Serial Entrepreneurs and the Macroeconomy

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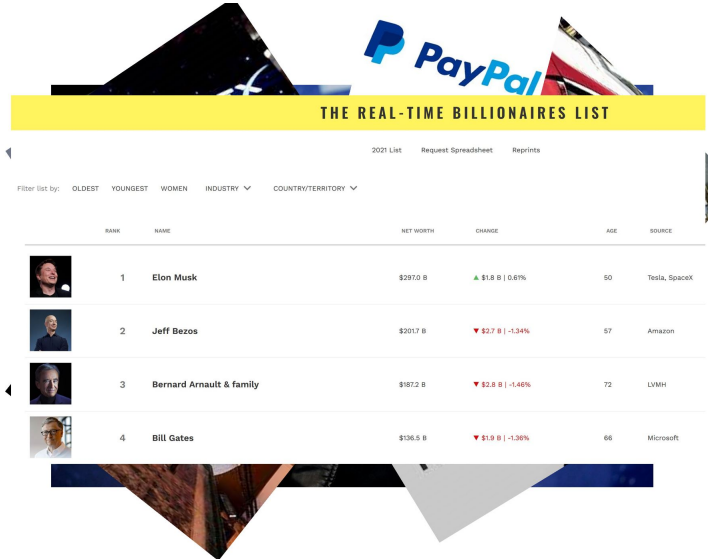
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THE REAL-TIME BILLIONAIRES LIST
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1
Elon Musk
$297.0 B
▲ $1.8 B | 0.61%
50
Tesla, SpaceX
2
Jeff Bezos
$201.7 B
▼ $2.7 B | -1.34%
57
Amazon
3
Bernard Arnault & family
$187.2 B
▼ $2.8 B | -1.46%
72
LVMH
4
Bill Gates
$136.5 B
▼ $1.9 B | -1.36%
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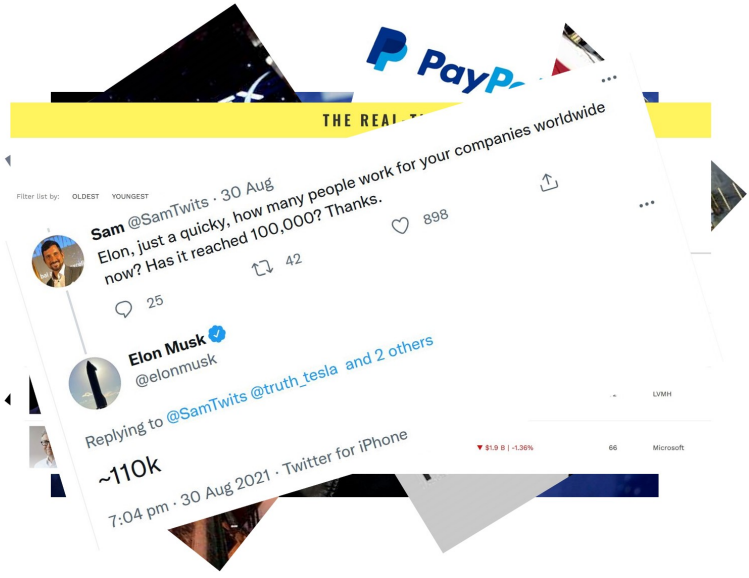
Microsoft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THE REAL
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Sam @SamTwits · 30 Aug
Elon, just a quicky, how many people work for your companies worldwide now? Has it reached 100,000? Thanks.
898
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Elon Musk
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Replying to @SamTwits @truth_tesla and 2 others
~110k
7:04 pm · 30 Aug 2021 · Twitter for iPhone
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This Paper

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Five facts about firms of serial entrepreneurs

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5. they contribute disproportionately to aggregate job creation and productivity growth

What is macro about this?

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Macroeconomic impact of young firms and startups

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- "gazelles" important for aggregate outcomes despite being rare
  - e.g. Haltiwanger et al., 2017; Decker et al., 2017

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Understanding sources of heterogeneity matters for aggregate dynamics

- post-entry differences or ex-ante ("pre-entry") heterogeneity?
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Firm size distribution and macroeconomic models with heterogeneous firms

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Firm size distribution and macroeconomic models with heterogeneous firms

- size distribution used to implicitly pin down firm heterogeneity
  - e.g. Axtell, 2003; Luttmer, 2011; Gabaix, 2011; Arkolakis, 2016

