

# THE LIMITED ROLE OF AGGREGATE DEMAND POLICY IN RESTORING OUTPUT TO ITS PRE-CRISIS PATH

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# COMPONENTS OF THE SHORTFALL OF OUTPUT, 2007 THROUGH 2013

	<i>Percentage points</i>
Output	13.3
<b>Productivity</b>	<b>3.5</b>
<b>Capital</b>	<b>3.9</b>
Population	1.3
<b>Labor-force participation</b>	<b>2.4</b>
<b>Employment rate</b>	<b>2.2</b>
Hours per week	0.8
Labor quality	-0.3
Business fraction	-0.5

# PRODUCTIVITY

Focus on total factor productivity

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Avoid duplication of Fernald's paper at the Macro Annual conference

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The shortfall of 3.5 percentage points is not statistically surprising—the standard deviation of 6-year changes is 4.4 percent

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# INVESTMENT

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Output demand fell and discounts rose, despite falling interest rates

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## CAPITAL WEDGE

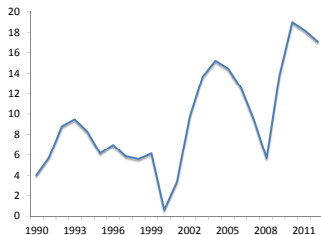
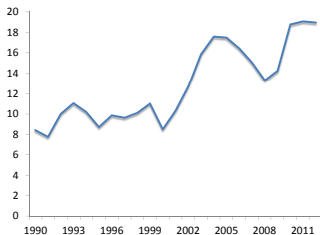
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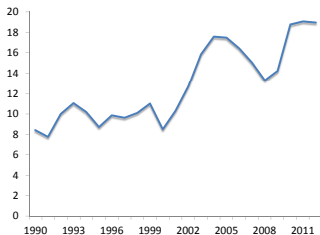
$$g_t = r_{k,t} - r_{f,t}$$

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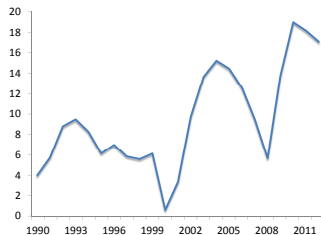
# THE CAPITAL WEDGE FOR TWO VALUES OF THE ADJUSTMENT COST $\kappa$



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$$\kappa = 0$$

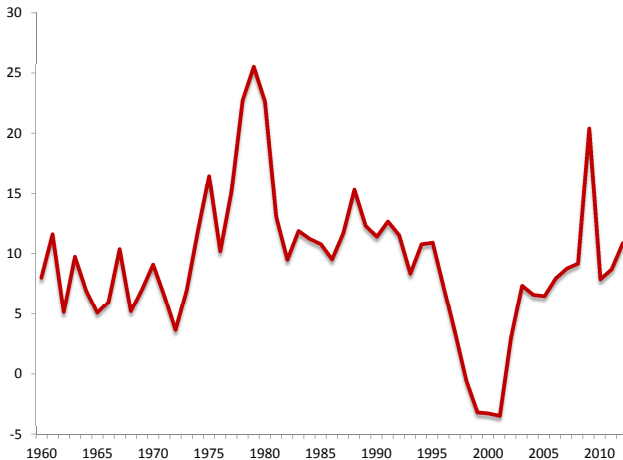


$$\kappa = 2$$

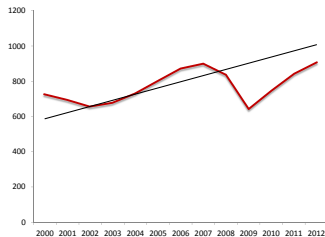
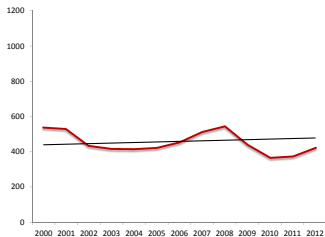
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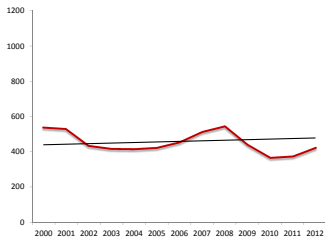
# THE S&P RISK PREMIUM, 1960 THROUGH 2012



