

**Austrian Council for Research and
Technology Development (ed.)**

Prospects and Future Tasks of Universities

Digitalization - Internationalization - Differentiation

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LIT

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THE DEVELOPMENT OF TERTIARY ATTAINMENT – STATISTICAL SCENARIOS FOR THE COMING DECADES

Bilal BARAKAT & Wolfgang LUTZ

ABSTRACT

In this study we examine long-term trends in post-secondary and tertiary educational attainment in Austria and the rest of the world, as well as projections over the next fifty years, in order to inform current higher education policy debates. These projections are derived in a demographically consistent way within a cohort-component model, with attainment-specific mortality and fertility rates. Scenarios at such a time scale necessarily abstract away from political contingencies, and instead represent the implications of long-term, macro-level social trends. From this perspective, anything other than continued expansion, even if only moderate, would represent a significant break with past trends in Austria itself and with international experience and precedent. In the long run, it appears unlikely that a lack of demand at the macro-level would constrain further expansion. Even under significant further expansion, Austria's share of tertiary-educated labour force will continue to lag well behind other European countries for several decades into the future.

INTRODUCTION

Ever since the passing of the Austrian *Universitätsgesetz* in 2002, which equipped universities with a substantial degree of autonomy, has the appropriate link between enrolments and funding been subject to heated debates. After a short-lived tuition fee experiment during the 2000s, enrolment growth outpaced increases in overall funding, and the notion of a capacity-oriented funding formula was floated repeatedly. At the time of writing, this approach appears to have been embraced as official government policy, but not yet enacted or implemented. It is not clear at the time of writing how exactly the specific number of university places to be offered will be determined. Crucially, even less clear is the *dynamic* planned for this number, in other words, how it will be decided when and to what extent it will be adapted to increased demand in the future, whether on the part of secondary school leavers or of employers.

This brings to the fore a key pair of questions in any kind of scenario exercise: should it focus on long-term trends, including those in other countries, or rather on national plans and policies? And are the scenarios, especially the central one, to be understood merely as projections, or more ambitiously as forecasts? A scenario based

mostly on current government plans would be both overdefined in the short term and underdefined in the long run: the assumption that the plan is implemented means the plan *is* the projection, at the same time plans do not extend decades into the future and therefore provide no guidance for future expectations. And *whether* the plan can be implemented successfully (on its own terms) is not a matter of statistical analysis.

It appears more fruitful, therefore, to examine the underlying trends as a backdrop against which the implications of a policy of constrained supply may be assessed. Does it merely amount to making official a development that is already set in motion, or does it, on the contrary, appear to be an attempt to “stem the tide”? Does it compensate for a national idiosyncrasy and contribute to making national higher education dynamics more similar to those in other countries, or on the contrary, represent a lonely path?

A number of governments at some point announced national ‘targets’ for higher education participation among the principal age group ranging from 20 to 60 percent (Blair 1999; Bradley et al. 2008; Government of China 2010; Obama 2009), well into territory that Trow (1972) in his seminal study of higher education expansion characterised as mass (16 to 50%) or even universal access (greater than 50%). In any case, government commitment may be less decisive than sheer demand pressures, as suggested by the striking finding that higher education enrolment rates are unrelated, or even negatively associated with the share of the education budget for higher education (Mimoun 2008; Bergh and Fink 2008).

Anticipating some of the discussion to follow, it is worth noting that constraining tertiary *enrolments* does not necessarily preclude medium-term growth in tertiary *attainment*. One of the aims of limiting admissions is to reduce the ‘mismatch between traditional and modernized elements’ (Pechar and Wroblewski 2012, 39) that contributes to high rates of high drop-out in the Austrian higher education sector. If successful in this regard, *completion*, and therefore attainment, may in principle continue to expand. In addition, in thinking about the capacity of the labour market to offer post-secondary graduates tasks appropriate to their qualifications, it is crucial not to conflate the *flow* of graduates among cohorts of young people entering the workforce with the *stock* among the working-age population. Even if somehow every single young school-leaver from now on obtained a university degree, it would still take decades for the last worker with less schooling who is already in the labour market today to retire. In light of such nuances, it is necessary to lay some conceptual groundwork before turning to the numerical results.

