

Impact of Non-Market Activities on Women Entrepreneurship

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Context and Research Question

Context

- ▶ Many businesses remain small due to non-pecuniary (non-financial) motivations
- ▶ Data shows high share of non-market activities among married women
 - ▶ e.g., caregiving, household responsibilities
- ▶ ATUS: Women report 55% more time on child care than men

Research Question

- ▶ **To what extent do non-market activities drive the prevalence of small businesses among women?**

IPUMS

- ▶ Merged Outgoing Rotation Group (MORG) extract from Current Population Survey (CPS)
 - ▶ Annual Aggregates on labor force & employment details; industry, occupation etc.
- ▶ American Time Use Survey (ATUS)
 - ▶ Time spent on activities, including market work, household production, and childcare
- ▶ Sample:
 - ▶ Pooled data from 2013 to 2019
 - ▶ Sample aged 25 and above

Gender and Entrepreneurial Size

Table: Gender Differences in Business Size

| Measure | Female | Male |
|------------------------|--------|-------|
| Average hired labor | 25.4 | 43.9 |
| Average sales receipts | 3,327 | 8,651 |

- ▶ Compared to male-owned businesses, female-owned businesses average 42.1% less hired labor and 61.5% lower sales receipts

Distribution of Entrepreneurs (Unit: Percentage)

| Marital/Family Status | Female | Male |
|---------------------------------|-------------|-------------|
| Single | 3.8 | 9.2 |
| Married without children | 18.1 | 33.6 |
| Married with at least one child | 12.3 | 23.0 |
| Total | 34.2 | 65.8 |

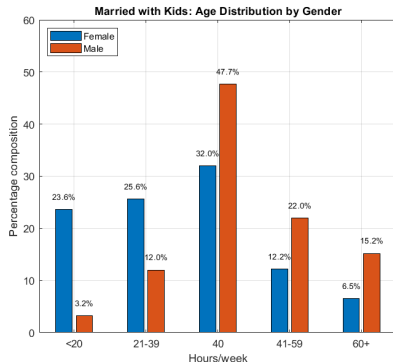
- ▶ Married women constitute more than 30 percent of all the entrepreneurs

Weekly Entrepreneurial Hours by Gender and Marital Status

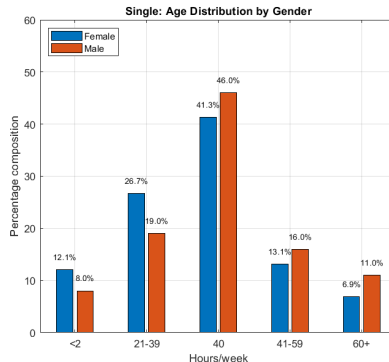
| Group | Women | Men |
|-----------------------------|-------|------|
| Single | 35.4 | 39.1 |
| Married w/o child | 33.0 | 39.4 |
| Married with ≥ 1 child | 31.5 | 43.3 |

- ▶ Married female entrepreneurs work fewer hours

Weekly Hours Distribution



Married with at least 1 child



Single

Figure: Distribution of work hours for entrepreneurs.

- ▶ Married women with children disproportionately work part-time hours.
- ▶ Conversely, married men are highly concentrated in full-time or more extensive work hours.

Regression: Entrepreneurs Hours

$$\text{Weekly Hours}_i = \beta_0 + \beta_1 \cdot \text{Married}_i + \beta_2 \cdot \text{Children}_i + \beta_3 \cdot \text{Female}_i \\ + \beta_4(\text{Female}_i \times \text{Married}_i) + \beta_5(\text{Female}_i \times \text{Children}_i) + \beta_6 \cdot \text{Education}_i + \epsilon_i \quad (1)$$

- ▶ Dependent variable: Weekly entrepreneurial hours.
- ▶ Key Control of Interest:
 - ▶ Married: Dummy variable indicating marital status (1 = married, 0 = not married).
 - ▶ Children: Number of children for individual i .
 - ▶ Female: Dummy variable for gender (1 = female, 0 = male).
- ▶ Control: Education: Years of education.

Regression: Results

Table: Regression Results: Weekly Hours Worked

| Independent Variables | Entrepreneurial Hour |
|-----------------------|----------------------|
| Married | 1.32*** (0.21) |
| Children | 1.49*** (0.07) |
| Female | -3.31*** (0.31) |
| × Married | -3.54*** (0.35) |
| × Children | -2.36*** (0.12) |
| Education | -0.18*** (0.02) |
| Constant | 46.10*** (0.92) |

Results

Impact of marriage and childcare on labor supply measures is LARGER among female entrepreneurs

- ▶ Married women work 3.54 fewer hours on average
- ▶ Women with children work 2.36 fewer hours on average

Part-Time Work: Non-Economic Reasons

| Group | Entrepreneurs (%) |
|-------|-------------------|
| Women | 36.2 |
| Men | 15.2 |

Table: Part-time work due to non-economic reasons

- ▶ Non economic reason: child care, family obligation etc.
- ▶ Women entrepreneurs are significantly more likely to work part-time for non-economic reasons compared to men

