

# Markets and Organization

TSE M1 – Session 4  
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## Some types of non-market institutions

- ◆ Firms
- ◆ Governments
- ◆ Charities and NGOs
- ◆ Schools and universities
- ◆ Armies
- ◆ Networks
- ◆ Informal exchanges

## A Brief History of Non-Market Organizations

- ◆ Political/military organizations
  - The hunting group (raiding party, army)
  - From defensive formation to city-state
  - Temples and churches
  - The partnership and expeditionary force
  - The nation state and its component parts
- ◆ Dependent organizations
  - Joint-stock companies
  - Partnerships and other for-profit forms
  - Regulated non-profit organizations
  - Voluntary and informal associations
- ◆ Dependent organizations rely on political/military organizations for their effective operation
  - Physical security of their activities
  - Legal clarity of their contractual relations

## The prehistory of the modern firm

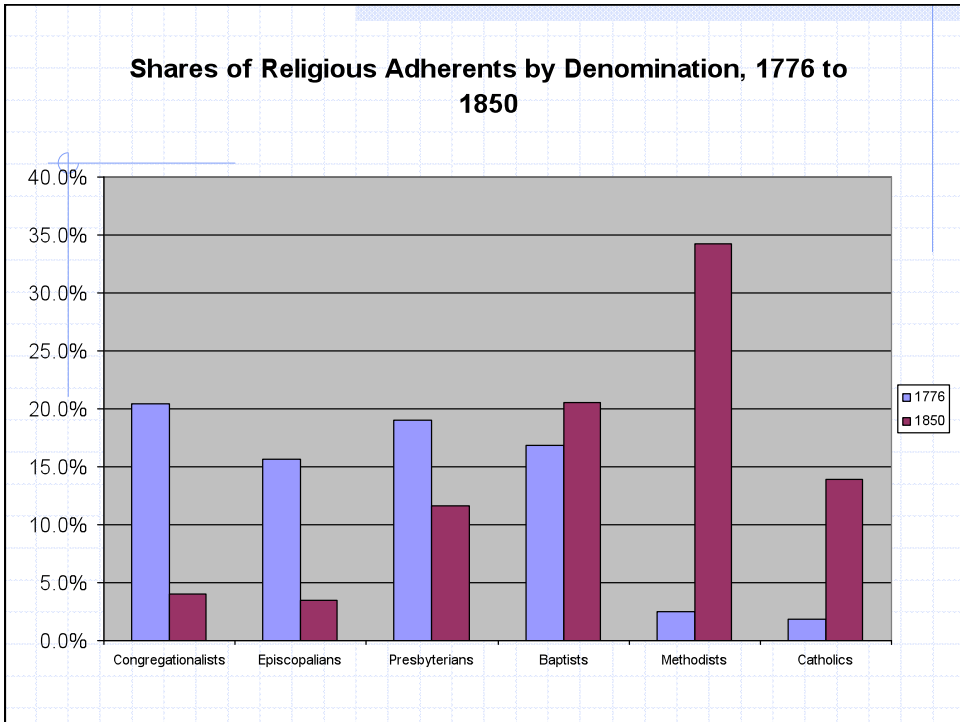
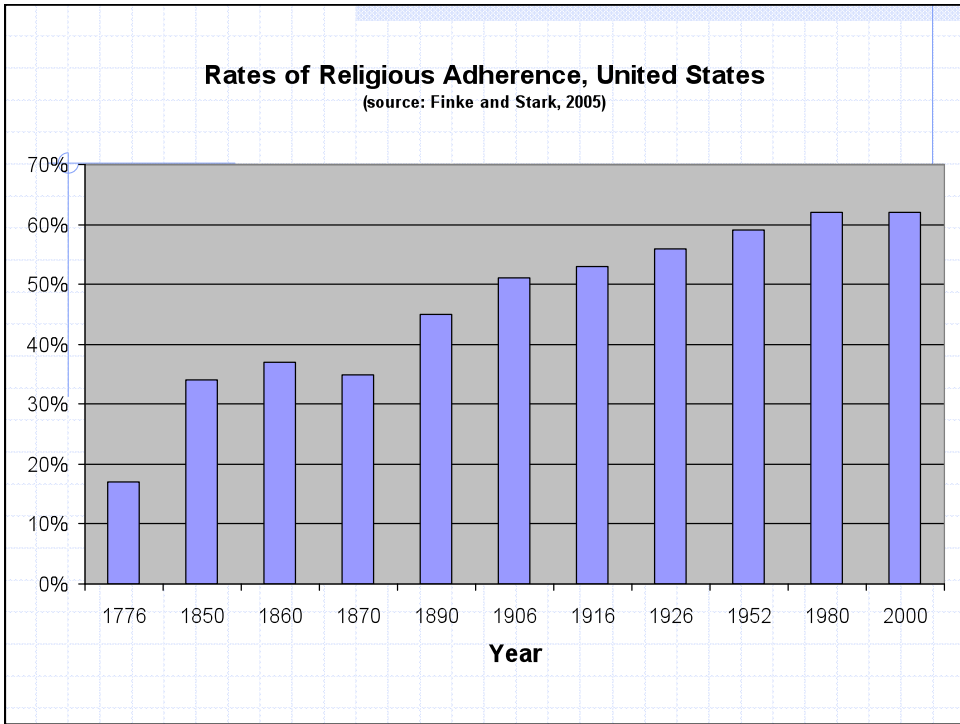
- ◆ Armies
- ◆ Imperial works
- ◆ Medieval guilds
- ◆ Chartered trading companies
- ◆ Royal manufactures
- ◆ Proto-industrialisation
- ◆ The industrial revolution in Europe
- ◆ The invention of the limited liability joint-stock company (JSC Act of 1856)
- ◆ The large American firm in the 20<sup>th</sup> century
- ◆ Non-joint-stock firms: cooperatives and partnerships

