Summary Introduction to Institutional Economics

Institutional Economics (Philipps-Universität Marburg)

Summary Introduction to Institutional Economics

Behavioral Model

- Assumption: individuals make optimal choices because it's in their own interest
- Conflicts of interest & lack of trust preclude optimization
- Individuals may fail to make optimal decisions due to bounded rationality

Institutions

- Formal institutions: public rules of behavior
    - Designed by a public authority/legislative power (e.g. parliament, senate)
    - Enforced by a public authority/executive power (e.g. police)
    - Penalized by judiciary force (e.g. judges)
- Informal institutions: private rules
    - Developed gradually & spontaneously
    - Violations sanctioned by private parties themselves

Institutional Environment

- Values
    - Generally-held preferences over pursuable goals → "What people want"
    - Embedded in a society's culture
    - Examples: freedom, justice, peace, safety, …
- Norms
    - Generally-held opinions about how to achieve values → "What people should do"
    - Examples: Solidarity (to achieve justice), competition (to achieve prosperity (Wohlstand))
- Conventions
    - Practical rules that structure behavior in complex situations →Facilitate coordination
    - Examples: Common scale to measure lengths, weights; rules on how to behave in social interaction and in traffic
- Laws
    - Formalized rules enacted by the government
    - Codified norms and conventions
- Effectiveness of institutions
    - Effective rules are General, Certain, Open, complemented by effective Sanctions
    - Effective sanctions are credible, enforceable, negative or positive
- Transactions = Exchange of commodities, rights and duties
    - Institutions regulate and let them run smoothly
    - Market transaction
        - Between individual buyers and sellers
        - Transfer of money to sellers
    - Managerial transaction
        - Between legal superior and inferior
        - Between a person in control and one being managed
    - Political transaction
        - Decision-making based on authority, agreed on by decision-makers/politicians
        - Determines how wealth in society should be distributed (taxes, social allowances)

- Opportunism
  - Opportunistic behavior: deliberately taking advantage of own power at the expense of other people
- Uncertainty: set of all possible outcomes and/or probability not known
- Market power
  - Single seller/group of sellers (Collusion) set the price above the level of MC
    - Yield profits higher than in a perfectly competitive market
    - Set barriers to entering an industry
- Positive Externalities
  - Economic side effect is not addressed by the market and not reflected in prices
  - Discrepancy between private and social costs and benefits
  - Example: beekeeper & trees of fruit growers
- Negative externalities
  - Benefits for emitter, social costs for the uninvolved
  - Examples: production processes that are causing environmental problems
- Merit goods
  - Products that are good for the consumers themselves and may have positive external effects
  - Might get subsidized by the government
  - Examples: Museums, libraries, health care, sport facilities, education
- Demerit goods
  - Products that are bad for the direct users and may have negative external effects
  - Governments might try to discourage the consumption by imposing taxes
  - Examples: tobacco products, alcohol
- Pure Public Goods
  - Non-exclusiveness
  - Non-rivalry of consumption
  - "Free riding": uninvited consumption without paying

Classification of goods

		Exclusion possible?	
		YES	NO
Rivalry in consumption ?	YES	private good	common pool resource
	NO	club good	pure public good

- Natural Monopolies
  - Efficient scale of production does not allow for two or more firms in the market
  - Production technology leads to continuously decreasing average costs
  - Examples: water & electricity providers, railway facilities

Theoretical Framework

Models

- Usage of models to reduce complexity
- Assumptions about:
    - Behavior
        - Rational: goal-oriented, maximizing, aware of strategic interaction
        - Bounded rationality: decision-making with a lack of information, time and capacity to evaluate and process the information that is available
    - Structure/Environment
        - Environment of the actor has an impact on his/her behavior
        - Structure restricts/determines behavior of the actor:
            - Market structures
                - Perfect competition, Oligopoly, Monopolistic competition, Monopoly
            - (In-)Formal structures
            - Governance structures
            - Technology
            - Natural environment
            - Structure of power in society
        - Relationship between agents and structure
            - Model pins down what actors can do and how the actions combine to an outcome
            - In real market situations: many more possibilities to act
            - Actors can influence laws, regulations and even norms
            - Relationship bi-directional: Actors and structures interact

Methodological individualism

- All social phenomena are only explained in terms of the characteristics of the individuals involved
- Characteristics are known and constant

Methodological collectivism

- All social phenomena are explained in terms of social structures
- Structures have their own characteristics and dynamics which determine the behavior of the individual

Methodological interactionism

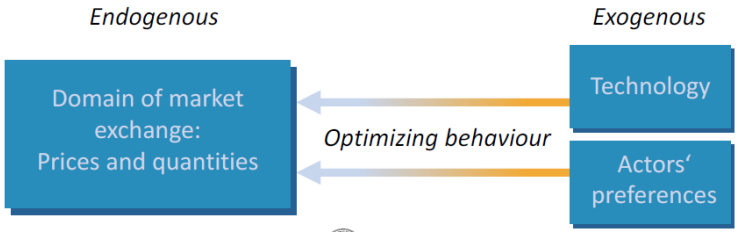
- The environment itself has an influence on individuals and modifies their way of thinking, their norms and values and these in turn influence the environment

Neoclassical Economics

- Precise descriptions of the actors (their characteristics and the rules of behavior)
- Clear description of the environment in which actors operate (Market structures)
- Actors in NCE models operate in an institutional vacuum; institutions are either absent or assumed to function perfectly
- Precise distinction between exogenous and endogenous variables

Exogenous and endogenous variables

- Endogenous: inside phenomenon explained by the model
- Exogenous: outside effect not explained by the model but given by the environment

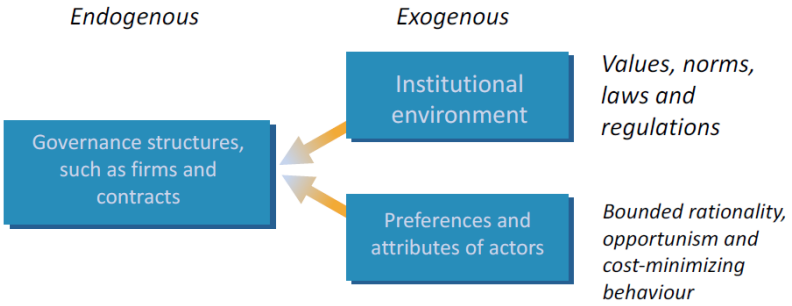


Institutional Economics

- Institutional environment influences behavior
- Impacts on the economy in terms of economic growth, level of innovation, level of transaction costs

New Institutional Economics NIE

- Explains institutions with economics and studies impact of institutions on economics
- Actors display optimizing, opportunistic behavior → may provide false information and abuse nontransparent situations
- Bounded rationality