WHAT DO WE MEAN BY ‘TERTIARY PARTICIPATION’?

ENROLMENT, ATTAINMENT, FLOWS, AND STOCKS

In the interpretation of education statistics generally, including statistics on post-secondary and tertiary education, care must be taken not only with the definitional boundary between different levels, but also with a number of fundamental distinctions. In particular, different conclusions may be drawn depending on whether levels

and trends in the number of entrants are analysed, in the number of students, or of graduates. Moreover, the implications of the latter as a flow must be distinguished from the stock of graduates in the population that reflects cumulative past flows.

For policy and planning purposes, the absolute number of entrants and students is of key interest. For the purpose of understanding long term societal change, however, it is the *proportions* of different cohorts at different levels of attainment that matters more. The former can easily change even if the latter does not. More young people may start a tertiary programme, but drop out without completing it. The same number of entrants may take longer to complete on average, increasing the stock of students due to inefficiency rather than high attainment. In more complex ways, and analogously to how the standard summary measure of childbearing intensity, the *Total Fertility Rate*, is affected by the timing of births as well as their number, a trend of increasingly earlier or later tertiary entry, at constant duration of study, would cause the number of students to increase respectively decrease. Again, the actual distribution of attainment ultimately achieved would remain the same nevertheless. The potential for distortion becomes even greater when consideration is limited to a narrow age bracket, as the Tertiary Gross Enrolment Ratio, which references the age range up to five years after the theoretical age of completing upper secondary school, typically 19–23. All this without even considering the question of how to handle parallel enrolments, individuals enrolled, but not actively pursuing their studies, and other problematic cases. Indeed, among the publications by the Austrian national statistical office, namely the *Hochschulstatistik* and the *Hochschulprognose*, there are discrepancies with respect to the exact definitions.

For these reasons, actual, completed attainment is arguably the most relevant measure for international comparisons, as a stock in the population as a whole, and interpreted as a flow into this stock when examined for young cohorts. Indeed, this is how the EU's 'Europe 2020' strategy defined its tertiary education target, namely as 40 percent or more of 30–34-year-olds achieving tertiary attainment. However, the notion of 'tertiary attainment' presents significant measurement issues of its own.

DELINEATING 'TERTIARY' ATTAINMENT

However, the debate concerning the delineation of 'tertiary education' did not end when the more inclusive definition prevailed in the struggle for recognition of non-university higher education institutions. In some systems, such as the United Kingdom, the very category of 'polytechnic' was abolished, and these institutions simply became universities with the *Further and Higher Education Act 1992*. Elsewhere, such as in Germany, the *Fachhochschulen* remained such, but saw their status enhanced to being equivalent to that of university for most practical purposes, with the notable exception of the power to award doctoral degrees. Either way, there is no longer any debate about both types of institutions being part of the 'higher education' sector.

The boundary debates have moved. Certainly since the 2011 revision of the *International Standard Classification of Education* (ISCED), with the introduction of

the level of ‘Short Cycle Tertiary’ (ISCED 5) that is explicitly recognised as often being provided at different educational institutions than academic degrees, ‘tertiary education’ is no longer congruent with ‘higher education’.

An additional complexity is recognised in the distinction between the classification of *programmes* on the one hand (ISCED-P) and *attainment* on the other (ISCED-A) in the ISCED 2011 standard. This recognises the existence of education programmes that are situated at a certain level, but that are ‘insufficient for level completion’ and do not, by themselves, confer the corresponding level of attainment.

Based on this distinction, a persuasive case can be made (Aff 2013) that even though the Austrian *Berufsbildenden Höheren Schulen* (BHS) are part of ISCED-P 5, they should be considered ‘insufficient for level completion’ and that its graduates have therefore not yet attained ISCED-A 5, i.e., tertiary attainment. However, the more generous interpretation has established itself, and the Austrian BHS are presented in the ISCED 2011 Operational Manual as an explicit example of a vocational school-based programme that, after the full five-year cycle, does lead to a first *completed* attainment at ISCED-A 5. One consequence is a definitional break in the time series of tertiary participation and attainment that Eurostat or the OECD publish for Austria.

