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Productivity and Growth in CBO's Forecasts

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What is CBO and why does it produce an economic forecast?

How do CBO's forecasts differ from other forecasts?

How does CBO prepare its economic forecast?

The Purpose of CBO's Economic Forecast

The forecast is used primarily as an input to CBO's federal budget projections and analyses of legislative proposals.

It is a 10-year forecast based on current law.

Current law may involve major changes in *future* policy. For example, in past years, current law mandated a major shift in fiscal policy in 2013 by scheduling the expiration of certain tax cuts.

CBO's Approach to Forecasting

CBO's approach involves projections of both **potential** (maximum sustainable) output and **actual** output.

The long-term projection of potential output is based on a neoclassical growth model, coupled with a near-term business-cycle projection using a standard macroeconometric model.

The estimate of potential output is based mainly on estimates of the **potential labor force**, the **flow of services** from the capital stock, and **potential total factor productivity** in the nonfarm business sector.

CBO uses data from a wide variety of sources to form its estimates.

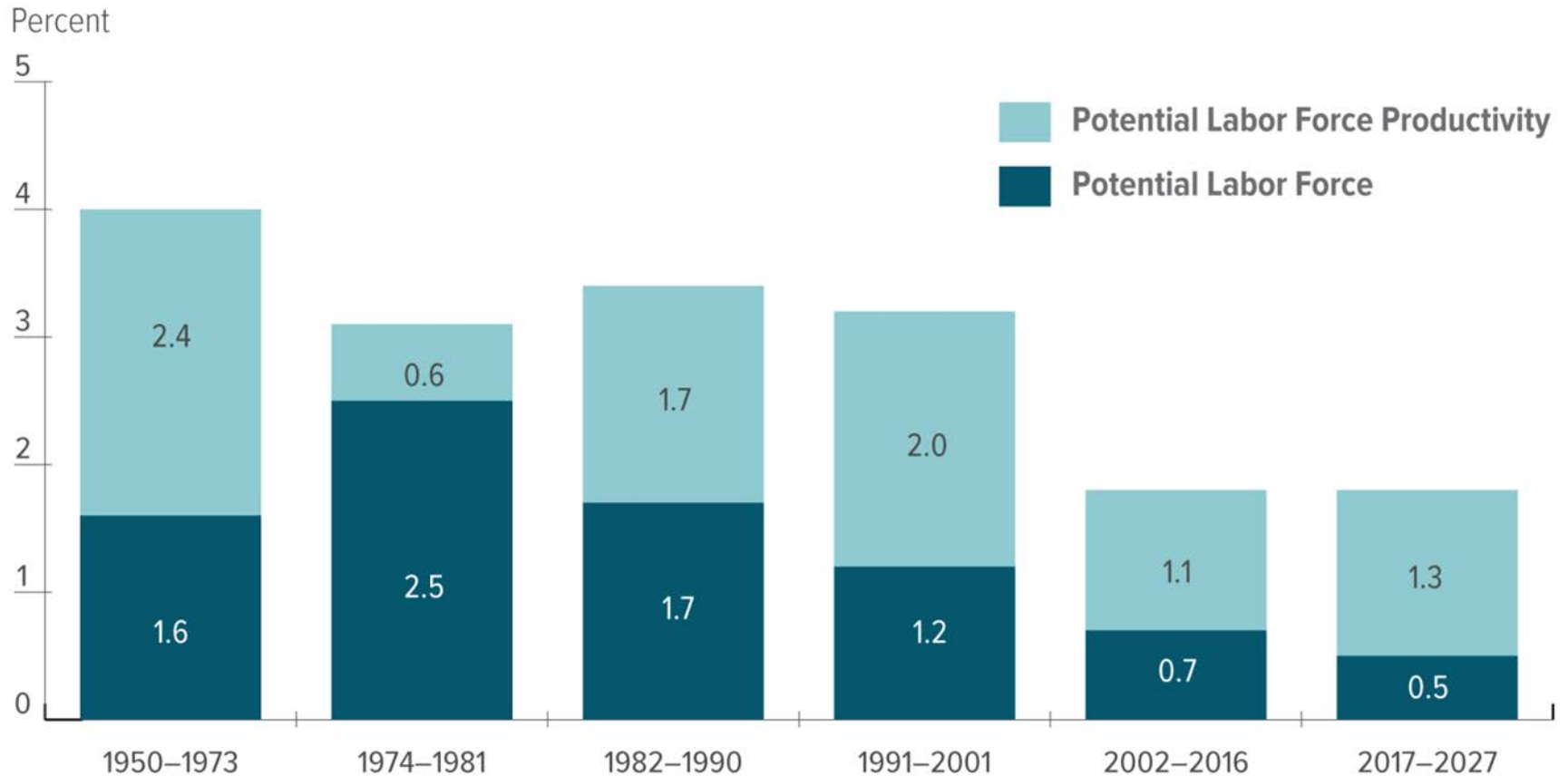$$Q_{NFB} = F[L_{NFB}, K_{NFB}, TFP_{NFB}]$$

