

International Recessions

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1' Summary

- Very interesting paper.
- Evidence:
 - Strong synchronization of 2008-2009 recession across countries—stronger than in earlier recessions.
 - Negative correlation between labor productivity and GDP and hours during 2008-2009 recession (and 2001 recession); positive during earlier recessions.
- Model:
 - 2-country IRBC with financial frictions (enforcement constraints; Kiyotaki and Moore, *JPE* 1997) and shocks to enforcement constraints (in addition to productivity shocks).
 - Shocks to enforcement constraints (credit market shocks) generate cross-country and within-country dynamics that nicely match the evidence—at least qualitatively—when financial markets are internationally integrated.
 - Shocks to productivity do not generate such matching: no GDP comovement across countries; positive correlation between productivity and GDP and labor.
- Conclusion: 2008-2009 was about credit market shocks, not productivity shocks.

It May Not Have Been a Productivity Shock, and I Do Not Want to Say It Was, But...

- I am not sure I buy Fabrizio and Vincenzo's way of ruling it out.
- Positive cross-country output comovement in productivity-driven cycle?
 - One can build IRBC models that generate that, precisely by incorporating Kiyotaki-Moore-type mechanisms, as shown by Iacoviello and Minetti (*JME*, 2006).
 - They assume that the ability to recover value from borrowers' assets differs between domestic and foreign lenders.
- Negative productivity-employment comovement?
 - Basu, Fernald, and Kimball (*AER*, 2006): Technology improvements are contractionary in models other than RBC.
- If all that we are interested in understanding were positive output comovement across countries and recession going along with a productivity improvement, maybe a sticky-price Iacoviello-Minetti model would do the trick with productivity-driven cycle.
- But let me reiterate: I do not mean to say that the 2008-2009 recession was triggered by a productivity shock.

More on Productivity

- Following are two figures from recent work by Susanto Basu.
- They show the paths of a standard TFP measure and a capital-and-labor-utilization-adjusted measure that builds on Susanto's *AER* work with John Fernald and Miles Kimball and further work by John Fernald with Kyle Matoba (Fernald and Matoba, 2009, FRBSF).
- Two facts emerge:
 1. A standard measure of TFP indicates that TFP dropped in the recent recession—as it did in 1991 and (less so) in 2001.
 2. However, utilization-adjusted TFP increased sharply, differently from 1991 and 2001.
- I am indebted to Susanto for conversations that generated the comments below.

