

# Theories of Corporate Taxation and Causal Structures of Tax Avoidance

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# Two Views of Corporate Taxation

## Aggregative View

- Look to owners, think of taxing the individuals
- Corporate tax exists to prevent excessive deferral of income within corporations and taxing otherwise exempt entities (non-profits, foreign shareholders)
- Most common view held by tax policy experts

## Entity View

- Look to the corporation itself. It has significant power and social presence.
  - Kornhauser—original corporate tax justification was to regulate through disclosure and other means
  - Avi-Yonah—tax corporations to control this power



# Related to Other Literatures

## Corporate Personhood

- For what purposes are corporations considered as persons?
- Corporations are persons under the law for signing contracts, engaging in transactions, being sued, paying taxes and so forth. Well-established in corporate law.
- Complicated legal history on other dimensions[Winkler (2018)]

## Philosophy and Psychology of Group Agency

- In philosophy, corporations are agents; have purposes that can be encouraged or thwarted. Corporations are also persons—they represent themselves to the public and speak for themselves.
- Psychology evidence suggests that corporations are treated similarly but not identically to human person. For them, blame not praise.



# Why Does This Matter for Tax Policy?

## Constrains Tax Reforms and Creates Policy Controversies

Under entity view, corporate taxes should not be “zeroed-out”

### Examples:

- Reaction to 1981 safe-harbor leasing
- Experimental evidence on investment incentives that eliminate tax liability.
- Concern of “bad optics” for implementing a VAT through a business cash flow tax that would require refunds. [Viard (2018)]
- Concerns over border-adjusted cash flow tax for persistent rebates to exporters.



# Untangling Public Attitudes

- This paper uses PEW data on public attitudes towards tax avoidance by corporations and the “wealthy” to determine whether the public primarily holds an entity or aggregate view.
- Empirical graph-theoretic methods to uncover causal structures in data with minimal a priori restrictions.



# Logic of Approach

“Shocks” to attitudes toward avoidance by corporation and wealthy can uncover causal linkages.

Suppose there was news about corporate tax avoidance. Would that spillover to increased concern about avoidance by wealthy?

If not, then causal chain does not go to the owners (the wealthy) of the corporation. Implies entity view.

If so, then the causal chain does go to owners (the wealthy) of the corporation. Implies aggregative view



# Examples

**Does news about a new corporate avoidance strategy (e.g. inversions) affect attitudes towards avoidance by the wealthy?**

**Does the use of shell companies to hide income abroad affect attitudes of tax avoidance towards the wealthy?**



# Possibilities of Causal Relations

## Causation from Corporation to Wealthy

Consistent with aggregative view, as shocks to corporations do affect wealthy (owners)

## Causation from Wealthy to Corporations

Consistent with entity view, as shocks to corporations do not affect the wealthy (owners).

It does mean that individual avoidance spills over to corporate avoidance through some channel.

## Mutual Causation

Consistent with aggregative view

## No Causation

Consistent with entity view



# Steps in Empirical Approach

- First, we explore what variables might be important determinants of attitudes towards avoidance by corporation and the wealthy in the PEW data.
- Second, we will use the variables identified from the regressions as inputs into an algorithm to identify causal structures.
- Third, test for robustness

