Will You Get Your Medicare?
And Other Fiscal Matters

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February 2012
IU Winter College
The Message

If we allow the
The Message
to distract us from the
The Message

we make more likely the
Era of Fiscal Stress

- Short-run fiscal imbalances
## The Stimulus Package

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</thead>
<tbody>
<tr>
<td><strong>Budget Authorization</strong></td>
<td>379.0</td>
<td>114.7</td>
<td>53.6</td>
<td>11.2</td>
<td>9.8</td>
<td>16.2</td>
<td>580.9</td>
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<tr>
<td><strong>Outlay Rises</strong></td>
<td>120.1</td>
<td>219.3</td>
<td>126.2</td>
<td>46.2</td>
<td>30.3</td>
<td>27.9</td>
<td>575.5</td>
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<tr>
<td><strong>Revenue Cuts</strong></td>
<td>64.8</td>
<td>180.1</td>
<td>8.2</td>
<td>−9.9</td>
<td>−2.6</td>
<td>−5.4</td>
<td>213.0</td>
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<tr>
<td><strong>Net Increase in Deficit</strong></td>
<td>184.9</td>
<td>399.4</td>
<td>134.5</td>
<td>36.2</td>
<td>27.7</td>
<td>22.5</td>
<td>788.5</td>
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*Billions of Dollars. Source: Congressional Budget Office*

A mix of tax cuts, infrastructure spending, direct purchases & transfer payments
To see this point most clearly, it is useful to consider the historical experience and CBO's projections for three broad categories of the budget: revenues; spending for Social Security, Medicare, and other major health care programs; and all other spending excluding interest payments.

**Revenues.**

Revenues have averaged 18.0 percent of GDP during the past 40 years (see Figure 8). They have varied substantially around that level but show no clear trend. Under current law, revenues equal 15.3 percent of GDP in 2011 and will rise to about 21 percent of GDP in 2021; if, instead, all of the tax provisions that are scheduled to expire under current law were extended, revenues in 2021 would be close to their historical average of 18 percent.

Individual income tax receipts account for most of the projected increase in federal revenues over the coming decade, largely because of scheduled changes in tax law and features of the tax system that cause revenues to rise faster than income over time, as well as projected increases in receipts that reflect an expected rebound in taxable income.

**Figure 8.** Revenues and Spending, Excluding Interest
(Percentage of gross domestic product)

Source: Congressional Budget Office.
Under CBO's baseline assumptions, deficits would drop from 8.5 percent of GDP this year to 1.2 percent of GDP in 2021. However, deficits would not fall as far if certain policies were continued. CBO estimates that the deficit would be 4.7 percent of GDP if those policies remained in place.

Deficit Assuming Continuation of Certain Policies (Percentage of GDP)

Source: Congressional Budget Office.

Note: “Extend Tax Policies” reflects the following policy assumptions: Most of the provisions in the 2010 tax act that were originally enacted in 2001, 2003, 2009, and 2010 are extended (instead of being allowed to expire on December 31, 2012, as scheduled), and the alternative minimum tax is indexed for inflation. “Maintain Medicare’s Payment Rates for Physicians” involves preventing the nearly 30 percent reduction in Medicare’s payment rates for physicians’ services that is scheduled to take effect at the end of 2011. “Additional Debt Service” is the amount of interest payments on the additional debt issued to the public that would result from the continuation of the specified policies.
Figure 6. Federal Debt Held by the Public
(Percentage of gross domestic product)

Source: Congressional Budget Office.

Note: The projected debt with the continuation of certain policies is based on several assumptions: first, that most of the provisions of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Public Law 111-312) that originally were enacted in 2001, 2003, 2009, and 2010 do not expire on December 31, 2012, but instead continue; second, that the alternative minimum tax is indexed for inflation after 2011; and third, that Medicare's payment rates for physicians are held constant at their 2011 level.

