

**Comments on "Earnings Dynamics, Mobility Costs,
and Transmission of Firm and Market-Level Shocks"
by Thibaut Lamadon, Magne Mogstad, and Bradley Setzler**

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Summary

- The goal is to quantify the amount of insurance that firms provide to their workers. ie to what extent firms insulate workers from shocks to their productivity.
- Also to infer worker reallocation costs from the extent of transmission of firm productivity shocks to individual wages.
- Not only firm-level shocks, but also productivity shocks at industry/location level: a multi-layer approach.
- The impetus comes from access to a fabulous IRS dataset assembled from the universe of matched tax forms for US workers and corporations during 2001-2014.
- The project is still in its initial stages, so my comments are also tentative.

Summary (continued)

- Precedents to this question are Guiso, Pistaferri & Schivardi (2005) on Italian data, and ongoing work by Friedrich, Laun, Meghir & Pistaferri (2014) on Swedish data.
- Guiso et al argued that the amount of insurance may depend on the persistence of shocks (the more persistent the shock, the less likely to be insured).
- They reached for a middle ground by excluding worker separations via sample selection, what provided motivation for the more ambitious attempt in Friedrich et al.

Summary (continued)

- The question in this project is closely interconnected, empirically and theoretically, with other approaches and literatures (more than I can do justice here):
- Empirical decompositions of the relative contributions of worker heterogeneity and firm heterogeneity to earnings inequality, and the extent of their dependence, following Abowd, Kramarz & Margolis (1999) (AKM).
 - Also how these contributions have changed over time (e.g. Card, Heining & Kline 2013).
- Macro motivated empirical studies of household labor income or individual wage risk and their transmission to savings and work choices (e.g. Blundell, Pistaferri & Saporta-Eksten 2016; Arellano, Blundell & Bonhomme 2017).
- Estimation of rent-sharing elasticities between workers and firms.
- Structural models of sorting in the labor market.

Empirical model

- The starting point is the proportionality assumption that underlies AKM and much else: all co-workers in a given firm are paid a constant proportion of their individual productivity at any point in time:

$$w_{ijt} = \bar{w}_{jt} x_{it}$$

- A restrictive assumption that rules out worker/firm interaction effects in a static sense, and also dynamically through interactions between job and worker-firm productivity histories.
- Yet it is the natural starting point and probably there is still much to learn within this simplification.
 - Bonhomme, Lamadon & Manresa (2016) develop a setup that allows for interactions and more.
- The baseline wage equation that is taken to the data is:

$$\ln w_{ijt} = k_t - \frac{\alpha}{1 + \alpha\beta} g_j + \frac{1}{1 + \alpha\beta} \ln a_{jt} + \ln x_{it}$$

- a_{jt} is firm productivity, x_{it} is worker productivity, g_j is the amenity value of firm j and k_t is a time effect.
- Stochastic specification: permanent/transitory models for $\ln a_{jt}$ and $\ln x_{it}$.
 - Random walk and MA(1).

Economic framework

- A model in which work at different firms are differentiated products, so that labor supply is like IO demand for differentiated products. Workers have preferences for wages and firm characteristics.
- The preference parameter β measures the importance of wages relative to job characteristics. So, β is informative about the cost of worker reallocation.
- If β is large only wages matter and we are back to the competitive labor market.
- Firms post wages that depend on their productivity, technology (α) and product demand. They respond to the distribution of preferences but not to individual ones.
- Similar to the model in Card, Cardoso, Heining and Kline (2016).

Market level shocks

- A central extension in the paper is a model with both firm and market level shocks.
- A formal connection to a simple estimating equation is achieved through a nested logit formulation of labor supplies.
- This is an attractive line to pursue, which shifts the exclusive focus on firms to other nestings about which workers may have job preferences.
- I presume the dataset identifies firms, not plants. The firms-only model postulates not so much worker preferences over job characteristics but preferences over firms.
- Since location matters and large firms are present in many locations, there may be firm-location interactions in preferences.
- Nested layers of amenities will alter reallocation costs and the extent of competition.
- Useful to document sources of wage inequality and how they vary over time and between geographical areas.
- Variance decomposition of earnings: 85% is worker level, 15% is firm level; but when the market level components are added, the firm level contribution is reduced to 9%.

Baseline model

- Current results are for versions of a baseline model with and without market level shocks.
- The authors acknowledge some important limitations of the current model and plan to work on them.
- I will go through some of these limitations and extensions.

Sorting

- In the baseline model there is no allowance for sorting.
- Model parameters are identified from a subsample of stayers, except for separating out the effect of the scale of shocks from the extent of insurance.
- To do so firm-level value added data are used.
- The absence of sorting is a major limitation because there is evidence that empirically matters in simpler AKM models.
- Correlation between workers' productivity and firm premiums will likely affect estimation of β and also the interpretation of labor supply probabilities.
- How to generate and identify dependence between $(a_{j(i,t)t}, a_{j(i,t-1)t-1}, \dots)$ and x_{it} in this context is an important modelling choice.

Using data on movers

- In a firm switching approach the firm component is identified from worker movements, rather than filtering value added or some other measure of average firm performance.
- By doing this, the connection between firm-specific wage premiums and firm performance can be independently studied empirically.
- In a full DGP an assumption must be made about how movement occurs, so that over time some workers change firms.
- The static AKM analysis is conditional on those movements. The analysis is valid as long as movements are not endogenous with respect to time-varying errors.
- With time-varying productivities, movements could be predetermined but not necessarily strictly exogenous.
- The middle-road approach in Bonhomme-Lamadon-Manresa to linear dynamic models could be a good compromise.

Evaluating mobility costs

Preferences for firm characteristics vs mobility costs

- A sequence of cross-sectional probabilities?
- There is a utility cost to a worker of not staying in his most preferred firm.
- The model delivers the fraction of workers that want to be in a firm with a particular amenity for a given wage, but it is silent about transition probabilities.
- Mobility decisions coincide with steady state choices at given posted wages
- There seems to be no adjustment costs, but reallocation costs may be important.

Differential insurance according to persistence

- In the baseline model there is no differential insurance to permanent and transitory shocks.
- This was central to Guiso et al but there it was not micro founded.
- A micro founded interpretation will hopefully deal with dismissals.

Nonlinear dynamics

- There is a plan to estimate ABB models for permanent components.
- ABB found that the predictive distributions of persistent components of earnings had skewness that changed sign: upside risk for the poor and downside risk for the rich.
- This has implications for savings and work choices and therefore also for taxation.
- ABB could not check the extent to which this downside risk comes from firms or workers, or whether there is a different mix of risk asymmetries for different types of workers and firms. These are interesting questions.
- Establishing nonparametric identification here is challenging, specially if one is willing to allow for sorting, even subject to predetermined mobility.
- A different econometric technology will be required. EM algorithms that alternate between firm-level and worker level components are worth exploring.

Conclusion

- An exciting project and much work ahead!

and a final remark:

- We are desperately short of applied econometric methodology that is relevant for datasets and questions like those posed in this paper.
- Awareness of this shortage should encourage more interplay between methodological research and applications.