

# The Favorable Tax Treatment of Health Insurance Revisited

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# What is the Tax Treatment?

- Employer payments for health insurance are not counted as income to the employee – exempt from federal, state, and employee Medicare and Soc Sec (FICA) taxes
- Employer payments for health insurance are exempt from employer FICA taxes
- Self-employed workers may deduct health insurance premiums from income wrt federal and state income taxes (but not FICA taxes)

# Also...

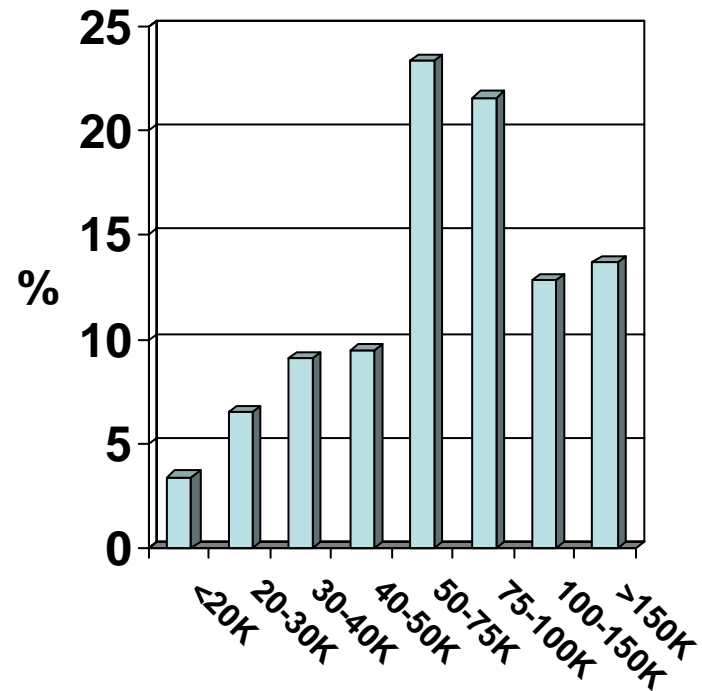
- People with high expenses relative to income can deduct
- Flexible Spending Accounts (1979)
- Health Retirement Accounts (2002)
- Health Savings Accounts (2004)

# Current Status

- Total federal + state cost -- \$208 billion
  - \$112 fed tax
  - \$73 FICA
  - \$23 State

Selden and Gray,  
2006

## Distribution of Benefits

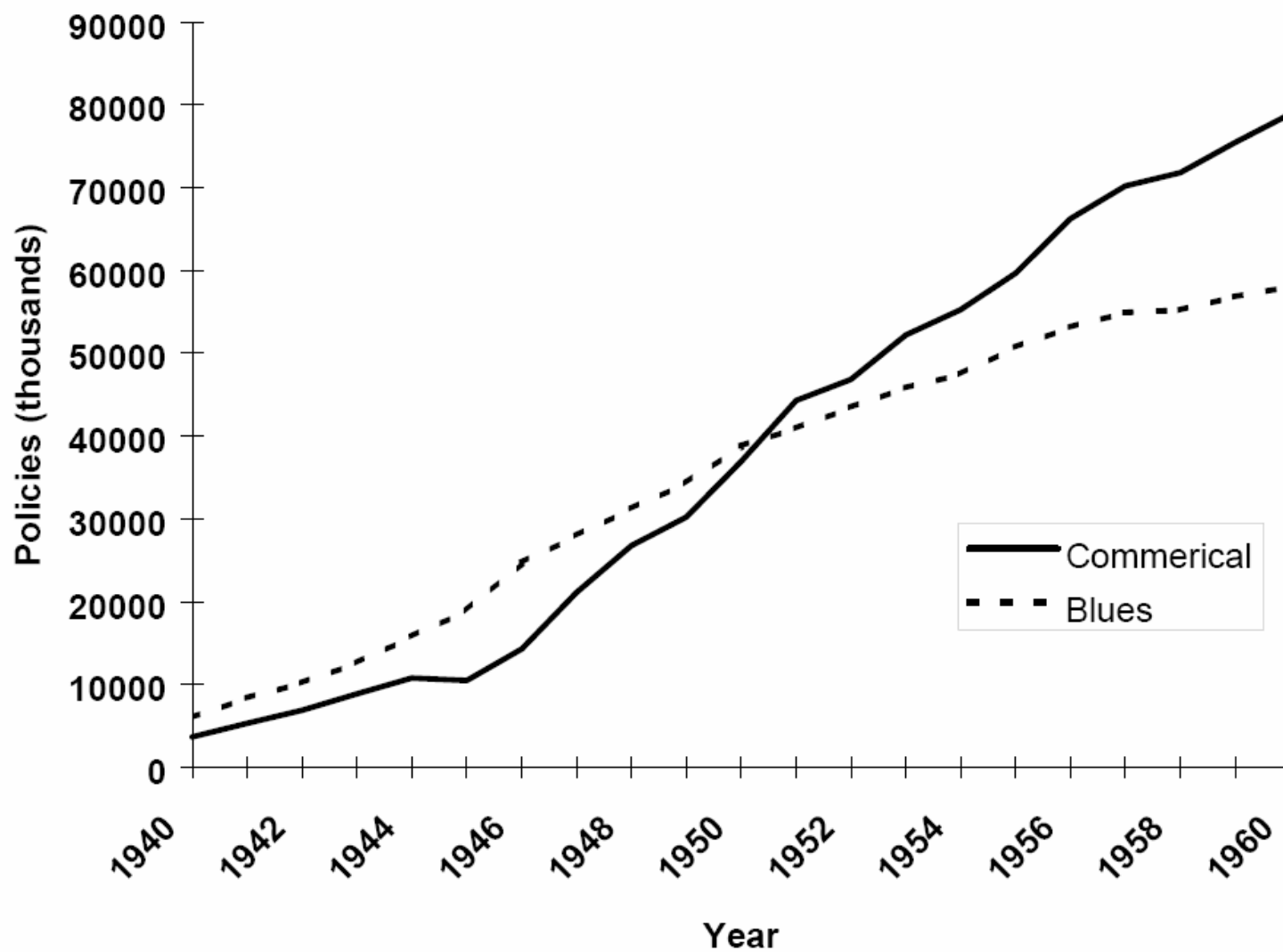


Sheils and Haught, 2004

# History

- Implicit exemption from taxation (1913)
- Formal exemption ruling for lunch (1920)
- Wage and price controls (1940s)
- Calls for eliminating exemption (1953)
- Formal ruling from IRS (1954)

Figure 1: Enrollment in Commercial Policies v. Blue Cross and Blue Shield



Thomasson, 2000

# Effects of the Tax Subsidy

- Encourages substitution of health insurance for wages
- Differentially encourages purchase of employer-sponsored coverage rather than non-group coverage

# In context of health care market (1):

- Subsidy to health insurance = subsidy to health care
- Price elasticity of demand for health care  
~0.2

## In context of health care market (2):

- Moral hazard (Pauly, 1986)
- Tax treatment leads to purchase of more generous plans
  - Direct effect of more health care purchase
    - E.g., buy dental care via health insurance; buy generous provider panel
  - Indirect effect of exacerbating moral hazard
    - Through reducing OOP share (RAND HIE shows importance of OOP share in reducing spending)

## In context of health care market (3):

- FSAs (and HSAs, HRAs)
  - Eliminate differential tax benefit of employer (rather than employee) payments
  - Reduce differential tax payment to premium rather than OOP payments
- Managed care
  - Effective cost containment without cost-sharing
  - Less distortion induced by tax subsidy

# In context of health care market (4):

- Adverse selection
  - Note that subsidy is largest for less healthy workers
  - Substantial efficiencies in offering group-based coverage
  - group selection vs. individual selection (Goldstein and Pauly, 1973; Glied and Graff Zivin, 2004)

## In context of health care market (5):

- Offset existing subsidies for uncompensated care
- Offset public insurance programs (Medicaid)
- Implicit insurance against poor health

# Effects of the tax treatment on coverage

- Subsidy increases coverage
- Wide range of magnitudes
  - Gruber and Washington (2003) -- -0.02 (take-up)
  - Royalty (2000) -- -0.5
  - Gruber and Lettau (2000) -- -0.31 (offer)
  - Gruber (2001) -- -0.4
  - Bernard and Selden (2001)
    - Analysis of 1987 NMES and 1996 MEPS
    - Effects are biggest for low income, poor health workers

# Effects of the tax treatment on coverage

- Gruber and Poterba
  - 1986 -- Introduction of a deduction of 25% of the cost of HI for the self-employed
  - Diff-in-diff estimates comparing employed and self-employed
  - Elasticity of coverage of  $> -.1$

# Effects of the tax treatment on coverage

- Withdrawal of favorable tax treatment in Quebec in 1993
  - Stabile (2002)
  - Finkelstein (2002) – elasticity of -0.5
- Reductions in coverage of about 20%
- Entirely in small firms
- About 10% of decline offset by increases in non-group coverage

# Effects of the tax treatment on spending

- Model-based
  - Feldstein (1973)
  - Chernick, Holmer and Weinberg (1987)– overall effect on med expense of 4-10%
- Cross-sectional estimates
  - Wilensky, Farley, and Taylor (1984)
- Time series
  - Thomasson (2000) – effects on group vs. individual coverage

