



STRUCTURAL TRANSFORMATION AND UNEMPLOYMENT EQUILIBRIUM

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Views about 2008 crisis

- Before the crisis, the US (and to a large extent the global) economy was “sick,” supported by a real estate bubble, that led to a consumption bubble
 - Bottom 80% of Americans were consuming roughly 110% of their income
 - Not sustainable
 - Even after deleveraging, savings rate is likely to exceed 6% in US
 - Higher than today, implying weak demand going forward
 - More than a financial crisis—banks basically back to health
 - More than a balance sheet crisis—balance sheets back to health
 - Corporations sitting on a couple of trillion dollars of cash

Financial and Real Crisis

- While bubble “hid” underlying problems, it left in its aftermath additional problems
 - Excess capacity in real estate
 - Excess leverage
- Major mistake of Administration was to think that fixing the banking system would “suffice”
 - But they didn’t succeed in restoring lending to SME’s
- But even deleveraging won’t suffice to restore economy
 - Won’t (and shouldn’t) return to world with consumption 110% of income
 - Though with deleveraging (and fixing other problems) *growth* might be restored to normal
 - To restore economy to true full employment will require growth of more than 3% over an extended period of time
 - Current employment not really full employment

Underlying Problem: Lack of global aggregate demand

Challenge to explain lack of demand

We have discussed role of inequality—transferring spending power to those who don't spend

Global imbalances and high oil prices have similar effects

- Asymmetric responses
 - Deficit countries have to cut back
 - Surplus countries don't expand in a corresponding way

Money put into reserves—not translated into spending on goods

One of reasons for reform of global reserve system

Global financial system that recycled savings towards potential spenders (infrastructure in developing countries) would have helped

- Our financial system hasn't done this very well
 - Argument for new institutions (BRICS bank, AIIB)

STRUCTURAL TRANSFORMATION

- Great Depression was structural transformation from agricultural to manufacturing—this downturn is a **structural transformation from manufacturing to services**
 - Productivity growth well in excess of *global* growth in demand
 - Implying decrease in demand for labor in manufacturing *globally*
 - If labor gets “trapped” in declining sector, then income will decline
 - Good reasons to be trapped
 - Large costs of moving out—new investments required
 - But shock has undermined human and financial capital

Real consequences of distributive changes

- Technical change can always induce large distributive consequences
 - Standard models ignore these
 - With perfect markets, winners can compensate losers — but they seldom do
 - **With free mobility all workers *can be* better off (though with labor saving innovation, all workers could also be worse off)**
- With imperfect markets, those in rural sector worse off
 - decrease in welfare of those in “trapped sector” has spillover effects on others
 - Everyone can be worse off (immiserising innovations)
- And especially if there are efficiency wage effects, there can be adverse macroeconomic consequences

Basic Model

Two sectors (industry, agriculture)

$$(1) \beta\alpha = \beta D^{AA}(p, p\alpha) + E D^{MA}(p, w^*)$$

$$(2) H(E) = \beta D^{AM}(p, p\alpha) + E D^{MM}(p, w^*) + I$$

β is the labor force in agriculture, $(1 - \beta)$ is the labor force in industry,

α is productivity in agriculture,

D^{ij} is demand from those in sector i for goods from sector j

w^* is the (fixed) efficiency wage in the urban sector,

I is the level of investment (assumed to be industrial goods),

p is the price of agricultural goods in terms of manufactured goods, which is chosen as the numeraire, and

E is the level of employment ($E \leq 1 - \beta$);

and where we have normalized the labor force at unity.

equilibrium

- Demand equals supply of agricultural goods

Higher employment in manufacturing leads to higher demand for food, and hence higher p .

- Demand equals supply of manufactured goods

Higher price of agriculture goods leads to higher income in rural sector, and thus more manufacturing employment

Can be multiple equilibrium

Most of analysis focuses on impact on (stable) equilibrium from parameter shifts that shift MM and AA curves