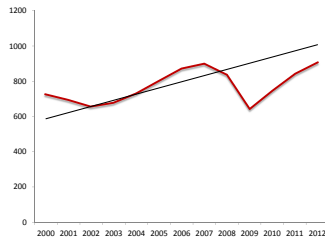
# PLANT AND EQUIPMENT INVESTMENT



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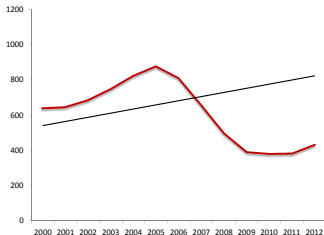
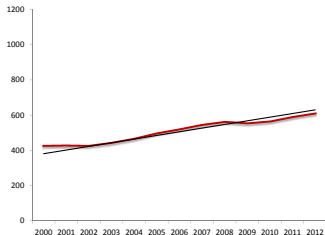
Plant



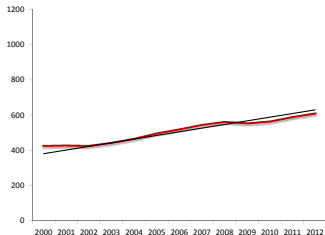
Equipment

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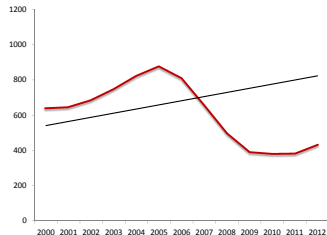
# IP AND HOUSING



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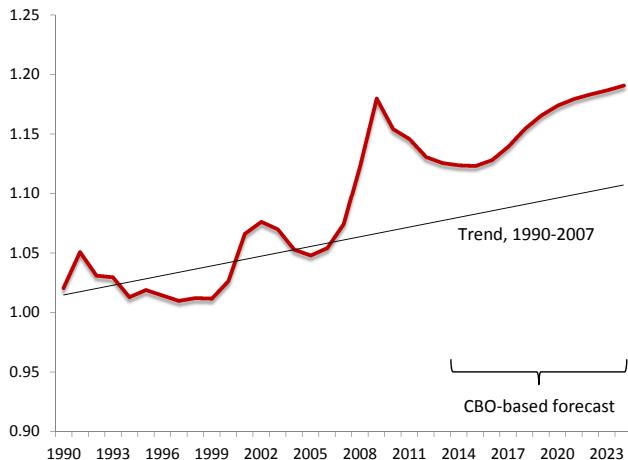
IP



Housing

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# CAPITAL/OUTPUT RATIO, WITH 1990-2007 TREND AND CBO-BASED FORECAST



# UNEMPLOYMENT AND LABOR-MARKET TIGHTNESS

Think of unemployment as an aspect of labor supply—unemployment is a negative factor for employment

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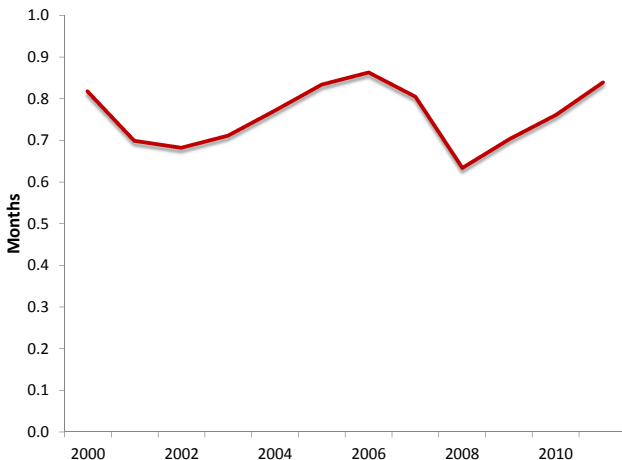
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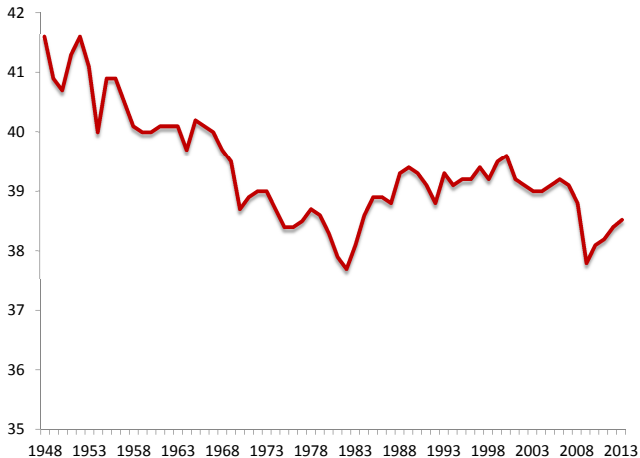
Study role of UI benefits

