Tax disputes from an economic perspective

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1. Basic economic key concepts: incentives, efficiency, games, information

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Introduction

- This talk is about the questions economists ask, rather than the answers they give.

- We hope that looking at the economist's perspective of the problem of will provide some useful food for thought also for non-economist.

- The talk is motivated by a paper on which Christos and I are working.

The Economists' perspective

- Larry Samuelson (Yale University): "Economics teaches us that **INCENTIVES** are important."

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The Economists' perspective

- Larry Samuelson (Yale University): "Economics teaches us that **INCENTIVES** are important."
- Adam Smith: Self interest is not the only motivator of human behaviour, but it is the most RELIABLE one.
- What interests motivate behaviour, what consequences does this lead to?
- How can we achieve socially desirable goals constrained by the fact that people have their own minds?
- What is socially desirable?

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Distributive Efficiency

Vilfredo Pareto 1848 – 1923
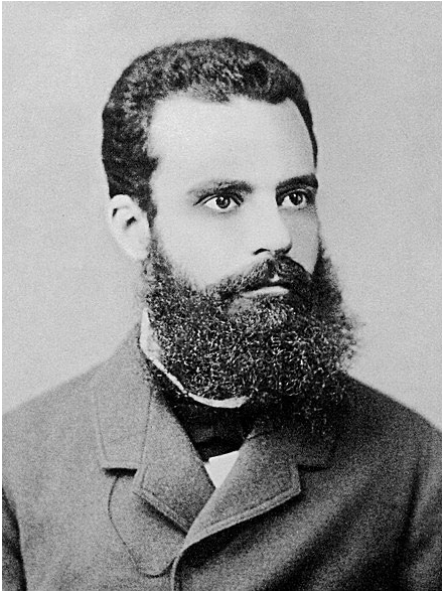
- An allocation of goods is distributionally efficient if it is not possible to improve the well-being of one member of society without reducing that of another.

- Thus voluntary trade cannot improve.

- (Pareto-efficiency → productive + distributive efficiency)

Distributive Efficiency: Examples

- If I have all the cake and can eat it and you get none, that is Pareto efficient because you can't get any cake without taking some of mine away.

- If I have all the cake, but can't eat it all, that is Pareto-inefficient, because (ignoring greed) I can give you some cake without being worse off.

Distributive Efficiency: Examples

- If you have only bread and you have only butter, we can Pareto improve by trading some bread against some butter. How exactly, can be found out through barter.

- It is Pareto inefficient to thoroughly investigate each tax payer for tax fraud because most people will pay taxes as long as the thread of an investigation is sufficiently severe.

Distributive Efficiency

- The concept is hardly useful to design an optimal tax system, because that is directly about redistribution, but it can be useful to ask whether a system of tax collection is efficient.

Ex ante, interim, ex post, Whom to include

- It makes a difference who is considered, e.g., an improvement in the resolution of tax disputes could lead to a reduction in the income of lawyers and judges

- One can either exclude lawyers from consideration or look at the situation ex ante before the lawyers become lawyers

- Ex ante, interim and ex post efficiency usually refer to before and after private information has been received, and after it has been revealed to all.

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Social Welfare, First and Second Best

- In order to discuss an optimal tax system it is necessary to trade off the interest of different people against each other and construct some measure of social welfare. An efficient allocation will not necessarily maximize this social welfare, but what maximizes social welfare will typically be efficient.

- Sometimes economists discuss what is optimal under ideal conditions ignoring certain constraints (first best) and compare it with the feasible optimum (second best)

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Games and mechanisms

- Possibly motivated by wargaming with tin soldiers the mathematician John von Neumann developed (jointly with Oscar Morgenstern) game theory, where social conflict situations are modelled and analysed as if they were parlour games.

- In mechanism design one searches for the best set of rules to implement certain policy aims, i.e., one optimizes over games.

John von Neumann (1903-1957)
Oskar Morgenstern (1902-1977)

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Incomplete information

- Lack of information, for instance, about the quality of goods, is a major source of inefficiencies in markets and (first-best) inefficient outcomes in general.

- Akerlof gave as a motivating example the used-car market, when consumers cannot judge the quality of a used car.

- Myerson and Satterswaite provide an example where incomplete information about the value of a good implies in every mechanism that there is with positive probability no trade, although both parties could gain.