Such problems of classification are the main reason why the educational attainment projections presented in (Lutz, Butz, and KC 2014) combine the categories of post-secondary and tertiary attainment all together.

TERTIARY PARTICIPATION IN AUSTRIA: STATUS QUO AND SCENARIOS FOR THE FUTURE

A STATISTICAL SNAPSHOT

The present aim is not to replicate the volume-filling presentations of detailed statistics of all the indicators mentioned above for Austria and comparison countries, statistics that are readily accessible in the current publications by Statistik Austria, Eurostat, or the OECD, and that go into great detail in terms of providing disaggregated figures by gender, subnational region, subject area and so on. Instead, only a small number of key figures is presented to set the scene for the projections, not least by providing a sense of how the starting point in terms of completed attainment relates to other indicators that receive more coverage.

Statistik Austria’s flagship publication on education, *Bildung in Zahlen 2014/15* reports some 375 thousand students in higher education in the strict sense including only the 22 public and 12 private universities, the *Fachhochschulen* (universities of applied sciences), teacher training and theological institutions. Around three quarters of these enrolments are at the universities. The size of the higher education sector in terms of the absolute number of students has followed a strongly increasing trend, both in the long term (enrolments only exceed 100 thousand in the late 1970s), and in the medium term since the early 2000s, when the introduction of tuition fees resulted in a temporary drop in enrolment, partly because it resulted in the purge of inactive

students from the register. The number of degrees completed ('ordentliche Studienabschlüsse') at public higher education institutions has risen even more markedly, from fewer than 10,000 per year in the mid-1980s to over 50,000 for the academic year 2013/14.

In terms of transition rates, around two-thirds of upper secondary graduates eligible for entry into higher education do so within three years of graduating. However, note that the graduates of BHS higher vocational schools have already reached tertiary attainment, regardless of whether they subsequently enter higher education or not, and the entry rate among graduates of general academic upper secondary education into higher education is 85 percent. In other words, the transition from upper secondary into tertiary does not constitute a bottleneck that in itself would serve to limit the expansion of tertiary attainment. More limiting is the completion rate. Among higher education entrants in the academic year 2004/05, just over half had actually graduated with a degree within ten years.

PROJECTIONS OF TERTIARY ATTAINMENT IN AUSTRIA AND THE WORLD

APPROACHES TO (TERTIARY) EDUCATIONAL PROJECTIONS

As a general rule, projection models become more stylised, the greater their coverage in space and/or time. This pattern is reflected in the differences between education projections whose primary purpose is to aid national planning and those serving international comparisons.

The national projections contained in Statistik Austria's *Hochschulprognose* focus on absolute numbers of entrants, students, and graduates in the Austrian higher education sector over the medium term to 2033. Accordingly, they build on statistical extrapolations of trends in entry, progression, drop-out, and completion rates at each stage. As discussed above, this approach is invaluable for national policy analysis, but is limited in its applicability to truly long-term projections and international comparisons. The underlying model accounts for the effect of a number of covariates, and is contextually specific, as is evident in, for example, the separate treatment of student migration from Germany specifically, disaggregation of types of upper-secondary schooling and their different tertiary transition rates, or the consideration of the number of *months* since graduating upper secondary to determine tertiary transition rates. At the same time, a fundamental assumption is that the conditional rates remain constant in the future. In other words, the *Hochschulprognose* focuses on the effect of the changing composition of cohorts of potential entrants on student numbers. As such, its use is limited to the medium-term, as is reflected in the projection horizon up to 2032/33.

The focus of the Organization for Economic Cooperation and Development (OECD) naturally rests on international comparisons rather than accounting for national idiosyncrasies. Accordingly, its own principal higher education projection exercise, documented in the *Higher Education to 2030* report (OECD 2005), follows a more abstract approach. For enrolment outcomes, these projections make use of 'age functions' of entry, drop-out, and completion, that specify the incidence of en-

rolment events at different ages, rather than occurrence-exposure rates. Among these functions, only entry is allowed to vary by country, while the other two represent average behavioural patterns across OECD countries. The dynamics are limited to the extrapolation of linear trends estimated on the most recent past. Notably, the projections of population attainment presented in that report are based on a *different* model, namely an extrapolation of age-specific attainment shares.

