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Institutional structures shaping social reproduction by 'heating up' and cooling out': the role of VET in Austria

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Abstract
The paper analyses the position of VET in the Austrian social structure, and the mechanisms of its contribution to reproduction and mobility. The focus is on the interaction between social origins and the differentiated and complex institutional structures, analysed from an institutionalist perspective. An important aspect is stability and change in these interactions, and how either is brought about. Institutional mechanisms of 'cooling out' and 'heating up' dynamics are explored as a theoretical base for the interpretation of the data.
The empirical basis for the analysis of social selectivity is PISA and LFS data; the development of the overall shape of the education system and of dropout and school leaving is analysed by education statistics.

Zusammenfassung
Der Beitrag analysiert die Berufsbildung in den österreichischen sozialen Strukturen und ihren Beitrag zur sozialen Reproduktion und Mobilität. Der Fokus liegt auf der Interaktion von sozialer Herkunft mit den differenzierten und komplexen institutionellen Strukturen. Ein wichtiger Aspekt ist das Verständnis von Stabilität und Wandel in diesen Interaktionen. Institutionelle Konzepte von ‚cooling out' und ‚heating up' werden als theoretische Basis für die Interpretetion der Daten genutzt.
Die empirische Basis der Analyse der sozialen Selektivität sind PISA und LFS Daten, die Entwicklung der Strukturen der Berufsbildung und der Bildungsabbrüche wird mittels der Bildungsstatistik analysiert.

> With no redistribution of income, inequality in the human capital of children in different dynasties persists forever … In a word, no guarantee exists that democracy will eliminate inequality of opportunity in the long-run.
>
> John E. Roemer

Institutional structures shaping social reproduction: the role of VET in Austria

1. Introduction

The analysis of social reproduction is an under-researched topic in Austria in general, and the role of vocational education and training (VET) is an even more neglected issue. The debates about social effects on education concentrate on the still tracked structure of lower secondary school, and VET is mainly perceived with attention to more 'technical' aspects of competence development and matching supply and demand. After heated debates related to the failed attempts for comprehensive reform during the 1970s the issues of social reproduction were pushed aside for some time, and came to attention again after 2000 through the international PISA results. Specific studies about social reproduction are hardly available, and mostly have not generated longitudinal data (for an exception see Spielauer 2003, Spielauer/Schwarz/Schmid 2002; Lachmayr 2009); consequently Austria is not represented in the seminal comparative studies (Clark 1988; Shavit/Müller 1998; Shavit/Blossfeld 1993; Shavit/Arum/Gamoran 2007), and recent research mostly uses data from the international Large Scale Assessments (LSAs). Existing studies are focusing rather on the earlier stages of social reproduction, and try to explain achievement by background factors (for an overview of research see Bruneforth/Weber/Bacher 2012).

The position of VET, as well as the role of institutional factors, in reproduction has been neglected so far. This paper analyses the position of VET in the Austrian social structure, and the mechanisms of how it contributes to reproduction and mobility. The focus is laid on the institutional level, trying to understand the interaction between the social origins and the strongly differentiated and complex institutional structures of the education system. Empirical patterns of enrolment and educational attainment by social background are interpreted in the course of the longer term development of the overall education and training system.

2. Theory and methodology: institutional patterns shaping social reproduction

The analysis and explanation of the contribution of education to social reproduction is a broad and widely discussed topic, with a focus on theories about how individuals position themselves in the social structures by using education in these processes ('status attainment' and 'rational choice'). Various factors are specified in these processes, and a common approach discounts (a) goals and aspirations, (b) needed resources and costs, and (c) social and subjective estimations of probabilities to reach goals with given resources, against each other. The role the given institutional structures play in these practices and processes is still a big question; a particular question is, to what extent these structures exert more contextual and accidental influences in a principally open individual attainment process, and to what extent the educational structures, and the actors and practices behind them, play an active role to achieve some kind of reproductive channeling into a restricted structure built of scarce positional goods.

A common underlying topic in this research concerns the relationship between the supply of and demand for abilities that should be somehow mediated by education. Persons with the right abilities should be positioned into the right positions, and the big questions concern first how the amounts of supply and demand relate to each other, and second how the matching between supply and demand works along the spectrum of social stratification. Two general problems are implied in these processes, which are more or less explicitly discussed: the first is an implicit assumption that in general – possibly with temporal exemptions from this rule – the amount of abilities on the supply side might be bigger than the amount of abilities demanded (means that the institutional structures are always confronted with a perceived danger of 'overeducation'); the second problem concerns the processing of potential and occurring 'mismatches' between abilities and social positioning, and how positioning errors are and can be resolved. This poses different constellations and problems in the higher and lower strata of the status distribution: social reproduction means that at the upper levels potential overestimation of abilities occurs, consequently high positions are transferred to someone with too low abilities and at the lower levels potential underestimation of abilities can be expected, posing the question of how too low positioning can be avoided in relation to abilities. Behind these problems lies the point that abilities are unobservable (and thus difficult to measure) and unpredictable (however,

predictions are always implied in the various stages of the positioning processes) – needless to say that these problems are much more complex and imply more concepts (e.g., ambition), but they cannot be elaborated more deeply here for reasons of space.

Some analytical approaches see the institutional structures and practices in education as devices for bridging these problems. We build in particular on (a) institutional differentiation and diversification that provide 'stratification regimes' (Arum/Gamoran/Shavit 2007, p.2), and (b) on institutional practices of the 'management of ambitions' (Brint/Karabel 1989, p.7). These approaches include the following conceptual elements which we can use for the analysis of the reproduction processes in Austrian VET (for an early comprehensive sketch of these elements see the conclusions in Clark 1988):

- a basic dynamic of institutional differentiation and diversification of education runs parallel with the twofold process of expansion of participation that includes increasingly broader proportions of cohorts and increasing longer career spans of staying in education;
- these differentiation and diversification processes build on (rather simple) past institutional structures that were related to certain patterns (also perceptions, ideologies) of abilities and ambitions, and (incrementally) draw new distinctions by creating new institutions, and thus requirements for choice and positioning, making education overall increasingly complex;
- the positioning process occurs through (extending) sequences of imposed choices between (increasing numbers of) alternatives, with the next choice always building on (and more or less being determined by) the previous ones, with a general tendency of shifting choices and decisions gradually from earlier cycles to later ones in the career trajectory (subsequently from lower secondary to upper secondary to postsecondary), and thus developing a dynamic of integrating/differentiating, and of creating/postponing institutions (e.g., comprehensive school; short cycle higher education);
- the differentiation always includes an aspect of vertical (or hierarchical) positioning of institutions with higher/lower value at the different dimensions (ability, aspiration, prestige, reward, etc.), which was basically and in more crude forms in place already from the simpler previous structures;
- as the (growing) institutions get increasingly complex, so do the positioning and selection processes, which also become increasingly internalized in institutions (changes from

segmented to differentiated institutions, and from an in-out decision to a decision of internal choice between alternatives);

- a basic pattern in these increasingly complex structures and processes has to deal with the contradictory task of creating (additional) opportunities for those able to take them ('heating up'), and at the same time of restricting opportunities for those considered not sufficiently able and diverting them to other (less valuable on an overall scale, however, maybe more valuable on 'localized' or 'situational' scales) alternatives, with the valuing being a critical process in itself (a good example for the difficulties in valuing are the ambiguities in the formula 'different but equal').

