

Reallocation and Firm Dynamics

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- ▶ Recent researches show that this reallocation process is an importance source of productivity gain.

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 - ▶ I will talk about the first two.

Background

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- ▶ Theoretically, in many growth models (Solow model, Ramsey model, and some endogenous growth models), the growth in A_t is the engine of growth.
- ▶ Thus, it is important to develop “the theory of TFP.”

An empirical illustration

- ▶ A version of Baily, Hulten, and Campbell (1992) decomposition of industry productivity change ΔP_{it} :

$$\begin{aligned}\Delta P_{it} = & \sum_{e \in C} s_{et-1} \Delta p_{et} + \sum_{e \in C} (p_{et-1} - P_{it-1}) \Delta s_{et} + \sum_{e \in C} \Delta p_{et} \Delta s_{et} \\ & + \sum_{e \in N} s_{et} (p_{et} - P_{it-1}) - \sum_{e \in X} s_{et-1} (p_{et-1} - P_{it-1})\end{aligned}$$

where C is continuing establishments, N is entering establishments, and X is exiting establishments. The first is the “within” term, the second is the “between” term, the third is the “cross” term, and then net entry terms.

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- ▶ The reallocation accounts for more than half of productivity growth.
- ▶ Many new studies for productivity decomposition methods: e.g. Petrin and Levinsohn (2012), Osotimehin (2016), etc.

A bit more about expansion/contraction of firms

- ▶ How much are expanding firms expanding? **Job creation:**

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- ▶ Gross flows are quite large. In U.S. manufacturing (Davis, Haltiwanger, and Schuh 1996) 1973-1988, average annual JC is 9.1% and JD is 10.3%.

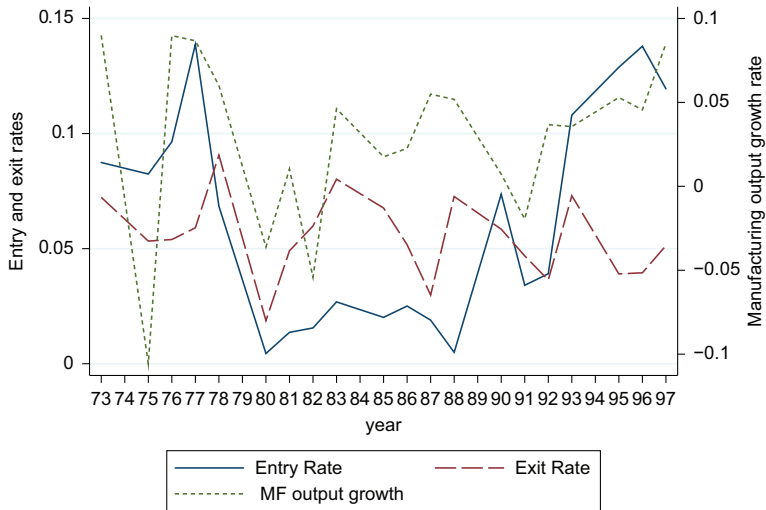
Some U.S. datasets: Census

- ▶ Longitudinal Research Database (LRD): the dataset of U.S. manufacturing plants by the U.S. Census Bureau.
 - ▶ Census of Manufactures (CM): The universe of plants. Every 5 years.
 - ▶ Annual Survey of Manufactures (ASM): Subset of CM (rotated). Every year.
 - ▶ Some quarterly data is also available.
- ▶ Longitudinal Business Database (LBD): The descendent of LRD. Annual data and covers all sectors.
- ▶ Business Dynamics Statistics (BDS) is made from LBD and it is public data. It includes the numbers of firms and establishments, firm age distribution, employment distribution, entry/exit, job creation and job destruction.
- ▶ Longitudinal Employer-Household Dynamics (LEHD): Quarterly employer-household matched data.
- ▶ Statistics of U.S. Businesses (SUSB): Annual numbers of firms, establishment, employment, and annual payroll.

