Comments on "The Democratization of US Research and Development after 1980"

by Hunt and Nakamura

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An interesting paper

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  - Prior to 1980, large firms had higher R&D intensity (R&D/operating expenses);
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  - Ever since, small firms caught up and surpassed large firms.
- A compelling explanation:
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- Empirical tests on a R&D model with falling entry barriers.

The model

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- Two stages of game:
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- Two different calculations:
  - Incumbent: new profit vs. cannibalization plus R&D costs.
  - Entrant: new profit vs. marketing costs plus R&D costs.

Findings and empirical tests

- Model implications:
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  As the exogenous sunk costs (marketing capital) fall, the entrant invests more in R&D and its market value increases, while the incumbent reacts with more R&D but its market value falls.
- Empirical tests:
  - Identify incumbent firms and non-incumbent firms.
  - Estimate R&D reaction functions using annual Compustat data, including proxy of marketing capital and R&D price.
  - Estimate market value of incumbent and non-incumbents.

Some issues

- The R&D reaction regressions:

$$\frac{R\&D_{it}}{OpExp_{it}} = \alpha_0 + \alpha_1 * (\frac{R\&D}{OpExp})^{-i}_{t-1} + \alpha_2 * Comp_{t-1} * (\frac{R\&D}{OpExp})^{-i}_{t-1}$$

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- The market value regressions.

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- Generalize the model:
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- Some references, e.g., Sutton (1991), Pakes (2000).