

UNIVERSITÉ PARIS 1 PANTHÉON - SORBONNE

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IAE
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**THEORIE ECONOMIQUE DE
 L'ENTREPRISE**

Séance 2.
 «L'approche Néo-institutionnelle.
 Propositions, tests et limites»

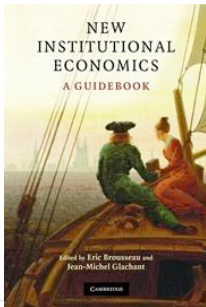
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Goal of this course

Focus on the theoretical framework of transaction cost economics developed by O.E. Williamson and its testable implications in terms of make or buy and contractual issues

1. Transaction cost economics and the make or buy issues
2. Transaction cost economics and hybrid forms


To know more:



NEW
 INSTITUTIONAL
 ECONOMICS
 A GUIDEBOOK

Edited by Eric Brousseau and
 Jean-Michel Glauzier

Cambridge



Stéphane Saussier
 Anne Yrlande-Billon

**Économie
 des coûts
 de transaction**

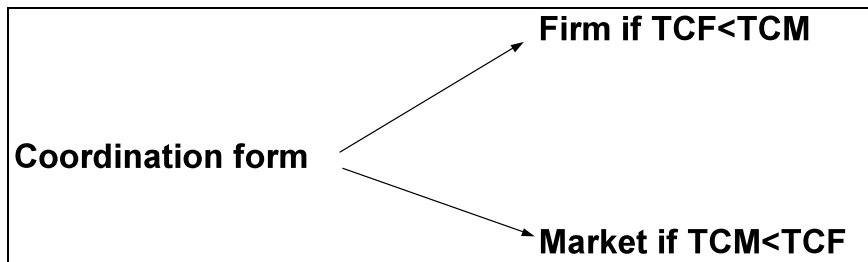
Collection
 REPERES

La Découverte

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HOW TO ORGANIZE TRANSACTIONS? (ReMind)

- A tautological view



- With
 - TCF: transaction costs in the firm
 - TCM: transaction costs on the market



1. Transaction Cost Economics: Oliver Williamson



Williamson O.E.
U. of California
Berkeley
1932 -

Context: Antitrust / should all vertical and horizontal integration be forbidden? What are the situations in which market is not acceptable?

