U.S. Economic Review and Outlook

Jeff Werling
Inforum
University of Maryland
August 22, 2011
Why Model?

- Economic and social data -- raw material for reports and studies -- in comprehensive databank used for analysis.

- Building models assists and test economists’ understanding on how the economy works.

- Assist the economic analysis and forecasting process. Leverage the historic record to detect future trends. Provide a comprehensive and consistent framework to assess assumptions and structures of an economic forecast.

- Simulate “counterfactual” to produce alternative scenarios and/or to evaluate policy measures or exogenous economic shocks.
The Short Run Overview

- Growth prospects for 2011-12 are uncertain (<3%), and, currently, low (<3%).

- QE2 and budget-busting stimulus have not been able to ignite sustainable recovery.

- Correct diagnosis shows monetary and fiscal policy of limited utility. Foreclosure/bad debt overhang will continue to dampen growth.

- Consumers will continue to “delever” because of high unemployment and low net worth -- and new expectations concerning looming retirement.
**Longer term forecast (to 2035):**

- Potential GDP growth between 2.0 – 2.5%.
- Forecast assumes gradual rebalancing of private, government and external accounts.
- Weaker dollar, rising savings rate changes economic structure toward exports and away from consumption.
- Long run consequences of current fiscal recklessness will be a larger long term debt ratio.
- Health care spending (with or without reform) will dominant future of government spending and domestic production growth.
- All roads lead to tax reform. To pay for entitlements, government revenues will have to rise. How this is accomplished is important.
Deepest Post-War Recession in Employment

Employment year-on-year percentage growth

Source: Bureau of Labor Statistics
Recent GDP revisions show recession was deeper than previously thought.

Real GDP year-on-year growth

Source: Bureau of Economic Analysis
## Short-term Outlook Overview

### Real (Inflation-Adjusted) Quantities, Average Annual Growth Rates, Percent

<table>
<thead>
<tr>
<th></th>
<th>00-08</th>
<th>08-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross domestic product</td>
<td>2.1</td>
<td>-2.7</td>
<td>2.8</td>
<td>1.9</td>
<td>3.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>2.5</td>
<td>-1.2</td>
<td>1.8</td>
<td>2.0</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Nonresidential structures</td>
<td>0.7</td>
<td>-20.4</td>
<td>-13.6</td>
<td>2.0</td>
<td>15.8</td>
<td>13.6</td>
</tr>
<tr>
<td>Equipment investment</td>
<td>2.4</td>
<td>-15.3</td>
<td>15.2</td>
<td>12.0</td>
<td>12.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Residential investment</td>
<td>-3.3</td>
<td>-22.9</td>
<td>-2.9</td>
<td>-0.5</td>
<td>14.1</td>
<td>12.0</td>
</tr>
<tr>
<td>Exports</td>
<td>4.2</td>
<td>-9.5</td>
<td>11.8</td>
<td>8.0</td>
<td>6.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Imports</td>
<td>3.5</td>
<td>-13.8</td>
<td>12.7</td>
<td>7.0</td>
<td>6.2</td>
<td>3.7</td>
</tr>
<tr>
<td>Government</td>
<td>2.2</td>
<td>1.6</td>
<td>0.9</td>
<td>-1.4</td>
<td>-0.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>GDP deflator</td>
<td>2.6</td>
<td>0.9</td>
<td>1.0</td>
<td>1.7</td>
<td>2.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Consumption deflator</td>
<td>2.5</td>
<td>0.2</td>
<td>1.7</td>
<td>1.7</td>
<td>1.9</td>
<td>1.9</td>
</tr>
</tbody>
</table>
In a big hole: long recovery ahead.

