

Jahrestagung
Bildungsökonomischer Ausschuss im Verein für Socialpolitik
04./05. März 2021

Tagungsort: Virtuell (Zoom), Universität Augsburg
unter der Organisation von Stefan C. Wolter und Susanne Warning

Generalthema: „Bildung und exogene Schocks“
Stand: 21.02.2021

Donnerstag, 04. März 2021

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|-----------------|---|
| 09:00–09:10 Uhr | Begrüßung und Einführung
(Stefan C. Wolter & Susanne Warning) |
| 09:10–09:50 Uhr | Gregor Pfeifer (University College London): <i>„The effects of free secondary school track choice: A disaggregated synthetic control approach“</i> |
| 09:50–10:30 Uhr | Harald Pfeifer (BIBB & ROA Maastricht): <i>„Supply shocks in the market for apprenticeship training“</i> |
| 10:30–11:00 Uhr | Kaffeepause (virtuell) |
| 11:00–11:40 Uhr | Larissa Zierow (ifo Institut): <i>„Can schools change religious attitudes? Evidence from German state reforms of compulsory religious education“</i> |
| 11:40–12:20 Uhr | Katharina Werner (ifo Institut): <i>„Does ignorance of economic returns and costs explain the educational aspiration gap? Representative evidence from adults and adolescents“</i> |
| 12:20–13:10 Uhr | Mittagspause (virtuell) |
| 13:10–13:45 Uhr | Uschi Backes-Gellner (Universität Zürich): <i>„Updating education curricula and accelerated technology diffusion in the workplace: Micro-evidence on the race between education and technology“</i> |
| 13:45–14:15 Uhr | Preisverleihung Preis für die beste Bildungsökonomische Dissertation 2019–2020 |
| 14:15–15:15 Uhr | KEYNOTE Udo Michallik (Generalsekretär der Kultusministerkonferenz): <i>„PISA und Corona: Das deutsche Bildungssystem im Wandel – Erwartungen, Kontextbedingungen und die nüchterne Realität“</i> |
| 15:15–15:30 Uhr | Kaffeepause (virtuell) |
| 15:30–16:30 Uhr | Mitgliederversammlung |
| 16:45–17:45 Uhr | Virtuelle Stadtführung durch Augsburg |

Freitag, 05. März 2021

- 09:00–09:35 Uhr Katja Görlitz (Hochschule der Bundesagentur für Arbeit): *„The long-term effect of age at school entry on competencies in adulthood“*
- 09:35–10:10 Uhr Malte Sandner (IAB): *„The impact of Covid-19 related school policies on students in their final high school years“*
- 10:10–11:00 Uhr Postersession und Kaffeepause (virtuell)
- 11:00–11:35 Uhr Katja M. Kaufmann (Johannes Gutenberg Universität Mainz): *„Educational plans and educational success: Evidence on the speed and mechanisms of adjustment to a large macro shock“*
- 11:35–12:10 Uhr Samuel Mühlemann (LMU München & IZA Bonn): *„The effect of business cycle expectations on the German apprenticeship market: Estimating the impact of Covid-19“*
- 12:10–12:45 Uhr Ludger Wößmann (LMU München & ifo Institut): *„COVID-19 and educational inequality: How school closures affect low- and high-achieving students“*
- 12:45–13:00 Uhr Verabschiedung

Abstracts

(*Vortragende sind hervorgehoben)

Donnerstag, 04. März 2021

Gregor Pfeifer (University College London):

„The effects of free secondary school track choice: A disaggregated synthetic control approach“

Depending on the federal state in Germany, either teachers or parents have the legal right to decide on the highest secondary school track a child may attend after primary school (grade four). We exploit a recent state-level reform that changed the purpose of teacher recommendations from mandatory to informational to evaluate the effects on transition rates to the three secondary school tracks and repetition rates in the first grades of secondary school (grades five and six). We apply a disaggregated version of the synthetic control method, which forms synthetic controls at the district rather than the state level. This allows us to examine effect heterogeneity in more detail. The reform led to a substantial increase (decrease) in the transition rate to the intermediate and high (low) secondary school tracks, with stronger responses among children living in districts with a higher household income. At the same time, grade repetition in grade five almost doubled, and even sixthgraders have a 35 percent higher likelihood of grade retention. This evidence suggests that parents, unlike teachers, choose school tracks not just to match the child's ability but also to align with their own aspirations and beliefs.