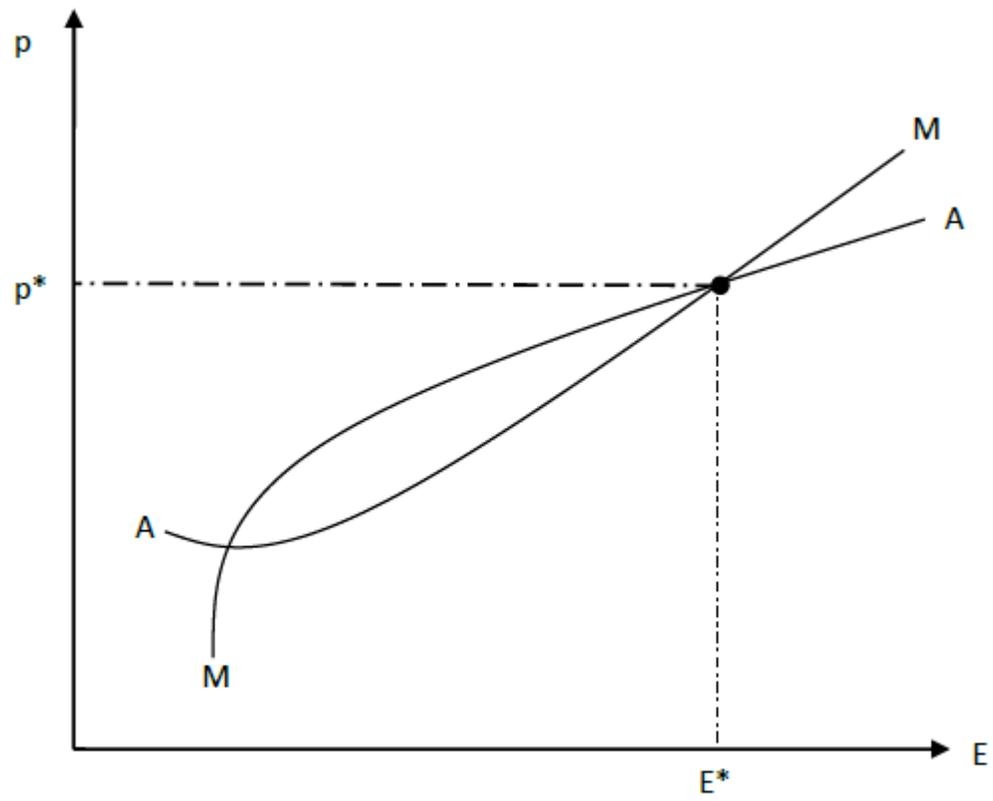


Figure 1

Results

Normally (under stability condition, other plausible conditions) with immobile labor

an increase in agricultural productivity unambiguously yields a reduction in the relative price of agriculture and in employment in manufacturing.

The result of mobility-constrained agricultural sector productivity growth is an extended economy-wide slump

