Employee-owned firms
Why and how

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Employee-owned firms (EOFs)

– Going by various names
– Varying design features
– Diverse forms of legal incorporation
– Diverse motivations, needs and ideologies
– **Key common feature**
  • *Members work, own, decide and profit together*
    – A majority or only a minority of workers are “members”
    – Coops, ESOPs, professional partnerships
      » law, medicine, engineering, design, transportation, etc., possibly with hired workers
– EOFs are few relative to conventional firms (CFs)
Which is the greater puzzle?

1. There are few employee-owned firms

2. Employee-owned firms exist
Broad answers to the puzzles

1. There are **few** employee-owned firms

   Because all is good without them...

2. Employee-owned firms **exist**

   Despite substantial obstacles to starting and running EOFs
   Because they do good...
The contrasting worlds of **Leibnitz vs. More**

- **The Best of All Possible Worlds, 1710** [“we live in it”]
- **On the Best State of a Republic and on the New Island of Utopia, 1516** [“to aspire to”]

• “The world is a concave function, and we’re on the peak…>

“A map of the world that does not include Utopia is not worth even glancing at...” Oscar Wilde, 1891
Contrasting worlds of economics

**World 1: Koopmans et al.**

*Separating hyperplane theorem: convex sets*

- Robinson Crusoe can make effective separate decisions on production, work and consumption
  - All parties maximize their respective objective functions
  - No need to combine decision-making of different parties
  - **No need for EOFs, vertical integration, nonprofits, etc.**
  - Convexity holds for private goods, perfect information and no market power
  - The basis of mainstream neoclassical economics
  - Martin Weitzman 2000

**World 2: Coase, Dreze, Williamson**

- Integration of decision-making (ownership) may be beneficial to prevent exploitation and generate trust under canonical market failures
  - Asymmetric information
  - Public good aspects
  - Few actors
    - [contract, enforcement etc. problems]
- Coase, Ronald "The nature of the firm." *Economica* (1937)
### Between Leibnitz & More

- I majored in philosophy and economics and wanted to do both: loved Leibnitz & More
- I was exposed to worker and consumer ownership in the Israeli kibbutz
- Learned about worker self-management in Yugoslavia as an AIESEC intern
- Wrote an MA thesis on the instability of the Yugoslav system
  - The feasibility of planned market systems: The Yugoslav visible hand and negotiated planning
  - A Ben-Ner, E Neuberger - Journal of Comparative Economics, 1990

### Between Koopmans & Coase/Dreze

- Loved theory – both Koopmans & Dreze - but cared about concrete phenomena
  - Between the clarity of theory and messiness of organizations
- Went to Stony Brook to write Ph.D. thesis on Yugoslavia but my advisor discouraged me (“Yugoslavia won’t last long”)
- So I switched to the kibbutz: *The Experiment that Did Not Fail* (Martin Buber 1956)
The Kibbutz: production + consumption coop

• On the production side, I theorized that the incentive to employ hired labor in successful coops will lead to replacement of departing members with cheaper hired workers, leading to their conversion to conventional firms (CFs) On the stability of the cooperative type of organization, A Ben-Ner - Journal of Comparative Economics, 1984

• On the consumption side, I theorized that increased exposure to broader social norms will lead to reduction of collective consumption in favor of private consumption Preferences in a Communal Economic System, A Ben-Ner - Economica, 1987

Evidence?
In the late 1980s I studied the birth and death of all American communes, 1750-1920
never tried to publish the work
Moved on
Studying EOFs

- Moved on to study origins, life cycle, demise, organization design, individual motivation, collective action, and performance of EOFs (and nonprofits) compared to CFs
- These aspects are intertwined and depend on many external factors
- Work with collaborators
Theoretical perspective on EOFs

• EOFs are instances of **vertical integration**
  – *separate parties come under one decision-maker and ownership*

• Integration internalizes costs arising from conflict of interest between parties under asymmetric information, public good aspects, few actors

• Similar instances:
  – A factory owns the fishing operating downstream or vice versa
  – A manufacturer owning the parts supplier or vice versa

• Similar but with a difference: cannot own humans

• Consumers can own the store – **but not** vice versa
• Employees can own the firm, **but not** vice versa
Asymmetric information, public good aspects and few actors (market power) – and remedies

