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„Austria 2050“ – approaches towards anticipation of future education

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This chapter is based on a set of activities in Austria that tried to make sense of how VET policy making could and should take into account challenges from ‘the future’. First, some conceptual considerations are presented based on discourses from literature which contrast different approaches of dealing with future challenges and secondly, some experience from discursive attempts in the policy making sphere is presented and discussed. The main message is that despite the big rhetoric about ‘future challenges’ and the conceptual difficulties of dealing with future the available possibilities are utilized to a much lesser degree than possible.

1. Conceptual considerations about anticipation

Education has its purpose mainly in the future, as it tries to influence cognitive, emotional and behavioural traits of people (young, and with lifelong learning increasingly also adult) that turn out not only in the present, but will evolve also somehow into the future (‘non scholae but vitae discimus’). When education was conceptualised, however, during past centuries, the environment was considered rather stable. Education was a humanity based on philosophy and history, and focused on the development of the individual. Then increasingly, nature as a historical asset came into consideration, and the instruments of influencing nature (science and technology) became a contested part of education. Finally, in the 20th century the idea of change in society and economy was increasingly integrated into the thinking about education. One big paradigm for this change was the concept of ‘modernisation’ that emerged as a leading concept in functionalist Western sociology – the whole world was considered to ‘modernize’ along the pathways of capitalist industrialisation and liberal democracy; if not the competing threat of (Eastern) socialist or communist utopia should prevail.

Change in society and economy was conceptualised along a rather clear and unidirectional path of modernisation, where the ‘less developed’ would follow the ‘more developed’, and the more developed were rather clearly the more rich. And ‘richness’ was increasingly

defined as economic wealth, operationalized by the invention of the ‘Gross Domestic Product (GDP)’. With this development the meaning of ‘richness’ has shifted from income to the whole of production; and ‘modernisation’ meant the development of an efficient production system, and its ingredients; the main ingredients being the market and liberal democracy. Education was rather early also considered as an ingredient of capitalist modernisation, and this idea was strongly aggravated in the second half of the 20th century by the invention of ‘human capital’ as an ingredient in macroeconomic growth (Theodore W. Schultz).

As long as we speak of modernisation we have included two silent concepts of the future, strongly related to the present and the past: one is *to know the ingredients of the ‘modern’* (which are identified in the present, but have evolved somehow from the past), and the second *is to implement them where they do not exist* (so the present of the modern is considered the future of the modernised, consequently the past development of modernisation is converted into the future of the modernised). This logic of modernisation implies the distinction of leaders and followers and focuses on the followers who have to adapt to the leaders while the future of the followers is modelled through the present of the leaders that has emerged from the past. What is not considered in this model is the modernisation of the leaders. First, they are always ahead, and second their modernisation is detected always ex-post-factum in the present (analysis of change, or in the language of modernisation: change is ‘progress’) as a result of past development.

So far in modernisation the future of the followers is the replication of the past of the leaders. However, things soon turned out more complicated. Two problems emerged; the first was speed, punctuated change, and uneven development, the second non-linear change.

- *Speed*. If followers quickly take over across the board the most modern ingredients, they may overtake the leaders (examples are the late industrialisation in the German Empire, Japan through some periods of the 20th century, and currently the various ‘Tigers’ and the big newly industrialising nations), so the relationship reverses.
- *Non-linearity*. The most influential example of non-linear change, which was also very important for the ideas about the future of education, has been the sectors model of structural change (Jean Fourastié) towards the service economy. The hypothesis was that the shift from agriculture to industry would be followed by a shift from industry to the service sector after industry has reached a certain ceiling; thus, still industrialising countries should in the future consider this ceiling of industry and anticipate a rise of services.

The concept of modernisation had its high tide in the 1950s and 1960s when it was used to work out the differences between the ‘modern’ and the ‘traditional’ society, and thus to understand the features of the contemporary society at this time. In discourses about the future two dimensions came up which silently structured the discourses: the future of the modern societies themselves vs. the future of the still traditional societies in the colonised world.

- In the *modernised world* of capitalist liberal democracies the idea of functionalist modernisation, which has been originally under strain by the socialist and communist utopias (which found their ‘eve of destruction’ with the broke-up of the SU and the German unification), has increasingly broken up into a broad variety of discourses about possible futures. In the 1980s *post-modernity* emerged as an overarching label that signified a stop to modernisation as a future device, resisting to provide a new device and rather suggesting ‘end of history’ and somehow ‘no future’ images for the future. The *deconstruction* of every imagined historical trajectory came into focus, and *reflexivity* became a widely shared device. This notion is at the core of the thinking of critical theories (Pierre Bourdieu) as well as of the somehow compromising paradigm of ‘reflexive modernisation’ and a ‘third way’ (Giddens, Beck). Even within economic theorising the attention has shifted to questions about the future of the already modernised leaders, with *innovation* as the core device. In particular, the ‘New Growth Theory’ has established innovation as the core factor of contemporary economic growth and the catching-up towards the ‘innovation frontier’ has become the main future challenge of already modernised countries or economies. In parallel, economic growth has also become contested as the one and only dimension of monitoring future development. Firstly, its relationship to distributional aspects has come to question in the late neoliberal era, as different strata have profited differently from economic growth since the 1980s, and the rich have been given an increasingly higher share of the incomes generated.¹ Secondly, the direct relationship assumed between earnings (the GDP) and well-being has also been increasingly questioned, even by renounced economists who shifted interest to