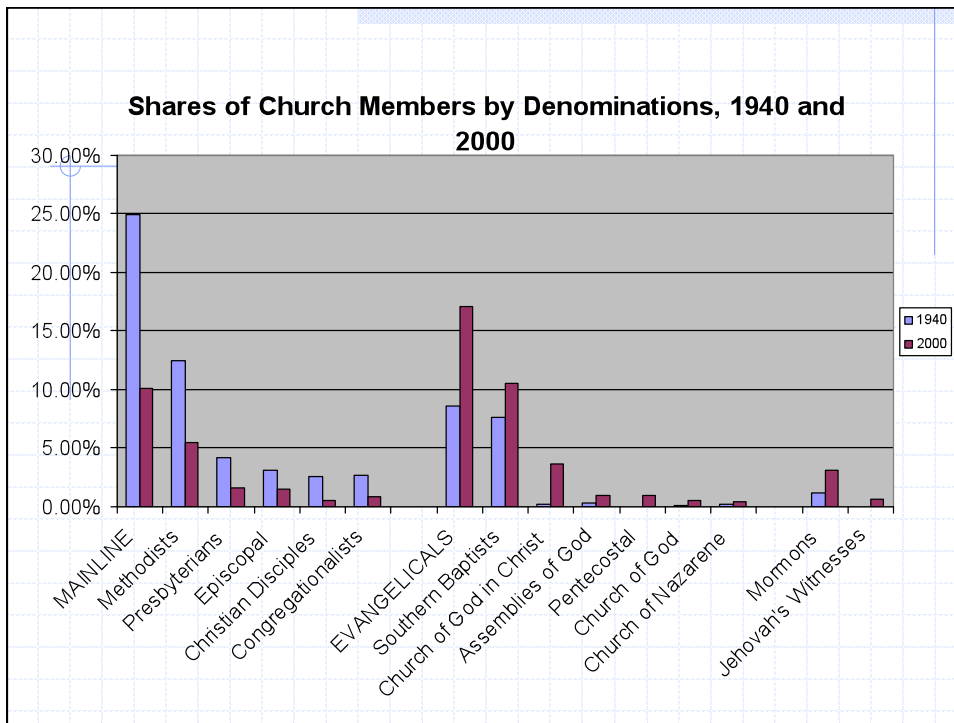
## Non-firm organizations

- ◆ May have very different legal structure from that of firms
- ◆ But can face very similar challenges to those of firms
  - Motivating agents to act in the interests of the group
  - Competing against rival groups trying to do the same thing
- ◆ Two striking examples
  - Governments (see Tiebout, 1956)
  - Churches