Samuel Mühlemann (LMU München & IZA Bonn), Gerard Pfann (Universität Maastricht & IZA Bonn), **Harald Pfeifer** (BIBB & ROA Maastricht), Hans Dietrich (IAB):

„Supply shocks in the market for apprenticeship training“

We present a model with heterogeneous inputs and constant elasticity of substitution to examine the possible effects of a supply shock in the market for apprenticeship training. The model's predictions are tested using data from a German high school reform that led to a one-time increase in the supply of highly educated apprentices. A difference-in-differences estimation strategy exploits regional variation in the timing of implementation, and an instrumental variable approach identifies the supply shock effects. We find that apprenticeship contracts among individuals with a high school degree increased by 7.8%, while apprentice wages were unaffected by the supply shock. Moreover, we find no evidence of substitution effects, as the number of training contracts among individuals with a lower-level school degree remained unchanged. Our model predicts that such effects may occur when wages are sticky for apprentices with a high level of education relative to their productivity, which signals inefficiencies in the market for apprenticeship training.

Larissa Zierow (ifo Institut), Benjamin Arold (ifo Institut), Ludger Wößmann (LMU München & ifo Institut):

„Can schools change religious attitudes? Evidence from German state reforms of compulsory religious education“

We study whether compulsory religious education in schools affects student's religiosity as adults. We exploit the staggered termination of compulsory religious education across German

states in models with state and birth-year fixed effects. Using three different datasets, we find that abolishing compulsory religious education significantly reduced reported religiosity, personal prayer, church-going, and church membership of affected students in adulthood. Beyond religious attitudes, the reforms also led to more equalized gender roles, fewer children, and higher labor-market participation and earnings. The reforms did not affect non-religious school outcomes, political and ethical outcomes, and a series of placebo outcomes.

Philipp Lergetporer (ifo Institut), **Katharina Werner** (ifo Institut), Ludger Wößmann (LMU München & ifo Institut):

„Does ignorance of economic returns and costs explain the educational aspiration gap? Representative evidence from adults and adolescents“

The gap in university enrollment by parental education is large and persistent in many countries. In our representative survey of German adults, 74 percent of university graduates, but only 36 percent of those without a university degree favor a university education for their children. The latter are more likely to underestimate returns and overestimate costs of university. Similarly, 75 percent of adolescents with university-educated parents, but only 51 percent without university-educated parents aspire to a university degree. Experimental provision of return and cost information does not close the aspiration gap as treatment effects are at least as strong for individuals with university background as for those without. Differences in economic preference parameters also cannot account for the educational aspiration gap.

Tobias Schultheiss (Universität Zürich), **Uschi Backes-Gellner** (Universität Zürich):

„Updating education curricula and accelerated technology diffusion in the workplace: Micro-evidence on the race between education and technology“

In the race between education and technology (Goldin & Katz, 2008), the updating of education curricula with technologies from the research frontier may bring such new technologies from the technological frontier into the workplace faster. To provide micro-evidence on the technology diffusion effect of curriculum updates, we use two types of text as data: vocational education curricula and firms' job advertisements. In particular, we examine in this paper whether introducing computer-numerical-controlled machinery (CNC), computer-aided design (CAD) or desktop publishing software (DP) into vocational education curricula led to an accelerated diffusion of these technologies into jobs, as measured by the mention of these technologies in job advertisements. Exploiting the staggered introduction of new technologies in different occupations as an instrument, our results show a direct link between the updating of curricula and a substantial increase in technology use in the workplace, especially in smaller firms that are far from the technology frontier.

Freitag, 05. März 2021

Katja Görlitz (Hochschule der Bundesagentur für Arbeit), Merlin Penny (FU Berlin), Marcus Tamm (RWI & IZA):

„The long-term effect of age at school entry on competencies in adulthood“

The previous literature has shown that children who enter school at a more advanced age outperform their younger classmates on competency tests taken between kindergarten and Grade 10. This study analyzes whether these effects of school starting age continue into adulthood. Based on data on math and language test scores for adults in Germany, the identification of the long-term causal effects exploits state and year variation in school entry regulations. The results show that there are no effects of school starting age (SSA) on competencies in math and text comprehension. However, the long-term SSA effect is sizable on receptive vocabulary.