¹ Estimates (van Treeck 2011) show that in the USA since 1980 the share the 1% richest households own out of the total private household incomes has increased from 10% in 1980 to 25% in 2007 (before the latest crisis), and the richest 10% households have increased their share from one third to half of total incomes – if we consider that they have been already fairly rich for a living in 1980, the richest 10% could take further 20% out of the total income generated in the neoliberal era, when the political discourse always insisted that society could not afford the high expenditure for social purposes.

van Treeck, T. (2011) Comments on Philip Arestis. In: 75 Jahre General Theory of Employment, Interest and Money”, Symposium der Arbeiterkammer Wien, 29.09.2011.

those issues (Richard Layard and his studies of happiness). Despite these countering forces at various levels of the discourses, the paradigm of functionalist modernisation is still alive at the more practical levels of policy making and everyday life and culture. Within the modernised world, still many tensions between ‘traditional’ and ‘modern’ styles prevail (e.g., in many remaining pre-democratic authoritarian assets and habits; in family orders and disadvantages of women; in cultural access, where the products of the modern age from the last century are still fairly away from the common taste and understanding; to some extent these tensions still prevail between European states from different locations and traditions, e.g. between the different welfare regimes: Nordic, Liberal, Continental-Corporative, Mediterranean). These issues of modernisation also arise in the relationship between the established capitalist countries and the former socialist transformation countries. Here, the ‘modernised regime’ is frequently identified with the neoliberal capitalist regime.

- On the other hand, if we turn to the discourses about the future of the *not modernised world*, the modernisation paradigm is still fairly intact. After the demise of the socialist and communist utopia, capitalist modernisation has become the leading paradigm and the need for a complementing liberal democracy is also still a hegemonic discourse. So, in this wide area of the world the image of the past modernisation in the modernised part to some extent provides the image of the future (industrialisation and exploitation, mass production, slow democratisation, mass education, etc.), with all the hard and negative shadows and legacies of the past included (the conflicts coming out directly with issues of exploitation and, in particular, with the environmental problems, in that the past modernisation was in fact not sustainable for the world).
- Thinking about the future, we also have to consider the interrelationships and possible interactions between the modernised world and the part of the world still on the way towards modernisation. These interrelations are caught in particular by two concepts which point to different aspects, but both are somehow questioning the paradigm of modernisation: one is a certain understanding of ‘globalisation’ (Dirlic); the other is the ‘clash of civilizations’ (Huntington), both are very important for the future of education. *Globalisation* does not only mean increasing exchange and interrelations, but also means first and foremost, that the global level strikes back to all other levels, from supra-national to national to regional to local and individual ones. And in this sense it is an alternative to modernisation, as the ‘leaders-followers-relationship’ is put out of order. In this sense,

globalisation does not mean the diffusion of what is already known, but the emergence of (at a given point unknown and also difficult to foresee) new qualities, a major one of them being the creation of genuine global spaces, in which everybody is somehow directly participating.² We can take into consideration two more institutionalised spaces of such kind which are of direct significance for education. One is that of multinational companies as core players in production and consumption and the other is the global space of universities as the core institution where education meets science and research. The ‘*clash of civilisations*’ is misinterpreted³ as a device that would aggravate the differences between religions. In fact, in relation to the modernisation device, it says that the basic cultural pattern of functionalist modernisation generated through the secular movement of European enlightenment will not be able to ‘conquer’ other civilisations with their own origins and their histories of domination, at least not in the short run. This message can also be read by postcolonial studies which would ask: ‘can the subaltern speak?’ (Spivak). Through globalization and migration the ‘clash of civilizations’ (a phenomenon colonized regions have already long time suffered from) is brought much more directly to the modernized countries. Education has in any case to cope with it.

Now, if we try to find ways of how we can speak meaningfully about the future of education, what do these considerations tell us? They show certain engraved patterns of how we deal systematically and less systematically with the future, consciously or unconsciously informed by the modernisation paradigm. As an example the fourth CEDEFOP-report on VET-research in Europe was sailing under the label of modernisation, and it has also put the Copenhagen-Process under this label.⁴ However, as the discussion above has shown, the basic idea of a directional development along a certain trajectory of modernisation from the past into the future has been lost during the last decades. Nevertheless, this pattern of reasoning is often still somehow prevalent in the background of many discourses and expressions.

Loet Leydesdorff (2008; see also Füllsack 2009)⁵ has tried to formalise the practices of anticipation into three models:

² The internet is an example from the past, when its early ‘visionaries’ were not so much celebrated by their contemporaries as it is now in retrospect, e.g., Marshall McLuhan, whose ‘power of anticipation’ is much more accepted at his 100th birthday than 50 years before in 1962 when he coined the image of the ‘global village’

³ Indeed the original Foreign Affairs article by Huntington has very much of a discriminating and ethnocentric tone, whereas this is not the case in the later published book.

⁴ See CEDEFOP (2009) Modernising vocational education and training. Fourth report on vocational training research in Europe: background report. Vol.1-3. Luxembourg: Publications Office of the European Union.

