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Productivity and Growth in CBO's Forecasts

Robert Shackleton

Macroeconomic Analysis Division

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CBO's Economic Outlook

- What is CBO and why does it produce an economic forecast?
- The current-law nature of CBO's forecast: How do CBO forecasts differ from others?
- How does CBO prepare its economic forecast?

The Purpose of CBO's Macroeconomic Forecast

- Macroeconomic forecast is a 10-year “current law” projection.
- Used primarily as an input to baseline federal budget projections and budget analysis.
- *Current law* may involve major changes in *future* policy.
- Example: current law implies a major shift in fiscal policy in 2013.

CBO's Approach to Forecasting

- Long-term projection of potential output is based on a neoclassical growth model.
- Coupled to a near-term business-cycle projection using a standard macroeconomic model.
- CBO uses data from a wide variety of sources.
- Core of growth model projection is an estimate of potential output based on estimates of potential labor force, flow of services from a capital stock, and potential total factor productivity.

Overview of CBO's Growth Model

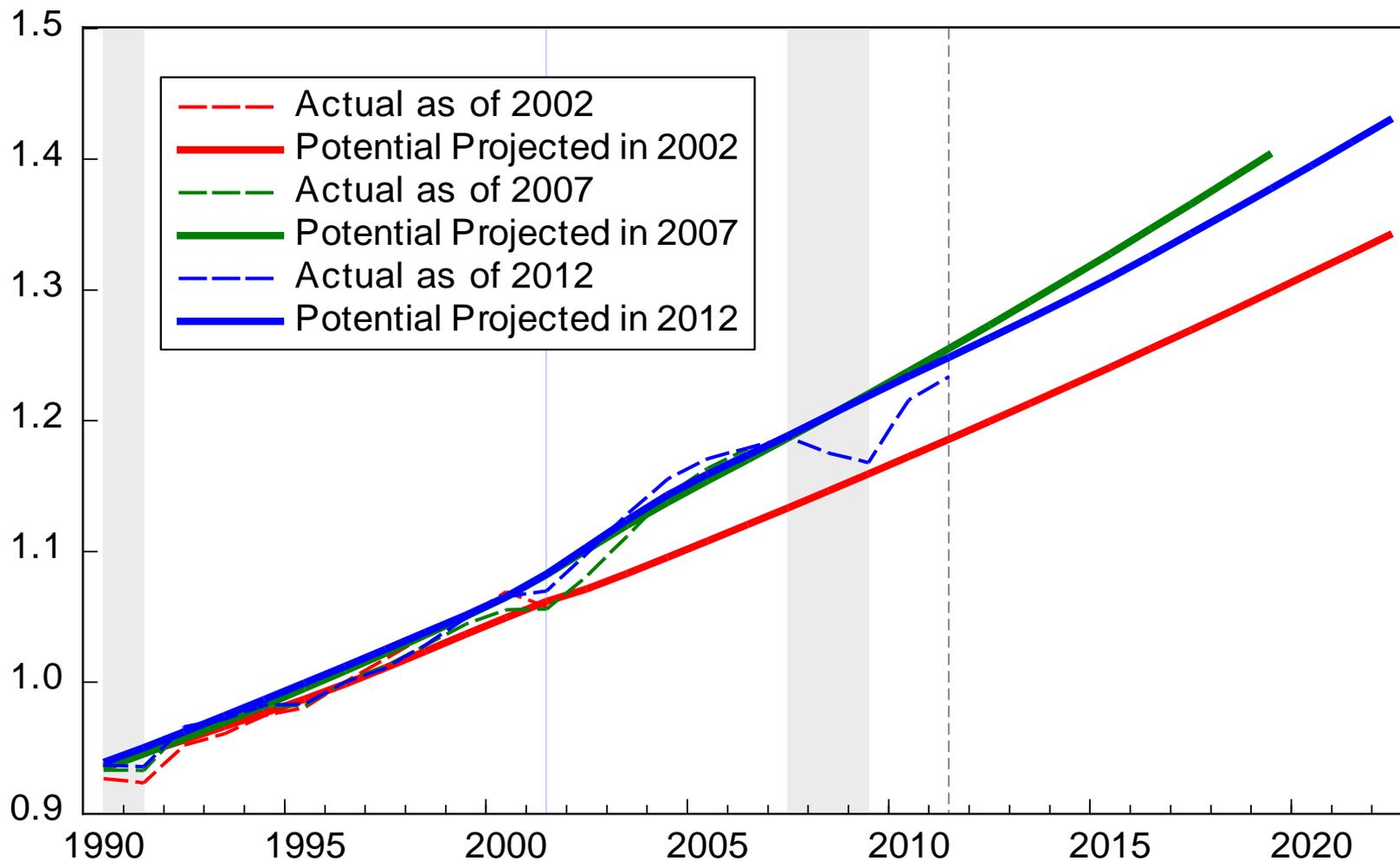
$$Q_{\text{NFB}} = F [L_{\text{NFB}}, K_{\text{NFB}}, \text{TFP}_{\text{NFB}}]$$

Where

- Q_{NFB} = real GDP in the non-farm business sector;
- L_{NFB} = index of hours worked;
- K_{NFB} = index of real capital services from 7 different types of capital assets; and
- TFP_{NFB} = total factor productivity (a residual)

Productivity Growth in the 2000s

Nonfarm Business Total Factor Productivity



Labor Productivity Growth Equation

$$\% \Delta \text{ALP} = \% \Delta \text{TFP} + \alpha (\% \Delta (\text{K}/\text{L}))$$

Where

- ALP = average labor productivity and
- α = the coefficient on the capital services index in the production function

Key Assumptions in CBO's Term Projection of Potential GDP (January 2012)

(By calendar year, in percent)

	Historical Periods						Projection
	1950- 2011	1950- 1973	1974- 1981	1982- 1990	1991- 2001	2002- 2011	2012- 2022
AGGREGATE							
Potential Output	3.29	3.90	3.21	3.08	3.16	2.26	2.35
Potential Labor Force	1.51	1.56	2.50	1.61	1.23	0.85	0.66
Potential Labor Productivity	1.75	2.30	0.70	1.45	1.90	1.40	1.68
NONFARM BUSINESS SECTOR							
Potential Output	3.51	4.02	3.54	3.24	3.54	2.51	2.79
Potential Hours Worked	1.33	1.35	2.25	1.64	1.18	0.46	0.65
Capital Services	3.85	3.83	4.25	4.13	4.67	2.43	3.58
Potential Total Factor Productivity	1.40	1.88	0.68	0.84	1.31	1.44	1.25
Memo:							
Potential Labor Productivity, NFB	2.15	2.63	1.26	1.57	2.34	2.04	2.12
Capital-Labor Ratio, NFB	2.49	2.45	1.96	2.45	3.45	1.96	2.91
Potential Output of Other Sectors	2.61	3.53	2.21	2.59	1.95	1.48	0.87

Other Considerations

- Measurement of productivity growth in services sectors, especially health care.
- Channels of influence from public expenditures to private-sector productivity and productivity growth.
- Contribution of productivity growth to incomes, income shares, and budget.