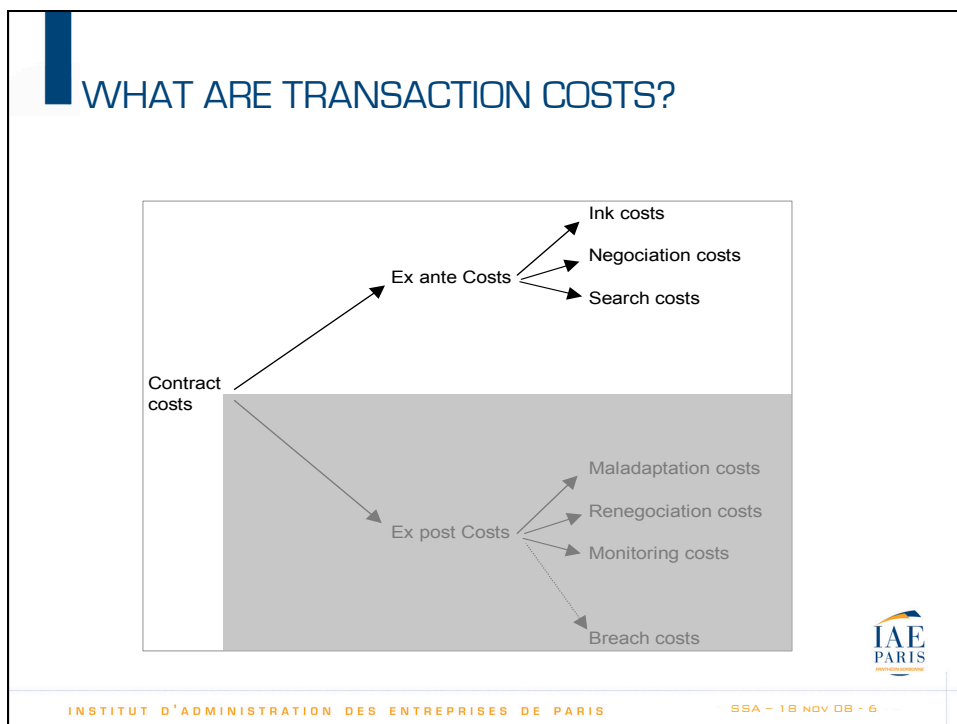
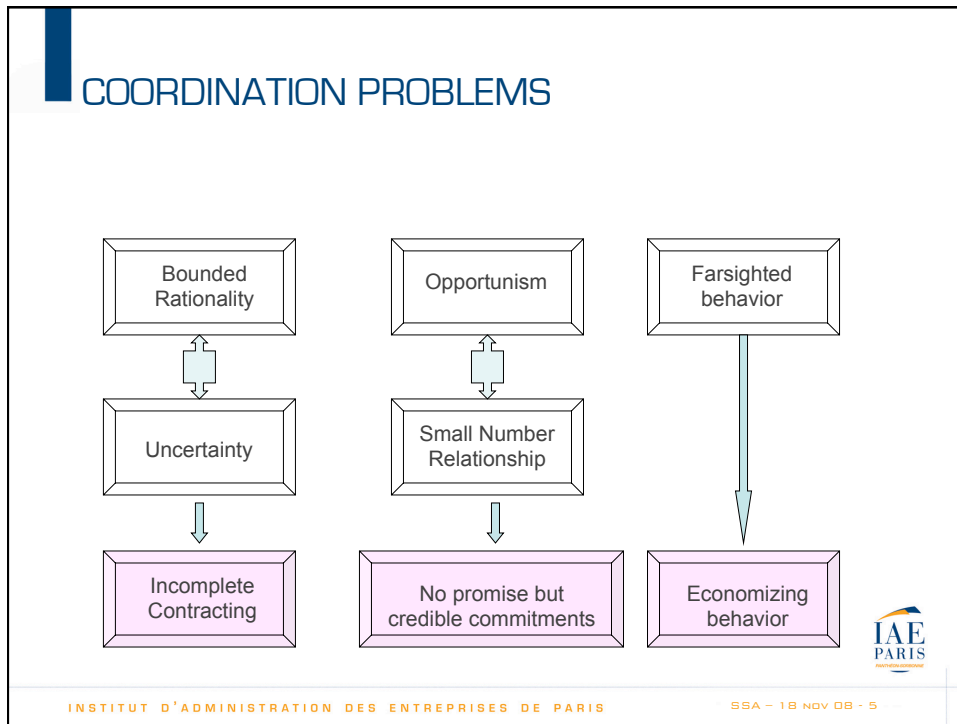
Behavioral Assumptions

- Bounded rationality
- Opportunism
- Farsighted behavior

Environmental assumptions

- Uncertainty
- Small number relations





What Are the Sources of Transaction Costs?

- Small number relationships and asset specificity
- *Site specificity, physical specificity, dedicated assets, human assets, brand name, temporal specificity*

- Bilateral dependency
- Quasi-rents

- Ex post transaction costs

- Uncertainty

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Make or buy? General propositions

Williamson 1971

| | | Characteristics of investments | | |
|---------------------------------------|------|--|---------------------|-----------------|
| | | Non Specific | Moderately Specific | Highly Specific |
| Uncertainty level around transactions | low | <div style="display: flex; justify-content: space-between; align-items: center;"> Market Firm </div> | | |
| | High | | | |

- The Fisher-Body Case (Klein-Crawford-Alchian 1978)
- Why don't we observe firms everywhere?

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Advantages and Drawbacks of Commercial Contracts

- **Comparative advantages**
 - Incentive contracts
 - “Market does not forgive”
 - “Market does not share benefits”
- **Comparative drawbacks**
 - Rigid contracts / uncertainty
 - Contracts where opportunism may emerge