The paradigmatic case for this kind of institutional analysis has been the differentiation of US American higher education to elite, mass and universal institutions (Trow 2006). The Community College (CC) was a crucial part of the dynamic of expansion and differentiation of US higher education, which occurred very much earlier than in other parts of the world. This institution changed its mission from being an entry point for transfer to higher education to being predominantly a terminal intermediate VET institution. Burton Clark (1960; see also 1980) discovered in the late 1950s what he named the 'cooling out function' as a process of creating alternative vocational pathways within the college as a means for the diversion of students who were estimated to fail their original goal of transfer to academic studies instead of pushing them out. Interestingly a key part of this cooling out process was the emergence of mechanisms of orientation and guidance, which has emerged currently as a big fashion in education policies.

Brint/Karabel (1989) have continued this reasoning by more deeply analyzing the institutional policies of the Community College Movement, which have strengthened the vocational role of these institutions during decades of tremendous growth in order to increasingly divert the majority of students from academic to vocational programmes. Ironically, however, the CCs have – despite their cooling out function – in absolute terms produced strongly increasing numbers of students transferring to academic studies also. The main thrust of this study was that the differentiation would deprive students from lower social strata of opportunities because of providing an alternative to the more prestigious universities.

However, the effects of the differentiation turned out as less straightforward than originally conceived. A systematic analysis of the stratification regimes in thirteen very diverse

countries showed that the differentiation includes two simultaneous processes, one of diversion, and one of integration of new students, so that on overall balance an increase of opportunities was created, despite many students were diverted to less prestigious institutions also. Shavit/Arum/Gamoran (2007) tentatively have tested a set of hypotheses about basic traits of the stratification process, based on the proposition of Maximally Maintained Inequality (MMI). Among other points they conclude that expansion might reduce inequality not before saturation has been reached, that diversification works both towards expansion and diversion away from the most prestigious institutions, and that financing from private sources increases enrolment and diversification.

Lucas (2001) has extended this proposition to Effectively Maintained Inequality (EMI)

"Effectively maintained inequality posits that socioeconomically advantaged actors secure for themselves and their children some degree of advantage wherever advantages are commonly possible. On the one hand, if quantitative differences are common, the socioeconomically advantaged will obtain quantitative advantage; on the other hand, if qualitative differences are common the socioeconomically advantaged will obtain qualitative advantage." (Lucas 2001, 162)

These approaches give attention to the practices and strategies of the actors (and thus to power), and presume a relationship between quantitative expansion and internal stratification, which predicts that if broad participation is achieved, tracking in various forms (more open and formal as well as more informal and masked) will become more important within institutions, and will also be defended by the privileged strata in society and education. Institutional practices and strategies thus overlap with individual practices and strategies. Burton Clark (1980), in his review of cooling out has distinguished a set of different strategies for US CC to deal with the selection stages in educational trajectories. In a more generalized formulation, we can summarize seven institutional strategies: (1) cooling out, means open access and soft internal diversion of students to weakly distinguished tracks (self-selection and setting differentiation), (2) pre-selection by previous institutions or at the entrance, (3) internal selection to formally distinguished tracks (streaming differentiation), (4) open failure (dropping out, movement to other institutions), (5) guaranteed graduation ("let everyone in who wishes to come and let all who persist graduate"; ibid.p.71), (6) reduction or dismissal of tracking (comprehensive solution), and (7) move the selection to another upstream institution (institutional differentiation of tasks, increase of streaming).

We will show in the analysis of the development of Austrian VET that the institutional practices and strategies found in the US Community Colleges can be applied to various other institutional settings, and thus have a much more general meaning. The mechanisms of 'cooling out' and 'heating up' which meant originally specific institutional practices of diverting students have also received some more general meaning as opposing processes in the system wide-management of ambition. Burkart Lutz (1983) has created a proposition about the relationship between educational expansion and the range of available opportunities, saying that the greater the inequalities in the educational structure are, the stronger the incentives to reach higher tracks would be (this can be called 'generalised heating up') – this movement will consequently create a countermovement to dampen the expansionary trends (this we can call 'generalised cooling out'). This interpretation was not much taken up in empirical research; see Ahola 1997 for an application of these ideas to Finnish higher education.

In this paper we will analyse how these institutional strategies and practices are used in Austrian education. Because of lack of sufficient data, a rigorous empirical analysis is not possible. Thus we will give some descriptive indications by quantitative data, and will use and interpret knowledge from various sources to analyse the mechanisms in place. Finally some points for further research will also be briefly discussed.

The basic argument goes as follows. First, if we look superficially at the Austrian educational structures, we see traits that are commonly associated with creating a high degree of inequality: (1) low early education and rather late begin of institutional education, (2) very early tracking at age 10 into a common school (Hauptschule) and an academic school (Allgemeinbildende Höhere Schule, AHS), (3) a quite early transition of a high proportion of youth into tracked VET at age 14-15, with basically three tracks, (a) apprenticeship and part-time vocational school: Lehrlingsausbildung und Berufschule, BS; (b) medium level VET schools: Berufsbildende Mittlere Schule, BMS; (c) upper level vocational colleges: Berufsbildende Höhere Schule, BHS, (4) a small higher education system still dominated by the universities, including also polytechnics (Fachhochschulen, FH) and other institutions (Pädagogische Hochschulen, PH, postsecondary forms of BHS, etc.) that constitute a comparatively weak binary structure with strong 'academic drift' in the FHs.

In a comparative view, based on the OECD indicators and the countries participating in PISA we can illustrate this structure by some stylized facts. The first selection point that lies at

age 14 on average in PISA countries is still set at age 10 in Austria, which is the lowest value together with Germany (in six countries this point is at age 11 and in seven countries at 12, makes together 14 countries with very early selection; however, in the majority of 31 countries the first selection point is set at age 15-17); participation in VET is fourth in Austria among 36 OECD countries (71% of the cohort, as compared to 43% in OECD and 48% in EU21); early participation in VET at age 15 is fifth of 51 PISA countries (41% as compared to 11% in OECD, with half of countries at zero to 2%). Tertiary education is comparatively low in terms of attainment in the population (about 50% of OECD average) and in graduation rates (50-70% of OECD average), but the entry rate has recently almost reached the OECD average. Among tertiary students the proportion of FH and PH students is about 20% (low as compared to 60% in Switzerland and 80% in Finland, the two countries that have established this kind of institution at a similar time as Austria, in the 1990s). Austrian education has experienced a moderate expansion (which is not so easy to observe rigorously in comparative terms). At the upper secondary level participation has increased from about 20% in the 1920s to about 80% in the 1990s, and since then has almost reached saturation which is conventionally set at 90% (Graf/Lassnigg/Powell 2012). Haim/Shavit (2013) have included Austria in a recent study of stratification, giving comparative indicators of expansion and saturation. Their comparative data of 24 countries show that the Austrian expansion from the 1950s until the 1980s was comparatively low at secondary level and has increased at the tertiary level from comparatively low to medium scale. The measure of saturation of educational participation in higher strata is among the lowest of the observed countries, meaning that further expansion would not be predicted as contributing to more equality according to the MMI approach.

Secondly, over time the traditional structure of education has been retained, as Austria has delayed international 'mainstream'-reforms as long as possible (e.g., still disputed comprehensive school, or no upgrading of upper secondary VET colleges to tertiary institutions as Polytechnics or Fachhochschule), and if so implemented them very gradually at a very late stage (Lassnigg 2013). These Austrian education and training structures show a somewhat paradoxical picture. Whereas the main changes perceived as international mainstream 'modernization' have not taken place, Austrian education is widely perceived as a success story according to economic performance; moreover, the most pressing social aspirations seem also be fulfilled to a degree that some bigger political conflict unrest in the

population is precluded, despite there are quite strong debates among the political parties and stakeholders.[1]

Third, there are ambiguous accounts about equality of opportunities in Austria, as we see high inequality in a national perspective, however, rather average levels in a comparative perspective. The impact of parents education is – similar to Switzerland (Ch.13 in Shavit/Arum/Gamoran 2007) – the most important predictor of educational progression at the national level (Lachmayr 2009; NBB 2012, Indicator C1 Bildungsströme und Schulwegentscheidungen, p.62-77, and Indicator D3 Gerechtigkeit im Bildungserwerb, p.124-129). As inequality is commonly high also in other countries, the level in Austria is – taking into account the many problems of measurement – on a medium level in comparative terms. E.g., the odds of participating in tertiary education from different educational backgrounds of parents displayed by OECD (2012) are near the average (slightly lower chances have students from medium educational level). Other figures also show a similar moderate picture. The distribution of achievement in PISA or other assessments also show moderate ranges of inequality around moderate achievement levels. However, the explanatory power of social background and of school variables is also high in predicting the comparatively moderate level of disparities.