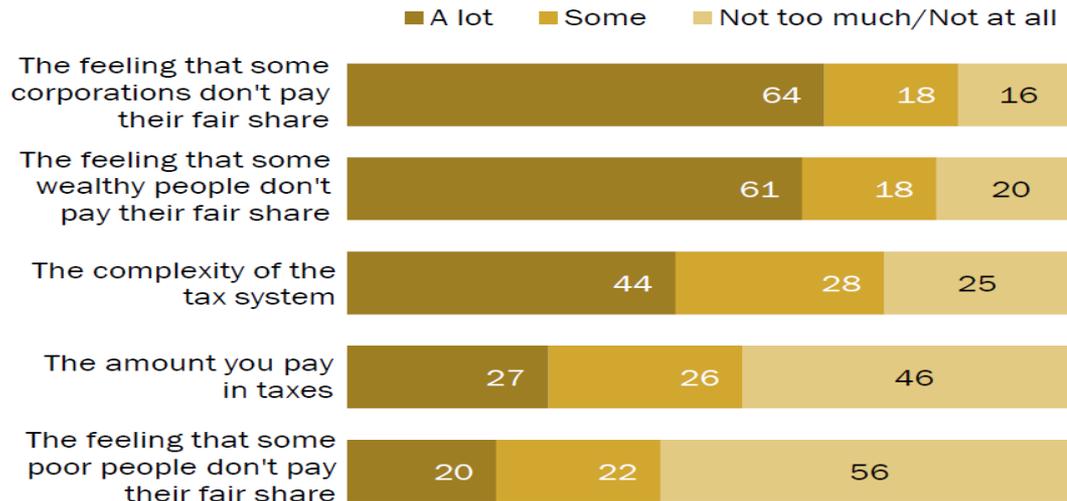


# Pew Data (2015)

We use detailed data from Pew Research Center survey with background questions. Headline from survey—bothered by both corporation and wealthy tax avoidance.

## More Are Bothered by Corporations, Wealthy Not Paying Fair Share Than by What They Pay in Taxes

*% saying each bothers them \_\_\_\_\_ about federal tax system ...*



# Key Variables In Data for Preliminary Regression

## Dependent:

- Does the fact that corporation/wealthy don't pay their fair share bother you a lot? (5=maximum)

## Independent:

- Economic system unfairly favors the powerful?
- Is the economic system more secure today? Or, have you recovered from financial crisis?
- Government aid helps/hurts the poor?
- Hard work leads to success? Or not?
- How fair is tax system overall?
- Does the amount you pay in tax bother you?
- Favor health care law? Democrat?
- Ideology: liberal vs conservative



# First pass OLS regressions (5= bothers a lot)

| VARIABLES  | Wealthy Don't Pay Fair Share | Corporation Don't Pay Fair Share |
|--|------------------------------|----------------------------------|
| Describe how the recession affected your own financial situation (1-4, 4 mostly recovered) | -0.0102<br>(0.0253)          | 0.0549**<br>(0.0219)             |
| Is Econ system more secure today   | 0.134**<br>(0.0616)          | 0.0429<br>(0.0580)               |
| Government aid to poor does more harm or good (1 harm-0)                                   | -0.0978<br>(0.0624)          | -0.131**<br>(0.0598)             |
| Approve the health care law or not (1 approve-0)   | 0.140*<br>(0.0738)           | 0.0671<br>(0.0744)               |
| Econ system unfairly favors powerful (1 unfairly favors-0)                                 | 0.500***<br>(0.0649)         | 0.554***<br>(0.0624)             |
| Hard work leads to success or not guaranteed (1 success-0)                                 | -0.183***<br>(0.0575)        | -0.221***<br>(0.0528)            |
| How unfair is the tax system overall (1-5, 5 not fair at all)                              | 0.0630***<br>(0.0232)        | 0.0348<br>(0.0213)               |
| How much does the amount you pay in tax bother you (1-4, 4 a lot)                          | 0.0564*<br>(0.0316)          | 0.0679***<br>(0.0216)            |



# Key points from regression results

(5= bothers a lot)

*Very similar models* predict corporate and wealthy avoidance

By far strongest variable: *does economic system unfairly favor the powerful*. 0.5 points.

Perceptions of a better economy (more secure or recovered) associated with increased bother about tax avoidance

“The amount you pay bothers you” positively correlated

Whether you pay more than fair share does not matter

Political/attitude variables are very important:

- Hard work leads to success (negative)
- Government aid to poor more harm than good (negative)
- Support for health care law (positive)
- Democratic party (positive)

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# Probing for Causal Structure

To answer our questions, we need to go beyond regression models and sample correlations.

Do attitudes towards one cause attitudes to the other?

By causal we mean “shocks” to one variable affect another.

Can we determine this in just one survey sample at a point in time?

Answer: *Possibly*

We can use methods developed for recursive systems by Pearl (2009) and Spirtes et al. (2001) to explore admissible causal structures in the observed data.



# Theory of causality in recursive models

- All recursive systems (linear and non-linear) imply certain independence and conditional independence relations.

## Examples:

- Chain  $A \rightarrow B \rightarrow C$  A,C independent conditioned on B
- Fork  $A \leftarrow B \rightarrow C$  A,C independent conditioned on B
- Collider  $A \rightarrow B \leftarrow C$  A, C dependent conditioned on B

## Note the difference with colliders.

- College admission: Given admission, low math score must mean high verbal.

