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## *Panel Discussion*

# Structural Economic Modeling: Is It Useful in the Policy Process?

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International Research Forum on Monetary Policy

Washington D.C.

26 March 2010

## YES IT IS USEFUL

- Is calculus useful for engineering?
- Is knowledge of anatomy useful for surgery?
- Conclude:
  - Structural modeling is an indispensable tool for macroeconomists.
  - Having a tool is necessary but not sufficient for good policy design.
  - Pretending to not have a structural model in mind is a falsehood—all approaches to macroeconomics have a theory behind them, implicitly or explicitly.
  - Explicit theories have the virtue of laying the assumptions bare for examination and criticism.
- But ...
  - ... the models we need are big and complicated.

## THIS TALK

- We all know what needs to be done:
  - *Organize a more intensive national research effort in macroeconomics.*
- What we have today:
  - Back rooms (academia) and front rooms (policymakers) of macroeconomics.
- The back room research has been brilliant ...
- ... but has often been resisted in the front room.
- As a result, we are nowhere near where we need to be in terms of having a useful, comprehensive macroeconomic model that we can use to get the economy to perform at its peak level.

## BACK ROOMS AND FRONT ROOMS

- Sargent's amusing description of academia—*back rooms*—versus policymaking—*front rooms*.
- My caricature of the back room versus the front room:
  - Back room: States and parameters are known by all, and policy choice is menacingly complicated.
  - Front room: States and parameters are known by none, but policy choice itself is disarmingly simple.
  - Back room: Stationarity assumptions are commonplace, but data are often untrusted.
  - Front room: Stationarity considered unlikely, but thirst for data is unquenchable.
- Implication: The focus in the policy world is on determining the state of the system by looking at lots of data.

## A COMMENT ON FORECASTING

- Really, we track the economy.
- We try to understand the quarters immediately past, the current quarter, and the coming quarter.
- Beyond that, many forecasts are a near random walk, with only slow reversion to mean.
- It is possible that the forecastable component of economic activity may never be much greater than it is today.
- Problem: A credible forecast is itself influencing the actions of forward-looking actors in the economy.
- Bottom line: Better forecasting is welcome but is not the ultimate objective.

## BETTER POLICY IS THE PRIMARY GOAL

- Better policy is the main objective.
- Improved policy could deliver better outcomes—possibly dramatically better—even in a world in which the forecastable component of real activity is small.
- Actual policy is like best practice medicine.
- Actual policy is slow to adapt to suggestions from the research frontier: Stick with policy adjustments which seem to have worked well in the past.

## THE BACK ROOM RESEARCH

- The academic research in macroeconomics over the past 30 years has been brilliant.
- The advances in the level of understanding of the intricacies of the economy have been astonishing.
- The main lesson:
  - The global economy is no simple system governed by a few equations.
  - The fact that the economy is populated by purposeful, forward-looking actors has huge ramifications for policy.
  - Optimal policies may not look like the policies currently in place.
  - To put a satisfactory, comprehensive macroeconomic model together is a Herculean task.

## THE STICKING POINT

- The policy community—the front room—continually resisted the developments in macroeconomics for decades.
- Instead, there was general condemnation from this community of the new approaches as unrealistic and impractical.
- There was more truth in this early on, and much less truth in it today.
- The current crisis cannot be blamed on Lucas and Prescott having too much influence in the policy world!

## IMPROVED MACROECONOMICS

- We need a more intensive national research effort in macroeconomics.
- Our current effort is not sophisticated enough to handle the challenges that lie ahead.
- We are beyond the point where a few professors or a small group of researchers can make a major advance.
- We need a determined effort to put together a satisfactory, comprehensive model.
- We should not allow ourselves to be off the research frontier.
- Daunting? Yes, but we build aircraft carriers and space stations.

## COMPREHENSIVE ENOUGH

- Keep very negative outcomes as a possibility inside the model, so that policy choice can be evaluated with the very negative possibilities in mind.
  - Leading example: Financial panic.
- Be able to understand trade-offs of policy choice on a more global level.
- With small models, policymakers have to guess what the effects might be on aspects of the economy outside the analysis.
  - Leading example: Low interest rates as a prelude to a bubble.

## FINANCIAL INTERMEDIATION

- We know from the literature that frictions in the intermediation process can profoundly affect the general equilibrium.
- Why assume these frictions away?
- We also have a long line of literature following Diamond and Dybvig (1983) concerning bank runs and related phenomena.
- This should be integrated into our macro models, so that we can understand how our policies are affecting the probability of a run.
- Also: global versus local policy analysis—
  - The run is a departure from the neighborhood of the targeted equilibrium.

## MONEY AND LIQUIDITY

- There is a large theoretical literature that attempts to be more rigorous about the nature of money demand.
- This literature should move closer to the data from financial markets.
- Especially interesting are Gorton's (2008) ideas about repos as privately-issued money.
- We cannot make progress on this issue with money-in-the-utility function assumptions.

## INTERNATIONAL

- Globalization is upon us.
- Our understanding of the international linkages between monetary and fiscal policies is tenuous at best.
- Still, a critical challenge going forward is to understand the impact of rapid development in much of the world on the global equilibrium.

## HETEROGENEOUS HOUSEHOLDS

- We know that policies have an uneven impact.
- The last decade has witnessed a burgeoning research agenda on heterogeneous households.
- With this technology we can better analyze the general equilibrium effects of policies across households.
- It is hard work, computationally intensive.

## MULTIPLE EQUILIBRIA AS “BUBBLE-LIKE” PHENOMENA

- Two decades, two bubbles.
- It is time for the policy community to embrace the concept of multiple equilibria from the macroeconomic research world.
- That would give us policymakers at least one way to coherently address these issues.
- The typical policy response in the literature: Adopt a policy that kills off the undesirable equilibria.

## LEARNING AND RATIONALITY

- Much of the criticism of macroeconomics is associated with the idea that there is “too much rationality.”
- But the rational households in the models can readily be replaced with learning households, and the analysis can proceed from there.
- This raises new issues, such as learnability of an equilibrium.

## GROWTH AND HUMAN CAPITAL

- The pace of long run growth is the most important aspect of economic performance.
- We should be analyzing stabilization policies in conjunction with growth policies.

## OTHER AREAS

- These are just examples of the types of features a satisfactory model would have.
- We would like to be able to understand the trade-offs between many policy choices.
- Above all, we would like to be able to understand where the real dangers are:
  - Big ticket welfare losses are associated with leaving the neighborhood of a targeted equilibrium.
  - This has to be a possibility inside the models.

## CONCLUSIONS

- The nation needs a more aggressive and better-funded research effort in macroeconomics.
- The current level of effort is unlikely to meet the many challenges the U.S. faces going forward.
- The level of complexity is beyond what individual researchers can handle.
  - Small, shortcut models are going to be wildly wrong on many dimensions.
- The task is daunting, but the nation will spend a great deal on other large projects arguably of lesser consequence.



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