⁵ Leydesdorff L (2008) The communication of meaning in anticipatory systems: a simulation study of the dynamics of intentionality in social interactions. In: Proceedings of the 8th International Conference on

- (1) a *recursive model* that infers to the future from past development (e.g., the classical forecasting or projection methods based on time series from the past),
- (2) an *incursive model* that infers from present structural relationships and current changes to the future, and
- (3) a *hyper-incursive model* that considers effects of the involved actors' expectations about the future.

The third model assumes that the future can influence present practices, and Leydesdorff argues that social systems in the strong Luhmannian sense would include this mechanism. That means that the anticipation of the future is endogenously included in the complex processes going on in social systems and therefore need not to be imposed from outside. This assumption implies building on the endogenous processes rather than developing additional exogenous anticipation mechanisms that should somehow intervene into the processes of the system.

In education we can see various applications of these different models

- Recursive anticipation has been established in the 1960s with the development of *forecasting models* of demography, economic development, and the supply of and demand for education; recently this kind of anticipation has been applied to the EU member states by the Skillsnet forecasts of supply and demand;
- Incursive anticipation means the application of *structural and causal models* to predict aspects of the future behaviour of the involved actors from certain assumptions and/or evidence about conditioning factors of their current behaviour; examples for this kind of anticipation are mostly relationships between migration and employment, or effects of the conditions for child care on female employment, and frequently the functioning of incentives and disincentives is under consideration;
- Hyper-incursive anticipation is mostly related to ideas or assumptions about globalisation, technological change, and the knowledge economy and society, combining analytical and empirical evidence with expectations about future changes; examples for this kind are *strategies* that derive decisions from systematic vision about goals, based on scenarios and foresight methodologies that include the expectations of involved actors into the anticipation practices. More long-run anticipation procedures of this kind, resting on the short run market led practices, are modelled by the economic *human capital approach*

Computing Anticipatory Systems (CASYS'07), 6-11 Aug. 2007, Liège, hg. D M Dubois, Melville, NY (<http://www.leydesdorff.net/casys07/casys07.pdf>); Füllsack M (2009) Antizipation und ihre Formalisierung. Zur Simulation sozialer Systeme nach Loet Leydesdorff, ÖZS 34(3), 62-81.

that in fact includes elements of hyper incursive anticipation, as the actors use their expectations about future returns on their investment.

The main challenge of all those anticipation practices is to separate correctly between knowledge about evidence on the one hand and the shaping power of the assumptions included on the other. The quite extensive use of data and the systematic presentation of the results of the anticipatory activities, which are often related to the interests of the selling agencies, may have a suggestive power among the – mostly less informed – consumers of these products. This could lead to confusion about the epistemological status of these statements: in fact assumptions are transformed into statements about future realities, and might be – and often are – confused with reality. The use of the concepts of the ‘knowledge economy’ and the ‘knowledge society’ is a good example for mechanisms of the kind. Whereas the knowledge economy, used by the OECD, is a quite well defined concept based on the economic value of intangible assets, the extension to the knowledge society is much more problematic, and still under dispute. Nevertheless this concept is used in the political discourses as a kind of reality statement with more or less clear consequences for educational demand towards tertiary education.

2. Some attempts towards the anticipation of future education in Austria

In attempts to identify anticipation procedures by CEDEFOP some years ago, Austria was classified as a country with fairly well established practices. The author has frequently taken part in these activities and commented on them from different angles in some former publications; this will not be reproduced here. The main interest has been to understand how these procedures interact with policy and practice and the result was that the utilisation has always been rather symbolic and propagandistic. However, it did not influence the way education developed. One characteristic has been that most of those anticipation procedures have been commissioned from outside education, mainly by the Public Employment Service, and the actors in education preferred to proceed with their business as usual.⁶

⁶ Lassnigg, L. (2004). “To match or mismatch? The Austrian VET system on struggle with diverse and changing demand”. *Berufs- und Wirtschaftspädagogik* – online bwp@ Issue No. 7 (December). Vocational and Business Education and Training in Europe: Qualifications and the World of Work.

<http://www.bwpat.de/7eu/lassnigg_at_bwpat7.pdf>

Lassnigg, L. and Markowitsch, J. (Eds.), (2005). *Qualität durch Vorausschau*. Innsbruck: Studienverlag

In Lassnigg/Markowitsch (2005) a distinction was made between formal procedures of anticipation (forecasting, scenarios, etc.) and informal practices continuously performed during and beneath the various activities of delivery and development of education. The question was how the various actors *de facto* gathered and used information about future challenges in their activities of developing and updating the supply of education in relation to demand. Thus, the focus was shifted from anticipation to procedures and activities geared to matching supply to demand. In a project commissioned by the European Training Foundation (ETF) this approach was carried on and the various anticipating and matching approaches and practices were analysed in a set of partner countries of the ETF (Lassnigg 2012).⁷ The approach rested on the assumption that the results of formal anticipation procedures (in this case forecasting of supply and demand based on the CEDEFOP Skillsnet approach) can only be understood and utilised if they are embedded into functioning practices and procedures of matching – in short: the actors must properly understand the current situation to be able to make sense of results from forecasting the future, and this cannot be provided by the forecasters but only by the responsible actors themselves. Paradoxically, the interest of the country experts seemed to be much more attracted by the elegant formal forecasting models than by the sticky on-going procedures of matching and anticipation.