Significant and increasing pressure on the budget. The number of people age 65 or older will increase by roughly one-third between 2011 and 2021, causing that segment of the U.S. population to climb from 13 percent to 17 percent of the total; beyond 2021, that share will rise further. In addition, the major health care legislation enacted in 2010 will increase the number of beneficiaries of federal health care programs, and CBO projects that the costs of those programs per beneficiary will continue rising (albeit at different rates because of differences in the laws that govern them). All told, outlays for Social Security, Medicare, and Medicaid—which will account for 44 percent of all federal noninterest spending in 2011—will continue to rise relative to GDP and to consume a growing share of the federal budget.

The Budget Control Act of 2011
CBO's current baseline projections show smaller deficits than the agency estimated earlier this year primarily because of the enactment of the Budget Control Act of 2011. Provisions in that act:

12. Those earlier projections are shown in Congressional Budget Office, An Analysis of the President's Budgetary Proposals for Fiscal Year 2012 (April 2011). For an analysis of the Budget Control Act of 2011, see Congressional Budget Office, letter to the Honorable John A. Boehner and the Honorable Harry Reid estimating the impact on the deficit of the Budget Control Act of 2011 (August 1, 2011). The estimates discussed here do not include the effect of initiatives in the Budget Control Act to enhance “program integrity,” which depend on future appropriations and will be incorporated into CBO’s baseline if they are implemented in the future.
Federal Debt as a Share of the Economy

- Civil War
- WWI
- Great Depression
- WWII
- Reagan
- Today
Deficit Fears

- The week the stimulus passed, Obama pledged to reduce deficit by 50% within four years.
- Congress reluctant to extend Bush tax cuts, unemployment benefits.
- Many European countries, after big fiscal stimuli in 2009, are now cutting spending & raising taxes, and slipping back into recession in 2012.
- U.S. trying to follow suit, with less actual action.
- Fiscal austerity is occurring even in the face of a weak economic recovery.
- Governments’ decisions driven by fear and speculation about fiscal crises—some justified, some not.
An economic theorem

United States $\neq$ Greece

High deficits & rising debt are normal & healthy during downturn

- worst recession & banking crisis since Great Depression
- extraordinarily slow recovery, especially in employment
Recession a Whopper

CBO expects that the economic recovery will continue but that real (inflation-adjusted) GDP will stay below the economy's potential—a level that corresponds to a high rate of use of labor and capital—until 2017.

Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

Notes: Real gross domestic product is the output of the economy adjusted to remove the effects of inflation. Potential GDP is CBO's estimate of the output that the economy would produce with a high rate of use of its labor and capital resources. Data are quarterly. Actual data for GDP, which are plotted through the second quarter of 2011, incorporate the July 2011 revisions of the national income and product accounts. Projections of GDP, which are plotted through the fourth quarter of 2021, are based on data issued before the revisions. Shaded bars indicate periods of recession.

Actual versus Potential GDP
Why is This a $\text{\textdollar}$?

- An economic theorem
  
  United States $\neq$ Greece
  
- High deficits & rising debt are normal & healthy during downturn
  
- There is always a tradeoff between short-run stimulus and long-run sustainability
  
- Fiscal institutions do not guarantee policies that are sustainable in long run
  
- Policymakers aim to prove their *long-term* bona fides through *short-term* austerity
  
- Whether austerity is good policy is not part of the calculus
Why is This a Fish?

- Applying the theorem United States ≠ Greece
- Greece has reached its “fiscal limit”
  - politically costly to raise revenues or cut spending
  - can no longer borrow without paying huge premium
- U.S. very far from its *economic* limit
- U.S. has history of honoring its debt by adjusting taxes & spending
- Can just retire debt back to pre-recession levels (as always)
- Fears of an impending U.S. fiscal crisis are unfounded and distracting from the real issues
What is the Long-run fiscal stress?
Dependency Ratio: Population 65 and above relative to ages 15-64

- Blue: 1960
- Red: 2005
- Green: 2050

Countries include: Australia, Argentina, Brazil, Canada, China, Germany, India, Indonesia, Japan, Korea, Mexico, Russia, Spain, Turkey, UK, USA, Advanced, Emerging.
Massive “Unfunded Liabilities”

