

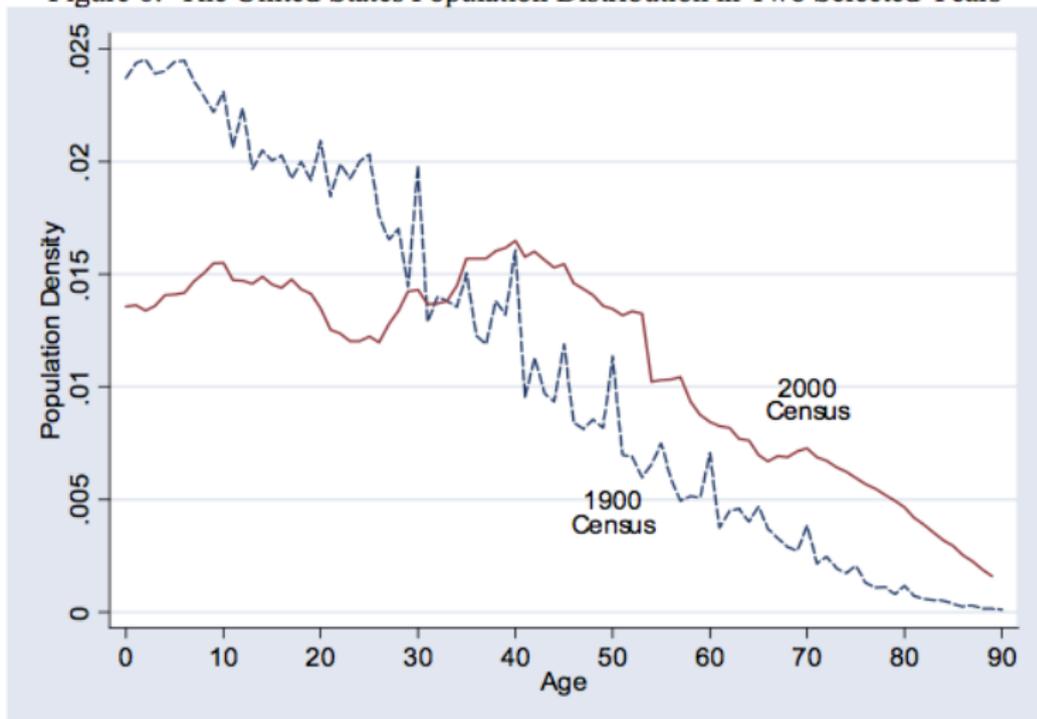
**Rodolfo De Benedetti Lecture
Discussion on
Demographics and Entrepreneurship
by Ed. P. Lazear**

