



# Taxes and Wages

Corporate Income Taxation and the Economy  
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# Can Corporate Taxes Feed through to Wages?

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- Solow Growth Model relates the wage rate (positively) to the level of capital stock per worker,  $k$ , and the level of technology,  $A$ 
$$\text{wage} = (1 - \alpha)A^{1 - \alpha}k^\alpha$$
- Mankiw (2001)
- Gordon and Hines (2002) suggest that in a small open economy, a tax on the return to capital causes the firm to adjust by lowering wages. As a result, the burden of the tax may be borne entirely by labor or other fixed factors.

# Cross-Sectional Variation in Corporate Tax Rates

	Australia	Austria	Bolivia	Chile	Colombia
1981	0.46	0.55	0.30	0.48	0.40
1982	0.46	0.55	0.30	0.48	0.40
1996	0.36	0.34	0.25	0.15	0.35
1997	0.36	0.34	0.25	0.15	0.35
2000	0.34	0.34	0.25	0.15	0.35
2001	0.30	0.34	0.25	0.15	0.35

# Time Trend in Corporate Taxes



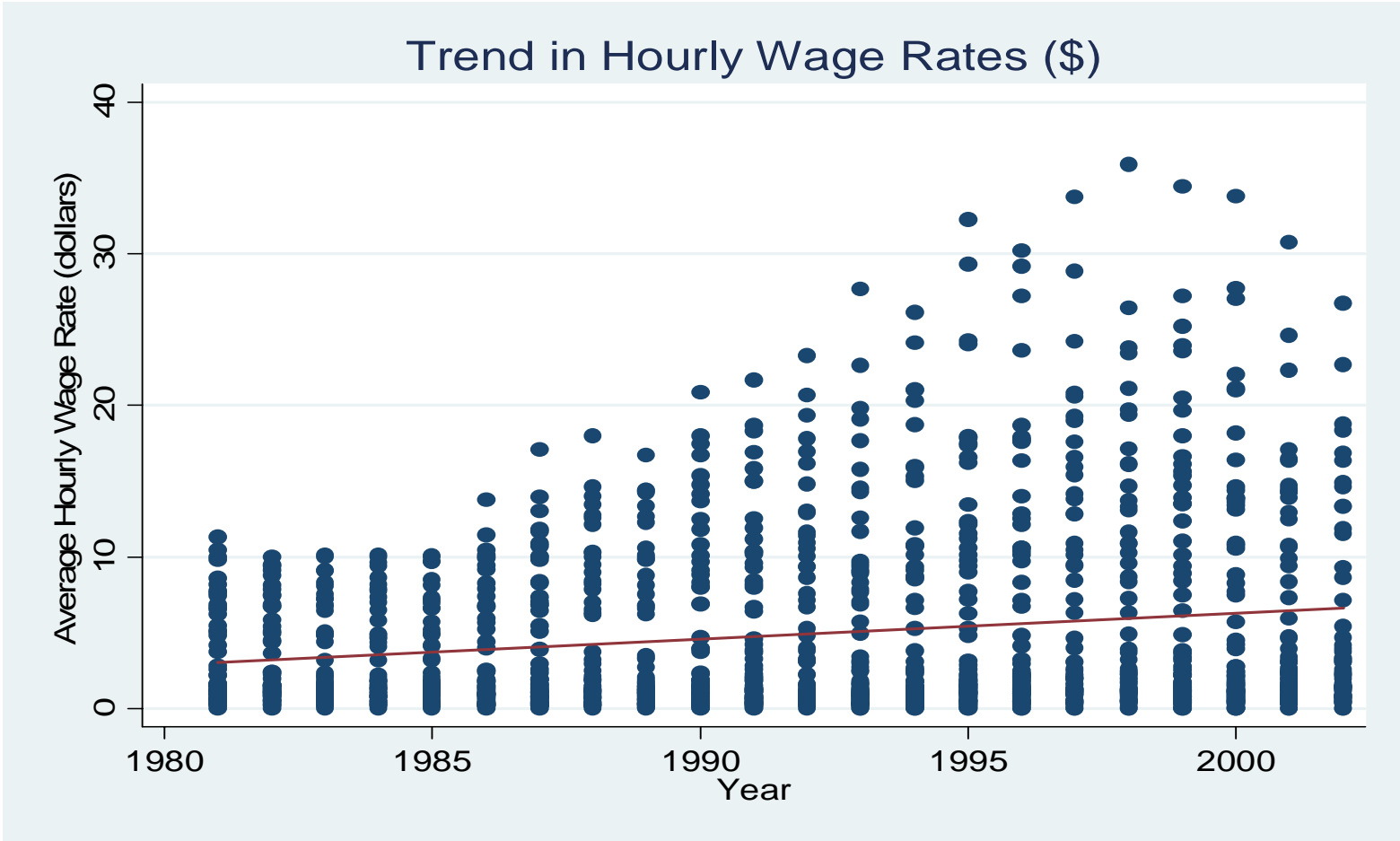
# "Shopping for low tax rates is not a crime"