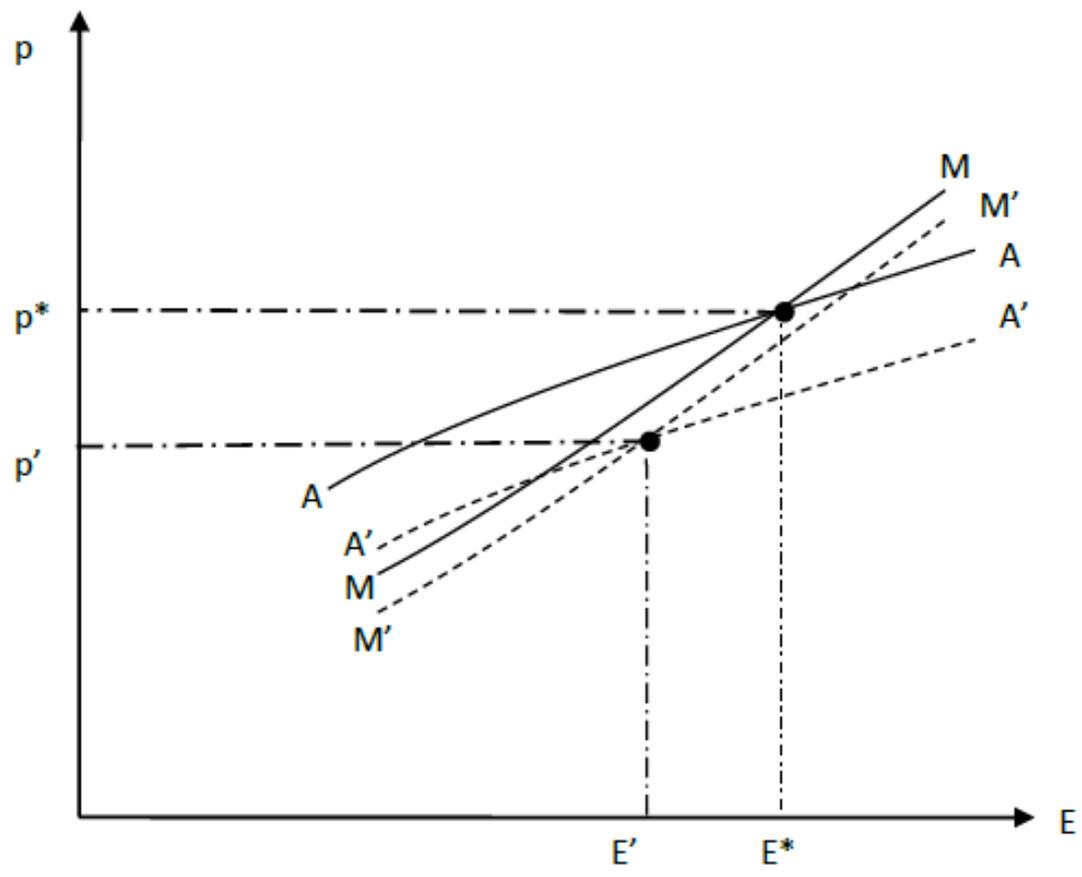


Figure 2. The effects of an increase in agricultural productivity

Great Depression

- From 1929 to 1932, US agriculture income fell more than 50%
- Productivity increase exceeded increase in demand
- Exacerbated by globalization
- While there had been considerable mobility out of agriculture in the 1920s (from 30% to 25% of population), in the 1930s almost no outmigration
 - Labor was trapped
 - Could not afford to move
 - High unemployment meant returns to moving low

Government Expenditures

- Under the stability condition, an increase in government expenditure increases urban employment and raises agricultural prices and incomes
 - In figure, productivity shock shifts employment from E^* to E'
 - Keynesian stimulus brings economy back to E^*

Even though problem is structural, Keynesian policies work

Even more effective if spending is directed at underlying structural problem

- Migration subsidy can help economy adjust, overcoming market imperfection

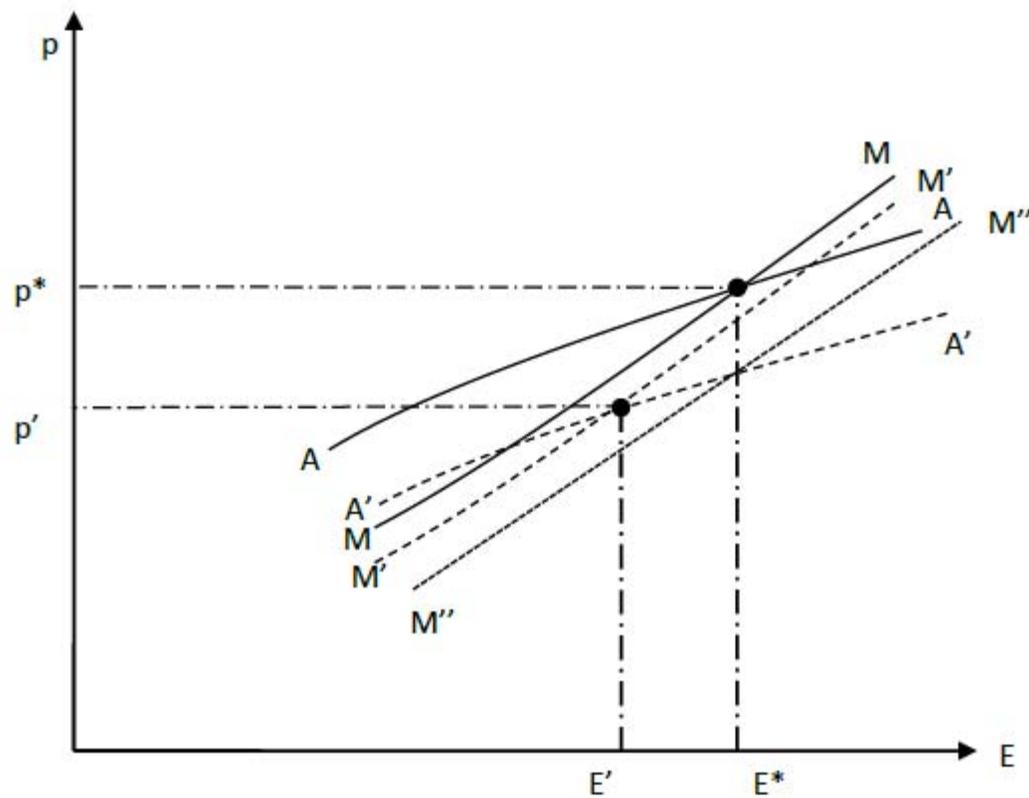


Figure 3. Impact of Keynesian stimulus:

an increase of G shifts the MM curve shifts from $M'M'$ to $M''M''$ and increases both employment and rural prices.

