

Discussion of “Self-employment within the firm”

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Summary & Contribution

Super exciting project combining (i) original microdata on task assignment within firms *in multiple industries*, (ii) a new theory of the firm, (iii) quantification exercise

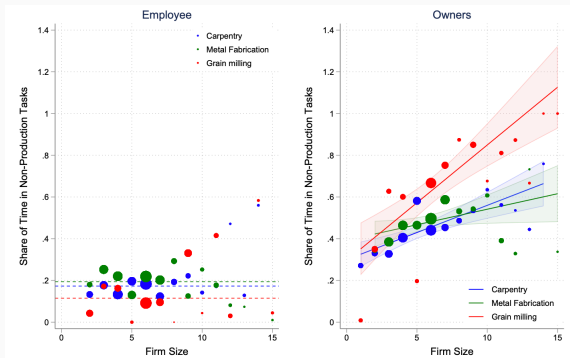
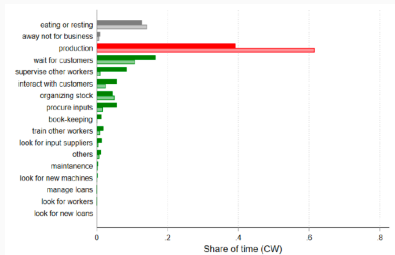
- Empirical evidence of labor specialization in *artisanal manufacturing* (carpentry/welding) vs *scalable manufacturing* (milling)
- Theory: production line for each worker (incl owner), complex tasks can be delegated to other workers at a cost. Firm organization emerges endogenously from skills, delegation costs, scale economies
- Quantification exercise to match within-industry moments

Clear contributions on all three dimensions.

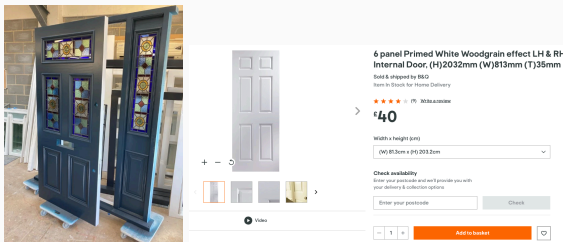
Summary: Empirics

Firm-level survey of worker (and owner) time use across different tasks:

- Imperfect division of labor: even owners do a lot of production tasks
- Division of labor increasing with size
- Slope steeper in grain milling. Labor markets (owner/worker) more segmented in GM.



Artisanal vs scalable manufacturing

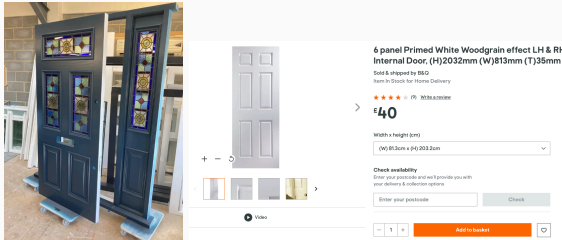


Artisanal manufacturing (here: carpentry and welding)

1. produces output that is customized
2. produces output that varies in quality (depending on worker skill)
3. produces output that may be differentiated by maker (e.g. a suit tailored by YSL himself, a restaurant meal by Alain Ducasse)

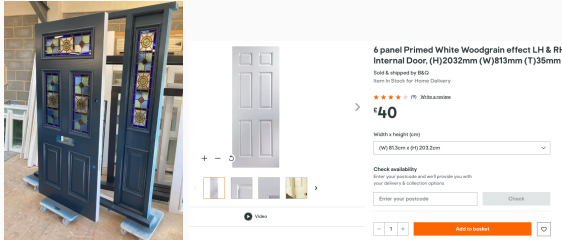
Related to discussion on “industrial technologies” (cf. Rosenstein-Rodan 1943, Murphy, Shleifer, Vishny 1989, Ciccone 2002)

Artisanal vs scalable manufacturing



- Artisanal manufacturing exists both in developed and developing countries, existence not necessarily indicative of market frictions
- Owner being involved in production also not necessarily indicative of market frictions
 - Skill transfer (“learning from the master”)
 - Contracting on worker identity (“YSL suit”)
 - Non-pecuniary benefits of task allocation (“i’m a carpenter, not a manager”)

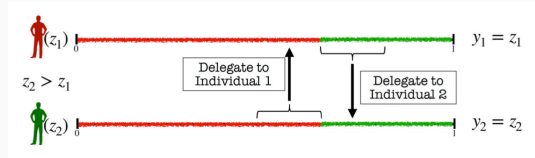
Artisanal vs scalable manufacturing



- Is artisanal vs scalable manufacturing an industry choice, technology choice, or organizational choice?
 - Paper seems to say industry choice (CW vs GM)– but then what are the barriers to entry into scalable manufacturing?
 - Role of productive and organizational capabilities (Chandler, Penrose)
- At the same time, evidence accumulating for weaker division of labor *within* technologies in developing countries
- Technology vs frictions? Where are the market failures? Policy?

Theory (Micro): Worker assignment and economies of scale

Theory of the firm where each worker has its own production line & tasks can be delegated



Model shares some similarities to theories of knowledge hierarchies (Garicano 2000):

- Delegation (communication) costs and skill (knowledge) distribution shape the division of labor
- Overlap between worker activities are related to economies of scale
- But: delegation cost may be convex in share delegated (KH: linear)
- Tasks allocated to workers in a “natural” way (self-employment, $k \rightarrow \infty$)
- Built-in economies of scale through input use

How can the data help us distinguish between these theories?

Theory (Micro): Time constraint slackness

Time constraint: fraction of time spent on complex tasks is less than one:

$$\int_{i' \cup \mathcal{I}_w} \mu(i'', i) di'' \equiv \theta(i) \leq 1 \quad \forall i$$

Analytical results assume that this constraint does not bind.

Benefit of delegating:

$$z(i'') - z(i)$$

Cost of delegating:

$$\kappa'(\phi(z(i))) + \underbrace{\lambda(i)}_{=0}$$

- Implications for assignment: absolute advantage matters instead of comparative advantage
- Link to the data: manager doing production work may not be related to slackness of the time constraint but strong complementarities (e.g. Kremer 1993)

Theory (Macro): Occupational choice

Macro dimension to match life-cycle facts (from workers to owners)

- Skill z (evolves through learning-by-doing and learning-from-owner) matters for complex tasks, which are mapped to managerial tasks (worker wage inelastic to z). But in carpentry/welding clear evidence for role of artisanal skills (good carpenter/welder, practical skills) in start-up decision
- Market for managerial control? Ownership of capital vs management of firm
- Mobility across industries (or technologies)? Try to move people out of artisanal manufacturing into scalable manufacturing