Ghazala Azmat (Sciences Po), **Katja M. Kaufmann** (Johannes Gutenberg Universität Mainz):

„Educational plans and educational success: Evidence on the speed and mechanisms of adjustment to a large macro shock“

We use the German Reunification “experiment” to study how an exogenously changed environment (from state socialism to capitalist democracy) affects educational plans and outcomes. We analyze whether, and how quickly, individuals’ educational plans adapt, which factors lead to the adjustment and how the change ultimately factors into long-run educational attainment. Using differences across cohorts induced by Reunification timing, we show that shortly after, educational plans among high school students in East Germany increase substantially and translate into sizable increases of completing the university entrance certificate five years later. Perceived educational returns, economic preferences (“consumerism”) and socio-political attitudes (“individualism”) adapt quickly and are directly linked to changes in plans and outcomes. However, cohorts who are closer to critical educational junctions at the time of Reunification adjust to a much lesser extent, related to a slower adjustment in preferences relative to younger cohorts.

Samuel Mühlemann (LMU München & IZA Bonn), Harald Pfeifer (BIBB & ROA Maastricht), Bernhard Wittek (LMU München):

„The effect of business cycle expectations on the German apprenticeship market: Estimating the impact of Covid-19“

A firm’s expectation about the future business cycle is an important determinant of the decision to train apprentices. As German firms typically offer apprenticeships to either fill future skilled worker positions, or as a substitute for other types of labor, the current coronavirus crisis will have a strong and negative impact on the German economy, according to the current business cycle expectations of German firms. To the extent that the training decision of a firm depends on its perception of the business cycle, we expect a downward shift in firm demand for apprentices and consequently also a decrease in the equilibrium number of apprenticeship contracts. To assess the impact of changes in business cycle expectations, we analyze German data on the apprenticeship market at the state-level and at the occupation-level within states from 2007 to 2019. We apply first-differences regressions to account for unobserved heterogeneity across states and occupations, allowing us to identify the association between

changes in two popular measures of business cycle expectations (the ifo Business Climate Index and the ifo Employment Barometer) and subsequent changes in the demand for apprentices, the number of new apprenticeship contracts, unfilled vacancies and unsuccessful applicants. We find that the German apprenticeship market prior to the current crisis can be characterized by excess demand for apprentices (although there are matching problems in some states, with both a high share of unfilled vacancies and a high share of unsuccessful applicants). Taking into account the most recent data on business cycle expectations up to June 2020, we estimate that the coronavirus-related decrease in firms' expectations about the business cycle can be associated with a predicted 8% decrease in firm demand for apprentices and a 6% decrease in the number of new apprenticeship positions in Germany compared to 2019 (-30,000 apprenticeship contracts; 95% confidence interval: +/- 8,000).

Elisabeth Grewenig (ifo Institut), Philipp Lergetporer (ifo Institut), Katharina Werner (ifo Institut), **Ludger Wößmann** (LMU München & ifo Institut), Larissa Zierow (ifo Institut):

„COVID-19 and educational inequality: How school closures affect low- and high-achieving students“

In spring 2020, governments around the globe shut down schools to mitigate the spread of the novel coronavirus. We argue that low-achieving students may be particularly affected by the lack of educator support during school closures. We collect detailed time-use information on students before and during the school closures in a survey of 1,099 parents in Germany. We find that while students on average reduced their daily learning time of 7.4 hours by about half, the reduction was significantly larger for low-achievers (4.1 hours) than for high-achievers (3.7 hours). Low-achievers disproportionately replaced learning time with detrimental activities such as TV or computer games rather than with activities more conducive to child development. The learning gap was not compensated by parents or schools who provided less support for low-achieving students. The reduction in learning time was not larger for children from lower-educated parents, but it was larger for boys than for girls. For policy, our findings suggest binding distance-teaching concepts particularly targeted at low-achievers.