Where

Q_{NFB} = Real GDP in the nonfarm business sector (NFB)

L_{NFB} = Index of hours worked

K_{NFB} = Index of real capital services from 10 different types of capital assets

TFP_{NFB} = Total factor productivity (a residual)

# Average Growth in Real Potential GDP

Key Estimates in CBO's Projection of Potential GDP, June 2017

Percent, by Calendar Year

	Historical Periods						Projection
	1950-2016	1950-1973	1974-1981	1982-1990	1991-2001	2002-2016	2017-2027
Overall Economy							
Potential Output	3.2	4.0	3.2	3.4	3.3	1.8	1.8
Potential Labor Force	1.4	1.6	2.5	1.7	1.2	0.7	0.5
Potential Labor Productivity	1.7	2.4	0.6	1.7	2.0	1.1	1.3
Nonfarm Business Sector							
Potential Output	3.4	4.1	3.5	3.6	3.7	2.0	2.1
Potential hours	1.3	1.4	2.3	1.7	1.3	0.4	0.4
Capital services	3.4	3.8	3.8	3.5	3.8	2.1	2.1
Potential total factor productivity	1.4	1.9	0.9	1.2	1.5	1.0	1.1
Potential Labor Productivity	2.1	2.7	1.2	1.8	2.3	1.6	1.7
Capital-Labor Ratio	2.1	2.4	1.4	1.8	2.5	1.8	1.7
Memorandum:							
Potential Output of Other Sectors	2.5	3.7	2.1	2.7	2.0	1.2	0.9