Original Institutional Economics OIE

- Main focus: dynamics of institutions; how do institutions evolve over time?
- No explanatory variables are excluded beforehand; no interaction is excluded in advance
- All aspects of the institutional environment are analyzed
- Integration of economic and political sphere
- Broader perspective than in NIE
- Actors:
  - Public organizations: state, parliament, ministries, etc.
  - Private organizations creating institutions (conventions, codes, different types of governance structures: market contracts, firms and hybrids)
- Uncertainty forces actors to stay flexible so that adjustments are possible
- Understanding the behavior of actors demands an analysis of their power base as well as their objectives and conflicts
- Procedural rationality: behavior is the outcome of a deliberative reasoning process
  - Satisficing: Uncertainty and change exist → actors strive for "aspiration levels" with which the actors are satisfied → optimal way of deciding under such circumstances
  - Trust:
    - Can lower transaction costs
    - No need for complicated measures to rule out opportunistic behavior
    - Mental maps: Values and norms that guide individuals to make decisions

Normative concepts

- Utilitarianism
    - Consequentialist
    - Welfarist
    - Balancing trade-offs
    - Each individual's well-being can be put on a common scale
    - No moral judgement from which an individual derives utility
- Egalitarianism
    - Equality as the principle for justice
    - Rawls' Difference Principle: A society should have inequality only to the extent that it increases the welfare of the worst-off member of society
    - Equality of outcomes and opportunity
- Deontological concept
    - Consent to some moral norm or duty
    - A right for you entails a duty for others
    - Problem: no way to resolve trade-offs
- Libertarianism
    - Objective: maximizing human freedom, e.g. same sex marriage
    - Freedom as self-actualization vs. freedom from coercion
    - Respect for self-ownership
- Efficiency
    - Principle: get most out of given resources, minimize resources to achieve given aim
    - Seems uncontroversial: policies that make some people better off and no one worse off are better
        - Complies with utilitarian view
        - May be at odds with egalitarian view (if only the riches get richer)

Social dilemmas

Central concept: Nash equilibrium

- No party has an incentive to change its behavior
- All players behave optimally given their beliefs about the other players' behavior and all players' believes are correct
- In the prisoner's dilemma, players have dominant strategies (best course of action no matter what other players do)
- An equilibrium in dominant strategies is also a NE, but not all NE are in dominant strategies

Public good provision

- Goods and services that are beneficial for everybody but individually costly to provide tend to be underprovided
- Example: Street lights benefit all, but are individually costly

Common pool resources

- Jointly controlled resources tend to be too heavily exploited
- Exploitation yields a private benefit but deteriorates the stock for other users
- Examples: grazing cattle on a common ground, fishing in a common sea, harvesting wood from a common forest

Negative externalities

- An action that is beneficial for one actor has negative side-effects on an otherwise uninvolved party
- Examples: smoking, noise, chatting during class

Opportunities for opportunism

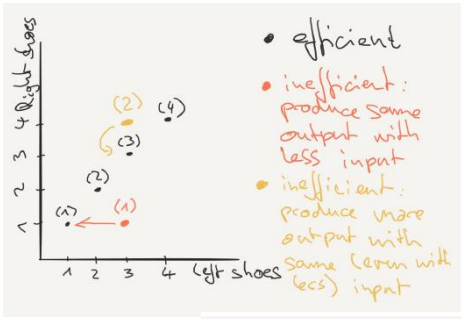
- A seller may not deliver the promised quality; a buyer may not pay for the good
- A landlord may increase the rent beyond bounds; a renter may treat the flat carelessly
- A student may cheat in the exam; the professor may pose unfair problems

How to mitigate cooperation problems & enhance cooperation

- When the payoff structure of an interaction has the features of a cooperation game, the transaction partners need to install safeguards against being exploited
    - Information, negotiation, contracting, monitoring, enforcement
- Informal institutions:
    - Norms of cooperation; social sanctioning of selfish behavior
    - Internalized norm not to harm others
    - Value of a reputation for trustworthiness
    - Repeated interaction
    - Mutual affection
- Formal institutions
    - External enforcement through rule of law
    - Sign binding contracts
    - Government intervention
        - Making certain actions illegal or more costly
        - Subsidies and incentives for cooperative actions
        - Establishing minimum quality standards
        - Central solution, e.g. provide public good through state
- Repeated interaction
    - Interaction over a specified period of time
    - If interaction is repeated indefinitely, cooperation becomes possible as equilibrium outcome
    - Grim trigger-strategy: Cooperate as long as the other player has cooperated in the past; if the other player defects, defect in all future periods → punishment
    - Cooperation yields constant stream of cooperative payoff C
    - Defection yields temptation payoff T once and N in every following period
    - Assume discount factor δ
    - There is no unilateral incentive to deviate from cooperation in any period if $\sum_{t=0}^{\infty} \delta^t * C \quad \geq \quad T + \sum_{t=1}^{\infty} \delta^t * C \quad \rightarrow \quad$ i.e. $\quad \delta \geq \frac{T-C}{T-N}$
    - Trust:
        - If players are patient enough ($\delta\ sufficiently\ high$), players trusting in cooperation can achieve cooperation in repeated interaction
        - No matter how patient players are, there is always an equilibrium of the cooperation game in which no-one trusts each other and no-one can be trusted
        - Trust may be very fragile (as in Grim-trigger strategy)

Static approaches to institutions

Efficiency & Pareto efficiency

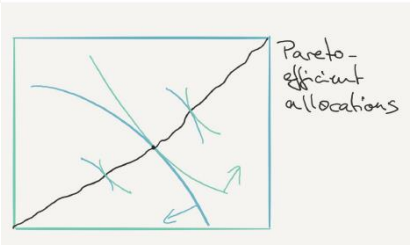


- (x) indicates the level of production (pair of shoes)
- Efficiency improvements do not require compromises (get more at the same cost; reduce cost for the same outcome)
- When efficiency is reached one needs to compromise

- Production is efficient…
  - … if it is not possible to produce more output with the same inputs, and
  - … if it is not possible to produce the same output with less inputs

  → production on efficiency frontier
- An allocation is Pareto efficient…
  - … if there is no alternative allocation where someone is better off and no one is worse off

  → allocation on efficiency frontier



Property Rights Theory

- Owner of a good has the exclusive right to
  - Make use of the good
  - Earn income from it
  - Manage it and transfer control of it (or sell it) to another party → right of disposal

  → bundle of property rights
- Owner may transfer part of his bundle of property rights to another person

  → Holder of the property rights not necessarily equal to owner of the good
  - Owner holds the residual rights and is accountable for harm caused by the good
- Problems of property rights
  - Designing and assigning property rights
    - Problem of excludability → high protection costs
    - Everything that is not privately owned tends to be considered a common property
  - Exercising property rights
    - If it is unclear who is the holder of the property right → costs to establish the ownership

    → Solution: institutions to improve efficiency
- System of property rights
  - Implies who is owner of the good
  - Enforced by a central authority: ruler of government, courts, police

    → have exclusive right to intervene in case of a conflict

    → reassurance that property rights will be protected
  - Rivalry
  - (Non-)Exclusiveness
- Owner of goods
  - Private property: private good ≠ privately owned good
    - Exclusion costs are reduced by effective laws
  - Free goods: no scarcity, no need to allocate property rights
  - Shared/common property = formerly free goods that have become scarce
    - Turned into common property resources: non-exclusiveness but rivalry
    - Without protection and maintenance, continued exploitation is possible