# Identifying effects

- Time-series

<b>Germany</b>	<b>1883</b>
<b>Switzerland</b>	<b>1911</b>
<b>New Zealand</b>	<b>1938</b>
<b>Belgium</b>	<b>1945</b>
<b>France</b>	<b>1945</b>
<b>United Kingdom</b>	<b>1946</b>
<b>Sweden</b>	<b>1947</b>
<b>Greece</b>	<b>1961</b>
<b>Japan</b>	<b>1961</b>
<b>Canada</b>	<b>1966</b>
<b>Denmark</b>	<b>1973</b>
<b>Australia</b>	<b>1974</b>

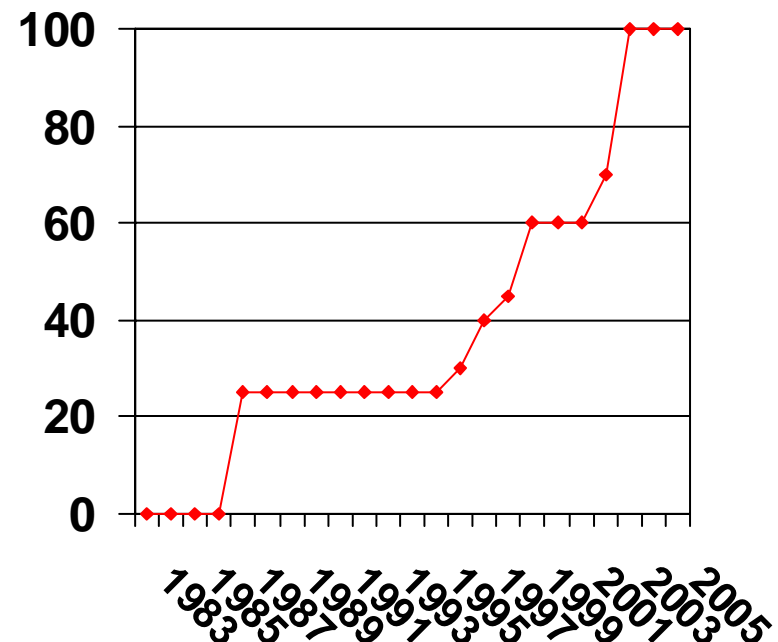
# Cross-sectional Variation

- Point in time – could relate to other state characteristics
  - Slow changes in health care
- Own tax rate – individual tax rates depend on characteristics that may affect health spending (and health spending affects tax rates)
- Grouped medians – changes over time in progressivity of w/in state tax structure

# Tax Treatment of Self-Employed

- The Tax Reform Act of 1986 provided a 25% deduction for health insurance premiums for the SE and their dependents
- *April 11th, 1995*: H.R. 831, the "Self-Employed Health Insurance Act" reinstated the 25 percent tax deduction for health insurance premiums for 1994 and "permanently increased" that deduction to 30 percent beginning in 1995
- Changes in the Taxpayer Relief Act of 1997 allowed a schedule of deductions (to 100% in 2006)
- Later amendments moved up the schedule so 100% in 2003 etc.

## Self-Employed Deductibility Schedule



# Parameters of Interest

- **Tax Price** – following Gruber
- Denominator for ESI because employer must pay FICA share
- No FICA deductibility for self-employed

ESI	$(1 - \text{fedtax} - \text{statetax} - \text{employee share of FICA}) / (1 + \text{employer share of FICA})$
Self Emp. at full deductibility	$(1 - \text{fedtax} - \text{statetax})$

# Parameters of Interest

- **Time trend** for self-employed
- **Deductibility** parameter for self-employed
  - Tax price for self-employed before full deductibility =  
 $1 * (1 - \text{deductibility } \%) + (1 - \text{mtrf} - \text{mtrs}) * \text{deduct } \%$
  - 1% change in deductibility moves tax price by  $(1 - \text{mtrf} - \text{mtrs}) / 100$

# Tax Prices

- NBER Taxsim using CPS for 1980-2005
- Population weighted median tax prices by:
  - State
  - Year
  - Education category
  - Firm size
  - Family size, marital status
- Also repeated with mean, 80<sup>th</sup> percentile

# Data (1)

- CMS – state of provider spending data 1980-2004 (total; Medicare)
  - Compute averages by dividing by total population; Medicare dividing by >65
  - Match to median tax rates by state, year
  - Control for gdp/cap, gdp/cap<sup>2</sup>, share under 18, share 65+, total population
  - State and year dummies
  - Errors clustered by state\*year (1224)

# Data (2)

- MEPS – IC – AHRQ – 1996-2004
- By state and firm size
  - Premiums
  - Total spending (premiums\*employer share\*enrollment)
  - Match to median tax rates by state, year, firm size
  - Control for gdp/cap, gdp/cap<sup>2</sup>, share under 18, share 65+, total population
  - Firm size, state, year dummies
  - Errors clustered by firm size\*state\*year cells (1547) or by state\*year when match without firm size (387)

# Data (3)

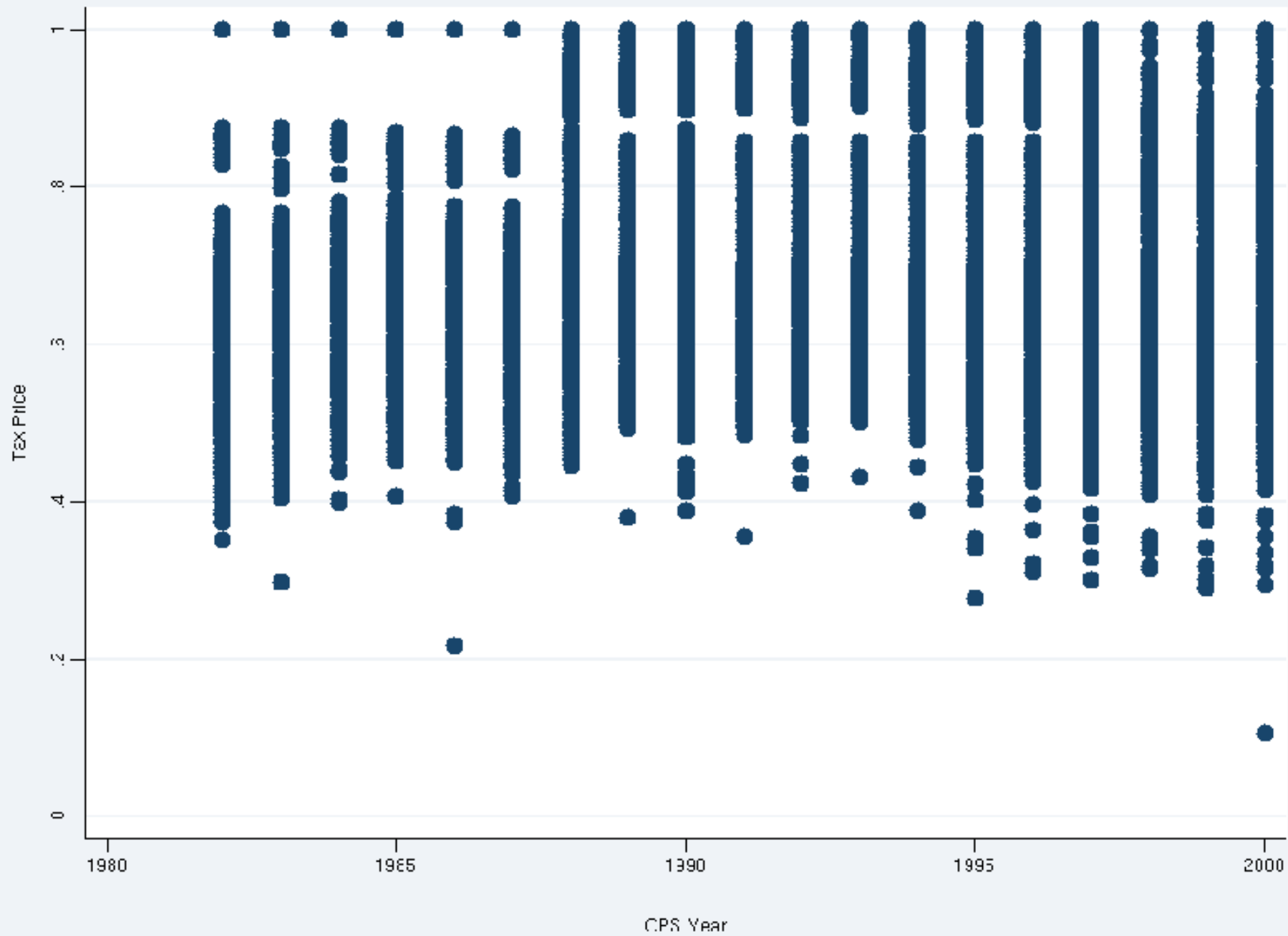
- MEPS – HC – AHRQ – 1996-2004—18-64
- By individual, region, and year
  - Any expenditures,  $\ln(\text{expen} > 0)$ , by type,
  - oop share of expenditures (by category)
  - Match to median tax rates by region, year, education level, firm size
  - Control for: family size, married, age,  $\text{age}^2$ , race , ethnicity, msa, health status,  $\text{age} * \text{gender}$ , work status, firm size, region, education
  - Errors clustered by  $\text{firm size} * \text{region} * \text{education} * \text{year}$  cells (11,761 cells)