Malte Sandner (IAB), Silke Anger (IAB), Stefan Bernhard (IAB), Hans Dietrich (IAB):

„The impact of Covid-19 related school policies on students in their final high school years“

This paper attempts to shed light on the impact of the COVID-19 policy measures on a wide set of expectations about career decisions, occupational beliefs, and well-being measures of high-school students in their final grades. For this purpose, we use a unique panel data collection, which surveyed around 6,000 students in their final or pre-final high school year. We have for the same students information about outcomes in three waves, before (fall 2019), close after (spring 2020), and several months after (fall 2020) the outbreak of the Covid-19 pandemic, with the last survey being conducted, when the COVID-19 incidences were high again. Additionally, we use variation within the second survey wave, as some students responded to the survey before and some students after the school closures. This variation allows us to apply a difference-in-differences design using students who answered the survey before the school closures as control group.

Postersession

Patrick Lehnert (Universität Zürich), Curdin Pfister (Universität Zürich), Dietmar Harhoff (Max-Planck-Institut für Innovation und Wettbewerb), **Uschi Backes-Gellner** (Universität Zürich):

„Innovation effects of higher education institutions and public research organizations in Germany“

We analyze the regional innovation effects and complementarities of Universities of Applied Sciences (UASs) with traditional academic universities and Public Research Organizations (PROs)—Max Planck, Leibniz, Helmholtz, and Fraunhofer institutes—in Germany. We augment official university directories to construct a novel data set indicating the exact campus locations and opening years of all public universities and research institutions in Germany. Furthermore, as these locations are not randomly determined, we use a novel, self-developed proxy for regional economic activity from more than 30 years of daytime satellite data and perform fixed effects estimations on the innovation effects of new UAS locations. Our results show that UASs positively affect patent quantity. This effect is substantially larger if other research institutes (Max Planck, Helmholtz, Fraunhofer) coexist in a UAS region. For patent quality, we find similar overall patterns. However, for patent quality the complementarities arise only between UASs and Max Planck institutes, suggesting that UASs contribute to higher-quality innovations in regions with strong basic research knowledge and to lower-quality innovations elsewhere. Furthermore, additional regional analyses show that UASs help East German regions catch up to the technological frontier by providing important knowledge resources and thereby bringing them closer to West German innovation levels.

Lutz Bellmann (IAB, Friedrich-Alexander-Universität Erlangen-Nürnberg und Institut Zukunft der Arbeit (IZA)):

„Betriebliche Berufsausbildung in Deutschland während der COVID-19-Krise“

Die COVID-19-Pandemie hat weitreichende Konsequenzen für die deutsche Wirtschaft und stellt die Betriebe auch vor Herausforderungen bei der Ausbildung. Die Einhaltung der Hygienekonzepte, Kurzarbeit, Homeoffice und Betriebsschließungen erschweren die Betreuung von Auszubildenden auf das Lernen im Betrieb. Das betriebliche Ausbildungsangebot, die Besetzung von Ausbildungsstellen und die Übernahme von Ausbildungsabsolventen bleiben davon nicht unbeeinflusst. Auch wurden öffentliche Förderprogramme initiiert. Auch zur Untersuchung dieser Themen führt das IAB seit August 2020 die Studie „Betriebe in der COVID-19-Krise“ durch, bei der alle drei Wochen jeweils 1500 bis 2000 Betriebe zu ihrer Situation in der Corona-Krise und ihren Umgang damit von Kantar Public telefonisch befragt werden. Die Daten werden zeitnah über das Forschungsdatenzentrum des IAB externen Wissenschaftler*innen zur Verfügung gestellt.

Samuel Lüthi (SKBF), **Stefan C. Wolter** (Universität Bern):

„The consequences of different degrees of competitiveness“

There is an extensive literature showing that women are less likely to enter a winner-takes-all competition than men and that this gender gap matters for several real-life decisions and choices. In this paper, we extend this evidence on external relevance by introducing two degrees of competitiveness: In our experiment, subjects assigned to a comparatively easy task were much more willing to compete than those assigned to a more demanding task, and this “task gap” is equally large as the observed gender gap which in turn is the same for both tasks.

We then match our experimental dataset with administrative data identifying dropouts from apprenticeships to analyse the relationship between degrees of competitiveness, gender, and dropouts. The empirical results show opposite effects for men and women. While competitive men in the difficult task are less likely to drop out than non-competitive men, there is no such effect observable for those assigned to the easier task. Competitive women, on the other hand, are more likely to drop out compared to non-competitive woman. The main reason why competitive women terminate apprenticeship contracts more often are conflicts with their employers. This suggests that the behaviour of competitive women contradicts social expectations of employers and is therefore not seen as a positive characteristic of women.