Assessment and recommendations

Context

Austria's performance in international student assessments is mixed and there is scope for improvement

In 2011, Austrian primary school students in Year 4 took part in the IEA's TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study). Austria's results in mathematics and reading in these assessments were considered unsatisfactory compared to 14 participating countries with similar socio-economic characteristics. In both subjects, Austria scored above the international average, but took the last place in its reference group for reading and the third-last for mathematics. In both subjects, the share of Austrian students meeting the Advanced and High International Benchmarks was smaller than the international median. Reading literacy scores have experienced a decline since 2006 and scores for mathematics have decreased since 1995. In science, however, Austria continues to show good results, performing above the international benchmarks across all levels of achievement. In 2012, Austrian 15-year-olds participated in OECD PISA 2012 performing above the OECD average in mathematics (506 vs. 494), at the average in science (506 vs. 501) and below the average in reading (490 vs. 496). In mathematics and reading, Austria fared worse than Germany and Switzerland, but better than or similar to Italy and the Slovak Republic. Since PISA 2003, Austria has slightly narrowed the share of low performing students in all subjects, but at the same time experienced a reduction in its share of top performers. This has resulted in a comparatively small share of students at the bottom, but also at the top of the performance scale in PISA 2012. TIMSS, PIRLS and PISA indicate relatively strong gender gaps in education.

Equity remains a concern in Austria

Students' economic, social and cultural status has an important impact on their performance in PISA 2012. A higher status is associated with better scores in mathematics, reading and science, and more so than in other OECD countries. Students with an immigrant background are at particular risk of underperformance scoring below non-immigrant students in PISA 2012 after controlling for their economic, social and cultural status. This gap has remained unchanged since 2003 and remains well above the OECD average. Students from a socio-economically disadvantaged background and students with an immigrant background are, furthermore, more likely to be low performers than their peers from advantaged and non-immigrant backgrounds. The overall share of resilient students remains below the OECD average. Between-school variance is greater than on average across OECD countries and much of the between-school difference in performance is explained by students' choice of study programmes. Schools are more socio-economically

homogenous than in most other OECD countries and school performance is correlated with their students' socio-economic status, although less so than in other OECD countries. However, this still indicates a clustering of students from disadvantaged backgrounds in under-performing schools and related gaps in performance. As data from OECD PIAAC 2012 indicate, parental background remains a strong determinant of children's educational trajectory and access to tertiary education. Austria has the third lowest level of absolute upward mobility among OECD countries.

The governance of school education in Austria is characterised by a complex distribution of responsibilities between the different tiers of government

The Federal Ministry of Education and Women's Affairs (Bundesministerium für Bildung und Frauen, BMBF) holds the overall executive authority for school education and the federal government develops and proposes legislation. The nine provinces are responsible for the implementation of all federal legislation through the formulation of implementing legislation. Governing, financing and administrative responsibilities for individual schools are distributed between the federal, the provincial and the municipal levels. There is, thus, a distinction between federal schools (Bundesschulen) and provincial schools (Landesschulen). Federal schools comprise academic secondary schools (Allgemein bildende höhere Schule, AHS) as well as upper secondary vocational schools and colleges (Berufsbildene mittlere Schule, BMS, Berufsbildene höhere Schule, BHS). Provincial schools include primary schools (Volksschule, VS), general lower secondary schools (Hauptschule, HS), New Secondary Schools (Neue Mittelschule, NMS), special needs schools (Sonderschule, ASO), pre-vocational schools (Polytechnische Schule, PTS) and part-time upper secondary vocational schools (Berufsschule, BS). Federal schools receive their funding directly from the federal government. Provincial schools are financed by the provinces and municipalities using funds which are, however, to a significant extent raised at the federal level and transferred to provinces in accordance with the Fiscal Adjustment Act (Finanzausgleichsgesetz). The nine provincial school boards (Landesschulräte), which are federal agencies but strongly influenced by the provincial governments, are responsible for administering federal schools. The school departments of the offices of the provincial government (Schulabteilungen in den Ämtern der Landesregierung) are responsible for administering provincial schools. In practice, however, this division of responsibilities is less clear-cut. Five out of nine provincial governments have transferred some of their responsibility for provincial schools to the provincial school board. Most tasks associated with the maintenance of provincial schools have in practice been devolved to the municipalities.

Austria has implemented a number of reforms in recent years and in November 2015 the federal government presented a comprehensive reform proposal

In 2013, Austria passed a law to reform some of its school governance structures (Schulbehörden-Verwaltungsreformgesetz) abolishing the district education boards which had been in charge of school inspections below the provincial level. Other significant reforms include the introduction of the New Secondary School (NMS) to mitigate the effects of early tracking, a reform of initial teacher education and the introduction of a new teacher service code. Austria has, furthermore, made various changes to its evaluation and assessment framework, introducing, among others, national education standards, standardised national assessments, and a programme for School Quality in General Education (Schulqualität Allgemeinbildung, SQA). In November 2015, the federal government presented a proposal for comprehensive education reform. The reform proposal encompasses changes to early

childhood education and care; steps to improve the transition from kindergarten to primary education through a school entry phase; greater school autonomy in pedagogical, organisational and financial domains; the creation of model regions in the individual provinces to facilitate the collaboration of different school types and to pilot comprehensive schooling for 6-14 year-olds; a new structure for the joint administration of federal and provincial schools and teachers; and measures to encourage innovation in education. The reform proposal was informed by the work of an expert group on school governance and administration comprising representatives from the federal and provincial governments as well as different federal ministries and the Federation of Austrian Industries (Industriellenvereinigung). At the time of drafting, it was unclear how many of the proposals would find their way through the legislative process and the political debate was still ongoing.

