Monetary Science, Fiscal Alchemy

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Monetary Science vs. Fiscal Alchemy

- Remarkable transition in monetary policy
  - agree on objectives of targeting inflation in long run & stabilizing output and inflation in short run
  - emphasize dynamic behavior & expectations
  - acknowledge uncertainty
  - devote resources to modeling these things

- No comparable transition in fiscal policy
  - no consensus on objectives (except sustainability)
  - dynamics and expectations minimized or ignored
  - analyses based on static, Keynesian hydraulics
  - little serious research at fiscal institutions
Science & Alchemy

- Monetary policy is not at the scientific pinnacle
- Fiscal policy is not entirely voodoo
- I mean that, in general,
  - monetary policy employs systematic analytics
  - fiscal policy uses unsystematic speculation
- If you explicitly model the things that we know matter—expectations, purposeful behavior, dynamic adjustments, uncertainty—you’re doing science
- Otherwise, you’re doing alchemy
Why Should Central Bankers Care?

- Mervyn King: central bankers obsessed with fiscal policy
- For good reason: bad fiscal policy has been the source of most high- or hyper-inflations
- But the problem is more insidious
  - fiscal alchemy poses few problems for monetary policy in normal times; fiscal expectations are anchored by past fiscal behavior
  - demographics in most advanced economies put ever-increasing demands on government spending on old-age benefits
  - an era of fiscal stress: net present value of “unfunded liabilities” in G-20 averages over 400 percent of GDP; U.S. long-term imbalance is $75 trillion (PV)
- What anchors fiscal expectations in era of stress?
Fiscal Policy is Harder Than Monetary Policy

- Fiscal policy is complex
  - many different tax and spending instruments
  - issues of debt management
  - dynamic behavior and expectations central
  - beliefs about (possibly distant) future policy adjustments matter
  - effects are very long lasting

- Fiscal policy is political
  - taxes and spending have direct distributional effects
    - fiscal changes have winners and losers
    - often can link those effects to specific policy decisions
    - these are inevitably political choices
  - but there are also less political aspects
1. Explain how monetary and fiscal policy *jointly* stabilize aggregate demand and the value of government debt

2. Discuss the coming era of fiscal stress, macroeconomic consequences of possible policy responses, and roles of dynamics and expectations in resolving the problem

3. Propose a way to separate intrinsically political aspects of fiscal policy from less political parts
Paper also does a bunch of other stuff
How Monetary and Fiscal Policies Interact

- Simple world—monetary & fiscal policy have only two tasks: stabilize inflation and government debt
- Beautiful symmetry: two different policy mixes that can accomplish these tasks

**Regime M:** conventional assignment—MP targets inflation; FP targets real debt

**Regime F:** alternative assignment—MP maintains value of debt; FP controls inflation

- Two regimes produce different equilibria
- Regime M is the normal state of affairs
- Regime F may arise in an era of fiscal stress
Monetary and Fiscal Interactions: Regime M

- MP behavior completely familiar: target inflation by aggressively adjusting nominal interest rates
- FP adjusts future surpluses to cover interest plus principal on debt
- What is FP doing?
  - any shock that changes debt must create the expectation that future surpluses will adjust to stabilize debt’s value
  - adjustments need not be instantaneous
  - people must believe adjustments will occur eventually
  - for MP to target inflation, fiscal expectations must be anchored on FP adjusting to maintain value of debt
Anchors Away

- In normal times, past fiscal behavior anchors expectations
- Era of fiscal stress is unlike the past
  - promised old-age benefits are rising relentlessly
  - no serious plan to deal with the problem
  - no history of resolving political problems from demographic shifts
- It’s reasonable for people to think other policy adjustments may occur
- If people believe it’s possible surpluses won’t adjust, the conventional regime can unravel
Fiscal limit: for economic or political reasons, taxes cannot rise and spending cannot fall to stabilize debt.

Hypothetical: one party refuses entitlements reform; other party refuses tax hikes.

If fiscal adjustments cannot maintain value of debt, fiscal expectations anchored away from debt stabilization.

Regime F puts economy at fiscal limit.