(Economist, May 2006)

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- **International tax literature reviewed in Gordon and Hines(2002) and Devereux and Griffiths (2002) finds that mobile capital may often flow to low tax jurisdictions**
  - Devereux and Griffiths (1998) concludes that the effective *average* tax rate plays an important role in the choice of investment location within Europe
  - Cummins, Hassett and Hubbard (1999) document negative correlation between effective *marginal* corporate tax rates and investment
  - Grubert and Mutti(1991) and Hines and Rice(1994)

# Manufacturing Wage Rates (ILO, 1981-2002)



# Literature on Wage Determination

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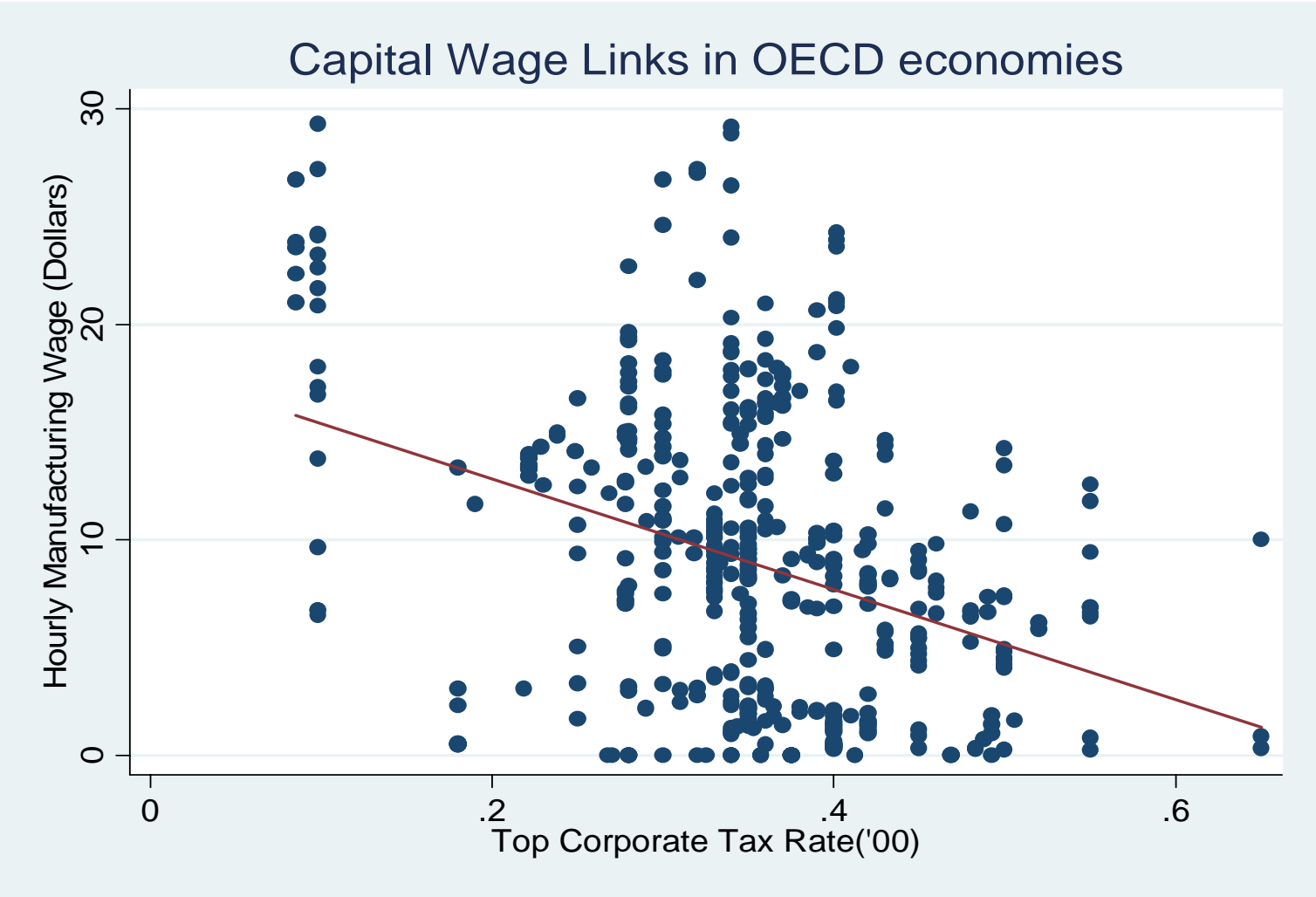
- **Gross Domestic Product, unionization and wage setting institutions (Freeman and Ostendorp, 2000, Card et al, 1996)**
- **Openness to trade and FDI (Rama, 2003)**
- **Manufacturing value added, Democracy (Rodrik, 1999)**
- **Computerization (Katz, 1999)**
  - Summary: No analysis of the effect of corporate taxes or personal taxes on wage levels