    - The tragedy of the commons
        - Examples: grazing cattle, fishing in lake
        - Possible solutions:
            - Assign private property rights
            - Install system of rules and sanctions for users (→ Ostrom's Design Principles)
            - Turn into public property (with rules for public usage)
            - Turn into club good
                - Only members of the club are allowed to use a certain resource → exclude non-members
                - Membership in return for a (monetary or physical) contribution
    - Pure public goods
        - Examples: streetlights, national defense
        - → provision causes positive externalities
        - → strong free-riding incentives
        - → possible solution: provision through the government
    - Public control of goods that have no characteristics of public goods
        - Natural monopolies
        - Promote consumption of merit goods (education)
        - Protect weaker members of society (social policy institutions)
- <u>Ostrom's Design Principles</u>
    - Presence of clear boundary rules
    - Local rules-in-use restrict the amount, timing and technology of harvesting the resource → allocates benefits proportionally to required inputs and are crafted to take local conditions into account
    - Selection of own monitors who are accountable
    - Sanctions that depend on the seriousness and context of the offense
    - Access to rapid, low-cost, local arenas to resolve conflict
    - For larger common pools: presence of governance activities organized in multiple layers of nested enterprises
- Enforcing property rights
    - Protection of property rights in small communities through informal institutions or social norms
    - In more complex societies: protection through government and informal institutions
    - Problem: when externalities arise, property rights are in conflict
      → internalization of those externalities by assigning property rights, e.g. "right of clean air", "right to pollute"
      → Coase Theorem

<u>Coase Theorem</u>

- Parties are able to reach an optimal solution to a problem without state intervention given three conditions:
    1. It must be clear who possesses the property rights
    2. Negotiations about solving the problem must be costless → no transaction costs
    3. Wealth effects are not allowed to occur → Internalization of the externality
- Ways to address externalities: negotiations, charge taxes/pay subsidies, forbid/limit activity that causes externalities

Contracts Theories

- Contract: agreement to exchange goods or services (property rights), complemented by sanctions and formal rules of liability
    - Formal contract: legally enforced promises
        - Can only specify payments and actions conditional on verifiable events
        - Breach of contract can be treated in courts
        - Still to be avoided because costly
        - Agency Theory (Principal-Agent-Theory)
            - Contracts can yield welfare improvements through risk-sharing
            - Risk aversion: preferences for a more secure outcome to an insecure one if both outcomes generate the same expected value
            - Risk neutrality: indifference between the secure and insecure outcome if both outcomes have the same expected value
            - In the insurance market, insurers are usually assumed to be risk neutral, while the insurant is assumed to be risk averse
            - Two parties:
                - Principal: gives the assignment and delegates part of decision-making powers
                - Agent: has the responsibility for carrying out the assignment
            - Conflicting interests of both parties → each party is interested in maximizing its own welfare
            - Asymmetric information → usually the agent has more knowledge about own abilities or how he/she will behave after the contract is signed
    - Informal, implicit contracts:
        - Self-enforcing agreements
            - benefits of adhering to agreement are larger than the benefits from defaulting (triggers punishment)
        - Punishment:
            - Loss of reputation
            - Retaliation (playing tit for tat, grim trigger)
        - Organizational instruments
            - Dispute resolution by third party
              → possibility to use reputation of third party
            - Mutual commitments (relationship-specific investments)
            - Integration
        - Relational contracts
            - Agreement over an indeterminate period
                - Often found in working relationships
                - Contains several implicit mutual understandings and self-enforcing mechanisms
            - Informal institution needed because not all eventualities can be specified → adjustment to changing environment possible
            - Safeguards to protect relationship-specific investments from exploitation needed
    - Complete contract: occurs only in an ideal world with rational behavior and complete information

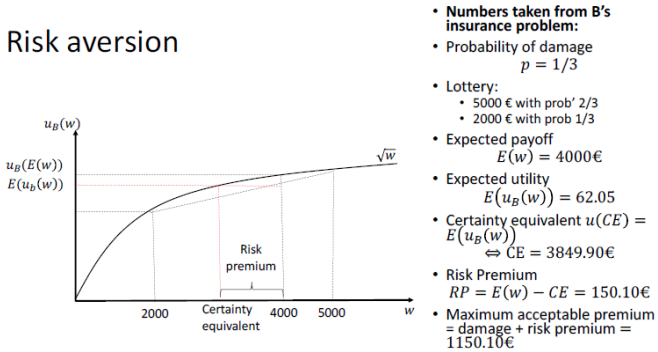
- Incomplete contracts
  - Anticipated problems of uncertainty and opportunistic behavior determine the degree of (in-)completeness of the contract
    - Costly to specify all contingencies
    - Only verifiable contingencies can be effectively enforced
  - Transaction costs:
    - Search, negotiation, monitoring and enforcement costs
- Asymmetric information
  - Can lead to problems before the contract is signed (ex ante)
    - Hidden characteristics
    - Hidden information
    - → Ex ante opportunism: adverse selection
  - Or after the contract is signed (ex post)
    - Hidden action
    - Hidden decision
    - → Ex post opportunism: moral hazard

Adverse selection

- May lead to welfare losses in the insurance market
- Due to the impossibility to separate between the risk-types, there has to be a single price for de facto different products
- The product is the least attractive for the risk-type which is the most attractive for the insurance
- "Good" types drop out → composition of the pool gets worse → conditions of the contract get worse → more types drop out → … → An adverse selection remains
- Solutions:
  - Gather more information on risk types and differentiate
  - Offer a menu of contracts to induce self-selection
  - Make insurance mandatory (e.g. health care insurance)

Risk preferences

- Risk aversion: Tendency to avoid uncompensated risk
- Lottery: several outcomes x_i can occur, each occurs with known probability $p_i < 1$, $\sum p_i = 1$
- Expected payoff E(w)
- Utility of expected payoff: $u_A(E(w))$
- Certainty equivalent: risk-less wealth that yields the same (expected) utility as the lottery
  $$u(CE) = E(u_B(w))$$
- Risk premium: willingness to pay to get rid of a risk, or compensation needed in order to accept a risk $RP = E(w) - CE$



Moral hazard

- Agent has decision making power
- Agent maximizes her own welfare and not that of the principal
- Examples: Employer/Employee, Patient/Doctor, Client/Attorney
- Great amount of efficiency losses → agency costs

Agency Costs

- Three categories
    1. Monitoring expenditures (Aufwendungen): monitoring costs to establish appropriate incentives
    2. Bonding expenditures: signaling costs for the agent to maintain the contract
    3. Residual loss: remaining welfare loss if levels of monitoring and bonding optimal

Transaction Cost Economics (TCE)

- Assumptions:
    - Optimize behavior by minimization of transaction costs
    - Bounded rationality
    - Uncertainty
    - Opportunism
- Question: How to organize transactions? → e.g. make-or-buy decision
- Transactions always involve costs of coordination and ensuring cooperation
- Transactions differ with respect to three dimensions:
    1. Asset specificity
        - Transaction-specific investments → high dependence which may be abused
        - High amount of sunk costs
    2. Uncertainty of environment & behavior of contracting parties and about quality of goods/services
    3. Frequency with which transaction occurs
        - Formal enforcement mechanisms may not be needed if transactions between two parties occur frequently
        - Mutual commitment (at the sacrifice of market competition)
          → protection against abuse of market power may be needed