Strengths and challenges

Austria has maintained a strong investment in its school system, but may not make the most efficient use of the resources that are available

The Austrian school system benefits from high levels of financial investment. Although some budget cuts were also implemented in the field of education and budget pressures seem to be increasing, the recent economic and financial crisis did not yet have a strong impact on the education budget. Taking both public and private spending on primary, secondary and tertiary education into account, Austria spends a lower share of its gross domestic product (GDP) than the OECD countries on average (4.9% compared to 5.3% in 2012), but still significantly more than the neighbouring Czech Republic, Germany, Italy and the Slovak Republic. When only looking at public expenditure as a share of GDP, however, Austria ranks slightly above the OECD average (4.9% vs. 4.7%). The country also enjoys high levels of public spending per student. In 2012, Austria spent purchasing power equivalent USD 13 189 per student from primary to tertiary education, significantly more than the OECD average of USD 10 220. Austria has, furthermore, recently implemented some reforms in budgeting and outcome-oriented steering that indicate a significant political commitment towards improving efficiency. The general budget process has been reformed to include a set of measurable policy targets and associated indicators that provide guidance and enhance the legitimacy and accountability of policy making. The establishment of the BIFIE (Bundesinstitut für Bildungsforschung, Innovation & Entwicklung des österreichischen Schulwesens - Federal Institute for Educational Research, Innovation and Development of the Austrian School System), national education standards (testing) and partially centralised school exams for university entrance qualifications have strengthened the outcome-orientation of the system. However, there is concern that the country's significant resource commitment has not been sufficiently translated into educational success as measured through international assessments. There are also continued concerns about equity in Austria's school system. The main resource challenge for Austria, thus, lies not in expanding investments in education, but in using available resources more effectively and efficiently to improve the quality and equity of education. This also concerns some of the recent reforms, such as the introduction of the NMS and a new teacher service code. These reforms involve quite substantial spending increases. The impact of these investments naturally takes time before they can be fully evaluated, and, depending on the results of these reforms, they may require changes and adaptations.

There is political commitment to allocate additional resources to students from disadvantaged backgrounds and with particular learning needs

The significant investment of public resources in New Secondary Schools (NMS) is one example of this political commitment. The recent transformation of the general secondary schools (HS) into New Secondary Schools (NMS) aims to mitigate the negative effects of early tracking on equity and has been accompanied by a significant increase in public spending to fund more cost-intensive pedagogical approaches, such as team teaching, in this type of school which, on average, has a less advantaged student intake. The political commitment to spend more on students at risk of low performance is also indicated by the joint willingness of the provincial and the federal governments to devote additional teacher resources to students with learning difficulties and language needs. In primary education, students at risk of falling behind can benefit from one remedial teaching hour per week (Förderunterricht). Students with difficulties to follow the language of instruction when starting school can receive special support for up to two years as "non-regular students" (außerordentliche Schüler). In addition, the federal government provides funding for specialised staff within the general staff plans so schools can offer additional language courses (German as a second language) for students who are not classified as "non-regular students". The provincial school boards have some discretion to allocate additional teaching resources if such needs are identified, often through the school inspection. However, there are some concerns about the effective use of these additional resources from the federal level to improve teaching and learning and about controlling and monitoring how these resources are used.

A high degree of centralisation combined with a strong corporatist tradition can facilitate educational steering and the implementation of education policy

Compared to other federal countries, such as Canada, Germany or Switzerland, legal competencies for education are more centralised at the federal level. For instance, statutory regulations related to teachers' employment conditions and initial teacher education in Austria are passed as federal laws. While the provinces exert considerable influence on the policies of the federal government, this influence is primarily political and to a lesser degree rooted in formal legal competencies, even if the provinces are also responsible for translating central legislation into practice, thus possibly introducing differences in implementation across provinces. The centralisation of policy-making competencies at the federal level limits the number of potential veto players and increases the probability that significant reforms can be passed even against vocal opposition from special interests. But it also carries some risks. Innovation crucially depends on the willingness and political ability of the top of the hierarchy, but the filtering of policy reform proposals at the top depending on the prevailing political interests can prevent the implementation of more encompassing policy innovations. In addition, the many complexities of multi-level governance might contribute to "information overload" on the part of the central government, contributing to bureaucratic bottlenecks and inefficiencies. In Austria, a strong tradition of corporatism – despite its own weaknesses in increasing the number of potential veto players and in prolonging decision-making processes - reduces the risk of these potential disadvantages. It ensures that competing interests of relevant stakeholders balance each other out and precludes one particular set of organised interests from monopolising access to policy making. And it can help prevent problems of "information overload" since intermediary associations such as employers' associations and trade unions supply decision-makers with policy-relevant information. Including different stakeholders in policy formulation can, furthermore, increase the potential for co-operation in the later stages of implementation by building trust and legitimacy and, thus, contribute to lasting change.

The country's complex governance structure provides incentives for overspending, leads to a lack of transparency of resource flows, fuels mistrust, and results in inefficiencies

The governance structure of the Austrian school system is very complex as a result of the split of administrative and fiscal responsibilities for federal and provincial schools. The federal government is the main funder of school education by directly financing the federal schools and by providing funds for the costs of teacher salaries of provincial schools to the provinces through the overall fiscal adjustment arrangements. However, while the federal government holds responsibility for the use and distribution of the teacher resources of federal schools, this is not the case for provincial schools. The federal government has very limited means to steer and control the use and distribution of resources for these schools by the provinces. Clear lines of accountability are lacking and existing monitoring systems are not sufficiently developed. While the federal government and the provinces agree on annual staff plans, the provinces are free to hire more teachers than foreseen in these staff plans and the additional expenditures are partly covered by the federal level. Between 2006 and 2010, the number of teaching positions at general compulsory schools that were not included in the initial budget almost doubled from 1 039 to 2 063. Even though the partial reimbursements of the provinces to the federal government are based on teachers' lower starting salaries whereas the expenditure of the provinces is related to actual salaries, this results in significant additional spending by the federal government. Recent attempts by the federal government to change and confine this practice were met with strong political opposition from the provincial governments and stakeholders and, therefore, failed politically. From the perspective of the provinces, in fact, the resources provided through the general transfer scheme may be insufficient to meet all staffing needs. Besides being unable to prevent the provinces from using more teacher resources than originally agreed upon, the federal government has no direct way of controlling or influencing the distribution of provincial teachers to individual schools. It can be argued that provincial authorities have a better knowledge of local needs and are, therefore, better able to direct resources flexibly to where they are needed. But the lack of transparency about the allocation of resources creates mistrust among stakeholders, particularly so as the federal government is responsible for financing, whereas the provinces are in charge of spending. Systems to monitor the distribution of teachers are in place and they have recently been harmonised, but they remain rather fragmented and decentralised reflecting present governance structures. Also, even though the government has undertaken first steps to improve the efficiency of the administration, the split of responsibilities for federal and provincial schools requires inefficient parallel structures for personnel management in the form of provincial schools boards and school departments of the provincial governments. Present governance arrangements thus result in inefficiencies, fuel mistrust and potential conflicts about the management of resources, and prevent a more integrated approach to governing the school system. The hybrid character of the provincial school boards which are formally federal agencies but also connected to provincial politics in many ways makes the governance structure even more complex.