# Data and Analysis

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- **Panel data: 72 countries, 1981-2002**
- **Explain cross-country wage levels using different measures of the corporate tax rate-top national corporate tax rate, effective marginal and effective average tax rate**
  - Wages=f(corporate taxes, personal income taxes, other controls)
    - Wages averaged over five year periods
    - Beginning of period values of other variables
- **Controls: Manufacturing Value Added per worker, Consumer Price Index, Trade/GDP, schooling, labor market regulation, computerization**

# Capital-Wage Links



# Result: Corporate Taxes Matter....

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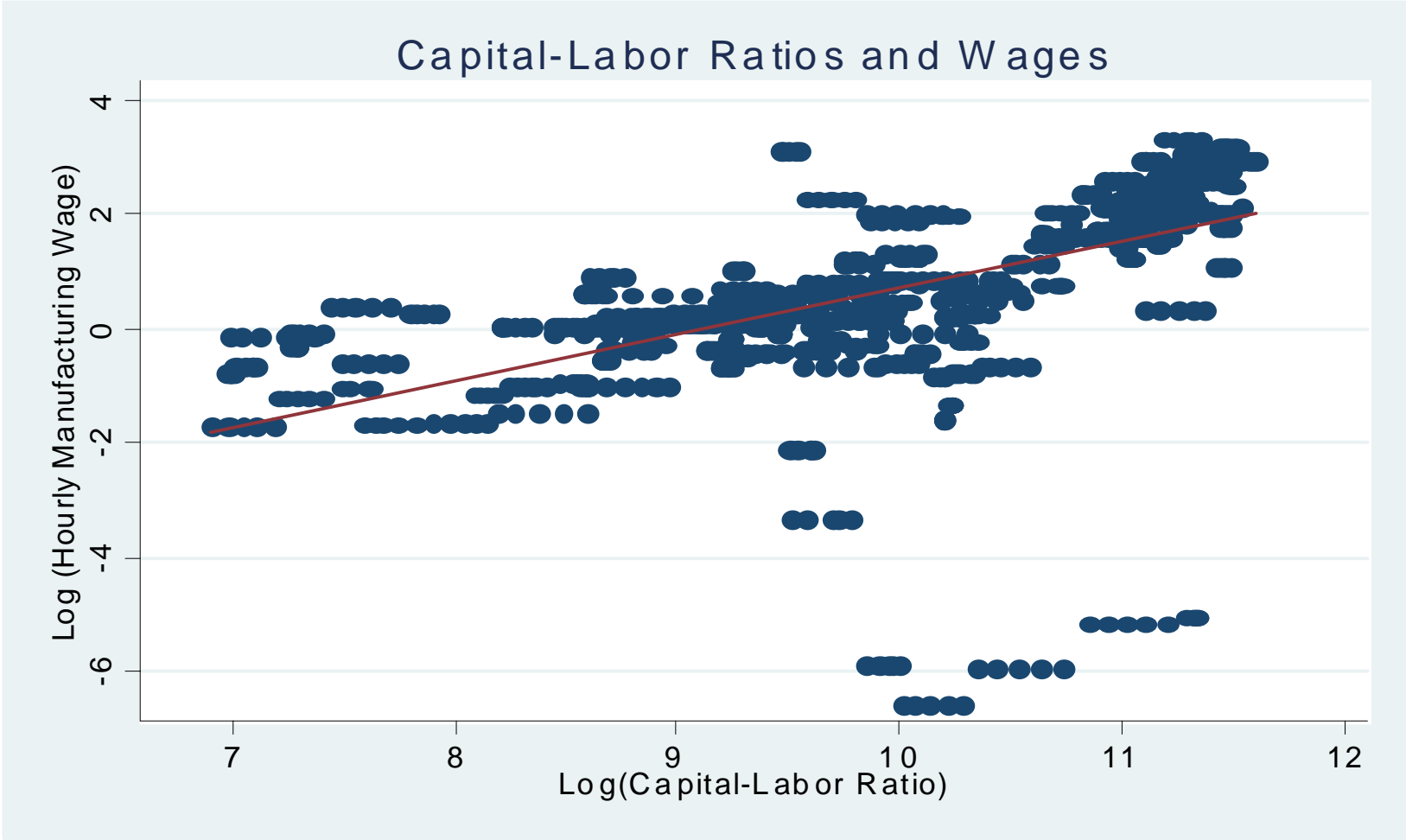
- **Labor bears a portion of the corporate income tax**
  - A 1 percent *increase* in top national corporate tax rate leads to a 0.8 percent *decrease* in wage rates
  - All measures of corporate taxes important, but magnitude differs. Effective average tax rates (0.7 percent), Effective marginal tax rates (0.4 percent)