## Equivalence class theorem: two recursive models are observationally equivalent if they have:

- The same adjacencies ( direct correlations)
- The same unshielded (non-adjacent) colliders



# Search algorithms for causality

Search algorithms using TETRAD program

Algorithms work by testing for independence and conditional independence

Initially assume “causal sufficiency”—all correlations are captured by measured variables. PC algorithm. Later relax this assumption.

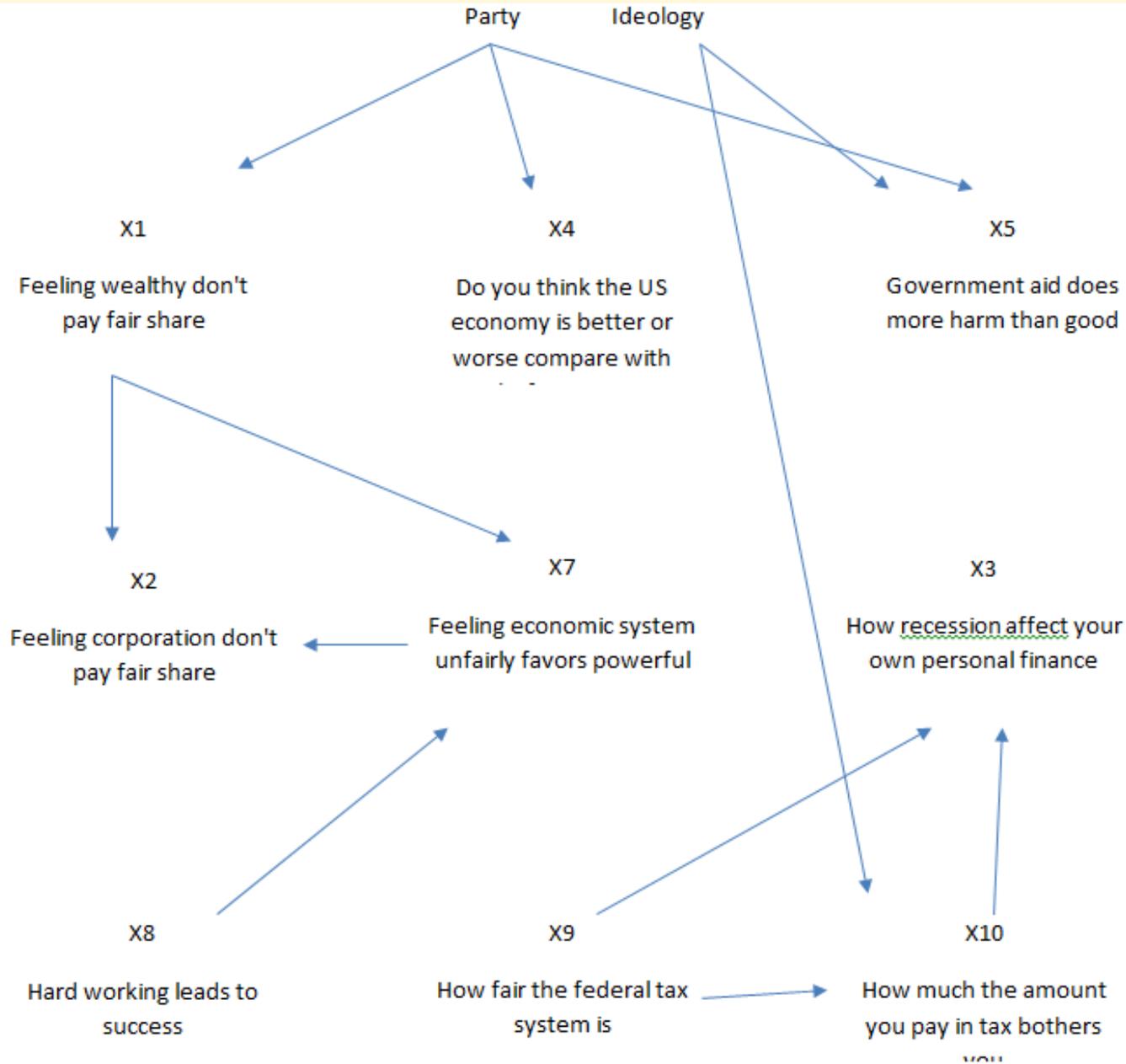
Assume some variables (first tier) cannot be caused by other variables: sex, age, education, political party, household size, income, ideology.