Our own projections differ crucially in this regard, in that once achieved, attainment is carried to higher levels in a demographically consistent way within a cohort-component model, with attainment-specific mortality and fertility rates. The projections presented here are derived from the latest iteration of the model described by Lutz, Butz, and KC (2014). The methodology of this update is fully documented in Barakat (2017). In brief, we model highest attainment directly, in other words, without deriving it from entry, progression, and graduation rates. The specification takes into account country-specific trends, and because these are estimated on relatively long time-series, and projected out to a distant horizon, they can take the non-linearity into account that is inevitably induced by the upper bound of universal attainment at a given level. The country-specific trends are jointly estimated within a Bayesian framework, and are exposed to additional assumed convergence in the future.

SCENARIOS

Given the probabilistic nature of these projections arising naturally from the Bayesian setting, different scenarios can straightforwardly be defined in terms of the quantiles of the distribution of simulated trajectories. In particular, the median is a natural choice for a 'business as usual' scenario. The scenario corresponding to the 10th percentile of the distribution clearly qualifies as a 'low' stagnation scenario, yet it is still perfectly compatible with a general continuity of the underlying structural dynamic. In other words, an associated narrative would not require the occurrence of political or socioeconomic disaster, merely an extended period of anaemic lack of dynamism. In terms of specification, the 'high' scenario shown is the mirror image of the 'low' scenario, namely the 90th percentile of the distribution of simulated trajectories. Narrative support for such a scenario might stem from the recently-adopted Sustainable Development Goals (SDGs). These goals were adopted by the United Nations in September 2015 as the framework to guide global development initiatives during the period 2015 to 2030. In contrast to the preceding framework, the Millennium Development Goals (MDGs), the SDGs are explicitly understood to apply not only to so-called 'developing countries', but also to industrialised, high-income countries. Indeed, some of the targets are likely to prove challenging even for the most advanced countries. This includes the target of achieving universal completion by 2030 of upper secondary schooling. While the SDGs do not include a quantitative target for post-secondary or tertiary education directly, universal completion of upper secondary education can be expected to create an upward pressure on higher education by inflating the pool of potential entrants.

For interpretation, note that while the medium scenario corresponds to an absence of dramatic shocks in either direction, it is not compatible with complacency. Even the 'expected' outcome must still be actively achieved. In other words, this scenario does not imply an absence of individual and policy effort, but an amount of effort to be expected at this level of educational development that is consistent with the precedent set by other societies, which may be considerable.

RESULTS

In all of the following, recall that 'upper secondary' is *not* limited to *Matura* and qualifications considered to be *Matura*-equivalent, but corresponds to ISCED-A 3, which also includes most Austrian vocational school qualifications.

Overall level

The development of the share of 30–34-year-olds with more than upper secondary attainment according to the above scenarios is shown in Figure 1. In Austria, it is evident that in terms of ultimate attainment, the expansionary trend over the past few decades is clear-cut.

For the international comparison, we treat countries as the unit of analysis and accordingly examine *unweighted* averages that do not account for population size. It is evident that with respect to the more inclusive category of post-secondary and tertiary attainment investigated here, Austria is actually much less of a laggard in terms of either level or dynamicism that is frequently assumed. This is obviously and expectedly true in a global comparison, but also relative to other countries in Europe or North America. Note, however, that this group is defined *geographically* and is not limited to other high-income countries. The fact that the scenarios for country aggregates already begin with a gap is due to two factors: firstly, the model allows for a small amount of uncertainty and/or measurement error in the past observations, and secondly the reference year for the baseline data differs between countries, so that in some cases, 2015 is already several years into the projection.

According to Statistik Austria, the national statistical office, the size of the relevant age group of young adults aged 20–24 is projected to remain highly stable during the time period in question. Following an initial decline from current levels by some 5 percent, their number is expected to be practically the same in 2065 as in 2022, and on average in between, with a marginal variation of less than 4 percent either way. Accordingly, an additional display of absolute numbers of attainers is expendable, as their general dynamic is clear from the shares shown in Figure 1 to which they are essentially proportional.

