Ritzen, Jo; Hoareau, Cecile

Article

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Equal Opportunity and Lifelong Learning: The Future of Higher Education in Germany is Only Secure with Major Policy Changes

Jo Ritzen[1] and
Cecile Hoareau[2]

Introduction[3]

Germany is home to a renowned education and research system that features world famous research institutes, highly reputable vocational training, and some of the world's oldest universities. This system prides itself on its tradition of equity through largely tuition-free education with generous support for the parents of learners. Its graduate employment rate was one of the highest in Europe in 2009 according to Eurostat, with 90 percent of graduates in employment three years after graduation.

German higher education has served as a role model across the world. Before the Second World War its universities inspired the design of prestigious US institutions (Flexner 1910; Wildavsky 2010). More recently, its vocational training was emulated in South Korea in the form of the "My Star" – (as a variation on "*Meister*", the German word for master) schools in 2010 (Lee 2012).

Germany is one of Europe's strongest economies. Its innovation potential is high. In international comparisons it ranks 4th on the Pro-Inno scoreboard (Pro Innno Europe 2011, 4) and 15th in the world according to INSEAD's (2012) global innovation index. A high level of innovation is unthinkable without an excellent higher education and research system.

Yet Germany's education system is underperforming in some respects. German research universities are under-represented in rankings of research universities relative to the size of the (student) population. Germany also has a comparatively low throughput of universities, namely the ratio between the graduates and total enrolment in comparison to other European countries (Hoareau, Ritzen and Marconi 2012). Similar considerations extend to education levels preceding tertiary education. Germany's results as measured by the OECD's Program for International Students' Assessment did not match its economic level, with reading performance only slightly higher than the OECD average (OECD 2009).

This paper focuses on a key element of the underperformance of the German education system: educational equity. Educational equity matters as an indicator of talent pool use. Greater equity is accompanied by higher economic growth and more innovation (Hoareau et al. 2012). Our observation is somewhat grim. Attainment in German higher education has actually become increasingly *in*equitable. These growing inequities, combined with a reduction of the working age population, may bode ill for the German economy, and in particular for its innovation potential.

The impact of parental education and socio-economic background on attainment in higher education decreased in Germany – as in many other European countries – from 1945 onwards up to the 1980s. Since then, however, the impact of parental education and background has actually become larger (Koucky, Bartusek and Kovarovick 2010, 45).

We use the term higher education here to include universities (*Universitaeten*) and tertiary education to cover the entire post-secondary sector, i.e. *Universitaeten, Fachhochschulen* and *Berufsfachschulen*. Inequities in higher education attainment leave several groups vulnerable. Koucky et al. (2010) concentrated on equity related to socio-economic background and the education level of the parents. Specific vulnerable subgroups of the population are those with a migration background and the group of non-traditional students (for example, lifelong learn-

[1] Empower European Universities (EEU), Maastricht University, IZA Bonn.
[2] Empower European Universities (EEU), Maastricht University.
[3] The authors are grateful to Paulina Pankowska, University of Maastricht, for her research assistance.

ers). They turn out to be underrepresented in higher education.[4]

Greater equity in the participation of these two groups in higher education could compensate, at least partly, for the negative impact of demographic change on the supply of well-trained workers. A broad pool of higher education graduates with the advanced skills necessary for an innovative workforce is important to guarantee Germany's economic sustainability.

This paper is structured as follows: section *The relevance of equity in higher education for economic innovation* places the issue of equity in higher education in the broader context of the German economy. Section *Equity in higher education, selected trends* subsequently describes the evolution of equity in German higher education. This section unveils the myth that the zero-tuition-fee policy together with a rich, but unfocused student support system contributes to equity. Indeed, the opposite turns out to be the case: the zero-tuition-policy and the unfocused student grant system mainly serve the privileged classes (including the well-to-do middle class) to the detriment of equity. In section *Recommendations*, the paper concludes with three recommendations: it calls for improvements in teaching in primary and secondary education, combined with a more focused student support system, and it challenges universities to improve their performance in terms of equity by adapting the governance structure of higher education. The last section presents our general conclusion: there is scope for Germany to greatly improve equity in higher education. At the same time, a greater emphasis on equity is urgently needed for the economy in view of German demographics.

The relevance of equity in higher education for economic innovation

Equal opportunity in higher education tends to be justified in terms of fairness: all individuals should have an equal opportunity to receive education because of the personal benefits it generates, as well as the opportunities that it provides to acquire skills, expand horizons and promote social mobility. Equality of opportunity is also a prerequisite for sustained economic growth. Economies based on advanced technological developments, like that of Germany, increasingly require advanced skills (Goldin and Katz 2008). The increase in demand for these skills leads to a growing polarisation in the labour market between those who can provide such skills and those who cannot, leading to growing disparities in unemployment rates and wage differentials. This, in turn, leads to increasing inequalities in several OECD countries, including Germany. According to the OECD (2010, 22–24), the Gini coefficient, a measure of income inequality, increased by four percentage points from the mid-1980s to the late 2000s in Germany. Income inequalities also grew in both Germany and the Nordic countries, more than anywhere else in the world in the 2000s, even although these regions were traditionally low-inequality countries.

