

How to Build a Useful Macro Model

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How can macro theorists construct models that are helpful in both understanding and effectively responding to real-world stabilization problems? From my experience in supporting the highest levels of policymaking during macro crises ranging from the 1970s stagflation to the 2007-09 Great Recession, the most promising approach has five steps.

First, carefully identify the nature of the problem. While frequently ignored, this step is critical and requires close attention to gathering and interpreting evidence. Pay particular attention to data that challenge your preconceptions. Also be heedful of what practitioners say about their own relevant behavior. Many economists think it's OK to dismiss practitioner testimony. That is a terrible mistake.

Second, review relevant models in the literature, looking for those that are insightful with respect to the problem at hand. Third, think hard about what sort of model would best fit the mosaic of evidence produced in step one and, if existing theories don't work, figuring out why. (Be open to the possibility that a new framework may be needed. If so, don't despair. Building a unique useful macro model in circumstances in which mainstream analysis has somehow become inadequate ranks among the most satisfying professional experiences an economist can have.) What are the capacities a relevant theory must have? The economic literature provides a valuable start. In almost all cases, theorists cannot do better than grounding their analysis in the fundamental principles of optimization and equilibrium. I further recommend patiently tinkering with the various, mostly obvious, constraints on rational exchange that inherently exist in modern, highly specialized economies and look promising in producing the array of facts under scrutiny. Information costs and structures have proven their power here. The role of technological restrictions have long been underappreciated.

Fourth, use only realistic assumptions, validated by the evidence, to restrict the model. Some respected theorists argue that this intuitive step is unnecessary. They are wrong. Finally, assemble and carefully test your model against the range of relevant evidence.

Mainstream macro theorists clearly did not employ the five-step approach in their modeling of the Great Recession. Their analysis was quickly doomed by their first-step failure to ignore crucial evidence. Exhibit number one is the six-million involuntarily lost jobs, a central fact of the 2008-09 extreme instability that dominant New Keynesians simply set aside. They do so because meaningful wage rigidity, a necessary condition of forced layoffs, cannot be accommodated by consensus micro-coherent general-market equilibrium, illuminating the core problem. The primary objective of the New Keynesians is to defend that mainstream model, no matter what the damage to their ability to usefully model macro instability.

Ptolemaic mainstream model-building focused on the Great Recession is a three-step process. It begins by positing that rational exchange occurs exclusively in the marketplace and is organized by stochastic dynamic general equilibrium. No other analytic structure is considered. The next step is to deduce within that framework, enriched with some financial infrastructure, as much as possible about macro instability. Finally, and this is must be difficult, proactively ignore the crucial evidence that the market-centric general-equilibrium model cannot, absent free parameters, accommodate. Most significantly, they must ignore that their market-centric model class cannot support causality from nominal demand disturbances to involuntary job loss and evidence-consistent movement in employment and output. It follows that they must downplay the obvious centrality of total spending in macro instability. It also follows that they will never come close to usefully explaining the macrodynamics of actual recessions, big or small. (See, for elaboration, next week's post.)

Generalized-exchange macroeconomics featured in the GEM Project is, not surprisingly, my favorite illustration of the five-step model-building process. Its particular problem to be corrected is the demonstrated uselessness of mainstream macro theory in helping stabilization authorities understand and properly respond to the Great Recession. (The real-time complaints of policymakers have been frequently documented in the GEM Blog.) The new model identifies as relevant a wide, eclectic range of evidence from the already mentioned six-million involuntary job losers in the 2007-09 contraction to the chronic payment of wage rent by highly specialized firms. It is especially interested in the practitioner evidence on how those firms rationally manage employees in the context of inherently costly, asymmetric information, a restriction that we know prevents the labor market from efficiently pricing labor. Clearly a macro theory that restricts rational exchange to the marketplace will not do.

The identification of necessary model capabilities, guided by the evidence, easily focuses on the centrality nominal demand disturbances in the market failures that produce significant contractions of employment, output, and income. It is easy to conclude that adequate theory must rationally suppress wage recontracting, suggesting the relevance of models constructed by Early Keynesians, efficiency-wage theorists, and first-generation internal-labor-market (ILM) analysts who dominated mainstream American labor economics during the middle 20th century. The GEM Project was informed by an extended period of tinkering with the two-venue analysis. That work was especially attentive to ILM-identified rational constraints on optimizing workplace behavior that are rooted in inherent information asymmetries. Generalized-exchange macroeconomics gradually took shape. Testing that intuitive workplace-marketplace rational-behavior model generated a gratifying result. It is consistent with the wide range of evidence identified in step two.

Unlike mainstream thinking, the GEM Project's workplace-marketplace synthesis is consistent with Bernanke's *ad hoc* 2008-09 demand-management policies that were successful in preventing a collapse into depression. It provides a roadmap for dealing with future episodes of extreme instability, whatever their cause, and better enables proper appreciation for the extraordinary job that the Fed Chairman and his crisis management did in 2008-09. Generalized exchange is the future of stabilization-relevant macroeconomics.

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