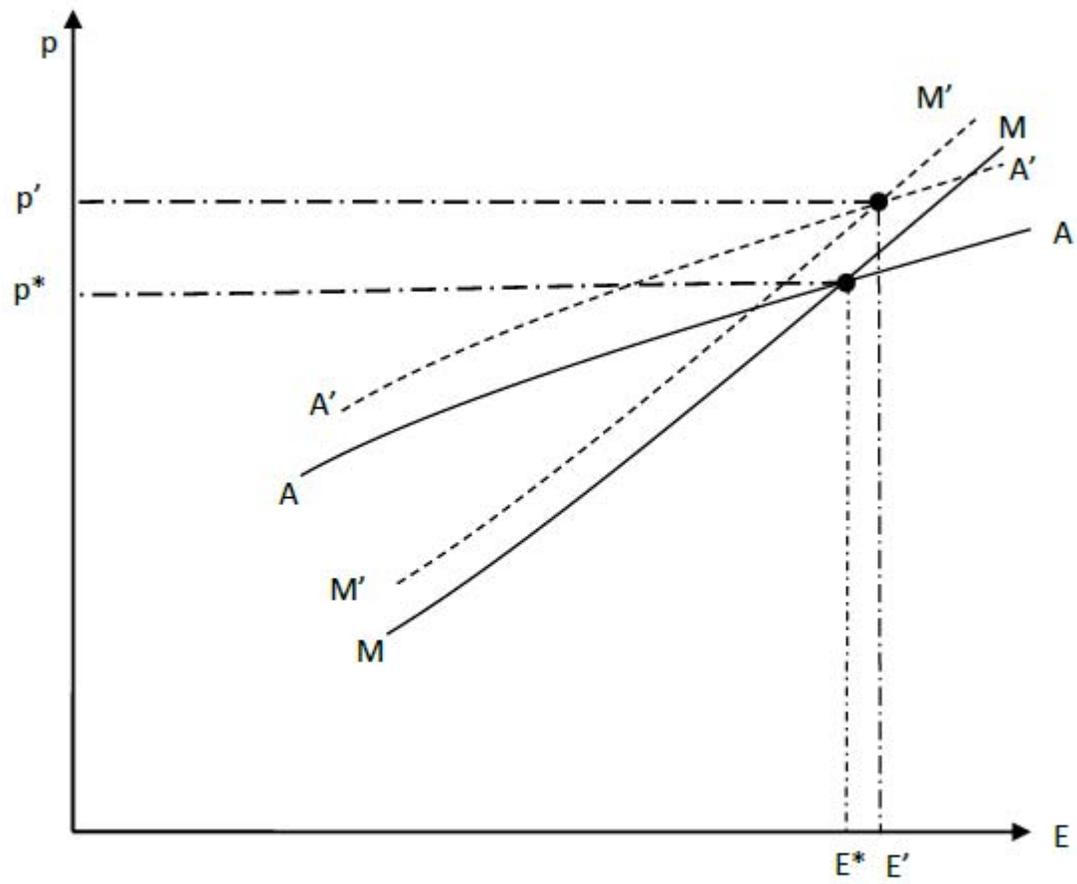


Figure 5. Effects of Migration Subsidy.

Emerging from the Great Depression

- New Deal was not big enough to offset negative effects of declining farm income
 - And New Deal was not sustained
 - Cutbacks in 1937 in response to worries about fiscal deficit led once again to a downturn
- And much of Federal spending offset by cutbacks at state and local level
- Analogous to current situation, where government employment fell by nearly 1 million from where it was before crisis
 - Local government alone lost 824,000 since the peak of employment in September 2008

War

- WWII was a massive Keynesian stimulus
- Moved people from rural to urban sector
- Provided them with training
- Especially in conjunction with GI bill
- *It was thus an “industrial policy” as well as a Keynesian policy*
- Forced savings during War provided stimulus to buy goods after War
 - In contrast to the legacy of debt now

Wages

In model, under normal condition, lowering urban wages lowers agricultural prices and urban employment

- *High (rigid) wages are not the problem*
- *Lowering wages would lower aggregate demand—worsen the problem*
- *In this crisis, the US—country with most flexible labor market—has had poor job performance, worse than many others*