Figure 1
TFP and Utilization-Adjusted TFP

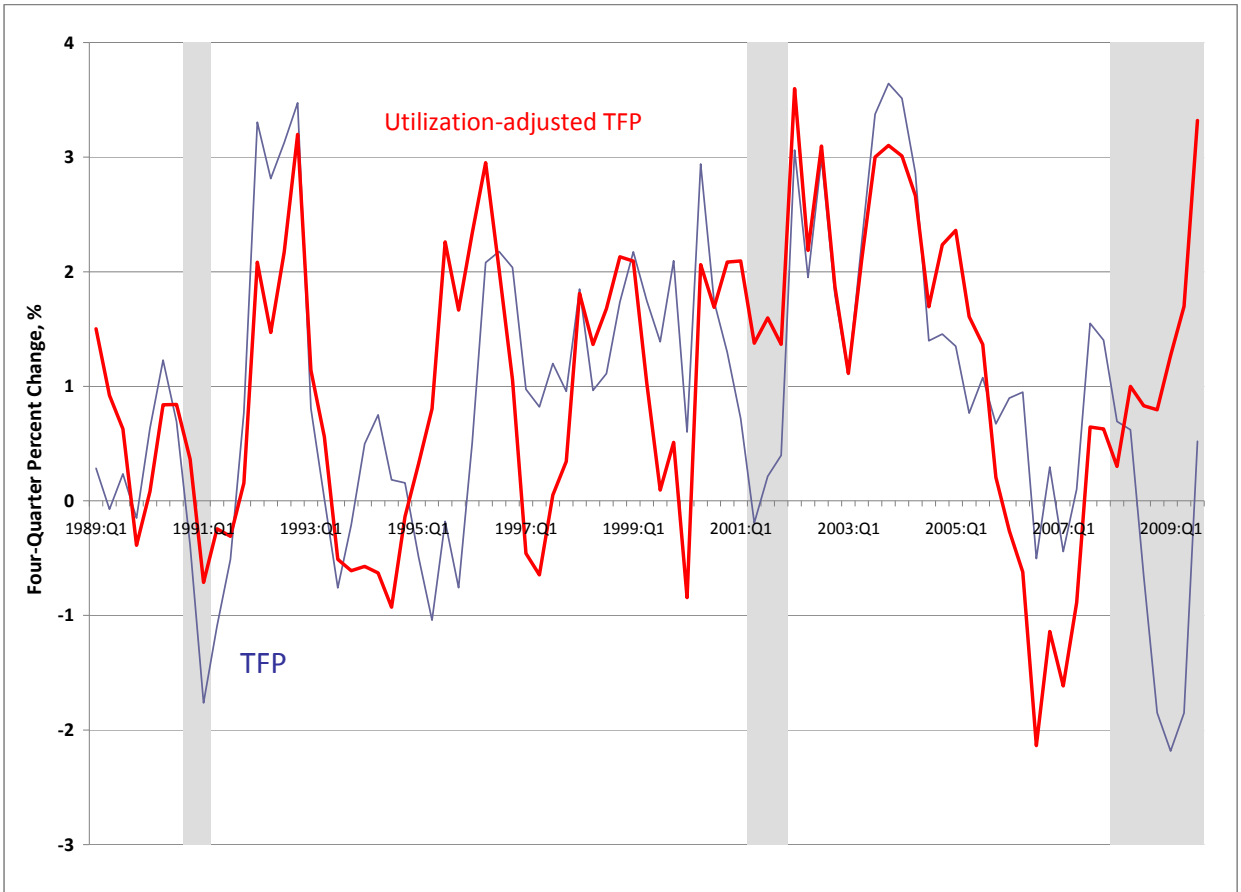
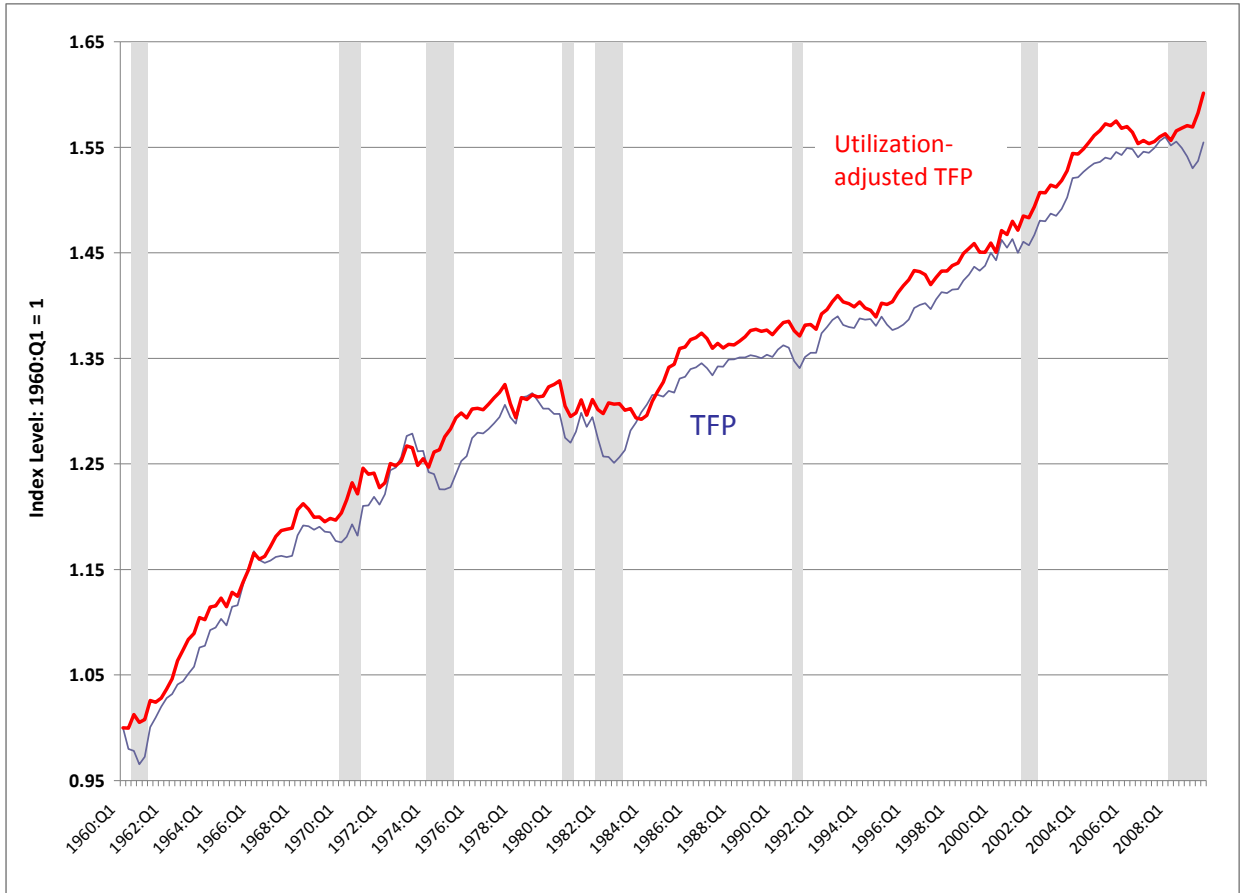