The assessment of anticipation procedures in Austria has shown that formal procedures of forecasting have been commissioned by the Public Employment Service for decades, however, the supplying institutions in education did not even take notice from them. Almost ten years ago a project was launched that tried to bring the actors from the educational side and the employment side together, and to support the exchange of information among them (Lassnigg/Markowitsch 2005 on a national basis; Mann/Steiner 2010 on a regional basis).⁸ However, it lasted some more years, until these actors were brought together in a platform for

Lassnigg, L. (2006b). "Approaches for the Anticipation of Skill Needs in the 'Transitional Labour Market' Perspective: The Austrian Experience". In: WZB Discussion Paper SP I 2006-105. Berlin: Wissenschaftszentrum Berlin fuer Sozialforschung (WZB). <<http://skylla.wz-berlin.de/pdf/2006/i06-105.pdf>>

Lassnigg, L. (2008) Improving the quality of the supply-demand-match in vocational education and training by anticipation and 'matching policy'. European Journal of Vocational Training 44, 2, 9-31.

Lassnigg, L / Dietzen, A. (2009) Ansätze zur Antizipation von Qualifikationsanforderungen und nachgefragten Kompetenzen in Deutschland und Österreich. In: Lassnigg, L. et al. (Eds.) Öffnung von Arbeitsmärkten und Bildungssystemen. Innsbruck: Studienverlag, p.297-315.

Lassnigg, L. (2011) Matching Education and Training to Employment: Practical Problems and Theoretical Solutions – Or the Other Way Round? Papers 96, 4, 1095-1121

⁷ Lassnigg, L. (2012) Anticipating and matching skills demand and supply. Synthesis of national reports. Working paper prepared for the European Training Foundation. Torino.

⁸ Mann, C./ Steiner, M. Eds. (2010) Netzwerkstatt. Antizipation bildungspolitischer Herausforderungen. Frankfurt/M.: Peter Lang.

implementing the Austrian Lifelong Learning Strategy, and might start the development of common strategies.

Still the development of cooperative strategies is impeded by conflicts of interest among some key actors in the Austrian dualistic VET system:⁹ at the upper secondary level the apprenticeship system is competing with the full-time VET schools and colleges for applicants because of the declining birth cohorts. Furthermore, some competition also exists between the upper secondary VET institutions and the tertiary level. So, each institutional sector is trying to attract young people to his own institutions, by promising good prospects in the future. More formal and systematic results of anticipation procedures are not very welcome in this situation because they might undermine the respective positions. Because the VET system is stratified to higher and lower levels, the apprenticeship sector that is situated on the lowest level has to struggle most fiercely for its attractiveness. At the upper end of the hierarchy the universities have to struggle with problems of underfinancing and resistance to the Bologna reform, and do not have convincing arguments in favour of their attractiveness. All in all, the discourses about future prospects are very contradictory in Austria. On the one hand, they are very much driven by the 'Education Gospel', saying that the solution of the future challenges can be found primarily in education. On the other hand, the development of education and the respective politics and policies are bound by heavy ideologically based disputes among the responsible actors. An important cleavage can be found between politics and policies, the power related aspects and the content related aspects of policy making, which point in different directions: with respect to power, education is a highly ranked political issue and the political forces are using this topic for competition against each other. Regarding the content, education is such a complex issue that political solutions need a high degree of consensus among the political forces – and these two dimensions are working against each other. Because the political competition between the two most important combatants (who at the moment – November 2013 – are trying to set up a new, probably their last, government), the conservative *Österreichische Volkspartei* (ÖVP) and the *Social Democrats* (SPÖ) is increasingly severe, politics prevail over policies, and not even minimal compromises can be found.

In this situation 'the future' is becoming a weapon in the political power play, as some other forces try to occupy this discourse in order to find more rational ways of policy making, and at least to strengthen the content aspect against the power aspect. The most important forces

⁹ Lassnigg, L. (2011). The „duality“ of VET in Austria: Institutional competition between school and apprenticeship. *Journal of Vocational Education and Training*, 63, 3, 417–438.

in this ‘third chapter’ are (1) the *Social Partners* (the employers’ and employees’ interest organisations, which are in turn strongly related to the leading parties ÖVP and SPÖ, however, have developed their own educational positions), (2) the *Green Party*, and (3) a variety of voluntary initiatives in civil society to establish *Non-Government institutions* in favour of reform in education. These forces have established and supported a referendum in autumn 2011 (*Bildungsvolksbegehren*) that has charged a set of reforms of the whole education system from the pre-primary stage to higher education. Main promoters of this initiative were a former social democratic minister of finance, who became a successful international industrialist, and serves also as the president of the Austrian Council of Research and Technology, and a former conservative politician, director of a big regional school administration, and university professor, who has also recently chaired a reform task force nominated by the outgoing social democratic minister of education. Despite this referendum was ironically even supported by the minister of education, it did not get much popular support (almost 400.000 votes, as compared to at least about 1.8 million people directly involved in education as students, teachers, or parents). Accordingly, recent surveys reported in newspapers have given the impression that education policy is rather considered as a fairly successful policy field. This strongly contrasts with the alarmist, conflict laden, and negative outlook given by the expert communities and politicians. The Social Partners are also charging widespread reforms from government, and government strategies in favour of innovation¹⁰ and lifelong learning¹¹ in turn are also opting for changes in educational practices. Only the teachers’ unions are not happy with all these charges, and – as already mentioned – the political parties in government are charging reforms in rather opposite directions: While the conservatives are urging to strengthen the elitist aspects of the early selective Austrian system and the contribution of the families, the social democrats and the green party try to enforce equity and public responsibility for the whole education system. The main common issue with respect to future challenges is quality and achievement of the better results in compulsory education. Better results are defined firstly by the reduction of the proportion of young people that reach unsatisfactory levels of competences according to the international Large Scale Assessments (in particular PISA, but also PIRLS and TIMSS) and the newly established national education standards. About one third of 15-year olds are

