15th session of the Institutional and Organizational Economics Academy (ex-ESNIE)
May 2016, Corsica, France

Governance and Control Systems in Organizations

Mircea Epure
Universitat Pompeu Fabra and Barcelona Graduate School of Economics
mircea.epure@upf.edu

Overview

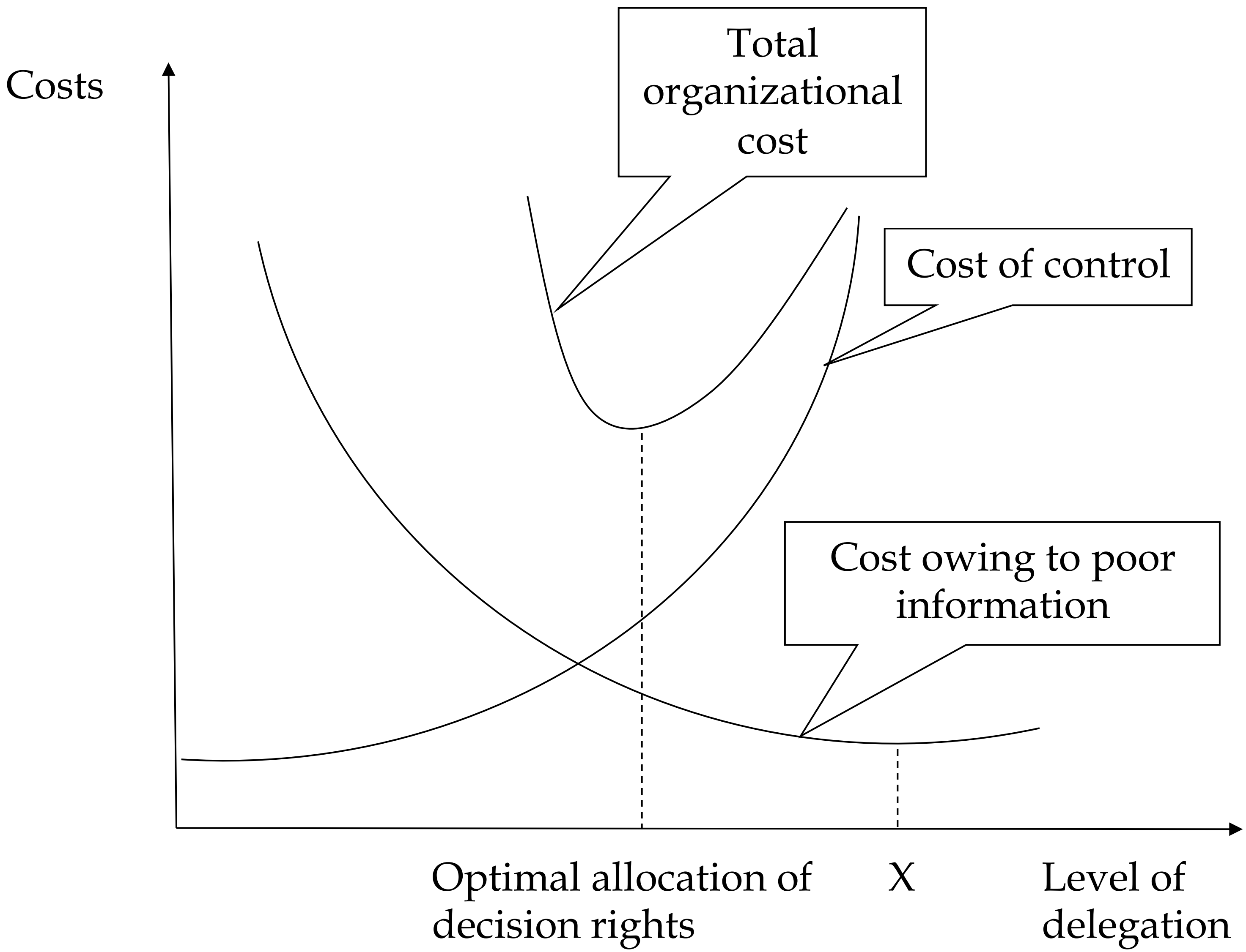
- This workshop focuses on firm governance and control in contexts with asymmetric, specific information: *the fundamental problem for economic organization*.