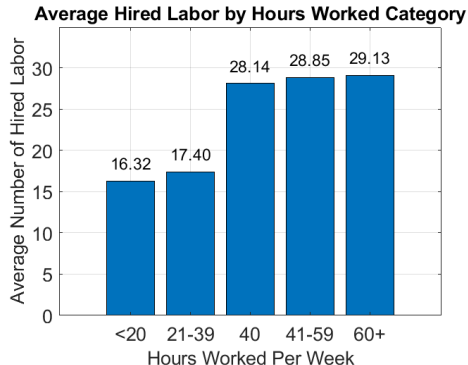
Full-Time Entrepreneurs: Shifting to Part-Time for Family Reasons

| Group | Proportion Reporting Part-Time (%) |
|-------|------------------------------------|
| Women | 52.93 |
| Men | 8.93 |

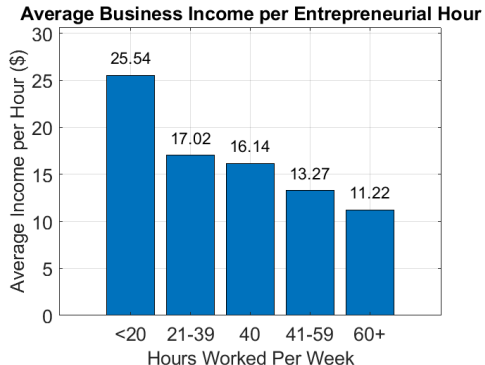
Table: Proportion of normally full-time entrepreneurs reporting part-time hours due to childcare/family obligations

- ▶ Full time women entrepreneurs are significantly more likely to reduce their work hours for family reasons compared to men.

Hired Labor & Profitability



Hired Labor



Profitability

Figure: Distribution of work hours for entrepreneurs.

- ▶ Higher entrepreneurial hours \Rightarrow higher average hired labor
- ▶ Higher entrepreneurial hours \Rightarrow Lower profitability

Context

- ▶ Empirical evidence: Labor supply among female entrepreneurs is highly responsive to non-market obligations.
- ▶ Result: Female entrepreneurs, though profitable, work fewer hours and employ fewer labor than males.
- ▶ Next: I model this as a simple time constraint affecting labor supply decisions.

One Period Static Model

- ▶ Continuum of entrepreneurs with measure 1
- ▶ Entrepreneurial Productivity ϵ
- ▶ Elastic labor supply
- ▶ Time constraints: $T \in [0, 1]$
- ▶ Key parameters: ϵ, T

$$U_i = \max_{c, n, l^h} \log(c) + \log(T - n)$$

$$c = \pi(n, \ell, k, \epsilon) - f^e$$

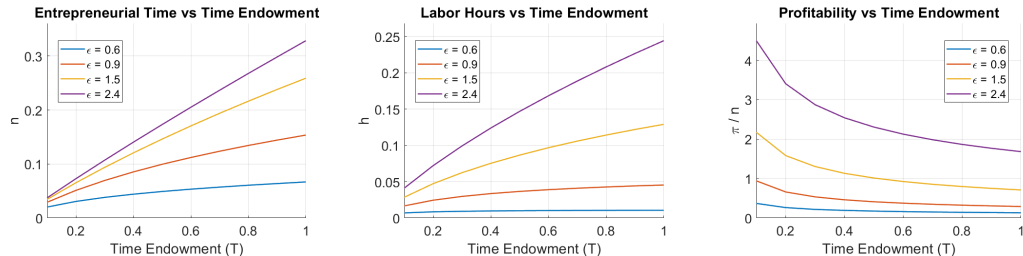
$$\pi(n, \ell, k, \epsilon) = f(n, \ell, k, \epsilon) - w\ell - rk$$

$$f(n, \ell, k, \epsilon) = [(k)^\alpha ((\epsilon n)^\rho + \ell^\rho)^{(1-\alpha)/\rho}]^\nu$$

such that

$$n \leq T_g \quad \text{and} \quad l^h \geq 0$$

Results



Relationship between Time endowment & Entrepreneurial Size

Entrepreneurs with smaller time endowment:

- ▶ work fewer number of hours: Left panel
- ▶ Hire lesser labour: Medium panel
- ▶ May exhibit higher profitability: Right panel

Next Step

To analyze the impact of the extent of small businesses, both at the extensive and intensive margins

- ▶ **Framework:** An occupation choice model with endogenous labor and entrepreneurship decisions.
- ▶ **Agents:**
 - ▶ *Single individuals* who allocate time between market and non-market activities.
 - ▶ *Married households* with joint decision-making, allowing for intra-household time allocation and resource sharing.
- ▶ **Key Mechanism:** Time constraints due to non-market activities (e.g., household production, child care) that affect:
 - ▶ The **extensive margin** — decision to become an entrepreneur.
 - ▶ The **intensive margin** — scale of entrepreneurial engagement or hours worked.