

# The GEM Project and Aggregate Demand

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The GEM Project's fundamental contribution to stabilization-relevant macroeconomics is its reworking of aggregate supply. In particular, it derives meaningful wage rigidity, capable of rationally suppressing wage recontracting, from axiomatic principles. GEM aggregate supply better reflects the highly-specialized, large-scale production of goods and services that has, since the Second Industrial Revolution, become globally ubiquitous. The payoff is that microfounded MWR interacts with nominal demand disturbances to uniquely induce involuntary job loss and evidence-sized changes in employment, output, and profit. The first modern theory of wage determination generates a large set of significant policy implications.

The Project's contribution to the modeling of aggregate demand, the centerpiece of the Keynesian revolution, is more modest, largely rooted in explaining episodes of extreme instability of total spending. In the most recent example, such instability separated the 2008-09 Great Recession from garden-variety downturns. GEM advances in demand-side modeling are motivated by three ideas. The first is featured in work by Nancy Stokey (2009). In the GEM version, once investors/lenders become uncertain about future macro trends (especially the adequacy of total demand), they become more inactive, postponing acquisition of assets until the uncertainty dissipates. Second, as noted above, is the microfounded nominal-to-real causality that powerfully propagates macro, often financial, shocks. The third, also featured in the GEM Project, links investor/lender macro uncertainty to the loss of credibility of stabilization authorities' trend real-side (employment/ output) objective. Such credibility, denoted by  $\bar{C}$  in the Project, is increasing in the degree to which the future states of the macroeconomy are believed to be consistent with stabilization authorities' objectives. (Chapter 6)

If  $\bar{C}$  is the lynchpin of severe contractions, why do modern theorists relegate central banks' trend full-employment objective to playing a distant second fiddle to the low, stable inflation goal? Here is the tough-love answer. Given that consensus market-centric general-equilibrium modeling cannot coherently accommodate MWR or otherwise rationally suppress wage recontracting, mainstream theorists avoid confronting model incoherence by downplaying nominal-to-real causality in their instability narratives, pushing aggregate demand and involuntary job loss into the shadows of modern business-cycle research. Labor-market search-match analysis and its voluntary unemployment instead occupy center stage; and, by default, inflation becomes the star of the stabilization show.

## Acute Instability Macrodynamics

*Demand disturbances.* The GEM Project bimodally separates nominal spending disturbances. Stationary demand disturbances (SDD) reflect the contained, temporary weakening of total spending associated with garden-variety recessions. Nonstationary demand disturbances (NND) are much more exciting, reflecting unchecked spending collapses associated with acute instability that overwhelms automatic stabilizers and Fed purchase of short-term Treasury debt. (Chapter 10) NDD critically differs from SDD by introducing uncertainty into investor/lender perceptions of the credibility of stabilization-authorities' trend real-side objective. As noted, damaged  $\bar{C}$  induces investors and lenders to become more inactive, awaiting a credible reversal in collapsing total demand. The economy experiences a breakdown in its capacity to recycle saving into spending, the market failure that Bernanke (1984) identified as central to 1930s depression macrodynamics. (Chapter 6)

*Investment outlays.* In modeling NDD, the GEM Project focuses on investment outlays, the most volatile component of total spending. The basic model is:

$$I(t) = f(\bar{C}(t))N(t), (1 - \bar{C}(t))\Phi(t),$$

such that  $\Delta I / \Delta N > 0$ ,  $\Delta I / \Delta \Phi > 0$ ,  $0$