Axiomatic Assumptions

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This post continues the grand theme of the GEM Project. How to best construct theories of macro phenomena that actually explain the range of costly instability that occurs in highly specialized economies? Readers know that Project guidelines begin with rationality. This Blog has repeatedly demonstrated the superiority of motivating economic models with optimizing behavior. A second guideline concerns emphasis. The primary focus of the Project is properly informing the nominal-to-real nexus that is at the core of practical macroeconomics. Its essential message, as a result, is the necessity of meaningful wage rigidity, which in the circumstances of costly, asymmetric workplace information suppresses wage recontracting. Readers know that no stabilization-relevant macro theory fails to suppress wage recontracting. Microfounded MWR allows the Project to explain crucial evidence produced by instability that mainstream theorists must ignore. A third class of Project model-building guidelines, however, has received less attention. Theory assumptions must at least be consistent with available evidence. Indeed, the generalized-exchange theory goes further, requiring its significant analytic assumptions to be axiomatic.

Axiomatic assumptions are a great improvement over the arbitrary assumptions of convenience routinely used in mainstream macro modeling. Robert Lucas, the towering pioneer of the modern consensus market-centric general-equilibrium approach that displaced the stabilization relevant analysis of the Early Keynesians, is my straw man. In a 1996 interview with John Cassidy (2010, p.192), he admitted that: "I write down a bunch of equations, and I say this equation has to do with people's preferences and this equation is a description of the technology. But that doesn't make it so. Maybe I'm right, maybe I'm wrong. That has to be a matter of evidence." Had Lucas not skipped the critical step of making sure that his assumptions about preferences and technology were axiomatic, his models would have had a much better chance to be stabilization-relevant as well as being consistent with continuous optimizing equilibrium. Maybe his modesty a year after accepting the Nobel Prize was a hint to policymakers not to take his macroeconomics too seriously.

Reference Standards

Here's the specific message of this post. Truly axiomatic labor-related assumptions in all economic modeling must recognize both the strong employee preference for fair treatment (especially in workplace hierarchies of authority) and the costly asymmetric information that has, since the Second Industrial Revolution, increasingly restricted worker-management interaction.

Three types of reference standards calibrate the worker's inherent preference for fair treatment. They have been formally modeled in the GEM Project. (In other words, the hard work has been done.) There exists a set of pairings of workplace outcomes and inputs $\mathbf{K_{ij}} = \{\mathring{O}^a/\mathring{I}^a, \mathring{O}^b/\mathring{I}^b, \mathring{O}^c/\mathring{I}^c\}$, demonstrating completeness and transitivity, for which the employee's preference relation is satisfied by the set's least upper bound: sup $\mathbf{K_{ij}}$. (The three classes a, b, and c are defined below.) The preference for equity (and the desire for redress of unfair treatment) is today understood to be axiomatic, an outcome of evolutionary biology that was long ago embedded in neural networks as our distant ancestors adapted to survival advantages available from group cooperation. From a prominent neuroscientist: "Our instincts for sensing and responding to fair exchange evolved in a social environment where tit for tat was king. What you did to me today was coming back to you tomorrow in kind."

There is little disagreement among practitioners that wage comparisons and concepts of equity and fairness pervade the labor-pricing process. For example, Milkovich and Newman, authors of a well-known business text on wage policymaking, anchor their analysis in the first chapter: "Equity forms the building block, the foundation on which pay systems are designed."

Reference Wages

The reference wage ($W^{\acute{n}}_{ij}$) is the monetary payment that is consistent with the least upper bound of $\mathbf{K_{ij}}$. When wages are the only endogenous outcome and inputs are unchanged, $\mathbf{K_{ij}} = \{W^a, W^b, W^c\}$; and the worker's preference for fair treatment is satisfied by $W^{\acute{n}}_{ij}$= sup $\mathbf{K_{ij}}$. Informing the three classes of reference standards (a, b, c) that calibrate the employee's preference for fair treatment occurs during on-the-job interactions (often involving informal training) as veteran workers inculcate new hires with a particular calibration for their inherent preference for equitable treatment. Given firm-specific employee homogeneity, $W^{\acute{n}}_j$=sup $\mathbf{K_j}$.

When wages are the only variable job outcome, the three classes of reference standards can be defined in terms of labor compensation. In this post, illustrative descriptions of each will be sufficient.

Best alternative employment. The first reference standard ($W^a=W^m$) reflects market opportunity cost, i.e., the best alternative wage upon separation from firm *j*. This reference standard incorporates competitive labor-market behavior into workplace theory. Self-interested workers will accept no less than their market wage. Surveys are widely used by large firms to gather information on the best-alternative reference standard. In practice, rational managements always exercise latitude in translating survey information into wage policies.

Interpersonal standards. The interpersonal reference standard (W^b) becomes established over time and is a familiar concept to even casual observers of labor behavior. Wage comparisons and concepts of equity pervade the wage-setting process and provide a critical framework for practitioner action. Arbitrators, for example, make frequent use of established standards of comparison in wage cases. Indeed, when such standards do not exist, arbitrators typically seek to create them. The literature on the establishment and maintenance of interpersonal reference standards in wage determination is large and longstanding.

From the variety of factors generating interpersonal wage comparisons, analysts have identified three as most significant:

- Workplace proximity. Employees typically have substantial knowledge about the compensation paid to their colleagues working in the same unit, creating discontent when existing relationships are violated.
- Similar work. Individuals seek and typically obtain knowledge about compensation paid to workers who do the same or similar tasks as the individual. Consequently, a wage reduction relative to this reference class causes dissatisfaction. This characteristic extends comparisons beyond the worker's immediate work unit to elsewhere in the organization.
- Similar fixed inputs to the job. A related criterion for assessing fair treatment used by workers is the perceived similarity of fixed inputs ($Î^f$) to the job. As defined above, such inputs include seniority, age, education, and established work skills.

Intertemporal standards. The final reference class (W^c) additionally becomes established over time. If work on a job has yielded regular growth in the real wage, that path develops legitimacy in the mind of the employee. A reduced rate of improvement is unsatisfactory. Intertemporal standards help translate the static nominal efficiency-wage associated with the workplace-exchange relation (WER) into a dynamic real efficiency wage. This third set of reference standards also introduces history into the labor-pricing process. More formally, the reference standard introduces a unit root and path dependency into rational wage dynamics. Our look at the GEM Project's insistence on axiomatic assumptions continues next week.

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