Incomplete information

Arrow distinguishes:

- Moral Hazard / Hidden Action: e.g., the insurer can not observe whether the insuree took care

- Adverse Selection / Hidden information, e.g., the insurer may not know whether the insuree has a medical precondition

Kenneth J. Arrow (1921-2017)
George A. Akerlof
Roger B. Myerson

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Games in extensive form

- A toy model due to Michel J. Graetz, Jennifer F. Reinganum, and Louis L. Wilde "The tax compliance game: Toward an interactive theory of law enforcement.", Journal of Law, Economics & Organization (1986)

Jennifer F. Reinganum

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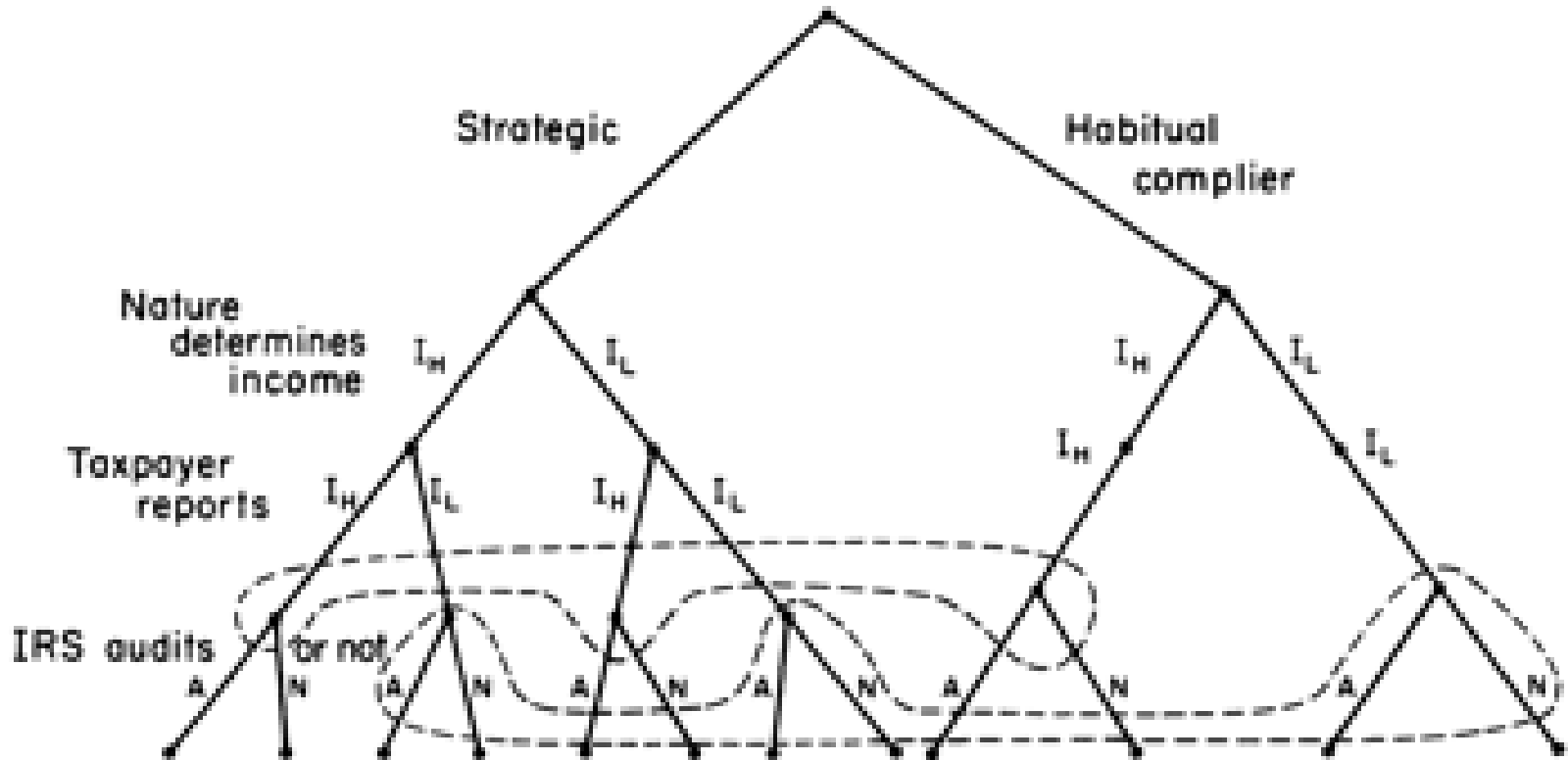
The Tax Compliance Game

Figure 1.

