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MARKET FAILURE AND GOVERNMENT FAILURE

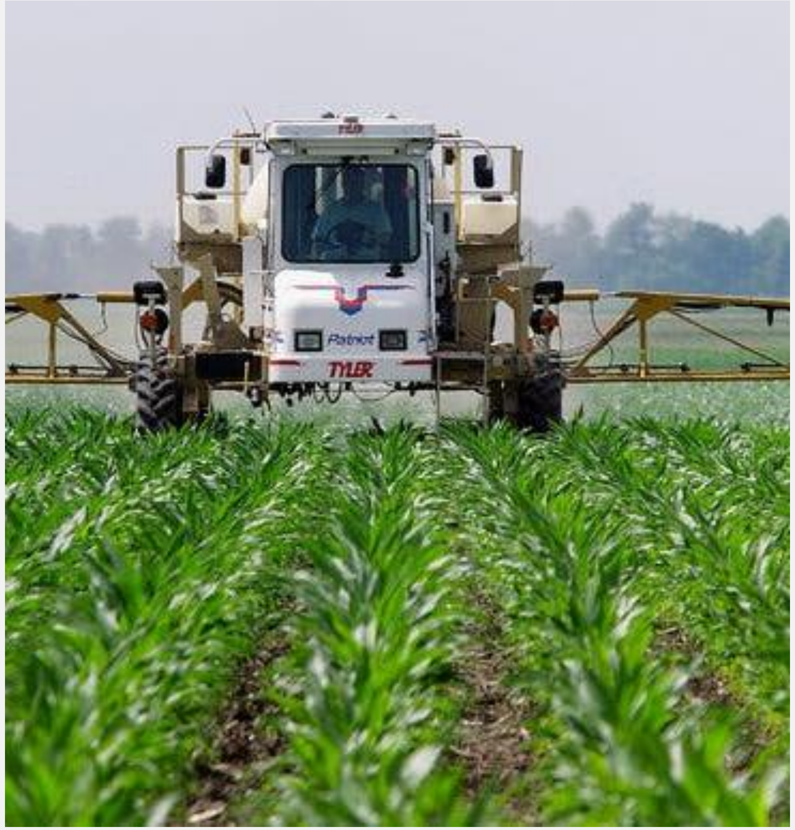
Introduction to Public Policy

FSPPM

MARKET FAILURE AND GOVERNMENT FAILURE

The case of herbicide tolerant maize and soybean

- Development of herbicide tolerant (HT) crops (glyphosate tolerant) reduced need for mechanical weeding or selective herbicides
- By 2017 almost all soybean and maize in the US was HT, reducing costs for farmers and increasing profits of agricultural input companies
- Market failure: Externalities and imperfect competition
  - Carcinogenic effects of herbicides
  - Weeds develop resistance to glyphosate
  - Monopoly rents for Monsanto (seeds and herbicides)
- Government failure: Competing objectives
  - Government mandate to mix ethanol from maize into fuel to reduce dependence on foreign oil
  - Cheap soyabeans and maize keeps down prices of meat and earns export revenues



MARKET FAILURE: CONDITIONS REQUIRED TO ACHIEVE A COMPETITIVE EQUILIBRIUM

- No individual producer or consumer is large enough to affect the market price of goods and services (no monopoly)
- Producers and consumers have complete and costless information about goods and services
- Markets are complete, covering goods and services, including markets for goods and services in the future and insurance markets to hedge risk
- Individual property rights are complete and enforceable—nothing is commonly owned
- All producers and consumers are perfectly rational in the sense that they have only one aim—to maximize utility—and they can readily identify the actions required to achieve this aim
- People know their preferences and their preferences are consistent (if I prefer A to B, and prefer B to C, I must also prefer A to C)
- There are no externalilities (unintended effects on third parties of consumption and production decisions)

PUBLIC GOODS

- Non-excludable and non-rivalrous (national defense, clean air, roads and bridges)
- Club goods: non-rivalrous goods with excludable (public park vs. country club)
- The market will not provide enough public goods because people can access them for free (non-excludable)
- Consumers have no reason to limit their use
- Difficult to determine prices because:
  - the marginal cost of producing an additional unit is zero
  - only the consumer knows the value of the good
  - how much money would you pay to enter the public park?
- Solution: The government collects taxes and provides public goods and services at no cost to users