Governance structures

- Choose market contract in case of
    - Autonomy of parties
    - Transparent environment
    - Possibility to prevent opportunistic behavior
- Choose firm in case of
    - Complex and insecure environment
    - Transaction-specific investments

  → creating internal rules, hierarchy
- Both may be complemented by regulation

Governance structure	Ideal market	Market hazard	Institutionalized market	Firm	Regulation	Public firm
Asset specificity	Low	Higher	Medium	Large	Large	
Enforcement mechanism	Competition High-powered market incentives	Competition Reputation	Competition Reputation Certification	Authority Monitoring Low-powered, designed incentives	Aim: ensure competition, avoid abuse of market power	Aim: provide crucial services and goods, provide public goods
Completeness of contract	Complete	Less complete	Incomplete	Incomplete	Laws	Incomplete

		Properties of investment goods (extent of asset specificity)		
		not specific	intermediate	idiosyncratic
frequency	occasionally	Market governance (classical contract concept)	Trilateral governance (neoclassical contract concept)	
	regularly		Bilateral governance	Unified Governance (Rational Contracts)

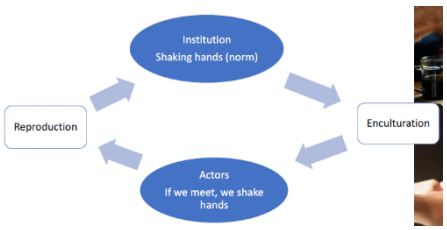
The Vested Interest Approach

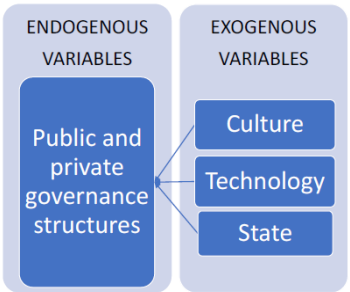
- Static approach dominated by efficiency approach of NIE
- Protection of vested interests may fail maximization of economic welfare
  → Selfish or opportunistic behavior benefits only a fraction of the population
  → Powerful minorities may maximize their own profits at the expense of others
    - Property rights
      - Reflect source of power → "the ones who own, have the right to benefit"
      - Influence on laws & regulations that distribute costs and benefits
        → Power to determine the rules of the game
        → Power to influence the government that the allocation of property rights is to their advantage
    - Agency
      - Two views on management compensation
      - Agency Theory:
        - Payment scheme which induces managers to act in the interest of the shareholders
        - Install monitoring devices
      - Managerial Power Theory:
        - Managers determine their own salaries
        - Free-rider problem in monitoring
    - Governance structures
      - Choose governance structure that minimizes transaction costs
      - ! There may be power motives for the choice of a governance structure
        - Cartels: serve interest of powerful industrialist not economic welfare
        - Public governance structures: operate to increase welfare of the ruler & supporting fractions in society and NOT public welfare

Dynamics of Institutions

Change of Institutions

Drivers of institutional change





- Change in Culture
  - Aspects of human behavior shared by (almost) all members of society
  - Material (buildings, songs, etc.) & Immaterial (values, norms, laws, etc.) phenomena
  - Enculturation: acquiring culture through (in-)formal training

  →Change occurs gradually and may take a long time
- Change in Technology → Leads to mass production
  → Changes in private governance structures, e.g. size/structure of firms
- State can change institutions: Laws, regulations, ownership structures
  → Changes induce further changes

Motivation for institutional change

- Efficiency → more efficient allocations in favor of social welfare
    - Static approach → simplified but little realistic
        - Individuals try to minimize cost of production and transactions
        - Adaptation of institutions to reach goal
        - Example: Firms produce at larger scales as a response to changes in technology
    - Dynamic approach → complex but more realistic
        - Gathering of information
        - Identification of efficient structure
        - Realization of efficient structure (sometimes most efficient choice not feasible (e.g. due to existing laws))
            - Inertia (Unbeweglichkeit, Trägheit)
            - Coordination failure possible

    → Dynamic approach can also reveal why an efficient solution was not implemented
- Vested Interests → Institutions are changed due to individual self-interest in favor of individual welfare
    - Social perspective: competition leads to the most efficient solution
    - Individual firms: competition is a burden
    - Firms have an interest to improve their market power even at expense of others
    - Actors can try to realize their objectives by controlling resources, manipulating information and influencing the distribution of costs and benefits

How are institutions changed? Bottom-up vs. top-down

- Bottom-up/Decentralized: by the actions of individuals → Evolutionary approach
    - Institutions can evolve unintended by human action
        - Humans act in a certain way because it is in their best interest →Institutions evolve as an unintended outcome of these actions → Footpath
        - Three phases:
            1. Externalization: regularity in behavior visible to others
            2. Objectivization: regularity becomes reality others take into account
            3. Enculturation: Internalization into mental map
    - Example: gradual transition from communism to capitalism in China
- Top-down/Centralized: by the design of a planner → Design approach
    - Institutions can be designed to get from one inferior state to a preferred state
    - Examples: Germany after WW2, Shock therapy in Soviet Union
    - NIE perspective:
        - Design of institutions takes place at two levels:
            1. First-order economizing: formal public governance structures are optimized → Frame in which private actors operate
            2. Second-order economizing: In this frame private actors design private governance structures to minimize costs
        - Good public governance structures
            - Institutions should be general, certain and open
            - Promote competitiveness
            - Allow for efficient second-order optimization of private governance structures

- OIE perspective:
  - Institutional change is central
  - Wider scope than NIE → Analysis of economy in an integrated way as part of societal system
  - Values are part of institutional setting → instrumental valuation
  - Power structures within a society are considered
    - Who is in control?
    - Who makes decisions about standards and judgement?
    - On whose values are standards based on?

Private Governance Structures

- Governance structures:
  - Transaction cost approach (static view): transactions take place in most efficient governance structure
  - Dynamic view: role of the entrepreneur, influence of technology
  - Inefficiencies may be due to vested interests
- Goods can be allocated through force, tradition, authority, markets and politics
- Basic forms
  - Market (coordination through prices)
  - Hierarchy/Firm (coordination through authority)
  - Hybrid (coordination through cooperation (negotiation)
- Role of prices
  - In a complete system of perfectly competitive markets, prices…
    - … contain all relevant information about scarcities and values
    - … guide the behavior of market participants towards an efficient allocation

    → Irrelevance how transactions are carried out
- In less than perfect market system
  - Incompleteness of the system
  - Imperfect competition
  - Informational frictions
  - Inefficiencies
  - It matters how transactions are carried out
  - Institutions needed to support transactions
- Key characteristics of transactions
  - Specificity
    - If high, transaction is much more valuable within the relationship than without → Imperfect competition
  - Uncertainty/risk
    - Non-observability of characteristics and/or actions → Informational frictions
  - Frequency
    - Repeated interaction strengthens incentives to perform well, may give rise to an additional market, may impact on the degree of competition

  → Given frequency of transactions and degree of risk, degree of asset specificity determines in which governance structure transaction costs are lowest
    - No specificity, no risk → ideal market; no institutions required apart from protection of property rights

- Differences in governance structures
    - Coordination of transactions
    - Associated transaction costs
    - Types of contracts
    - Arrangements of property rights
    - Reputation effects
    - Risks