Fourth, at the side of the economy and wider society, the Austrian position is very favourable, thus the unequal educational structure does not translate into – or reflect – a high degree of overall social inequality, just the opposite is the case. Economic performance in terms of growth and employment is very favourable, and the degree of social inequality in society measured in terms of incomes and poverty is low in Austria. The redistributive power of the welfare state is high. In a recent comprehensive European report (EC 2011), Austria is mostly positioned among the best countries, and also near to the Nordic countries, which are perceived to have developed most egalitarian educational structures.

Fifth, the challenge is thus, to explain why the stratified educational structure is not reflected by higher inequalities, and why the – at first sight – inequitable structures do not induce more political conflict among the people affected. To meet this challenge, we will use the concepts of 'cooling out' and 'heating up' dynamic , and look how it has evolved in Austrian education. We might illustrate this dynamic by a picture of the historical growth of

[1] A referendum about a new strategy for Austrian ET in 2011 has included the issues of equality of opportunity, however, not received many votes; see http://www.vbbi.at/

a fortress (or an old city) with the traditional noble core as the starting point that is increasingly surrounded by one ring of less noble environments after the other, which are walling the center against being taken over by less noble populations.

3. Empirical analysis

The empirical analysis is based on qualitative material, mainly use of literature and documents displayed in earlier studies, supplemented by mostly descriptive statistical data which were originally gathered and analysed. The basis for the analysis of social selectivity is PISA 2006 and 2009 (in particular the international PISA 2009 micro-data provided by the OECD are used) and matched LFS samples of 2005-07 and 2009-11 (two datasets have been generated by matching the LFS micro-data of three subsequent years, without adjusting for individuals in the sample for subsequent years; the 1% population surveys generates small absolute samples in small countries, that are not easy to use for small groups such as a one year cohort of young people). The development of the overall shape of the education system, and of transitions, dropout and school leaving is studied by secondary analysis of education statistics produced by Statistics Austria. These data are giving the whole population, but are normally not available as micro-data; therefore the classifications and prefigured tables restrict the possibilities for analysis. For the policy discourses we draw mainly on earlier studies (see Lassnigg 2001; 2012; 2013; Lassnigg/Laimer 2012).

3.1. The gradual introduction of 'cooling out' in compulsory education as the step preceding VET

The current structure of compulsory education has evolved in particular since the 1920s by the creation, spreading and stepwise change of the common lower secondary school (Hauptschule, HS). The original structure that came over from the late 18th and 19th century was clearly segmented to primary school (Volksschule, VS) for the (rural) masses which comprised eight years (sometimes only six years) including the lower secondary level (VS-Oberstufe), and academic secondary education (*Gymnasium*) for the (urban) elites, building on four years of primary school, and also lasting eight years (lower and upper secondary level). In urban areas the *Bürgerschule* as selective a third type was created at lower

secondary level for the three grades six to eight, which should prepare for the trades, but did not lead to the academic examination (*Matura*). The main problem for mass education in the early period was enforcement of compulsory schooling, in particular in rural areas.
In the 1920s the question of a comprehensive school at lower secondary level was put on the agenda by the Socialist Party, and the concept of a four years comprehensive school (*Mittelschule*) was created that should supplant the Bürgerschule and the lower cycle of Gymnasium. Selection should not anymore be based on social origin, but on achievement, and the new type of lower secondary school should comprise two tracks (A and B), an upper one leading to academic and upper level vocational education and a lower one leading to employment or apprenticeship. In this concept the existing segmented three tracks at lower secondary level distributed to three different types of schools should be replaced by one school comprising two tracks. It is important to note that the A-track was from the beginning conceived at the achievement level of the academic school, and should lead to further academic careers also. It must also be noted, that in the 1920s the completers of the upper track of vocational schools has been gradually given the right to transfer to the engineering and business institutions in higher education. The solution implemented after heavy political fights in 1927 was that the Hauptschule was established as a third type beneath primary school and academic school, replacing Bürgerschule, and the A B tracking was at first made optional. Until the 1950s the eight years primary school persisted widely in rural areas, the Gymnasium remained the elite track, and the Hauptschule evolved in different forms (without tracking and with tracking, separate by gender or co-educative, the solution to some part depending on pupils numbers in the region).
The next step was in the 1960s, as initiatives were taken to reduce the Volksschul-Oberstufe, and to enforce the tracked version of the Hauptschule, which internalized the selection previously situated between two types of school in to one. Thus a segmented structure was replaced by a differentiated one. This change had the advantage that pupils allocated to track A have received much more opportunities for proceeding into further careers, and the disadvantage, that allocation to track B got a low achievement label (whereas selection was previously performed in more occasional ways, very much dependent on location and aspirations, etc.). The process of supplanting of VS-Oberstufe by the tracked Hauptschule was going to finish not before the early 1970s.

At this time a new debate about a comprehensive solution at the lower secondary level was put on the agenda by the Socialist Party (SPÖ), and now the 'cooling out' option came into place, as tracking should be supplanted by a flexible setting solution of achievement groups in the main subjects, and common groups in the other subjects. Instead of formerly two tracks, now three achievement levels were introduced. The first level was conceived to be completely equivalent to the lower secondary academic school, with the right to progress to upper secondary academic and vocational schools. After the recurring political fights, this structure was first gradually implemented on a 'experimental' basis to Hauptschule sites, and finally applied generally to the Hauptschule in the early 1980s, so the new selection structure comprised three achievement levels in Hauptschule besides the retained academic school (now called Allgemeinbildende Höhere Schule, AHS), with the first achievement level being equivalent to AHS. Here we have a 'light' analogy to the combination and distinction of the transfer track and the evolving terminal tracks in the US Community Colleges, that includes the provision of alternatives within the institution, and is characterized by the parallel prevalence of separate lower and higher level institutions.

The next step was started in the 2000s by criticizing the detrimental effects of achievement grouping for the lowest level groupings, and proposing a new form of again Mittelschule, that should replace formalized ability grouping by individualized instruction and support. Again the proposal, that is supported not only by the social democrats (as the SPÖ has renamed) and the green party, but also by industrialists and to some part also by conservatives and broader parts of the business community, should be a common comprehensive solution at the lower secondary level. However, again the solution is only taken over by Hauptschulen and not by the academic school, so a reform of Hauptschule and retaining AHS can be easily predicted. Now the point is that the 'Neue Mittelschule' is further establishing mechanism of cooling out, as some will get the credentials of transfer, and the others will be softly diverted to the alternative trajectories.