EXTERNALITIES

- The effect of an economic activity on a third party: a garment factory that pollutes a river imposing a *social cost* (not included in the price of the garments bought by consumers)
- Coase theorem: A pareto solution would emerge if property rights were perfect:
  - If ownership of the river was individual and enforceable
  - But if the river has many owners the “transaction costs” of negotiating a solution would be too high to achieve a pareto outcome
- Solution: The government establishes legal limits on the discharge of pollutants into rivers, or imposes a fine equal to the social cost
- Positive externalities: for example, network effects when the quality of a service increases when more people use it (Facebook, Zoom)

IMPERFECT COMPETITION

- Monopoly and oligopoly: Producers that control enough of the market to influence the price of goods and services
  - High barriers to entry: high research and regulatory costs to bring a drug to market
  - Natural monopolies: high fixed costs, for example a railroad network, so average costs are continually falling.
  - Monopolistic competition: competition through marketing and small differences between essentially identical goods and services (Coke and Pepsi)
- Solutions:
  - Competition laws to block mergers and acquisitions that reduce competition
  - Price regulation to prevent monopolists from earning exceptionally high profits
  - Public provision (water and sewage, irrigation systems)

INCOMPLETE MARKETS

- When the cost of supplying the good or service is less than the price that consumers are willing to pay
  - No market for Welsh language lessons in Vietnam (limited demand)
  - No bank branches in rural areas (limited supply because they would operate at a loss)
- Missing insurance markets: uncovered risk
  - Cannot hedge risk against disasters (no flood insurance)
  - Cannot hedge risk against financial loss
- Missing futures markets: uncovered risk
  - Cannot buy and sell commodities or assets at a future date
  - For example, investors cannot buy VND at a future date and therefore carry the risk of currency depreciation against the USD
- Solution: Government provision or subsidies for private producers (flood insurance)

COSTLY INFORMATION

- Adverse selection: When the buyer or seller has more information about the goods or services than the counterparty
  - The buyer of a used car does not have complete information about its service history and therefore pays average price for the make and model
  - A bank does not have complete information about the plans of borrowers, and may make loans to borrowers willing to pay high interest rates
- Moral hazard: The buyer or seller is unprotected from bad behavior of the counterparty
  - An insured driver drives recklessly knowing that he is insured
  - A bank loans money to risky borrowers knowing that the government will bail out the bank if it loses money
- Solution: caveat emptor

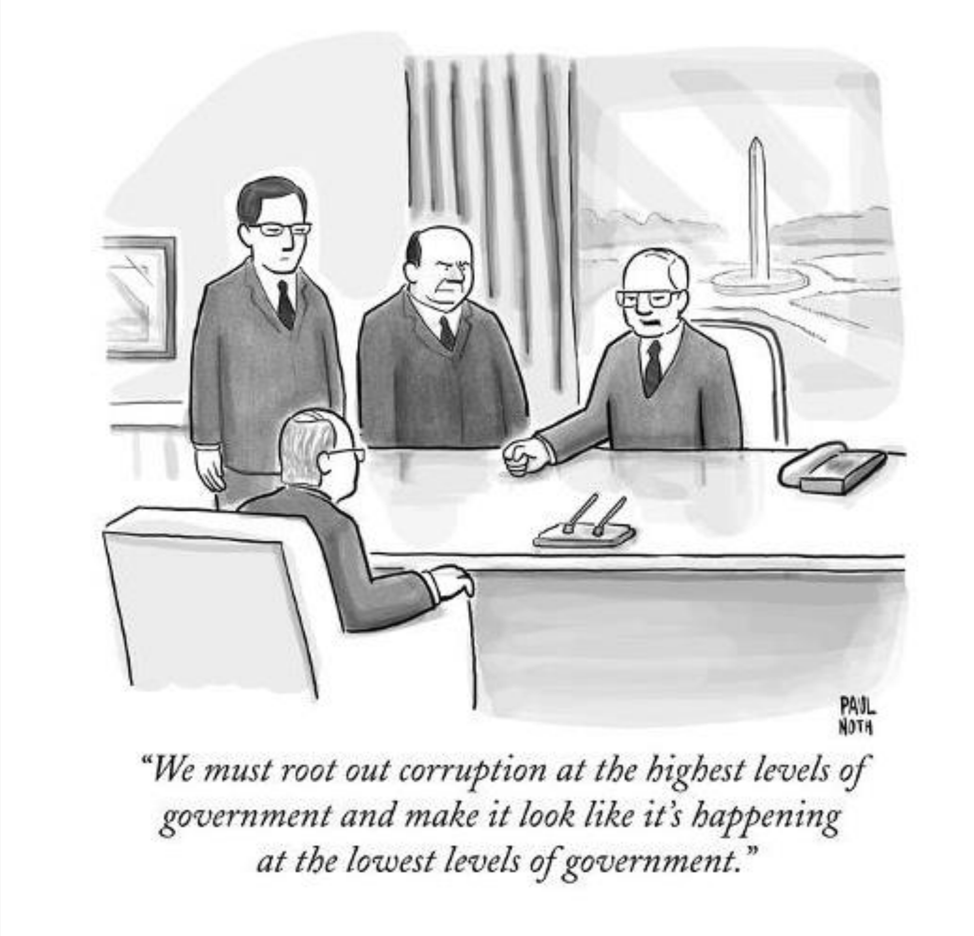
ARE ELECTIONS THE POLITICAL EQUIVALENT OF MARKETS?