The number of attainers in the age group 30–34 may serve as a proxy for the number of students ten years prior. While far from exact, it is a serviceable first-order approximation, especially for the long-term future where deriving enrolments from projections of internal flows within the higher education system become increasingly tenuous. This means that keeping pace with the expansion dynamics evident at the

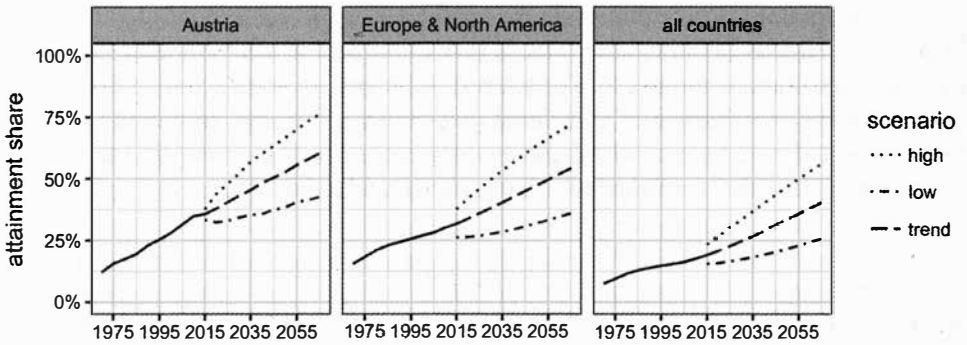


Figure 1: Projected share of 30–34-year-olds with more than upper secondary attainment. Aggregates are unweighted averages across countries.

international level in terms of participation *rates* – even just to maintain Austria’s position as a relative laggard among countries with comparably high levels of income – will require a commitment to continue increasing *absolute capacity* at the post-secondary and tertiary level at a similar pace as in the past. The shrinking cohort size in the next few years offers a strictly temporary breather.

At the same time, a prolonged period of stagnation is not implausible, as the ‘low’ scenario demonstrates. This would involve a combination of two factors: a) falling behind the historic long-term trend, and b) this fundamental trend actually being slower than the recent past suggests, during which Austria would have ‘overperformed’ (with hindsight in this scenario) with respect to the expansion of post-secondary and tertiary participation.

At the other extreme, it would still be broadly consistent with past trends and international experience for a majority of 30–34-year-olds around 2025 to attain higher than upper secondary attainment. Since these cohorts are of typical higher education age now, current entry and enrolment patterns may provide a sense of whether this scenario can already be dismissed. However, this is examined in a more disaggregated fashion in the next section.

Gender differences

Narrowing the focus to Austria itself allows for a more nuanced examination of the quite different post-secondary dynamics among women and men, and for an inclusion of the upper secondary level that provides the pool of potential entrants (Figure 2).

With respect to the upper secondary level, it is clear that women have caught up rapidly with men during the latter twentieth century. Indeed, upper secondary attainment among men has been stagnant during the most recent decades. Nevertheless, a continued expansion at this level towards universal participation is projected. While the immediate determinant of continued projected expansion are the underlying model assumptions, substantive evidence validates both the general specification and the resulting projection in the Austrian case. With respect to the former claim, the experience across other countries shows that, while it unavoidably slows down as