In this development, the realistic transfer option in the Hauptschule, which has been from the beginning related not only to the upper secondary academic school (that has some importance) but in particular to the upper level vocational colleges (BHS) is the main characteristic that can explain the sustainability of the Austrian structure. This argument can be supported by the policies of the social democratic government in the early 1970s, that on the one hand supported the comprehensive school at the lower secondary level, and on the

other hand made very clear that the strong VET element at the upper secondary level should not be discarded, but strengthened, even without questioning the severe tracking at this stage of educational careers. That means that the policies of undermining apprenticeship, and of creating more comprehensive forms of VET, supported and to some part implemented by Nordic social democrats, was never taken into consideration by SPÖ. In 1971, at the same time, as the 'experiments' for the comprehensive lower secondary reform were started on a legal basis, the social democratic government concluded a development programme for the upper secondary level, that planned one third of a cohort to continue full time schooling (implicitly meaning that two thirds would go to apprenticeship or to employment with only compulsory education), and the third of a cohort progressing within full time schooling being further divided evenly to three fractions: AHS, BHS, and BMS. In fact this meant that the proportion of academic upper secondary schools was officially planned by the government to be leveled off at a proportion of 11% of a cohort during all of the 1970s, and that a proportion of further 11% of a cohort should receive credentials entitling them to university via the BHS (whose main purpose, however, was transfer into employment and not to higher education) – related to higher education, this plan conceived substantially less than the maximum of 22% of a cohort to follow up into higher education, which was still clearly below the threshold estimate of the advent of 'mass higher education' lying at one third of a cohort (thus implicitly elite higher education should pertain).

3.2. The long-term pattern of increase of VET

If we look at the development in time, we see first a long term increase of participation of young people in ET (Graf/Lassnigg/Powell 2012, *Fig.6.1*, p.163). In the 1920s, when a consistent data series begins, only about 20% of a cohort received ET at upper secondary level, 80% left education after compulsory school (or even earlier). Participation doubled until the 1950s to 40% (about one generation later), and again doubled until the 1990s to 80% (about two generations later), and subsequently has increased further only slightly. Most part of this participation has been always vocational, in the first period the increase was mostly in apprenticeship. However, between the 1950s and 1970s the share of apprenticeship decreased slightly and VET as well as academic schooling doubled.

Subsequently, from the 1970s until today *mainly the VET colleges increased about three times*. In sum the whole expansion since the 1950s has flown into the upper level schools (AHS and BHS), which have increased from about 10% to more than 40% of a cohort; the lower and medium level programmes have stagnated during the whole period at about 40% of the whole cohort. This process has increasingly included young people from the lower strata of society into ET.

The gradual quantitative development over decades has also changed the structure of VET from a clearly predominating apprenticeship system to a 'dualistic' structure, which has on the one hand strong relationships to the enterprise sector, including the organized interests of capital and (less so) labour through apprenticeship and its governance; and on the other hand a strong link has also evolved from VET to higher education through the growing BHS sector whereas the proportion of the academic AHS sector has remained more or less stable since the 1970s.

Overall, we can see that the traditional and tracked structure was able to provide to a high degree additional educational opportunities. In the next few sections we will look in more detail at the mechanisms of how this expansion was brought about.

3.3. Social background of students in VET tracks and their aspirations

In this section we look more specifically how the structure of VET evolved. Three stylized statistical accounts give a good impression about how the social reproduction mechanisms work in Austrian education in general and how VET is specifically positioned in them.

First the distribution of the educational tracks among the 15 year old young people according to the social status of their parents measured by the ISEI in 2009 PISA data shows a typical pattern with the academic secondary school (AHS) being biased towards higher status, and the social background in apprenticeship (BS) and medium level schools (BMS), as well as the preparatory school for apprenticeship (Polytechnische Schule, POLY) biased towards lower strata. However, the background of pupils in the upper level technical colleges (BHS) is quite evenly distributed along the range of the index of social background. The mean and median of the social status index are around 40 in the lower level tracks (POLY, BS, BMS), at about 50 in BHS, and at 60 in AHS (*tab.1*), this difference being statistically significant. The percentiles show that the AHS is always above all the other

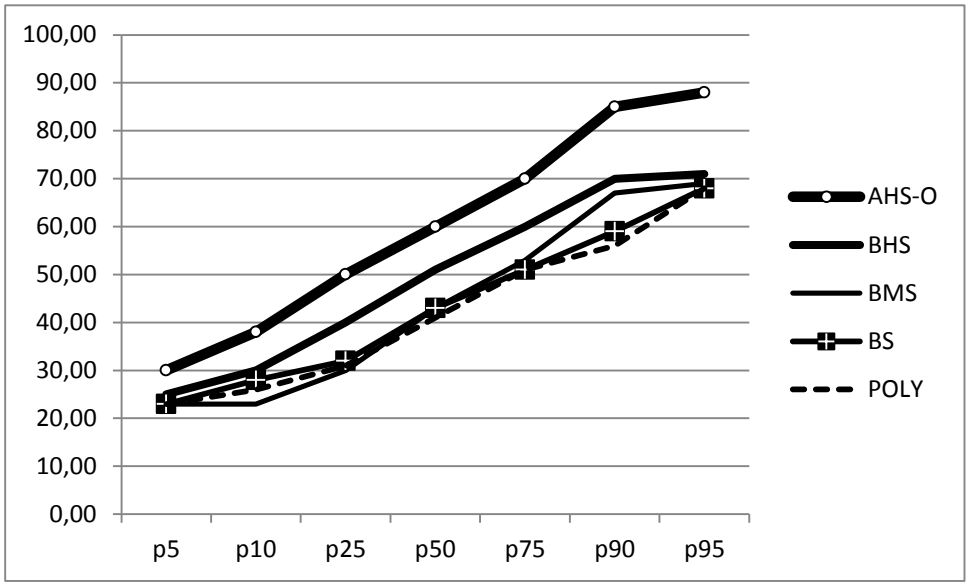
tracks, and the distance increases at the 90% and 95% percentile. The lower level tracks POLY, BS, BMS are consistently at the lowest level, and BHS is consistently in between, with smaller distances to the lower tracks at both end points of the distribution.
Breakdowns of the ISEI distributions by male and female youth and by sex of parents (not presented here because of space) show a similar pattern across subgroups, despite the access to the different tracks differs between male and female students. The strength of correlations is for both sexes higher to father's status than to mother's, and therefore lowest between young males and their mothers; for females the correlation with father's status is higher than with their mothers too.

Tab.1: Median and percentiles of parental status of 15-year old youth (ISEI) in ET tracks at upper secondary level

	n	Mean	p5	p10	p25	p50 (Median)	p75	p90	p95
POLY	643	41,2	23	26	31	41	51	56	68
BS	1.036	42,3	23	28	32	43	51	59	68
BMS	839	43,1	23	23	30	43	53	67	69
BHS	1.774	50,6	25	30	40	51	60	70	71
AHS-O	1.366	59,4	30	38	50	60	70	85	88
	n	s.e.	s.e.	s.e.	s.e.	s.e.	s.e.	s.e.	s.e.
POLY	643	0,438	3,02	0,89	1,61	2,64	0,00	3,18	1,75
BS	1.036	0,656	0,00	0,89	1,40	0,00	0,55	0,00	1,36
BMS	839	0,988	0,00	0,00	2,77	0,22	1,32	0,89	1,28
BHS	1.774	0,495	2,07	0,39	3,69	0,00	1,14	0,00	1,16
AHS-O	1.366	0,783	0,77	2,95	1,30	4,10	0,00	3,21	0,00

Source: own calculation based on PISA 2009; s.e. standard error; POLY=preparatory school for apprenticeship; BS=Berufschule-apprenticeship; BMS=medium level VET schools; BHS=upper level VET colleges; AHS=academic upper secondary school.

Fig.1: Percentiles of parental status of 15 year old youth in ET tracks at upper secondary level



Source: own calculation based on PISA 2009; figures see *tab.1*; POLY=preparatory school for apprenticeship; BS=Berufschule-apprenticeship; BMS=medium level VET schools; BHS=upper level VET colleges; AHS=academic upper secondary school.

