Theory of the Firm

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What is a firm and why care?

Most of this course concerns companies or *firms*

- Bundles of individuals, assets and technology
- Treated as a coherent, usually profit-maximizing, individual
- Thus we will rarely look inside this black box
- But so central that today we'll study them internally
- We'll ask some basic questions that help us later
    1. What are firms as legal entities?
    2. What should and do firms maximize?
    3. What conflicts arise within firms to inhibit maximziation?
    4. How to govern and finance to minimize these conflicts?
    5. Why do firms exist at all? Why not just market?
    6. Theories of the role of firms
    7. Contractual alternatives to firms
    8. Does it matter if we call it a firm?

Legal types of firms

Firms come in six principle varieties (variations though)

1. Sole proprietorships
   - Most small business: mom and pop store, franchise
   - Just an extension of an individual, same responsibilities
2. Partnerships
   - Group of individuals with unlimited liability
   - Often professional groups (lawyers, accountants, etc.)
3. Privately-held corporations
   - More on corporations below, but these owned by few
4. Publicly-held corporations: trades on stock market
5. Non-profit/cooperative
   - Tax-exempt, cannot disperse profits, very regulated
   - Cooperative can disperse to customer or worker owners
6. State-owned: government run, uncommon in OECD

Basics of corporation law and finance

We will primarily focus on corporations, so a bit more depth

- Legal: what are defining features?
  1. Corporations have rights and responsibilities of individuals
  2. Chartered by states and granted *limited liability*
     - Only money *inside corporation* can be extracted
     - Owners not responsible for default, misdeed
  3. Must pay *corporation income tax*, unlike others
- Financial: two primary methods?
  1. Debt (bank or bonds): deductible interest
     - Corp. promises to pay, if doesn't default
     - Typically involves covenants, restrictions, etc.
  2. Equity: tax disadvantages
     - Shares receive dividends, voting rights, choose board
  3. Other methods: preferred shares, etc.

Legal protections of investors

Share-holders own company (dividends), but what control?

- If held by an individual, just limited liability
- Otherwise, series of legal protections
  1. Board of directors
     - "Chosen by" shareholders to defend their interests
  2. Voting rights
     - May vote to choose directors; often hard
     - Can also vote on other issues, like acquisitions
  3. Protections of minorities
     - Large share-holders legally prohibited from harming small
  4. Loyalty and legal actions against managers (lawsuits)
- We'll talk more about how well these work in last class
- Also protections of creditors (banks and bond-holders)
  - Can force into bankruptcy, take assets upon default
  - With banks loans, often covenants restrict behavior

The corporate social responsibility debate

Most of the course will assume firms maximize profits

- But is this what they really do, or should do?
- For the moment, assume owners want them to
  - Share holders can spend these profits however they want
- Should managers try to accomplish this goal?
  - "Corporate social responsibility" (CSR) types say no
    - "Responsibility" of corporation for externalities, social goals
  - Friedman forcefully argues against this view, why?
    1. Managers are agents: choose means not goals
    2. By pursuing social goals, managers impose on shareholders
    3. If externalities, isn't this the role of the state?
    4. If shareholders, isn't this the role of voluntary action?
    5. Unless helps sell to consumers, effectively stealing
  - Most economists sympathetic to Friedman
    - Unless executives take pay cut, not their job to judge

Stakeholders society v. shareholder value

However, some have made more modest claims:

- “Stakeholder Society” claims other stakeholders matter
  - Not distant externalities or social goals
  - Just those “direct” stakeholders like workers, consumers
- Some “cooperatives” directly make these owners
- Stakeholder society argues all firms should act this way
- Many (most?) economists skeptical of even this claim
  - Unlike shareholders, workers/consumers can exit if abused
  - Shareholders value is sunk once they have contributed
  - Thus, w/o ethical and legal protections, will be expropriated
  - While socially valuable to redistribute, do it elsewhere
  - Corporate law/governance to ensure financing
    - If shareholders don’t get their money back, will never invest

$\Longrightarrow$ Governance should protect (original) shareholders/profits

What do we mean by profits?