Schools have a fair degree of pedagogical autonomy, and, in the case of federal schools, some autonomy over their own budget, but overall schools' power to manage their resources is very limited

Austrian schools have a relatively high degree of autonomy in some pedagogical matters. However, Austrian schools have a low degree of autonomy for resource management, except for some areas in the case of federal schools. Federal schools have a certain degree of budgetary autonomy as they are able to rent out their school facilities to generate additional discretionary revenue and they have control over their own accounts, but they have little financial flexibility and cannot transfer funds from one year to the next. Provincial schools, on the other hand, do not have such autonomy in financial matters, thus presenting an inequity in the system. They cannot generate additional income and depend entirely on their municipality for support in maintenance and operating costs. Both federal and provincial schools have very little autonomy in choosing their staff since teacher selection is largely in the hands of the provincial school boards and the school departments of the provincial governments. Individual school leaders can and sometimes do influence decision making at the higher level through personal connections. But this is problematic since it increases the lack of transparency and arbitrariness of decisionmaking and again creates potential inequities. The limited degree of autonomy has partly been compensated by the establishment of a considerable number of "pilots" by schools (Schulversuche), but at a risk of increasing the degree of fragmentation in the whole system. Some teachers and school leaders seem to be wary of greater autonomy as it could change the relationship between school leaders and teachers and increase school leaders' workload. This indicates that greater school autonomy would also require a shift in the culture of school leadership. School leaders need to be better qualified and prepared in order to be able to use the full potential of school autonomy, and require sufficient support to fulfil their role and dedicate themselves to their role as pedagogical leaders.

Austria has made important steps towards the development of an evaluation and assessment framework, but the culture of transparency, evaluation and accountability needs to be further developed

The creation of a Federal Institute for Educational Research, Innovation and Development (BIFIE) has strengthened Austria's capacity for system-level evaluation and evidence-based policy making. The BIFIE collects information about students, teachers and school resources, and thus generates a considerable amount of data for the school system. Austria has also introduced education standards, national standardised assessments and different diagnostic tools. This signifies a shift of attention from teaching to learning and has the potential to improve both quality and equity in education. The recent initiatives to embed a culture of school development planning and self-evaluation through the School Quality in General Education process (SQA) constitute a further important step. However, there is scope to further develop a culture of transparency, evaluation and accountability and to promote the better use of all the information that is already available for decisionmaking at different levels of the system and by different stakeholders, including schools. The existence of multiple information and quality assurance systems makes a comprehensive approach to monitoring the quality and the performance of the system difficult. There is co-operation between different institutions such as the BIFIE, Statistics Austria, and the statistical section of the Federal Ministry of Education and Women's Affairs (BMBF), but there is room for deepening the collaboration and for better connecting and analysing the different streams of data through one integrated system. The controlling software for the use of teacher resources, for example, is not systematically connected to the other elements of the quality assurance and monitoring system. Similarly, the qualitative information collected through the school inspectorate (e.g. during the SQA process) is not well connected to quantitative data provided by the BIFIE, Statistics Austria, and the federal ministry. More generally, the inspectorate could play a stronger role in improving the quality of education. The inspectorate seems to suffer from a lack of resources – some inspectors are responsible for as many as 100 schools – and mainly provides external advice in case of concrete problems. It does not conduct thematic reviews on specific themes or aggregate the information collected from individual schools as part of system-wide analyses. Also schools seem not to have shifted to an assessment and evaluation culture yet. There is only limited evidence for the systematic and joint analysis and use of assessment results for improvement in schools, for example, and it is not clear to what extent school leaders and teachers are held accountable for results.

Austria has taken first steps to change its school structure towards longer common learning time, but early tracking has remained in place and the introduction of integrated all-day schooling across the country has turned out to be challenging

Early tracking and selection at the age of ten after only four years of primary education is one important explanation for the unequal learning outcomes of students from different demographic and socio-economic backgrounds in Austria. This is similar to other countries for which research provides substantial evidence that early tracking is related to a stronger effect of family background on performance. The New Secondary School reform (NMS) constitutes a significant step to reduce the impact of early tracking and to provide more equitable learning outcomes. Although the NMS has not replaced the lower level of academic secondary schools, it aims to improve the quality of teaching and learning for students in this track and to provide more students with a chance to enter higher education. The NMS and the AHS share a common curriculum and similar educational goals and the NMS benefits from additional resources to develop innovative pedagogical approaches, such as team teaching. The introduction of a new teacher service code and reform of initial teacher education that harmonise the employment conditions and education for different school types promise to raise the quality of teachers at the NMS. However, the NMS reform remained a political compromise and, although the effects of the reform will have to be assessed in the long run, the evidence for the impact of the reform is mixed so far. The systematic management of lower secondary education remains challenging and the full-scale introduction of common schooling seems unlikely as long as there is a lack of political willingness shared by different stakeholders and as long as responsibilities for lower secondary education remain fragmented between the federal level and the provincial level.

The introduction and expansion of all-day schooling constitutes a further initiative to increase common learning time and to make the school system more equitable. Studies on the effects of full-day kindergartens and on the introduction of all-day schooling in Germany show some promising results in terms of quality and equity. All-day schooling in Austria has increased substantially over the past years and in 2014 about 40% of all schools offered one form or another of all-day schooling. This initiative is strongly supported by the federal government and in 2015 available funds amounted to EUR 109 million. However, the expansion of all-day schooling is slower than expected by the federal authorities and the provinces had not requested all available funds until 2015. Schools can opt for

fully-integrated all-day schooling or optional afternoon schooling. Even though the evidence suggests that the fully-integrated form promises the greatest returns, schools and parents strongly prefer the optional model.