Figure A1
TFP and Utilization-Adjusted TFP



More on Productivity, Continued

- The production function in this paper is:

$$y_t = z_t (k_t^\theta h_t^{1-\theta})^\nu .$$

- If $\nu = 1$ (CRS), the standard measure of TFP generated by the model in response to a credit shock is *constant*.
 - The model would miss the drop in standard TFP and the increase in utilization-adjusted TFP during the Great Recession.
- With $\nu = .9$ (the value used in Fabrizio and Vincenzo's exercise), we have DRS, and TFP would actually rise when inputs fall in response to the shock.
 - The usual TFP calculation assumes CRS. IRS makes TFP procyclical, and DRS makes it countercyclical, even if z_t is constant.
- Fabrizio and Vincenzo could say that variable utilization (not modeled) would explain the decline in the standard measure of TFP in the data, while utilization-adjusted TFP rises because of DRS.
- Nevertheless, with $\nu = .9$ (or other plausible values of ν), the model would still be quite far from capturing the increase in utilization-adjusted TFP documented by Susanto.

Starting from the End

- From the paper's Conclusion: "Although the paper illustrates the importance of [credit] shocks, it does not provide an explanation of what could cause a credit shock. More research is needed to identify the sources of these shocks."
- From my perspective, understanding the *source* of the Great Recession should be central to understanding its propagation and to the next task of evaluating policy responses.

Iacoviello (2010): “Financial Business Cycles”

- DSGE model with recession initiated by losses of financial institutions, and exacerbated by their inability to extend credit to the real economy.
- The shock that triggers the recession is the default by a small sector of the economy—borrowers who use their homes as collateral—on their loans.
- When banks hold little equity in excess of regulatory requirements, portfolio losses require them to recapitalize or deleverage immediately.
- By deleveraging, banks transform the initial shock into a credit crunch, and they amplify and propagate the financial shock to the real economy.
- In Matteo’s experiments, borrowers default resulting in credit losses of about 4 percent of GDP lead to a 3 percent drop in output.