Inforum’s annual GDP Gap

The graph shows Inforum’s annual GDP Gap from 1980 to 2030. The GDP Gap is measured on the y-axis, ranging from 90.0 to 110.0. The x-axis represents the years from 1980 to 2030. The graph indicates a significant gap in GDP, with a long recovery period ahead.
Monetary Policy: QE2

- At 0.1 interest rates, normal open market operations pushing on a string, liquidity trap.
- QE buys longer maturity bonds to lower LT interest rates.
- Effectiveness depends on signaling and expectations, results can be perverse (higher interest rates).
- Need 2 instruments for 2 targets: Need pull as well as the push. QE would be much more effective with fiscal stimulus.
- But rising deficits raise doubts about long run debt. (Economy between a rock and a hard place)
So far bank reserves remain piled up.

Source: Federal Reserve Board
Fiscal Policy: Stimulus 2

- Effectiveness muted given poor long-term budget outlook. Could be enhanced with credible medium-term deficit reduction and/or comprehensive tax restructuring.

CBO score for the Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010

<table>
<thead>
<tr>
<th>Change in Revenues</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2011-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Rate Extension</td>
<td>-99.0</td>
<td>-149.1</td>
<td>-66.5</td>
<td>-330.5</td>
</tr>
<tr>
<td>AMT + Estate Tax Relief</td>
<td>-90.4</td>
<td>-95.6</td>
<td>-12.6</td>
<td>-204.2</td>
</tr>
<tr>
<td>Investment Incentives and Other</td>
<td>-80.8</td>
<td>-72.8</td>
<td>-1.8</td>
<td>-110.1</td>
</tr>
<tr>
<td>Payroll Tax Holiday</td>
<td>-67.2</td>
<td>-44.4</td>
<td>0.0</td>
<td>-111.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-337.5</td>
<td>-362.0</td>
<td>-80.9</td>
<td>-756.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in Spending</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Relief/Other</td>
<td>2.2</td>
<td>39.4</td>
<td>38.8</td>
<td>80.4</td>
</tr>
<tr>
<td>Unemployment Insurance Extension</td>
<td>34.5</td>
<td>21.6</td>
<td>0.0</td>
<td>56.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36.7</td>
<td>60.9</td>
<td>38.8</td>
<td>136.4</td>
</tr>
</tbody>
</table>

| Net Change in Deficits              | 374.2 | 422.9 | 119.8 | 892.9   |

Source: Congressional Budget Office
Because of the long, slow process of deleveraging, severe financial crises are protracted affairs. 2010 view that we weathered the storm were premature.

Explosion of government debt is an almost inevitable result of financial crisis.

Seldom do countries (advanced or emerging) simply “grow” their way out of debts. Austerity/massive fiscal stimulus are both bad options.

Rather, countries face the choice of inflating debts away or restructuring/defaulting.

Today, currency and capital regimes affect that choice.
In U.S., the most significant problem remains: Balance Sheet problems for consumers, banks and others

- Effectiveness of monetary and fiscal policy are still held back by deleveraging.
- Consumers still need to reduce their debt load considerably.
- Around 25% of mortgage holders are under water (NV-66%, AZ, MI, FL~50%, CA-42%).
- Loss of paperwork impedes attempts at workouts.
- Banks are reluctant to lend without a better feel for long-term liabilities for mortgage-backed bonds.
- Solution is not to reduce interest rates or extend payment term, but to (automatically?) reduce mortgage principal. Force write-offs.
Household Net Worth: Looking Up, Slowly

Household Net Worth, Billions of $

$14 trillion !

Source: Federal Reserve Board
Total Balance by Delinquency Status
Percent Mortgage Balances 90+ Days Delinquent

Source: Federal Reserve Board
Number of New Foreclosures
Thousands of Consumers

Source: Federal Reserve Board
Household Liabilities
Percent of Household Disposable Income

Source: Federal Reserve Board
Longer term forecast (to 2035):

- Potential GDP growth between 2.0 – 2.5%.
- Forecast assumes gradual rebalancing of private, government and external accounts.
- Weaker dollar, rising savings rate changes economic structure toward exports and away from consumption.
- Long run consequences of current fiscal recklessness will be a larger long term debt ratio.
- Health care spending (with or without reform) will dominant future of government spending and domestic production growth.
- All roads lead to tax reform. To pay for entitlements, government revenues will have to rise. How this is accomplished is important.
# Long term overview