Second, we can look at the distribution of 17 year old young people broken down by the education of their parents, based on labour force survey (LFS) data (unfortunately indicators of social background are still not included in education statistics; this reflects the overall political taboo about social reproduction in this country). At age 17 compulsory education has already terminated by 1-2 years, and the main transition to the upper secondary cycle, which is still in progress at age 15, has ended. At this stage we can observe the distribution to the upper secondary tracks, and its recent changes (row % in *tab.2*). Slightly less than 10% of a cohort have terminated their education at age 17, and enrolment divides to apprenticeship (BS) and the tracks of fulltime schooling by about 4 : 5, with males taking apprenticeship more frequently than females (the %-difference is about 10% points). Females learn more frequently in upper level schools (plus more than 10 points), and this proportion is rising also among males. Overall a slight tendency towards convergence between sexes might be observed during the five years' period.

This analysis also displays the strong relationship of upper level education of parents with the participation of their offspring in the academic school (AHS), with even more than half of pupils having parents with upper level background (*fig.2* for 2009-11, and panel b in

tab.2). The distribution in the VET colleges is more similar to the average distribution, with about two thirds of pupils being upwardly mobile when compared to their parents' education (in AHS this proportion is about one third only). However, the upper level strata are represented above average also in this track, and the lowest level of parents' education is strongly underrepresented in BHS. Without being able to control for statistical differences the comparison in time rather indicates increasing than decreasing reproduction, and sex differences indicate slightly a higher degree of reproduction among males, and more upward mobility among females.

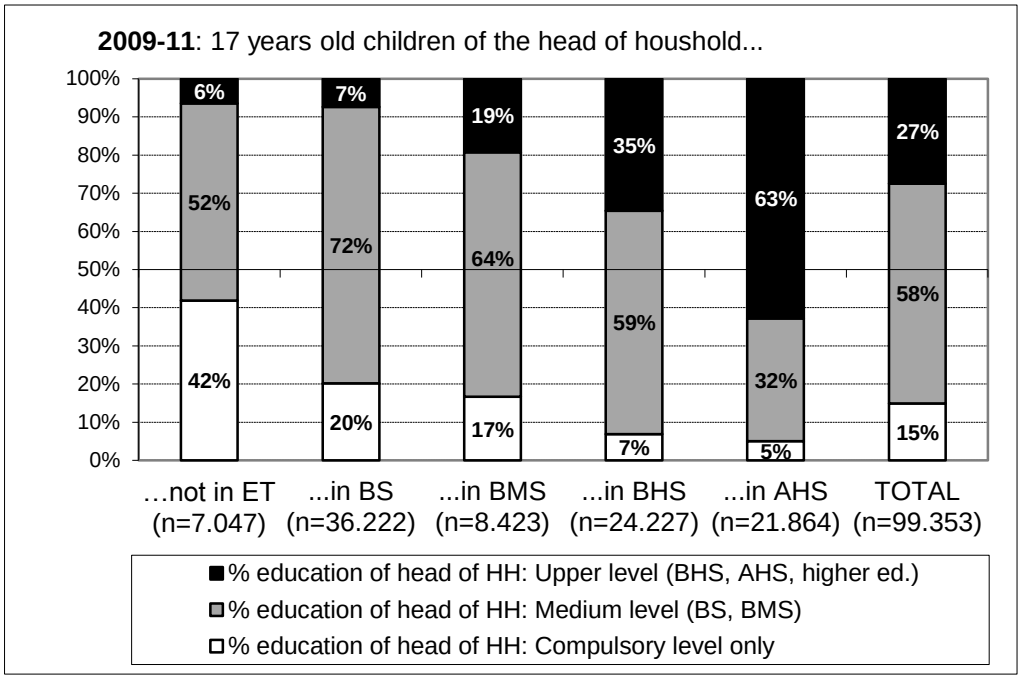
These accounts show the specific dynamic of upward mobility in the Austrian institutional structures: the social aspirations are mainly supported by the VET colleges, which have markedly grown since the beginning of the educational expansion in the 1970s. During the long-term historical development, this mechanism of using the vocational sector for satisfying social aspirations can be observed again and again, firstly in the late 19th century, when the vocational schools framework was originally built up, and through the 1920s and 1930s when the academic schools were successfully defended against attempts towards comprehensive policies. At this time the first steps have been taken to give the graduates of BHS the right of access into related higher education institutions (engineering, business, agriculture). The other side of this mechanism is that the upper level academic school (AHS) has always been quite successfully walled off against access from the lower strata. The deliberate expansion of the vocational colleges since the 1970s (their growth has soon outperformed the planned increase from 1971) can be seen as another attempt of using VET as an alternative approach to a comprehensive schools policy, which found resonance among the parents and their offspring representing the social demand for educational opportunities.

Tab.2: Distribution of 17years old youth in ET tracks by education of their head of household (2005-07 and 2009-11, and 2009-11 by sex)

Education of head of HH:	(a) 2005-07 male + female						(b) 2009-11 male + female					
	17 year old children of the head of household (HH)...											
	…not in ET	...in BS	...in BMS	...in BHS	...in AHS	TOTAL	…not in ET	...in BS	...in BMS	...in BHS	...in AHS	TOTAL
Compulsory	40%	24%	19%	7%	5%	17%	42%	20%	17%	7%	5%	15%
Medium level	49%	68%	63%	61%	36%	58%	52%	72%	64%	59%	32%	58%
Upper level	10%	8%	18%	32%	59%	25%	6%	7%	19%	35%	63%	27%
n (=100%)	7924	34792	9378	18453	21962	93905	7047	36222	8423	24227	21864	99353
TOTAL row%	8%	37%	10%	23%	20%	100%*	7%	36%	8%	24%	22%	100%*
	(c) 2009-11 male						(d) 2009-11 female					
Compulsory	42%	19%	18%	5%	5%	15%	42%	22%	16%	9%	5%	15%
Medium level	51%	74%	64%	56%	26%	58%	53%	70%	64%	61%	37%	57%
Upper level	7%	7%	19%	40%	68%	27%	5%	7%	19%	30%	59%	28%
n (=100%)	3746	22666	2902	10972	9466	50748	3302	13555	5520	13255	12399	48606
TOTAL row%	7%	45%	6%	22%	19%	100%*	7%	28%	11%	27%	26%	100%*

* residual categories omitted (1-2 %)
Medium level education: BS, BMS; Upper level education: BHS, AHS, H.E.
Source: own calculation based on matched LFS samples from Statistics Austria

Fig.2: Distribution of 17years old youth in ET tracks by education of their head of household (2009-11, total)



Source: own calculations based on LFS matched samples, data from tab.2, panel (b)

3.4. The selection model and governance practices dealing with the social stratification

As a second step we can ask how the Austrian educational governance deals with these issues of social demand and upward mobility. This concerns the institutional conditions and strategies for 'cooling out' and 'heating up'. The question now is, through which kinds of internal mechanisms the young people are ordered into the different tracks of the institutional structure. Three aspects are highlighted, first the complex transition framework at the interface from compulsory school to the upper secondary careers at the upper secondary level, which provides a further positioning of the young people, following the first tracking at lower secondary schooling; second the processes of reordering during the upper secondary cycle, and third the partly contradictory reactions by the governance practices of schools.