Nonfarm Business Total Factor Productivity Since 1990: Changes Since 2007

2000 = 1.000
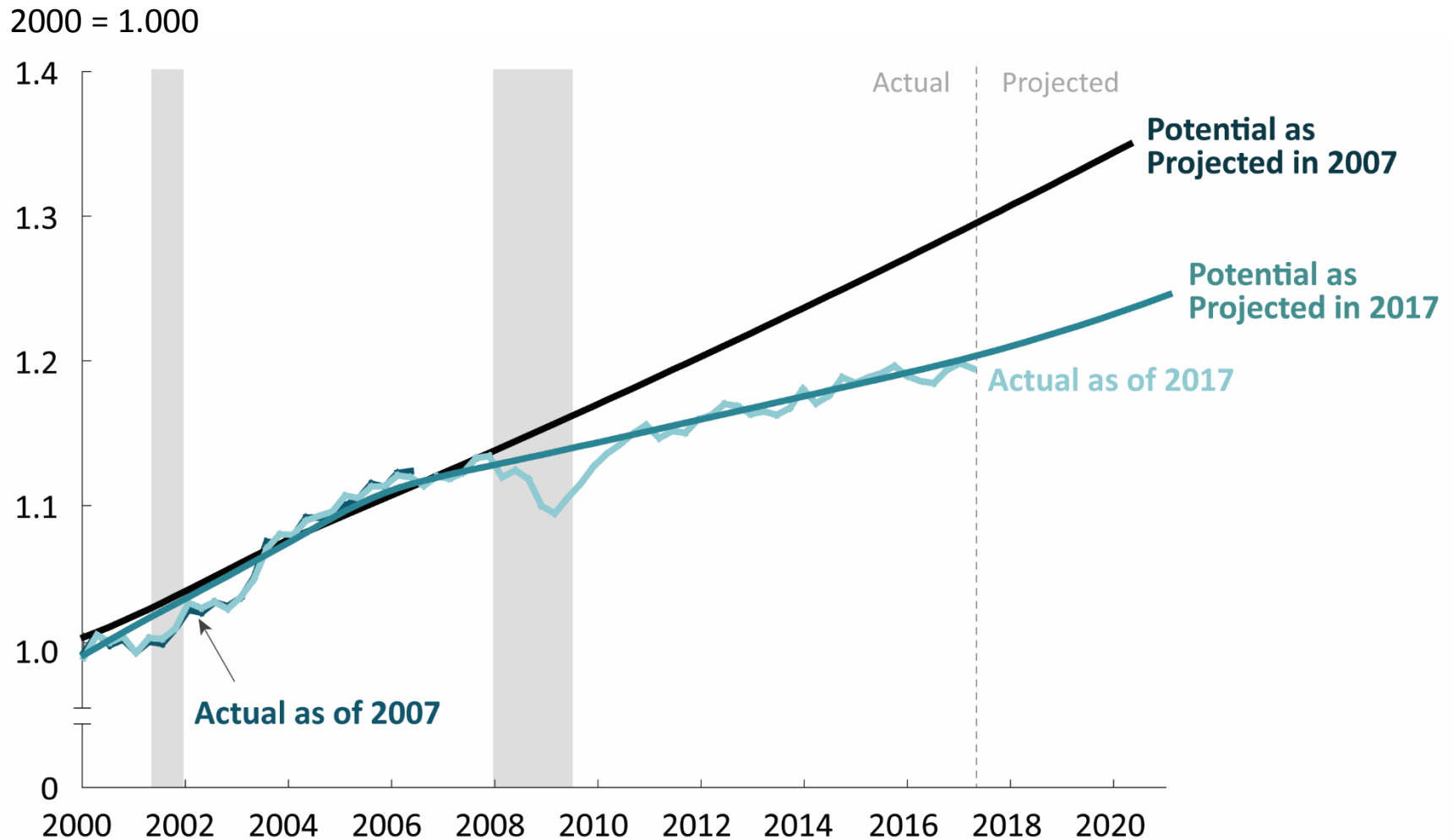
Vertical bars indicate the duration of recessions.

CBO's Revisions From 2007 to 2014 to Projected Potential GDP in 2017

Percentage Points

	Reason for Change				
	Recession and Weak Recovery	Reassessment of Trends	Revisions to Prerecession Data	Fiscal Policy and Other Factors	All Sources
Nonfarm Business Sector					
Potential labor hours	-0.7	-3.0	-0.3	1.2	-2.7
Capital services	-0.6	-0.7	-0.2	-1.3	-2.4
Potential total factor productivity	-0.5	-0.7	-0.6	0.4	-1.4
Other Sectors	n.a.	-0.3	0.7	-1.0	-0.7
Total (Percent)	**-1.8**	**-4.8**	**-0.1**	**-0.7**	**-7.3**

Other Considerations

Are there problems with the measurement of productivity growth (for example, in computer production, or in the health care sector)?

How do public expenditures influence private-sector productivity and productivity growth?

How do changes in labor composition contribute to productivity growth?

How does productivity growth contribute to income growth, income shares, and the federal budget?