• **Extremely common circumstances**

• *Integration of parties – widespread but not always selected*
  – Because integration is costly
    • Increased organization size, agency problems

• **EOFs much less common**

• Consider first a situation where all actors are *self interested*
  – No solidarity
  – Just a job
Advantages/disadvantages: EOFs vs. CFs

- The differences are contingent on many factors
- Start with general, then contingent factors
Advantages & disadvantages, EOFs vs. CFs: general

EOFs may be better than CFs at dealing with AI, public aspects, power:
- Internalization of conflict between owners and workers
- Employees and management have fewer incentives to take advantage of asymmetric information
- Employees can voice preferences about public aspects (compensation, workplace conditions) without concern of being exploited

EOFs may be worse than CFs at dealing with organization design:
- Diffuse responsibility in decision-making
- Free riding in work, mutual monitoring, managing, starting a firm
- Accountability of managers to employees makes less effective managers
- Complex organization design – difficult to manage
- Risk aversion – lower investment
- Access to funds (capital) limited
- Awareness of EOFs
Contingent EOF (dis)advantages: *best EOF conditions*

<table>
<thead>
<tr>
<th>EOFs advantages large when market failures are significant</th>
<th>EOFs disadvantages small when workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Weak workplace regulations</td>
<td>– <em>Share common bonds –</em></td>
</tr>
<tr>
<td>– Weak unions (partial substitute)</td>
<td><em>solidarity, altruism-</em></td>
</tr>
<tr>
<td>– Distrust between employers and workers</td>
<td><em>prosociality: reduced free</em></td>
</tr>
<tr>
<td>– Few employers</td>
<td><em>riding</em></td>
</tr>
<tr>
<td>– Economic downturn in a firm’s industry (AI)</td>
<td>– EOF traditions – awareness</td>
</tr>
<tr>
<td></td>
<td>– Funding</td>
</tr>
<tr>
<td></td>
<td>– EOF knowledge – of relevant</td>
</tr>
<tr>
<td></td>
<td>organization design</td>
</tr>
</tbody>
</table>
There are also *poor* conditions for EOFs

**Turnover**

- From enthusiastic workers at the start of a new venture, with solidarity, mutual concern, after they retire to
  - new employees: “just a job”
- High performers move to higher paid jobs

**Investment opportunities**

- Better returns from investing in the market than in the company
  - Underinvestment, not competitive
But it is not simply destiny

- Thoughtful choices make a difference
Illustrations from my work

- **Design: Balanced practices, majority employee ownership**
  Employee participation, ownership, and productivity: A theoretical framework, A Ben-Ner, DC Jones - *Industrial Relations*, 1995

- **Asymmetric information and economics stress: buyout by employees**

- **The more complex the jobs, the more reliance on employee ownership**

- **The more reliance on employee ownership, the more complex the design**

- **Evidence on performance and design** Ben-Ner and Lluis 2011

- **Mutual monitoring not a general solution to shirking with selfish employees**
  The contributions of behavioural economics to understanding and advancing the sustainability of worker cooperatives, A Ben-Ner, M Ellman – *J. of entrepreneurial and organizational diversity*, 2013

- **Peer pressure does not eliminate free riding** Effort and Peer Pressure in Teams: Experimental Evidence, A Ben-Ner, L Putterman, Y Wang WP 2019
# Typology of Employee Ownership According to Control and Return Rights and Examples

<table>
<thead>
<tr>
<th>Return Rights Held by Employees</th>
<th>Control Rights Held by Employees</th>
<th>Participation in Control</th>
<th>Sharing of Control</th>
<th>Dominant Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>OA₁ Conventional firms</td>
<td>None</td>
<td>OA₂ Quality circles involving majority of workers</td>
<td>OA₄ British Industrial Common Ownership, e.g., Scott Bader</td>
</tr>
<tr>
<td>Small</td>
<td>OA₅ Profit sharing: ESOPS, e.g., Occidental Petroleum; Kimberly Clark</td>
<td>OA₆ Profit sharing with participation programs</td>
<td>OA₇ Co-determination with another program; e.g., in Sweden co-determination sometimes exists with convertibles</td>
<td>OA₈ British Retail Coops*</td>
</tr>
<tr>
<td>Moderate</td>
<td>OA₉ ESOPS, e.g., Proctor and Gamble, Corning, Rucker Plans</td>
<td>OA₁₀ Scanlon Plans, John Lewis; Lincoln Electronics, Polaroid, Japanese Mfg</td>
<td>OA₁¹ Producer Cooperatives, e.g., U K Clothing Denmark</td>
<td>OA₁₂ Producer Cooperatives, e.g., U K footwear</td>
</tr>
<tr>
<td>Majority</td>
<td>OA₁₃ ESOPS, e.g., Vermont Asbestos; Harcourt, Brace and Ivanovich, Lincoln S &amp; L</td>
<td>OA₁₄ ESOPS, e.g., Brooks Camera, Hyatt Clark, Ruddick</td>
<td>OA₁₅ ESOPS, e.g., Weirton Steel, Rath, French building PCs</td>
<td>OA₁₆ Producer Cooperatives, e.g., Mondragon, Italy, French Consulting, U.S. Plywood</td>
</tr>
</tbody>
</table>