Markets	Firms
• High incentive intensity	• Low incentive intensity
• Weak administrative controls	• Strong administrative controls
• Strong contractual enforcement	• Weak contractual enforcement

- Static vested interest view
    - Institutionalization of markets may give rise to barriers to market entry
    - Integrated firms may have market power
    - Choice of governance structure may not be efficiency-driven but serve the interests of the powerful players
- Dynamic vested interests view
    - Institutional entrepreneurs search for innovations in governance structures and new markets
    - When a previously missing market is being established, governance structures on other markets may change
    - New forms of cooperation and coordination arise, e.g. Shared Economy
    - Attempts to circumvent regulation, e.g. Uber, Airbnb
    - Market imperfections as opportunities

Markets

Market Power

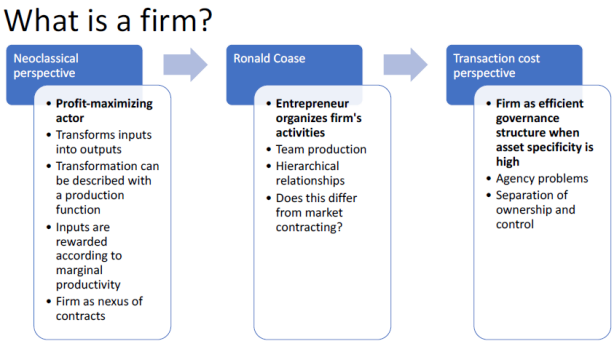
- Forms of market power that are intrinsic to the competitive process
    - Product differentiation
    - Innovation
    - Superior products or production process

Dynamic efficiency approach to markets

- Unknown market opportunities as a result of imperfect information and unknown ignorance
- Entrepreneurs discover unknown market opportunities → institutional answer to missing markets
- Entrepreneurs develop incremental and radical innovations
- Entrepreneurship in social context: highly regarded monetary profits and low stigma of failure will support entrepreneurship
- Role of formal institutions: no support if no stable regulatory framework and awareness to pressure groups
- Creative destruction leads to frictional unemployment, new institutions and a change in preferences

Firms

Static efficiency approach to firms



(Neo)Classical theory of firms

- The firm as a black box
  - Only input and output characteristics are known, but not its internal functioning → no need to analyze processes within the firm
  - Firm as a production function that responds to changes in costs and market demand
  - Focus on efficient allocation of resources
- The firms as a contractual organization of inputs
  - Increase of productivity by cooperative specialization (→ Team production)
  - Team production exhibits complementarities
    → Sum is greater than its parts (necessary condition for firms to survive competition)
  - Tasks may be performed that are impossible without cooperation
  - Supervision needed to prevent shirking (=cheating)
    → Overseer (entrepreneur/owner/manager) required to observe behavior and to estimate the individual contribution to output

TCE Approach

- Coordination:
  - Using the price mechanism for the coordination of activities (organization of production of output) is costly (transaction costs)
    - Cost of discovering the relevant price
    - Cost of negotiating separate contracts
  - These transaction costs are high when many contracts are involved → Long-term contracts instead of a series of contracts (especially employment contracts)
    - Many aspects unspecified, adaption to changes through authority
    - Employees agree to follow orders, no necessity to adjust the contract when situation changes
    - Employees rewarded with a wage
    - Hierarchical governance structure rather than a nexus of contracts
- Asset specificity:
  - Firms are likely to emerge when production requires highly specific investments
  - The higher the asset specificity of a product, the greater the chance that it will be made within a firm because
    - Buying on the market requires additional measures (avoid opportunism)
    - Protection against a hold-up situation needed
    - In the case of a high frequency of the transaction, integration saves on safeguarding and other costs of concluding a contract

- Transaction costs in firms can be lower
    - Long-term incomplete contracts: not everything is decided ex ante
      → lower costs of formulating the contract
    - Flexibility to react to new circumstances
    - Administrative controls (monitoring, career awards) can be more effective than market incentives
    - In repeated interactions, reputation can lower the costs of monitoring
- Dealing with risks
    - Possibility of limited liability: a shareholder cannot lose more money than the value of his shares
      → Facilitates the joining of property rights
    - Possibility to reduce market risk by producing internally
      → Production of inputs by the firm avoids the risk of fluctuations in market supply
    - Possibility of mergers and acquisitions
      → May create collaboration, lower production costs and allow for diversification
- Employment strategies
    - Casual labor strategy → No investment
        - Hiring of low-skilled workers, paying low wages, easy replacement
    - Career strategy → Investment
        - Employees specialize in exchange for high wages
        - Hold-up problem solved by explicit contracting

Static vested interest approach to firms

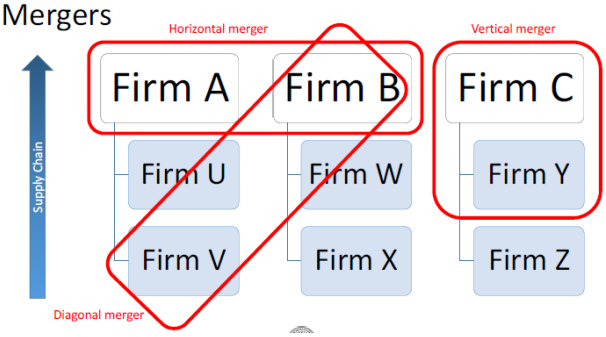
- Vested interest view
    - When a firm grows in size, ownership and control of the firm become separated
      → Power imbalance inside the firm
      → Consequence: Agency problems
        - Manager vs. Owner
        - Free-riding among large, dispersed group of shareholders
        - Result: Shareholders are not able to monitor the firm's decisions properly, they receive a lower return on their capital while the additional profits go to the management
          → Conflicts of interest

	Owner	Manager	Employee
Pecuniary objective	Profits	Salary	Wage
Reputation	Firm's reputation	Manager's reputation	Employee's reputation
Investments	Positive net present value	Conducive to own reputation	Complementary to own skills
Motivation	Manager and Employee shall work hard to produce good quality	Besides work, manager may also like leisure; Employee shall work hard	Likes leisure

        - How can interests be aligned?
            - Rewards for good performances: bonuses, promotion, recognition
            - Punishment for bad performance: demotion, dismissal
              → Agent provides more effort to achieve a reward
                - Reward scheme imposes risk on the agent
                - Risk-averse agent needs to be compensated for incurring risk
    - Power imbalance on the market: Dominant position through mergers

- Corporate governance
  → Set of institutions to overcome agency costs resulting from the separation of ownership and control → to control the abuse of power
    - Management and monitoring
    - Consists of
      - Corporate principles and guidelines
      - System of internal and external audits
      - Supervision to which the activities of the company are subjected

