

HOUSEHOLD AND FIRM RESPONSES TO TAXATION: EMPIRICAL EVIDENCE

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WHY STUDY BEHAVIORAL RESPONSES?

- Documenting Responses is Essential to Measuring Tax Distortions
- To Avoid Placing High Tax Rates on Highly Responsive Behaviors, Empirical Work Must Identify These Activities
- Tax Policy Changes Sometimes Offer the Opportunity to Learn About Behaviors that are of Interest Beyond the Tax Policy Community

INGREDIENTS FOR MEASURING RESPONSES

- Economically Meaningful Variation in Tax Rates
 - Variation Across Households or Firms
 - Variation Over Time
 - Gold Standard: Variation Across Time for Same Households or Firms
- Exogenous Tax Variation
- Reliable Measures, Aggregate or Disaggregate, of Household or Firm Activity

APPLICATIONS FOR DISCUSSION

- Taxation and Labor Supply
- Tax Rates and Elasticity of Taxable Income
- Sensitivity of Capital Gain Realizations
- Corporate Dividend Policy and Investor Tax Rates

LABOR SUPPLY AND TAXES

- Canonical Example of Taxes Distorting Behavior
- Theory is Ambiguous on Effect of Taxes
- Labor Supply is Difficult to Measure; Hours May Not Capture Key Responses
- Two Reforms Provide Useful Evidence:
 - Tax Reform Act of 1986 in US (TRA86)
 - Swedish Income Tax Reform of 1989

LARGEST CHANGES IN AFTER-TAX WAGE: $w^*(1-\tau)$

- Sweden 1990-91: 24.6% Increase
- U.S. 1941-42: 8.8% Decrease
- Sweden 1989-90: 6.9% Increase
- U.S. 1940-41: 6.2% Decrease
- U.S. 1947-48: 6.1% Increase
- U.S. 1943-44: 5.4% Decrease
- U.S. 1986-87: 4.8% Increase

LABOR FORCE PARTICIPATION OF MARRIED WOMEN, PRE- & POST-TRA86 (EISSA STUDY)

	Pre-TRA86	Post-TRA86	Difference
High Income Husbands	46.4%	55.4%	9.0%
Not-so-High Income Husbands	68.7%	74.0%	5.3%

KEY ISSUES OF INTERPRETATION

- How Similar Are the “Control” and “Experimental” Groups?
- Does the Estimated Effect Generalize Beyond the Study Group?
- Are Other “Contaminating” Factors Driving the Results?

LABOR SUPPLY RESPONSE TO SWEDISH TAX REFORM 1989-90

- Compare Earned Income For Same Households in 1994 and 1989
- Control for Business Cycle, Region of Country, Place in Income Distribution
- Elasticity of Labor Earnings With Respect to Marginal “Keep Ratio” $(1-t)$: 0.36 to 0.39
- Implication: Reducing Marginal Tax Rates Raises Labor Income

THE EARNED INCOME TAX CREDIT IN THE UNITED STATES

- Subsidy to First Dollar of Earnings for Low-Income Families with Children
- Complex Structure: Subsidy at First, then Neutral, then HIGHER Marginal Tax Rate Range
- Theory: Positive Effect on Labor Supply of Lowest Income Earners, Negative Effect on Households in “Phase Out” Range
- Empirical Finding: Positive Labor Force Participation, No Evidence of Negative Hours Effect

TAXABLE INCOME ELASTICITY

- Essential for Revenue Forecasting Since
 $\text{Revenue} = \text{Base} * \text{Rate}$
- $\Delta \text{Revenue} = \text{Base} * \Delta \text{Rate} + \underline{\text{Rate} * \Delta \text{Base}}$
- “Dynamic Scoring” Debate in U.S.
- Several Generations of Research on U.S. Data
- Confirming Studies in Other Nations Including Iceland & Canada

FELDSTEIN STUDY OF HOW TRA86 AFFECTED TAXABLE INCOME

1985 MTR	1985 Income	Change in (1-tax rate)	Change in "Full Income"
22%	\$31K	9.0%	9.4%
28%	\$43K	16.3%	3.9%
49%	\$178K	41.2%	27.1%
50%	\$479K	44.0%	18.4%