Naïve definition of profits is accounting: $P \cdot Q - C$

- In reality, things are much more complicated:
  1. Economic profits, not accounting profits, example?
     - If proprietor works there, this is an opportunity cost
     - Profits *per current shareholder*, not just growth
  2. Time and discounting
     - Profits later not worth as much today (discounting) but...
     - Also many things valuable in long-run hurt today
  3. Uncertainty
     - If uncertain, can only maximize expected profits
     - But even this isn't possible, because of risk attitudes
- Solution(?): stock market value
  - Not possible for privately held companies
  - Does the stock market reflect long-term value?
- Ideal: value to *original IPO shareholders*

Do shareholders agree on goals?

This is almost impossible to accomplish, though:

1. Profits versus other goals
   - Some shareholders may buy into CSR (or discrimination)
   - Common response: let them spend money they get back
2. Different perspectives on risk: why does this matter?
   - Some may prefer riskier or safer investments
   - What is risky and safe depends on other holdings
3. Classes of shareholders
   - Not all shares same, and may have different interests
   - Small problem at most companies, but major at some
4. Large holders: why might they be a problem?
   - Dominant shareholder may harm minorities
   - Protections of minority...or square root voting

Imperfect solutions: voting, buyouts...again more in last class

Why firms may not maximize profits

So much for normative side, what do companies actually do?

1. Non-profit corporations
   - Modest, but growing sector of economy
   - Even if don't maximize profits, do often care about income
2. Cooperatives
   - May partially incorporate consumer and worker value
   - However, income may be valued more by managers (below)
3. State-ownership
   - Governments legendarily inefficiency, loss-making
   - Depends heavily on management (car companies, banks)
4. Other shareholder goals: CSR, etc.
5. Failure of managers to serve shareholders faithfully
   - Primary focus below
   - Keep in mind: managers need income to waste it

The principal-agent problem

The *principal-agent problem* is ubiquitous in economics

- Simple example: going off to college
- Your parents want you to learn and you do too but...
    1. Maybe you also want to party a bit
        - So they may want to give you some incentive to do well
        - You may try to hide from them information about grades
    2. Maybe you want to study a different subject than they want
        - So you make them think it was too hard
    3. Maybe you want grad school, they want professional
        - You take classes that prepare you better if they don't know
- How can they persuade you to act in their interests?
- They need to give you freedom because you know facts
- But they also want some control so you don't go wild
- This is problem is crucial for companies as well

Principal-agent problems in corporate hierarchies

Managers have their own, not company's, interests

- And they employ managers who have own interests...
  - It's turtles all the way down
- This naturally leads to all sorts of sub-optimal behavior
  - More on this in a minute...
- Ideal situation is manager owner: why?
  - Usually impossible: separation of capital and talent
  - Could make him "residual claimant" but...
  - Risk-aversion, limited liability
- In countries where institutions not developed, use family
  - Nepotism, old boy's networks not necessarily insidious
  - But lack of formal incentives obviously limits social inclusion
- *Very general* problem in economics
  - We'll return many times, good warm up
  - As a result, I will be relatively brief, informal

Taxonomy of incentive schemes

Incentives essence of management; examples? Write down

1. Equity, stock options and other financial instruments
2. Vesting and deferred, contingent compensation
   - Includes personal liability and claw backs
3. Direct management, instructions, monitoring
4. Lawsuits and audits for misbehavior
5. Efficiency wages and firing v. promotion
6. Bonuses based on hard or soft information
7. Reputation and external career concerns
8. Identity, professionalism and corporate culture
9. Leadership, emotions and pressure
10. Intrinsic motivation, freedom and mission
11. Reciprocity, family ties, altruism and teamwork

Economist love hard incentives, but "market" supplies all these

Classic incentive problems of managers

Here are some of the problems these solve:

1. Embezzlement
    - Much more common than you think
    - Primary reason for security cameras, book-keeping
    - Big problem in developing countries
2. Shirking
    - Blatantly not working is simplest
    - But also not focusing, not preparing outside work
3. Excessive (or insufficient) risk-taking
    - Huge problem at all the Wall Street banks
    - Employees may get up, but not down, side
    - Or they may be too risk-averse relative to principal
    - How ambitious should the projects be?
4. Similar: short-termism

Important recent incentive problems

Other, less traditional, incentive issue popular recently

5. Empire building
    - Many managers are glory seekers (many reasons)
    - Often try to expand business in inefficient ways
    - Many studies show mergers are a waste
    - Which incentives work well against this?
6. Overstaying your welcome
    - Managers like control, jobs (even when should go)
    - May try to make themselves invaluable
    - Which incentives work best?
7. Multitasking
    - Some outcomes easier to manage than others
        - Soldiers paid based on number killed, can't check identity
    - Graph showing trade-off