## Competition among churches

- ◆ Roger Finke and Rodney Stark (2005) have tried to explain what they call the “churching of America” – the paradox of growing US religiosity at a time of European secularization
- ◆ They attribute this to competition, and to the superior incentive structure of the more successful denominations
- ◆ An interesting parallel with the competition between the Hudsons Bay Company and the North West Company in the 18<sup>th</sup> and 19<sup>th</sup> centuries





## Average ministerial salary, US, 1906

Denomination	Average salary
Baptists	\$536
Methodists	\$784
Congregationalists	\$1042
Presbyterians	\$1177
Unitarians	\$1653
Roman Catholics	\$703
All	\$663

## Pluralism and Participation in US rural areas, 1923-25 (source: Finke & Stark 2005)

	Number of churches per 1000 population			
	One	Two	Three	Four
% belonging to a church	27.4	36.0	34.8	43.4
% enrolled in Sunday school	15.8	22.3	25.2	37.4
% with resident minister	55.7	46.3	38.7	30.1

## Adam Smith on religion:

The [clergy] may either depend altogether for their subsistence upon the voluntary contributions of their hearers; or they may derive it from some other fund to which the law of their country may entitle them; such as a landed estate, a tythe or land tax, an established salary or stipend. Their exertion, their zeal and industry, are likely to be much greater in the former situation than in the latter. In this respect the teachers of new religions have always had a considerable advantage in attacking those ancient and established systems of which the clergy, reposing themselves upon their benefices, had neglected to keep up the fervour of faith and devotion in the great body of the people; and having given themselves up to indolence, were become altogether incapable of making any vigorous exertion in defence even of their own establishment. The clergy of an established and well-endowed religion frequently become men of learning and elegance, who possess all the virtues of gentlemen, or which can recommend them to the esteem of gentlemen; but they are apt gradually to lose the qualities, both good and bad, which gave them authority and influence with the inferior ranks of people, and which had perhaps been the original causes of the success and establishment of their religion. – Wealth of Nations, book 5, chapter 1.

## Adam Smith on incentives and the division of labor:

It is not from the benevolence of the butcher, the brewer, or the baker, that we can expect our dinner, but from their regard to their own interest.....

The difference of natural talents in different men is, in reality, much less than we are aware of; and the very different genius which appears to distinguish men of different professions, when grown up to maturity, is not upon many occasions so much the cause as the effect of the division of labour. The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature as from habit, custom, and education. When they came into the world, and for the first six or eight years of their existence, they were perhaps very much alike, and neither their parents nor playfellows could perceive any remarkable difference. About that age, or soon after, they come to be employed in very different occupations. The difference of talents comes then to be taken notice of, and widens by degrees, till at last the vanity of the philosopher is willing to acknowledge scarce any resemblance. But without the disposition to truck, barter, and exchange, every man must have procured to himself every necessary and conveniency of life which he wanted. All must have had the same duties to perform, and the same work to do, and there could have been no such difference of employment as could alone give occasion to any great difference of talents – *Wealth of Nations*, Book 1, Chapter 2

## Firms: why are legal institutions like limited liability necessary?

- ◆ Ownership and control: why is there separation?
- ◆ Risk-aversion and limited liability
- ◆ The choice for firms seeking outside finance: debt versus equity
- ◆ The game between managers and financiers – what kind of game is it?

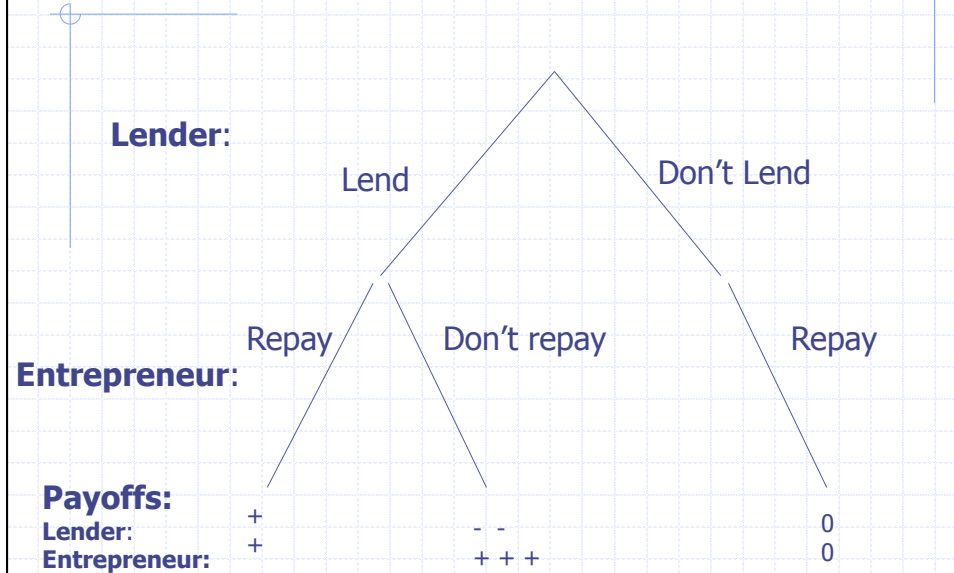
## Ownership and control: why is there separation?

