Rodolfo De Benedetti Lecture
Discussion on
Demographics and Entrepreneurship
by Ed. P. Lazear

Pietro Garibaldi
Collegio Carlo Alberto, Universita’ di Torino

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Figure 6: The United States Population Distribution in Two Selected Years
Recents Aging in Italy: Many old taking over few youth

Active population for young and old in Italy

- active_pop_1524
- active_pop_5564

Graph showing the trend of active population for young and old in Italy over time, with a significant increase in the number of active adults aged 55 and over from 2010q1 onwards.
Does an aging population reduce entrepreneurship rate at every age?
- A given 25th year old youth is less likely to become entrepreneur in an aging country?
- Not only a size effect (there fewer and fewer boys and girls), but a pure aging effect

What is the effect of aging and demographic structure on entrepreneurship within a basic human capital model?
- How do creativity and rank effects interact to determine the propensity to become entrepreneur?
- What is the effect of an increase in aging on the propensity to become entrepreneur?
Two clean answer: a very “Lazear” type paper

- Very simple theory with strong prediction (entrepreneurship should decrease at every age as ages increase within a human capital framework)

- Entrepreneurship rate appear (significantly and size-able) lower at every age in more aging countries
Two key ideas...

1. Creativity falls monotonically with age
   - Sure (from Einstein, to Ramsey; from Bill Gates to Steve Jobs)
   - but... Newton’s famous letter to Hooke, ”if I have seen farther it is by standing on the shoulders of giants”

2. Creating a business requires on the job experience
   - Move up in the corporate ladder is more difficult in aging society blocked by old people on the job

..plus a maintained and not discussed Becker assumption
   - access to finance is perfect and it is not a key determinant of entrepreneurship
Empirics Summary

- Entrepreneurship and age are inverse hump shaped (the charts says it all!)
- Entrepreneurship declines in ageing parameter $r$ at the country level (controlling for GDP, start up cost and ....)
- Entrepreneurship rate within each country/age cell declines with ageing parameter
- Results are empirically sizeable
Two Comments / Extensions

1. Ageing, Life Expectancy and Entrepreneurship

2. Entrepreneurship and ageing and in *imperfect* capital market
Why all these entrepreneurs in countries with low income/low life expectancy?

Figure 3. Entrepreneurship Rate and Demo
Comment 1: What is the role of life expectancy?

- Early in life more tendency to stay in education, it takes more and more time climbing “on the shoulders of giants”
- For any given idea, a longer life horizon means more future returns values

\[ V() = d - w + \frac{d - w}{1 + i} + \frac{d - w}{(1 + i)^2} \ldots \ldots + \frac{d - w}{(1 + i)^T} \]  

in life expected

Two implications

1. In low life expected countries either you just do it in the twenties, or it is just too late
2. In ageing (and high life expectancy) countries entrepreneurship can be postponed later in life and compatible with increasing education when youth
3. Does entrepreneurship naturally delayed
Entrepreneurship like great inventions?

- Jones, *Age and Great Inventions*,
- Entrepreneurship naturally postponed in ageing economies
Do these life expectancy effects violate the paper results?

- Note necessarily. But....
- Life expectancy in country $i$ at age $t$ should be empirically controlled for (over and beyond GDP per capita).
- Being an entrepreneur in Uganda at 25 versus being an entrepreneur in the United States at 35 most likely means two very different things.
  - What all these young entrepreneurs in low income countries really do? Are they really different than self employed?
  - Do they need finance? Do they get finance so easily? In advanced economies entrepreneurship and finance go hand in hand (more to come)
II. Ageing, Entrepreneurship and Imperfect capital markets

- Ageing or finance behind the Japan entrepreneurship disease?

[Figure 6.6: Venture capital investments as a percentage of GDP]

- Total
- Seed/start-up/early stage
- Later stage venture

<table>
<thead>
<tr>
<th>Country</th>
<th>2013 Total</th>
<th>Seed/Start-Up</th>
<th>Later Stage</th>
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<tr>
<td>Israel</td>
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<td>Russian Fed., 2012</td>
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Here is an alternative story, compatible with the evidence in the paper:

- Youth are more innovative (exactly as in the paper)
- Entrepreneurs need funding, but capital markets are imperfect
- Overlapping generation framework
- To obtain funding it is necessary to have a collateral:
  - Collateral comes from accumulated and unspent earnings (requires labor market experience)
  - Bequest from previous generation (cash, real estate (Italy))
Why capital market imperfections exacerbate youth entrepreneurship chance in aging society?

In an ageing society two effects

1. Youth inherit potential collateral later in their life, when they have fewer energy and fewer chance of becoming entrepreneur at each age.

2. Aging may partially delay entry in the labor market by youth (sort of old in/young out), and lower collateral available at each youth age.

- Both effects imply that ageing reduce entrepreneurship at each age.