Small schools are expensive to run, but while individual provinces have been developing some strategies for school consolidation, the rational organisation of the school offer faces a number of obstacles

Austria has a high density of schools and schools are, on average, very small, particularly in primary education and especially in rural and mountainous areas. On average, a primary school in Austria has 107 students, but this differs from 58 students in the Burgenland to 248 students in Vienna. Small rural schools are a pressing, but also sensitive issue in national, regional and local politics, that is likely to become even more important in the years to come given current demographic projections and a downward demographic trend in rural areas. Small average school (and class) sizes in Austria are an important part of the explanation why the Austrian school system is relatively expensive for the quality that it delivers. While it is important to bear broader regional and local development objectives in mind, small schools that have large spaces and high staff numbers for few students are expensive to run and maintain. At the same time, there is little evidence about the impact of small schools on the quality of education and whether small schools improve teaching and learning, also relative to larger schools that are more cost-efficient to operate. In fact, small school size reduces course options within schools, makes it difficult for teachers to learn from peers, and makes it harder for schools to operate with a greater degree of autonomy. Small schools make it difficult to realise other current policy priorities, such as the expansion of all-day schooling. And they drain resources from schools in urban areas as a growing disparity in per student spending between Vienna and the rest of the country illustrate.

Even though the costs of creating large schools in rural areas with low population densities (e.g. for student transportation) need to be taken into account, it thus seems necessary to rationalise the school offer from an education efficiency point of view. Individual provinces, such as Styria and Vorarlberg, have been taking first steps to rationalise the distribution of schools within their province (e.g. through the development of regional education plans and the creation of municipal school associations and associated schools), but Austria as a whole does not have a strategy to consolidate its school offer due to the fragmentation of competences. While decisions about the organisation of the school offer are always also political, there are some structural factors that hinder an efficient organisation. The present governance arrangements result in a fragmented system of school network planning for general compulsory schools. The federal government can plan the organisation of the network of academic secondary schools, but not influence or steer the offer of general compulsory schools which are run by the provinces and the many (sometimes very small) municipalities. The present governance arrangements, in fact, work against an efficient organisation of the school offer. As staff costs are covered by the federal level, the provinces and municipalities have little incentive to plan their networks in rural areas efficiently. Furthermore, the catchment areas of schools tend to coincide with the borders of the municipalities and if a municipality decides to close a school, it needs to compensate a neighbouring municipality for its students attending a school in that other municipality. Other factors, such as insufficient regulations and a lack of strategies to use empty school facilities also play a

role. The local responsibility for infrastructure planning of general compulsory schools, furthermore, entails the risk for inequalities in infrastructure investments between poorer and richer municipalities.

Governance arrangements hinder the effective organisation of human resources across the education system and complicate the monitoring and steering of the teacher labour market

The distribution of responsibilities for the organisation and management of human resources between federal, provincial and municipal authorities, and the split in federal and provincial teachers make it difficult to organise the workforce effectively across the school system as a whole based on a broader view of staffing needs. In general compulsory schools, individual provinces are responsible for the distribution of provincial teachers to individual schools with no possibility for the federal government to influence or steer the process. In academic secondary schools, the distribution of federal teachers is the responsibility of the provincial school boards. The distinction into federal and provincial teachers also makes it difficult for teachers to work in different school types, which is particularly problematic in lower secondary education. The New Secondary School Reform has created the first opportunities for teachers from academic secondary schools to work in the NMS as part of a teacher team, but the split in regulatory competencies between the federal and provincial governments makes it difficult to monitor and manage the secondment of academic secondary school teachers. Employment of provincial teachers by individual provinces, furthermore, makes it difficult for teachers to move to another province as statutory rights acquired with increasing seniority may not always be recognised in a different province.

Despite some initiatives to give schools more input into the selection of teachers, schools are still limited in their autonomy to manage their human resources. This may not always ensure that the allocation of teachers matches schools' needs, although input of the school inspections may facilitate some steering. Teachers' age and the age profile of schools seem to be important criteria for the allocation of teachers rather than the schools' profile and needs. It is not clear to what extent the best teachers are allocated to the most disadvantaged schools, also in light of a lack of incentives for teachers to work in specific contexts, such as rural or disadvantaged schools.

There are also concerns about the availability of administrative staff, which can prevent teachers and school leaders from focussing on their core pedagogical responsibilities. The lack of such staff is also partly linked to a lack of school autonomy, and, in the case of general compulsory schools, the complex governance arrangements. Here, municipalities are responsible for the employment of administrative support staff, but they may not have the financial means or willingness to do so as provincial and federal authorities usually compensate for this shortcoming by increasing the number of teachers' working hours. This also creates potential inequities between schools in the absence of a mechanism that would equalise funding levels across municipalities. There is also a need to increase the availability of other professionals who can support schools in their work with young people, i.e. social pedagogues, psychologists and social workers. In line with changing family patterns and increasing diversity and heterogeneity in schools and within classes, these professionals play an important role in supporting the teaching staff and students. The need to integrate a large number of young refugees and asylum seekers into the education system might aggravate these shortcomings further in the near future.

Present governance arrangements also make it challenging to monitor and steer the teacher labour market. The distribution of responsibilities for the employment, monitoring and data management of human resources between federal and provincial authorities for different school types seem to make projections and forecasting overly challenging and require a substantial amount of co-ordination between the different responsible authorities. The monitoring system for federal schools is different and separated from the system used in provincial schools. For example, to gather data on the share of teachers who teach a subject they are not qualified for, it would be necessary to analyse all individual teachers' working contracts filed at the level of the nine provincial school boards or provincial school departments. There do not seem to be major teacher shortages across the country, even though some shortages exist in certain regions or subjects, but considering an expected retirement wave in the near future, sound forward planning and monitoring will be essential to identify existing and emerging shortages.

Austria has introduced a new initial teacher education scheme and a new teacher service code which may raise the status of the profession and improve the teaching workforce

With the introduction of a new teacher service code and a reform of initial teacher education, Austria has undertaken first steps to make teaching more attractive, even though more measures may be needed in the future. This is an urgent issue as Austria faces a considerable retirement wave - according to a parliamentary inquiry about half of all teachers in Austria are expected to retire by 2025. The reform of initial teacher education raises the status of the profession with the requirement that all future teachers will need to acquire a master's qualification. This sends a strong signal that teaching should be a highly-qualified profession and is particularly important for teaching in general compulsory schools which traditionally only required the completion of a three-year bachelor's programme. The introduction of a new teacher service code implies a substantial financial commitment, but it makes teaching more attractive for new teachers. It roughly maintains lifetime earnings, but changes the shape of the salary progression significantly with higher statutory starting salaries and a more compressed slope of the salary scale. Of course, it has to be taken into account that qualification requirements for new teachers have been raised and that new teachers will have to teach slightly more hours. The new teacher education and the new service code also facilitate side entry into teaching for other professionals by recognising experience in other fields to meet qualification requirements and to advance in the salary scale.

