Excessive Firm Turnover in the Shadow of Unemployment

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Motivation

The traditional belief sees self-employment (SE) as a result of credit constraints and avoiding costly labor or tax regulations. I provide an alternative view for why self-employment exists and answer the following questions:

- Can the state of the labor market push individuals to select into SE?
- What is the impact of excessive self-employment on welfare costs of business cycles and efficiency?
- With self-employment in place, how should we approach reforms on the product and labor markets?

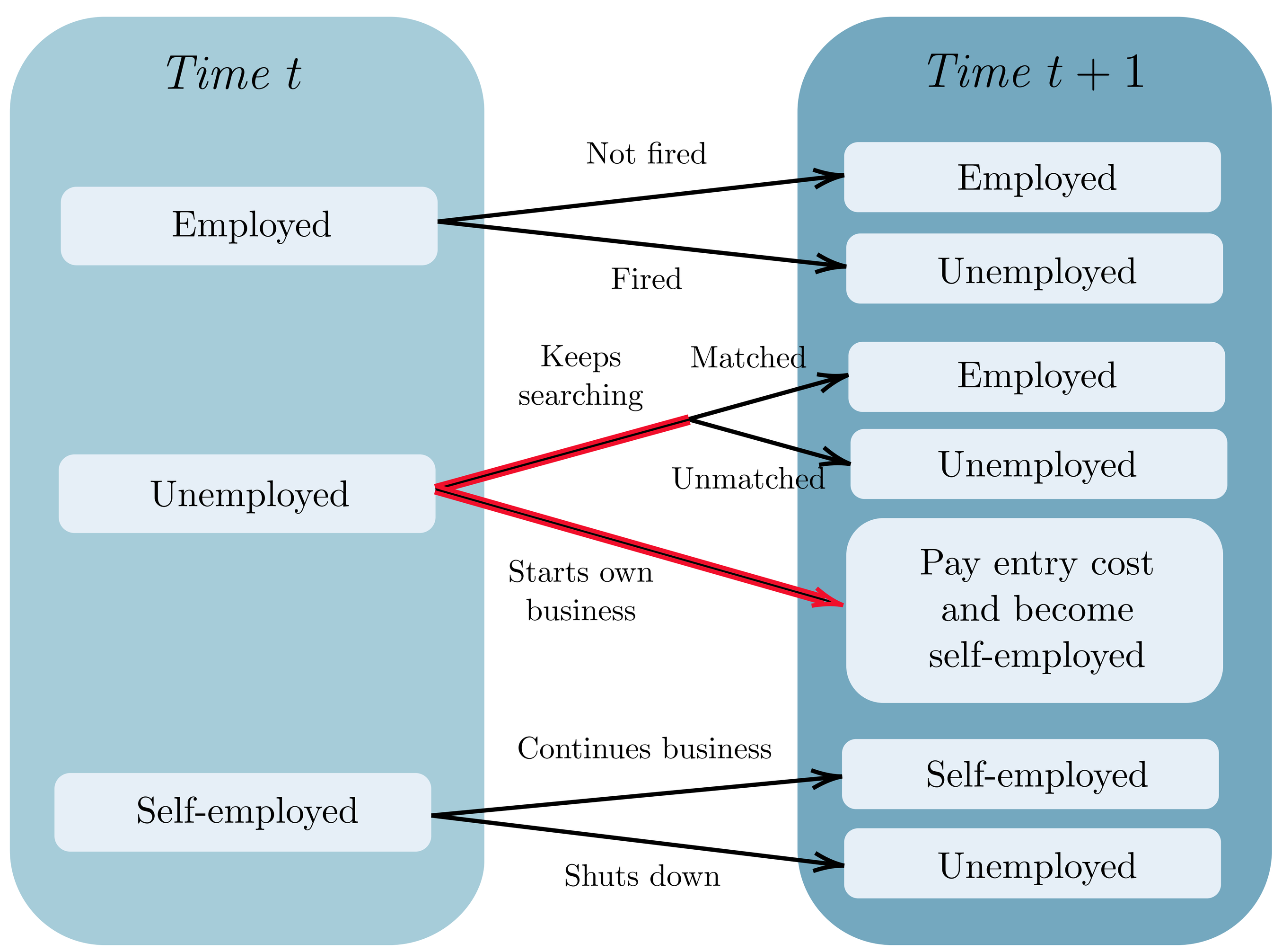
What is Self-Employment?