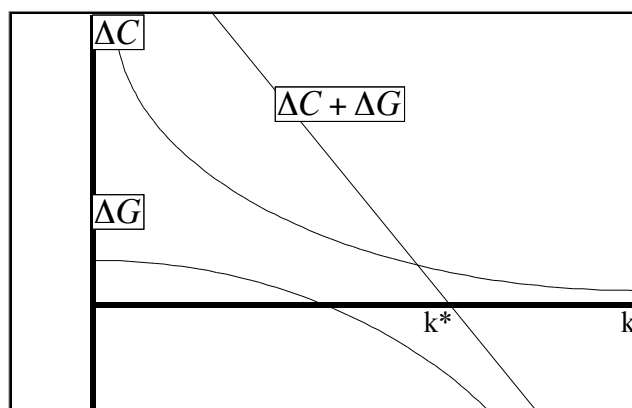


Advantages and Drawbacks of subordination contracts

- **Comparative advantages**
 - Flexible contracts
 - Opportunism is easy to manage
- **Comparative drawbacks**
 - Incentives are low
 - Impossibility of selective intervention



And what about production costs?



ΔC = Production costs in the firm - production costs on the market

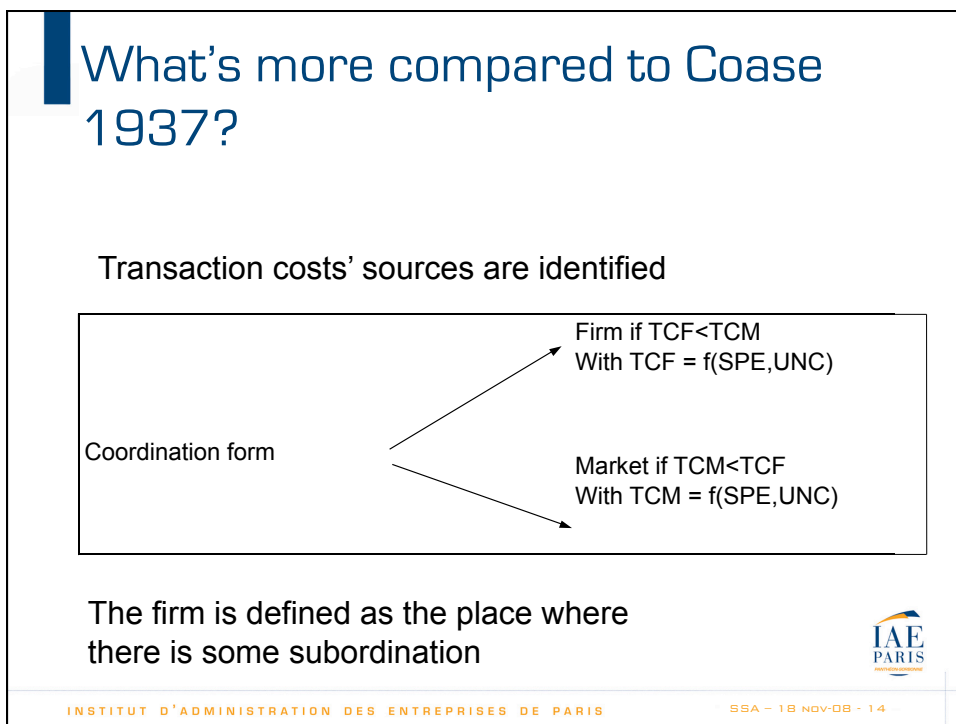
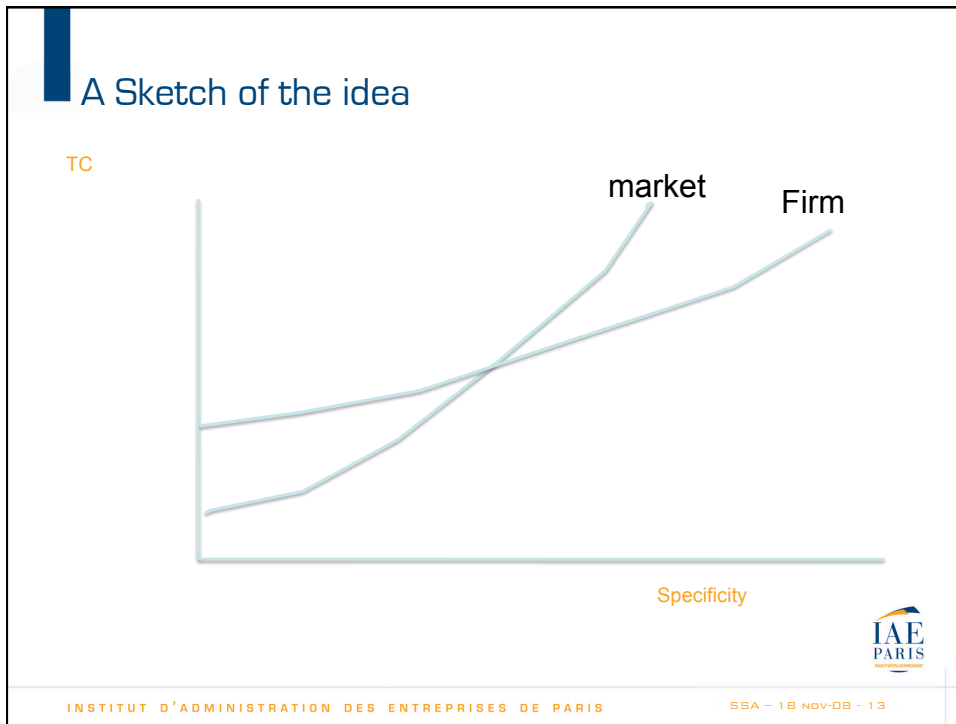
ΔG = Transaction costs in the firm - transaction costs on the market