Advanced skills are provided by higher education. Hence, equal opportunities in access and attainment to higher education are becoming increasingly crucial for equal opportunities in employment. Equal access to higher education is part of the acquisition of the advanced skills necessary for technology intensive economies (Levy and Murnane 2005).

Demographic change, a European-wide issue, leaves Germany as one of the most affected countries (along with other countries such as Italy or Greece). Germany's rapidly ageing population intensifies the need for a highly skilled population, in order to maximise labour productivity (GDP generated per capita per hour). A highly skilled population would increase the working age population and help to cover the expenses related to the retired population. The population of retired workers in Germany will increase by 21 percent by 2025, according to a report commissioned by the Conference of Education Ministers and the Federal Ministry of Education in Germany (Authoring Group Educational Reporting, 2010). However, the working age population will decrease at the same time by ten percent and the total learner population by 15 percent.

The German economy would need a higher number of highly skilled graduates. Yet, higher education enrolment is 13 percentage points lower than the European average in 2010 according to data from the Federal Statistics Office (2012). The number of first year students looks set to decrease by 25 percentage points from 2012 to 2025. The ensuing decrease in the overall number of students will make increasing equitable access to higher education even more important than ever. Germany needs all of its talent on board in order to smoothly negotiate the demographic transition.

[4] Wolter and Schuetze (1997) and Schuetze and Slowey (2002) cover the under-representation of lifelong learners in German higher education.

Equity in higher education: selected trends

The German higher education landscape, however, is developing in the opposite direction. Inequities in attainment have actually increased in Germany since plunging to an all-time low in the 1960s, as summarised in Figure 1, and Germany is currently making less use of its pool of talent than previously.

Koucky et al. (2010) compiled an index of inequity in attainment in higher education for European countries by matching parental education and socio-economic background to higher education attainment (the higher the index, the greater the inequities in attainment) for the period 1970–2009. They showed that inequities decreased between the 1970s and the 1980s, but increased again from an index of 41 in 1980 to 48 in 2009.

At the same time, certain groups of the population seemed to be less and less represented in higher education. Table 1 shows the evolution of the odds ratio of migrants with a higher education using European Social Survey (ESS) data. Migrants, who on average have larger families, could partially compensate for the decrease in the proportion of youngsters and individuals of working age.

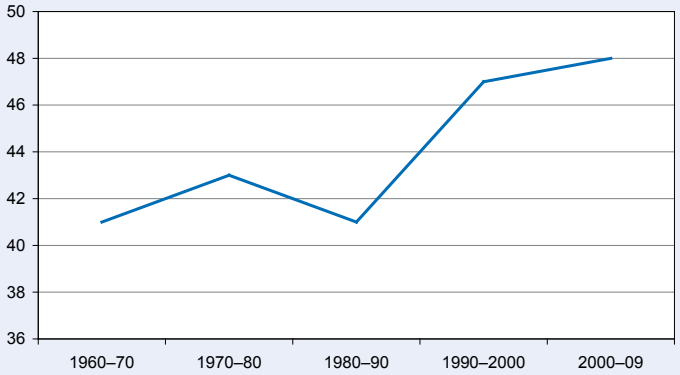
Table 1 shows that the odds ratio of migrants with a higher education degree to the native population decreased in Germany from 2002 to 2010. Germany is about the 15th country out of 24 in terms of number of migrants with a higher education degree compared to the native population. The odds of getting a higher education degree as a migrant were 13 percent lower than for the native population in 2010. It is worth noting that the odds ratio of migrant populations with a higher education degree increased in other countries over the period 2000–2010, including the Czech Republic or Poland. Note that Table 1 applies only to migrants born abroad. Hence it represents the combined effect of migration policy and education policy. We can only presume how second and third generation migrants fare. The relatively low PISA scores of second and third generation migrants (compared to the native population) suggest that their higher education attainment will be also (much) lower, as is implied in Table 1.

If the European Social Survey (ESS) provides a representative sample of migration trends in Germany, and if we consider that the overall migrant population has increased from 2002 to 2010 (except for a dip in 2006), the figures in Table 1 imply that the number of migrants with higher education has not grown in proportion to the overall number of migrants in Germany. This might indicate that Germany has simply become less attractive for migrants with a higher education degree, or that migration policy was insufficiently focused on attracting such migrants.

Moreover, the German education system generates less intergenerational mobility than many OECD countries: only one fifth of German youngsters who graduate have a better education than their parents (OECD 2012; Schindler 2012).