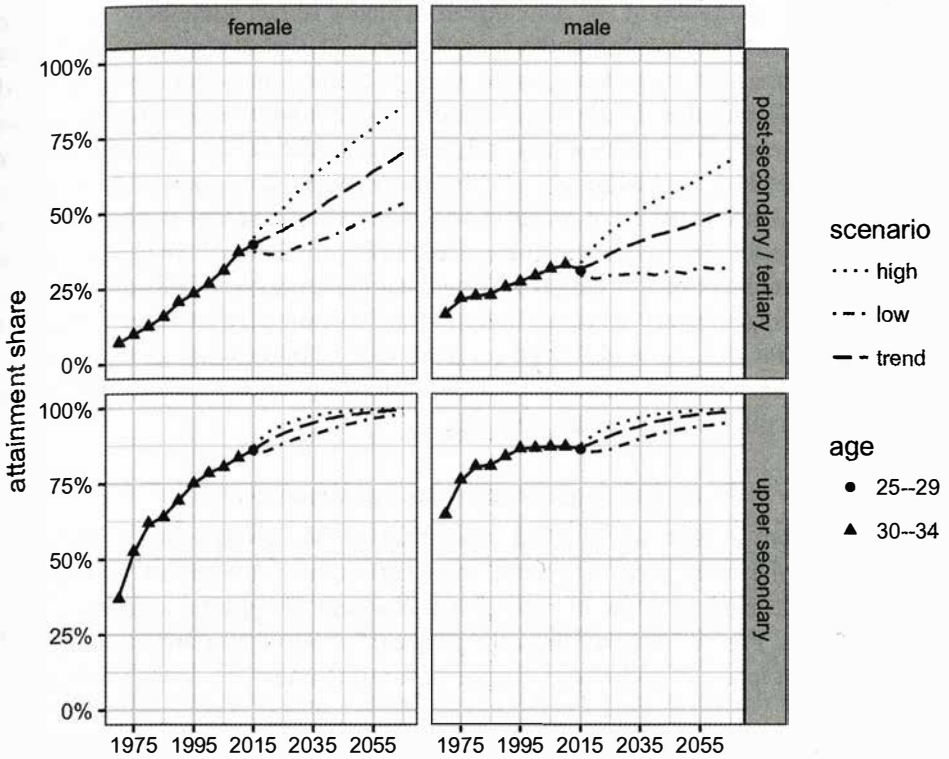


Figure 2: Projected attainment among Austrians aged 30-34, by gender.

it approaches the limit, there is no evidence of a general pattern of upper secondary expansion actually ceasing below close-to-universal levels. Universal attainment at this level is in fact a policy goal, since it is the minimal threshold for not being considered to have left education prematurely. Moreover, the SDGs likewise call for universal completion of this level.

For the Austrian case specifically, we note that the most recent statistics for *Early Leavers from Education and Training* (ELET), defined as 18-23-year-olds with at most lower secondary education and not enrolled in further education or training, stands at 7.3 percent in 2015. Since this group represents the bulk of those who will remain with at most lower secondary education, and is 30-34 years old in 2027, this figure is highly consistent with the trend scenario that does project upper secondary attainment to reach around 92 percent by then, rather than women joining the males at a permanently stalled level of 90 percent. While some 18-23-year-olds with at most lower secondary who *are* enrolled in further education and are therefore not included in the ELET figure might yet fail to reach higher attainment, this is at least partly offset by the fact that some ELETs, especially at the younger end of the age range, may still seek further education or training at a later point.

A careful consideration of age also unveils evidence of late attainment. While the results are presented with respect to the age-group 30–34, the estimation of the underlying trend assumes post-secondary and tertiary attainment is essentially completed by age 25–29. Setting this threshold (uniformly for all countries) is a balancing act between higher cut-offs to more completely capture qualifications gained at higher ages on the one hand, and being able to use more recent data points on the other. One implication is that the most recent 5-year cohort's attainment is observed at a younger age than the previous ones, as indicated in Figure 2. What we can see is that the apparent attainment of this cohort is somewhat lower. Some of this difference is likely due to post-secondary and especially tertiary attainment that is only acquired after age 25 rather than an actual trend-reversal. One implication is that the projections may actually represent an underestimate, especially for men, who appear to be more likely to acquire tertiary attainment late.

Implications for population attainment

The results shown so far referred to the age group 30–34, in other words, those cohorts who (for the most part) completed their education in the recent past. At the population level, these attainments represent a flow into the general stock across all adult age groups. Figure 3 displays how the projected share of the population aged 25 to 64 at different levels of attainment changes over time under the central scenario.