# Implication

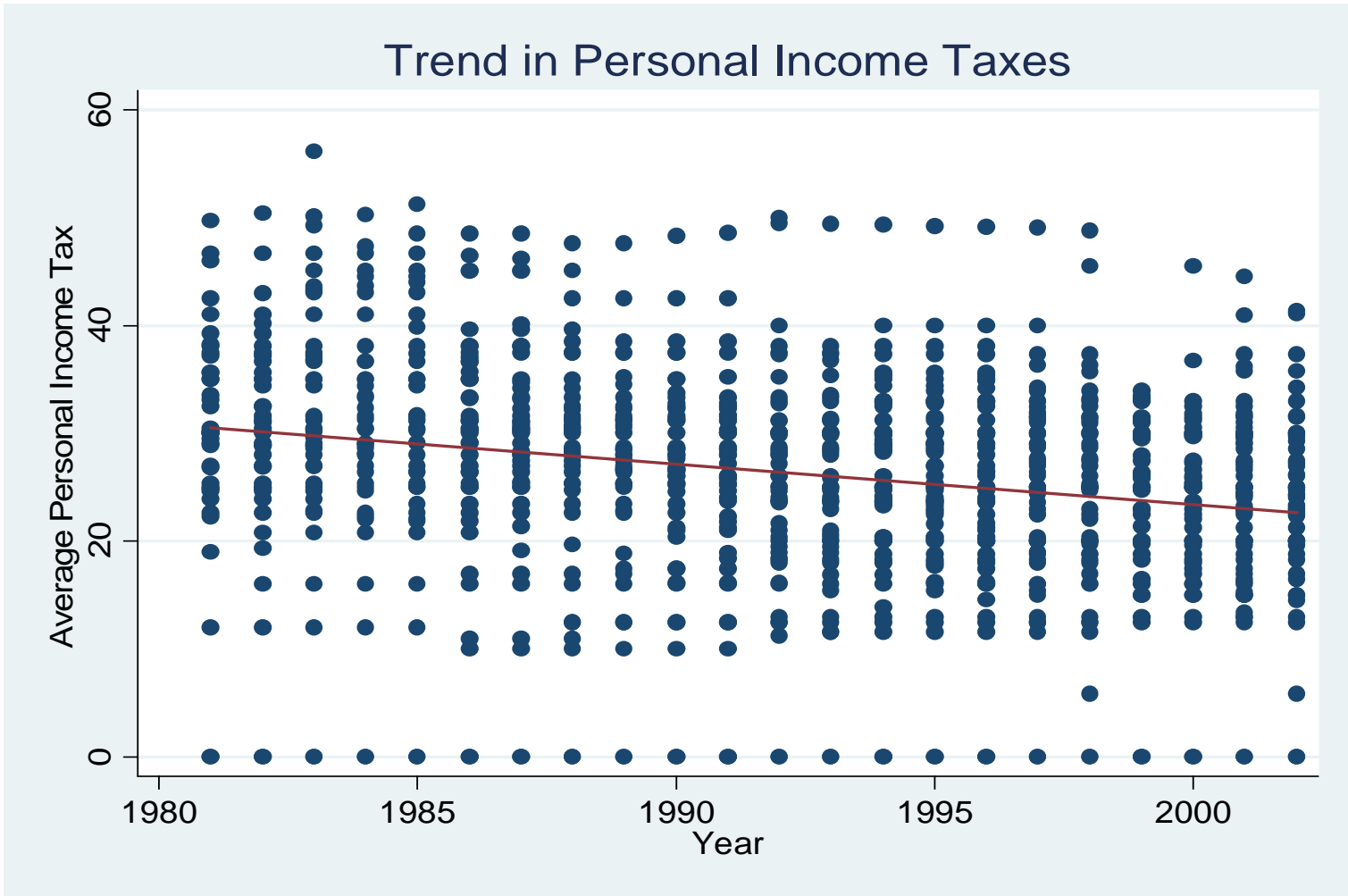
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- **If average domestic corporate tax rate decreased from 35 percent to 25 percent (28 percent), average wages would increase by more than 25 percent**
  - Mexico: lowered corporate taxes from 37 percent to Canada's level of 22 percent, average wages would go up from \$1.67 to \$2.25