- ◆ In a modern industrial economy many activities take place at too large a scale for one person to be the sole owner
- ◆ Even if possible, it would not be a good idea for one person to concentrate all their wealth in one activity (very risky)
- ◆ So often there is collective ownership by many shareholders
- ◆ Even if there is one owner, this person cannot manage all the activities
- ◆ So must employ a manager (often many managers)
- ◆ Problem: how to make the manager act in the interests of the owner(s)?

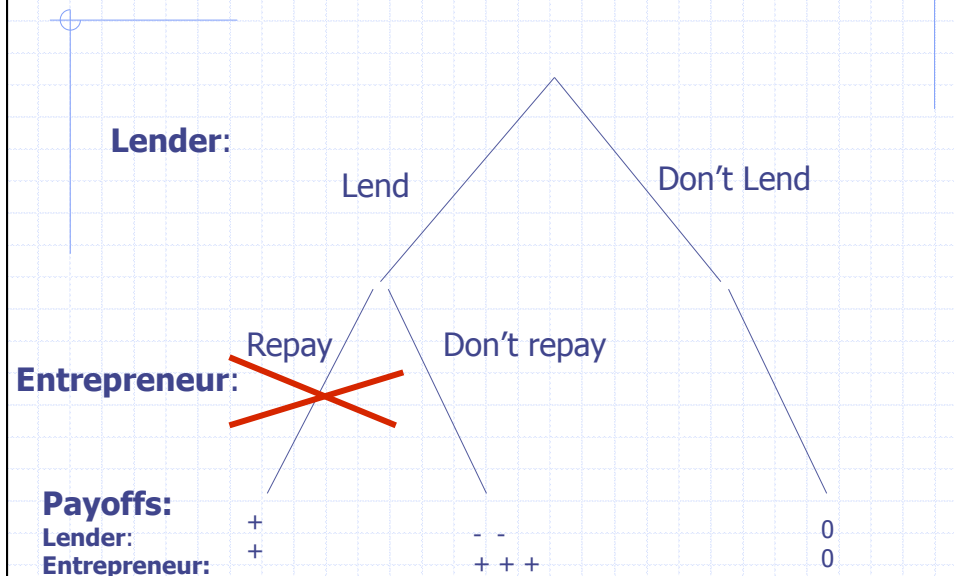
## As the firm grows, what can its owner do?

- ◆ The owner may need to hire managers
  - How to motivate them to work effectively?
- ◆ The owner may need outside finance
  - How to make a credible promise of repayment?
- ◆ This is an investment game
- ◆ The owner may be willing sincerely to promise \$1 million repayment for an investment that will yield him \$1.2 million in profits
- ◆ But after his project has succeeded he may not want to repay the \$1 million
- ◆ What can the owner do to make this promise credible?