## Fall 2010 Base Forecast

Real (Inflation-Adjusted) Quantities, Average Annual Growth Rates, Percent

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross domestic product</td>
<td>3.1</td>
<td>2.6</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>2.8</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Nonresidential structures</td>
<td>8.5</td>
<td>3.1</td>
<td>0.9</td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Equipment investment</td>
<td>7.5</td>
<td>3.5</td>
<td>2.8</td>
<td>2.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Residential investment</td>
<td>9.5</td>
<td>5.1</td>
<td>2.4</td>
<td>2.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Exports</td>
<td>6.5</td>
<td>5.7</td>
<td>5.0</td>
<td>4.4</td>
<td>4.2</td>
</tr>
<tr>
<td>Imports</td>
<td>4.9</td>
<td>3.1</td>
<td>3.0</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Government</td>
<td>0.4</td>
<td>1.0</td>
<td>1.2</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>GDP deflator</td>
<td>2.4</td>
<td>2.3</td>
<td>2.2</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Consumption deflator</td>
<td>2.6</td>
<td>2.5</td>
<td>2.4</td>
<td>2.1</td>
<td>2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>15</th>
<th>15</th>
<th>20</th>
<th>20</th>
<th>25</th>
<th>25</th>
<th>30</th>
<th>30</th>
<th>35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate (%)</td>
<td>8.3</td>
<td>6.4</td>
<td>5.4</td>
<td>5.2</td>
<td>5.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current account</td>
<td>-3.1</td>
<td>-2.7</td>
<td>-2.0</td>
<td>-1.5</td>
<td>-1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal net borrowing</td>
<td>-7.6</td>
<td>-4.8</td>
<td>-3.7</td>
<td>-3.3</td>
<td>-2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Long term potential growth is just above 2.0% (strong productivity, low labor force growth)
Long Term Overview: Nominal Balances Converge to (almost) Zero

Net Lending as Percent of GDP
Household Savings Rate

Near term spurt because of deleveraging. More realistic expectations will drive slow consumption growth.
Oil/natural gas prices steady in real terms

Nominal Price indices: 2005 = 100
## Exchange rate assumptions

<table>
<thead>
<tr>
<th></th>
<th>00-08</th>
<th>08-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
<th>13-14</th>
<th>14-15</th>
<th>15-20</th>
<th>20-25</th>
<th>25-35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro</td>
<td>-5.6</td>
<td>5.0</td>
<td>-10.0</td>
<td>-9.5</td>
<td>-7.5</td>
<td>-4.5</td>
<td>-3.3</td>
<td>-2.0</td>
<td>-1.0</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>Canadian dollar</td>
<td>-4.1</td>
<td>12.0</td>
<td>-1.0</td>
<td>-8.0</td>
<td>-5.5</td>
<td>-4.5</td>
<td>-3.3</td>
<td>-2.0</td>
<td>-1.4</td>
<td>-1.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>Mexican peso</td>
<td>2.1</td>
<td>20.0</td>
<td>10.0</td>
<td>2.0</td>
<td>1.7</td>
<td>1.5</td>
<td>1.2</td>
<td>1.0</td>
<td>0.7</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>-0.5</td>
<td>-6.5</td>
<td>-2.0</td>
<td>-1.9</td>
<td>-1.8</td>
<td>-1.7</td>
<td>-1.6</td>
<td>-1.5</td>
<td>-1.5</td>
<td>-0.7</td>
<td>-0.1</td>
</tr>
<tr>
<td>Chinese yuan</td>
<td>-2.2</td>
<td>-1.7</td>
<td>-4.0</td>
<td>-5.0</td>
<td>-4.0</td>
<td>-3.3</td>
<td>-2.7</td>
<td>-2.0</td>
<td>-1.4</td>
<td>-0.7</td>
<td>-0.5</td>
</tr>
<tr>
<td>British pound</td>
<td>-2.4</td>
<td>15.9</td>
<td>3.0</td>
<td>-9.5</td>
<td>-7.5</td>
<td>-4.5</td>
<td>-3.3</td>
<td>-2.0</td>
<td>-1.0</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>South Korean won</td>
<td>-1.8</td>
<td>-2.0</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-0.7</td>
<td>-0.5</td>
</tr>
</tbody>
</table>
Nominal import and export growth