# Capital-Labor Ratios and Wages



# Personal Income Taxes



# ....but Labor Taxes Do Not

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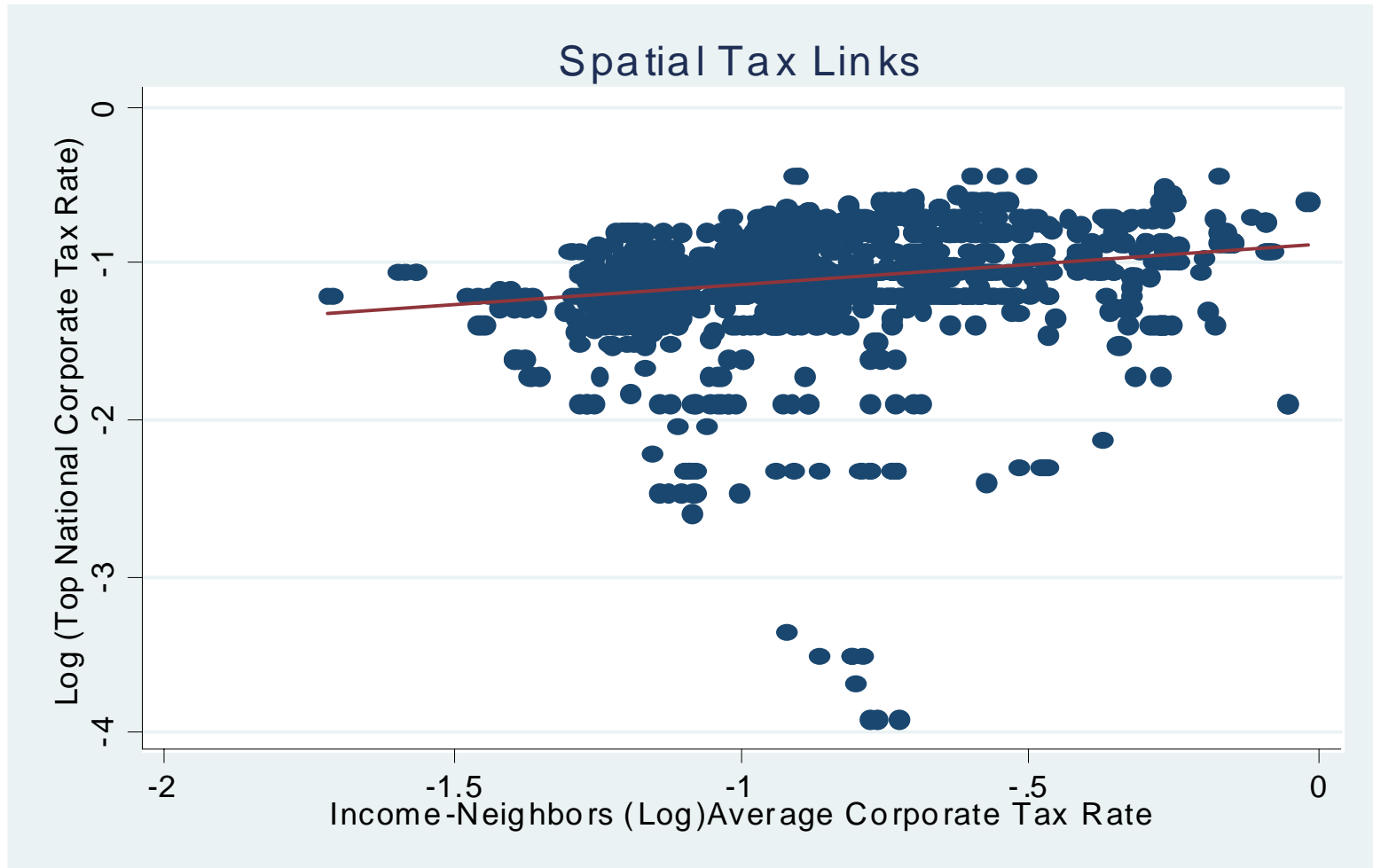
- **Personal income taxes have no impact on wages (average or median)**
  - Labor is inelastically supplied, bears the entire burden of the personal income tax
  - Specific to manufacturing sector (Davis and Henrekson, 2004)