- Like many advanced economies, U.S. headed into prolonged **era of fiscal stress**

<table>
<thead>
<tr>
<th>Country</th>
<th>Aging-Related Spending</th>
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<tbody>
<tr>
<td>Canada</td>
<td>726</td>
</tr>
<tr>
<td>France</td>
<td>276</td>
</tr>
<tr>
<td>Germany</td>
<td>280</td>
</tr>
<tr>
<td>Italy</td>
<td>169</td>
</tr>
<tr>
<td>Japan</td>
<td>158</td>
</tr>
<tr>
<td>Korea</td>
<td>683</td>
</tr>
<tr>
<td>Spain</td>
<td>652</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>335</td>
</tr>
<tr>
<td>United States</td>
<td>495</td>
</tr>
<tr>
<td>Advanced G-20 Countries</td>
<td>409</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
But Wait... There’s More

- Some facts about long-run U.S. fiscal position
  1. Budget imbalance in Social Security, Medicare, Medicaid: $75 trillion
  2. Shortfall in state pensions: $3.3 trillion
  3. Cost of making Bush tax cuts permanent: $4 trillion
  4. Potential loses from Freddie Mac and Fannie Mae: $1 trillion

- Pretty soon you’re talking real money
- But the problem is not today’s deficit—it’s all future deficits
- Congressional Budget Office accounting tells much of the story
Federal Spending Commitments: Long Term

- Social Security
- Medicare and Medicaid

Percentage of GDP

- Medicare and Medicaid
- Social Security
Federal Debt: Long Term

Baseline Scenario 2009
Baseline Scenario 2010
Alternative Scenario 2009
Alternative Scenario 2010

Percentage of GDP

100
200
300
400
500
600
700
800
900
Policy Responses to Fiscal Stress
Message in Long-Run Projections

- These projections cannot happen
- Some assumptions underlying projections cannot hold
  1. economies will grow out of projected deficits
  2. governments will default outright on debt
  3. fiscal policies will adjust surpluses to stabilize debt
  4. paths of inflation will turn out different from assumed
  5. some combination of the four
- Only Dr. Pangloss could believe 1
- Europe makes clear how onerous is 2
- Most central bankers hope for 3
  - what are the prospects for significant entitlements reform? consider the demographics & voting patterns
Prospects for Entitlements Reform

The level of public fiscal discourse in Greece
Prospects for Entitlements Reform

The level of public fiscal discourse in U.S.
Message in Long-Run Projections

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- Only Dr. Pangloss could believe 1
- Europe makes clear how onerous is 2
- Most central bankers hope for 3
- I focus on the consequences of 4
Basic Concepts: Expectations

- Savings decisions today depend on
  - expected future income
  - expected return to saving

- Examples:
  1. future income lower if believe Social Security/Medicare benefit reductions likely
  2. expected return lower if believe higher taxes on investments likely

- Expectations of even distant future policies can feedback into economic behavior today
  - quantitative importance depends on people’s effective planning horizons
Basic Concepts: Interest Rates

- **Real & nominal interest rates**
  - real rate, \( r \), compensates for postponing consumption ("time value of money")
  - nominal rate, \( R \), embeds real rate & inflation
- Higher real rate: value of consumption today high relative to consumption tomorrow
  - real rate is value of goods today in terms of goods tomorrow
  - real rate is denominated in *goods*
- Higher nominal rate: value of \$1 today high relative to \$1 tomorrow
  - \$1 buys \( 1/P_t \) units of goods at date \( t \) & \( 1/P_{t+1} \) units of goods at date \( t + 1 \)
  - return on \$1 depends inversely on \( P_{t+1}/P_t \), inflation rate from \( t \) to \( t + 1 \)
- Leads to the *Fisher relation*: \( R_t = r_t + E_t \frac{P_{t+1}}{P_t} \)
Basic Concepts: Monetary & Fiscal Policies

- Monetary policy:
  - Federal Reserve sets a short-term nominal interest rate by changing bank reserves
  - to control inflation & offset economic downturns