OECD defines self-employment as "the employment of employers [excluding corporate enterprises], workers who work for themselves, members of producers' co-operatives, and unpaid family workers." It includes both the necessity-driven businesses (those who are unable to find other means of income) and the opportunity-driven businesses (e.g. entrepreneurial spirit, being independent). The self-employed in the U.S. show the following characteristics:

- 73% of the self-employed do not have any employees
- More than half view entrepreneurship as a source of income; a third of business owners report having no better choice of work as their main motive for starting a business
- SE can be either procyclical or countercyclical:
  - Economic boom → more demand, better business environment → SE ↑ (entrepreneurial effect ↑)
  - Economic boom → less need to look for alternatives to paid work → SE ↓ (refugee effect ↓)
- They are skewed towards industries with lower entry barrier and lower monopoly power

Three-State Labor Market

Self-employment is introduced as an occupational choice for the unemployed. On top of the conventional search-and-matching framework, an unemployed worker can either choose to stay in the labor market and keep searching for a wage-paying job (subject to the job-finding rate) or pay an entry cost and become a new solopreneur firm (becomes productive right away).



Model

I build a two-sector dynamic general equilibrium model with the three-state search-and-matching framework:

- Hiring (H) sector has monopolistically competitive firms hiring workers from the labor market to produce.
- Self-employed (S) sector has monopolistically competitive solopreneurs using H sector goods as intermediate goods to produce.

As shown in the value of employment below, a worker now has an option to become self-employed:

$$W_t = w_t + \mathbb{E}_t\,\beta_{t,t+1}\Big[(1-\delta_H)(1-\lambda)W_{t+1} + \underbrace{(1-(1-\delta_H)(1-\lambda))}_{\text{If you become unemployed due to firing or firm shutting down...}}\ \max\big(\underbrace{U_{u,t+1}}_{\text{... keep searching}},\ \underbrace{-f_{ES}+S_{t+1}}_{\text{or pay entry cost and become self-employed}}\big)\Big]$$

The value of being self-employed is determined by the expected future stream of profits ($d_{s,t}$) and the probability of shutting down (δ_S):

$$S_t = d_{s,t} + \mathbb{E}_t\,\beta_{t,t+1}\Big[(1-\delta_S)S_{t+1} + \delta_S(1-\delta_H)\iota_{t+1}W_{t+1} + \{1-\delta_S(1-\delta_H)\iota_{t+1}\}\max\left(U_{u,t+1}, -f_{ES}+S_{t+1}\right)\Big]$$

Profits for the self-employed – $d_{s,t} = \frac{\alpha}{\theta_S}\left(\frac{\theta_S}{\theta_S-1}\frac{\mathcal{P}_{H,t}}{Z_{S,t}}\right)^{1-\theta_S}\mathcal{P}_{S,t}^{\theta_S-\phi}Y_t$ – depend on the price of the intermediate goods ($\mathcal{P}_{H,t}$) and the demand from the household, as a result of them maximizing the consumption of the final goods basket C_t (that includes goods produced in both sectors), subject to the budget constraint where the profits from self-employment are a part of the household income ($= w_t l_{h,t} N_{H,t} + d_{s,t} N_{S,t} + u_b(1-L_t)$).

Determinants of Inefficiency

Comparison of the decentralized model above to that of a centralized economy with a benevolent social planner choosing the first-best allocation allows us to find where the sources of inefficiency are at. Three additional factors from self-employment exist in the inefficiency wedges (i.e. differences in the allocation between the decentralized and the planner economies) along the job creation and the product creation margins:

- The self-employed do NOT take into account that the unemployment pool shrinks when they start one's own business
- The self-employed also do NOT consider the impact on the final goods consumption when using hiring sector goods as intermediates to produce goods in the self-employment sector
- When posting vacancies, firms do NOT consider the present discounted value of self-employment that could have been created by the matched worker