Figure 1

Trends in the higher education inequality index in Germany 1960–2009



Source: Koucky et al. (2010).

Recommendations

According to the German political myth about higher education, tuition-free education combined with an unfocused student aid system will ensure equity in higher education. This myth is contradicted by the stark reality that higher education equity has decreased since 1980. Previous inequity-correcting policies included direct funding for higher education.

The unfocused part (in the form of parental tax deductions and child allowances) has led to correction mechanisms. These correcting mechanisms took the form of means-tested or merit-based awarding of grants and subsidised loans. The scholarship program '*Deutschlandstipendium*', intro-

Table 1

Trends in the odds ratio of migrant / native population across Europe, 2002–2010

Country	Odds ratios of migrants / natives				
	2002	2004	2006	2008	2010
Belgium	0.94	0.79	0.94	0.77	0.75
Bulgaria	n/a	n/a	0.85	0.00	1.83
Croatia	n/a	n/a	n/a	0.52	0.37
Cyprus	n/a	n/a	2.39	0.97	0.57
Czech Republic	1.67	1.70	n/a	0.00	1.97
Denmark	0.88	1.61	1.19	0.71	0.98
Estonia	n/a	0.93	0.97	0.81	0.76
Finland	1.12	1.33	1.27	0.76	0.97
France	0.95	0.94	0.90	0.88	1.50
Germany	0.95	0.56	1.38	0.62	0.87
Great Britain	1.59	1.72	1.55	1.03	1.65
Greece	0.56	0.59	n/a	0.43	0.32
Hungary	1.20	2.48	1.26	1.53	1.46
Ireland	1.34	1.32	1.51	1.08	1.32
Lithuania	n/a	n/a	n/a	n/a	0.96
Netherlands	0.86	1.06	1.13	0.75	1.02
Norway	0.92	0.93	1.54	0.87	0.93
Poland	n/a	n/a	1.18	3.24	2.78
Portugal	1.37	1.15	2.81	1.25	0.46
Slovakia	n/a	0.00	0.00	2.07	2.05
Slovenia	0.00	0.00	1.07	0.30	0.51
Spain	0.64	0.72	1.17	0.58	0.57
Sweden	0.98	0.90	1.28	0.88	0.80
Switzerland	0.86	1.07	1.72	0.89	1.22

Note: Odds ratios are compiled from a sample of the population aged 21–35, and include the ratio of migrant graduates (migrant population with higher education to overall migrant population) to ratio of native graduates (native population with higher education to overall native population). Odds ratios inferior to 1 imply that being a migrant reduces the likelihood of holding a higher education degree; odds ratios superior to 1 imply that being a migrant increases the odds of getting a higher education degree and odds ratios equal to one imply that a migrant has the same odds than a native to obtain a higher education degree. A migrant is a person who is born abroad, regardless of his or her citizenship status. This complies with the definition provided by the International Organisation for Migration (IOM): 'The term [migrant] applies to persons, and family members, moving to another country or region to better their material or social conditions and improve the prospects for themselves or their family'. Higher education includes the completion of a bachelor, master or doctoral degree (excludes short degree courses and vocational education).
2010 includes respondents with bachelor to doctoral degree.
2002-2008 includes respondents with a tertiary education degree
Source: Norwegian Social Science Data Services (2010).

duced in 2011, aims to increase the proportion of scholarship holders among outstanding students. Institutions were also financially supported in setting-up suitable equity mechanisms. For example, the excellence initiative (seen as a shining example across Europe), a multi-billion euro investment in higher education, includes equity policies as a funding criterion.

Germany is very aware of the relationship between the level of funding per student and the quality of higher education. The higher education pact of 2007 provided the financial basis to cover an expansion in student numbers until 2015.

However, funding policies, both at the level of funding places, as well as at the level of funding student financial support, have a limited effect as long as inequities in access at earlier educational levels are not corrected. The early orientation of pupils towards a course of education leading to the pursuit of vocational or academic branches at the higher level is seen by many as contributing to the reproduction of inequities. The differentiated vocational and academic pathways evolve along one of the highest graduate employment rates in Europe (and one of the lowest youth unemployment rates). However, early streaming (at the end of primary education) seems to be a hindrance to social mobility. Selection for the secondary education path that leads to university, namely the gymnasium (grammar school), is correlated with socio-economic background (Kiiver 2010). There are also other pathways (around 40) to university. However, Germany has one of the lowest percentages of students entering higher education through an alternative route, namely four percent versus a European average of 11.9 percent.[5] Alternative routes include, according to Eurostudent (2010, 32), vocational training, work experience, accreditation of prior learning, aptitude/entrance examination and post-secondary (non-higher) education.