¹⁰ Republik Österreich. (2011a). Potenziale ausschöpfen, Dynamik steigern, Zukunft schaffen. Der Weg zum Innovation Leader. Strategie der Bundesregierung für Forschung, Technologie und Innovation. <http://www.bka.gv.at/DocView.axd?CobId=42655>

¹¹ Republik Österreich. (2011b). Strategie zum lebensbegleitenden Lernen. LLL:2020. http://www.esf.at/esf/wp-content/uploads/LLL-Strategiepapier_20111.pdf

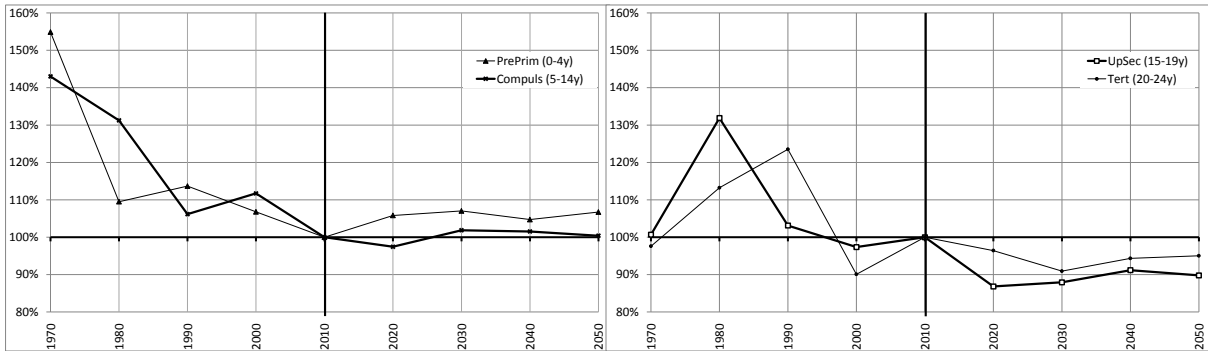
classified as 'at risk' by the PISA assessments. Secondly the proportion of early school leavers (measured by the European indicator) and of young people not in education or employment (NEETs), which figures around the EU average for the last years, should be further reduced. The VET system is commonly perceived as strength of Austrian education, however, the Social Partners have recently pointed to the improvement of the quality of apprenticeship training as one of the main challenges.

Concerning the future of VET, a set of issues is at stake, some of them lying on the table quite clearly, others being more or less neglected, or being rather misunderstood.

- (1) Issues of *demography* and the *ageing of the workforce* are commonly discussed as one of the main future problems. This analysis resembles much to the recursive model of anticipation, population forecasts are the main instruments. A closer inspection of the demographic forecasts and a comparison with the past shows that within the age band for education and employment the dynamic changes were much greater during the past four decades, as compared to the forecasts of the future four decades (Fig. 1 and 2). The biggest change is forecasted within the 75+ and the 65-75 years age groups. While the number of the over 75s has doubled since 1970 and will triple until 2050, the size of the group of the 65-75 year olds, being already above the retirement age, will also increase by 50% after 2020. The demographic issues can be further disentangled to different kinds of problems. Firstly, the forecasts of the young cohorts that will enrol in upper secondary and tertiary education during the next decades show a quite sharp decline of about 10% until 2020 for upper secondary education and until 2030 in tertiary education. Secondly, the younger and medium aged groups are on decline since two decades, which will continue for the next decade. This creates the impression of a skills gap, as the labour supply shifts from the demanded younger groups to the less demanded older groups. Thirdly, the older groups have already strongly increased in size since two or three decades, however, employment has not used this period for an adaptation to this change so far. The average actual retirement age is at 58, whereas the legal age is at 60 for women and 65 for men, accordingly is the employment rate of older persons among the lowest of the EU (about 20% among 60-64 year olds). Fourth, the population forecast includes a substantial further increase of immigration in order to keep the population stable. Fig.3 illustrates this increase for the active population; similar figures are obtained for the young people. This means that Austria must be able to successfully compete for immigration, and a

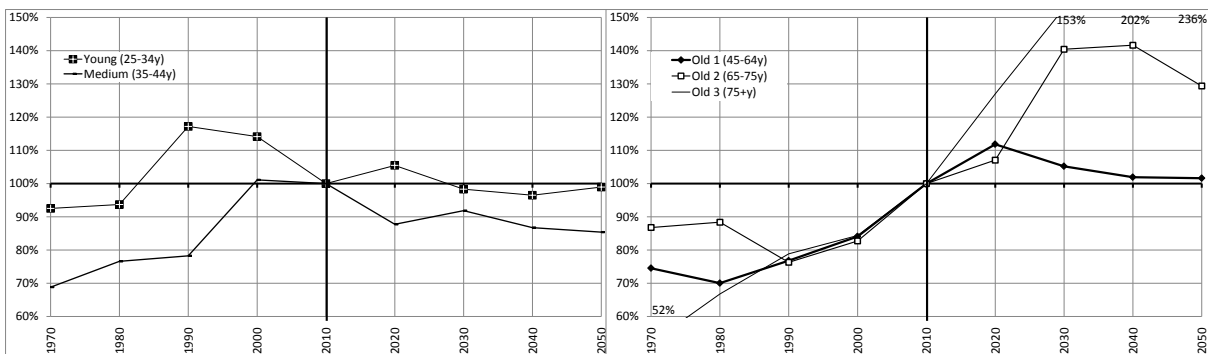
main challenge for education will immediately be to deal adequately with the potentials and competencies of the young multilingual immigrants.