RESULTS ON TAXABLE INCOME ELASTICITY

- Feldstein (1995): Elasticity of 1.04-3.05 for AGI with Respect to $(1-t)$; Tax Cuts Might Raise Revenue!
- Gruber and Saez (2002): Relate Taxable Income and “Broad Income” to $(1-MTR)$ Using Panel Data 1979-1990
- Taxable Income Elasticity -0.40 w.r.t. $(1-t)$
- Example: Reducing MTR from 0.50 to 0.45 Raises $(1-t)$ by 10%, thereby Raising Taxable Income by 4%. Static Revenue Loss 10%, Actual Revenue Loss Approximately 6%
- Deductions More Sensitive Than Income
- High Income Taxpayers More Sensitive than Modest Income

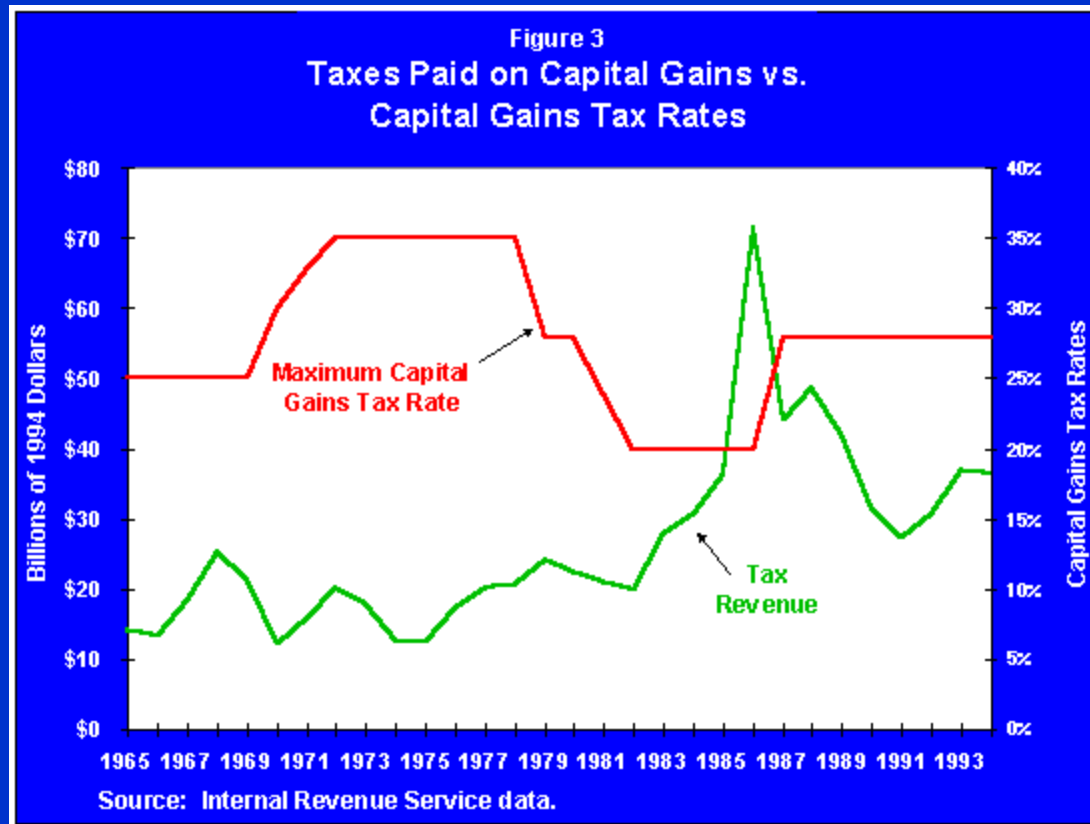
OPEN QUESTIONS ABOUT TAXABLE INCOME ELASTICITY

- Is This “Real Behavior” or Tax Evasion?
- Possible Shifting from One Tax Base to Another (Example of Corporate vs. Individual Income Tax Reporting)
- Elasticity May be History-Dependent: How Do We Extrapolate?