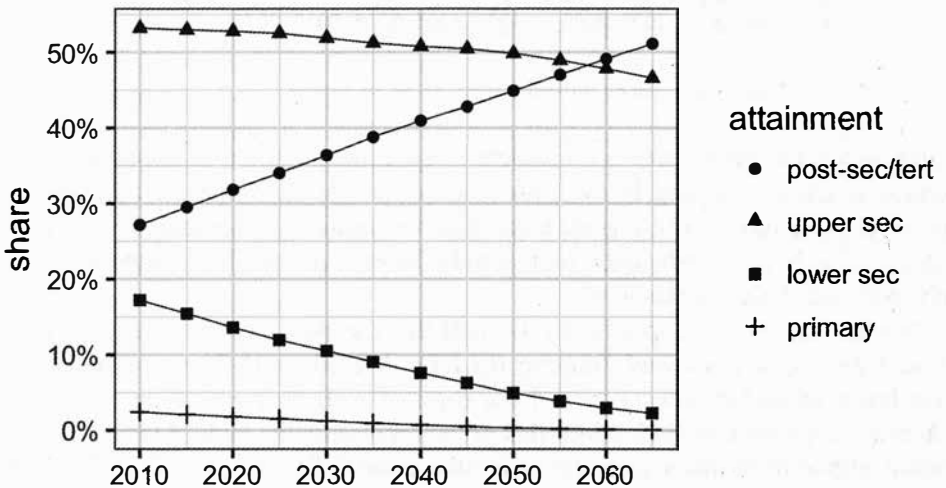


Figure 3: Attainment share among Austrians aged 25–64, trend scenario.

These projections take differences in mortality rates between education groups into account. If they did not, and absent migration, these shares would essentially be 40-year rolling averages of those for the narrower age group 30–34 shown above. It is unsurprising, therefore, that they share the same trends, but at a slower pace. Specifically, upper secondary attainers remain a majority until mid-century. Attainment exceeding upper secondary does not exceed 50 percent until the 2060s.

These figures are for the population aged 25–64, not the labour force as such. They may nevertheless serve as a useful proxy, especially given that the main biasing effects partly offset each other. On the one hand, among both women and men, the more educated exhibit higher rates of labour force, in Austria as in Europe generally (Loichinger 2015). This positive selection effect within each gender operates in the direction of increasing the attainment profile of the labour force in relation to that of the working age population. On the other hand, labour force participation is generally higher among Austrian men than women even while the latter are more educated. This selection effect between genders operates in the direction of decreasing the attainment profile of the labour force in relation to that of the working age population.

DISCUSSION AND CONCLUSIONS

Almost by definition, projected trajectories are *extrapolations* when considered from the perspective of a single country. However, they can be recognised as *interpolations* from a global perspective: a substantial number of other countries have already traced out their paths of expansion from a level similar to Austria's current situation, after all. This argument is stronger with respect to upper secondary education, which is already practically universal in a considerable number of countries. It is more tenuous in general with respect to post-secondary and tertiary attainment, because towards the end of the projection horizon, many countries reach projected levels of attainment that genuinely represent 'uncharted territory'.

The key questions are, therefore, to what extent we accept a) the historical patterns of expansion of lower education levels as precedent for guiding our expectations with respect to post-secondary and tertiary expansion, and b) the international experience as precedent for Austria.

Regarding the first question, the historical expansion patterns at the highest attainment level are actually statistically very similar to those observed at lower levels in the past, merely on a longer time scale (Barakat and Shields 2016). In other words, post-secondary and tertiary attainment does not appear to be intrinsically *sui generis in terms of its patterns of quantitative expansion*. This perhaps surprising conclusion does not deny that higher education is quite distinct from lower levels of schooling in its characteristics concerning, among others, institutional governance, educational organisation, economic costs and returns. As a result, the *drivers* behind expansion at different attainment levels are likely to be different. In any case, there is, perhaps surprisingly, no statistical evidence in past expansion trajectories of post-secondary and tertiary attainment globally that suggests a saturation effect (Barakat and Shields 2016), even at the levels reached by the current front-runners.

Regarding the second question, whether international precedent should determine our expectations for future developments in Austria, it is worth noting that with respect to 'Austria's Place in Europe and the World', 'there are not too many arguments left to claim an "Austrian exceptionalism"' (Pelinka 2011, p. 21; Bischof 2011). This is true not only in the political domain, but also with respect to the economy and

labour market. The exceptionally low rates of tertiary attainment in the German-speaking countries, which could evidently not be attributed to a lack of resources, have indeed been explained in terms of their specific institutional models of capitalist labour markets (Hall and Soskice 2001; Andres and Pechar 2013). However, ‘it is not clear whether the strong emphasis on upper secondary vocational training that unquestionably contributed to their economic success during the Fordist era of capitalist development is still a comparative advantage in an increasingly knowledge-based economy’ (ibid, p. 12).