Pietro Garibaldi
Collegio Carlo Alberto, Università' di Torino

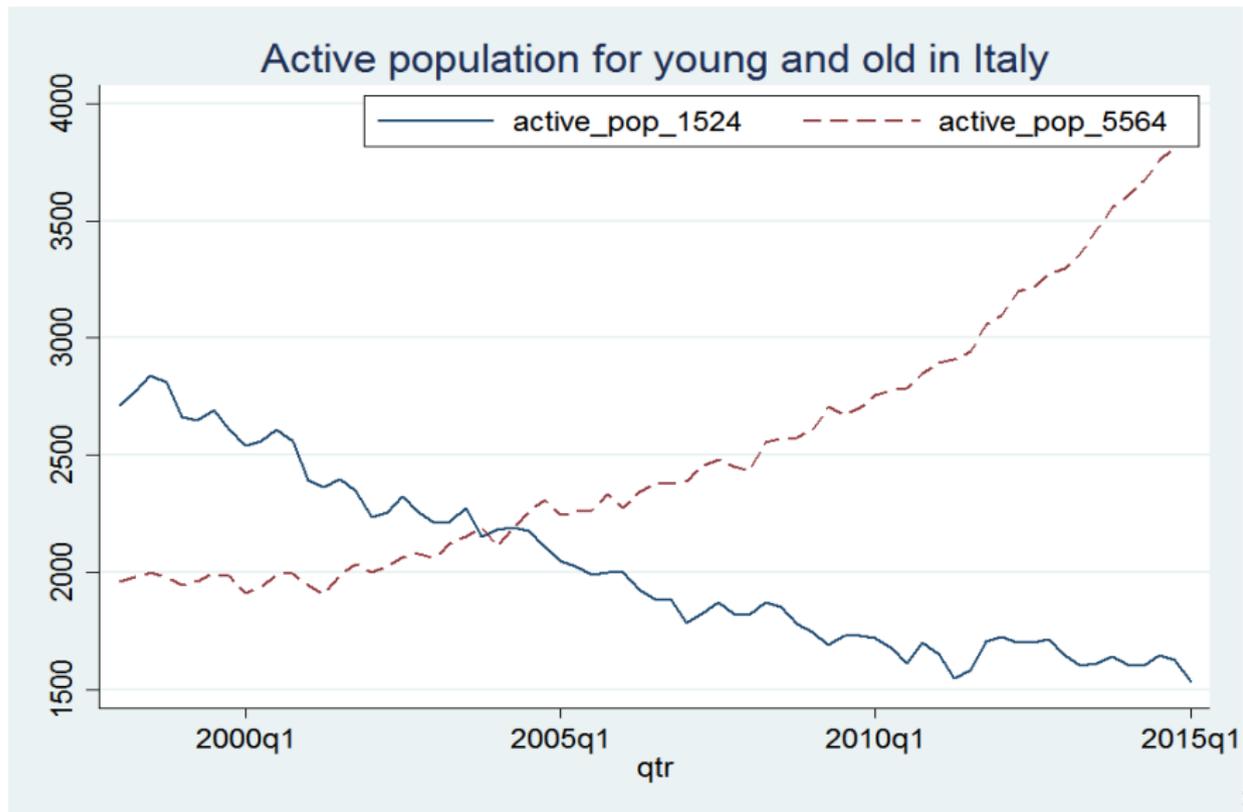
Milano,
15 October 2015

Ageing at works in the United States (Jones, 2013)

Figure 6: The United States Population Distribution in Two Selected Years



Recents Aging in Italy: Many old taking over few youth



Two very Well Posed question

- 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 ageing 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

Theory: Summary

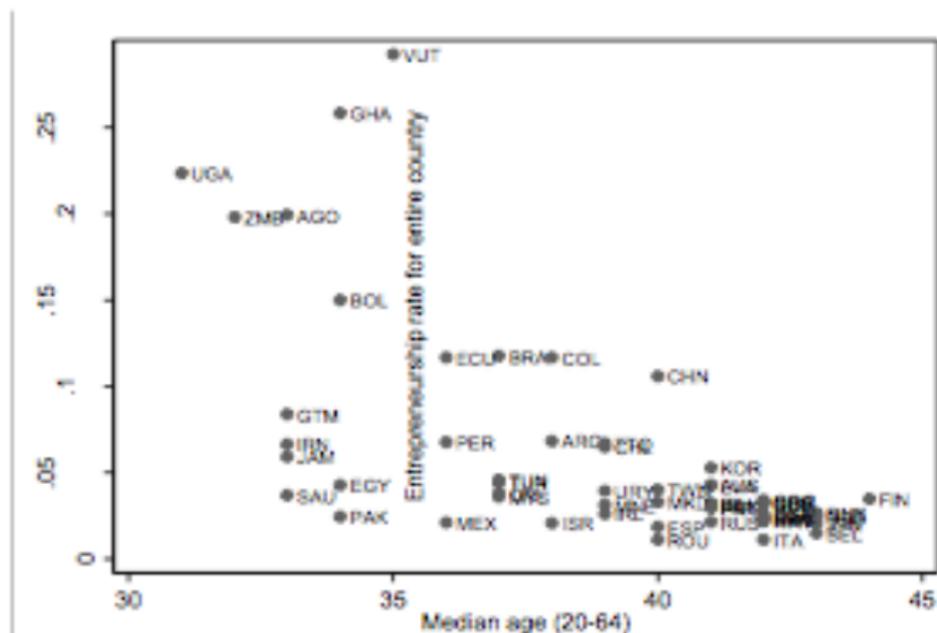
- Two key ideas...
 - ① Creativity falls monotonically with age
 - Sure (from Einstein, to Ramsey; from Bill Gates to Steve Jobs)
 - but... Newton's famous letter to Hooke, "if I have seen farther it is by standing on the shoulders of giants"
 - ② Creating a business requires on the job experience
 - 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

