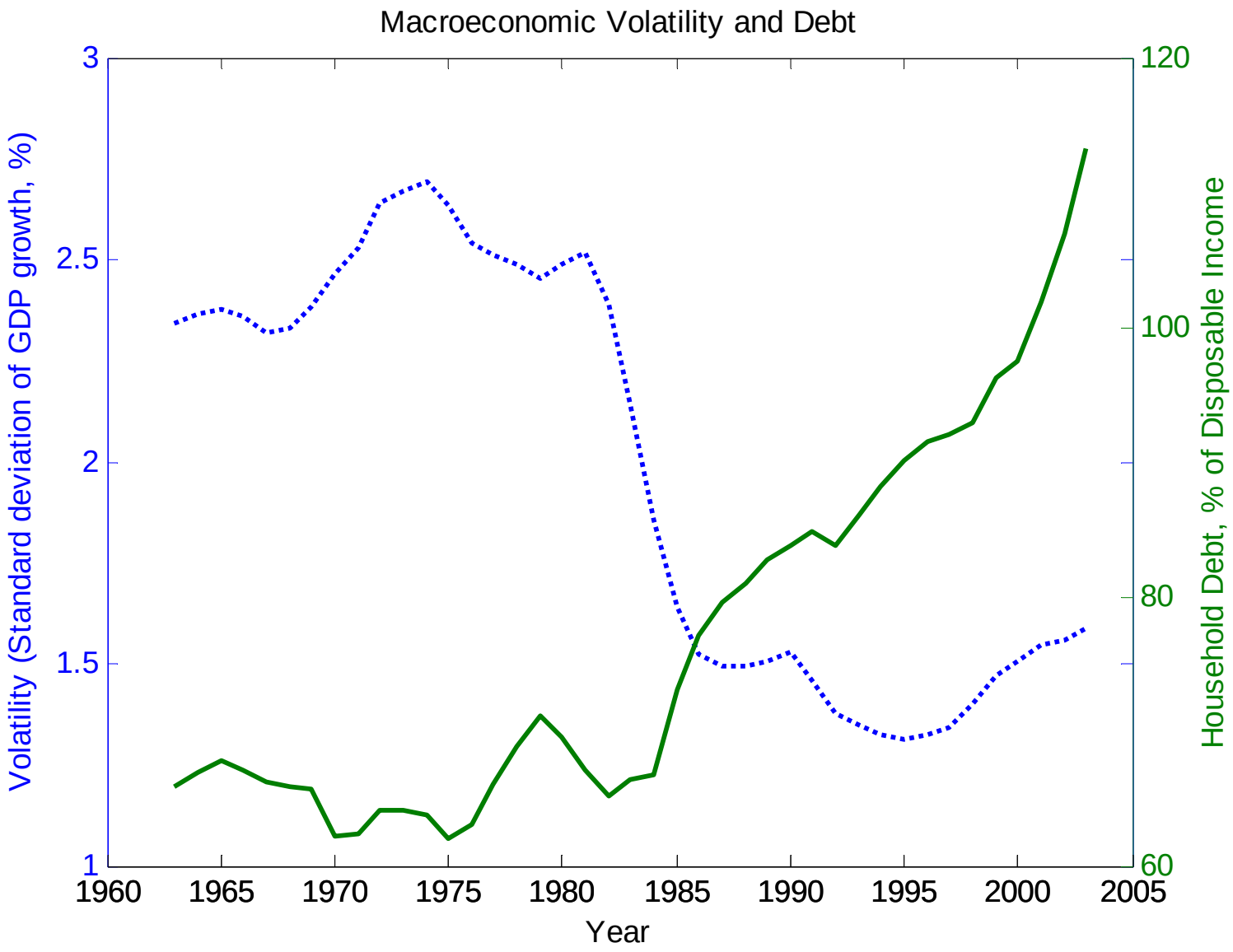
The increase in household debt has been gradual

1. The reduction in macroeconomic volatility has been quick and sharp, with a break occurring in the early-Mid 1980s

2. The increase in debt appears to have been a more gradual phenomenon

3. For the model results to be trusted, the transition to a high-debt economy should have occurred instantaneously, otherwise one is led to believe that borrowing constraints are not binding, and the pertubation methods used in the paper are incorrect