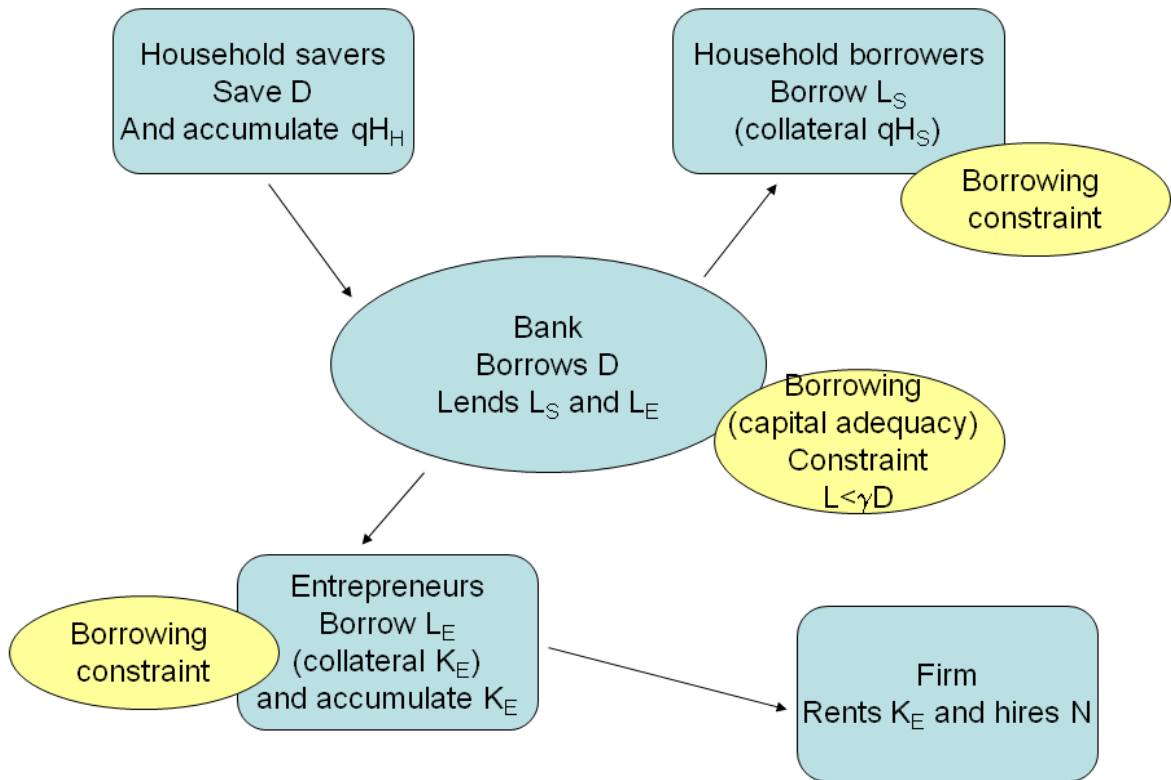


Figure 1: Summary of the Model Structure

Banking Shock: Bank vs No-Bank Model, Flexible prices

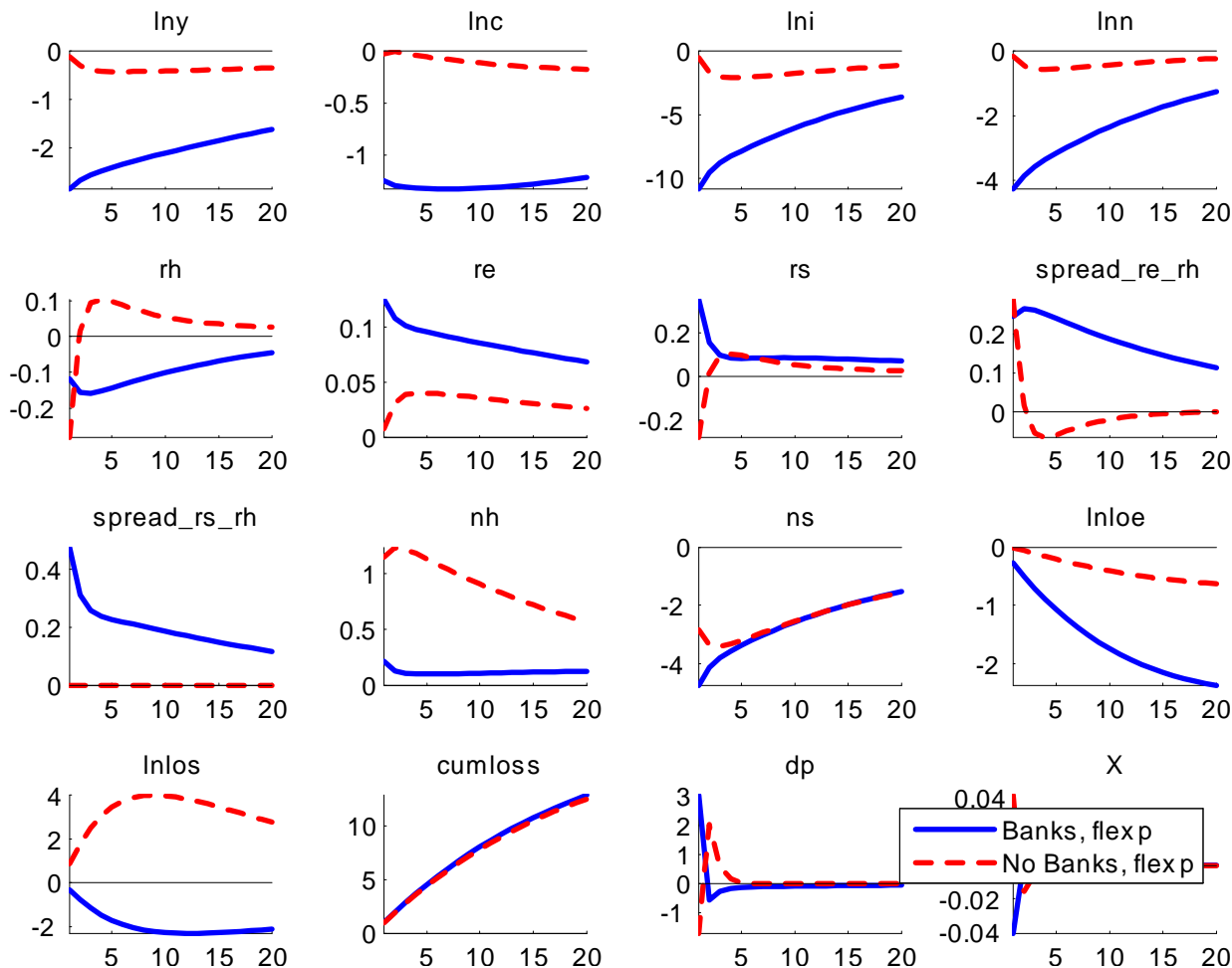


Figure 2: Impulse Responses to a Financial Shock: baseline banking model vs no-banking model.

The shock is a (persistent) repayment shock that leads to credit losses (cumloss) for banks of 4% of GDP after one year (10% after four years). The variables plotted are loans to entrepreneurs, loans to households, household savings, output, consumption, investment, (all expressed in percentage deviation from the initial steady state); and losses over GDP, interest rates and spreads, in quarterly basis points.

Note: Each model period is a quarter. The y-axis measures percent deviation from the steady state.

Iacoviello (2010): “Financial Business Cycles,” Continued

- The shock that triggers the recession is modeled as an exogenous drop in the amount of loan repayment in the budget constraint of household-borrowers, rather than an exogenous shock in the borrowing constraint.
- To some extent, that is not entirely satisfactory either—ideally, we would like the model to explain also why some households end up defaulting.
- Nevertheless, I view Matteo’s work (and work by others in macro) as very valuable for us to incorporate in international macro models that go deeper into the sources of the recession.

Starting “Before the End”

- The 2008-2009 meltdown was the culmination of a process that started some years before the crisis, in which asset price and international imbalance dynamics played crucial roles.
- Global imbalances fueled reckless lending (and borrowing) in the U.S. in the (misguided) expectation of ever increasing house prices and in a world of over-optimism about insurance from securitization (Boz and Mendoza, 2009).