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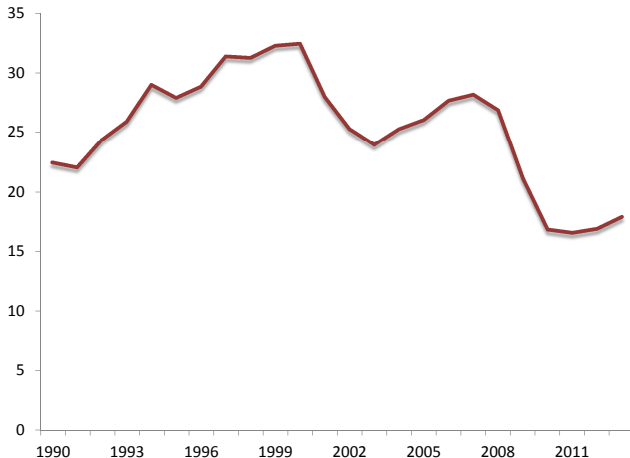
# AVERAGE TIME TO FILL A JOB VACANCY, JOLTS, 2001 THROUGH 2012



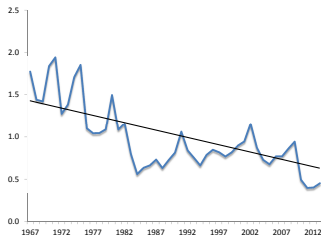
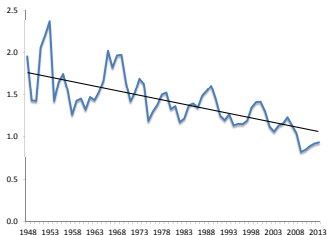
# AVERAGE WEEKLY HOURS OF WORK, CURRENT POPULATION SURVEY, 1948 THROUGH 2013



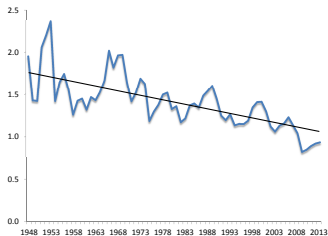
## JOB-FINDING RATE AMONG THE UNEMPLOYED, 1990 THROUGH 2013



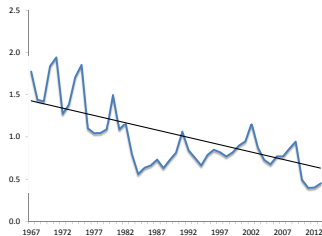
# INDEXES OF THE JOB-FINDING RATE BY DURATION OF UNEMPLOYMENT



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Low duration



High duration

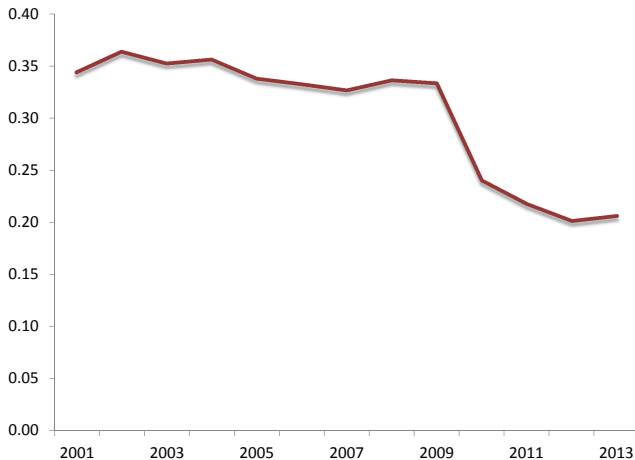
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# UNEMPLOYMENT EXIT RATES AND CHANGE IN COMPOSITION OF UNEMPLOYMENT, 2007-2009