4. The timing of the increase in debt seems to better match microeconomic volatility (Krueger and Perri, 2006, myself)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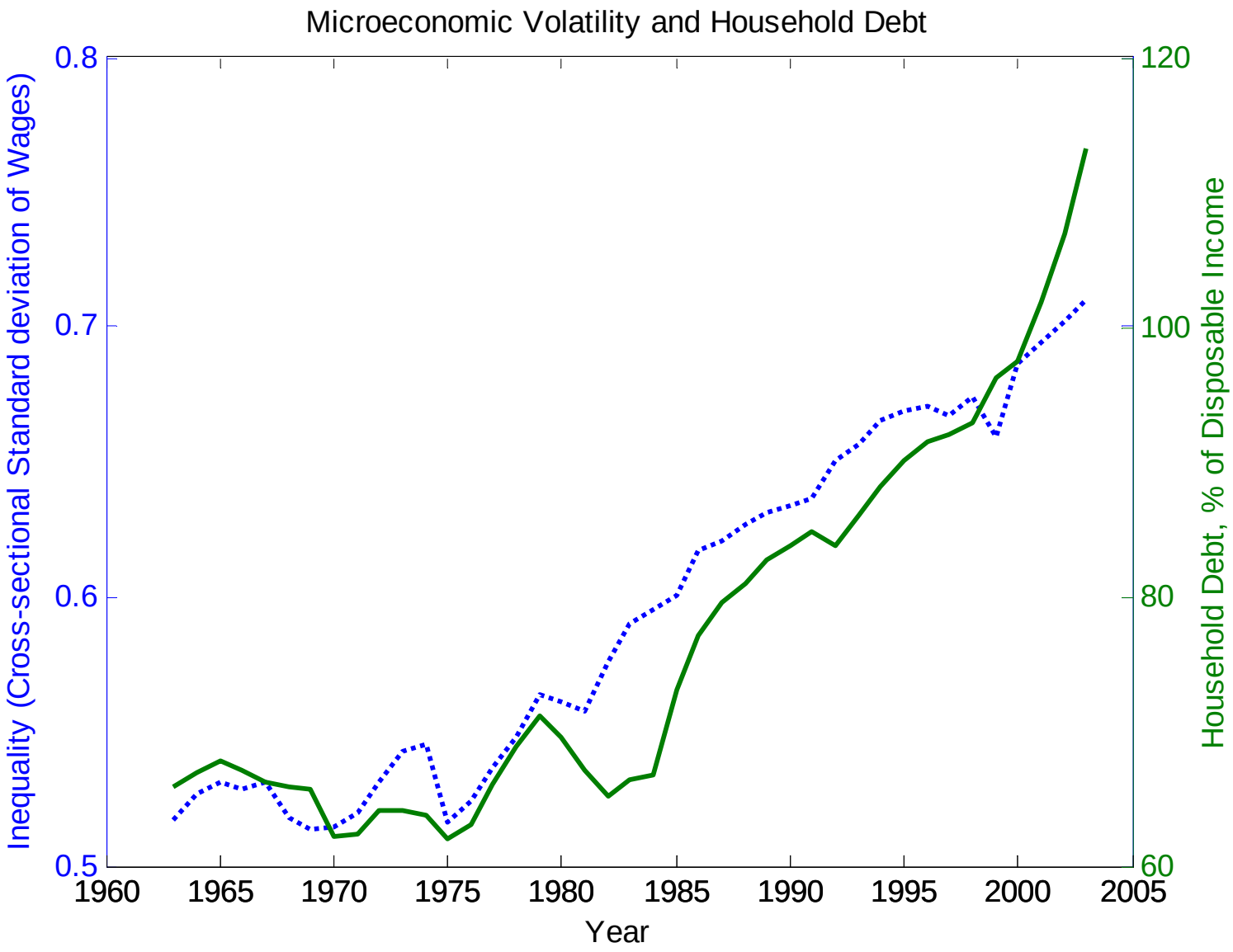
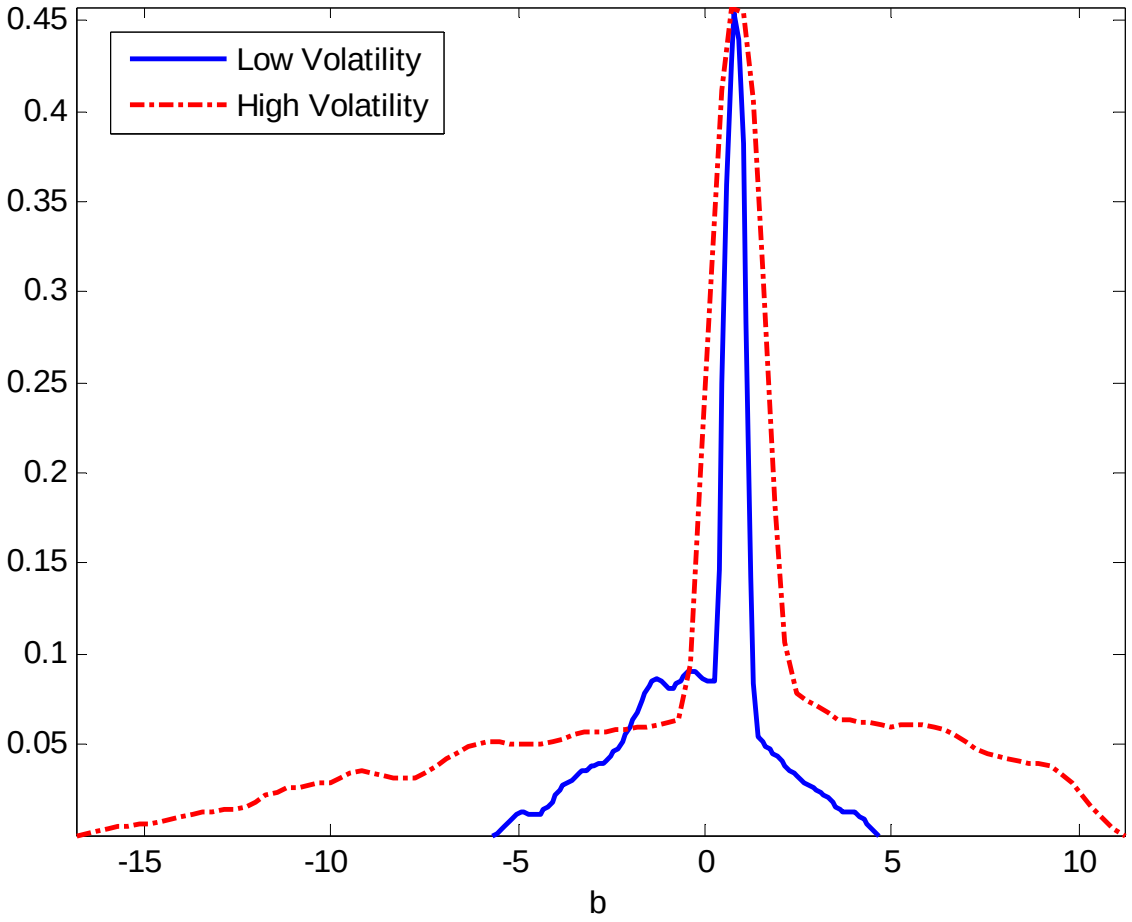