Percentage change of five year moving average

Exports
Imports
Current account deficit: soft landing

Billions of dollars

Current account
Net income
Net trade

curr_acct, net_trade, net_income, net_transfer
Industry employment shares:
Productivity growth must come from all sectors

Percent

mfgempsh msvempsh trdempsh nmsempsh
Reducing The Federal Deficit


- *Restoring America’s Future, Reviving the Economy, Cutting Spending and Debt, and Creating a Simple, Pro-Growth Tax System*, Bipartisan Policy Center (Rivlin-Domenici or RD).

- *Choosing the Nation’s Fiscal Future*, National Research Council and National Academy of Public Administration, January 2010 (NRC).

Reducing the Federal Deficit

Objectives and Method
- Stabilize debt/gdp (60% ?)
- Curtail discretionary spending growth, perhaps to level of inflation.
- Reform (reduce) entitlements.
- Comprehensive tax reform
- Cap expenditures/revenue at x% of GDP.
- Reform budget process.
Worst idea of deficit reduction

- Establishing an arbitrary cap on expenditures and revenue (21% in NC).
- Health care will grow as proportion of economy. Federal share of health care will increase.
- Baumol’s Disease (Can it be cured?)
- Interest
Level/Share of Federal Revenue is less relevant than how it is raised

- High marginal income taxes can retard growth.
- Corporate income taxes are very inefficient.
- Income exclusions for health care insurance, mortgage interest, and other goodies are extremely regressive and counterproductive. As are payroll taxes.
- Energy taxes should include externalities.
- Move away from taxes on capital and labor and toward taxes on consumption and energy (or carbon).
- Radical tax reform will be key to future.
Tax Reform: How can we tax labor and capital less and consumption more?

- Reduce/Eliminate tax expenditures, especially:
  1. Convert health care premium income exclusion to tax credit (voucher). (~$160 billion in FY2010)
  2. Phase out mortgage interest deduction (~$110 billion in 2010).

- Use proceeds to lower and flatten rates.
- Lower Corporate tax rates (phase out eventually)
- Unify rates across earned, dividends, capital.
- Higher energy taxes/Carbon tax
- National Sales (RD) or Value Added Tax.
Lower Taxes for the Highest Earners

Since the 1960s, the total federal tax rate has fallen for low earners, risen for relatively high earners and fallen significantly for very high earners.

TAX RATES BY INCOME GROUP

HIGHEST EARNING 0.01 PERCENT OF TAXPAYERS

HIGHEST EARNING 1 PERCENT

HIGHEST EARNING 20 PERCENT

LOWEST EARNING 20 PERCENT

'60 '70 '80 '90 '00 '04

Numbers include income taxes, capital-gains taxes, payroll taxes, estate taxes, gift taxes and corporate taxes (which are effectively paid by stockholders). 2004 tax rates are based on 2004 tax law applied to 2000 income adjusted for income growth.

Source: Thomas Piketty and Emmanuel Saez
## Tax Expenditures

### TOP 5 COSTLIEST TAX BREAKS FY2009-2013

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage interest deduction</td>
<td>$573B</td>
</tr>
<tr>
<td>Health care subsidy for work-based plans</td>
<td>$568B</td>
</tr>
<tr>
<td>Exclusion of retirement plan contributions*</td>
<td>$460B</td>
</tr>
<tr>
<td>Lower tax rate on dividends/cap gains</td>
<td>$419B</td>
</tr>
<tr>
<td>Earned income tax credit</td>
<td>$261B</td>
</tr>
</tbody>
</table>

*Includes traditional pension plan as well as 401(k) contributions.