CAPITAL GAINS TAXATION AND GAIN REALIZATION

- One of the Most Elastic of Potential Behaviors
- TRA86: Pre-Announced Tax Rate Increase on Long-Term Gains from 20 to 28 Percent
- Differential Tax Burden on Short-Term and Long-Term Gains (Short Term Taxed at Higher Rates): Encourages Holding Gains Until Qualify as Long-Term

HISTORICAL CAPITAL GAIN REALIZATIONS, 1965-1994



EMPIRICAL EVIDENCE ON REALIZATION PATTERNS

- Cross-Section of Tax Returns: Realizations and Tax Rates Negatively Correlated
- Is This Selective Timing?
- Panel Data on Asset Sales and Tax Rates: PERMANENT Tax Rate Variation Has Much Smaller Effect than TRANSITORY Change in Tax Rate
- Burman-Randolph Study: Permanent Elasticity - 0.18, Transitory Elasticity -6.42.
- Differences Across Households in Elasticities?

FURTHER FINDINGS ON CAPITAL GAINS

- Taxpayers “Hold Losers” and “Sell Winners” Too Much
- Successful IPOs: Shares Are Held Until the Gains Become Long-Term
- Unresolved Puzzle: Why Do Taxpayers Trade? Need to Model Trading to Understand Costs of Tax Distortions

DIVIDEND PAYOUT AND INVESTOR TAX RATES

- Why Do Firms Pay Cash Dividends – Do Taxes Really Matter?
- 2003 Reform of Dividend and Capital Gains Tax Rates Lowered Dividend Taxes Sharply
- Temporary Policy: Enacted for Five Years

INCENTIVE EFFECTS OF REDUCING THE DIVIDEND TAX RATE

- Payout Policy: Choice Between Paying Dividends and Retaining Earnings or Repurchasing Shares
- Investment: Dividend Tax Increases Tax Wedge Between Pre-tax and Post-tax Returns, Raises Cost of Capital

EFFECT OF JGTRRA ON TOP-BRACKET INDIVIDUAL INVESTOR

- Pre-JGTRRA: MTR on Dividends = 38.5%, Realized Long-Term Gains 20%
- Ratio $(1-t_{div})/(1-t_{cg}) = 0.796$ (Capital Gains are “Tax Preferred”)
- Post-JGTRRA: Rates Equal so Ratio = 1

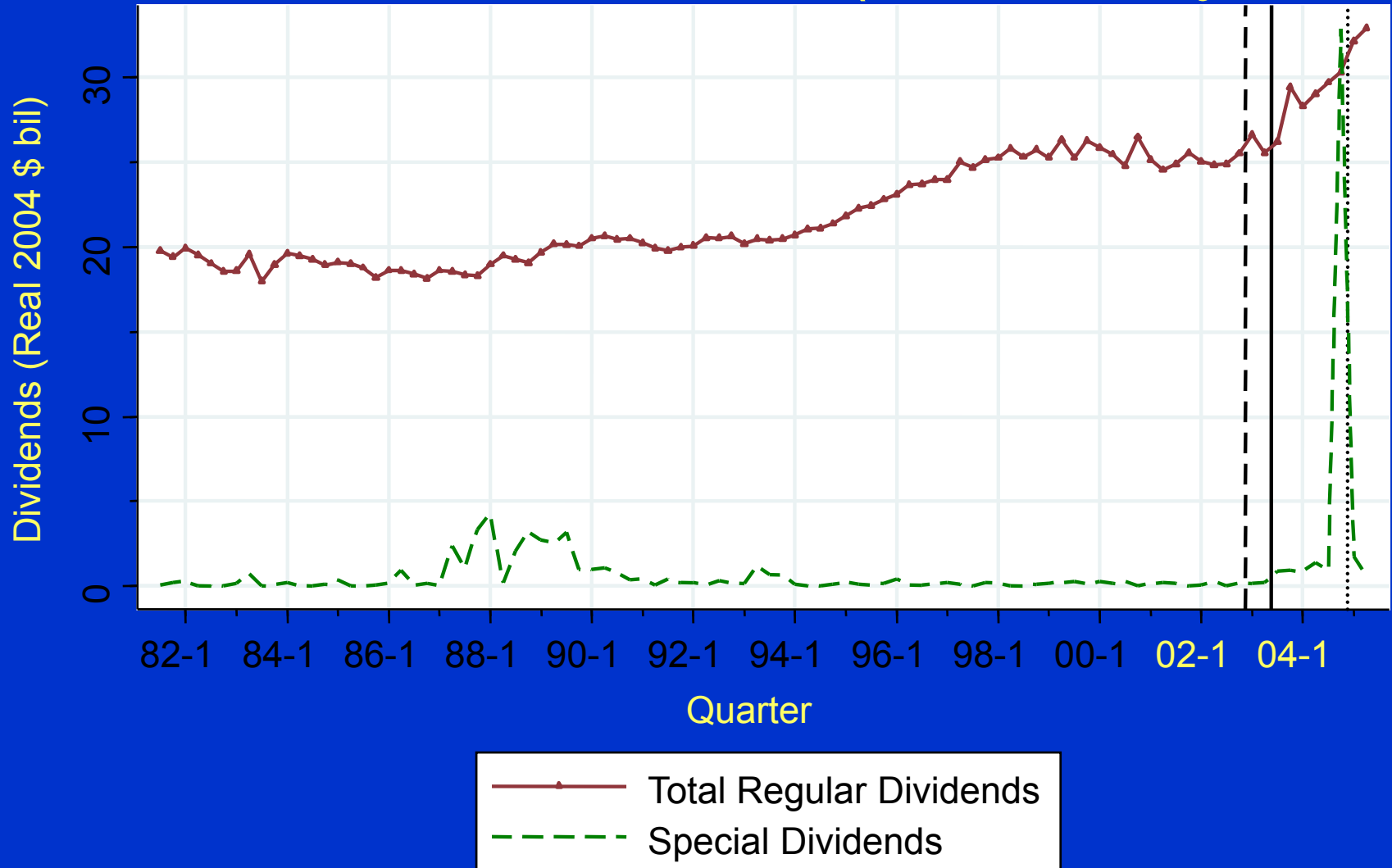
EFFECTS OF JGTRRA FROM THE FIRM PERSPECTIVE