Microeconomic Volatility and Household Debt
Inequality (Cross-sectional Standard deviation of Wages)
Household Debt, % of Disposable Income
Year
0.8
0.7
0.6
0.5
120
100
80
60
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005

Steady State Distribution of Debt in a Low and High Volatility Economy



Positive (negative) values on the x-axis indicate debt (financial assets).

Model robustness

It is possible to cook the economy in a way that it is successful also quantitatively, but some choices appear questionable

1. The authors work under the untested assumption that only shocks driving fluctuations are aggregate technology shock. One would like to see how other shocks perform (investment-specific technological change, preference shocks, wealth shocks, monetary shocks)

2. All the labor supply shifts come from borrowing-constrained agents

Why not estimating?

A rough attempt to quantify shocks vs structure

- I Estimate their baseline model with capital (with reasonable adjustment cost) using Bayesian techniques

- Add a persistent labor supply shock besides TFP shock

$$E_t \sum_{t=0}^{\infty} \widehat{\beta} \left(\theta \ln \widehat{S}_t + (1-\theta) \ln \widehat{C}_t + \frac{\omega}{Z_t} \frac{\left(1-\widehat{N}_t\right)^{1-\gamma}}{1-\gamma} \right)$$

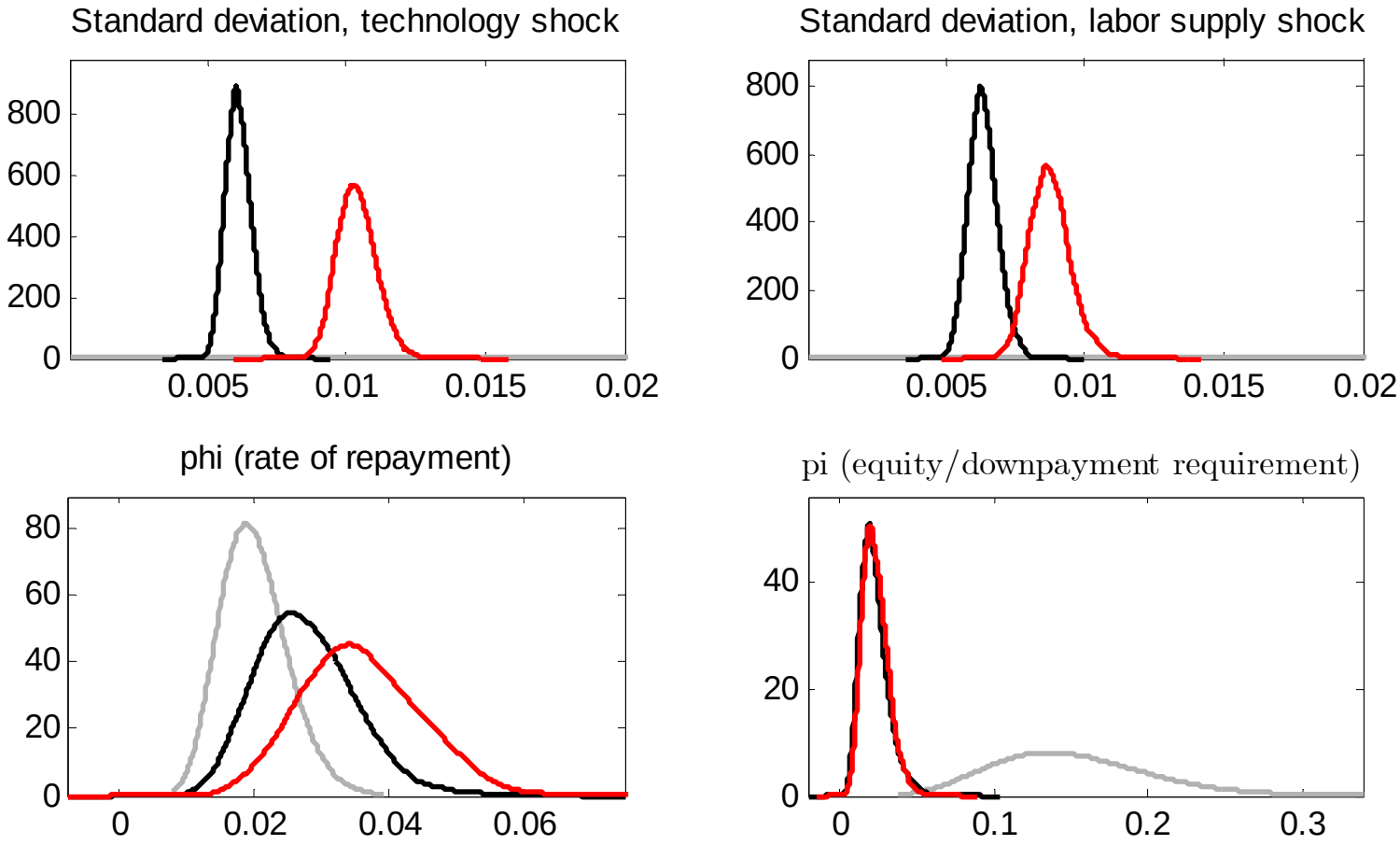
- Calibrate using Campbell and Hercowitz choices

Estimate standard deviation of shocks and the parameters of the borrowing constraint using data on log change in filtered hours and log change in filtered output. For the borrowing constraint priors, I start half-way between their two calibrations