The new teacher education and the new service code also promise to improve the quality of the teaching workforce. The new teacher education scheme could help raise the quality of initial teacher education thanks to a number of positive changes. This includes, among others, collaboration between University Colleges of Teacher Education (Pädagogische Hochschule, PH), which are strong in pedagogical training, and universities, which have a long tradition in subject-related theory; the lengthening of programmes at PHs; the introduction of obligatory orientation and admissions procedures at universities; and the creation of an independent quality assurance council (Qualitätssicherungsrat für Pädagoginnen- und Pädagogenbildung). The new teacher service code is also likely to strengthen the profession by creating some specialist roles for teachers, e.g. in the areas of mentoring, learning and career counselling, and special needs and remedial pedagogy. And it provides stronger in-service development requirements for all teachers and a one-year

professional entry phase for all new teachers. Importantly, both the new teacher education and the new service code harmonise the qualifications requirements and working conditions of all new teachers. They, thus, constitute significant milestones to break down barriers between different school types, to create common school form for all children up to age 14, and to create a common teaching profession that feel responsible for raising the achievement of all students in the education system as a whole.

However, the effect of both reforms on the status of the profession and the quality of the workforce remain to be seen. The implementation of the new service code will take about 40 years to apply to all teachers and until then, three different service codes will be in place. The impact of the new initial teacher education similarly will necessarily take time and its implementation faces a number of challenges, including institutional weaknesses of PHs (e.g. limited managerial and organisational autonomy and capacity for research) and universities (e.g. little orientation to practice and weak links to schools).

A stronger professional approach to teaching might be needed and school leaders are not equipped to manage their staff effectively at the local level

The quality of teaching is key for effective learning and considered the single most important factor within schools that impacts student learning. Austria has taken some important steps to increase the quality of teaching, such as the introduction of a new initial teacher education system and the development of quality assurance, school development and self-evaluation practices through the SQA initiative. But there seems to be a need for further reflection in Austria about the nature of teachers' professional work today. The main lever to raise student performance seems to be the provision of additional teaching hours rather than steps to improve teaching practice in schools and classrooms. Recent research on organisational learning has stressed the importance of new ways of working in schools that focus on collaboration, reflective practice, peer observation and continuous professional learning. In Austria, schools do not seem to manage teaching and learning collectively and teachers seem to be rather isolated in their classrooms and to have few opportunities for feedback. Appraisal by the school principal seems to be often concentrated on new teachers, to be less common for more experienced teachers and to have weak links with professional development. Few teachers seem to work as "critical friends" or peer mentors for one another to develop their practice. And teachers have limited sources of external feedback as external teacher appraisal only takes place in case of serious concerns. Strategic approaches to teachers' professional development seem to be rather rare and professional development seems to be mostly the choice of individual teachers.

Teachers' employment framework, that is the career structure and working time arrangements, fail to promote greater teacher professionalism. Even though the new teacher service code provides some opportunities to take on specialist functions, teachers do not benefit from distinct and flexible pathways that would give teachers more development opportunities and recognition, including for those teachers who wish to remain focused on classroom teaching, and help schools meet their needs. And while the new teacher service code provides two hours per week for other tasks, and the service code for provincial teachers stipulates an annual standard of total working hours, the conception of teachers' working time for federal teachers and all new teachers still focuses on teaching hours only. This fails to recognise that effective teaching entails a range of further activities in schools beyond classroom instruction and limits teachers' engagement in broader school development.

Greater teacher professionalism in schools also requires effective management of human resources by school leaders at the local level. Despite some efforts to foster pedagogical leadership in schools in Austria, for instance with the creation of a Leadership Academy, school principals still do not perceive their role as a pedagogical one, but rather as administrative and managerial in nature. And there are a number of issues that make it difficult to strengthen school principals' pedagogical leadership. The profession, which also faces a pending retirement wave, is not very attractive, compensation does not seem to reflect the higher level of responsibility, and appointment processes do not seem to ensure that the best candidates are selected. School leaders, furthermore, lack the autonomy and tools as well as the support from administrative staff and middle leaders to manage their human resources and to incentivise high performance or to respond to underperformance.

Policy recommendations

Align financing and spending responsibilities in one hand

A major challenge in the current governance and funding arrangements is the division of responsibilities between the federal and the provincial governments. Ideally, the governance and funding for all levels of education should be placed under the same regulatory regime ending the formal divide between federal and provincial schools (as well as between federal and provincial teachers). The dual structure of provincial school boards and school departments in the provincial governments should be transformed into a unitary structure. In principle, it is less important whether the newly created institutions are formally provincial or federal agencies, which is ultimately a political decision. The most important point is that a unitary governance structure is created which is able to overcome the formal division between federal and provincial schools and facilitates integrated and strategic policy making, especially at the lower secondary school level. However, out of necessity and given the legacy of Austria's school system, the new institutions are likely to have a hybrid character with shared responsibilities. While the federal government has the formal competencies to pass major legislation in education policy, there is a need for regional flexibility in the implementation of federal laws.

To increase transparency and effectiveness of funding flows, all teachers should be employed by the same employer according to the same standards and all funding for teachers should be provided directly by the federal government via the new institutions. The reforms of initial teacher education and the teacher service code have already set important legal preconditions in this regard. The new institutions should be responsible for teacher recruitment and allocation, while giving schools some autonomy in choosing their personnel. This would align financing and spending responsibilities through involvement of the federal level in the allocation of all teacher resources in the new institutions. Placing the responsibility for the employment of all teachers into one hand would also eliminate some rigidity for teacher mobility stemming from the difficulty to have statutory rights recognised in a different province. Funding all teachers directly by the federal government via the new institutions would render the complex transfer arrangement of teacher funding through the provincial administrations unnecessary. Municipalities and provincial governments could continue to be involved in financing maintenance costs and infrastructure investments, but to facilitate strategic planning for each educational level this involvement should not depend on school type. One option could be to ensure that municipal governments are more strongly involved in the financing of primary schools, the provinces in lower secondary education and the federal government in upper secondary education. However, if municipalities continue to