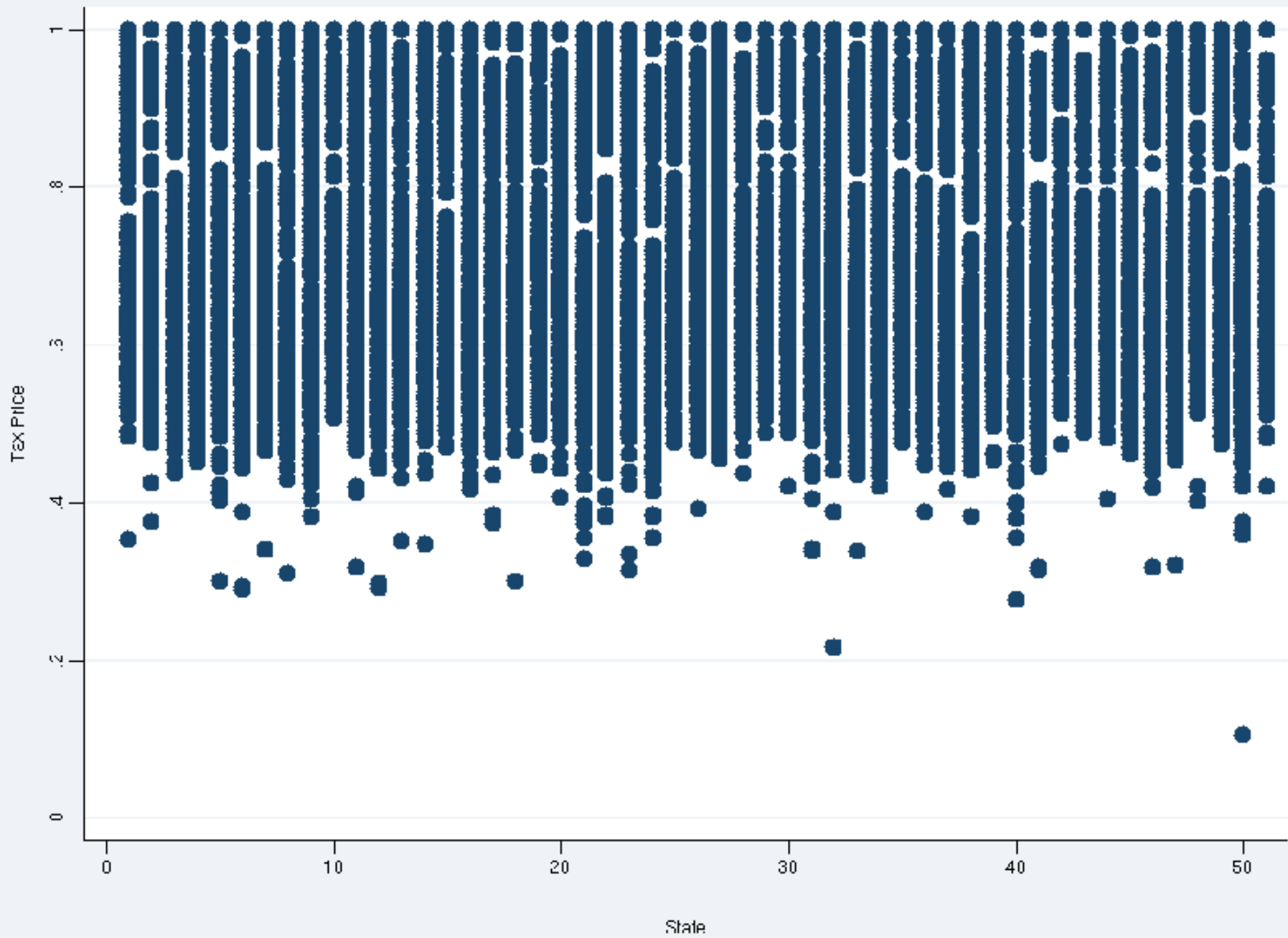
# Data (4)

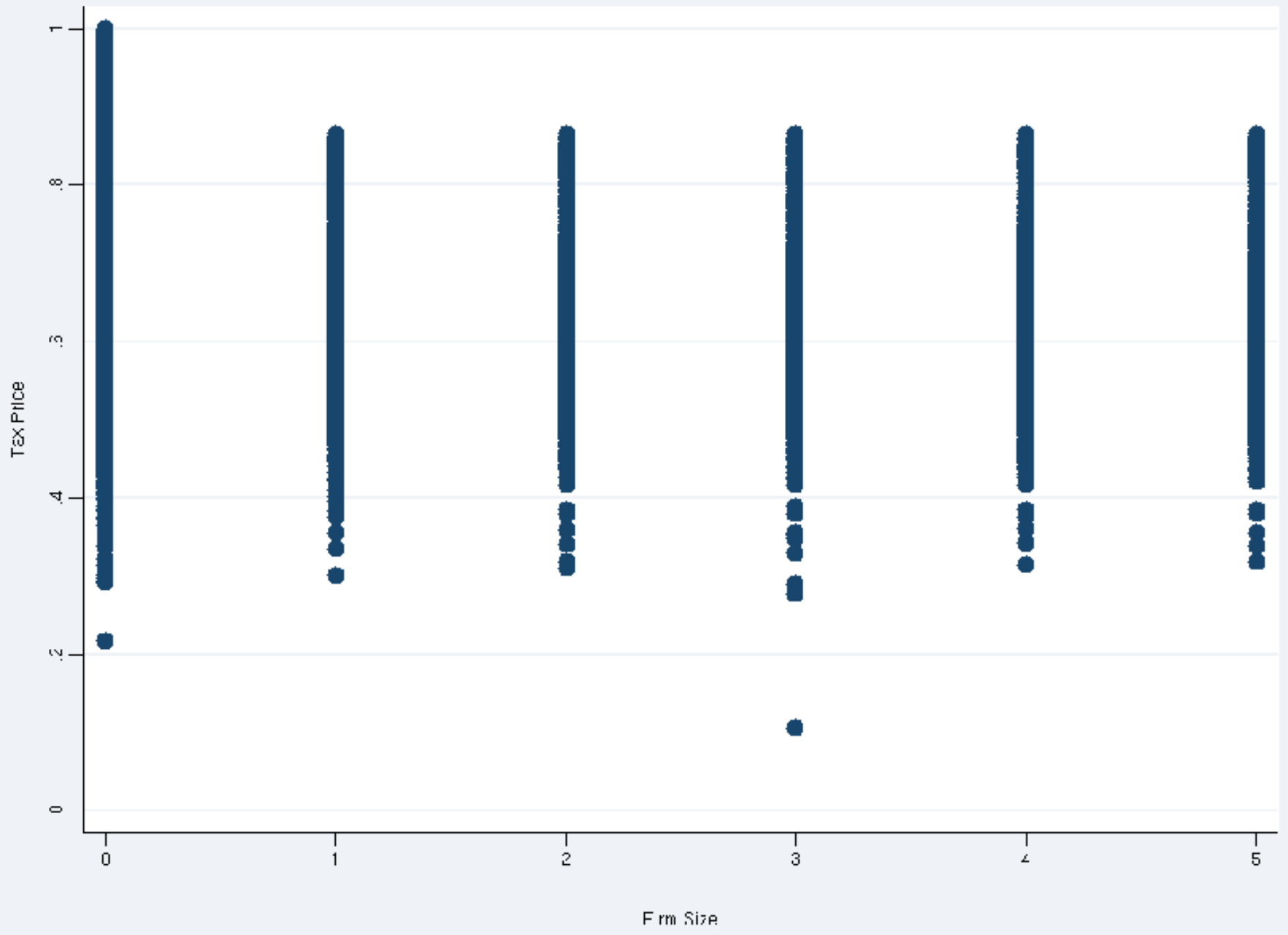
- CPS -- 1980-2000, 18-24; 25-64 year olds
- By individual, state, year
  - Uninsurance, private, public, ESI, non-group
  - Control for: family size, married, age, age<sup>2</sup>, race , ethnicity, msa, health status, age\*gender, work status, firm size, state, education
  - Match to median tax rates by state, year, education level, firm size (95,276)