Existing Literature

- Serial entrepreneurs
  - e.g. Chen, 2013; Lafontaine, Shaw, 2016; Shaw, Sørensen, 2019
- Entrepreneurship and drivers of post-entry growth
  - e.g. Ouimet, Zarutskie, 2014; Guzman, Stern, 2015; Belenzon et al., 2017; Azoulay, 2020; Choi et al., 2021
- Firm dynamics and aggregate outcomes
  - e.g. Haltiwanger, Jarmin, Miranda, 2013; Haltiwanger et al., 2017; Decker et al., 2017

Data

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Quadros de Pessoal (QP), Portugal

- census of private sector employees

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Individual and business characteristics

- e.g. age, education, wages
- e.g. starting date, size (employment), sector, location

Definition of Serial Entrepreneurship

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- serial entrepreneur (SE) firms vs regular (R) firms

Some descriptive statistics

Firm dynamics

- as other countries, Portugal also characterized by “up-or-out” dynamics

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Serial entrepreneurship

- about 4% of entrepreneurs

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Gazelles (“Eurostat-OECD” definition)

- about 9% of firms are gazelles, responsible for 1/3 of job creation

Serial entrepreneurship

- about 4% of entrepreneurs
- accounting for 18% of firms
- occurs throughout the economy, not only in particular sectors

Five Facts About Serial Entrepreneur Firms

Five facts about SE firms

Firms of serial entrepreneurs

1. are “special” along several dimensions
2. shape average firm dynamics
3. are more likely to be (“better”) high-growth
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1. The serial entrepreneur premium

Compare serial entrepreneur firms and regular businesses:

$$y_{i,t} = \alpha + \beta \mathbb{1}_{i \in SE} + \gamma F_{i,t} + \epsilon_{i,t},$$

- $y_{i,t}$: outcome of interest (e.g. size, exit rate)
- $\mathbb{1}_{i \in SE}$: indicator (1=serial entrepreneur firm)
- $F_{i,t}$: controls (age, industry, year fixed effects)

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Table 1: Serial entrepreneur premium

	Regular	Serial	SE Premium
Size (ln workers)	4.7	14.7	0.57***
Exit (in %)	8.4	5.6	−2.17***
Growth (in %)	8.9	10.3	3.14***
Productivity (aggregate = 1)	0.83	1.22	0.34***

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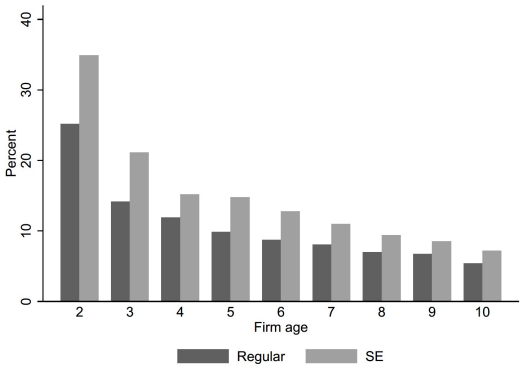
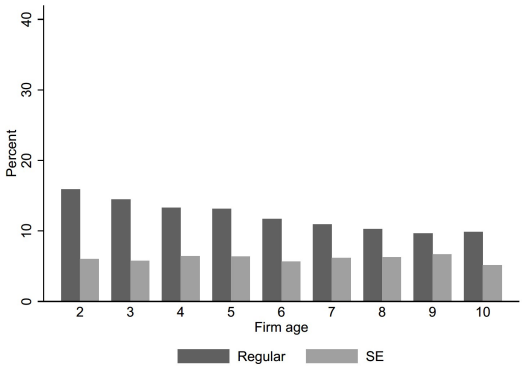
2. SE FIRMS AND UP-OR-OUT DYNAMICS