[5] Average compiled based on the dataset of Empower European Universities, available at http://www.empowereu.org/publications and may differ from the Eurostudent (2010) average because missing data has been imputed.

The referral by teachers in the gymnasium towards higher education may play a role in the social bias related to types of education. A study by the University of Mainz found that 91 percent of children from the upper social classes with top grades received a recommendation for the gymnasium, while only 76 percent of working-class children with similar grades obtained such a recommendation (Eltern Family 2008).

Moreover, equity in achieving a higher education degree still may not be the same as equity in life chances: graduates from families with parents that have a lower level of education also tend to have a lower income and fewer job prospects than the average (Bertschy, Alejandro and Wolter 2009).

Insufficient equity in education has a wide spectrum of causes, but requires policy initiatives targeting different directions. We limit ourselves to three directions in this paper:

- Focus student support on those who – without that support – would not be able to make it to higher education with a student loan/grant system, together with higher tuition fees, to be used to raise the funding of higher education.
- Improve teaching in primary and secondary education.
- Give universities more autonomy and thus more leeway to increase equity, while challenging them on the results.

Germany could improve equity greatly by withdrawing funding for broad-based measures (like child allowances for students or tax deductions for parents with children in higher education) and ploughing it back into increasing targeted student support and raising the quality of higher education. The Dutch and the UK examples of social loan schemes, augmented with merit scholarships, would release money and increase equity. These financial aid schemes, however, would not be sufficient to fully correct inequities, given the inequities stemming from earlier levels of education.

Targeted recruitment campaigns to diversify and rejuvenate the pool of teachers in Germany might help. They may decrease the negative perception bias toward minority groups and facilitate pupils' identification with teachers, possibly increasing the educational success of minority groups. This recommendation is in line with the study from the Authoring Group for Educational Reporting (2010, 16), commissioned by the Federal Ministry and the State Ministries of Education. This report firstly noted that 40 percent of all teaching staff in Germany and 50 percent of all school teachers were aged 50 or older. Secondly, the report added that only seven percent of teachers within the formal education system had a migration background, even if one quarter of learners were from a migration background. A population of teachers that represents the student demographic would facilitate the positive identification of students and increase their chances of success independently of their background.

The third recommendation aims at a reform of the governance of higher education. The report by the Maastricht-based foundation Empower European Universities (Hoareau et al. 2012) showed that the success of the educational system was not only a matter of funding, but also of institutional organisation. The higher education system of Germany is not homogeneous: there are substantial differences between German states, as education is a competency of the states and not of the federation. Yet, the outward flow of German students to neighbouring countries, including Austria, Belgium, Denmark and the Netherlands, suggests that those who can afford the costs of mobility search for a better quality higher education experience, where they would, for example, have a lower teacher to student ratio. The reputation of German universities may indeed no longer be as glittery as it used to be. German universities are placed in the 'middle performing group' according to the European assessment of higher education by Empower European Universities (Hoareau et al. 2012). When weighed by population, German universities are 12th on average in Europe according to the 2011 ARWU ranking. Students from lower socio-economic groups may not be able to afford international mobility. They may also be the group most heavily affected by teaching quality, since they may require more intensive support (given the acquisition versus the reproduction of additional cultural capital implied by the pursuit of a higher education degree according to Bourdieu, 1986).

Reforms geared toward the improvement of the quality of higher education in Germany would be equity enhancing. The present system of governance of universities in most states of Germany does not encourage change towards a better quality education and greater equality of opportunity. For example, rectors of universities are elected by their peers (the senate). The election system preserves the academic independence of an institution, but also maintains the status quo, marked by the presence of strong lobbies. This could also be the

reason why curriculum changes have been so slow, for example, in offering part-time courses, even although several states provide the opportunity for universities to freely decide on course content. As a result, the match between the demand for course content and supply has been inadequate, according to Schuetze and Slowley (2002). Greater flexibility in the course offering would increase the chances for non-traditional students, including lifelong learners, to participate in higher education. Encouraging a move towards student-centered curriculum and teaching could help to enhance educational equity.

A reform of the governance of universities, which could include the appointment of rectors and the adaptation of curricula to the (changing) needs of society could lead to greater educational equity. These reforms would also bring about an upward social mobility spiral.

Conclusions

Germany is challenged by growing inequities in higher educational attainment. The demographic change looming during the decade ahead is making this challenge all-the-more intensive. Germany's federal and state governments need to better exploit the nation's talent pool through broader access to and better attainment in higher education.

We suggest three stepping stones to achieve this:

- Improved targeting of student support
- Combined with a correction of perception biases through the targeted recruitment of teachers at primary and secondary education levels, and
- A change in the governance of universities to facilitate an adaptation to student-centered learning and equity.

These reforms would facilitate educational equity and help Germany to utilise its human potential more fully in the forthcoming period of demographic transition and beyond.

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