



# An econometric model of potential output, productivity growth, and resource utilization

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## Abstract

This paper specifies a macroeconometric model providing a simultaneous framework for estimating the natural rate of unemployment, the full-employment (FE) labor force and hours of work, the FE productivity growth rate, and the growth path of potential (FE) output during 1960–2000. The estimated output and unemployment gaps are consistent with Okun's Law. Historical perspective is provided on the expansion of the nineties by comparing it with those of the three previous decades in terms of growth and utilization of potential output. Factors accounting for the growth of potential output, productivity and labor supply are identified and compared.

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## 1. Introduction

The strong performance of the US economy during the latter 1990s spawned both popular visions of a transcendent future for the “New Economy” and careful empirical studies

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## Nomenclature

### Abbreviations

NFB	non-farm business sector
HP	Hodrick–Prescott
FE	full-employment

### Variables names

$A$	level of technology (exogenous)
$AH$	hours per worker = $H/ENFB$
$CAP$	contribution of capital deepening to the growth of FE productivity
$\delta$	depreciation rate (exogenous)
$E$	employment, total economy
$EF$	FE employment = $(1 - UN) * LF$
$EFDIF$	employment outside NFB = $(E - ENFB)$ (exogenous)
$ENFB$	employment, NFB
$ENFBF$	FE employment, NFB
$EFRAT$	ratio of NFB employment to total employment (exogenous)
$H$	hours worked, NFB
$HF$	FE hours worked, NFB
$I$	index of labor quality reflecting changing composition of workforce (exogenous)
$K$	real net capital stock
$L$	labor force
$LA$	armed forces (exogenous)
$LF$	FE labor force
$LP$	labor force participation rate
$LPF$	FE labor force participation rate
$LWF$	FE proportion of women in the labor force
$MU$	markup of price on unit labor cost (exogenous)
$MUHP$	HP-filtered value of $MU$ (exogenous)
$N$	non-institutional population (exogenous)
$P$	output price index, NFB
$PI$	investment goods price index
$PXPI$	ratio of the output deflator to the investment deflator (exogenous)
$Q$	rental price of capital
$r$	normal or target rate of return on capital (exogenous)
$S$	Solow residual, NFB (not in model; $A$ is HP trend of cumulated $S$ )
$TX$	summary measure of tax factors affecting the rental price of capital (exogenous)
$U$	unemployment rate
$UN$	natural unemployment rate
$W$	wage per hour, NFB
$WRC$	real after-tax consumption wage (ratio of after-tax wage to consumption deflator)

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