play a strong role in the provision and financing of education, it would be important to establish some kind of transparent fiscal equalisation scheme on the provincial level to prevent inequalities between fiscally weaker and richer municipalities. In the current arrangements, it is not fully transparent how funds provided by the provinces to the municipalities in addition to the funds provided by the federal level via the Fiscal Adjustment Act are distributed between municipalities. Alternatively, the federal government could devolve all funding responsibilities for infrastructure and maintenance to the provinces and concentrate on teacher funding only. In this new division of labour between the provincial and the federal governments, both provincial and the federal governments would continue to be involved in the funding of schools, but the former would be in charge of all infrastructure and maintenance expenditures, whereas the latter would continue to be responsible for financing all teacher resources. While the funding and organisation of the school offer and infrastructure would require co-ordination between the different provinces, the division of labour would be better defined compared to the current situation. Given the history of political struggles between the federal and the provincial governments, any future arrangement will most likely have to be such a political compromise involving both the federal and the provincial levels.

If a unified system of teacher funding and allocation is not feasible and the current system of federal and provincial teachers is maintained, some of the unintended incentives should be addressed. For one, if the system of provincial refunds for overspending on teachers is maintained, the refunding of teacher costs to the federal government should be based on actual salary costs rather than nominally lower salaries. Alternatively, it would be possible to introduce an equal split between the federal and provincial governments in funding teachers for all general compulsory schools as is done in the case of vocational schools, where no or very little overspending occurs. Ideally, however, the responsibility for financing and allocating all teachers should be in one hand, independent of the school type or level of education.

Explore different ways to introduce need-based formula funding

Policy makers should explore different possibilities to introduce more elaborate and needs-based formula funding for the distribution of teaching and other resources. The introduction of needs-based funding formulae can be a highly efficient and transparent method of funding schools. In general, formula-based funding has the advantage that the criteria used to distribute funds across schools are made explicit and, therefore, subject to political scrutiny. This is a significant advantage in terms of transparency compared to a regime with more implicit than explicit criteria for distribution. Transparency is a central precondition for informed debate and priority-setting. In Austria, the introduction of more elaborate and needs-based formula funding would address the lack of transparency and trust resulting from the current relatively rigid system in which the bulk of funding is distributed by student numbers and that stimulates workarounds by the provinces and the municipalities. There are a number of examples from other countries where formulabased funding has been introduced successfully, e.g. in Hamburg, the Netherlands, the Swiss cantons of Berne and Zurich as well as in Toronto (Canada). In the Austrian context, a number of proposals for the design and implementation of formula-based funding that takes different needs of school and socio-economic contexts into account have already been developed and are being discussed. Common to these proposals is the idea that the funding formula according to which resources are distributed between

schools should contain elements in addition to simple student numbers that take into account the characteristics of the student population. The choice of variables included in the funding formula is crucial with regard to its impact on equity of funding, but the degree of redistribution and equalisation between different types of schools is fundamentally a political and societal discussion and cannot be decided by scientific criteria. Furthermore, there is a trade-off between "transparency-simplicity and sensitivity to local conditionscomplexity". Simple funding formulae, which include only few indicators, are transparent and easy to administer, but do not necessarily pay sufficient attention to the peculiarities of local needs. A shift towards a more elaborate and needs-based formula-based funding system would also require a decision on the share of school funding that comes from needs-based formula funding relative to basic funding. A significant share of the total funding needs to be based on student numbers in order to ensure the stability of basic funding from year to year, topped up by additional funding as determined by needs-based funding formulae. As part of the discussion about the introduction of more elaborate funding formulae, current differences in spending per student across provinces, different geographical areas and school types should be made transparent.

Monitor resource flows and make sure resources are used efficiently

Austria should bring together the different data and information systems and merge them into an integrated system. An integrated system would overcome the present fragmentation by connecting information on students and their performance (currently collected by BIFIE) with data on the use of teacher resources (currently monitored by two different systems in federal and provincial schools) as well as the rich qualitative information available through the quality assurance system. Such an integrated system would facilitate more rigorous accountability and monitoring of the use of resources in a context of decentralised spending powers that sets problematic incentives for the provinces and the municipalities. It would also allow drawing conclusions about the effective use of resources, the relative performance of particular schools and, thus facilitate more targeted policy. Austria could develop a brokerage agency, or equip an existing institution with this function (e.g. BIFIE), to facilitate the sharing of information. Such an agency could also help to promote the use of data, evidence, research and evaluations for decision-making. Streamlining the availability of data on teacher resources and overcoming the current fragmentation that reflects present governance structures would also facilitate the systematic analysis and steering of the teacher labour market. The unification and centralisation of the framework conditions for the school system would also support the transparency of resource flows. Policy makers in Austria have already taken important steps in this regard, e.g. with the introduction of national education standards and the introduction of a new teacher service code. These initiatives have to be sustained and further developed. Efficiency of resource use can, furthermore, be promoted by establishing systematic and high-quality processes of evidence-based policy evaluation, which are still weakly developed in Austria as evidenced by the widespread use of school pilots which are not systematically evaluated.

Rebalance funding across different types of school staff

Policy makers should review the possibilities to create more positions for other types of professionals working in schools, even if it would imply decreasing the number of regular teachers, and strive to harmonise and equalise the funding conditions for administrative

staff across school types and levels of education. This should be part of deliberations for a governance reform. The employment of pedagogical support staff could become part of the responsibilities of the new authority responsible for the employment of teachers, while schools could assume responsibility for the recruitment of administrative and maintenance staff, for example. But to limit the administrative burden on schools, the responsibility for the recruitment of administrative staff could also be delegated to the same level as the recruitment for teachers and other pedagogical staff. This would help prevent shortages of staff in schools and avoid inequities in the distribution of personnel resources, which are too dependent on local fiscal and political conditions (in the sector of general compulsory schools). Schools should have some level of influence over staffing decisions and schools with the greatest need for other pedagogical support staff should be given priority.

If the streamlining of overall human resource responsibilities does not prove feasible, the federal authorities could take advantage of their power to set central policies and regulations. Federal authorities could consider the introduction of central standards or guidelines on minimum staff-teacher or staff-student ratios for pedagogical support staff and a minimum number of administrative staff for schools of a certain size. In addition, Austria could further test out innovative and cost-effective ways of organising schools and administrative and pedagogical support. Schools should be encouraged to collaborate more with other social services and non-formal education initiatives to provide support for children and young people in a more open format. Furthermore, there seems to be a need to clarify teachers' roles and responsibilities. Teachers often seem to understand broader tasks, such as subject co-ordination, as administrative tasks, even though they should be seen as part of their involvement in school development.