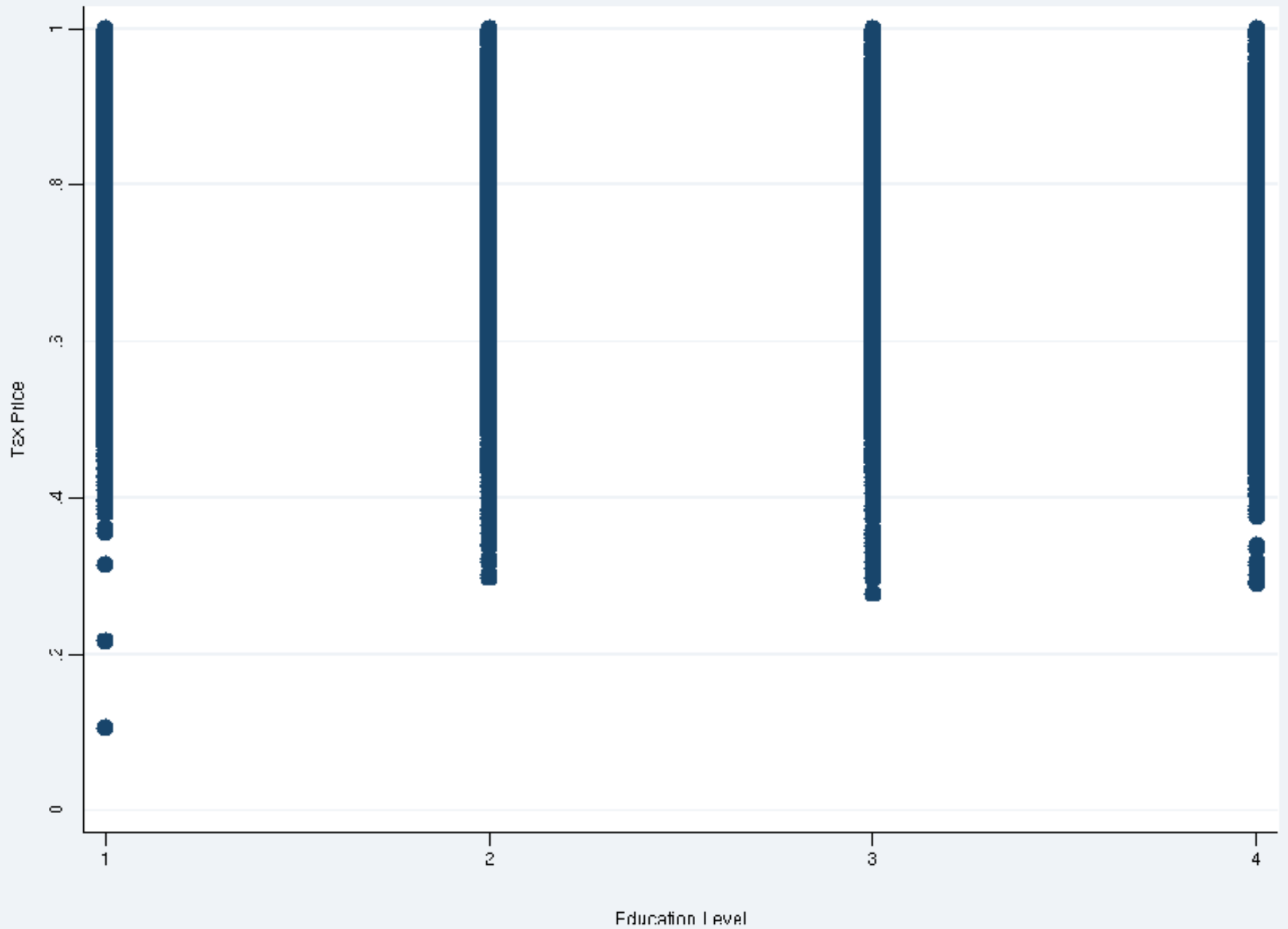
# Strategy

	X-sectional variation in MTR/time	State variation in MTR/time	Self- employed/ time
State of provider		X	
MEPS-IC	Firm size	(region)	
MEPS-HC	X	X	X
CPS	X	X	X









# Descriptive Statistics (see handouts)

Median Taxprice (CPS)	0.68 (18-24) 0.66 (25-64)		Any exp (MEPS-HC)	0.84
Per capita exp (CMS)	\$2814		Ave. exp if >0 (MEPS-HC)	Mean = \$2045 Median =\$908
Per capita >1995 (CMS)	\$4275		% Uninsured/ 18- 24; 25-64 (CPS)	18-24=29% 25-64=15.4%
Premium (MEPS-IC)	\$2770		% Nongroup/ 18- 24; 25-64 (CPS)	18-24=30% 25-64=7.4%
Total emp. Spending (MEPS-IC)	\$1862		% Self employed/ 18-24; 25-64 (CPS)	18-24 = 1.6% 25-64=9.5%

# CMS Data

# Ln Average Health Expenditures (Average= \$2440.60)

	All	No State	>1995
Taxprice	-0.15*	-0.09	-0.07
S.E.	(0.05)	(0.23)	(0.05)

CMS State-of-  
Provider 1980-2004

# Ln Average (>65) Medicare Expenditures (Average= \$4076.56)

	All	No State	>1995
Taxprice	0.18	0.52	0.10
S.E.	(0.20)	(0.34)	(0.05)

MEPS - IC

# Ln Total Employer Spending

## Average=\$2691.89

	All	No State	All	No State
	Firm Size	Firm Size		
Taxprice	-0.05	0.07	-0.16	-0.07
	(0.09)	(0.14)	(0.12)	(0.15)
N	1547	1547	387	387

# Ln Premium

## Average=\$2691.89

	All	No State	All	No State
	Firm Size	Firm Size		
Taxprice	0.014	-0.043	0.047	-0.049
	(0.06)	(0.07)	(0.10)	(0.08)
N	1547	1547	387	387

**MEPS - HC**

# Probability of Any Health Expenditure (0.84)

	SE	*	TP	TP
taxprice			-0.13*	-0.11*
			(0.02)	(0.02)
se*bwt	-0.02	0.13		
	(0.02)			
Insurance status	No		No	Yes

# Ln(Health Expenditure)

## (mean=\$897.84)

	SE	*	TP	TP
taxprice			-0.13*	-0.03
			(0.07)	(0.07)
se*bwt	-0.06	0.34		
	(0.07)			
Insurance status	No		No	Yes

# Any Office-Based Visit (0.7)

	SE	*	TP	TP
taxprice			-0.10*	-0.07*
			(0.02)	(0.02)
se*bwt	-0.04	0.21		
	(0.02)			
Insurance status	No		No	Yes

# Ln(Office-Based Spending) (\$308)

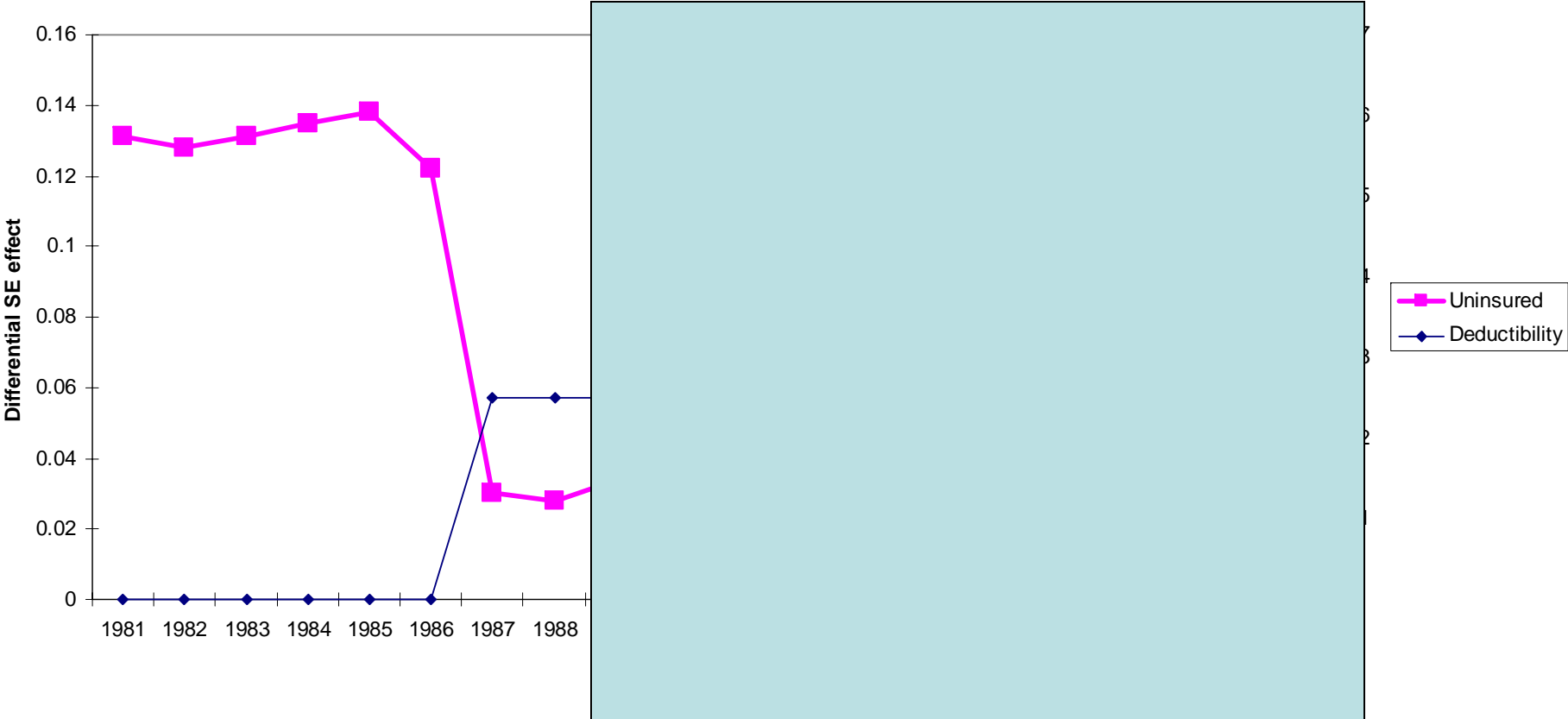
	SE	*	TP	TP
taxprice			0.05	0.10
			(0.07)	(0.07)
se*bwt	-0.006	0.03		
	(0.08)			
Insurance status	No		No	Yes