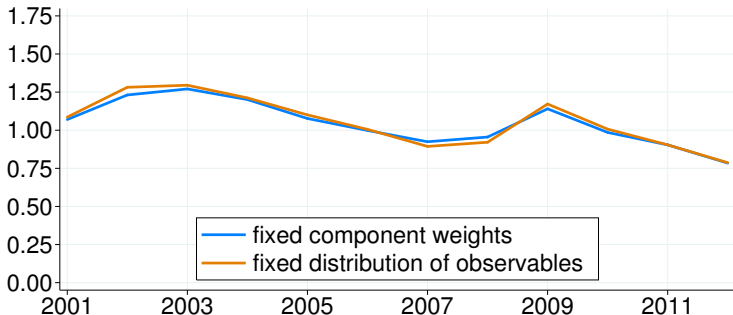
<i>Source</i>	<i>Normal exit rate, percent per month</i>	<i>Change in percent of unemploy- ment, 2007 to 2009</i>
Layoff	64.7	-2.2
Permanent loss	41.4	17.7
Temp job	51.1	-0.9
Quit	55.7	-5.0
New entrant	49.2	-1.6
Reentrant	48.7	-8.0



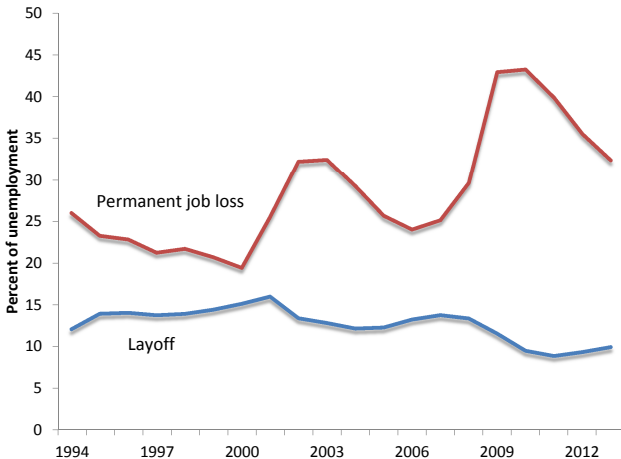
# MATCHING EFFICIENCY FOR UNEMPLOYED JOBSEEKERS



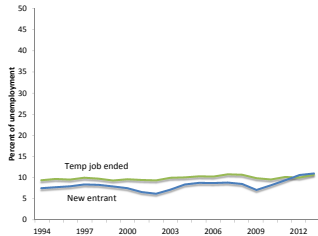
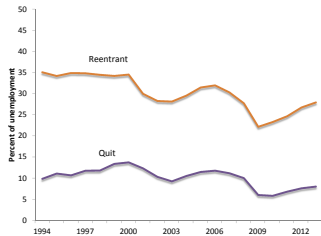
## OVERALL MATCHING EFFICIENCY (FROM HALL AND SCHULHOFFER-WOHL (2013))



# INFLOWS TO UNEMPLOYMENT FROM LOST JOBS

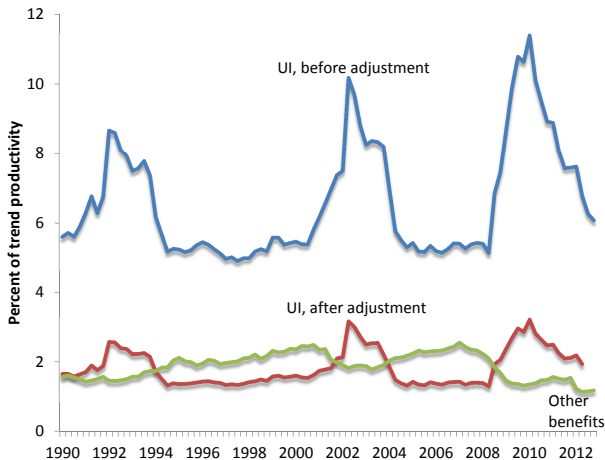


# OTHER INFLOWS TO UNEMPLOYMENT



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# CHODOROW-REICH AND KARABARBOUNIS (2013)



## HIGH UNEMPLOYMENT FOLLOWING THE CRISIS

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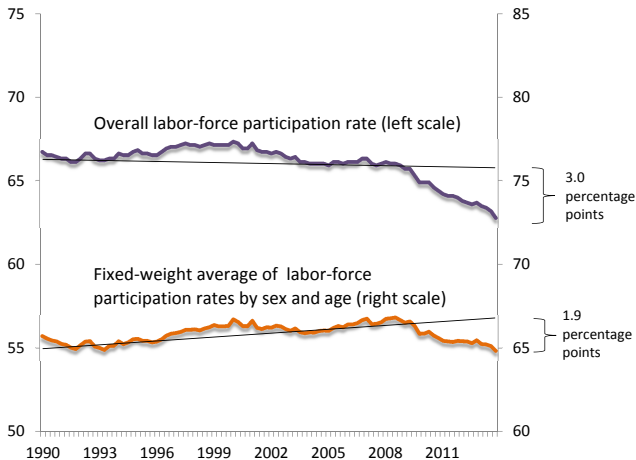
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Decline in inflows from quits and reentry, with high normal job-finding rates