Enhance school autonomy while creating the conditions for autonomous schools to perform well and while taking steps to prevent inequalities from emerging

A reform of school governance should give schools gradually greater autonomy to select their personnel and teachers while maintaining the equity benefits of a more central teacher recruitment system. Being able to select teachers according to particular criteria (e.g. teaching methods, extracurricular activities, etc.) would allow schools to more effectively shape their profiles. One option would be to allow schools to select part of their teaching force while institutions above the school level remain in charge of recruiting and assigning the remaining part of the teaching force in order to ensure that common standards are applied and that particular schools are not systematically disadvantaged. In Germany, the use of such a mixed system is quite common. Giving schools the full autonomy in hiring teachers carries the risk of amplifying differences between schools, since the more attractive schools will be able to attract the better teachers. Vice versa, not allowing schools any influence on the selection of teaching personnel can lead to misallocations and frustrations and prevent schools from developing a particular profile. Austria could also put further mechanisms into place that work towards equity in teacher allocation. The introduction of salary allowances for schools in disadvantaged areas, for example, could be one option. Such policies have been found to have clear positive effects on teacher recruitment. Schools should also receive more autonomy in financial matters. Allowing the general compulsory schools a degree of financial autonomy similar to the academic secondary schools would be an important first step in mitigating inequalities between different school types. General compulsory schools would, then, be able to tap into own sources of revenue and to maintain their own accounts and operational budgets.

Increased school autonomy needs to be accompanied by effective accountability mechanisms. The SQA process is a good starting point in that respect, but if school autonomy increases, the role of external school evaluation - in a reformed school inspectorate - would also need to be strengthened. Information generated through the quality assurance system needs to be systematically connected with resource management decisions and accompany the process of giving schools greater autonomy. This would allow concentrating additional support to schools that are identified as underperforming in the quality monitoring system or to schools struggling with their new autonomy. Besides accountability, there are other factors that need to go along with school autonomy. Expanding school autonomy requires a redistribution of resources, in particular higher investment in school leadership capacity and administrative personnel. The effect of delegating more autonomy to schools depends on schools' ability to make use of this autonomy in a constructive way and thus requires a strengthening of school leadership and management structures. A critical school size is also necessary in order for schools to be able to effectively use their autonomy. If schools are too small, delegating more responsibilities to the school level may simply overwhelm school leaders with additional work tasks. Considerations about increasing school autonomy should, therefore, go together with discussions about increasing the average school size.

Provide incentives and support for a rational organisation of the school offer

Addressing the issue of a high density of schools and very small average school size is challenging in any school system. For local governments, closing down schools poses difficulties and for parents it is difficult to see "their" school closed. However, in situations with scarce resources, it is important to consider which investments have the highest rate of return and contribute most to the public good. Increasing school size up to a certain enrolment level can achieve important economies of scale, albeit some studies also find that returns to scale diminish and that diseconomies of scale begin to emerge beyond a certain enrolment level. Research shows that, even if consolidation is usually met with opposition, consolidation can end up being positively valued by teachers, parents and students. The broader returns of small schools in rural communities in terms of local and regional development need to be taken into account, but this broader function requires a wider reflection about different strategies and funding solutions beyond education (e.g. from local development funds). In education, increasing average school size would free up resources that could be invested in other areas that can have benefits in terms of equity such as early childhood education and care, the quality of teachers or the further development of all-day schooling. It is, however, important to maintain access to schooling for younger children at a reasonable distance from home and to address other potential negative effects on student well-being, such as weaker links between schools, parents and the local community. What is true for school size is true for class size too, as the small class size in Austria contributes to making education expensive. Increasing class size could be one way to increase efficiency.

Increasing school and class size can be stimulated through a variety of instruments. The most straightforward measure is to set (and enforce) minimum school and class sizes. These can be set at a level that would not require massive school closures and then be increased incrementally towards a desired level over a longer period of time. As an alternative to increasing school size, one provider (such as a regional education centre, a larger municipality or an association of municipalities) could be put in charge of

administering several schools. This would also imply larger catchment areas. Once larger catchment areas have been established, a more rational decision can be made about which schools to keep open within the catchment area. Associations of municipalities would also help to simplify the complex system of transfers between municipalities when children from one municipality choose to attend school in a different one. In addition, allowing extra administrative and management budgets for larger schools could help provide incentives for increasing school size. Other obstacles to school consolidation should be removed as well. This includes a simplification of the complex process currently required to close down and merge schools. To address arguments that schools can play a key role for the local community beyond their immediate educational function, alternative institutions could be developed to take over this function of a social hub as part of broader regional and local development initiatives and strategies. These institutions could, in certain cases, also use the vacated former school building. When designing and implementing policies it will be important to learn from the lessons of Austrian provinces and other countries that have successfully increased school size and consolidated their school offer.

Pursue further strategies to increase equity in education by addressing early selection and by further supporting all-day schooling

Austria should consider completing the integration of the NMS and the AHS at the lower secondary level as was originally intended with the NMS reform. This would mean that all Austrian students are in the same type of school until age 14. Although tracking in Poland already took place at a later age, the country provides an example for a successful structural reform that has had a significant success not only in terms of reducing inequities, but also in raising student performance overall. However, if a move towards the full integration of the NMS and the AHS turns out not to be politically feasible, other options are available. One of these would be to reduce the distance between AHS and NMS schools, for example by bringing all lower secondary schools into one hand administratively so that educational planning for the whole age group is more coherent, and common oversight of the curricula, teaching and assessment is strengthened. One step further could be to twin AHS and NMS schools in the same regions, perhaps even to bring them under joint management. This would facilitate transfers across schools and increase the likelihood that the two types of schools grow closer together.

Facilitating better and earlier transitions for students to move upstream from the NMS to the AHS and from one track to another at later moments in their education could help reduce the impact of socio-economic background on student outcomes. The Austrian school system is more flexible than other models of early tracking and selection (e.g. in some German Länder) through its diversity of upper secondary vocational tracks which are open to students from the NMS as well. But it would be important to provide better support to students to move up across different school types and to those struggling within a particular track to succeed. Implementing a system of early diagnosis and remedial support for struggling students can be an effective policy tool in this regard. It is also important to facilitate earlier transitions than is currently the case, also bearing in mind the benefits of early intervention for student learning.

