Research Agenda Richard Bräuer

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1 Summary

My research focuses on the drivers of aggregate productivity from an endogenous growth perspective, especially firms' individual productivity and the allocation of resources to these firms. Among others, I have studied the productivity effects of globalization, strategic research competition between firms, the matching of inventors to firms and labor market power. I use microeconometric analysis to understand the drivers of firm productivity and general equilibrium models to determine the macroeconomic implications. Where beneficial, I develop new econometric estimators to reach my results.

My already published work focuses on the globalization aspect: In "Trade shocks, labour markets and migration in the First Globalisation" (EJ 2024, with Felix Kersting) we study the structural change caused by import competition shocks in the Prussian economy 1895-1913. We find that this economy better absorbed globalization shocks by reallocating labor to booming regions and sectors. Our results suggest that the negative and persistent effects of trade shocks we see today depend on a lack of labor mobility. In "Import competition and firm productivity: Evidence from German manufacturing" (The World Economy 2023, with Matthias Mertens and Viktor Slavtchev), we identify the adjustment reaction of German manufacturing firms to import competition. We find that firms increase their productivity in response to only some competition, namely that from other developed countries. This finding aligns with ladder models of the innovation decision, where firms innovate if competitors are close to them.

In my ongoing projects, I study firms' innovation strategy specifically. My job market paper "The Aggregate Effects of Incumbent Firms Preventing Disruptive Innovation" proposes to explain the productivity growth slowdown with firms consciously preventing disruptive innovation. I build an endogenous growth model with incremental and disruptive inventions and an inventor labor market where firms poach disruptive inventors to

protect established technologies. I calibrate this model to the global patent landscape in 1990 and show that it predicts 52% of the decline of disruptive innovation until 2010. I confirm critical assumptions with an event study: Disruptions increase future research productivity, hurt incumbent inventors and raise the probability of future disruption. Without disruption, technology classes trend further towards incrementalism.

In addition to my job market paper, I want to highlight my work with Ufuk Akcigit, Andrei Markevich, Javier Miranda and Anna Zherdeva on the differences between planned and market economies, through which we study the growth contributions of business dynamism and responsiveness to productivity shocks. In other projects, I characterize the global matching behavior of inventors and firms and its changes during the productivity growth slowdown (1974-2012) and study the impact of labor market power on firms' innovation decisions and its impact on aggregate growth (together with Jonathan Deist and Matthias Mertens).

Two of my projects include a substantial contribution to econometrics: Together with Eric Bartelsman, I develop a method to estimate linear GMM in disjointed data sets or even when no micro level data exists anymore. In my paper on inventor-firm matching, I develop an alternative to the two way fixed effects estimator that takes into account that inventors work in teams.

2 Ongoing Work

Firm Dynamics and Economic Growth in Planned vs. Market Economies *(with Ufuk Akcigit, Andrei Markevich, Javier Miranda and Anna Zherdeva)*

How important is creative destruction for economic growth? We address this question investigating economic productivity and firm dynamics in planned economies where the role of Schumpeterian forces is restricted by design. Using novel industrial-firm-level data from Soviet Russia and East Germany in the late 1970s and 1980s, we compare these economies against their market counterparts such as the US and West Germany. We document little response to productivity changes, with few firms entering or exiting in the former communist countries. Through counterfactual simulations, we conclude that enhancing responsiveness to productivity shocks and increasing the rates of entry and exit to the US levels could have boosted growth by about 2.3% per year. This increase in growth would have covered the larger part of the economic gap between Eastern European and Western economies observed in the last decade before the fall of the Iron Curtain.

Matching on the Global Inventor Firm Labor Market

I analyze the matching of firms and inventors and the patent (citation) arrival rate of the resulting matches as a potential driver of slowing technology growth. I document a global trend towards increased assortative matching and declining inventor mobility to low productivity firms despite a largely constant patent invention function. To arrive at these results, I further develop empirical strategies used in the search and matching labor market literature to account for inventor teams and adapt these estimators to the peculiarities of the PATSTAT patent data from 1974-2012, which I use as an employer-employee data set.

When Aggregation is Necessary, is it Necessarily Bad? A practitioner's guide to estimation and inference across confidential micro datasets *(with Eric Bartelsman)*

We present an algorithm for linear GMM estimation which works even if the researcher cannot combine the underlying data into one data set. We discuss three different applications: First, a regression where X- and Y- variables are in different data sets. Second, a regression where observations are in different data sets. Third, a regression where the complete data is so large as to be unwieldy. We demonstrate these use cases by studying the effects of German R&D subsidies patent and firm data, estimating a Europe-wide production function without merging the firm level data sets of different EU countries and by documenting the speed performance of our code in simulated data. The main requirement of this method is that instruments and exogenous regressors have to be present in all data sets.

Labor market power and innovation *(with Jonathan Deist and Matthias Mertens)*

We document that firms possess high labor market power (LMP) across structurally weak European regions. We study the effect of LMP on firms' innovation decisions and aggregate growth. Theoretically, LMP has a nonlinear relationship with R&D: Higher profits incentivize entry and innovation of very small firms, but medium and large firms are disincentivized to innovate, since they have to pay higher wages if they grow further. To test this prediction empirically, we estimate LMP across German manufacturing firms and replicate the predicted innovation pattern. High and low LMP firms behave similarly after controlling for LMP. We build an endogenous growth model to understand the size of this effect relative to the overall innovation and productivity gap between East and West Germany