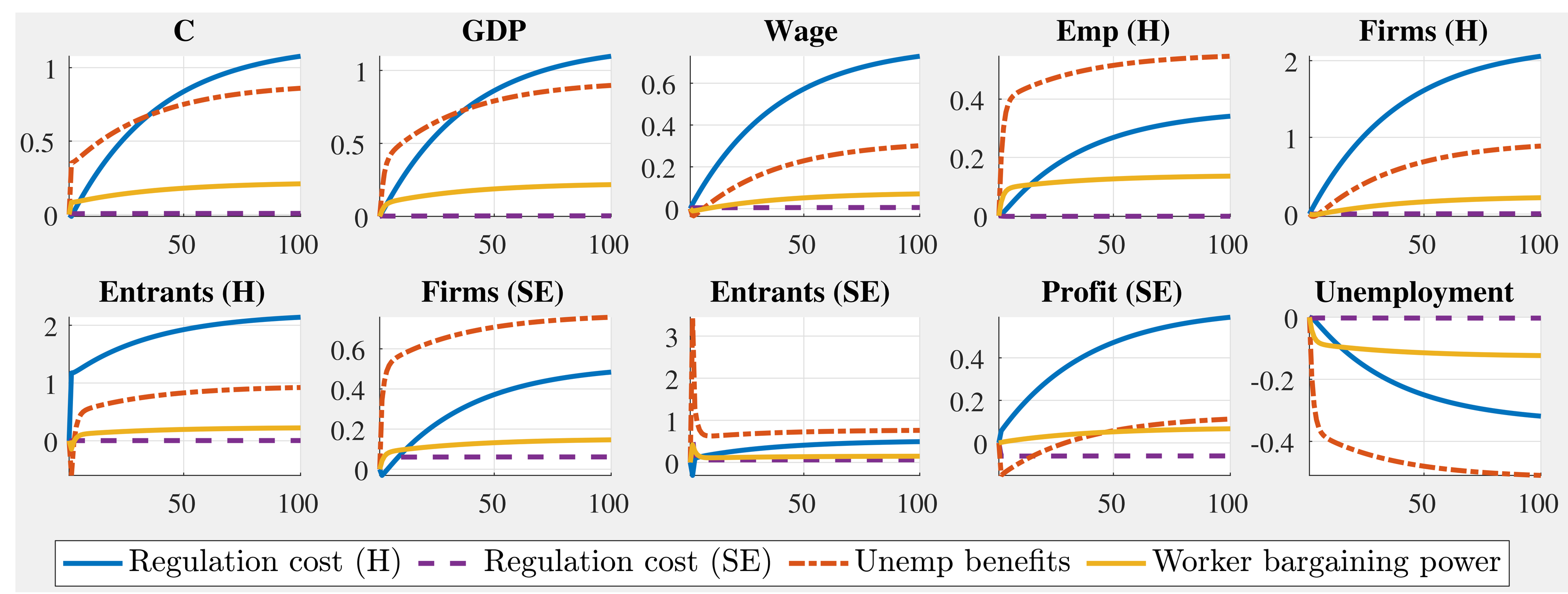
This implies that self-employment still exists even if we assume no distortions – i.e. no unemployment benefits, regulation costs, and monopoly power.

Business Cycle Dynamics

- Percentage deviations from steady state after a one st. dev. productivity shock in the hiring sector (unemployment is in deviations from steady state)
- Model is calibrated for the US, 1977:Q1 – 2007:Q4
- Blue: Benchmark with SE; Orange: No entry/exit in SE (standard DMP)
- Procyclical self-emp: Less need for SE due to higher job finding rate but higher demand (and thus higher profits) lead to more people entering SE rather than being unemployed
- Less workers at wage-paying jobs but less total unemployment due to SE as a result, with higher C and GDP (→ welfare cost from business cycles ↑)

Policy Exercise

- Reforms ≡ 1% permanent decrease in product and labor market-related policy variables
- Deregulation in the hiring sector is most effective since:
  - Price of inputs (for the self-employed and final good (for household) ↓ as competition ↑
  - Workers benefit from higher employment and wages
- Both the decreases in regulation cost in the SE sector and unemp. benefits boost SE as workers have less incentive to stay as unemployed, but profits fall as a result of increased competition



Main Findings

- **Self-employment exists regardless of regulations** due to workers choosing into SE instead of staying in the labor market for wage-paying jobs with uncertainty.
- The additional occupational choice makes **workers switch** among employment, unemployment, and SE **more**, leading to **more volatility** in the business cycle.
- While structural reforms often promote more firm entry, **what type of firms they target matters** (firms that create jobs and grow vs. self-employment that stays small) as it will bring different results in promoting economic growth.