No much evidence that UI benefits extensions had more than a modest role

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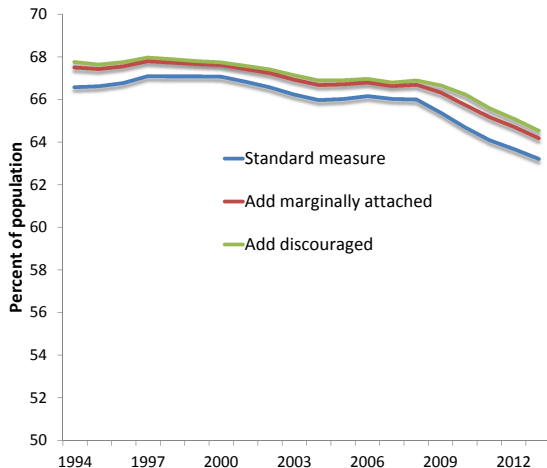
# STANDARD AND FIXED-WEIGHT MEASURES OF LABOR-FORCE PARTICIPATION, 1990 THROUGH 2013



# CONTRIBUTIONS OF SEX-AGE GROUPS TO PARTICIPATION SHORTFALL, 2007 THROUGH 2013

Age	Men	Women	Sum
16-19	0.06	0.17	0.23
20-24	0.18	0.05	0.24
25-34	0.20	0.11	0.31
35-44	0.04	0.13	0.17
45-54	0.19	0.35	0.53
55+	0.27	0.43	0.70
All	0.95	1.24	2.19

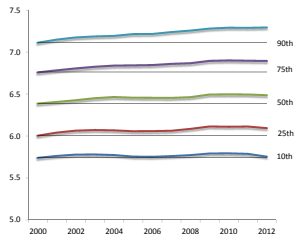
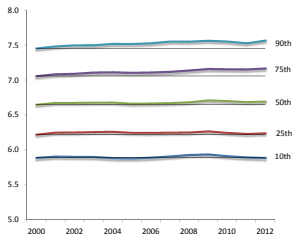
# CONVENTIONAL AND EXTENDED MEASURES OF THE LABOR FORCE



# INCREMENTS TO THE LABOR-FORCE PARTICIPATION RATE FROM INCLUSION OF MARGINAL AND DISCOURAGED INDIVIDUALS

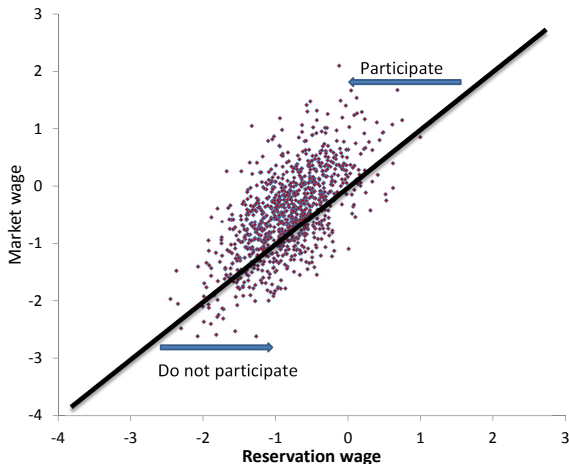
<i>Year</i>	<i>Marginal</i>	<i>Discouraged</i>	<i>Both</i>
2008	0.05	0.02	0.08
2009	0.30	0.16	0.46
2010	0.41	0.32	0.73
2011	0.43	0.24	0.67
2012	0.39	0.20	0.60
2013	0.32	0.18	0.50