Currently, the federal budgets available for all-day schooling are underused, suggesting that the provinces are not moving as quickly as the federal government would like them to. Although all-day schools are increasingly available in Austria, only a small fraction of these offer an integrated form of all-day schooling, which promises the greatest

benefits for children from less advantaged socio-economic backgrounds. The introduction of integrated forms is partly hampered by the fact that two-thirds of the parents and the teachers need to agree before schools can opt for the integrated forms of all-day schooling. This is understandable given that integrated all-day schooling affects all students. However, this procedure considerably slows down the further implementation of integrated all-day schooling. To encourage the introduction of integrated all-day schooling, Austria could develop a campaign to bring parents and schools on board. Moreover, Austria needs to address the resulting infrastructure challenges, particularly in urban areas, to make all-day schooling a success.

Develop a vision for teacher professionalism

Building a new conception of the teaching profession that promotes a vision of schools as professional learning communities that work together to improve teaching and learning for all students would help improve the quality of education in Austria. It would also help make teaching a more attractive career and create a more positive discourse around teaching. To support the development of a new vision of teacher professionalism, the OECD review team recommends developing a national teacher profile or standards of practice for the Austrian teaching profession. Such a national teacher profile would establish a foundation for teachers to explore their practice and for school to develop initiatives to improve. It would also provide orientation for the overall teacher development framework, including initial teacher education, professional development and appraisal. Tools and processes like school development planning and self-evaluation through the SQA process, more systematic work in schools with educational standards and assessments, and new opportunities for schools to collaborate could be used to help promote the new vision. The views and experience of teachers and school leaders should be central for the development of their profession. Teachers in Austria should have greater responsibility for the self-regulation of their profession (e.g. in the development of professional standards, the design of teacher education programmes and the definition of entrance criteria) and the teacher union should further recognise its responsibility for the development of the profession beyond the representation of teachers' political interests in terms of employment rights and working conditions. In other countries, such as Australia, Ireland, New Zealand, and Scotland, teacher professional organisations take a lead role in determining processes for the development of teachers, such as the development of professional standards and teacher appraisal. The creation of such an organisation is also an option for Austria.

Working towards a new concept of teacher employment could further facilitate the development of a new vision of teacher professionalism. While this may not be a present priority considering that a new teacher service code is currently being introduced, it should be an objective in the medium term to further develop the conception of employment and working time. Austria should consider moving to employment under a workload system, whereby teachers work a specified number of hours per week. This conception of teacher employment recognises that teachers need time for engaging in a range of other tasks, including the adequate preparation of lessons. It is also likely to improve the opportunities for teachers to formally engage in activities other than teaching at the school level and to work together as peers. School management would be in a better position to foster teacher collaboration, promote whole-school planning and develop professional learning communities. Of course, it is also important that school buildings and facilities provide the conditions for teachers for doing so. In the medium term, Austria should also consider the

development of a differentiated career structure that allows for vertical and horizontal progression. A career structure would contribute to promoting a new conception of the teaching profession and increase the attractiveness of the teaching career. The development of a career structure would also provide an opportunity to rethink the administratively complex system of salary allowances for school-level staff which furthermore lacks transparency. The career structure could build on the promising roles that have been established as part of the new teacher service code and the NMS reform and create further roles for school development. The experience of school pilots on middle management could also be institutionalised through the new career structure. Progression in the career structure should be voluntary and be associated with a formal process of evaluation to promote the principle of merit.

Develop pedagogical leadership in schools

Research has highlighted the importance of school leadership for teaching and learning. This provides a strong rationale for implementing policies that ensure the effective management and development of the school leadership profession. Furthermore, as school leaders constitute a relatively small, but central, group of actors in any education system, policies that target school leadership constitute highly cost-effective measures for improving education. Austria has already undertaken steps to foster effective school leadership, but despite long-standing efforts, it has been difficult to foster a cultural change towards greater pedagogical leadership. This is essential in the promotion of a new vision of teaching and learning and to ensure that teachers have sufficient opportunities for regular feedback and professional learning.

The current age profile and the retirement of many school principals provide a window of opportunity to recruit a new generation of school leaders and to instil the necessary cultural change. However, to ensure that promising candidates are selected, the recruitment process will need to be further professionalised to reduce the risk for political appointments. Necessarily, the employer of school principals should take responsibility for the management of school principals, including the recruitment, but the responsibility for recruitment should not be in the hands of a highly politicised body such as the collegiate boards of the provincial school boards. Irrespective of the institution that will take over the employment of school leaders following a reform of the governance structures, the recruitment process should be managed by an administrative body that has the capacity to conduct a high quality recruitment process. To increase objectivity, to match the selection better to the needs of the school, and to increase accountability, further actors, such as the school inspectorate and the school forum, should have greater prominence in the selection process. The development of professional school leadership standards would also help introduce greater objectivity in the selection process by providing a clear reference what kind of skills and competencies school principals should have. More generally, such standards would help promote a vision of pedagogical leadership. In the development of professional school leadership standards, involvement of the school leadership profession should be central. Considering the apparently low number of applicants, it would be important to further analyse the attractiveness of the school leadership profession, including the competitiveness of current school leader remuneration compared to teachers and other professions and the possibility to create career development opportunities for school leaders, such as system leadership roles.

To improve pedagogical leadership in schools, the employer of school principals should take more responsibility for the ongoing management of individual school leaders.

This could involve the development of personnel management processes such as the mandatory individual appraisal. To strengthen school-based teacher appraisal and feedback, school leaders should have opportunities to develop their skills for effective observation, feedback and coaching. Creating more opportunities for schools to collaborate and facilitating school leadership networks can be a further strategy to foster greater pedagogical leadership and to improve the quality of education across the education system more widely. Chile, England (United Kingdom) and New Zealand provide interesting examples in this regard. In Austria, the new Centre for Learning Schools (Bundeszentrum für Lernende Schulen) could be expanded to the whole system beyond the NMS, if successful, also to facilitate collaboration between different school types. Also, school leaders in Austria need to benefit from greater support structures through administrative support staff and middle leaders.



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