At the end of compulsory school two institutional steps exist, where a simultaneous choice of ET programmes by level and specialization must be taken at an early age of 14 to 15 years. The first step takes place at the beginning of the last year of compulsory education, when the start of fulltime VET schools (BMS and BHS) at grade 9 requires choosing the occupational specialization at the medium or upper level among 50-100 specialisations, besides the geographical location of study. The level of this choice at BMS and BHS is related to the previous school grades achieved; and two further alternatives exist, one is the upper level academic school (AHS), and the other a one year prevocational school destined to prepare for the choice of an apprenticeship programme (POLY). The latter allows to delay the specific choice for a year, and when indicated also to improve the grades of the compulsory school certificate. The end of compulsory school is given only by age and the duration of nine years; this means that young people with delayed careers also end compulsory school at the point of progression they have reached at this age (even if this point is two or more years before grade nine).[2]

At this edge the choice of an apprenticeship takes place as a second step at grade 10. Here the mode of access changes, as no formal requirement in terms of school achievement is given except the formal ending of compulsory school, and the training enterprises are free to choose their apprentices according to their selection procedures. Here the personnel

[2] Currently under debate is the proposal to link the end of compulsory school to a minimum level of achievement reached.

recruitment practices on the labour market take precedence over the school achievement practices (despite the enterprises of course can and actually do use the school achievement records as they wish). To begin an apprenticeship means to be selected for an apprenticeship agreement, which establishes also the access to the part-time compulsory school for apprentices (BS). The change of the access mode also opens up the transition after the first year of a full time school (or later as well) into an apprenticeship. Access is supported by an apprenticeship market as a separate segment of the labour market by the employment service. Similar to the selection for an apprenticeship, the education, training and work practices of apprenticeship training are under a wide discretion of the training enterprises. Apprenticeship is strongly regulated on paper, but the enforcement of the regulations is weak at most aspects despite labour law.

This complex framework of transition provides diverse opportunities of different qualities, but is setting many demands to the young people also. The success depends besides the achievement records and a determination towards the chosen career goal also on the familiarity with the ongoing practices, and not least on the bargaining power of the subject. There is much reasoning and theorising about the factors relevant in these interactions; however, conclusive empirical knowledge about how the social reproduction in the Austrian setting works is lacking so far. The political discourses point in particular to the low academic achievement of up to one third of a cohort identified as a 'risk group' by PISA testing, and to deficiencies in career orientation among young people. However, the structural constraints of the tracked system in combination with the complex transition framework are seldom considered. We also must take into account that the tracked upper cycle is attached to the tracked lower secondary cycle, thus the practices of choice at this stage build on the experience of tracking made already in the grades 3 and 4 of primary school at ages 8-10 (and often probably at an earlier age).

Some in-depth studies have analysed the transition process of young migrants, and the mechanisms conditioning the dropout process, showing the multifaceted mechanisms at work in the system (Ataç/Lageder 2009; Nairz-Wirth/Feldmann/Diexer 2012).). Empirical findings indicate a low degree of good matches of young people to their programmes, and a high proportion of changes between tracks and programmes in the years after initial choice is taking place, mostly changes downwards from BHS, and from BMS to apprenticeships. In addition, a high proportion of school failure and grade repetition takes place in Austrian

VET; therefore some pedagogical works speak about a prevalent 'selection model' (Mathies 2009; Schaffenrath 2008) . There is much consensus that the BHS are very demanding, and traditionally the years 1 and 2 have formed a common pool, from which students have been selected for progressing into the upper level school, with BMS terminating after year 2 (in the 1960s this structures has been changed and BMS have been prolonged to three years. The BMS were to some degree working as a kind of 'collecting pond' for low achievers in BHS; on the other hand, in traditional apprenticeships the demands for 'practical skills' were often emphasized as being much more important than 'school knowledge'. Consequently, there is still not much emphasis given to the competences demanded by the PISA testing in the lower level VET tracks, establishing a version of the Matthew principle at the upper secondary cycle: those with much general competences are provided more, those with less general competences are provided less or even none.

Putting the elements of the puzzle together, we reach an interpretation of how this tracked institutional structure works. On the one hand, given the differential opportunities in the hierarchical structure, there are strong incentives to start a career at the highest possible level, this mechanism we have called 'generalised heating up'. This first mechanism is reflected by the strong expansion of the upper level tracks (see Bruneforth/Lassnigg 2012, Indicator B1.1 p.33; Graf/Lassnigg/Powell 2012, *Fig.6.1*, p.163). On the other hand the selection process works in the opposite direction, as a 'generalised cooling out' device. We can try to use the seven devices of Burton Clark displayed above for a more systematic analysis of how the system works. The second mechanism is indicated in *tab.3* that shows the progression of a beginners' cohort through the grades in BHS and BMS. Since individualized educational statistics have only been created some years ago the beginners of 2006 are the first cohort followed up by Statistics Austria (unfortunately the apprentices have still not been included in these statistics because of the specific organizational requirements). We can see that only around half of a beginners' cohort progress until the final grade without loss of time, up to 10% are progressing with repetition, and 30-40% are dropping out of their first choice; however 'net dropout' is only the smaller part of overall dropout. The bigger proportion of dropouts is changing to another track, of which apprenticeship (BS) is the most important.

To understand the mechanisms we have first to look at the complex transition at grades 9 and 10. Some part of the dropout is endemically generated by the two-steps transition

procedure, as the first year of VET schools is used to some degree as an alternative to the preparatory school for apprenticeship (POLY), and a voluntary change is expected from the beginning. The remaining part of these changes is due to problems with achievement, as the young people try out the highest possible track they can reach, and if they fail they move downward. We can interpret a change in the 'cooling out' - 'heating up' dynamic at this stage during the last decades.

Originally, when amended to the legal framework in the 1960s, this construction was intended to give incentives for trying out an upper secondary programme to young people who were not so sure about their prospects in a schooling career; this can be interpreted as heating up. On the other hand a certain proportion of failure and dropout was an inbuilt element in this solution, reinforcing the 'selection model'. The concrete mechanisms are a mixture of pre-selection (grade requirements except in apprenticeship), internal tracking between BHS and BMS, failure (drop out and grade repetition), and some part of cooling out in the narrow sense as more or less guided self-selection. More recently the development of orientation and guidance strategies is an important focus of policy in this area that might strengthen the cooling out component. Part of these mechanisms is the institutional segmentation of school and apprenticeship. More recently the order of the tracks has to some extent become blurred, as the value of apprenticeship in relation to BMS is less clear than in the past. In the political discourses the weights have changed from heating up to cooling out at this level, because the incentive for increasing participation is not emphasized any more, except for the specific group of early school leavers. The question of creating incentives has shifted to the question of how to increase participation into apprenticeship. For this the two-step procedure is rather counterproductive.

Tab.3: Cumulative progression and dropout in BHS and BMS (beginners of year 1 in 2006)

	% staying in programme		% change to…				% net-dropout
Origin:	PROGRESS	REPETITION	...ABHS	...BMS	...BS	…other	
BHS end y1	76,0	5,9	2,6	3,9	8,6	0,6	2,4
BHS end y2	64,0	9,3	3,3	5,9	13,0	0,7	3,8
BHS end y3	58,8	9,8	3,6	7,3	14,8	0,8	4,8
BHS end y4	55,6	10,2	3,8	8,0	15,6	0,8	5,9
BMS end y1	60,4	6,5	2,3	1,2	21,2	1,0	7,3
BMS end y2	48,4	7,6	2,8	1,6	27,2	1,7	10,6
BMS end y3	44,6	6,6	3,5	1,7	28,6	2,0	13,0

Source: own calculation based on progression statistics by Statistics Austria based on total population (N in year 1: BHS= 31.410; BMS= 17.672); only one move considered, therefore mobility and dropout underestimated. Table downloaded from Internet:
http://www.statistik.at/web_de/static/ausbildungsverlauf_der_schuelerinnen_und_schueler_200607_in_eintrittsstufe_055451.xlsx

The governance system in the fulltime schooling sector comprises a traditional bureaucracy with little scope for decisions at the school level, and in the 'collective skills system' of the apprenticeship sector it is based on a regulated market with wide scope for discretion by the training enterprises.[3] The 'dualist' system of learning sites of fulltime VET schooling and apprenticeship is thus embedded in a 'dualist' governance structure built of a politicized bureaucracy and a 'collective skills system'. The dividing line of this dualism cuts also through apprenticeship, as the governance of the part-time school is part of the bureaucracy, and the enterprise part is mainly privately governed.