Fig. 1: Demographic potential of the stages of education in Austria 1970-2050, from 2010 forecast (pre-primary, compulsory, upper secondary, tertiary)



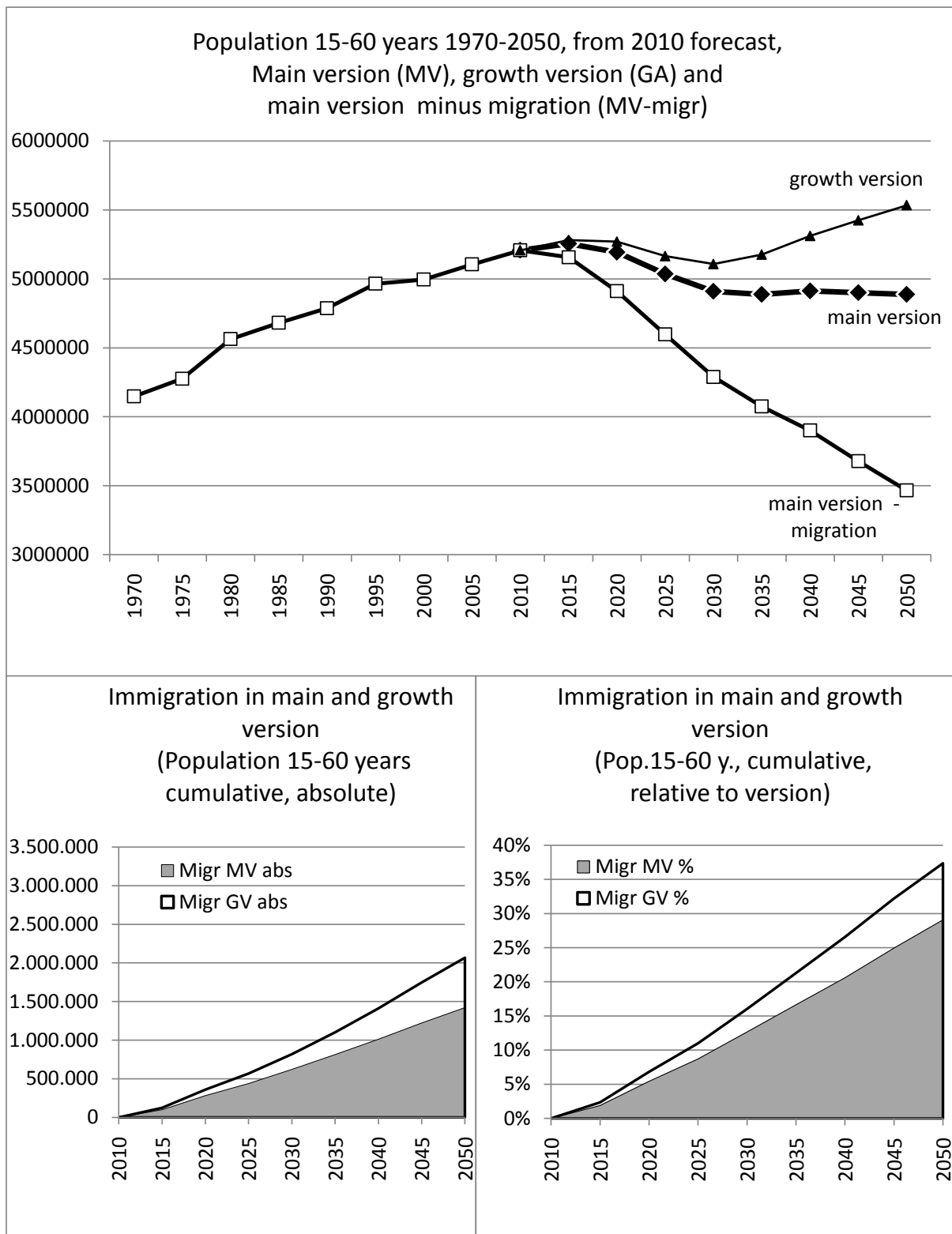
Source: own calculations based on Statistics Austria

Fig. 2: Demographic potential of age groups in employment and retirement in Austria 1970-2050, from 2010 forecast (young, medium, and older groups)