# Out-of-pocket share (0.38)

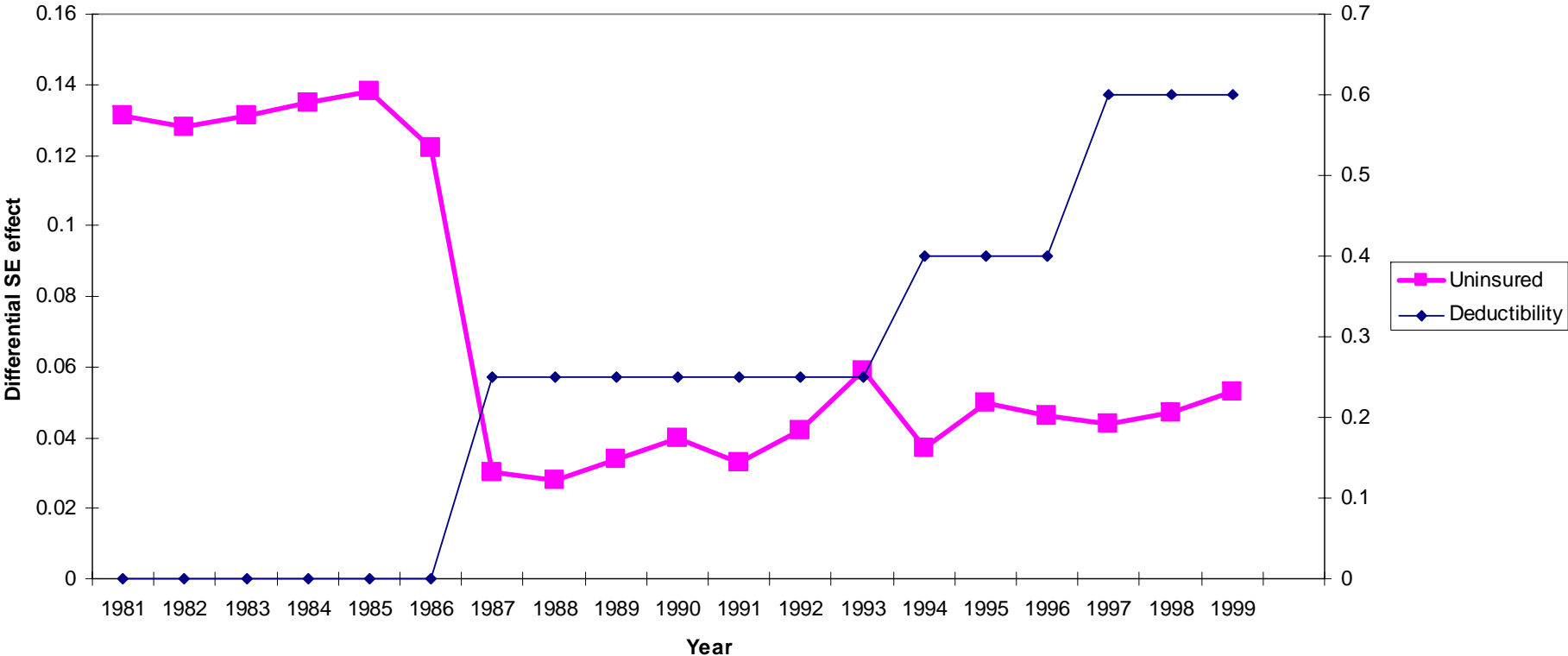
	SE	*	TP	TP
taxprice			0.10*	0.04*
			(0.02)	(0.01)
se*bwt	0.02	-0.09		
	(0.02)			
Insurance status	No		No	Yes

CPS

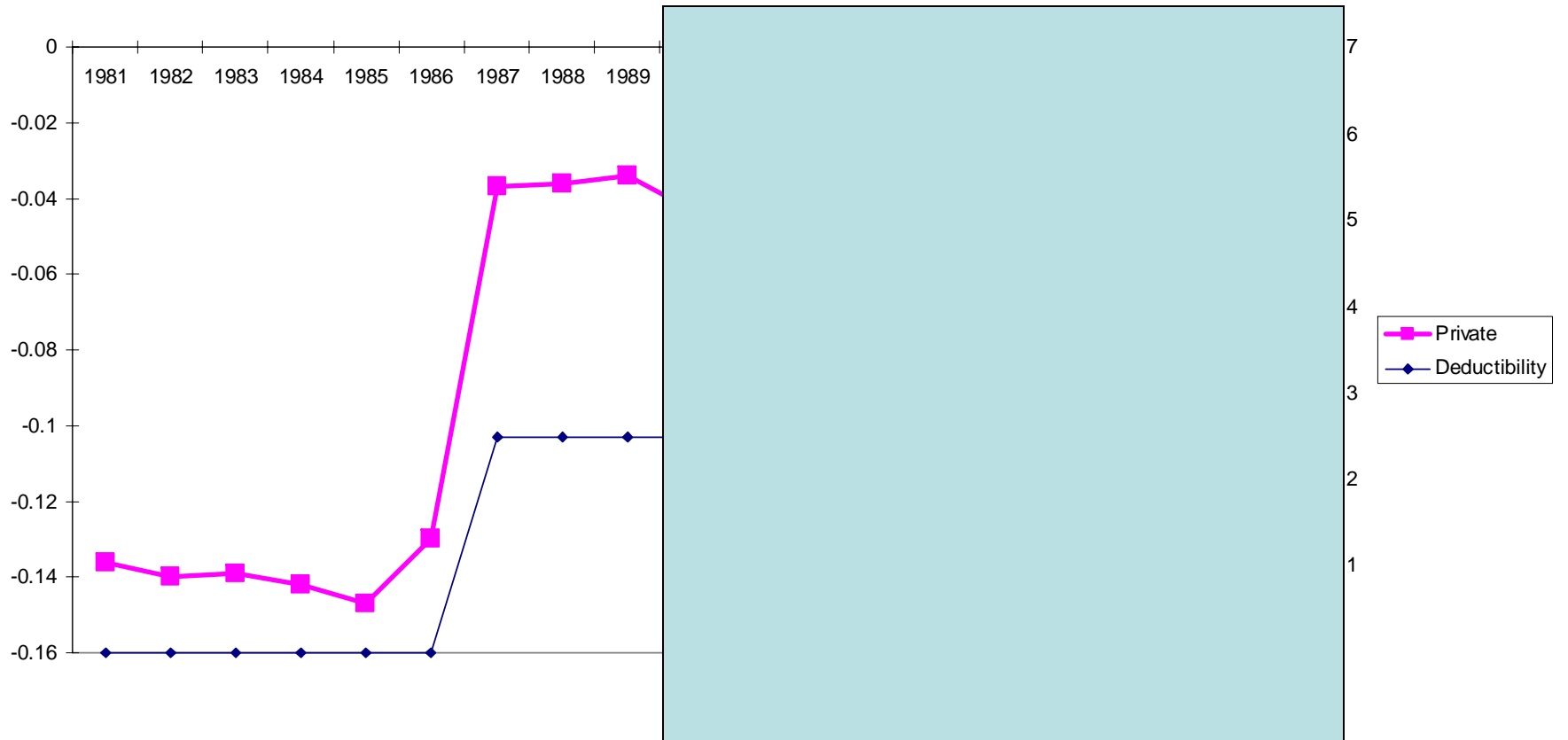
# Self-Employed Uninsurance vs. Deductibility



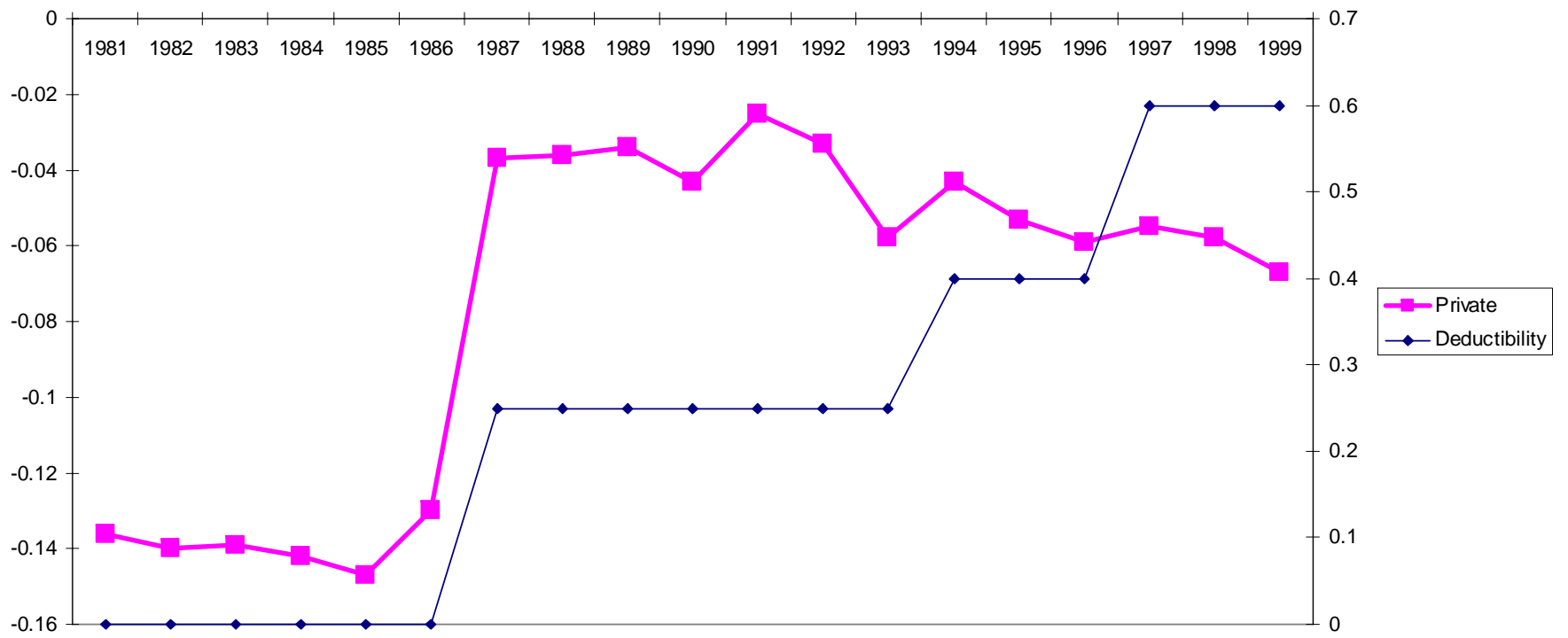
# Self-Employed Uninsurance vs. Deductibility