Thus the practices on the enterprise side, which cover the major part, are more or less shaded away from the public. This political governance structure is further reflected in a divided institutional structure of research and development, built by separate privately organized research institutes attached to the employer and employee side either, and a structure of public academic research similar to the German *Berufspädagogik* or a comprehensive overarching structure as the BIBB is completely lacking.

Consequently not much is known empirically about the actual practices in apprenticeship. Some major reforms are currently going on in this sector that might lead to changes of its shape and position, and in the longer term possibly also of the overall structure of VET and upper secondary ET: a modularization of occupational profiles; the establishment of a

[3] See for a discussion of the progress of discourses about educational governance in Austria Lassnigg 2009.

second tier of institutional apprenticeship (*Überbetriebliche Ausbildung – ÜBA*) financed by labour market policy; the opportunity and support of taking the *Matura-(Abitur)*-Examination[4] in parallel to an apprenticeship (*Lehre mit Matura – LMM*); in an overall reform of teacher education the VET teachers in the school sector are also included with a strong emphasis on the expansion of pedagogy, however, the training personnel in the enterprise sector (the *AusbildnerInnen*) has not been included in this reform. A big debate is going on since decades about procedures of quality assurance and development of enterprise training, which has also been seriously charged as a main critical point by the OECD in its VET review (Hoeckel 2010; Lassnigg 2012).

In the school sector the PISA data allow for some analysis of the governance practices, and some steps in this direction have been taken (Lassnigg/Vogtenhuber 2009). Two questions have been analysed more deeply: (1) how is the socially selective structure at the entrance level of upper secondary ET related to achievement? (2) how is the room for discretion at the school level utilized in the selection practices?

The analyses to the first question provided estimations of how much of the average achievement differences between the schooling tracks can be attributed to the differences in the social background of their student population. The social background was taken as a proxy for additional resources, which the young people contribute to the schooling processes, which can be capitalized for increased achievement (*tab.1*). The average PISA scores differ by about 125 to 160 points depending on the subject between AHS and POLY, this corresponds to about two proficiency levels or more than three average years of learning. The BHS are scoring very near the AHS, and the average score of BS is about 5-8% above POLY. The estimation of the effects of the social background variables reduces the average score in AHS by 34 to 44 (7 to 8%) points and in BHS by 23 to 28 points (4 to 5%), in the lower level types the change is smaller and has mostly a positive sign; here the social background does not provide a resource but rather a handicap. The range between the best and the least average score of ET types is reduced by about one third through the estimation of the social background.

[4] The Matura examination is taken as the graduation from AHS and BHS, and still establishes a right to study at *universities*, which, however, is increasingly under debate and pressure, and is also undermined by additional selection procedures (entrance examinations in specified disciplines, and a experimenting with new selection procedures during the starting phase of studies); in the *Fachhochschule*-Sektor the institutions do have the right to take their entrance procedures from the beginning, and the *Matura* is not a formal (but more or less a practical) requirement for access.

Table 4: Change of PISA scores by estimation of students' social background variables

	READING Original average score (N=4.927)	Score of social back-ground-modeling*	Difference	MATH Original Average score (N=4.927)	Score of social back-ground-modeling*	Difference	SCIENCE Original Average score (N=4.927)	Score of social back-ground-modeling*	Difference
AHS	559	515	-44	549	515	-34	561	522	-39
BHS	542	514	-28	554	531	-23	558	530	-28
BMS	464	462	-2	476	493	+17	477	488	+11
BS	426	428	+2	460	462	+2	456	457	+1
POLY	400	404	+4	424	446	+22	435	448	+13
Range	159	111	-48	130	85	-45	126	82	-44
Diff Range %			-30%			-35%			-35%

* The effects of background variables were estimated by a two-level fixed effects random-intercept model, with individual pupils and schools as the levels. The model was estimated using six types of variables: (1) social and family background, (2) resources, (3) quality assurance, (4) educational process, (5) parents' influence and competition, (6) governance-variables (see the complete list of variables and their statistics, and the estimation results at https://www.bifie.at/buch/815/13. The detailed results of the estimations are given under www.equi.at/material/pisa06-gov.xls

Source: PISA 2006, own calculations based on estimations by Lassnigg/Vogtenhuber 2009

According to the second question the variables about governance at the school level were taken to analyse whether the actors are using their room for discretion for optimizing the selection of a more promising student body, a hypothesis which is frequently followed in the research about school governance, and which would be in line with and reinforce the 'selection model' of the institutional structures. The results, however, do not point in this direction. The 'room to move' given by governance practices is rather used for compensatory attempts, than for optimizing the selection. So there seems to be a contradictory relationship between the selective structure, and the compensatory attempts at the school level. These first results would deserve more research to follow-up, because they point to much more diversity in the ET practices within institutions than streamlined arguments of institutional coherence would assume.

In sum the weakly developed school level governance is rather used to alleviate the selective structure than to strengthen it; however, the overall selectivity is very strong with a high amount of downward mobility along the vertical structure and minimal upward mobility.

3.5. The link of VET to higher education

The link between VET and higher education can be demonstrated by the increasing transitions from BHS to universities and FHs (*tab.5, fig.3*). Transitions to universities and FHs differ in size and pattern. More than half of upper secondary graduates start studies at universities, and a rising proportion enroll in FHs, the sum is over 80%. The transitions from AHS to higher education are totally around 100%, with a higher share than BHS graduates starting a university study; the transition pattern to FHs is different, showing higher rates from BHS than from AHS, and smaller differences between the upper secondary specialisations. The sum of all types of BHS is above 50%, with higher rates from business related BHS than from the engineering specialisations. Looking at the transitions from the other side, more than half of FH students and almost two fifths of university students come from BHS.

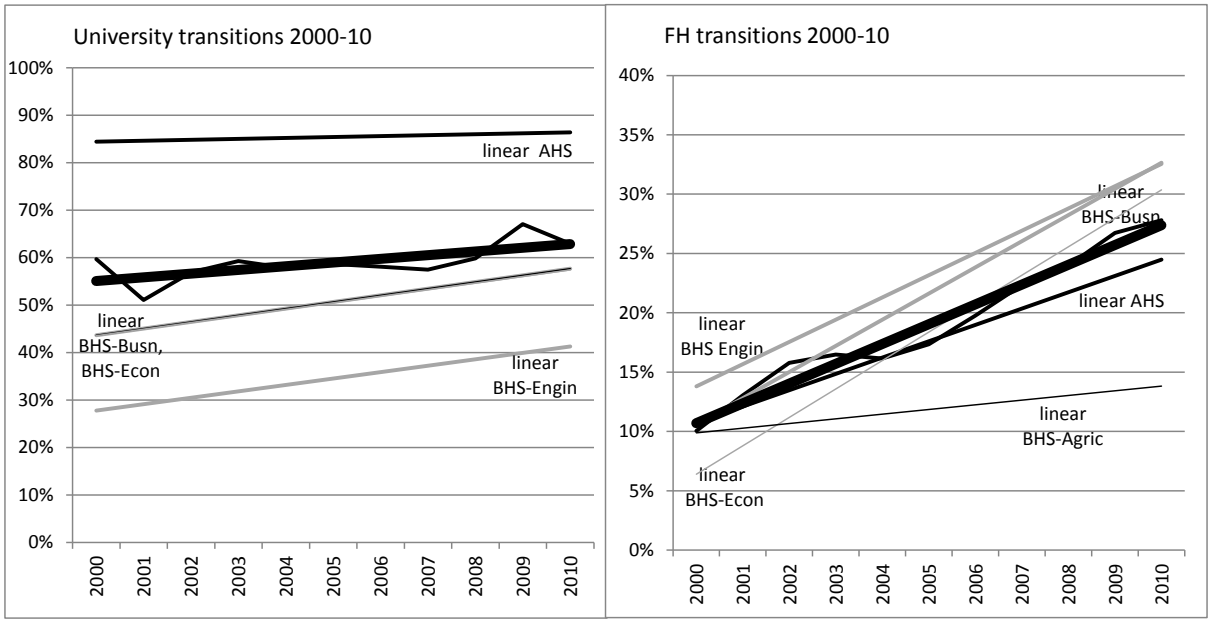
If we compare the indications for upward mobility at the stage of the 17 year old cohort (*tab.2, fig.2*) with the transition rate, transition appears to exceed reproduction more markedly among the AHS graduates than among BHS graduates. The difference between reproduction and the overall transition to higher education is around 50% from AHS and around 40% among BHS. Thus the BHS works more strongly as a device for upward mobility at the upper secondary level; however, at the stage of transition to higher education the AHS seems to be more effective. We can interpret this as another indication for ‘cooling out’.