Need only for fiscal limit to be possible for Regime F effects to kick in.
Governments issue mostly nominal bonds

- 90% U.S. debt; 80% U.K. debt; 95% Euro-area debt; most of Australian, Japanese, Korean, New Zealand, & Swedish debt

In Regime F:

- FP sets primary surpluses independently of debt
- MP prevents interest payments on debt from destabilizing debt (as it’s now doing)

Current and expected inflation—or bond prices—adjust to line up market value of debt with expected surpluses
A Ubiquitous Equilibrium Condition

Market value government liabilities =
Expected present value primary surpluses + seigniorage from period $t$ onward

- Left side $= \frac{M_{t-1} + Q_t B_{t-1}}{P_t}$
- Right side involves expected paths of discount rates, revenues, expenditures, & seigniorage
- Asset-pricing condition: government liabilities derive their value from expected discounted “cash flows”
- Condition holds in all dynamic models
Using the Equilibrium Condition: Regime F

\[
\frac{M_{t-1} + Q_t B_{t-1}}{P_t} = E \text{ PV(Surpluses from } t \text{ onward)}
\]

- Increase in current or expected transfers
  - no offsetting taxes expected, household wealth rises
  - lower expected path of surpluses reduces “cash flows,” lowers value of debt
  - individuals shed debt in favor of consumption, raising aggregate demand
  - higher current & future inflation and economic activity
  - long bonds shift inflation into future

- Demand for debt ⇔ aggregate demand (Cochrane)
Surprising Implications: Flight to Quality

\[ \frac{M_{t-1} + Q_t B_{t-1}}{P_t} = E \ PV(\text{Surpluses from } t \text{ onward}) \]

- “Flight to quality”
  - shift from risky assets to government bonds
  - sharp reduction in real discount rates
  - increase in \( E \ PV(\text{Surpluses}) \)
  - large & sudden revaluation in debt
  - drop in aggregate demand
  - lower inflation & economic activity now and in future

- Possible source of deflation fears?

- Ultimate source of demand is fiscal news—beyond central bank’s control
Era of Fiscal Stress

U.S. “Unfunded Liabilities.” Source: CBO Long-Term Budget Outlook
Projections of U.S. federal government debt as a percentage of GDP.
Source: CBO Long-Term Budget Outlook, 2009 & 2010
## Era of Fiscal Stress

<table>
<thead>
<tr>
<th>Country</th>
<th>Aging-Related Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>482</td>
</tr>
<tr>
<td>Canada</td>
<td>726</td>
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<tr>
<td>France</td>
<td>276</td>
</tr>
<tr>
<td>Germany</td>
<td>280</td>
</tr>
<tr>
<td>Italy</td>
<td>169</td>
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<tr>
<td>Japan</td>
<td>158</td>
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<td>Korea</td>
<td>683</td>
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<td>Spain</td>
<td>652</td>
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<td>United Kingdom</td>
<td>335</td>
</tr>
<tr>
<td>United States</td>
<td>495</td>
</tr>
<tr>
<td><strong>Advanced G-20 Countries</strong></td>
<td><strong>409</strong></td>
</tr>
</tbody>
</table>

Worldwide “Unfunded Liabilities.” Net present value of impact on fiscal deficit of aging-related spending, in percent of GDP. Source: IMF
Fiscal Stress: A Constructive Approach

- CBO’s projected path of “promised” transfers
- Posit beliefs about how future policies will adjust
  1. Tax rates rise with debt; promised transfers delivered; MP targets inflation [variant of Regime M]
  2. Tax rates rise to some limit; delivered transfers less than promised; MP target inflation [Regime M]
  3. Tax rates rise to some limit; promised transfers delivered; MP stabilizes debt [Regime F]
- Embed in dynamic, forward-looking model, so expected policies must be sustainable
- What are the macroeconomic consequences of alternative policy adjustments?
Wide Range of Possible Outcomes

Range of possible outcomes for macro variables due to uncertainty about future policy. Dashed blue lines are 25th and 75th percentile bands; solid red lines are 10th and 90th percentile bands.
Inflation Has a Fat Tail

Left scale: average paths of inflation (solid red line) and 10-year-ahead expected inflation (dashed red line); Right scale: average paths of inflation (solid black line) and 10-year-ahead expected inflation from 0.5 percent tail of distribution (dashed black line)
Toward Fiscal Science

- Does the intrinsically political nature of fiscal policy destroy hopes of becoming science?

- Fiscal policy is political for good reason
  - tax and spending changes affect income distribution and benefit some as the expense of others
  - those parts of FP should be decided in political realm

- But broader aspects of FP are not primarily political
  - should there be a target debt-GDP ratio?
  - are there times when that target should change?
  - how rapidly should debt be returned to target?
  - should monetary policy play a role in debt stabilization?
  - what are the macro consequences of alternative policy responses to the era of fiscal stress?
Toward Fiscal Science

- If can reach professional & societal consensus on the questions & their answers...
  - can subject these to systematic analytics
  - use answers to provide guiding principles
  - aggregate aspects will constrain politically determined parts

- Other more immediate steps
  - create *truly* independent overview of fiscal decisions
  - invest in FP research as we have in MP research
Economic developments seem to be outstripping our understanding

As long as it keeps practicing alchemy, fiscal policy will be too political and too confused to help

We are left to rely entirely on monetary policy to grapple with every new macroeconomic problem

It’s time to bring fiscal policy back as a player in macroeconomic stabilization