# Private Insurance and Deductibility



# Private Insurance and Deductibility



# Effect of Taxes on Participation (25-64)

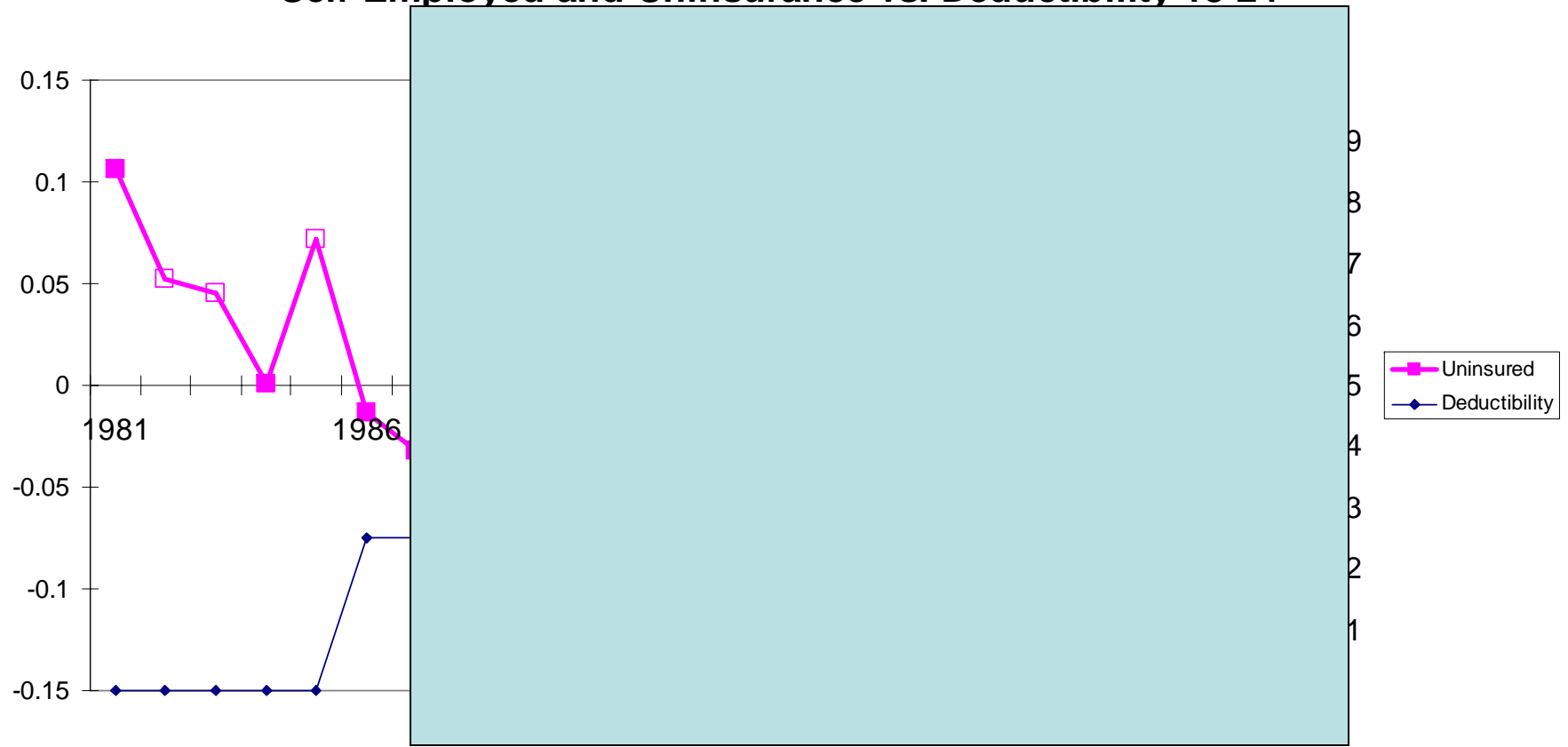
		Unins		Public		Private
Mean		0.15		0.07		0.76
Taxprice		0.22*		0.72*		-0.9*
		(0.01)		(0.01)		(0.01)
SE*BWT			-0.16*		-0.02*	
			(0.01)		(0.01)	
SE - Adjusted for Taxprice			0.87		0.11	

CPS – 1981-2000

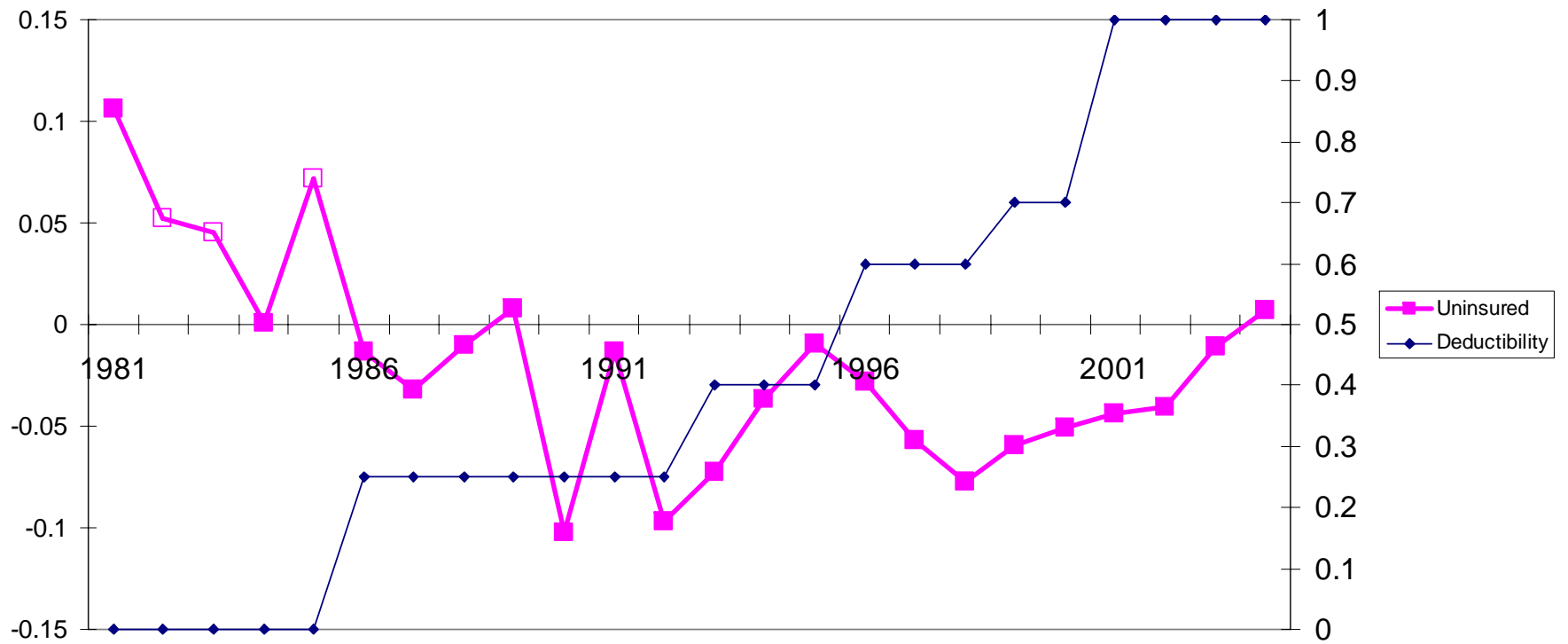
# Effect of Taxes on ESI and NonGroup (25-64)

	ESI		NonGroup	
	0.68		0.07	
Taxprice	-0.91*		0.01	
	(0.01)		(0.01)	
SE*BWT		0.23*		-0.07*
		(0.01)		(0.01)
SE - Adjusted for Taxprice		-1.22		0.38