- To some extent, modeling the international Great Recession simply as the response to an exogenous credit shock amounts to starting from the end: the end of that process and then its consequences.
- I think our understanding of the Great Recession (and policy evaluation exercises) should not be separated from the dynamics that led to it.
- Fabrizio and Vincenzo’s model implies that international financial market integration *mitigates* the domestic consequences of a credit market shock.
- But if we “started before the end,” wouldn’t we say that international financial globalization was among the preconditions that contributed to the magnitude of the problem in the first place?

Business Cycle Shocks versus Great Recessions (or Depressions)

- I also think we should be cautious before rushing to model phenomena like the 2008-2009 recession in terms of a “regular” business cycle shock in a log-linearized model.
- Rolling cross-country GDP correlations in the paper show that correlation *really* spikes up for the latest recession.
- Doesn't this (among other possible observations) suggest that we should treat this as a very special event?
 - And would we say that also the 2001 recession was credit-shock driven (since there is negative correlation of productivity and hours)?
- I am not sure we should model events like those of the last two years using standard log-linearization and shocks that, once introduced in the models, should be treated as “triggers” of regular business cycles.

Conclusion

- I enjoyed this paper very much, and I think it is a great starting point for further research.
- My preference would be to focus on the sources of the international Great Recession—the sources of the credit collapse—and the role of financial institutions to understand its propagation and draw lessons for policy.
- This may force us to acknowledge the difference between 2008-2009 and the regular business cycle in our analyses and models.