Mergers



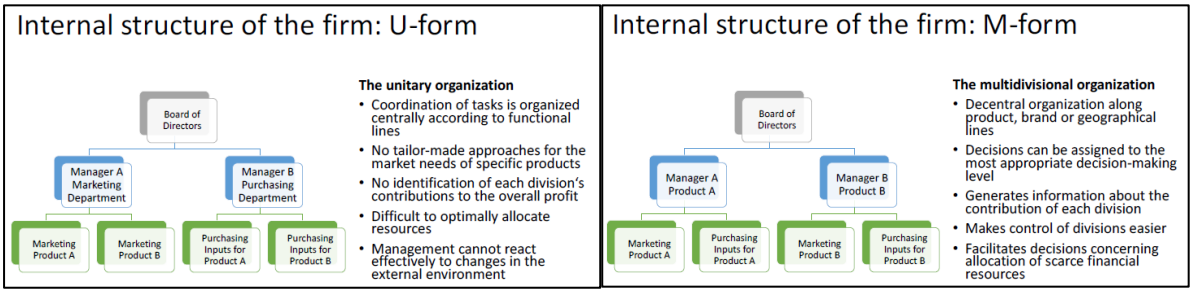
    - Horizontal: between competitors
      - → Fewer competitors, higher prices → Merging with a competitor mitigates cooperation, but competitive pressure may remain
      - May create barriers to market entry
      - Dominant market position is created
      - Collectively dominant situation: two or more independent firms hold a position of collective dominance where they coordinate their behavior
    - Vertical: between a supplier and a customer
    - Diagonal/Conglomerate: any other merger of unrelated firms
      - Even diagonal mergers between unrelated firms may lead to price increases
      - Merger between Firm B and Firm V:
        - If Firm V raises prices, the product of firm A becomes more expensive and demand would increase for the product of Firm B
        - Without the merger, firm V would not have the incentive to raise prices in order to increase demand for B
        - Only possible if there are no substitutes for the product of Firm V
    - Effects of mergers:
      - Induce cooperation → Production at a larger scale at lower cost
      - Avoid hold-up
      - Create market-power → Price higher than marginal cost
    - Costs associated with mergers
      - Administration costs
      - Organization costs
      - Changes in property rights → new incentive scheme for former owners
        - Higher monitoring and enforcement costs
        - Less incentives to innovate
      - Adjustment costs: Change in organizational structure

Dynamic efficiency approach to firms

The entrepreneurial firm

- Entrepreneur = person searching for new market opportunities
    - These may be found in new products or new production processes
    - With their development, the organizational structure of the firm may change
- The TCE approach is static, the entrepreneurial element is missing
  → Static approach deals with business people rather than entrepreneurs
- Roles of entrepreneur and manager
    - Entrepreneur: find and convince others of business opportunity
      → needs eloquence, persuasiveness, patience, persistence, capacity to gain sympathy, confidence
    - Manager: initiate production plan, organize access to finance, organize and plan production, determine marketing and pricing strategy
      → Needs managerial skills, confidence, flexibility, strength of mind, leadership
    - Specialization; different roles of entrepreneur and manager (and within management)

Internal structure of the firm



- Efficiency considerations induce a shift from the U- to the M-form
- In a growing U-form firm, not all decisions can be taken by the CEO and his board of directors, so that it may be forced to
    - Add additional layers of management
    - Change the organizational structures to a M-form
- Choice of organization has effects on internal coordination and competition
- Diversification vs. "empire-building"

Cooperation between firms

The cooperation problem

Row player \ Column player	Cooperative action	Defective action
Cooperative action	C, C	T, S
Defective action	S, T	N, N

- C: Cooperative payoff
- T: Temptation payoff
- S: Sucker's payoff
- N: Nash payoff

Assumptions: T > C
N > S
C > N
2C > S + T

- Dominant strategy for both firms: "Don't advertise"
- BUT both would benefit by playing "Advertise"

→ Example for the prisoner's dilemma

- Solution for firms: develop effective institutions that make agreements enforceable
- Credible sanctions if agreement is violated
- Institutions that may help solve the cooperation problem:
    - Empower independent third party to monitor transactions and solve conflicts
    - Repeated interaction
      → incentive to maintain ongoing cooperation can outweigh short-term benefit of defection if players are patient enough
- Institutions that make welfare-reducing cooperation harder:
    - Competition law
        - Forbids agreements aimed at restricting competition
        - Agreements allowed if customers benefit
        - Find balance b/w maintaining contractual freedom & protecting consumers
        - Empirically, not always easy to distinguish bad agreements from good ones

Forms of hybrid governance structures

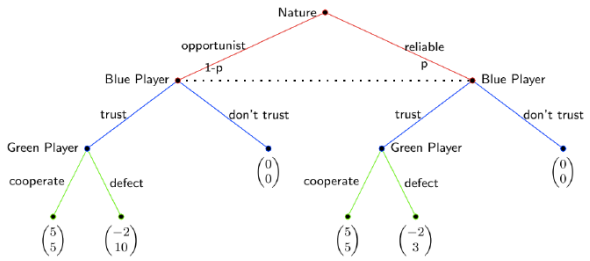
- Keiretsu → japanese supply networks
    - Cluster of independent, autonomous organizations
    - Coordination of transactions under maintenance of outside options
    - Horizontal keiretsu
        - Autonomous firms centered around a major bank
        - Cross-holdings, interlocking (verknüpfen) of directorates
        - Information exchange about technologies, markets, politics
    - Vertical keiretsu
        - Leading enterprise dominates others
        - Managements of firms in vertical businesses are controlled by core firm
        - Subsidiaries still have own decision power
- Cooperatives
    - Autonomous individuals, jointly owned democratically controlled enterprise (Agriculture, retail trade, banking, real estate)
    - Members can be suppliers or customers
    - Risk-sharing
    - Solution to hold-up problems and collective action problems
- Licensing → Transfer of a property right
    - Contract specifies
        - Extent of license (What? Where? When?)
        - Quality standards
        - Fees
        - Conclusion of relationship

- Franchising
    - Licensing of a business concept
    - Much more stringent regulation compared to “simple” licensing
        - Audited financial statements
        - Investments of the franchisee
        - Supply arrangements
        - Dress code of employees
        - Training by franchisor
        - Assistance by franchisor
    - Combines local expertise of franchisee (e.g. access to labor market) with infrastructure, experience and reputation of franchisor
- Islamic banking
    - The Koran prohibits lending and borrowing with interest
    - Borrowers share profits with lenders
        - Special Purpose Entity: Limited partnership to fulfill a particular objective
        - Leasing
        - Sell-and-buy-back
- TCE approach to hybrids
    - Hybrid governance structures arise when total transaction costs are lower than in the cases of complete independence (markets) and full integration (hierarchy)
        - Moderately specialized production factors
        - Semi-specific investments
        - With increasing hazard and/or recurrent transactions, investment in the relationship becomes profitable
- Contract law regime in hybrid governance structures
    - Contracts not as complete as classical contracts, not as incomplete as relational contracts
    - Parties autonomous, but dependent on each other
    - Complex contract law
        - Flexible enforcement, rather by arbitrage than through courts
        - Legal enforcement if disturbances are frequent and costly
        - Adjustment of governance structure may become necessary
- Property rights in hybrids
    - Design contracts to avoid hold-up (e.g. Senseo machine and its pads)
    - Joint control only over a proportion of property rights
    - Coordination only of those activities that yield benefits from cooperation
    - Remain flexible, adjust to market developments
- Reputation effects in hybrids
    - Own reputation may be affected by partners’ actions
    - However, also partner’s reputation is at stake
      → Certain degree of alignment of interests
    - Reputation effects particularly strong in horizontal networks
    - The better the reputation mechanism, the bigger the parameter range for which hybrid governance structures are optimal
- Risk management in hybrids
    - The higher the level of market risk, the higher the need for cooperation
    - Financial risk due to large investment may be too big for a single firm
    - Safety measures may be too costly for a single firm