*back*
Employee ownership and managerial complexity

<table>
<thead>
<tr>
<th>Financial Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Traditional system</td>
</tr>
<tr>
<td>Little worker autonomy; Fixed wages</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Decision-making system</td>
</tr>
<tr>
<td>Employee involvement in decision-making (e.g., work teams)</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>High-performance system</td>
</tr>
<tr>
<td>Group incentives and employee involvement</td>
</tr>
</tbody>
</table>

Complexity

Decision-making involvement

No

Yes
No decision-making = too few observations
To ensure limited shirking and mutual monitoring

- Low emotional cost of telling on co-workers
- Concern for co-workers, justifying the effort of observation and reporting shirkers
- Concern for fairness (process and results)
- Restraint (self-control) in making observations and reporting
- Conditional cooperation to support a good equilibrium

Viability of EOFs depends on employees
Experimental evidence

- The literature argues that peer pressure may ameliorate or eliminate free riding. We study two channels. (1) the pressure individuals experience from comparing their performance to that of their peers, and (2) receiving positive or negative feedback from peers. Findings.
- Social comparison produces opposite effects for stronger and weaker performers
- Negative feedback induces greater effort from lower performers, but is rarely given.
- Prosocial subjects provide more effort.
- The average output with group incentives and peer pressure is comparable to the average output when subjects receive individual incentives (and no peer pressure).
Table 2d  
Team delegation, monitoring, internal labor markets (employment security, promotions or team training), and firm-level incentives (cash profit sharing)  

<table>
<thead>
<tr>
<th></th>
<th>Team delegation</th>
<th>Monitoring</th>
<th>ILM – employment security</th>
<th>Cash profit sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal uncertainty</td>
<td>0.147*** (0.057)</td>
<td>−0.141*** (0.049)</td>
<td>0.064 (0.079)</td>
<td>0.008 (0.048)</td>
</tr>
<tr>
<td>External uncertainty</td>
<td>0.070 (0.059)</td>
<td>−0.036 (0.049)</td>
<td>0.040 (0.057)</td>
<td>0.043 (0.053)</td>
</tr>
<tr>
<td>Team delegation</td>
<td>−</td>
<td>0.221 (0.914)</td>
<td>1.183 (1.729)</td>
<td>0.873*** (0.426)</td>
</tr>
<tr>
<td>Employment security</td>
<td>−</td>
<td>−</td>
<td>1.311*** (0.297)</td>
<td>0.483 (0.330)</td>
</tr>
<tr>
<td>Joint test of significance of ( \rho_y ) (p-value)</td>
<td></td>
<td></td>
<td></td>
<td>17.84 (0.000)</td>
</tr>
<tr>
<td>Log pseudolikelihood</td>
<td></td>
<td></td>
<td></td>
<td>−608.52</td>
</tr>
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<table>
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<tr>
<td>Internal uncertainty</td>
<td>0.150*** (0.051)</td>
<td>−0.162*** (0.045)</td>
<td>0.082 (0.056)</td>
<td>−0.052 (0.046)</td>
</tr>
<tr>
<td>External uncertainty</td>
<td>0.093* (0.063)</td>
<td>−0.028 (0.054)</td>
<td>−0.133*** (0.061)</td>
<td>0.062 (0.053)</td>
</tr>
<tr>
<td>Team delegation</td>
<td>−</td>
<td>0.425 (0.453)</td>
<td>0.909 (0.643)</td>
<td>0.831*** (0.463)</td>
</tr>
<tr>
<td>Monitoring</td>
<td>−</td>
<td>−</td>
<td>−0.198 (0.397)</td>
<td>−0.123 (0.387)</td>
</tr>
<tr>
<td>Promotions</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>0.804*** (0.346)</td>
</tr>
<tr>
<td>Joint test of significance of ( \rho_y ) (p-value)</td>
<td></td>
<td></td>
<td></td>
<td>15.38 (0.017)</td>
</tr>
<tr>
<td>Log pseudolikelihood</td>
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<td>−585.14</td>
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<tr>
<td>Internal uncertainty</td>
<td>0.149*** (0.053)</td>
<td>−0.165*** (0.046)</td>
<td>0.168*** (0.064)</td>
<td>−0.033 (0.110)</td>
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<td>External uncertainty</td>
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<td>0.035 (0.051)</td>
</tr>
<tr>
<td>Team delegation</td>
<td>−</td>
<td>0.410 (0.663)</td>
<td>0.434 (1.350)</td>
<td>0.967*** (0.374)</td>
</tr>
<tr>
<td>Monitoring</td>
<td>−</td>
<td>−</td>
<td>0.509 (0.641)</td>
<td>0.189 (0.969)</td>
</tr>
<tr>
<td>Team training</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>0.512 (0.955)</td>
</tr>
<tr>
<td>Joint test of significance of ( \rho_y ) (p-value)</td>
<td></td>
<td></td>
<td></td>
<td>10.88 (0.092)</td>
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<tr>
<td>Log pseudolikelihood</td>
<td></td>
<td></td>
<td></td>
<td>−643.37</td>
</tr>
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</table>
Why are some firms purchased by their employees?