- Fiscal policy:
  - President & Congress set variety of tax rates, government purchases, and transfer payments
  - built-in “automatic stabilizers”
  - periodic “discretionary stimulus”

- Taken together, monetary & fiscal policies are how government tries to influence the overall economy (unemployment rate, inflation rate, etc.)
Primer on Monetary-Fiscal Interactions

- A beautiful symmetry
- Monetary & fiscal policy have two tasks: (1) control inflation; (2) stabilize debt
- 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

- **Regime M:** normal state of affairs
- **Regime F:** can arise in an era of fiscal stress
Monetary-Fiscal Interactions: Regime M

- MP targets inflation by aggressively raising nominal interest rates when inflation rises (thus raising real rates)
- FP adjusts future surpluses—taxes & spending—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
  - people must believe adjustments will occur eventually
  - eliminates wealth effects from government debt
  - for MP to target inflation, fiscal expectations must be anchored on FP adjusting to maintain value of debt
- What institutions ensure expectations are so anchored?
In era of fiscal stress, no assurances that surpluses will be adjusted to stabilize debt

- witness Congressional bickering over mundane matters—debt ceiling, routine budget procedures

- and these conflicts are about the

- what happens when the needs to be addressed?

Moving to Regime F is a live option that decision makers must believe is possible
Governments issue mostly nominal (non-indexed, local currency) bonds

- 90% U.S. debt; 80% U.K. debt; 95% Euro-area debt; most of Australian, Japanese, Korean, New Zealand, & Swedish debt
- Increasing important in Latin America: Chile (92%), Brazil (89%), Colombia (77%), Mexico (75%)

In Regime F:

- FP sets primary surpluses independently of debt
- MP prevents interest payments on debt from destabilizing debt

Then market value of debt adjusts to be aligned with expected surpluses

Reduced fiscal backing—lower surpluses—lowers value of outstanding debt: raises aggregate demand
The Government’s Budget Constraint

- Governments face budget constraints

\[
\frac{B_t}{R_t} + P_t S_t = B_{t-1}
\]

- Notice that \( B_t \) connects fiscal variables at \( t \) to fiscal variables at \( t + 1 \)

\( B \): dollar value of debt; \( R \): nominal interest rate; \( P \): overall price index; \( S = T - G \): surplus (revenues less spending)

- But this constraint applies every year, \( t \)

\[
\frac{B_{t+1}}{R_{t+1}} + P_{t+1} S_{t+1} = B_t
\]
The Government’s Budget Constraint

- Apply this logic to every date in the future to link debt today, $B_{t-1}$, to surpluses at all dates in the future.
- Because we don’t know future surpluses today, we use $E_t$ to denote expectations formed at date $t$.

$$\frac{B_{t-1}}{P_t} = E_t \left\{ S_t + \frac{1}{r_t} S_{t+1} + \frac{1}{r_t r_{t+1}} S_{t+2} + \ldots \right\}$$

$r$: real interest rate

- This says that the market value of government debt equals the expected discounted present value of surpluses.
- Same reasoning underlies all asset pricing.
- Government debt derives its value from future surpluses.
- News about future surpluses or interest rates can feed into inflation today.
Monetary-Fiscal Interactions: Regime F

- In Regime F, surpluses do not react to stabilize debt
- Monetary policy keeps nominal interest rates from rising with expected inflation
- \[ R_t = r_t + E_t \left( \frac{P_{t+1}}{P_t} \right) \]
- Monetary policy keeps real rates on debt low (or negative) to stabilize debt
- Precedents for Regime F in United States:
  1. World War II
  2. 1970s
  3. period since 2008
- Because the U.S. government has no plans for financing or reforming long-term spending commitments...
- . . . it is reasonable to believe the U.S. could hit its fiscal limit and Regime F policies would be adopted
Modeling the Fiscal Limit