- Would it be possible to specify a social welfare function that would aggregate all individual preferences to arrive at an optimal level of social satisfaction?
- Kenneth Arrow’s “Impossibility Theorem”
  - Even if they behave rationally and have complete and well-ordered preferences, there is no outcome that will accommodate the preferences ordering of three or more individuals over three or more decisions
  - The “will of the people” cannot be known through the “political marketplace” of voting or public debate.
- Government action is legitimate in the eyes of the public because there are functions (national defense, law enforcement, crisis response) that markets, voluntary groups and individuals cannot perform
- The government is more than a “market” for policies

GOVERNMENT FAILURE

- Public choice theory: Government officials are like everyone else and act mainly in their own self-interest
- Political lobbies have influence over government officials through campaign donations, promises of future employment, outright bribes
- Government officials lack the information they need to make good decisions
  - Principal-Agent problems: The public (principal) cannot be certain that their agent (elected officials) are acting in their interests
  - Senior officials (decision makers) cannot be certain that agents (lower-level officials) are implementing policies as intended
- Coordination problems:
  - Lower-level government acts in ways inconsistent with central government intentions
  - Future governments do not follow through on long-term policies agreed in the past (governments are short-sighted)

Coordination failures and self-interested behavior:



"We must root out corruption at the highest levels of government and make it look like it's happening at the lowest levels of government."

THE GLOBAL FINANCIAL CRISIS: MARKET OR GOVERNMENT FAILURE?

- Proximate cause of the GFC: Financial innovation in the banking sector
  - End of the “originate and hold” model of banking and rise of the “originate and distribute” model
  - Banks and mortgage companies make loans to home buyers and sell the loans to investment banks
  - The loans were packaged into collateralized debt obligations (CDO): collections of loans structured into tiers according to quality.
  - The market assumption was that housing markets are local so risks attached to national CDOs were small
- Market failure: Principal agent problems, adverse selection, moral hazard
- Government failure: financial system regulators drawn from banks, and they return to banks after government service (“revolving door”)

RULE OF THUMB FOR GOVERNMENT ACTION

- Kaldor-Hicks criterion: Government action is justified if the gains from action are more than sufficient to “theoretically compensate” for losses
- Ban on the use of glyphosate would producer winners (farmers who live longer, fewer herbicide resistant weeds) who could theoretically (but not really) compensate losers (farmers with higher production costs)
- In practice it is difficult to measure the gains and losses
  - Gains and losses may be spread over many people and a long period of time
  - Gains and losses may not be measurable: cancer deaths directly due to herbicide use
  - Gains and losses may not be commensurate: balancing growth and equity, growth and environmental protection

MARKET FAILURE AND GOVERNMENT FAILURE: WHICH IS WORSE?

- The conditions for pareto optimal market outcomes do not exist: government must intervene in the market to correct market failures
- Governments must create the infrastructure of the market: no government, no market
- Governments have other reasons to act (growth, equity, sustainability, national integrity)
- Governments fail because of poorly designed and enforced rules of the game, information and coordination
- Neither markets nor states are always “better” in any situation, but both fail when the rules of the game are unclear or not impartially enforced
- Both markets and states thrive when they are based on consent and maximum freedom of choice and fail when they depend on coercion