- The paper explores this question theoretically, suggesting that employees may attempt to overcome their informational handicap regarding firm profitability by making demands on wages and offer a purchase price for the firm.
- Owners of relatively unprofitable firms will tend to sell out for low prices instead of paying high wages, whereas owners of profitable firms will prefer to pay high wages over receiving low firm prices; the buyout serves as a screening mechanism.
Some lessons

- EOFs often start with enthusiasm born of successful
  overcoming of challenges and sacrifices
- When normalcy sets in, challenges grow
- Successful EOFs tend to cash in on success, transforming into
  partnerships and CFs
- Unsuccessful EOFs convert or go out of business
- EOFs are vulnerable organizations
- Careful design, recruiting and fostering an EOF-specific culture
  are essential to viability
- Finding niches where advantages are large and disadvantages
  small: critical to success
One eye on the past, one eye on the future
Emerging technology: 3D Printing/Additive Manufacturing

Suitable for EOFs

Additive Manufacturing or 3D Printing will transform manufacturing, supply chains, wholesale, retail and transportation
• And the organizations in which they are produced
  – Supported by solar and wind energy + large capacity rechargeable batteries

Ideas from my current research
• Avner Ben-Ner and Enno Siemsen, Decentralization and Localization of Production: The Organizational and Economic Consequences of Additive Manufacturing, California Management Review, 2017
Traditional manufacturing (TM)
Example: CNC machine (metals, plastic, etc.)
3D Printing – additive manufacturing (AM)
Stratasys Objet260 Connex3:
multi-material color

Maximum Build Size (XYZ)
342 x 342 x 200 mm
Revolution in the making

• "A once-shuttered warehouse is now a state-of-the-art lab where new workers are mastering the 3-D printing that has the potential to revolutionize the way we make almost everything."
AM: It’s transformative

- Simplifies supply chain
- Reduce the need for spare parts – and the cost of making them
- Production less dependent on other firms
- Broadens employees’ jobs
- Very limited economies of scale: small firms
- Lowers cost of entry/reduce barriers to new firms
- Decentralized and localized production, near users
- Resembles artisanal and professional services technologies
It’s feasible: examples of small successful firms
1) IconBuild, Austin, Texas

- A group of engineers, using outside investors (nonprofit and for-profit)

- https://www.iconbuild.com/technology
2) Domin Fluid Power in Bristol, UK

- Engineering consulting company, two dozen employees
3) PassivDom, Ukrainian technological startup

Self-Sufficient 3D-Printed Home Is Fully Equipped For Off-Grid Living

*A robot can print a house in 8 hours*
"Never, ever, think outside the box."