Source: own calculations based on Statistics Austria

Fig.3: Migration in population forecasts 2010-50, three versions



Source: own calculations based on Statistics Austria

(2) *Future challenges* for Austrian education were collectively analysed and discussed among Austrian experts, seconded by experts from abroad, in two thematic

workshops in 2010 and 2012.¹² These attempts are related to the incursive model of anticipation. The basic approach of these exercises was to identify those topics of the development of education, which will probably create more severe challenges in the future, if the incremental and endogenous path of development is further continued. In the first workshop the topics were identified and the second workshop focused more consequently on the question of necessary structural changes to solve the challenges. We cannot go here into the content of the challenges, but will reflect what the exercises can tell us about the (incursive) anticipation of the future. The first workshop at the Austrian VET research conference was a more academic exercise and brought together leading Austrian researchers/experts in the main challenging topics: equality of opportunity, gender equity, migration and multilingualism, contribution to economic and technological innovation, early school leaving and dropout, transition and youth labour market, occupational choice related to education, and issues related to the development of the structure of Austrian VET, within the apprenticeship and full-time school sectors and their relationship to each other ('dualism'), and the relationship between VET and higher education. The contributions and discussions showed some interesting tensions. Firstly, most of the contributors argued in favour of necessary structural changes to solve the challenges, in particular to improve equality of opportunity, the contribution to innovation, and better and less sex-segregated occupational choice. Secondly, the contributors dealing with specific sectors or stages in the system indirectly pointed to the structural tensions in the system, and to some part also reinforced them. The proposals concerning the full-time VET school sector emphasised the relationship to higher education and opted towards a more centralised governance of the school sector, whereas the challenges of the apprenticeship sector were more emphasised towards the young people with low competences and transition problems. Thirdly, the contributions about migration and gender both pointed to the necessity to change the overall mapping of the challenges and to bring

¹² Lassnigg, L, ed. (2010) Forum: Zukunftsfragen der Berufsbildung. Dokumentation des Doppelforums auf der Österreichischen Konferenz für Berufsbildungsforschung, 8.-9.Juli 2010, Steyr, im Internet: <http://www.equi.at/dateien/ForumZukunftText.pdf>; see also Lassnigg, L./ Baethge, M. (2011). Zukunftsfragen der Berufsbildung in Österreich – Bericht und Reflexion zum thematischen Forum. In Markowitsch, J et al., eds., *Turbulenzen auf Arbeitsmärkten und in Bildungssystemen. Beiträge zur Berufsbildungsforschung*. Innsbruck: StudienVerlag, p. 70–95.

Lassnigg, L /Laimer, A /Markowitsch, J, eds. with contributions by Agnes Dietzen, Marianne Friese, Rüdiger Preißer, Hans H. Reich (2013 forthc.) *Zukunft der Berufsbildung. Herausforderungen und internationale Lösungsansätze. Dokumentation zur Veranstaltung vom 7.12.2012 durchgeführt von IHS, 3s und BMUKK. IHS research report.*

new ways of seeing the topics into the system. The second workshop was more politically oriented, and tried to learn from expertise from abroad. Four topics were selected for discussion: competence orientation, migration, gender, and transition and labour market policy. The workshop should provide a floor for an open and inclusive discussion towards possible solutions to the challenges among experts from the various stakeholders in the system. However, attendees were rather from the side of the employees' organisations, which points to still existing barriers for open discussion between the sides of the social dialogue. Two overall observations can be stated from a reflection of this exercise. First the Austrian practices and discourses are a bit narrow, as compared to the experience from abroad, except in labour market policy; second, despite the focus of the workshop has been explicitly set towards the necessity of structural (radical) changes, the discussion was very strongly oriented to incremental change. Thus the idea of radical change seems very much outside the view of even the most reform oriented forces in Austria.

- (3) In the beginning we have pointed to the big changes going on in the world as well as in the perception of the world, and the key position that education is considered to play in these changes ('Education Gospel'). Some *big challenges* are always mentioned with which we have to cope. In order to find out which weight the policy discourses apply to this rhetoric of challenges, we have analysed the existing programmes for education policy in Austria 2005-08. Counting the catchwords in the titles and subtitles as well as in the specific charges made in the programmes allows for a ranking of finally found 46 policy topics of very different qualities. If we look for the ranking position of the policy topics that refer directly to the big challenges we find most of them in a rather low position in the second half of the ranking (Fig.4). The ranking of the topics indicates that the issues of migration have reached the political agenda already some years ago, however, in particular the challenges from globalisation and – despite the strong rhetoric – also from demography have been rather weakly related to the programmes in education policy. Technological change and innovation, as well as the more distributional challenges from gender and social disadvantages have reached a medium level awareness. If we interpret the political programmes from the various stakeholders as a reflection of their expectations, and of how they anticipate the future challenges, we may see their structure also as an indication for hyper-incurative anticipation. If we control for the ranking of the big challenges by counting those other topics, which are clearly related to them, we can

get a picture for their implicit ranking. Column two of Fig.4 shows that migration remains the top category; demography, social disadvantage, and internationalisation go substantially up in the ranking (with the fight against social disadvantage getting the highest number of concrete topics); gender remains at its rank, however, declines slightly in relation to the latter topics, and the topic of innovation goes down to the lowest rank of the challenges. This picture shows that during the decade after 2000 the stakeholders in Austrian education policy were not very much aware to the big challenges in their political programmes, although high attention is given to them in the international rhetoric (see Fig.4 Annex)