What Implications?

- Never choose to integrate only for production cost considerations: market always do better!
- Only transaction cost considerations should drive the decision
 - Coase 1937 & 1960
- *"substantially the same factors that are ultimately responsible for market failures also explain failures of internal organization" (Williamson 1973, page 316; Williamson 1996).*





What Propositions?

- Proposition 1 : The more the transaction needs specific assets to be realized, the more probable externalization strategy will be difficult.
- Proposition 2 : The more the transaction is uncertain, the more externalization will be difficult, especially if the transaction necessitates specific investments.
- The two main propositions in the first generation of empirical tests of the NIE



SIMPLE TESTS

- Make or buy seen as a dichotomous choice

$$G = \begin{cases} Go & \text{si } Go < Gm \\ Gm & \text{si } Go \geq Gm \end{cases}$$

- Thanks to TCE we know that:

$$Go = \alpha X + e$$

$$Gm = \beta Z + \mu$$



SIMPLE TESTS

- The probability to observe Go is given by:

$$P(Go < Gm) = P(e - \mu < \beta Z - \alpha X)$$

- With qualitative models (probit), we do not estimate β and α but

$$(\beta_k - \alpha_k) / \sigma$$

- What can you conclude with a positive coefficient concerning β_k and α_k ?



Are Transaction Costs So Important? Masten-Meehan-Snyder JLEO [1991]



Scott E. Masten
U. of Michigan
Business School

- Studied transactions : sample of tasks and components from a large naval shipbuilder
- Data : collected through questionnaires
- Specific data concerning transaction costs if the transaction is realized in the firm:
 - Costs of internal organization as the number of hours devoted by management to planning, directing and supervising a particular component.
- No data concerning the transaction costs of externalized transactions
- Logit and Heckman estimations



Are Transaction Costs So Important? Masten-Meehan-Snyder JLEO [1991]



Scott E. Masten
U. of Michigan
Business School

$$G_o = \alpha X + e \quad \text{if } G_o < G_m \text{ si } (e - \mu < \beta Z - \alpha X)$$

$$G = G_m = \beta Z + \mu \quad \text{if } G_o \geq G_m$$

• With

- G_m = Transaction costs on market – non available ;
- G_o = Transaction costs in organization - available.



Are Transaction Costs So Important? Masten-Meehan-Snyder JLEO [1991]



Scott E. Masten
U. of Michigan
Business School

- OLS estimates lead to bias:

$$G_o(\text{ols}) = \alpha X + E(e | G = G_o)$$

- But if G_m and G_o are chosen depending on transaction characteristics then:

$$E(e | G = G_o) = E(e | e - \mu < \beta Z - \alpha X) = -\sigma_1 \left(\frac{f(\beta Z - \alpha X)}{F(\beta Z - \alpha X)} \right)$$



Are Transaction Costs So Important? Masten-Meehan-Snyder JLEO [1991]



Scott E. Masten
U. of Michigan
Business School

- Two steps estimates.
 - A probit on organizational choices

$$(\beta_k - \alpha_k) / \sigma$$

- Then, OLS estimates with Mills ratio coming from step 1.
- Conditions under which it is identifiable:
 - One variable in X not in Z
 - Mco gives you the α s
 - Logit gives you sigma
 - Then β s are inferred as well as Gm!