- Political economy of debt stabilization
- The fiscal limit reflects *willingness*, rather than *ability*, to adjust taxes & spending
  - depends on both economic conditions and political choices unrelated to economy
- At the fiscal limit, *tax rates can no longer rise*
- Fiscal limit is probabilistic to capture uncertainty about *when* or *if* economy will hit its fiscal limit
- Additional uncertainty: where will policy go at the limit?
  - Regime M or Regime F?
How Beget

- Draws on recent research on resolving fiscal stress (done in IU economics department)
- Era of fiscal stress unprecedented in U.S.
  - problem with unprecedented things is they don’t happen much
  - past policy may be a poor guide to future
- U.S. treasuries still highly valued
  - for now, people must expect future policies to adjust to back the debt
- But bond-rating agencies seem nervous about U.S. fiscal policy
- Policy institutions provide no information about future fiscal adjustments
How Beget

Feed CBO’s projection of growing “promised” old-age benefits into an economic model due to Alex Richter

Policy starts in Regime M

- promised entitlements honored
- financed with growing debt & rising taxes
- as taxes rise, probability of hitting fiscal limit rises
- people know that at the limit, where tax rates are fixed, policy will shift to
  - either entitlements reform
  - or Regime F
- they don’t know which will occur, so each is possible

Yields a rich mix of policy adjustments
1. some rise in taxes
2. some entitlements reform
3. some increase in inflation
Simulate model, reflecting uncertainty about future policies

Compute model’s predictions of GDP, employment, inflation, etc

Report outcomes *conditional on not hitting the fiscal limit*

- so assume always in Regime M where, normally, monetary policy can control inflation

Message: *Unresolved fiscal stress can dramatically increase likelihood of prolonged stagflation (high inflation & unemployment)*
Each adjustment (1)–(3) contributes to stabilizing debt

In this sense, we posit “orderly resolutions”

If promised benefits were not growing relentlessly, in the model...

- actual & expected inflation would be anchored on the Fed’s target of 0% inflation
- fiscal policy adjustments alone would stabilize debt
- fiscal expectations would be anchored on sustainable policies

With growing promised entitlements, the Fed can no longer control inflation

Rising taxes depress economic activity and growth
From black (solid) to green (triangles), households' effective planning horizons shift from infinite to 50, 17, and 10 years.
Stagflation defined as annual inflation > 4%
and output growth < 1%
Black (solid): infinite planning horizon
Blue (dashed): 10–year planning horizon
What’s Going On?

- Start with Regime M policies that
  - deliver promised transfers, raising demand & inflation
  - pay for them with mix of new debt & higher tax rates on labor & capital
  - Fed fights inflation by raising nominal & real interest rates

- As tax rates rise, electorate’s tolerance declines and probability of hitting fiscal limit increases

- At fiscal limit, tax rates fixed, so other policies must adjust to stabilize debt
  1. entitlements reform: transfers no longer grow as share of economy
  2. Regime F: inflation rises to revalue debt to be consistent with growing transfers (shrinking surpluses)
What’s Going On?

- In the model, people are well informed (too well to be realistic)
  - know probability of fiscal limit rises with tax rates
  - know possible post-limit policies
  - have views about how likely is each post-limit policy
- People form expectations of inflation, taxes, transfers, etc. based on this information
- Those expectations affect current decisions
- And determines economic outcomes even before reaching the fiscal limit
What’s Going On?

Key factors: current policies

- Higher current transfers increase wealth
  - Raises demand & inflation, lowers work effort
- Higher current tax rates harm incentives
  - Reduces employment, investment & GDP
- Fed fights inflation by raising nominal & real interest rates
  - Reduces consumption, investment & GDP
What’s Going On?

- Key factors: future policies
  - anticipated fiscal limit shifts down expected path of tax rates
    - raises expected returns to investment & current investment
  - possibility of entitlements reform reduces expected transfers
    - reduces wealth & current consumption, raises current saving
  - possibility of Regime F raises expected inflation from debt revaluation
    - raises all current interest rates & current inflation
The Emerges

- A *black swan* is a low-probability (usually “bad”) event
- Averages mask the extreme possibilities
- Inflation has a “fat tail” meaning that extremes are more likely than they normally are
- Need to examine upper tail of inflation
- Compute the average of the 0.5% upper inflation rates
Inflation rates at or above these lines occur with probability .005 (1 in 200 chance).