Assume `reasonable and interesting' payoffs

Strategies

- Strategy: A complete list of decisions for the player in every possible decision situation.

- No "Let's wait until we cross that bridge"

- For the strategic tax payer: To report honestly / dishonestly if the income is high / low.

- For the IRS: Audit or not given that high / low income has been reported.

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Nash Equilibrium

- Selten: "A Nash equilibrium point is a recommendation of strategies to all players which is not a self-destroying prophesy, i.e., no player has an incentive to do something else if he beliefs that everybody else follows the recommendation."

John F Nash (1928-2015)
John C Harsanyi (1920-2000)
Reinhard Selten (1930-2016)

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The Nash Equilibrium in the Tax Compliance Game

- The low-income tax payer reports honestly

- The tax authority does not audit if high income is declared

- The high-income tax payer declares low income with a probability $0<p<1$

- The tax authority audits with probability $0<q<1$ if low income is declared

A strange property of the equilibrium

- If the punishment for tax fraud is increased, the probability of fraud stays the same, while the probability of auditing decreases.

- In order to reduce the probability of fraud one must increase the reward to the tax authority for detecting fraud.

Tax disputes

- What is the taxable income?

- What counts as income?

- What is the correct interpretation of the law?

- A court may have to decide, but this is very costly.

- A procedure of appeal to handle tax disputes may help to avoid court cases.

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Tax disputes

Possible design features:

- Immediate or deferred collection?

- Payment of interests.

- Burden of proof of evidence.

- Administrative silence (acceptance?/rejection?)

- Payments for frivolous appeals

- Should taxpayer pay fraction of disputed amount, perhaps increasing in the size of the firm?

- Is it weakly dominant for rich firms to dispute?

Why administrative silence?

- Lazyness and arrogance?

- Saving valuable time against frivolous (and clever) appeals.

- An interesting question for bargaining theory.

Tax Disputes, Litigation and Settlement

- Tax disputes are very similar to out-of-court settlements.

- Under perfect information it is hard to understand why not all civil disputes are settled out of court.

  » Urs Schweizer: "Litigation and settlement under two-sided incomplete information", Review of Economic Studies, 1989

Litigation and Settlement

- The players: A (potential) plaintiff and a (potential) defendant

- "The Court" is just a random device like a dice.

- The players have different information/signals about their chances (high/low) of winning in court.

- First the defendant can offer a Settlement payment S to the plaintiff. Then the plaintiff can accept or reject the offer.

- If the plaintiff rejects, the case goes to court who decides with fixed probabilities who wins.

- The loser pays the litigation costs (British rule).

Litigation and Settlement

- The game has many Nash equilibrium points.

- The settlement payment offered can be revealing about the information (belief) of the defendant. If the defendant thinks her chances are bad, she has a stronger incentive to offer a high settlement payment.

- Separating equilibrium: A defendant who believes to have a high chance of winning in court makes a lower settlement offer than a defendant who believes to have a low chance.

Litigation and Settlement

In the strategically stable equilibrium:

- The defendant with good information always offers a low settlement payment, the firm with bad information a low settlement payment,

- The plaintiff with good information randomizes between accepting and going to court, the plaintiff with bad information always accepts the settlement terms.

Christos and I: modification of this model for tax disputes

Summary and conclusions

- Economists are interested in the incentive aspects of the parties involved in a tax disputes.

- An important sources of tax disputes is disagreement about the interpretation of the tax law.

- Administrative tax dispute procedures should aim at avoiding costly court cases. But even an ideally designed administrative system may not be able to avoid them completely.

- Perhaps it should not because a court decision may be valuable for the future.

- Administrative silence may reduce frivolous appeals. It may also reduce court cases because it does not reveal information.

COVID 19

- It is very dangerous to hit the break of a car running at full speed
- That's what happened to the world economy and there is a full-blown recession because of that.
- In the UK it may overlap with a recession due to Brexit.
- Firms will have to fight their corner much harder.
- This may lead to more appeals and more court cases even if the tax authorities become more lenient.