- Taxable Households Own Just Over Half of Corporate Stock
- Relative Tax Burden for Households on Dividends vs. Capital Gains Dropped About 10 Percentage Points
- Firms “See” About Half of This

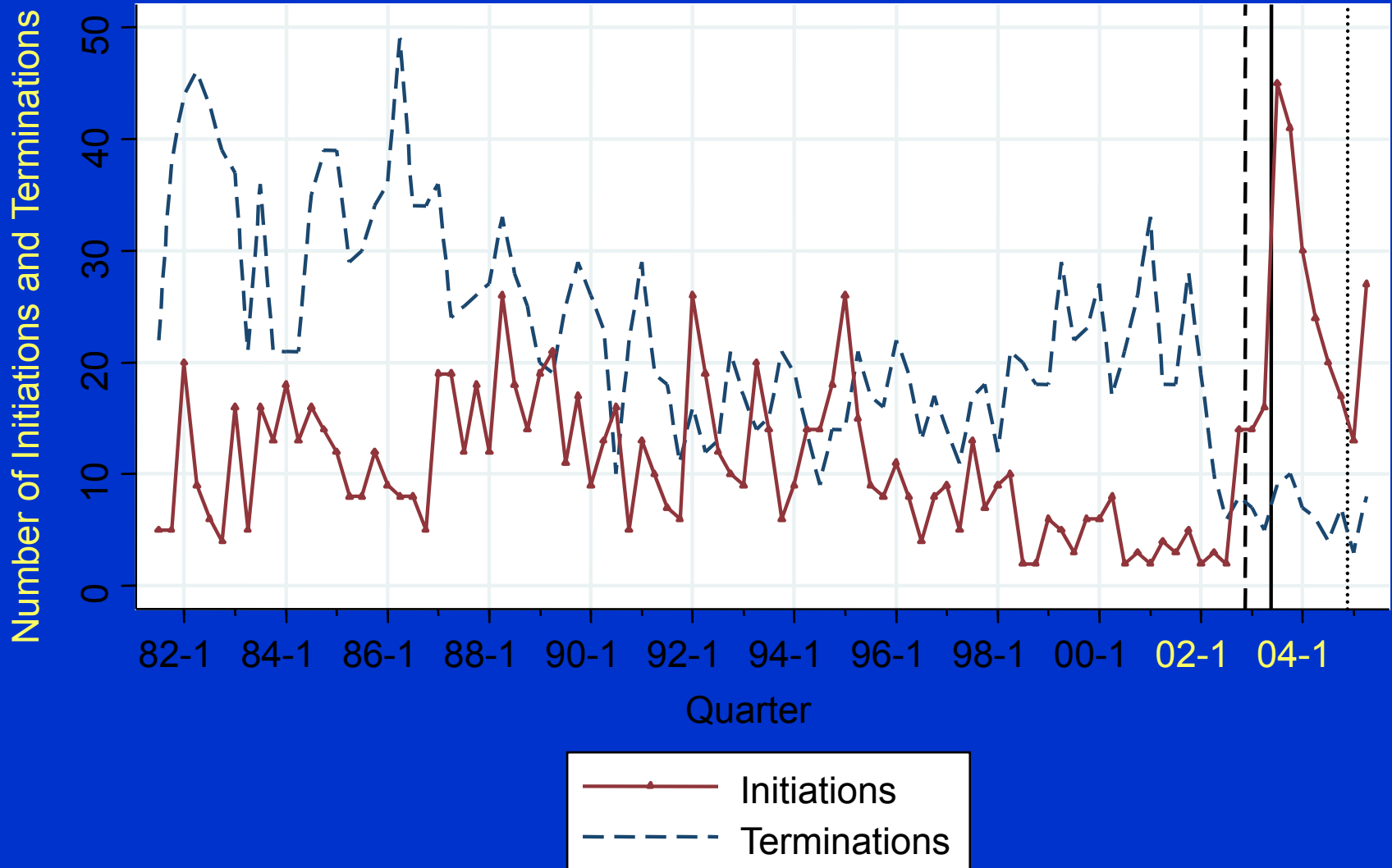
DO FIRMS RESPOND TO TAXES ON SHAREHOLDERS?