Leaves 11 variables for casual order to be determined.

Set significance level for testing at 0.01. Same results for 0.05  
Appropriate for sample size.



# Key Findings



# Interpreting the Figure

## KEY RESULT

Causal relationship from the “feeling wealthy do not pay their fair share” to “feeling corporations do not pay their fair share.”

Wealthy would be unshielded collider if causality went the other way. Tests do not reveal this.

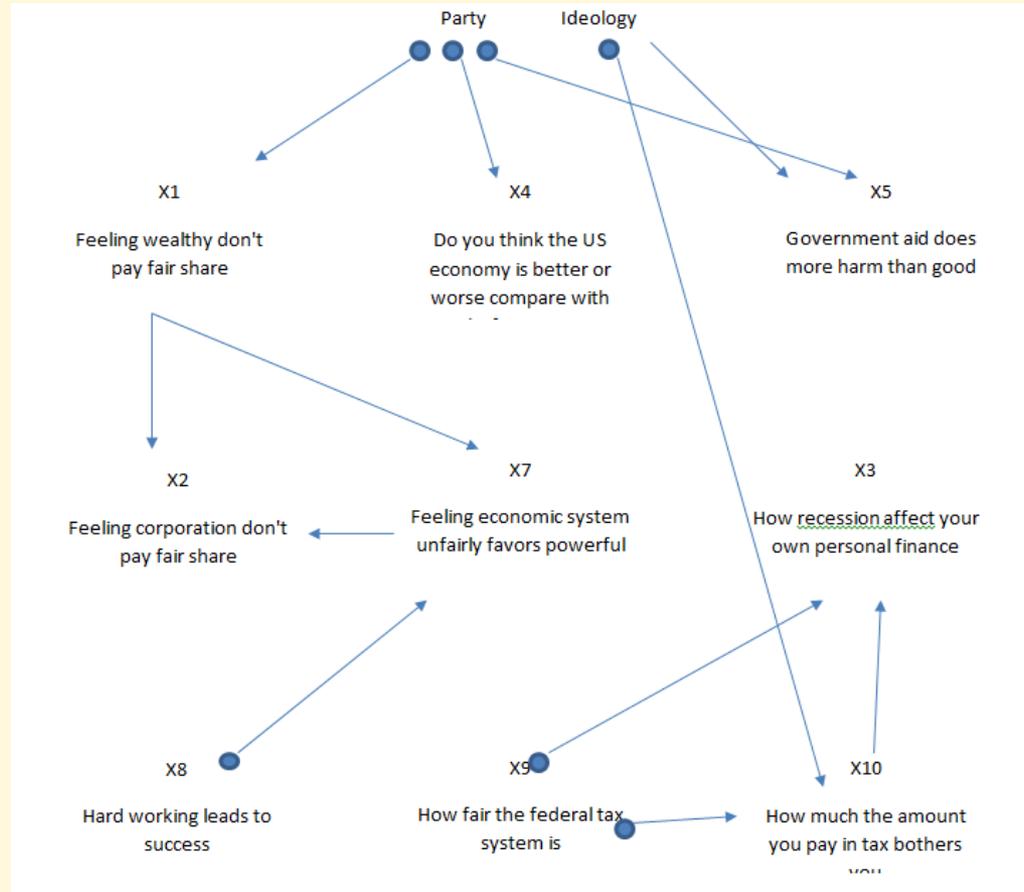
## Other results

- Wealthy variable also causes “system favors the powerful”
- “System favors the powerful” causes corporate variable
- “How much you pay in taxes bothers you” is caused by both ideology and perception of fairness of tax system.



# Robust without causal sufficiency

FCI algorithm, allows latent variables. Circles uninformative



# Further robustness and Interpretations

Robust results even when variables systematically excluded from causal search.

- Example: Excluding all but two second tier variables:

*Party Affiliation* → *wealthy* → *corporations* ← *ideology*

Ideology here acts as an “instrument,” correlated with corporations but not wealthy. If the causality ran the other way, ideology would be correlated with wealthy.



# Answering our question

- We find a causal structure from wealthy to corporations but not vice-versa
- This is consistent with the entity view of taxation
- A few implications
  - The public would expect corporations to be seen remitting taxes.
  - Casts into question the idea of “tax equivalencies” for practical tax policy work
  - May limit the scope of tax reforms.