## The Investment Game:



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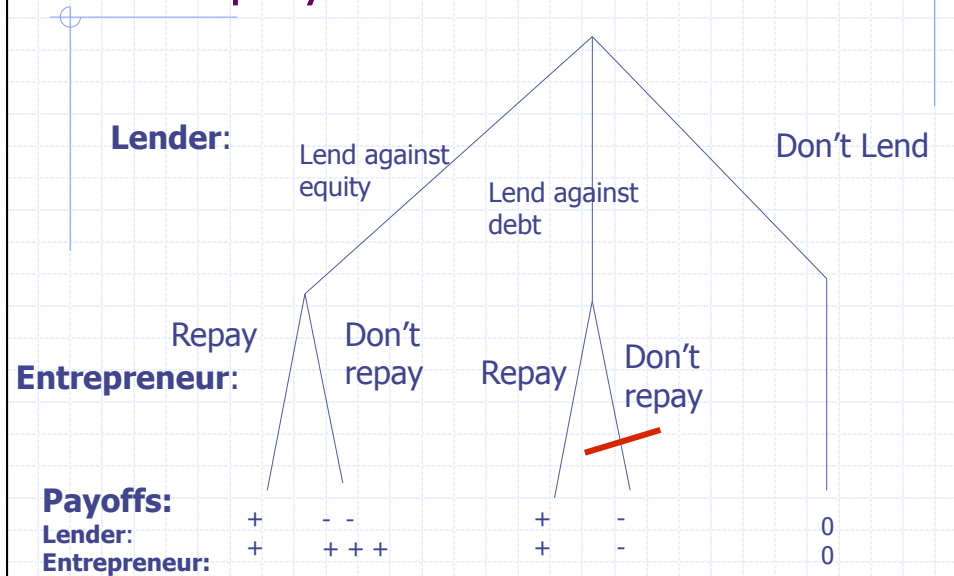
## Two alternatives: debt and equity

- ◆ Equity means giving rights of ownership to suppliers of outside finance
- ◆ They have rights to affect management decisions
- ◆ Debt does not involve ownership rights – so no right to affect management decisions
- ◆ But in return debt involves inflexible repayment commitments – enforced by an outside authority (the courts)
- ◆ You can't have both – if you want flexible repayments you must give up some ownership rights

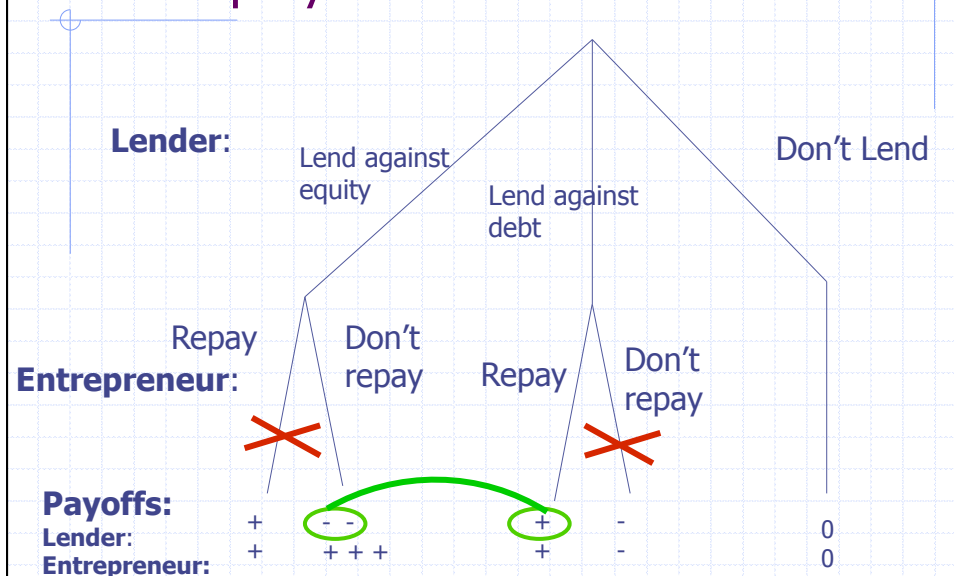
## The entrepreneur: owner of a productive idea

- ◆ May not have the capital to put it into practice
- ◆ Why not just sell the idea?
  - Intellectual property rights imperfect
  - Entrepreneur may need to continue being involved
- ◆ So must share responsibility with the lender of capital
- ◆ But the lender cannot observe perfectly what the entrepreneur is doing with the money (as lenders to internet companies found out in the late 1990s)
- ◆ Debt (inflexible repayments) may be the only way to convince the lender that repayment is credible
- ◆ If firm does not repay, control passes to the creditor
- ◆ But sometimes this will happen even when it would be more efficient for the firm to continue operating

