

Research Statement

Simeon Alder

My research is mainly focused on two distinct, but overlapping, agendas in economic growth and development broadly speaking. The first strand of my work seeks to understand whether the misallocation of people to tasks is a quantitatively important source of productivity – and hence income – differences across countries. In the second I aim to uncover how variations in product and factor market structure (and size) shape the incentives for innovation and hence economic growth. In addition, I have recently started to develop a new, but related, agenda on the macroeconomic implications of international trade.

Mismatch: There is a broad consensus in the existing literature that the vast differences between rich and poor countries can be accounted for by differences in productivity rather than observable differences in human and physical capital. Starting with Restuccia and Rogerson (2008) and Hsieh and Klenow (2009), this productivity literature has been focusing on the *misallocation of factors of production* as a potential source of income differences.

In Alder (2016), I consider an alternative form of misallocation, namely the mismatch of heterogeneous workers to differentiated tasks or employers. In this assignment framework I show that mismatch *can* be a quantitatively important source of productivity differences. However, in the article I also show that a key parameter governing the extent to which the attributes of people and the tasks they are matched with is not well identified in the micro data that has traditionally been used to parameterize this class of models.

In order to pin down the empirically relevant parameter more reliably, I develop a tractable dynamic assignment economy populated by overlapping generations of heterogeneous managers with (public) beliefs about their own abilities who are willing to pay a fixed cost in order to be matched with a firm from a stationary distribution in a working paper titled “A Tale of Two C(...): Competence and Complementarity” (Alder and Groes, 2016). We parameterize the dynamic model in this working paper by matching theoretical moments to their empirical counterparts in a matched employer-employee dataset that covers the entire Danish labor force from 2000 to 2009. The results to date suggest that the complementarities between managers and the firms they run are quite strong and that this form of talent misallocation *is* a quantitatively important source of inefficiency. To put it differently, mechanisms that select on attributes other than ability can be very costly.

In “Dynamic Sorting” (Alder, Meyer-ter Vehn, and Ohanian, 2016b) we develop a dynamic model of sorting where workers are heterogeneous in more than one dimension. Moreover, the distribution of tasks is endogenous and depends on the history of previous assignments. One of the agent’s skills determines the surplus generated by the current assignment to an existing technology, whereas the second dimension of the agent’s type determines the evolution of the assigned technology on a quality ladder. While some agents are unambiguously more skilled than others (i.e., they can

be ranked vertically), others are simply “different” (i.e., they are differentiated horizontally) and standard arguments for sorting no longer apply. Instead, the planner trades off additional surplus today against the discounted value of a different distribution of qualities on the ladder tomorrow. We can characterize the optimal assignment by a set of indifference curves on the agents’ two-dimensional skill set. Due to the dynamic linkages in the model, the comparative statics are novel and quite distinct from those in the recent static multi-dimensional assignment literature. Mismatch in this environment not only affects aggregate output today, but has a scarring effect on the evolution of the size distribution – and hence output – in the future, both along the transition path and in the stationary steady state. In ongoing and future work we are testing whether this dynamic assignment mechanism can account for the stylized differences in firm and establishment dynamics (survival and growth) across countries.

Competition and Innovation: In “Competitive Pressure and the Decline of the Rust Belt” (Alder, Lagakos, and Ohanian, 2016a), my job market paper, we develop a novel open economy endogenous growth model with regionally distinct labor market institutions to account for the secular decline of the US Rust Belt. Non-competitive labor markets in the Rust Belt give rise to a hold-up problem, which reduces the firms’ incentive to innovate. We find that the role of adversarial unions can account for slightly more than half of the observed decline in manufacturing employment. Moreover, and in contrast to widely held beliefs, we can rule out trade liberalization as a major force behind the Rust Belt’s demise. More generally, the model highlights how differential competitive pressure in labor and product markets shape the firms’ incentives to invest in technological capital.

In ongoing research on endogenous structural change, I build on my previous work from “Competitive Pressure and the Decline of the Rust Belt” and I use a version of the endogenous growth model with variable markups to account for secular differences in productivity growth across broad sectors (manufacturing and services) of the economy. In contrast to the previous literature on structural transformation, innovation decisions (and hence productivity growth rates) are endogenous, and the process does not depend on non-homotheticities in demand or sector-specific exogenous productivity growth. The model highlights the importance of market size and relies on a distinction between innovation at the establishment and firm levels to account for the stylized structural transformation facts.

Trade: In “Endogenous Trade Costs: A Network Model of Maritime Shipping” (Alder and Thurk, 2016) we use detailed data on port calls by ocean-going container vessels and bulk carriers to analyze how operators deploy ships of different vintages and/or cargo capacities across different routes. Our data range includes the great trade collapse of 2008-9 and we explore how the plausibly exogenous drop in ocean freight affects the operators’ choice of routes and networks at the extensive (i.e., change in destinations) and intensive margins (change in speed including lay-ups and duration of port calls). Ultimately, our aim is to characterize to what extent “natural” variations in trade costs due to location and topography are exacerbated or attenuated by the endogenous routing choices of cargo vessel operators and, possibly, by local trans-

portation infrastructure investment decisions. In a second step, we plan to develop a model of endogenous network formation and adjustment in order to shed additional light on the operators' routing decisions and their implications for the endogenous remoteness of certain regions.

References

- ALDER, S. D. (2016): "In the Wrong Hands: Complementarities, Resource Allocation, and Aggregate TFP," *American Economic Journal: Macroeconomics*, 8, 199–241.
- ALDER, S. D. AND F. N. GROES (2016): "A Tale of Two C(...): Competence and Complementarity," Working Paper.
- ALDER, S. D., D. LAGAKOS, AND L. E. OHANIAN (2016a): "Competitive Pressure and the Decline of the Rust Belt: A Macroeconomic Analysis," Working Paper.
- ALDER, S. D., M. MEYER-TER VEHN, AND L. E. OHANIAN (2016b): "Dynamic Sorting," Work in Progress.
- ALDER, S. D. AND J. THURK (2016): "Endogenous Trade Costs: A Network Model of Maritime Shipping," Work in Progress.
- HSIEH, C.-T. AND P. J. KLENOW (2009): "Misallocation and Manufacturing TFP in China and India," *Quarterly Journal of Economics*, 124, 1403–1448.
- RESTUCCIA, D. AND R. ROGERSON (2008): "Policy Distortions and Aggregate Productivity with Heterogeneous Establishments," *Review of Economic Dynamics*, 11, 707–720.