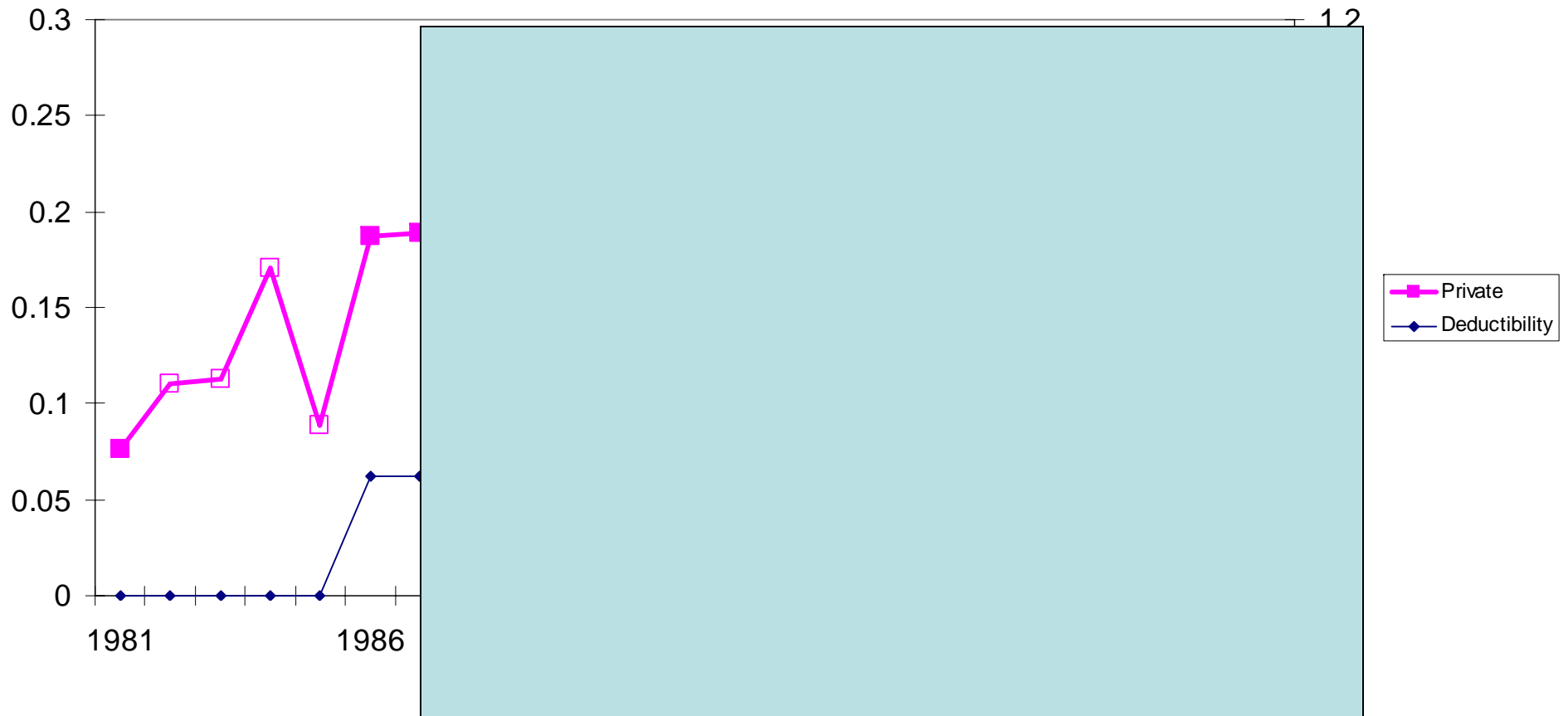
### Self-Employed and Uninsurance vs. Deductibility 18-24



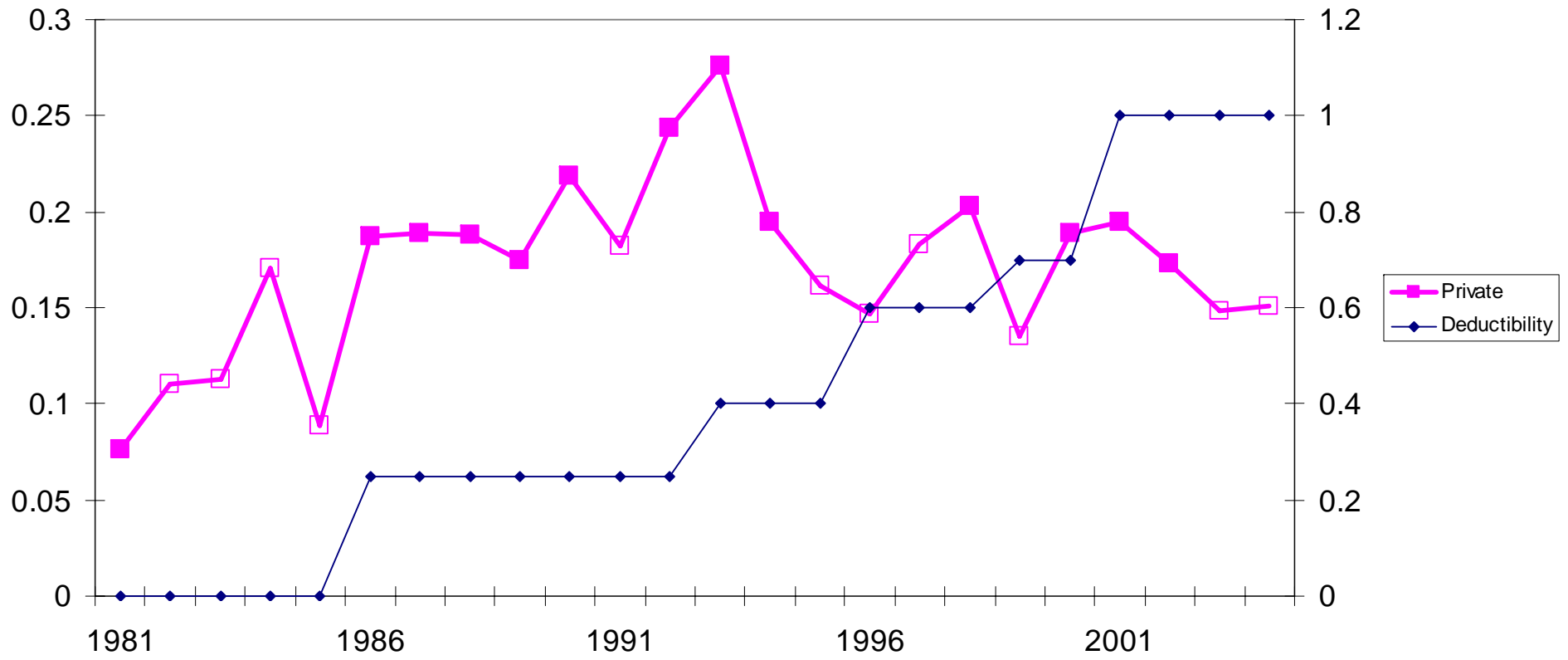
## Self-Employed and Uninsurance vs. Deductibility 18-24



### Private Insurance of Self Employed and Deductibility 18-24



### Private Insurance of Self Employed and Deductibility 18-24



# Effect of Taxes on Participation (18-24)

		Unins		Public		Private	
Mean		0.29		0.09		0.6	
Taxprice		0.33*		0.49*		-0.75*	
		(0.01)		(0.01)		(0.01)	
SE*BWT			-0.08*		0.01		0.04*
			(0.02)		(0.01)		(0.02)
SE - Adjusted for Taxprice			0.42		-0.08		-0.21

CPS – 1981-2000

# Effect of Taxes on ESI and NonGroup (18-24)

	ESI		NonGroup	
	0.5		0.1	
Taxprice	-0.91*		0.17*	
	(0.01)		(0.01)	
SE*BWT		0.13*		-0.09*
		(0.02)		(0.02)
SE - Adjusted for Taxprice		-0.70		0.48

CPS – 1981-2000

## Effect of Moving from Current Median Tax Subsidy to Zero Tax Subsidy (CMS)

	Per Capita Health Care spending	Change
Baseline	\$2441/\$4275	
All	\$2302	-6%
No State	\$2359	-3%
>1995	\$4038	-3%

## Effect of Moving from Current Median Tax Subsidy to Zero Tax Subsidy (MEPS-IC)

	Per Employee Spending	Change
Baseline	\$1815	
All	\$1708	-16%
No State	\$1768	-7%
Firm Size	\$1781	-5%

## Effect of Moving from Current Median Tax Subsidy to Zero Tax Subsidy (MEPS-IC)

	Per Employee Single Premium	Change
Baseline	\$2692	
All	\$2740	+2%
No State	\$2642	-2%
Firm Size	\$2706	+1%

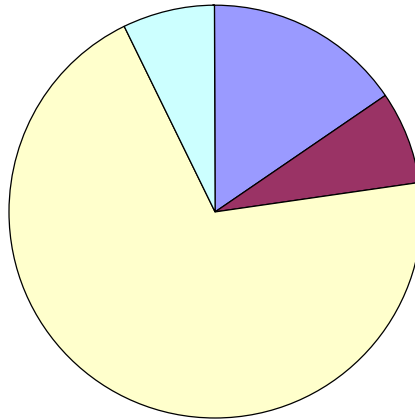
## Effect of Moving from Current Median Tax Subsidy to Zero Tax Subsidy (MEPS-HC)

	Probability of Use	Exp(Ln Spending>0)
Baseline	0.84	\$898
Taxprice	0.80	-4%
Taxprice w/Insurance	0.81	-1%
Self-Employed	0.88	+10%

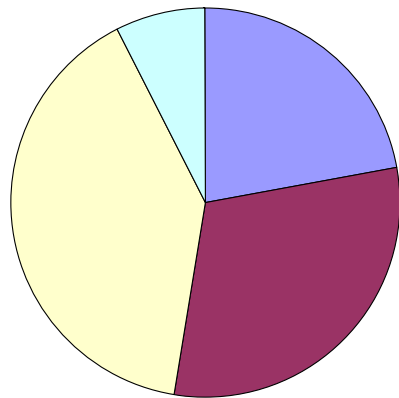
# Effect of Moving from Current Median Tax Subsidy to Zero Tax Subsidy (MEPS-HC)

	OOP Share
Baseline	0.38
Taxprice	0.41
Taxprice w/Insurance	0.39
Self-Employed	0.35