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

- 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 Demc



Comment I: 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

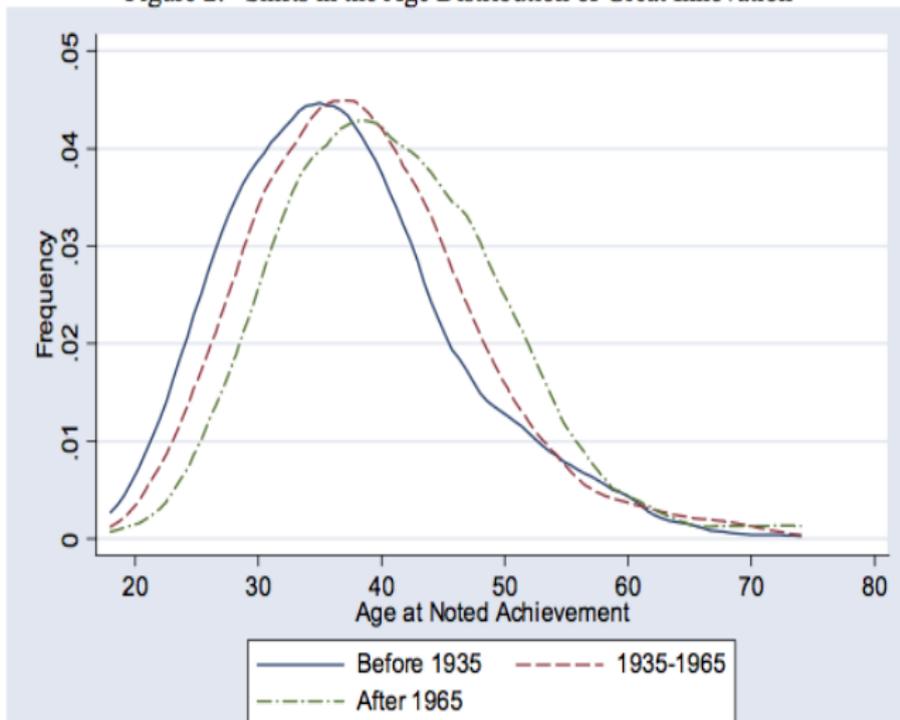
$$V() = d - w + \frac{d - w}{1 + i} + \frac{d - w}{(1 + i)^2} \dots + \underbrace{\frac{d - w}{(1 + i)^T}}_{\text{in life expected}} \quad (1)$$

- 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

Figure 2: Shifts in the Age Distribution of Great Innovation



Do these life expectancy effects violate the paper results?

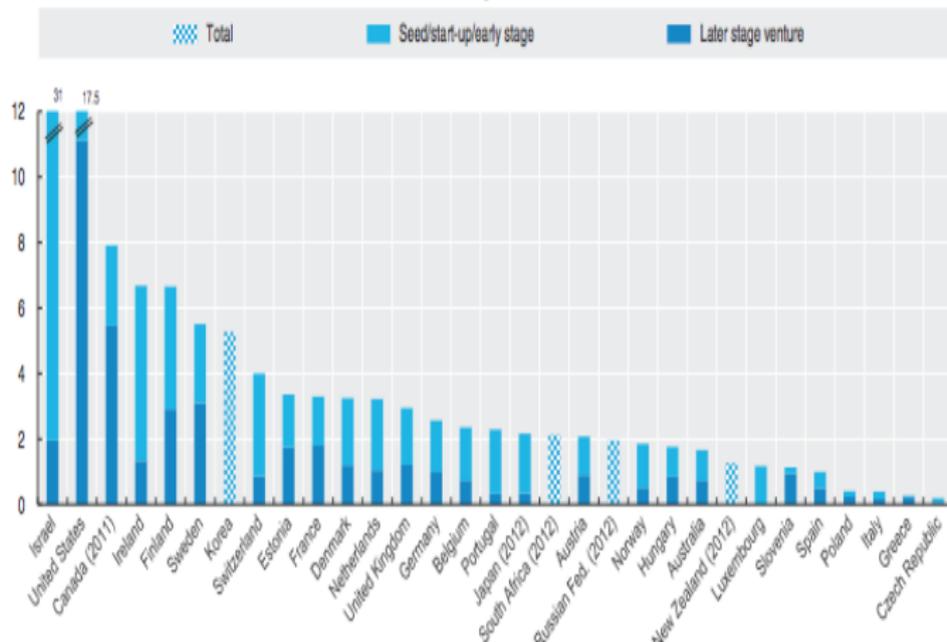
- Note necessarily. But....
- life expectancy in country i at age t should be empirically controlled for (over and beyond GDP per capita)
- Being an entrepreneur in Uganda at 25 versus being an entrepreneur in the United States at 35 most likely means two very different things.
 - What all these young 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 key determinant of entrepreneurship in OECD (Oecd, 2014, 2015)
- Ageing or finance behind the Japan entrepreneurship disease?

Figure 6.6. Venture capital investments as a percentage of GDP

Percentage, 2013



- 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