## The Investment Game with debt and equity:



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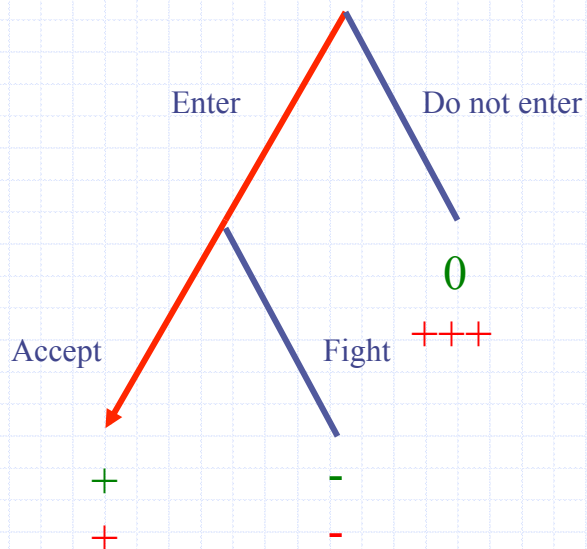


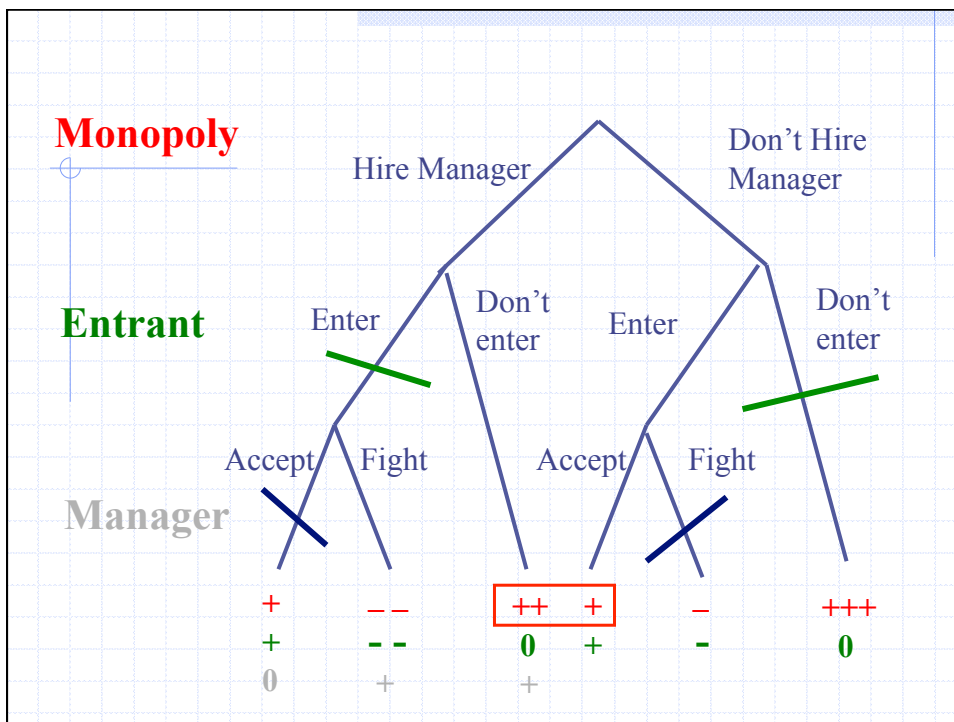
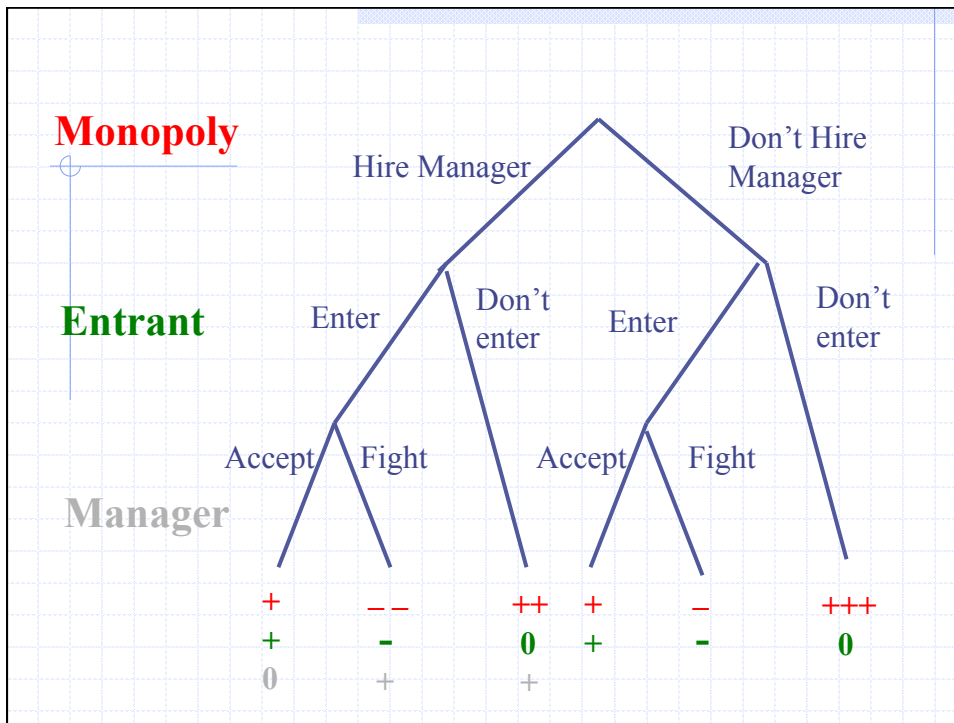
## This presumes equity owners cannot monitor managers