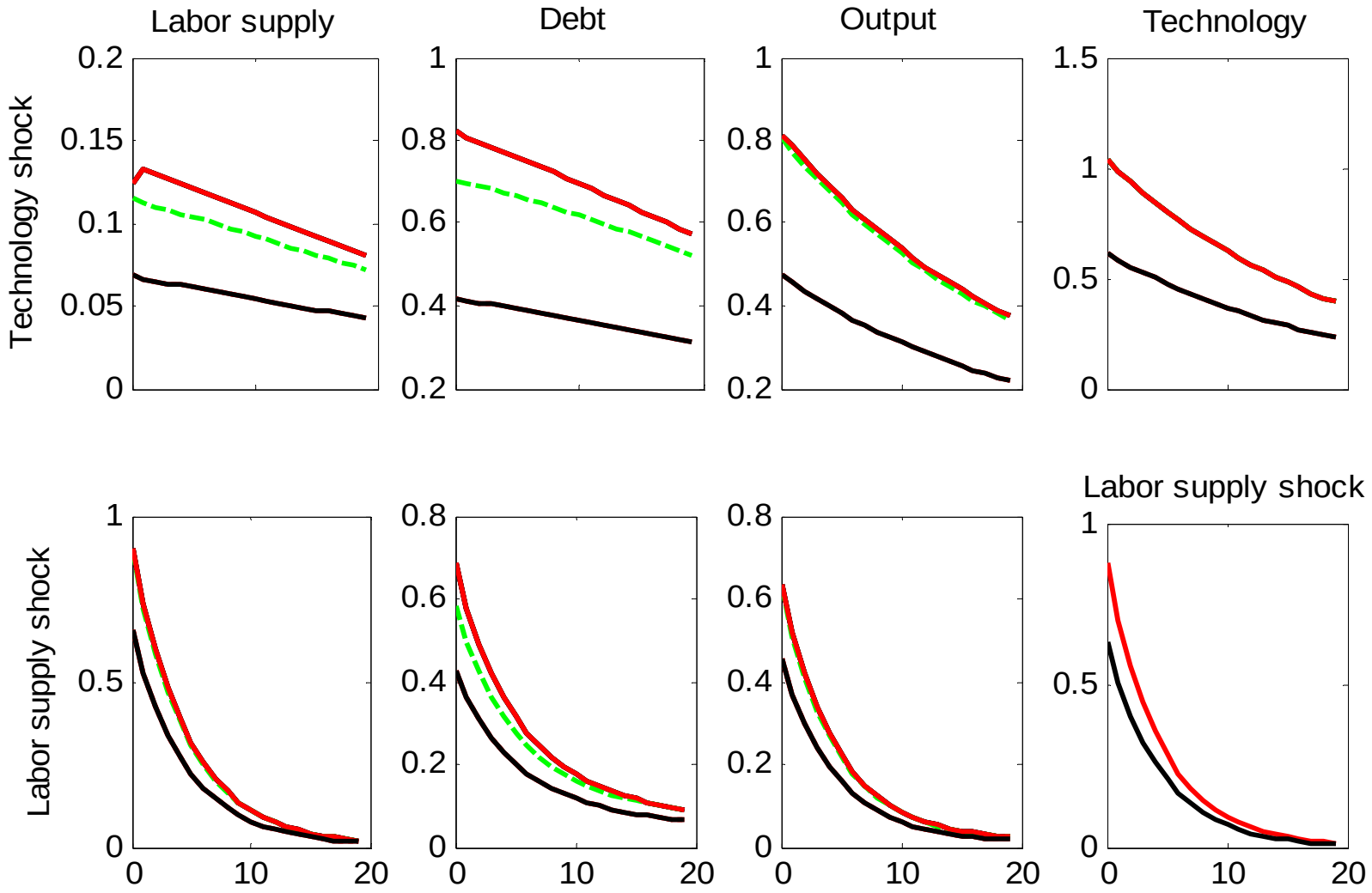
$$\begin{aligned} B_t - (1-\phi)\frac{R_{t-1}}{R_t}B_{t-1} &= \frac{(1-\pi)(1-\delta)}{R_t}\left(S_t - (1-\delta)S_{t-1}\right) \\ \phi &= \text{speed of repayment} \\ \pi &= \text{equity requirement} \end{aligned}$$

- Estimated parameters in line with calibration (amazing)

	Early (1954-82)	Late (1983-2005)
σ_A	1.04%	0.61%
σ_Z	0.88%	0.64%
ϕ	0.0356	0.0315
π	0.0229	0.0223



Grey: Prior distributions for the model parameters
Red: Posterior distributions, model estimated in early period
Black: Posterior distributions, model estimated in late period



Red: IRF, model estimated in early period
Black: IRF, model estimated in late period
Green: IRF, standard deviations of the first period, estimated equity requirements of the second

- Implied ss debt to output ratio rises from 93% to 105%, mostly through decrease in the speed of repayment.

- The mechanism in the paper can explain little

  25% of the reduction in the variance of debt

  5% of the reduction in the variance of output

  11% of the reduction in the variance of hours

	Volatility early	Volatility late	Volatility late, std of pre
σ_y	3.14%	1.88%	3.09%
σ_n	1.65%	1.14%	1.63%
σ_b	4.21%	2.33%	3.86%