Some U.S. datasets: Bureau of Labor Statistics

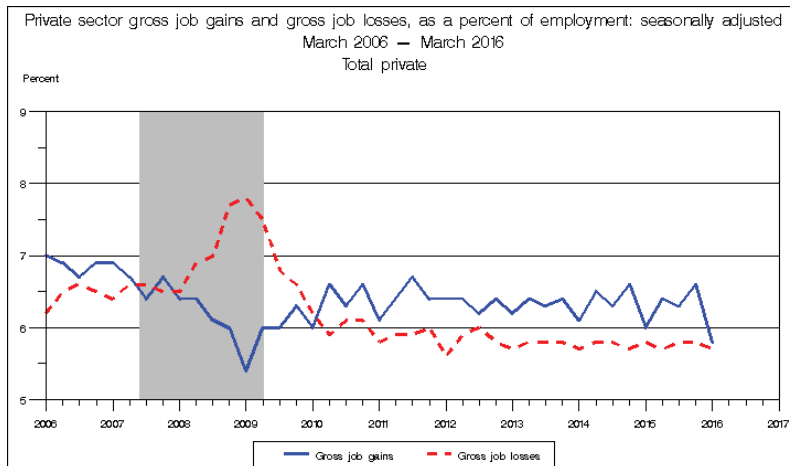
- ▶ Quarterly Census of Employment and Wages (QCEW): Quarterly establishment-level data of employment and wages. Covers 98% of all employment.
- ▶ Business Employment Dynamics (BED, BDM): Public data made from QCEW.
- ▶ Job Openings and Labor Turnover Survey (JOLTS): Monthly data from a sample of approximately 16,000 U.S. business establishments. Asks job openings (vacancies), hires, separations, quits, layoffs.

Some graphs from ASM



Source: Lee and Mukoyama (2015)

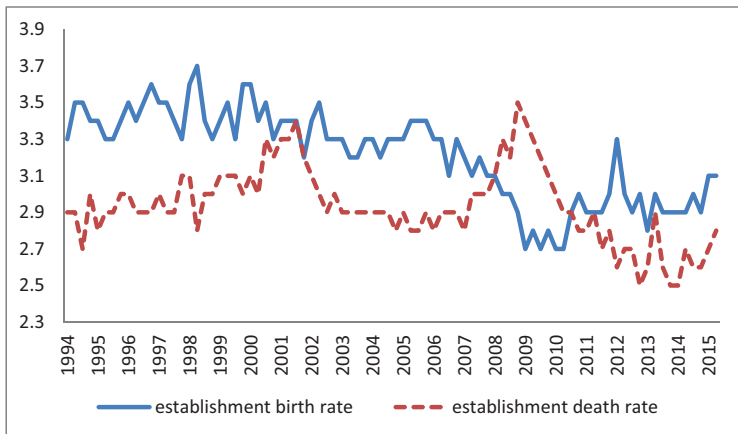
Some graphs from BED



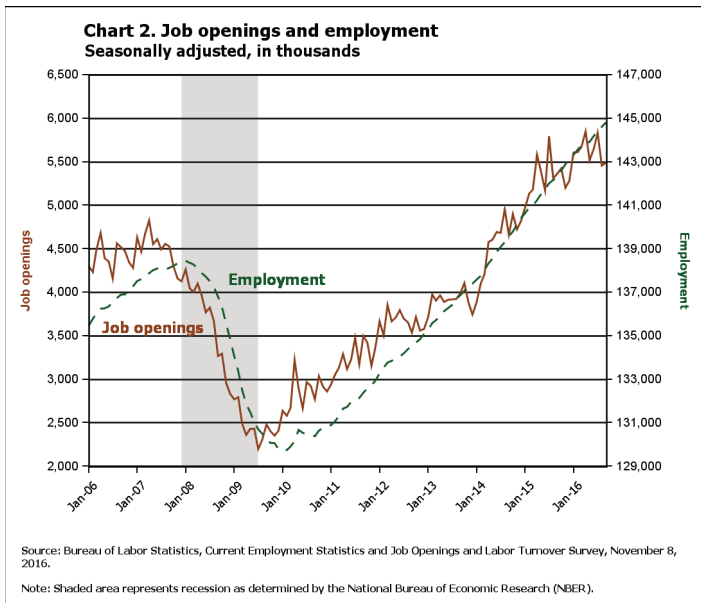
Source: U.S. Bureau of Labor Statistics

Note: Shaded area represents NBER defined recession period.