- Topics
  - control systems in decentralized firms
  - compensation and evaluation in business units
  - key function of start-ups' capital structure for control systems and attracting outside investments

Organizations and Markets

	Allocation	*Valuation*	*Compensation*
Market	Property rights	Changes in prices	Via property
Organization	Decision rights	Artificial: performance evaluation	Incentive systems
Differences	Alienability	Natural / Artificial	Discrete, incomplete

Information and Agency
(adapted from Jensen and Meckling 1992)



Balancing two types of costs

- Information cost
  - cost of producing and transmitting necessary and relevant information for decision making, or
  - cost of deciding with insufficient information

- Control cost
  - cost of aligning interests or
  - cost of unaligned interests

Determinants of control systems in divizionalized firms
(Main reading: Abernethy, Bouwens and van Lent TAR 2004)

- Main issue: simultaneity of the *endogenous choices* that determine control systems in *(or delegation in general)*
  - Decentralization (see Jensen and Meckling 1992; Melumad et al. JAE 2002; Milgrom and Roberts 1992; Aghion and Tirole JPE 1997)
  - Use of performance measures (see Ittner and Larker JAE 2001)

- Two (many studies assume *exogenous*) determinants of the choices:
  - Information asymmetry between corporate and divisional managers
  - Division interdependencies

Determinants of divisional performance measures

- Decentralization
  - Problems related to control → allocation of authority to division-corporate managers
  - → Increase in decentralization → divisional summary measures to measure performance
- Information asymmetry
  - Double edge sword of specific information use
  - Transaction costs? Agency? → Dysfunctional behavior
- Interdependencies
  - Transfer pricing: MC set at opportunity cost → difficult with specific information
  - (1) division is influenced by other; (2) division influences other
  - Negative relationship with decentralization
- Other factors: sensitivity and precision of performance measures…

Determinants of decentralization

- Use of divisional summary measures
  - Strong theoretical support that DSM and decentralization are complementary
  - Decentralization positively related to control → problems of specific information

- Information asymmetry
  - Separable from previous set of determinants for DSM?
  - Delegate more if divisional managers possess specific knowledge; less if unable to control or align incentives → positive relation (linear, non-linear?)

- Interdependencies
  - Negative externality when decision making is decentralized

  → local optimum diff. global optimum → negative relation

- Other factors:
  - Growth opportunities, size
  - Ability of managers, corporate culture, trust between corporate and divisional managers
  - Moral hazard effects on decentralization choices → higher with size and inf. asym.

Data and usual econometrics

- Survey data (usually)

- Abernethy et al. (2004: 548, 556), and other similar analyses in accounting, use simultaneous equations models to account for the endogenous choices
  - Divisional summary measures (DSMs) = f(decentralization, information asymmetry, interdependencies, control variables)
  - Decentralization = f(DSMs, information asymmetry, interdependencies, control variables)

- Potential issues
  - operationalization
  - measurement error
  - causality
  - omitted variables

Findings (usually) partially support theory

- Abernethy et al. (TAR 2004) find and post hoc argue that
  - Delegation increases DSM use, but DSM use unrelated to decentralization level
    - causal? → makes sense, but how to better identify?
  - Information asymmetry no sig influence on use of DSM
    - contrary to theorizing → no direct influence, but through the allocation of decision rights → in line with Jensen and Meckling (1992)
  - Divisional interdependencies positively for IMPACT-YOU, and negatively related to DSM for IMPACT-THEM
    - negative sign for IMPCAT-THEM is in line with Holmstrom's (1979) informativness hypothesis
  - With large information asymmetry and size (moral hazard potentially high), positive relation between information asymmetry and decentralization
  - Interdependencies negatively associated with decentralization

One important takeaway

- There's only so much mileage on performance measures
- Some solutions to use benchmarking to reduce noise and effects of random factors:
  - efficiency and productivity literature (Balk JPA 2003)
  - management accounting & control (Ittner and Larcker AOS 1997; Agrell et al. IJPE 2002)
  - principal agent models (Antle et al. JAPP 2001; Bogetoft and Olesen AJAgE 2003)
- Others focus on the importance of the context (see review in Chenhall AOS 2003).
- Yet another stream of literature focuses on incentive provision and attracting and retaining employees with aligned incentives →