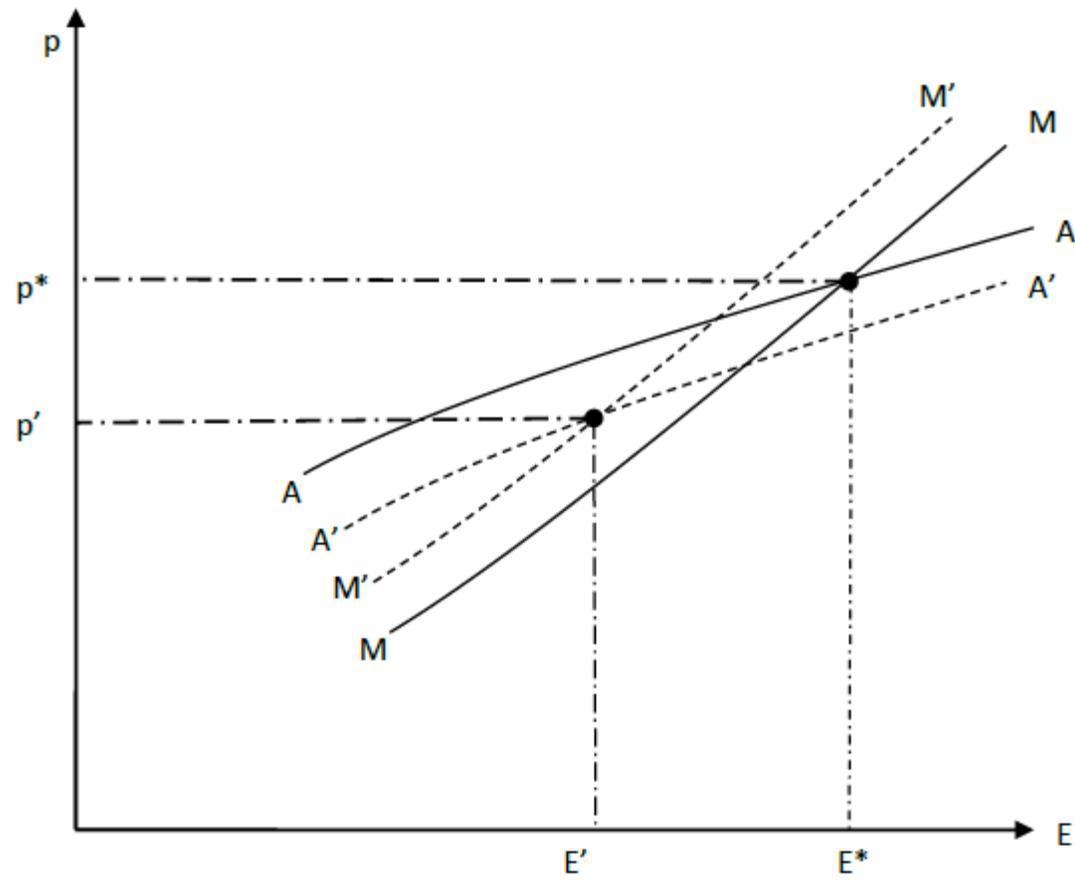


Figure 4. The effects of downward wage adjustments.

Financial and Real Causes of Downturn

- This theory emphasizes that underlying downturn was real “shock,” not monetary shock
 - With an additional set of “frictions” from that usually discussed—a real friction
- Banking crisis was a result of the economic downturn, not a cause
- But financial crisis can help perpetuate downturn

Monetary policy was not cause of Depression

- And it is unlikely that it could have, by itself, reversed downturn, contrary to claim of Friedman
- This recession has provided test of monetary hypothesis
 - Massive monetary expansion
 - May have saved the banks, but didn't resuscitate economy

Monetary arrangements do matter

- But gold standard did inhibit adjustment
 - But not the source of perturbation
- Countries that left gold standard (like Argentina) did better
 - Though some of gains were based on “beggar thy neighbor” competitive devaluations
- *Internal devaluation is no substitute for exchange rate flexibility*
 - Internal devaluation has real balance effects

Lessons of these experiences for current downturn

- Structural transformation
 - From manufacturing to service sector
 - Exacerbated by globalization
- Advanced countries will get declining share of declining global manufacturing employment
 - Attempts to revive manufacturing may only exacerbate price declines
 - Will have important consequences for China, Germany, Japan
- This transformation may be easier in some ways than transformation from agricultural to manufacturing
- But in two ways worse:
 - expanding service sectors—health and education—involve large government; austerity is impeding transition
 - Eurozone structure and policies may be worse than gold standard/policies