- Static vested interests view on hybrids
    - Lobbying
        - Collaboration entities are more likely to solve the collective action problem
        - Impact on political process and public opinion
    - Cartels
        - Agreements on prices, output levels, division of market
        - Indirect elimination of competition
        - Implicit collusion → no agreement needed, self-enforcing
        - Explicit collusion → cartel; mutual monitoring and disciplining device needed (not enforceable by law)
- Dynamic view on hybrids
    - Governance structures may become inadequate due to external shocks (e.g. decline in demand)
    - New governance structures become possible when trust evolves
    - Governance structures may not be possible to maintain if disturbances occurred
- Basis for trust in hybrids
    - Repeated interaction, future rewards and possibility of retaliation
    - Contracts can be substitutes and complements to trust
    - Values, social norms, social obligations
    - Friendship, kinship, routine, habit, empathy
    - Crossholdings

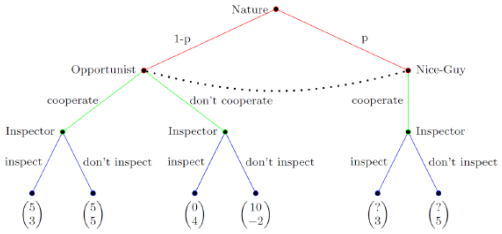
Model of building and destroying trust

- Building trust
    - If a partner has proven to be trustworthy over a long time, trust that this partner continues to behave reliably increases
    - Re-enforcement through reputation mechanism
    - Existing networks may become stronger



    - "Type" of the blue player (reliable, opportunist) is not observable; green player thinks other player is reliable with probability p
    - Reliable type never defects
    - Opportunist has an incentive to defect in one-shot interaction
    - If blue player expects opportunistic incarnation of green player to defect, she still acts trustful if $p * 5 + (1 - p) * (-2) > 0$, i.e. if $p > 2/7$
    - If the game is repeated indefinitely, the opportunistic green player may benefit from cooperation
    - Defecting reveals her as the opportunistic type, triggering distrust in future periods
    - Defecting yields a payoff of 10 at the time of defection and 0 ever after
    - Cooperation yields a stream of payoffs of 5 in every period
    - Cooperation by opportunist in equilibrium if $5/(1 - \delta) > 10$, i.e., $\delta > ½$
    - Blue player can be trustful even if $p < 2/7$

- Inspection game
  - Defection will only be noticed if inspection took place
  - If opportunist knows that inspection takes place, he won't defect
  - If green player expects blue player to cooperate, she won't inspect
    → Equilibrium in mixed strategies



  - Opportunist is indifferent between cooperating and defecting if she expects an inspection with probability q
  - Thus the Inspector mixes between "inspect" and "don't inspect" in order to make the Opportunist indifferent
    $5q + 5\,(1 - q) = 0q + 10\,(1 - q) \Leftrightarrow 5 = 10 - 10q \Rightarrow q = ½$
  - In a mixed strategy equilibrium, inspector needs to be indifferent between his actions, given that the Opportunist occurs with probability $1 - q$ and cooperates with probability r (Nice-Guy cooperates for sure)
- Evolution of trust
  - $p_t = prob(green\ player\ is\ reliable\ given\ that\ he\ cooperated\ in\ t-1)$
  - No inspection → No learning $p_t = p_{t-1}$
  - Inspection & defection $p_t = 0$
  - Inspection & cooperation: $\frac{prob(green\ player\ is\ reliable\ and\ cooperated\ in\ t-1)}{prob(green\ player\ cooperates\ in\ t-1)} = \frac{p_{t-1}}{\frac{3}{4}}$

Dynamic vested interest to firms

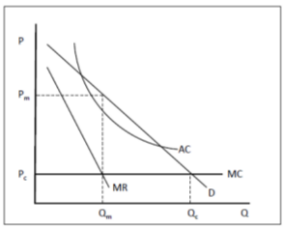
Market Power Theory: Implicit Collusion

- Repeated prisoner's dilemma: charge high price or undercut competitor?
- Tit-for-Tat-Player
  - Does not intend to behave → Grimm-trigger
  - Starts cooperative
  - Retaliates a defection with a defection in the next period
  - Forgives → if other player comes back to cooperation, so does tit-for-tat player
- The higher the number of firms, the more patient all firms must be in order to sustain implicit collusion
  → This is due to the incentive to deviate and grab the entire market
  → Stronger the lower the share of collusion profit
- Limitations of power
  - Threat of new entrants
  - Development of substitute products
  - Bargaining power on part of consumers
  - Bargaining power on part of suppliers
  - Rivalry among cooperating firms

State intervention to protect the public interest

- Sources of inefficiency that may justify state intervention:
  - Imperfect information
    - Private parties may be unable to detect or signal the true value of an asset
  - Market power/natural monopolies
    - The absence of competition might encourage high prices that harm consumers
  - (Negative) externalities
    - Side effects of economic activity can harm third parties without compensation
  - Pure public goods
    - Assets characterized by non-exclusiveness and non-rivalry
      → A private market for these goods will generally not arise
- Imperfect information
  - Uneven distribution of information between sellers and buyers
    → not all relevant aspects of a transaction are commonly known
  - Consequence: Welfare-enhancing transaction may not take place
  - Possible remedies by the state:
    - Obligatory disclosure of information, e.g. list of ingredients in food products
    - Liability system (holds firms accountable for low quality products)
      - Consumers can sue producers if the good does not meet certain quality standards or harms the consumer
      - If the expected damage payment is larger than the cost of improving quality, producers are incentivized to improve quality
      - Government creates incentives to produce products of good quality and reduces uncertainty for the consumers
      - Liability should NOT always be assigned to producers because consumers may behave opportunistically or carelessly if they receive full compensation in case of damage → Moral hazard
    - Labels and certificates
    - Regulations that increase market transparency, e.g. price per kilo
    - Mandatory attachment of information leaflets to medicines
    - Inspection agencies
- Market power
  - Governments combat market power when it is believed to threaten the public interest: Antitrust policy
  - Few firms or only one firm offer a certain good: supplier can influence market prices to the disadvantage of consumers → Allocative inefficiency (“Deadweight loss”)
  - Possible state interventions
    - Divestiture (Zerschlagung) of dominant firms
    - Interdiction of (planned) mergers
    - Auctioning off concessions (~Lizenzen) for temporal monopolies
  - Beneficial monopolies
    - Fight against monopolies involves trade-off: Static deadweight loss vs. dynamic efficiency
      → Monopoly profits are a main driver of innovation and entrepreneurship
    - There are situations where complete competition is inefficient → better to only have a monopoly than to have no supplier at all → Natural Monopoly