(a) Net Job Creation of Contiuers

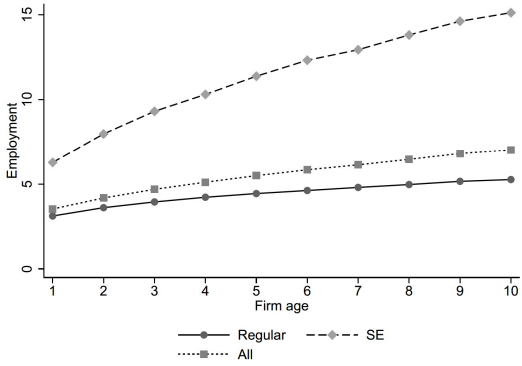


(b) Job Destruction from Exit



2. SE firms and average firm dynamics

(a) Firm size



(b) Exit rates

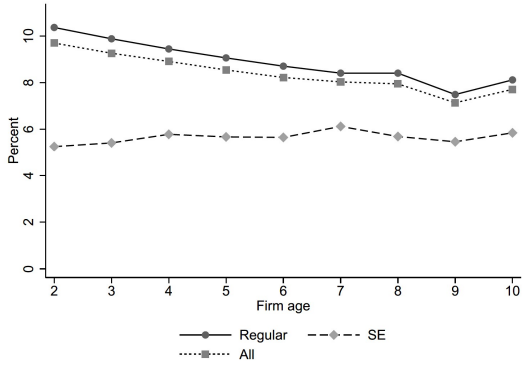


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Table 2: Contribution of high-growth firms to aggregates (in %)

	All	Regular	Serial
Firms	8.9	61.0	39.0
Employment	31.1	42.1	57.9
Job creation	30.3	45.9	54.1

Table 2: Contribution of high-growth firms to aggregates (in %)

	All	Regular	Serial
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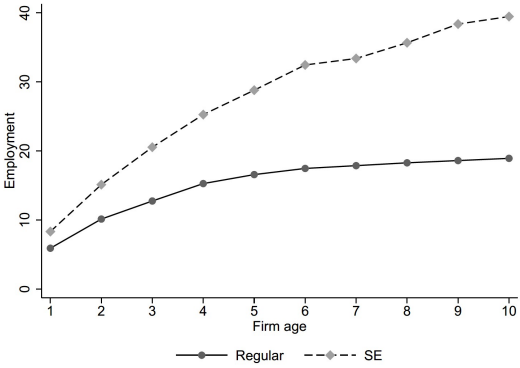
Job creation	30.3	45.9	54.1

Table 3: Serial entrepreneur premium: High-growth firms

	Regular	Serial	SE Premium
Size (workers)	16.4	38.1	0.33***
Exit (in %)	5.5	3.9	−1.36***
Growth (in %)	15.5	13.7	2.42***
Productivity (agg.=1)	82.3	116.1	0.27***

3. Serial entrepreneurs and gazelles

(a) Firm size



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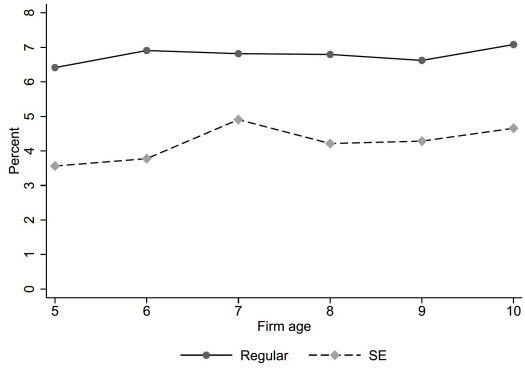

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3. SEs and the firm size distribution

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5. Contribution of SEs to macroeconomy

Table 4: Contributions to aggregates (in %): Regular and serial entrepreneur firms

	Firms	Employment	Job creation	Job destruction
Regular	82.4	61.5	65.7	71.3
Serial	17.6	38.5	34.3	28.7

5. Contribution of SEs to macroeconomy

Changes in aggregate productivity growth (ΔQ_t)

$$\Delta Q_t = \sum_s \left[\underbrace{\sum_{i \in s} \omega_{i,t-1} \Delta q_{it}}_{\text{within}} + \underbrace{\sum_{i \in s} (q_{i,t-1} - Q_{t-1}) \Delta \omega_{it}}_{\text{between}} + \underbrace{\sum_{i \in s} \Delta q_{it} \Delta \omega_{it}}_{\text{cross}} \right].$$

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Table 5: Aggregate productivity growth decomposition

	Total	Within	Between	Cross
Aggregate	8.1	13.0	3.4	−8.3
		Serial entrepreneur firms		
Level	2.9	5.5	0.5	−3.1
Share of aggregate	35.8	42.2	14.7	37.3

Conclusion

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Use unique data enabling us to link

- owners to firms and track them over time

Focus on serial entrepreneurship

- SE firms are prevalent
- SE firms outperform R businesses
  - on average, over life-cycle and within group of gazelle firms
- SE firms have a very different size distribution
- SE firms disproportionately important for aggregate economy

Future work

- use findings to inform macroeconomic models with firm heterogeneity
- further study sources of serial entrepreneurship

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