- (4) In 2011 the Austrian government decided on an *innovation strategy* that should strengthen the innovative potentials of the economy and society. The innovation strategy shifts the attention to the three big challenges climate change, scarcity of resources, and demography, including ageing and interculturality. A sustainable reform of education, calling for substantial change in instruction methods is among the first priorities of the strategy, followed by the linkage of education and innovation, and the increase of human potentials for research, technology, and innovation. Another attempt by the Austrian Council for Research and Technology is under way to anticipate the Austrian future development with particular attention to education under the label Austria 2050 (www.oesterreich2050.at). This project attempts to make a stocktaking of the Austrian conditions and the demand for reform (education, research and development, generations, governance and polity, state finance and taxes, environment and climate change) in relation to the global challenges. If we compare the educational objectives around 2000 with the recent attempts of anticipation, the crisis since 2008 has – as *expressis verbis* recognised in the texts – catalysed a much broader consideration of the big challenges. However, the role of education has remained abstract, and still follows the rhetoric of the ‘Education Gospel’, by insisting on the high pressure for reform without giving clear arguments and directions for improvement. The main focus is technological and economic innovation and to move Austria towards the ‘innovation frontier’ as well as to make a shift from the ‘innovation followers’ to the ‘innovation leaders’. This shifts the attention to the requirements of economic innovation by putting the equity issues aside and neglecting social innovation. Moreover, the role of education in the innovation activities, including the distinction of radical and incremental innovation

and the questions concerning the potentials of small countries in the competition among the innovation leaders, are at stake.

3. Concluding remarks

This chapter started with a broad discussion about the overall changes in orientation with the shift from modernity to postmodernity, and the consequences this shift has for the anticipation of the future challenges. The modernist paradigm only needed to identify the most developed state, and then the others to adapt to it. The dynamic between innovation followers and innovation leaders somehow follows this pattern of thinking. However, currently the question is rather, what it means to be an innovation leader, and how the 'innovation frontier' is moved forward.

Another issue concerns the emphasis on economic growth in relation to welfare, and in particular to distributional problems. The ageing of the population points to such kinds of distributional problems. Education needs resources for its performance, and as a public good it needs public resources that depend on the redistribution of wealth. Less growth means fewer resources for redistribution while more growth leads to environment problems. Can intelligence solve this dilemma? What role can education play in this?

The inspection of the Austrian activities in anticipation shows some movement towards these big challenges, however, the activities still struggle mainly with minor questions of incremental change that often lead to contradictory answers, and somehow appear big enough.

Fig.4: Ranking of the big challenges in the Austrian education policy programmatic (catchwords in titles and subtitles, and in explicit charges made)

RANKING OF CATCHWORDS	INTERRELATION OF BIG CHALLENGES
1 Quality	9 <u>Migration background, integration, interculturality</u>
2 Teaching personnel	5. Basic competences
3 Financing	16. Early education and support
4 Permeability	17 Language competences
5 Basic competences	27 Equality of opportunity, equity
6 External networking	AVERAGE RANK SUB-TOPICS: 16,25 (down 7,25)
7 Individualisation	
8 Information, counseling, lifelong guidance	20 <u>Information society, ICT, media</u>
9 <u>Migration background, integration, interculturality</u>	21. Qualification structures, demand, anticipation
10 Participation, success	22. Research and development
11 Structural reform	30 Innovation policy, higher education and science
12 Governance	32. Math, science, technology
13 Recognition, Validation, Transparency	AVERAGE RANK SUB-TOPICS: 26,25 (down 6,25)
14 Competence	
15 Dual programmes for employed	24 <u>Sex and gender segregation, mainstreaming</u>
16 Early education and support	8. Information, counseling, lifelong guidance
17 Language competences	27. Equality of opportunity, equity
18 Early school leaving, dropout	35. Life cycle orientation
19 <u>Disadvantage general</u>	AVERAGE RANK SUB-TOPICS: 23,33 (up 0,67)
20 <u>Information society, ICT, media</u>	
21 Qualification structures, demand, anticipation	34 <u>Social disadvantage, heredity</u>
22 Research and development	4. Permeability
23 Pedagogical innovations	5. Basic competences
24 <u>Sex and gender segregation, mainstreaming</u>	11. Structural reform
25 New school types	16. Early education and support
26 Second chance for qualifications	18. Early school leaving, dropout
27 Equality of opportunity, equity	26. Second chance for qualifications
28 Modularisation	27. Equality of opportunity, equity
29 Educational mission	39. Early tracking
30 Innovation policy, higher education and science	43. Safety net for young people
31 Autonomy	AVERAGE RANK SUB-TOPICS: 21,00 (up 13,00)
32 Math, science, technology	
33 Target groups	36. <u>Demography</u>
34 <u>Social disadvantage, heredity</u>	3. Financing
35 Life cycle orientation	21. Qualification structures, demand, anticipation
36 <u>Demography</u>	37. Integration of initial and continuing education
37 Integration of initial and continuing education	AVERAGE RANK SUB-TOPICS: 20,33 (up 15,67)
38 Differentiation	
39 Early tracking	42. <u>Internationalisation, Globalisation, Mobility</u>
40 Daily school time (Ganztagsunterricht)	13. Recognition, Validation, Transparency
41 Learning environment	17. Language competences
42 <u>Internationalisation, Globalisation, Mobility</u>	21. Qualification structures, demand, anticipation
43 Safety net for young people	22. Research and development
44 Educational goals	26. Second chance for qualifications
45 Culture and arts	30. Innovation policy, higher education and science
46 Codetermination	AVERAGE RANK SUB-TOPICS: 21,50 (up 20,50)

Source: own analysis of 12 political programmes from 2005-08, see also Lassnigg 2010, pp.64-71.