Source: Joint Committee on Taxation
Tax subsidies for health are unfair and boost (wasteful?) expenditures

<table>
<thead>
<tr>
<th>Insurance Person</th>
<th>Employer Provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Premium Cost</td>
<td>12000</td>
<td>12000</td>
</tr>
<tr>
<td>(including employers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>150,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Tax bracket</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>Tax subsidy</td>
<td>3600</td>
<td>1800</td>
</tr>
<tr>
<td>Net cost</td>
<td>8400</td>
<td>10200</td>
</tr>
</tbody>
</table>
**Entitlement Reform: Social Security**

- Increase cap on payroll taxes.
- Change COLA to better reflect inflation.
- Reduce benefits for richest, strengthen safety nets for poorest.
- Increase retirement age.
- Cover new S&L workers.
- Little sentiment for private retirement accounts.
Entitlement Reform: Medicare

- **Restrain Rising Health Care Costs**
  - Replace/cap employer-provided health benefits exclusion.
  - Reform medical malpractice laws.
  - Excise tax on corn syrup (RD).

- **Ryan-Rivlin plan for Medicare**
  - ST: More cost sharing by increasing premiums, copayments and coinsurance.
  - LT: “Premium Support” voucher system with catastrophic caps.

- **Cap Medicaid growth**
Federal Priorities: Importance of Health Care

Federal spending by function

2008

- Interest: 9.5%
- Non-defense discretionary: 12%
- Defense: 23.1%
- Health Care: 21.3%
- Other Entitlements: 33.7%

2030

- Interest: 10.5%
- Non-defense discretionary: 8.3%
- Defense: 13.7%
- Health Care: 37.9%
- Other Entitlements: 29.7%
The U.S. pays much more for Health Care...
But health outcomes are generally inferior.

Figure B-3: Mortality amenable to health care, selected countries 1997 to 2003

Source: Nolte and McKee, 2008
How much do you pay for employer-provided insurance?

Average Annual Worker and Employer Contributions to Premiums and Total Premiums for Family Coverage, 1999-2009

1999: $1,543 (Worker) + $4,247 (Employer) = $5,791 Total Premiums
2000: $1,619 (Worker) + $4,819* (Employer) = $6,438* Total Premiums
2001: $1,787* (Worker) + $5,269* (Employer) = $7,061* Total Premiums
2002: $2,137* (Worker) + $5,866* (Employer) = $8,003* Total Premiums
2003: $2,412* (Worker) + $6,657* (Employer) = $9,068* Total Premiums
2004: $2,661* (Worker) + $7,289* (Employer) = $9,950* Total Premiums
2005: $2,713 (Worker) + $8,167* (Employer) = $10,880* Total Premiums
2006: $2,973* (Worker) + $8,508* (Employer) = $11,480* Total Premiums
2007: $3,281* (Worker) + $8,824 (Employer) = $12,106* Total Premiums
2008: $3,354 (Worker) + $9,325* (Employer) = $12,680* Total Premiums
2009: $3,515 (Worker) + $9,860* (Employer) = $13,375* Total Premiums

* Estimate is statistically different from estimate for the previous year shown (p<.05).

Federal expenditures as percent of GDP

CBO Alternative (no doc fix, less discretionary compression)

NRC #1 (similar to NDC and RD deficit reduction exercises)
Fed Medical Expenditures as Percent of GDP

2.0

4.0

6.0

8.0

10.0

12.0


amed_gdp  bmed_gdp  l.medbas  l.medalt
Federal Revenue as Percent of GDP
CBO sees faster recovery in growth and unemployment
Federal Deficit as Percent of GDP

Federal Deficit as Percent of GDP with various projections and scenarios.
Federal Debt as Percent of GDP

CBO Alternative

Inforum

CBO base

NRC #1

afdb_gdp bfdb_gdp debbas debalt
“Business as usual” is not sustainable now.

U.S. Current Account Balance
percent of GDP

A sustainable scenario
A business-as-usual scenario

1990 2000 2010 2020 2030 2040

-25.0 -20.0 -15.0 -10.0 -5.0 0.0 5.0

bca_gdp aca_gdp