### 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* employeeowned firms 2. Employee-owned firms *exist* 



### Broad answers to the puzzles

1. There are *few* employeeowned firms

#### 2. Employee-owned firms *exist*

Because all is good without them...

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"]



 <The world is a concave function, and we're on the peak...> On the Best State of a Republic and on the New Island of Utopia, 1516 ["to aspire to"]



"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
- Three Essays on the State of Economic Science (1957)
- 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)
- Dreze, Jacques. "Some theory of labor management and participation." *Econometrica* (1976).
- Dreze, Jacques and Kåre Hagen. "Choice of product quality: equilibrium and efficiency." *Econometrica* (1978)



#### Between Leibnitz & More

#### Between Koopmans & Coase/Dreze

- 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 selfmanagement 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

- 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

- Why? More complicated
- 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 decisionmaking
- 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

## EOFs advantages large when market failures are significant

- Weak workplace regulations
- Weak unions (partial substitute)
- Distrust between employers and workers
- Few employers
- Economic downturn in a firm's industry (AI)

## EOFs disadvantages small when workers

- Share common bonds solidarity, altruismprosociality: reduced free riding
- EOF traditions awareness
- Funding
- EOF knowledge of relevant organization design



### 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

<u>Design: Balanced practices, majority employee ownership</u>

Employee participation, ownership, and productivity: A theoretical framework, A Ben-Ner, DC Jones - *Industrial Relations*, 1995)

- Asymmetric information and economics stress: buyout by employees

Employee buyout in a bargaining game with asymmetric information A Ben-Ner, B Jun - The American Economic Review, 1996

<u>The more complex the jobs, the more reliance on employee ownership</u>

Uncertainty, task environment, and organization design: An empirical investigation, A Ben-Ner, F Kong, S Lluis - *Journal of Economic Behavior & Organization*, 2012

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

Learning: what and how? An empirical study of adjustments in workplace organization structure, A Ben-Ner, S Lluis - *Industrial Relations*, 2011

- <u>Evidence on performance and design</u> Ben-Ner and Lluis 2011
- <u>Mutual monitoring not a general solution to shirking with selfish employees</u>

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

Return	Control Rights Held by Employees				
Held by Employees	None	Participation in Control	Sharıng of Control	Dominant Control	
None	OA <sub>1</sub> Conventional firms	OA <sub>2</sub> Quality circles in- volving majority of workers	OA <sub>3</sub> Employee repre- sentation on board of directors	OA <sub>4</sub> British Industrial Common Owner- ship, e.g , Scott Bader	
Small	OA <sub>5</sub> Profit sharing: ESOPS, e g , Oc- cidental Petro- leum; Kimberly Clark	OA <sub>6</sub> Profit sharing with participation programs	OA <sub>7</sub> Co-determination with another pro- gram; e g , in Sweden co- determination sometimes exists with convertibles	OA <sub>8</sub> British Retail Coops <sup>a</sup>	
Moderate	OA <sub>9</sub> ESOPS, <sup>b</sup> e g , Proctor and Gam- ble, Corning, Rucker Plans	OA <sub>10</sub> Scanlon Plans, John Lewis; Lin- coln Electronics, Polaroid, Japa- nese Mfg	OA <sub>11</sub> Producer Co- operatives <sup>.c</sup> e g , U K Clothing Denmark	OA <sub>12</sub> Producer Co- operatives, <sup>d</sup> e.g , U K footwear	
Majority	OA <sub>13</sub> ESOPS, e g, Ver- mont Asbestos; Harcourt, Brace and Ivanovich, Lincoln S & L	OA <sub>14</sub> ESOPS e g , Brooks Camera, Hyatt Clark, Ruddick	OA <sub>15</sub> ESOPS e g, Weirton Steel, Rath, French building PCs	OA <sub>16</sub> Producer Co- operatives, e g , Mondragon, It- aly, French Con- sulting, U.S Ply- wood	

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### Employee ownership and managerial complexit



![](_page_19_Picture_3.jpeg)

#### PREDICTED PERFORMANCE (ROI) PROFILES BY EXPERIENCE WITH SYSTEMS

![](_page_20_Figure_1.jpeg)

No decision-making = too few opbservations

![](_page_20_Picture_3.jpeg)

### Viability of EOFs depends on employees

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

![](_page_21_Picture_7.jpeg)

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### 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).