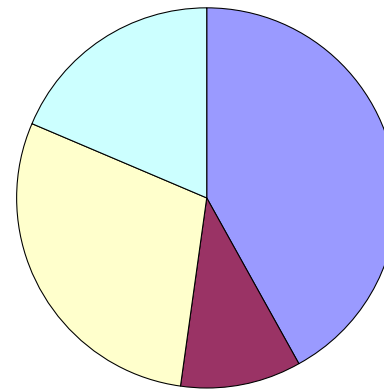
**Current HI Distribution, 25-64**



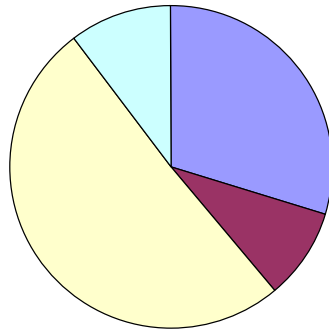
**Tax Price**



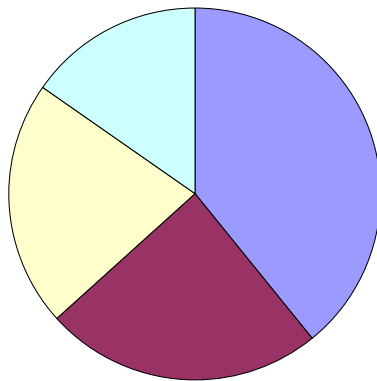
**Self-Employment**



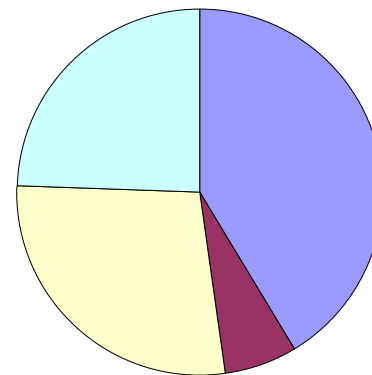
## Current Distribution of Health Insurance Coverage, 18-24



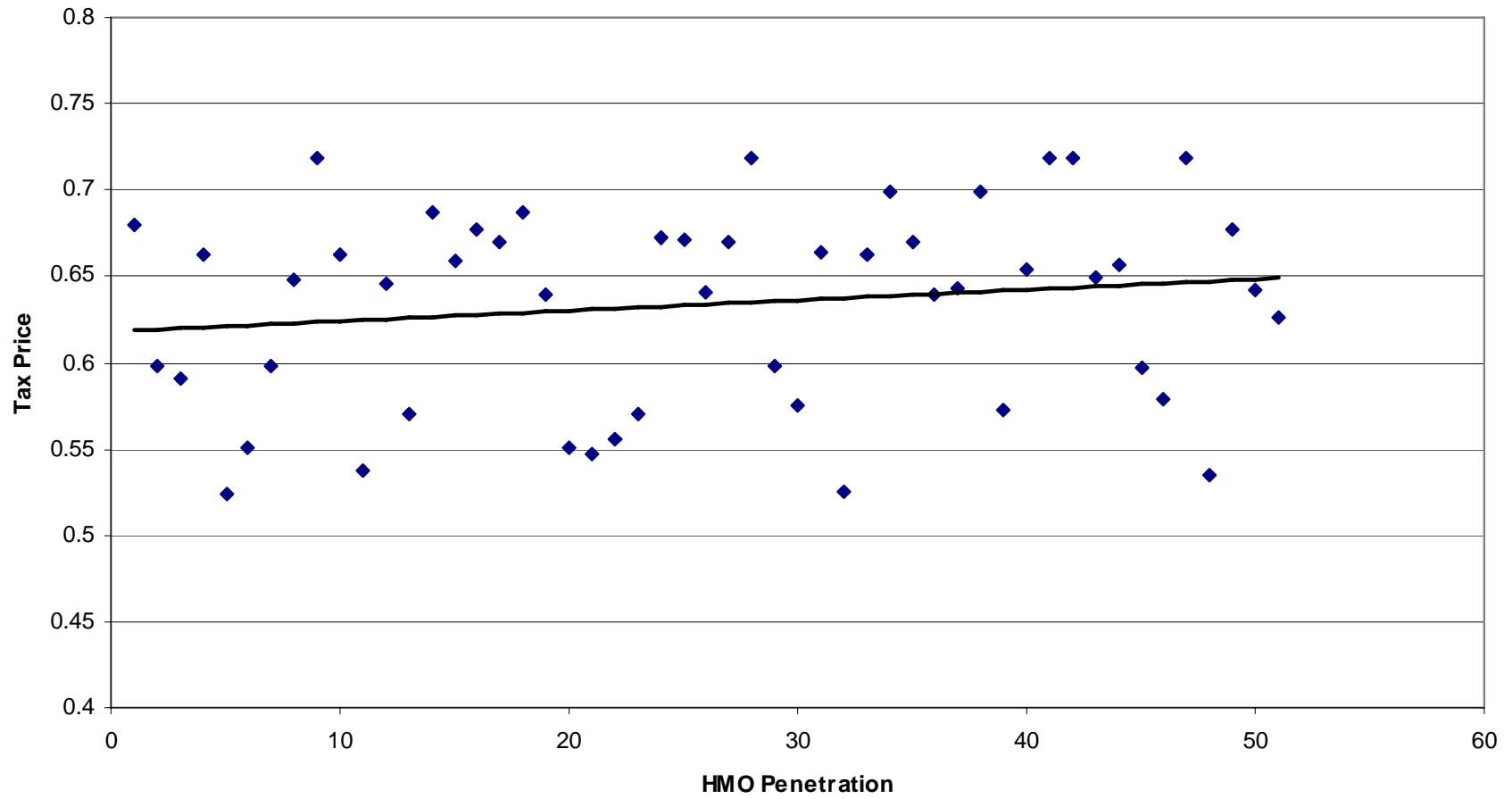
Taxprice Estimates



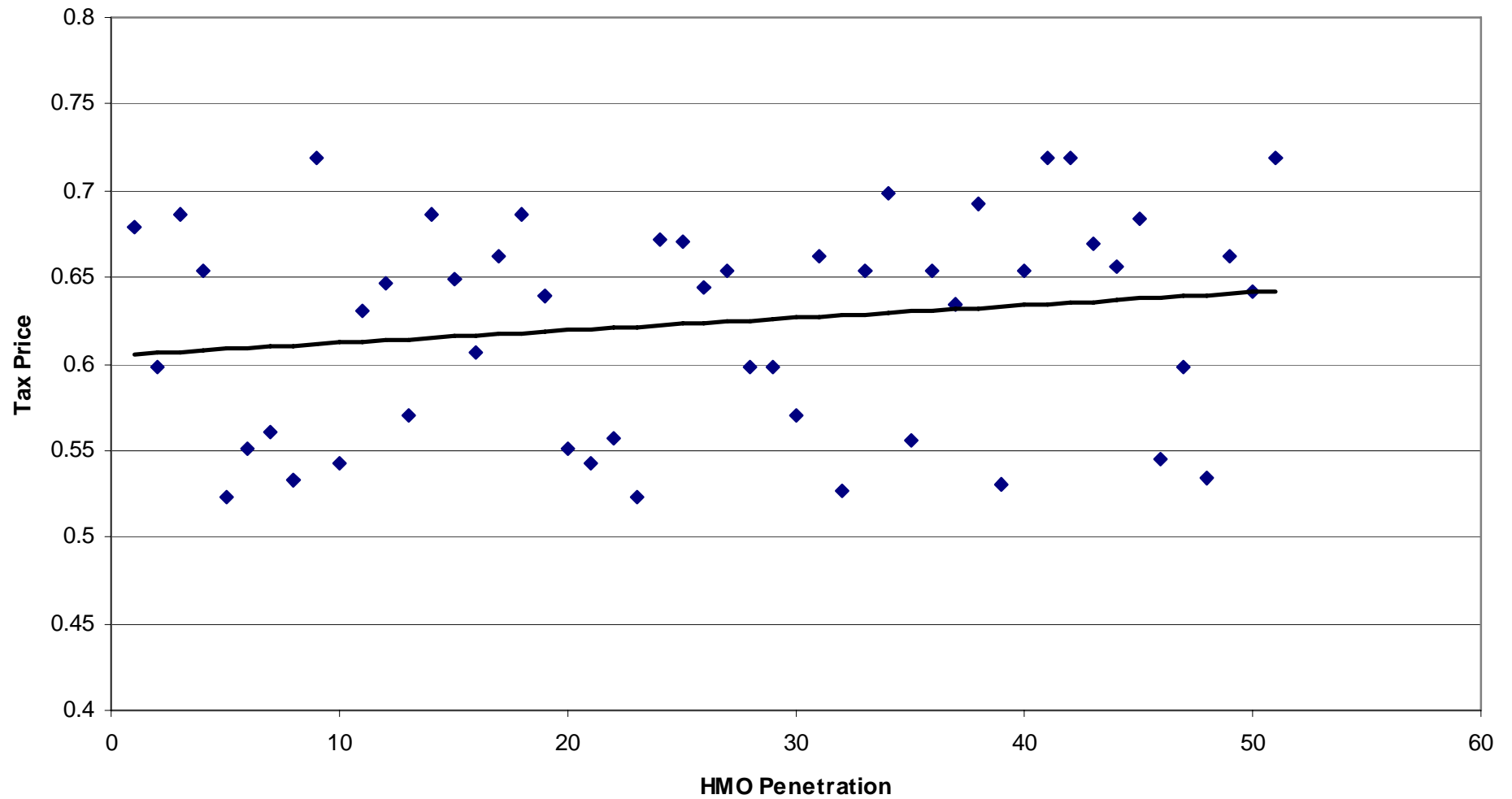
SE Estimates



## HMO Penetration and Tax Price, 1990



## HMO Penetration and Tax Prices, 1995



# HMO Penetration and Tax Prices, 1999