Indeed, a labour force projection by Loichinger (2015) based on an older version of our population projections by education shows that, even under an expansion trend close to the one projected here, Austria is projected to have the *lowest* share among all EU countries of tertiary attainment in its overall labour force by 2053. Similarly, but without the benefit of modelling labour participation directly, the results above demonstrate that in the Austrian context, the argument that residual labour market demand for low-skilled labour supposedly makes ‘indefinite’ expansion of post-secondary and tertiary participation unsustainable is an invalid attempt at *reductio ad absurdum*. The attainment profile of the working age population changes much more slowly at the scale of a human life-span; even if participation *among young cohorts* were to continue its expansionary trend unabated, the share among the prime working-age population aged 25–64 with post-secondary or tertiary attainment in Austria would only cross the 40 percent threshold some time in the late 2030s. This level is already exceeded by around one in three OECD members today, even excluding non-tertiary post-secondary. In Canada, the figure even exceeds 50 percent today, a level not projected for Austria under current trends until the 2060s. It is clear that a claim that the Austrian labour market fifty years from now could not sustain a majority with more than upper secondary schooling cannot be made with anything close to the confidence required for this factor to constrain current moderate expansion trends in the foreseeable future. Indeed, Autor (2014) documents an *increasing* skills premium in advanced economies, as do Piketty and Saez (2014), who suggest this fact is one important factor explaining a secular increase in economic inequality. Similarly, the empirical studies underlying claims of ‘over-education’ that base the ‘appropriate’ qualification for a given job on the average qualification of those currently executing it frequently cannot account for the fact that higher degrees may be required of new recruits even if a majority of existing job holders lack them (Oliveira, Santos, and Kiker 2000). For all these reasons it seems unlikely that a lack of demand at the macro-level would constrain the projected further expansion of post-secondary and tertiary education in Austria.

Here, the massive expansion of tertiary education witnessed in recent decades around the globe is merely documented, without prejudice to the important questions this development raises. What does this expansion mean for tertiary institutions, their relationship to other sectors of society, or to students? Some of the salient questions of *how* (if at all) potential massification of post-secondary and tertiary education can be achieved in practice, and whether this is socially and individually worthwhile, are addressed in other chapters in this volume. Our more modest aim is to demonstrate

the extent to which anything other than continued expansion, even if only moderate, would represent a significant break with past trends in Austria itself and with international experience and precedent. Such a break is entirely possible, of course, but carries the burden-of-proof of explicating at what point and why the underlying dynamics currently in place would be expected to change.

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SHORT BIOGRAPHIES

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VALUE-ABLE UNIVERSITIES:
AN ANSWER TO GLOBALIZATION AND DIGITALIZATION

Günther R. BURKERT & Barbara WEITGRUBER

ABSTRACT

The role of the universities has always been a topic of discussion. Above all, their struggle for freedom from political and economic demands has increased in recent decades. Should their struggle for freedom from society not become a dialog with society? Should not exactly the values that universities communicate be put at the center stage again? On the one hand, these are the purely scientific values of the critical development of knowledge to generate reliable, reproducible knowledge. On the other hand, it is also a matter of more general values of society such as equality, the transmission of which should be part of the "education of mature persons."

The universities should not
be carrying the bridal trains
of the powerful, but rather
showing the way with a torch.

– Ernst Bloch

THE ROLE OF THE UNIVERSITIES: FREEDOM FROM POLITICS AND THE
ECONOMY?

For many centuries, the European universities – at least the traditional ones – have played a role in determining the speed of scientific and societal progress. Their history is also one of continuous transformation of a successful form of organization to increase scholarly insight in the tradition of social self-organization. Their contribution to societal discussion over these centuries was only possible because of a struggle for freedom from political and economic demands. Even if the universities were not always the avant-garde for the change of philosophical outlooks and political systems (unfortunately, there were also phases of support for political systems that were not democratically legitimated), universities at least have the potential to belong to the most active parts of civil society (Brix, 2005). As communities in the area of tension between the state and the market, also with regard to their educational goals in liberal