# FIVE QUANTILES OF THE DISTRIBUTIONS OF REAL WEEKLY EARNINGS, 2000 THROUGH 2012



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# JOINT DISTRIBUTION OF MARKET AND RESERVATION WAGES

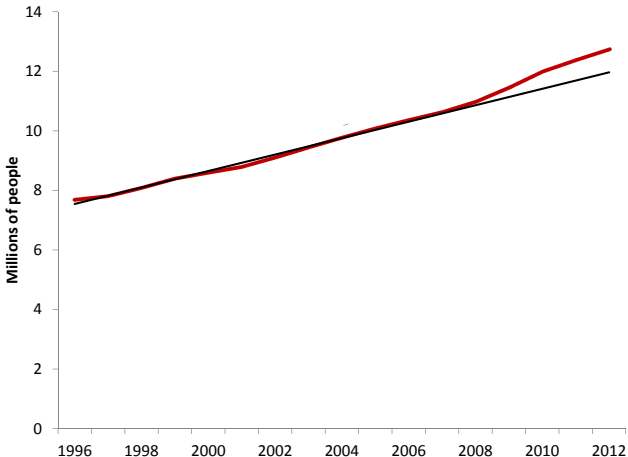


# PARTICIPATION REDUCTIONS FROM 11-PERCENT TAX ON LOW-WAGE WORKERS COMPARED TO ACTUAL DECLINES IN PARTICIPATION

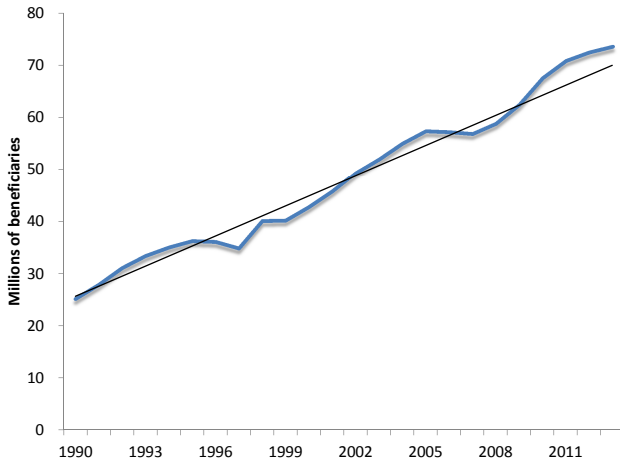
<i>Participation rate, percent of population</i>	<i>Men</i>	<i>Women</i>
Base parameters	72.9	59.2
With tax	70.1	57.2
Decline, based on model	2.8	1.9
Actual, 2007	73.2	59.3
Actual, 2012	70.2	57.7
Actual decline	3.0	1.6



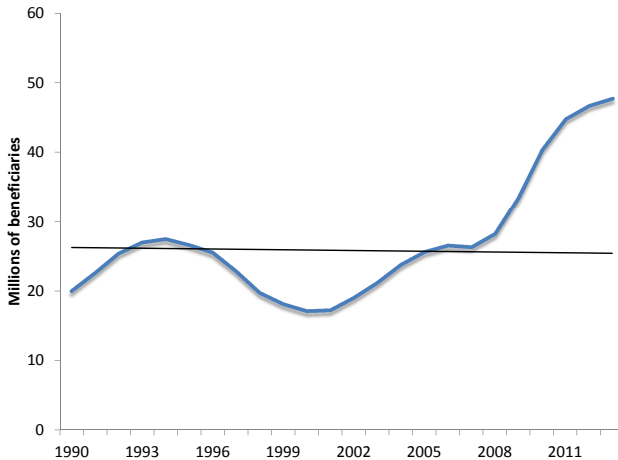
# NUMBER OF RECIPIENTS OF SOCIAL SECURITY DISABILITY BENEFITS AGED 18 THROUGH 64, IN MILLIONS



# MEDICAID RECIPIENTS



# BENEFICIARIES RECEIVING FOOD STAMPS



## SUMMARY OF SOURCES OF DECLINE IN THE LABOR-FORCE PARTICIPATION RATE, PERCENTAGE POINTS OF POPULATION

Total decline in participation relative to trend	3.0
Sex-age mix effect	1.1
Marginal and discouraged individuals	0.5
Increase in disability benefit recipients over trend	0.4
Residual (rising primary wages, rising tax rates)	1.0
Sum of components	3.0

# EFFECTS OF BOOST TO PRODUCT DEMAND

<i>Component</i>	<i>Contribution to shortfall</i>	<i>Immediately</i>	<i>Within a few years</i>	<i>Ultimately</i>
Productivity	3.5	No	No	Possibly
Capital	3.9	No	A little	Yes
Unemployment	2.2	Partly	Mostly	Yes
Participation	2.4	Partly	Partly	Partly