The Alarming S/B/M Model, Part III

Author : James Annable

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Faced with ever-accumulating evidence supporting heliocentricity, early astronomers persisted interpreting new facts within Ptolemy's established geocentric theory of the solar system. Most refused to consider the alternative model, instead focusing on progressively more foolish Rube-Goldberg-like adjustments to geocentric mechanics. The enduring message is that theorists in any field are being Ptolemaic if their primary objective is to support established thinking at the cost of ignoring superior theories. A contemporary example is mainstream macroeconomists who are becoming more and more Ptolemaic. The process is perhaps most on display in the huge investment in search-match-bargaining (S/M/B) modeling in the longstanding effort to explain cyclical unemployment.

Regis Barnichon and Andrew Figura (B-F), working within the S/M/B framework, engage in Ptolemaic modeling in their "Labor Market Heterogeneity and the Aggregate Matching Function", appearing in the most recent *AEJ:M*. They endeavor to explain equilibrium unemployment indirectly by focusing on the relationship between the job-finding rate ($F=H/U$) and "aggregate labor-market tightness" ($G=V/U$), where H denotes total hires, V is total job vacancies, and U is total unemployment. By definition, $H/U=\Delta E/U+S^v/U+S^i/U$ and $k=V/H$, where ΔE is change in total employment, S^v represents voluntary job separation (quits), S^i denotes involuntary job separations (layoffs and downsizing), and k is an exogenous scalar that relates vacancies and new hires. B-F regress $F=H/U$ on $G=V/U$. If their empirical variables are well-specified, G equals $k(H/U)$ and the estimation residual tracks k, which the authors believe represents match-function efficiency (m). They then add some worker and market characteristics in the attempt to explain the behavior of m, especially in recession.

While accepting the B-F measure of vacancies to be well specified requires a leap of faith, there is bigger game here than data problems. It is time to challenge the S/M/B model itself. The core problem is the approval implicit in B-F's first sentence: "The search and matching model… has become the canonical framework to introduce equilibrium unemployment in macroeconomic models." The hard fact is that acceptance of that framework as the go-to model of stabilization-relevant labor behavior has put mainstream macroeconomics on a dead-end path.

B-F modeling of unemployment in recession becomes a Rube-Goldberg exercise once they adopt the S/M/B focus on new hires (H), in place of directly modeling the involuntary job loss (IJL) that is shown by the evidence to be the actual engine unemployment cyclicality. H is rendered a poor proxy for IJL by its combining S^i with contracting employment (ΔE) – two large numbers in recession that largely cancel each other out. B-F appear not to understand that m, even if reliably estimated to track k, retains little information on S^i and, consequently, tells us next to nothing about cyclical joblessness. Unlike hiring (H), unemployment (U) does not net out S^i. Everybody familiar with BLS data knows that, in recession, IJL surges and accounts for most of the increase in unemployment. (See Chapter 1.) That IJL is always the driving force in cyclical joblessness cannot be simply ignored. That rock-solid fact dooms any unemployment theory that suppresses S^i to stabilization irrelevance.

Playing the ignored, albeit superior, model in this Ptolemaic tragicomedy is the generalization of rational exchange from the marketplace to the large-establishment workplace. As featured in the GEM Project, the two-venue model centrally microfounds meaningful wage rigidity. Given continuous-equilibrium MWR, forced job loss rationally results from adverse nominal demand disturbances. Directly modeling IJL uniquely demonstrates the criticality of the discretionary management of total spending in the amelioration of business cycles. By contrast, the message that results from focusing on H, V and m, i.e., the Rube Goldberg apparatus that B-F task to explain cyclical joblessness, is the criticality of matching efficiency. In S/M/B modeling, welfare loss in recession is associated with insufficient investment in recruitment; and the indicated policy response to increasing involuntary unemployment centers on improving match efficiency.

Consider three tests for Ptolemaic modeling. First is Occam's razor – a great enemy of Ptolemaic thinking. B-F indirect modeling of unemployment is ultimately a Rube-Goldberg construct that badly violates Occam's rule of compact explanation. Indeed, it is not unfair to conclude that S/M/B theory has become canonical in the modern analysis of unemployment *because* of its round-about complexity, which is used to push IJL off stage. The academy needs to, and does, ignore involuntary job loss for a powerful reason. Such forced employment separation cannot be accommodated in coherent market-centric mainstream model class. (See Chapter 1.)

Second, we can consult practitioners. Paying attention to those who lay off employees as well as construct and

manage procedures governing recruitment and hiring is a good thing. After all, their behavior ultimately shows up as evidence. Practitioners are unanimous in rejecting any model purporting to explain joblessness in recession that does not feature forced layoffs. That cyclical joblessness results from varying recruitment efficiency flunks practitioners' laugh test.

Third, we can determine which of the contending models explains the greater range of important facts – always a powerful test. Which one is consistent with evidence on involuntary unemployment, quits, layoffs, downsizing, causation from nominal demand disturbances to recognizable same-direction changes in employment and output, the reluctance of large firms to cut money wages, the large-establishment concentration of involuntary job loss in recession, wage rents chronically paid by large establishments, and on and on? A tell-tale characteristic of Ptolemaic modeling is the sharply limited range of significant facts with which they are consistent. Much of the art of S/M/B modeling is the careful selection of evidence to explain.

Finally, we come to the most discouraging part of the story. Macroeconomists surely know, deep down, that their huge investment in S/M/B modeling can never produce coherent, stabilization-relevant unemployment. They must know that modeling involuntary joblessness within a market-search framework is a recipe for failure. Most consequentially, they must know that S/M/B, used to shift attention from IJL and thereby sidestep the difficult issue of wage rigidity, cannot also support responsible stabilization-policy advice.

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