Tab.5: Transition from AHS and BHS to universities and FHs

Transitions to university	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AHS	87%	77%	86%	91%	86%	88%	84%	82%	84%	89%	86%
BHS-Engin	31%	26%	30%	33%	33%	33%	37%	34%	38%	45%	40%
BHS-Busin	51%	39%	48%	48%	49%	50%	48%	50%	52%	63%	59%
BHS-Econ	45%	40%	48%	51%	51%	48%	50%	50%	52%	64%	55%
BHS-Agric	33%	32%	32%	36%	35%	37%	35%	51%	37%	52%	44%
Total	60%	51%	57%	59%	58%	59%	58%	57%	60%	67%	63%
Transitions to FH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AHS	10%	13%	15%	16%	15%	16%	19%	21%	22%	23%	25%
BHS-Engin	15%	16%	19%	19%	19%	21%	24%	26%	28%	35%	32%
BHS-Busin	10%	13%	17%	18%	19%	19%	21%	26%	28%	33%	33%
BHS-Econ	5%	9%	14%	15%	16%	17%	19%	23%	25%	28%	31%
BHS-Agric	8%	10%	17%	13%	9%	9%	11%	12%	14%	13%	15%
Total	10%	13%	16%	16%	16%	17%	20%	22%	24%	27%	28%

Source: own calculation based on education statistics from Statistics Austria; Formales Bildungswesen: http://www.statistik.at/web_de/statistiken/bildung_und_kultur/formales_bildungswesen/index.html (Graduates from upper secondary schools, and first time students in universities and FHs); transition rates overestimated, because transitions later than in the first year after graduation are included in the access figures (the sum of the transition rates is 111% from AHS and 74% from BHS, indicating that the first year beginners in higher education have often graduated some years before in upper secondary education

Fig. 3: Trendlines of transitions to universities and FHs by types of upper secondary schools



Source: own calculation based on education statistics from Statistics Austria, data from fig.5

The political discourses about VET focus mainly on the qualification function of VET, and have until recently neglected its strong role in social reproduction and mobility. Therefore apprenticeship has substantially lost ground vis-à-vis the BHS. Adding the opportunity of learning for the *Matura* Exam to apprenticeship (Lehr emit Matura, LMM) should provide more incentives for the choice of an apprenticeship among young people interested in upward mobility. However this imposes the risk of additional opportunity costs on the enterprise side, if the most ambitious apprentices may opt for further studies in higher education (as is already the case with BHS). As a consequence this new step of 'heating up' through LMM has already initiated a new cycle of 'cooling out', with various ideas and proposals to change the conditions for access to higher education in a direction that reduce the value of Matura as a device for higher education access. We can observe proposals for reforms from the side of employers' organisations that are bound to strengthen the 'selection model' by sophisticated assessment procedures at the end of compulsory schooling. These proposals fit into the debate about new selection procedures at the entrance to higher education (in particular for universities). And a 'third pillar' of professional programmes and credentials in addition to universities and FHs in higher education is strongly promoted by the employers' organisations more recently. Here the 'heating up' - 'cooling out' dynamic appears to be in place very clearly, as on the one hand additional opportunities are provided by the extended access to *Matura* from VET, and on the other hand strong intentions are in place that work towards a devaluation of this credential. In sum a new cycle of 'retarded expansion' seems to be put in place in the Austrian institutional structure that provides some additional opportunities, and at the same time restricts them to a scale as limited as possible.

4. Conclusions

The role of institutional structures in social reproduction is still a contested terrain. Research has shifted strongly to causal analyses that relate the practices at the individual level to more aggregate factors, using concepts as the habitus and the various forms of capital in the processes of reproduction. Often empirical analyses focus on the national level. Unambiguous results about effects of institutional structures are not available so far (*Schümer/Weiß* 2008). This paper has taken the institutional level as the level of analysis,

and has given an interpretation of how the Austrian institutional structures might contribute to social reproduction, and how these structures are evolving over time. The focus is on the old dimensions of social inequality. We have asked how the differentiated and selective structure of Austrian education evolved over time, and have related the results about social selectivity and the social composition of the different tracks to the longer term development of enrolment and the structural shifts during the last decades.

The analysis has shown, how an ET system has at the same time preserved its basic institutional structures of social reproduction, and has through incremental change of the institutions also been able to adapt quite well to the main challenges of social mobility. The dynamic of a combination of 'heating up' and 'cooling out' mechanisms seem to work well to provide some additional opportunities, and to control the expansion of ET to a feasible minimum. The strong vertical hierarchy of four tracks at the upper secondary level (apprenticeship, medium level VET schools, upper level VET colleges and the academic upper secondary school) has remained stable in terms of the existing school types, however, has severely changed in terms of the distribution. This pattern of change can be interpreted as being caused by the social demand for upward mobility, from which the VET colleges have clearly profited, whereas apprenticeship has been left behind this dynamic. To some extent the vertical position of apprenticeship in relation to the medium level VET schools is also undergoing changes that reflect the increasing coverage of young people by education and the increasing diversity of young people due to immigration.

VET has well established relationships to employment on the one hand, and provides in cooperation with strong labour market policy measures relative well conditions for transition into employment, and to higher education on the other hand, with high transition rates from VET into universities and FHs. A high amount of dropout at the different levels is alleviated by wide channels of second choice. At the upper secondary level the lower tracks absorb the dropouts to a high degree, and at the tertiary level many dropouts fall back on their upper secondary qualifications.

An important feature of this structure seems to be its lack of an overall coordination of ET. In contrast to the strong social role of VET the political discourse is focused mainly on the technical and economic functions of VET, and neglecting its role in terms of social mobility. In this tension explanations for the stability of the selective structure of Austrian education can be found, as the socially reproductive role of the elitist academic upper secondary

school is protected by the VET colleges, which provide opportunities for upward mobility under very selective circumstances. Overall, the selective and inequitable structure can provide a severely controlled amount of upward mobility that seems sufficient to protect the system from a more marked structural change. We have tried to show that a dynamic of 'heating up' and 'cooling out' can provide a reasonable interpretation of how this institutional processes work. Cooling out practices and mechanisms in the narrow sense of soft mechanisms of diversion might gain increasing ground.

Proposals for a more radical structural reform are not taken over by the various actors; however, some activities aiming at further incremental change are under way, which may further adapt the basically conservative institutional structure to the new challenges which are arising quite powerfully from migration and from charges of improvement of gender equality.

5. Literature

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