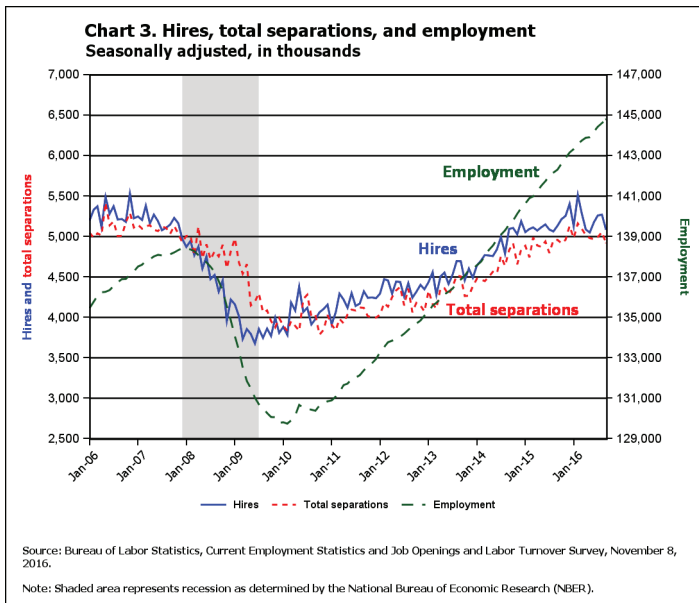
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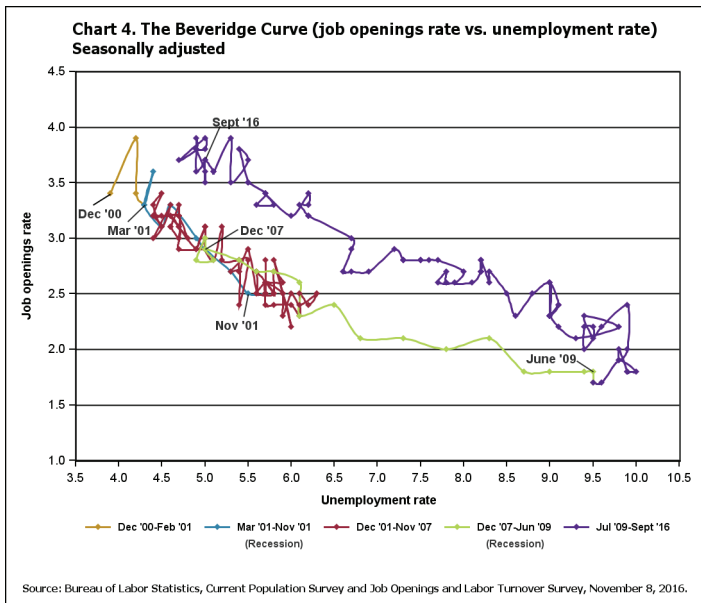
Some graphs from JOLTS



