Who creates jobs: skewness and the role of age and size in Colombia

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Growing consensus a crucial characteristic of developing economies vs. the U.S. is that businesses grow, on average, at a slower pace over their life cycle in the former.

And, that in the U.S. the growth distribution is highly skewed: superstars are crucial. Skewness is particularly marked for young businesses.

To what extent differences in average life cycle growth spread across the whole distribution of growth? Are developing economies characterized by more dragging low-growth businesses, by a lack of extraordinary-growth businesses, by both?

- **Distortions that impact allocative efficiency may be behind lower l.c. growth in developing economies**: Hopenhayn and Rogerson (1993), Banerjee and Duflo (2003), Restuccia and Rogerson (2008), Hsieh and Klenow (2009, 2014) and Bartelsman et. al (2013).

- **Growth skewness in the U.S.**: Haltiwanger, Jarmin and Miranda (2013); Decker, Haltiwanger, Jarmin and Miranda (2016).

- Longitudinal census of non-micro manufacturing establishments.
- Plants followed longitudinal for up to 30 years.
  - Potential bias from the exclusion of micro and the exclusion of good part of informality.

Life cycle growth

- Plants’ employment grow over its life cycle.
- Colombian plants grow at a slower pace than U.S. plants.

Figure: Employment over the life cycle of manufacturing plants
Colombia vs. the US, 2002-2012
Current to initial employment
Plants’ employment grow over its life cycle.

Colombian plants grow at a slower pace than U.S. plants.

*Actual growth is faster than cross sectional growth.*
Employment growth and exit by age and size

- Net growth falls markedly over life cycle.
- Young plants grow faster than old plants, independent of size.
- Small plants grow slower than medium and large plants.
- Exit rate decrease with age and size.

**Colombian plants exhibit up or out dynamics. As result, young plants are drivers of growth.**
Employment growth and exit by age and size - Colombia vs. U.S.

But the up-or-out dynamics less stark than in the U.S.

- Cross-age differences more marked in U.S. than Colombia
- For Colombia, only plants older than 15 grow under the mean. In U.S. it happens for older than 10 years.
- Selection in the startups is stronger in U.S. than in Colombia.
- Interaction between size and age is stronger in U.S. exit.
10th and 90th percentiles of growth are flatter for Colombian plants compared to U.S.

Growth is more heterogeneous among young plants.

Mean and aggregate life cycle growth is driven by the highest percentiles.

Gazelles harder to find in Colombia than in the U.S., especially at young ages.
Even though the young firms represent a small proportion of the total employment, they contribute the bulk of net employment creation.
Conclusions

- Not surprisingly, U.S. plants grow at a faster pace than Colombian plants.
- Young plants grow faster than old plants in both countries, even after controlling for size differences.
- There is great heterogeneity among the young plants, with high average startups growth driven by superstars; and with a high exit rate.
- The upper tail of high growth is less dynamic in Colombia than in the U.S.
- Young Colombian plants go through less selection than young U.S. plants.
- Young plants contribute the most of employment growth over the medium term.