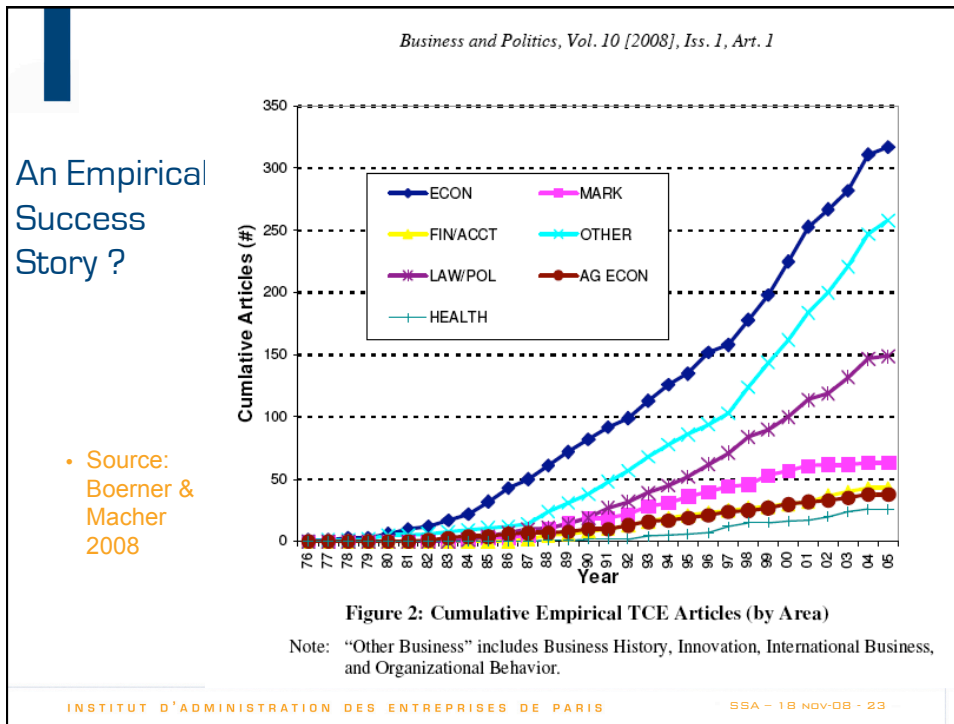


Results of the Study

- A good explanation of observed decisions
- An estimation of the costs of a mistake

| | Make items | Buy items | Total |
|---|-------------|-----------|-----------|
| Estimated Costs | \$1 863 620 | 1 717 710 | 3 581 330 |
| Costs if all components made internally | 1 863 620 | 2 945 930 | 4 809 260 |
| Costs if all components subcontracted | 5 435 200 | 1 717 710 | 7 155 060 |





2. Markets for What Range of Transactions? A refinement of contracts

- Asset specificity
- Uncertainty
- (Non-verifiability)

*Possible
Opportunism*

- ⇒ Classical contracts where market restrains opportunism
- ⇒ Neoclassical contracts where safeguards restrains opportunism

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Contract types: A lawyer typology

What is a classical contract?

- Identity of the parties is irrelevant
- No dependency relation
- formal contracts / short term contracts

What is a neoclassical contract?

- Identity matters
- Maintained autonomy, but bilateral dependency
- Elastic contracting mechanism / long term relationships
- **Safeguards are implemented**



Contractual Safeguards

- **No promises but:**
 - Incentives provisions: take or pay
 - Provision to generate adaptability: price index, ...
 - Hostages to generate trust and adaptation
 - "Ugly princess" if possible
 - Authority (Ang & Beath [1993])
 - Contractual provisions that do not look like what they are (Masten [1998]).
 - ...