In absence of fiscal stress, inflation never exceeds about 4%.
Postponing is More Painful

Black (solid): entitlements reform in 15 years; blue (dashed): reform in 25 years; red (circles): reform in 35 years
Simple Economic Reasoning

- Why does fiat—unbacked—currency have value?
- Because the government accepts currency—and only currency—in payment of taxes
- Inflation arises when government prints more currency than it eventually absorbs in taxes
  - people try to get rid of currency
  - buy things
  - pushes up prices & wages
- Government can soak up currency by selling bonds
  - does this when it spends more—handing out currency—than it taxes—soaking up currency
- But bonds are promises to pay back more currency in future
- If government doesn’t soak up bonds with taxes... inflation
Simple Economic Reasoning

- Just as money gets its value from taxes...
- Monetary policy gets its power from fiscal backing
- When fiscal backing is assured, MP operates as taught in textbooks
  - MP can control inflation
  - higher interest rates—open-market sale of bonds—reduce demand & inflation
- But only if future taxes rise to soak up bonds
  - higher taxes eliminate the wealth effects of higher interest payments on government debt
- Otherwise, higher rates...
  - raises wealth
  - reduce value of bonds
  - increase aggregate demand & inflation
- It’s all about fiscal backing
Anatomy of a Fiscal Crisis (Cochrane)

- The U.S. is *not* on the verge of a fiscal crisis
- A U.S. fiscal crisis is a “run” on the dollar
  - all runs are unpredictable
- Because the U.S. takes 2–3 years to roll over its debt, run may take time to develop
- As in Keynes’s view of stock market as a “beauty contest,” investors run when they feel others will run
  - there may be little actual news to trigger the run
  - blame laid on “speculators,” “contagion,” “animal spirits,” “unanchored inflation expectations”
- Recall the value of debt is expected present value of surpluses, so news could be about
  - lower surpluses or
  - higher future real interest rates
- Critical news need not be about fiscal policy
Anatomy of a Fiscal Crisis (Cochrane)

- Source of run is worries that taxes & spending will not adjust to absorb money & bonds outstanding
  - there is nothing the Fed can do to prevent it
  - by law, Fed can only swap money for bonds & vice-versa—it cannot tax to absorb debt
- If a run takes root, U.S. debt can suddenly lose value
- People will switch out of debt and into buying goods
- This large increase in demand will inevitably be inflationary
- When the inflation hits depends on the maturity structure of debt & and on how the Fed reacts
  - longer maturity pushes inflation into the future
  - Fed can determine the timing, but not the extent of inflation
- Only way to protect against a run is put policies in place to absorb debt with higher future surpluses
Anatomy of a Fiscal Crisis (Cochrane)

- Routine Fed policy could be a source of a run
- Eventually, our economies will recover and inflation will rise
- Suppose that to combat U.S. inflation, the Fed raises rates to, say, 6% (as in 2006/07 or 2000/01)
- This will have a big impact on the fiscal deficit
  - 6% of $15 trillion in debt is $1 trillion in interest expenses
  - about doubles current deficit
- For the Fed’s action to lower inflation, Congress must raise future surpluses by $1 trillion (in PV)
- How likely is this? (Think Super Committee)
- Without fiscal backing, higher interest rates raise inflation
- Fed likely to react to higher inflation with still higher rates, etc.
What To Do?

- Even in normal times, uncertainty about fiscal policy causes people to hedge, retards growth and produces bad decisions.
- In an era of fiscal stress, fiscal uncertainty is amplified and potentially more deleterious:
  - Can undermine Fed’s efficacy.
- It’s not too late for policymakers to make meaningful reforms.
- A fiscal crisis is not inevitable.
- Need some reforms to get there:
  1. Independent scrutiny—*not decision making*—of fiscal policy.
  2. Serious analysis of alternative policies & their effects.
  3. Find aspects of fiscal policy that are less political and more susceptible to analytics.