- ◆ In practice things are not always so bad
- ◆ Partly they have information given to shareholders
- ◆ Partly the shares, if traded, can reveal information held privately by some
- ◆ This may help to align the incentives of managers with those of equity owners
- ◆ In many circumstances this is desirable, but not always
- ◆ For instance, there may be a game between the firm and its competitors (a market game) as well as one between its owners and managers (a corporate governance game)
- ◆ If the market game is a threat game, hiring a manager can be like taking on debt – it forces the owner to do something she would not otherwise want to do

**Entrant**

**Monopolist**





## Conclusions

- ◆ The growing firm has to make compromises: hire managers, take on debt
- ◆ Sometimes these compromises are costly and inefficient
- ◆ But sometimes they commit the firm to do things that are, on average, efficient
- ◆ The best thing to do depends on the state of information – how effective is monitoring compared to direct incentive payment?
- ◆ Notice that sometimes costly commitments can help a firm to send a credible signal of its future intentions
- ◆ What other choices can help it do the same?

## Transactions costs and firm size

- ◆ First industrial revolution (steam, textile machinery, steel) favoured size because
  - Raised returns to precision engineering
  - Allowed energy efficiency of large machines to be harnessed
- ◆ Second industrial revolution (electricity, telephones, automobiles) more ambiguous because
  - Freed firms from need to produce close to the customer
  - Also diminished need to produce close to suppliers or rivals

## The next industrial revolution: what impact on firm size?

- ◆ What does IT allow a firm to do?
- ◆ What changes could we observe in practice?
- ◆ In particular – how do organizations change their structure and not just their activities?

## What does IT allow a firm to do?

- ◆ Some activities previously not possible
  - ◆ Computational speed
  - ◆ Sales of digital copies or information goods online
  - ◆ Delivery people communicate with headquarters
- ◆ Some activities now higher quality, speedier, or use fewer resources
  - ◆ Sell old inventory to geographically dispersed bidders
  - ◆ Provide directions with map, opening hours, sale info, 24/7 on web
  - ◆ Phone software & voice recognition provide customer service
  - ◆ Link supplier with manufacturer in real-time to reduce inventory
- ◆ Will generate temporary profits until imitation.

## Evidence from industry level studies

- ◆ Example of work on multiple firms in specific industry is series of papers of Baker & Hubbard
- ◆ Identify discrete IT change, on-board computers in trucking, and observe adoption
  - First IT innovation monitors location and all aspects of truck actions
  - Second IT innovation allows for real-time communication with dispatcher and location data
- ◆ Infer where IT is most valuable by analyzing who adopts early and who doesn't
- ◆ Observe changes in vertical integration with adoption on two margins
  - Vertical integration of trucks and trucking firms
  - Vertical integration of mfr and trucking services

- ◆ These studies tell us how firms in a particular industry are re-organizing themselves in response to (an exogenous) IT shock
  - Vertical integration choice changes
  - Does a manufacturer own its own trucking division once coordination costs have fallen hugely? => no
  - Does a trucking firm own its own trucks once it can monitor company drivers? => yes
- ◆ Other impacts studied by them and other authors (Shaw et.al.)
  - Labor demand: different types drivers, different types dispatchers after IT
  - Capacity utilization: rises 3% due to ability to coordinate remotely
  - Fuel efficiency: rises for previously unmonitored drivers
- ◆ Results are specific to setting but the principles are not

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The East India Company's ships....



## The East India Company's troops....



## Villeneuve