Make or buy: Revisited Propositions (1)

- Williamson 1991, ASQ

| | | Characteristics of investments | | |
|---------------------------------------|------|--------------------------------|------------------------|-----------------|
| | | Non Specific | Moderately Specific | Highly Specific |
| Uncertainty level around transactions | low | Market | Neoclassical Contracts | |
| | High | | Firm | |

With frequency high

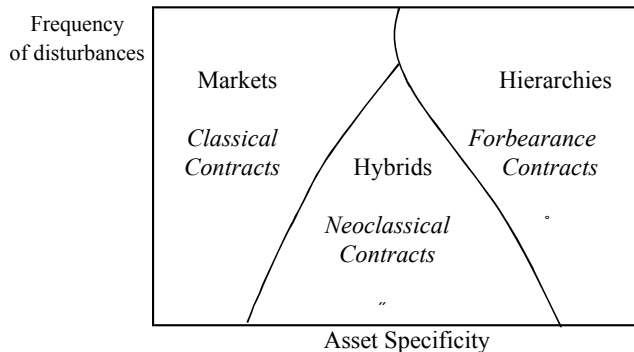
« Whereas I was earlier of the view that transactions of the middle kind were very difficult to organize and hence unstable, I am now persuaded that transactions in the middle range are much more common » (Williamson [1985], page 89).



Make or buy: revisited propositions (2)

- Williamson 1991, ASQ

The choice of governance structures



With HI for high incentives, MI for middle incentives and LI for low incentives.



A New Definition of what Is a Firm

- Coase 1937: authority is what distinguishes firms from market
- We now have three governance structures:
 - Firms
 - Markets
 - Hybrids
- Each form has its own coordination modalities: contracts, authority and/or subordination.



Main Proposition

- The more uncertain the environment and the harder it is to accommodate changing circumstances within the contract, the more likely it will be that parties will sacrifice the precision and ease of implementation of definite contract terms for more cumbersome but flexible «relational» contract terms that define performance obligations less precisely or establish procedures for negotiating adjustments in the terms of trade within the contract.

⇒ *Flexible contract vs secure contract*



Transaction Cost Theory's Propositions Regarding Contractual Arrangements

• Contract duration

- The more specific investments are needed for a transaction, the longer should be the contract
- The more uncertain is the transaction, the shorter should be the contract

• Contract design

- The more specific investments are needed for a transaction, the more complete should be the contract
- The more uncertain is the transaction, the more incomplete should be the contract



One Example: Contract Duration

• Benefits of long term contracting:

- Reduction in the cost of repeated bargaining
- Greater willingness of transactors to take actions whose value is conditional on the other party's performance

• Drawbacks of long term contracting

- costs of anticipating, devising optimal responses to, and specifying future contingencies (formation costs)
- the losses associated with efforts to enforce, evade, or force a renegotiation of the contract's terms and the «maladaptation» costs of failing adjust to changing circumstances (execution costs)



One Example: Contract Duration

- Benefits of long term contracting increase with asset specificity needed to realize the transaction (need to secure the transaction)
- Drawbacks of long term contracting increase with the complexity of the transaction and uncertainty (need for a flexible contract)

⇒ Contract Duration = f (Asset specificity ; Uncertainty)
 (+) (-)



Empirical Evidences

- Contract Duration
 - Joskow 1987 (AER)
 - Crocker and Masten 1988 (RJE)
 - Saussier 1999 (LER)
- Price Provisions:
 - Joskow 1988 (RJE)
 - Masten & Crocker 1985 (AER)
- Incompleteness level:
 - Crocker-Reynolds 1993 (RJE)
 - Saussier 2000 (JEBO)



One example: Joskow 1987 AER

- Issue: Duration of coal contracts signed in the US (277 contracts)
- Used variables: proxies
 - Duration of the relationships: duration of contracts
 - Dedicated assets: contracted quantities
 - Physical specificity: geographical areas
 - Site specificity: dummy variable reflecting reflecting the mine and the plant are side by side
 - Uncertainty: ?
- Methodology: OLS
- Results: asset specificity needed to realize a contract and contract duration are highly correlated
- Limits



Conclusions

- TCE is an “empirical success story” Williamson 1996
 - To be checked
 - Why is it needed then?
- **Other strategic motivations for vertical integration!**
- Limitation of the range of data that may be used to corroborate TCT
 - Competition and test of time