Financial and other incentives in *Margin Call*

- *Margin Call* canvas for these to play out
- Some incentives we saw
  1. Reputation and career concerns?
     - Kevin Spacey, his team worried about clients
     - Create "code of ethics" to maintain this
     - But, in the end, sell this when value is greater
  2. Feeling of serving society/higher good?
     - Engineer who tabulates value of bridge
  3. Teamwork and loyalty ?
     - Group-based incentives for clearing books
  4. Financial incentives most important?
     - Every impediment overcome eventually by this
- Classic examples of "golden parachutes"?
  - Everyone paid enormously to leave, sit in room

Institutions and corporate finance

Many different ways to get funding for a company

1. Personal capital
   - Main source for very small companies
   - Also common for very rich individuals
2. Friends and family
   - Most start-ups begin with this source
3. Venture capital
   - Private equity investors
   - Eventually cash-out through public markets
   - Usually highly expert in relevant sector
4. Bank loans
5. Public equity
   - Usually requires intermediary to float, very costly
6. Corporate bonds

Incentive problems and corporate finance

Incentive benefits and costs

1. Personal capital
    - Pros: no principal-agent problem
    - Cons: large risk, small capital pool
2. Friends and family
    - Pros: reputation, altruism strong
    - Cons: small capital pool, large risk
3. Venture capital
    - Pros: Active monitoring, expertise, personal relationship
    - Cons: High risk, small capital pool (expensive)
4. Debt v. equity on problem set
5. Public bonds v. bank loans
    - Pros: More monitoring, covenants, saves from bankruptcy
    - Cons: Saving from bankruptcy dampens incentives

Why not let the market organize all activities?

Given all these problems, why have companies at all?

- Think of a GM assembly plant
- Why does it all need to be owned by GM?
- Couldn't GM subcontract tire attachment to a company?
- Another company could do the painting, etc.
- May sound unrealistic, but think about cafeterias
  - Outsourcing increasingly common in many areas
  - Workforces, tech support, computer services, etc.
- Wouldn't it be more efficient to ship everything out?
- Within firm, things more like command-and-control
  - If we believe price system works better...
  - Why not use it for every transaction?
- These questions called "boundaries of the firm"
- Rest of lecture will critically explore their relevance

Reasons for firms

Three prominent theories are:

1. Coase's theory of transaction costs
   - Costs of market: negotiation, contracting, taxation
   - Costs of firm: management, P-A problems
   - Optimal firm balances these
2. Williamson's version
   - Frequency and uncertainty make negotiation more likely
   - Asset specificity=inability to use investments elsewhere
   - More of these make integration more attractive
3. Property rights
   - Don't want to do work unless you have explicit control
   - Otherwise, other person will claim it was their idea at end

Other reasons as well

- Physical proximity, communication, culture, exclusivity

Contractual solutions

Yet there is a solution to these problems without firm

1. Avoiding negotiations
   - Have a long-term relationship!
   - A restaurant may be less flexible than personal chef but...
   - They do a lot to accomodate regulars
   - Thus frequency may actually favor separation??
2. Exclusivity
   - Many part suppliers only supply to one producer
   - Yet they are not part of same company
   - Contracts can substitute for acquisitions
   - Antitrust provisions may inhibit, however
3. Company towns and physical proximity
   - Microsoft has independent gym (but basically owns)
   - MAC apartments and restaurants in Hyde Park

Formal v. functional firms and organizations

This leads us to ask whether the distinction really matters

- Sure, close relationships likely to be in firms
- But possible outside and can be avoided inside
- What is "inside the firm" driven by many factors
- And things being inside v. outside may not much matter
- Thus firm is as a *model* (convenient fiction)
  - What matters is the set of *real economic relationships*
  - It may be legally useful when several exist, to call it a firm
  - But this is at best loosely correlated with what we mean
    1. Sometimes useful to decompose a legal firm
    2. Sometimes useful to think of cluster of firms as one
- Thus do not associate our firms too tightly with law
- What we really mean is a cluster of institutions which...
  - It isn't crazy to think roughly maximizes its joint profits