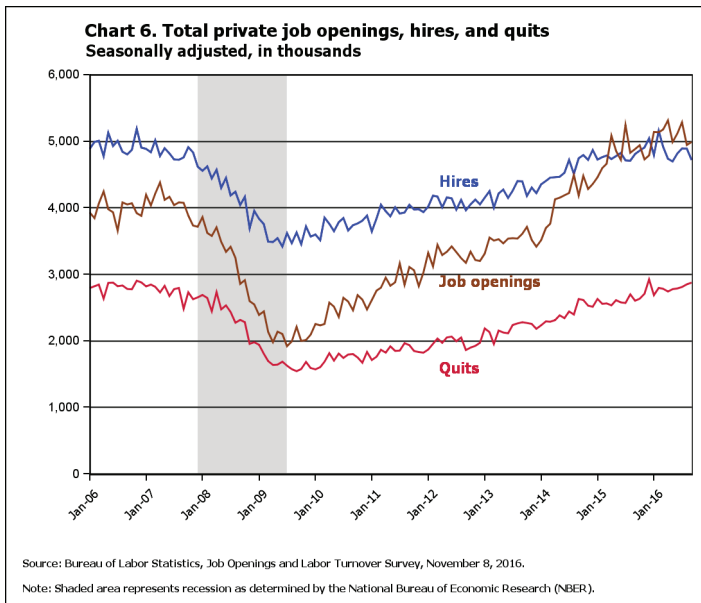
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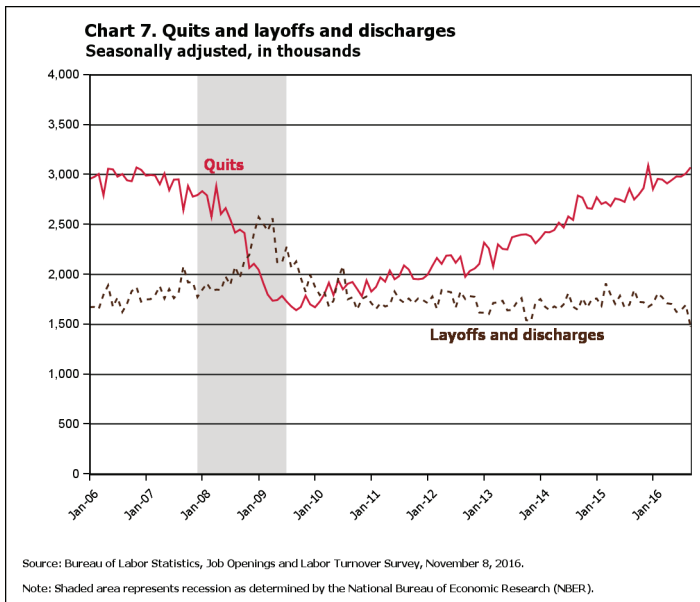
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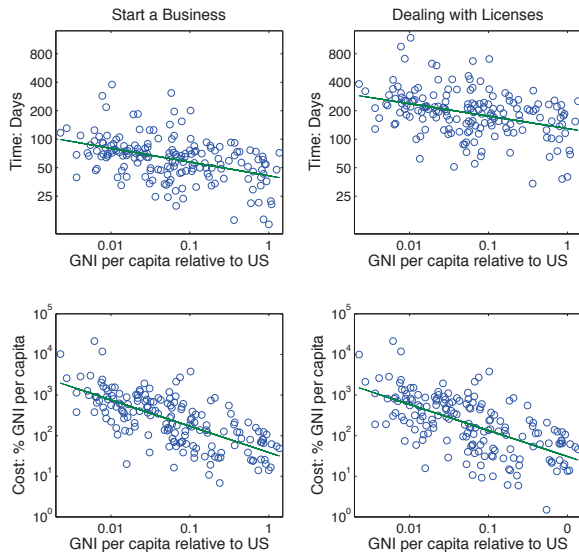
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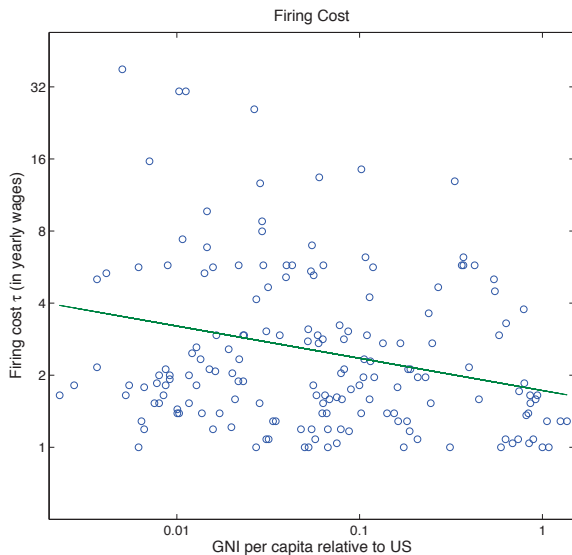
- ▶ Reallocation is important for productivity growth.
- ▶ But there are many countries that intentionally impose barriers to reallocation.
- ▶ Data: “Doing Business” dataset:
<http://www.doingbusiness.org>
 - ▶ Measures various aspects of the ease of doing business.
 - ▶ Some are directly linked to the issue of reallocation, such as the procedures required to start a business, hiring and firing costs etc.
 - ▶ Example: in the U.S. it takes 6 days to register a firm. In Brazil, 119 days. In Suriname, 694 days.

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- ▶ Mukoyama and Osotimehin (2016) build an endogenous growth model with creative destruction, and evaluate the effect of firing taxes. The overall reallocation of labor is reduced by the firing taxes, and productivity falls in both *level* and *growth rate*.

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Main takeaways

- ▶ Reallocations of productive resources have important impact on productivity.
- ▶ There are many new datasets that can be used for analyzing reallocations.
- ▶ Many countries impose policies that can become barriers to reallocation. One promising research area is to consider the interactions between politics and economics in analyzing this type of policymaking.

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