- Natural monopolies
  - Competition policy
    - Government intervention is justified when firms create market power by anticompetitive means, e.g. cartel agreements
  - Intervention is justified and possible…
    - … when market power is abused by dominant firms
    - … in order to prevent the possible (future) abuse of a dominant position when a merger is announced
    - … when market power is exerted as a result of explicit collusion by cartels
  - Leniency Policy for cartel involvement
    - Cartels are hard to detect for the authorities because there are rarely written documents that would proof the cartel
    - Punishments for detected cartels are quite severe
      → Monetary fines go up to 10% of a firm's annual turnover
      → In some states, individuals engaged in a cartel can be imprisoned
    - Leniency Program: Government offers amnesty (or much lower fines) to a firm engaged in collusive behavior which is first to announce the cartel to the authorities and collects evidence and proof against other cartel members
  - If production involves high fixed costs, an increase of production leads to decreasing average total costs → MC < AC
  - Perfect competition drives prices down to P = MC
    → Firms would produce losses because then P < AC
    → Such markets cannot be perfectly competitive
    →It is still better to have producers with market power (even a natural monopoly) than no supplier at all
    →Market power alone does not warrant public intervention



- Regulation of natural monopolies
  - Cost efficiency perspective: a natural monopoly is preferred to competition
  - But the monopoly position gives the monopolist the option to exert market power, meaning higher prices for consumers → need for state intervention
  - Two approaches:
    - Regulation of natural monopolies
      - Monopolist should be forced to set a price that yields efficient allocation
      - The regulator directly interferes in the price policy of natural monopolies
      - Efficiency requires P = MC which is impossible in natural monopolies because it would cause losses for the monopolist
      - Possible remedies:
        - Subsidizing the loss of the monopolist
        - Two-part tariffs

- Creating competition for the market
    - Competition IN the market vs. competition FOR the market
    - Government auctions off the (temporal) right to be the only supplier of a good within a certain geographical area
      → Legal monopoly
    - Examples: exploitation of natural resources, public transport, bandwidth for radio or telecommunication, etc.
    - State-organized-auctions; under ideal conditions, the auction winner has the lowest production costs

Externalities

- In theory, externalities can be internalized through private negotiations → Coase-Theorem
- IRL, high transaction costs and an unequal division of power result in suboptimal outcomes
- Negative externalities → too little consumption/production
- Positive externalities → too much consumption/production
- If private actors fail to solve the problem of externalities, the state may help to correct and improve the outcome

Negative externalities

- Environmental pollution is the most prominent form of negative externalities
- Why is the fight against pollution so difficult?
    - Large number of offenders
    - Unawareness of externalities
    - No effective enforcement by weak (or corrupt) governments
    - Imbalance of power; unorganized victims
- Countermeasures of governments against pollution
    - Tradable pollution rights, awareness programs, financial (dis)incentives
    - Example: Emission trading in the EU → companies are given a maximum "emissions allowance", if they want to emit more, they can purchase excess emissions on an emissions trading market
- Financial (dis)incentives, product bans and awareness programs can also reduce negative externalities
    - Example: smoking is combated by all three measures: Tobacco tax, ban of smoking in public buildings, deterrent images and information on cigarette packages

Positive externalities

- Unlike negative externalities, third parties benefit from the consumption of a certain good
- Example: Vaccination against contagious diseases → Vaccinated individuals also protect others → severe illnesses like smallpox have been almost or completely eradicated
  → Governments subsidize or stipulate vaccinations among the population

Provision of public goods

- Pure public goods
    - Non-rivalry, non-exclusiveness
    - Pure public goods will in general not be offered by private actors because consumers are unwilling to reveal their true willingness to play
    - State-induced production is financed via imposed contributions (e.g. taxes) is sometimes necessary to ensure availability of the good
    - Free-riding problem

TCE approach to state intervention

- Benchmark case: perfect competition, transaction costs are zero
  → Private actors reach efficient outcomes
  → Any state intervention is (at best) superfluous
- In real life, markets are hardly ever perfectly competitive
  → Deviations from benchmark may justify possible state intervention
  → How strongly shall the state intervene in the market?
  → State intervention always involves political transaction costs which must be weighed against market and managerial transaction costs

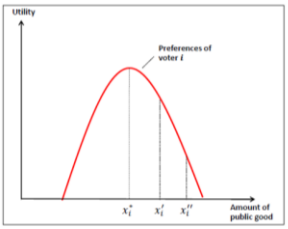
Government Failures

- State intervention causes political transaction costs:
  - Monitoring, Enforcement, Administration and Compliance costs
- Government efforts decrease welfare loss but create policy costs
- Ideally, government should try to keep overall costs as low as possible

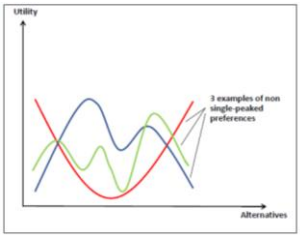
Policy Preferences

- Government makes decisions that affect many or all citizens of a state
- People are generally heterogeneous → Which option should be implemented?
- Economic theory can only offer limited answers which decision is best → value judgements
- Different criteria for evaluating collective choices
- Arrow's Impossibility Theorem
  - Methodological Individualism: social preference should only depend on the preferences of individuals
  - "Arrow Paradox": situation where the citizens' individual preferences cannot be translated into a social preference
    - Unanimity (Pareto efficiency): X > Y in the ordering of every individual → social preference should also have X > Y
    - Independence of irrelevant alternatives
      - If a social preference produces the ranking X > Y, then this ranking should remain unaffected by a third alternative Z
    - Non-dictatorship
      - The social preference should not be defined by a single individual (=dictator)
  - It can be proven that, in general, social preference ordering that meets the above criteria cannot be constructed
    → If the government provides public goods and/or policies, sometimes no clear statement can be made which alternative the government should select

- Media Voter Theorem
  - If preferences are single-peaked, this instability result does not hold any longer
  - Voter preferences are called single-peaked if all alternatives can be ordered in such a way that
    - Each voter has a unique ideal point x_i^*
    - If two alternatives are both either smaller or larger than x_i^*, i prefers the alternative that is closer to x_i^*

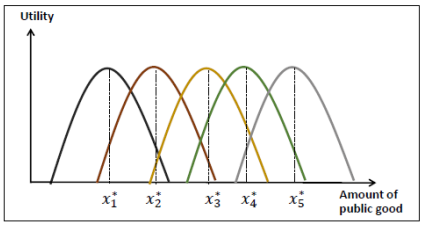


- Alternatives x_i' and x_i'' are both larger than i's optimum.
- x_i' is closer to the optimum than x_i'' and is therefore preferred over x_i''.



- The preferences in the graph show more than one peak and are therefore not single-peaked
- Preferences are singe-peaked when alternatives can be ordered along a certain dimension (e.g. quantity of a public good).

- Median voter theorem:
  If voters' preferences are single-peaked, a stable alternative exists and coincides with the median-ranked optimum.



- In this example $x_m^* = x_3^*$
- Pairwise voting:
  - x_1 vs. $\boldsymbol{x_2}$: x_2 wins
  - x_2 vs. $\boldsymbol{x_3}$: x_3 wins
  - $\boldsymbol{x_3}$ vs. x_4: x_3 wins
  - $\boldsymbol{x_3}$ vs. x_5: x_3 wins

  - Critique
    - Assumption of single-peaked preferences is reasonable only in some cases
    - IRL, the policy space is often multi-dimensional, rather than one-dimensional
    - Parties/candidates are only interested in gaining power, but are unfree in their policy decision
    - Access of third parties is not possible (by assumption)