- Historical Evidence for United Kingdom and United States
- Payout Rates are Higher When Dividend Tax Burdens are Lower
- Key Parameter: Elasticity of (Dividends/Earnings) with Respect to $(1-t_{\text{div}})/(1-t_{\text{cg}})$

REGULAR & SPECIAL DIVIDEND AMOUNTS BY QUARTER (from Chetty/Saez)



DIVIDEND INITIATION AND TERMINATION (From Chetty/Saez)



DIVIDEND TAX RELIEF AND INVESTMENT

- Firm Heterogeneity is Key – “Trapped Equity” Analysis
- Many Studies Show Cost of Capital Affects Investment
- Do Firms Expect Low Dividend Tax Rates to Persist? Temporary Cut Has Less Investment Effect than Permanent Cut
- Tricky to Control for Other Shocks to Economy

DIVIDEND TAX REDUCTION AND STOCK MARKET VALUES

- Difficult to Find “News” Effect in Market
- Share Prices Equal Present Discounted Value of After-Tax Dividend Income
- Temporary Tax Policy Complicates the Valuation Effect
- Different Effects on Different Firms

CHOICE OF ORGANIZATIONAL FORM FOR U.S. FIRMS

- Two Forms of Organization: C-Corporation and S-Corporation
- S Corporation Does Not Face Corporate Tax
- C-Corporation Pays Corporate Tax, Then Can Pay Dividends or Generate Capital Gains
- Major Change in Relative Tax Burden: TRA86 Reduces Corporate Rate from 46 to 34, Individual Top Rate from 50 to 28

CHANGING INCENTIVES IN 1986

- Pre-TRA86: C-Corporation is a Tax Advantaged Vehicle
- Post-TRA86: S-Corporation is Favored
- Result: 146,000 C-Corporations Converted to S-Corporations in 1986
- Conversions Concentrated in Services and Real Estate

INVESTMENT DECISIONS AND TAX RULES

- Empirical Challenge: Investment Incentives are Often Generous When Investment is Otherwise Weak
- Policy Levers: Investment Tax Credit, Structure of Depreciation Allowances
- Aggregate Investment and Tax Policy: Weak Relationship
- Composition of Investment: Stronger Link with Marginal Incentives

SUMMARY: KEY LESSONS ON BEHAVIORAL RESPONSES

- Tax Rates DO Matter
- “Clean” and Substantial Tax Changes Yield Supportive Evidence for Impact of Tax Policy
- Short-Run Effects May Differ from Long-Run Effects
- Effects of Temporary Policy May Differ from Effects of Permanent Policy
- Revenue Estimating Should Recognize Effects of Changing Tax Rates on Tax Base

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