![](_page_22_Picture_6.jpeg)

![](_page_22_Picture_8.jpeg)

#### Table 2d

Team delegation, monitoring, internal labor markets (employment security, promotions or team training), and firm-level incentives (cash provide sharing

	Team delegation	Monitoring	ILM – employment security	Cash profit sharing
Internal uncertainty External uncertainty Team delegation Monitoring Employment security Joint test of significance of $\rho_{ij}$ (p-value) Log pseudolikelihood	0.147 <sup>**</sup> (0.057) 0.070 (0.059) - -	-0.141 <sup>***</sup> (0.049) -0.036 (0.049) 0.221 (0.914) - -	0.064 (0.079) 0.040 (0.057) 0.183 (1.729) 1.311*** (0.297) - 17.84 (0.000) -608.52	0.008 (0.048) 0.043 (0.053) 0.873** (0.426) 0.483* (0.330) -0.081 (0.401)
	Team delegation	Monitoring	ILM – promotions	Cash profit sharing
Internal uncertainty External uncertainty Team delegation Monitoring Promotions Joint test of significance of $\rho_{ij}$ (p-value) Log pseudolikelihood	0.150 <sup>***</sup> (0.051) 0.093 <sup>*</sup> (0.063) - -	-0.162 <sup>***</sup> (0.045) -0.028 (0.054) 0.425 (0.453) - -	0.082 (0.056) -0.133 <sup>**</sup> (0.061) 0.909 (0.643) -0.198 (0.397) - 15.38 (0.017) -585.14	$\begin{array}{c} -0.052(0.046)\\ 0.062(0.053)\\ 0.831^*(0.463)\\ -0.123(0.387)\\ 0.804^{**}(0.346)\end{array}$
	Team delegation	Monitoring	ILM Team Training	Cash profit sharing
Internal uncertainty External uncertainty Team delegation Monitoring Team training Joint test of significance of $\rho_{ij}$ ( <i>p</i> -value) Log pseudolikelihood	0.149 <sup>***</sup> (0.053) 0.082 (0.058) - -	-0.165 <sup>***</sup> (0.046) -0.027 (0.054) 0.410 (0.663) - -	0.168 <sup>***</sup> (0.064) -0.017 (0.069) 0.434 (1.350) 0.509 (0.641) - 10.88 (0.092) -643.37	$\begin{array}{c} -0.033(0.110)\\ 0.035(0.051)\\ 0.967^{***}(0.374)\\ 0.189(0.969)\\ 0.512(0.955)\end{array}$

![](_page_23_Picture_3.jpeg)

![](_page_23_Picture_5.jpeg)

### 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.

![](_page_24_Picture_3.jpeg)

![](_page_24_Picture_5.jpeg)

### Some lessons

- EOFs often start with enthusiasm born of successful overcoming of challenges and sacrifices
- When normalcy sets in, challenges grow
- Sucessful 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 diadvantages small: critical to success

![](_page_25_Picture_9.jpeg)

### One eye on the past, one eye on the future

![](_page_26_Picture_1.jpeg)

![](_page_26_Picture_2.jpeg)

![](_page_26_Picture_3.jpeg)

# Emerging technology: 3D Printing/Additive *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, <u>Decentralization and Localization of Production</u>: <u>The Organizational and Economic Consequences of Additive</u> <u>Manufacturing</u>, *California Management Review*, 2017
- Avner Ben-Ner and Ainhoa Urtasun, Tasks and Skills under AM and TM: A first look at job postings, Januar 2014-May 2019 (Russell Sage Foundation Future of Work Program)

![](_page_27_Picture_8.jpeg)

### Traditional manufacturing (TM)

![](_page_28_Picture_1.jpeg)

![](_page_28_Picture_3.jpeg)

### Example: CNC machine (metals, plastic, etc.)

![](_page_29_Picture_1.jpeg)

![](_page_29_Picture_3.jpeg)

### 3D Printing – additive manufacturing (AM)

![](_page_30_Picture_1.jpeg)

![](_page_30_Picture_3.jpeg)

# Stratasys Objet260 Connex3: multi-material color

![](_page_31_Picture_1.jpeg)

Maximum Build Size (XYZ) 342 x 342 x 200 mm

![](_page_31_Picture_4.jpeg)

### 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."

![](_page_32_Picture_3.jpeg)

### **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

![](_page_33_Picture_9.jpeg)

![](_page_33_Picture_10.jpeg)

### It's feasible: examples of small successful firms

![](_page_34_Picture_2.jpeg)

### 1) IconBuild, Austin, Texas

- A group of engineers, using outside investors (nonprofit and for-profit)
- <u>https://www.iconbuild.com/technology</u>

![](_page_35_Picture_3.jpeg)

![](_page_35_Picture_4.jpeg)

### 2) Domin Fluid Power in Bristol, UK

• Engineering consulting company, two dozen employees

![](_page_36_Picture_2.jpeg)

![](_page_36_Picture_4.jpeg)

# **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

![](_page_37_Picture_2.jpeg)

# Thanks !

![](_page_38_Picture_1.jpeg)

![](_page_38_Picture_3.jpeg)