Compensation Objectives and Business Unit Pay Strategy

(Main reading: Gerakos, Ittner and Moers 2013)

- Key concepts in the paper / literature:
  - Attraction, retention and incentive objectives
  - Cash vs. non-cash (benefits)
  - Efficiency wages
  - Tournaments
  - Quasi rents
  - Risk allocation (e.g. variable pay, stock options, stock grants)
  - Complementarity / substitution between pay components
- Easy to read review paper: Lazear and Shaw (JEP 2007)

Cash pay and performance

- Efficiency wages (Shapiro & Stiglitz AER 1984; Yellen AER 1984) are mostly linked to incentives, but to all components in *tournaments* (see Lazear and Shaw JEP 2007).

- However Gerakos et al. (2013) argue that efficiency wages are only related to attraction and retention but not to incentive objectives.

- Context dependent: at individual (ability, risk attitude, efficacy) and firm level (internal labor market, industry, competition….).
  - Armstrong, Ittner, and Larcker (2014) take a good shot at this issue with proprietary data for firm employees for 408,816 employees in 153 distinct firms.

- Gender differences: Niederle and Vesterlund (QJE 2007): 73% men select tournament, only 35% women. Not explained by performance, risk, etc. but by overconfidence and preferences for performance (see Azmat and Ferrer JPE 2016)

- Newer financial economics studies attempt to explain "residuals" via corporate culture (see, e.g, Guiso, Sapienza, Zingales JFE 2015).

Variable versus fixed pay

- Behavioral economics suggests that the attraction effects of variable pay dominate any incentive effects (see review paper Fehr and Falk (EER 2002)).

- Psychology studies of individual characteristics (risk attitude) and some sorting and matching models link variable pay to attracting and retaining employees.

- Some of these studies attempt to contradict the agency model with unobservable effort and participation and incentive compatibility constraints.
  - The baseline agency model might have an disproportional focus on the transaction cost via risk.

- Gerakos et al. (2013) successfully argue that variable cash pay is positively associated with incentive objectives (and not with attraction and retention).

Benefits and stock

- Sorting and matching, hedonic wage models relate benefits to attracting.
- This is sometimes a myopic view. Effect may be larger on the retention side.
  - Many benefits are non portable, associated to less risk taking employees
  - Linked to specific investment in the firm, or in the (geographical) area
- *We still know little* to what extent *firms design* benefits to retain workers.
- Structure of civil servants or sectors with collective bargaining with high benefits and entry barriers, but very little mobility ex post contracting
  - See, e.g., air traffic controllers (in Spain): a mix between above market pay and benefits
- Stock and stock option grants are more directly linked to incentives and retention
  - KFS data show that even start-ups use them, although not consistently

Findings (usually) partially support theory

- Gerakos et al. (2013) study 173 European business units (each belonging to a different firm) and argue against some mainstream "beliefs". Main findings:
  - Attraction, retention, and incentive objectives are all positively related to the provision of higher relative cash pay levels.
  - % of workers eligible for variable cash pay is only associated with incentive objectives.
  - Corroborates benefits' effect for retention purposes less for attraction or incentives.
  - Broad based stock option grant eligibility is positively associated with incentive and attraction purposes, but negatively associated with retention objective.
  - Stock grant eligibility is positively associated with incentive objectives, but has little relation to either attraction or retention objectives.
  - National labor market, regulatory, and tax differences are associated with the use of the various pay elements, but do not subsume the associations with the organization's internal attraction, retention, and incentive objectives.

Start-ups

- Start-ups usually have no formal control systems when the entrepreneur manages the firm...

- Control is formalized when outside investors (e.g., VCs) inject equity (see, e.g, Davila and Foster TAR 2007).

- From a governance perspective, the entrepreneur might be reluctant to give up (part of) the control of the firm.

- From a capital markets perspective, formalizing control usually caused by outside equity injections favors profitability and efficiency oriented practices.

Attracting early-stage investors: Is debt a deterrent or an incentive?

[check author website for updates on paper status]

Mircea Epure **Martí Guasch**

Universitat Pompeu Fabra and Barcelona GSE