# Can Spatial Tax Competition Affect Wages?

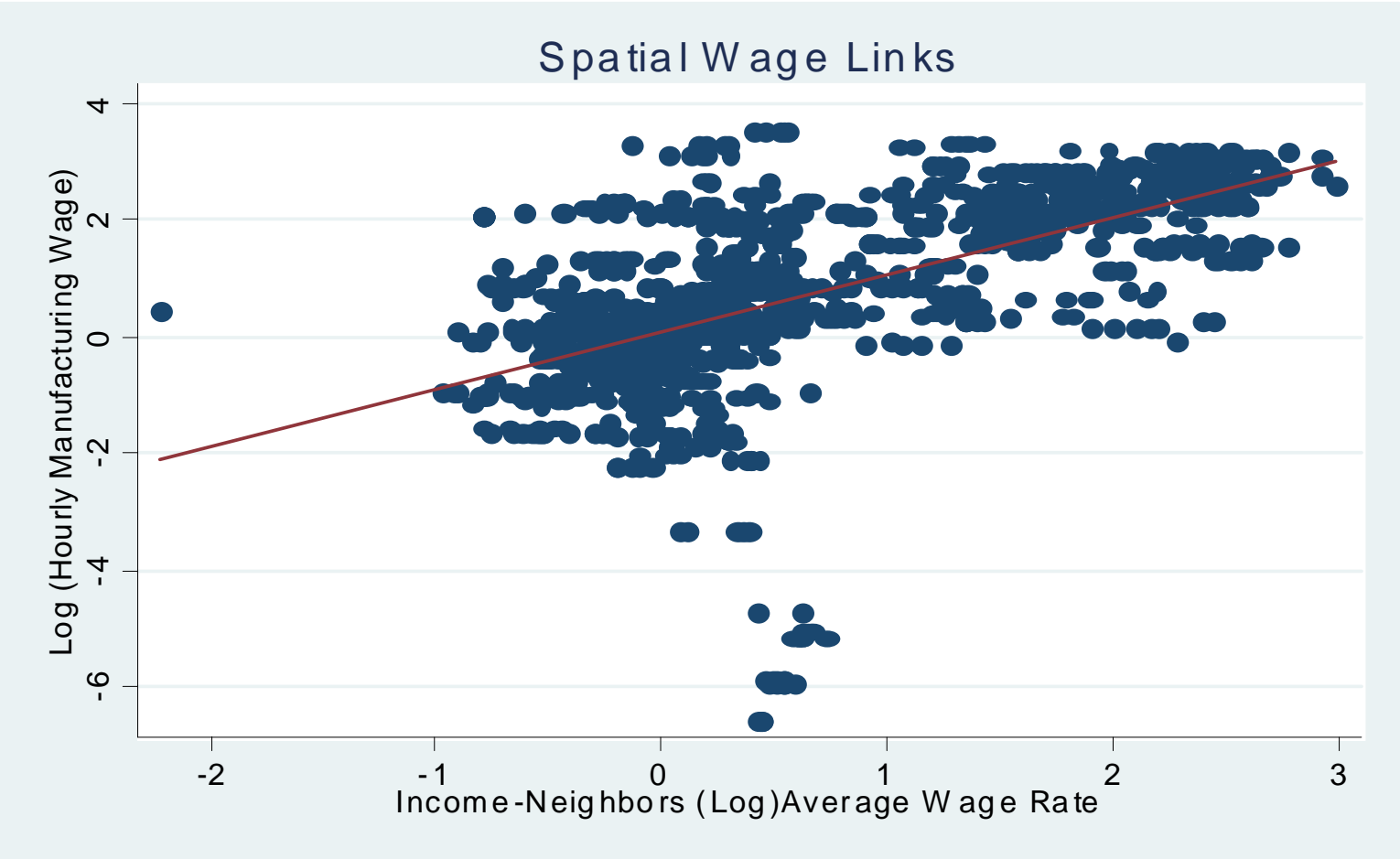
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- **Tax competition more likely among similar countries-similar incomes or geographic neighbors**
- **If capital is mobile, corporate tax rates *and* wage rates in “neighbor” countries may influence domestic wages**
  - If “neighbors” have higher tax rates or high wages: Capital will flow to low tax and low wage countries
  - If “neighbors” have high wages: Workers will move to the high wage country raising wages in low wage country

# Tax Links Across Spatial-Income Neighbors



# Capital Mobility Wage Impact



# Quantitative Significance

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- **Neighbors**

- Geographic neighbors:

- Same Region: neighbor wages matter (0.4 percent)

- Economic Neighbors:

- Same income group: neighbor wages (0.3 percent) and taxes matter (0.5 percent)

# Implication

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- **If its neighbors raised tax rates (or wage rates) by 1 percent, average wages in Mexico would increase by 0.5 percent on average, to \$1.75**

# Small Economy Results

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- **Changes in corporate tax rates more likely to lead to sudden spurt in productivity and wages in smaller (low GDP) economies**
  - Sample 1: exclude top 10 large economies
    - 1 percent increase in corporate taxes leads to a 1.07 percent decrease in wages
  - Sample 2: include bottom 12 economies
    - 1 percent increase leads to a 1.54 percent decrease in wages

**Small economies respond more in the short-run (five years) to changes in corporate tax rates**

# Conclusion

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- **Important to realize that taxes imposed on capital affect *both* capital and labor**
- **No tax-shifting of personal income taxes to capital in the form of higher wages**

# Impact of Other Variables

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- **Value-Added Taxes (VAT)**
- **Employer and Employee payroll taxes**
- **Social Security Contributions by employers**
- **Democracy**