Assessment and recommendations

Education system context

There has been significant improvement in the outcomes of the Portuguese education system but significant challenges with educational attainment remain

The share of 25-64 year-olds in Portugal who had completed at least upper secondary education increased from 20% in 1992 to 47% in 2016; for those aged 20-24, 78% had completed at least upper secondary in 2016. Furthermore, 15-year-old students in Portugal saw the greatest improvements in their science abilities of any OECD country as measured by the OECD Programme for International Student Assessment (PISA) between 2006 and 2015. The average score in science increased from 474 in 2006 to 501 in 2015; simultaneously the proportion of 15-year-old students scoring below Level 2 (below baseline proficiency) declined from 24.5% to 17.4%. These improvements in students' scientific skills were accompanied by similar substantial improvements in 15-year-olds' reading and mathematics skills, trailing only one OECD country in their improvement rate. Though not as consistently, younger Portuguese students have also demonstrated improvements in their abilities. While Portuguese students in their fourth year of primary instruction have shown strong improvements in their mathematics skills over the past 20 years on the Trends in International Mathematics and Science Study (TIMSS), fourth year primary students have shown uneven patterns of gains and losses in their reading skills on the Progress in International Reading Literacy Study (PIRLS). Nevertheless, a large proportion (13%) of Portuguese students continue to leave school before completing secondary education and fail to secure a job or continue their education, repetition rates remain almost 3 times the OECD average (34% vs. 12%), and between one-fifth and one-quarter of Portuguese 15-year-olds lack baseline skills in mathematics, reading or science.

Substantial equity concerns exist in Portugal's schools, including wide socio-economic and regional variations in outcomes

Despite significant recent improvements in international measures of student knowledge and skills, important differences in student outcomes persist for students from under-served backgrounds, including students from low-income families, families with low levels of parental education, immigrant students and others. The odds of a student from a low socio-economic background being a low performer on the PISA science exam are seven times higher than a student from an advantaged socio-economic background, the second highest discrepancy in the OECD. Furthermore, the odds of a student repeating a year are four times higher among disadvantaged students than among their more advantaged peers, even after accounting for students' own achievement levels. First-generation immigrants score substantially worse on all PISA assessments than native-born peers. Along with evident performance differences between individual students, the concentration of under-served children in particular schools produces additional

inequalities in Portugal. Students in socio-economically disadvantaged schools in Portugal perform 41 score points worse in reading, even after accounting for their own socio-economic status. These school-level relationships between student-body composition and performance in maths and reading exist in national examinations as well. In addition to variation based on students' and schools' demographic characteristics, Portugal is home to large regional differences in student outcomes. 15-year-old students in western coastal regions and the central interior of the country perform relatively much better than those in the rural northern interior and the south of the country. This pattern echoes geographic performance differences for younger students on the TIMSS and for lower- and upper-secondary students on national examinations.

Strengths and challenges

Portugal invests substantial resources in school education as a proportion of its GDP; however, funding levels for key priorities remain insufficient

The Portuguese school system benefits from high levels of financial investment from public sources. In 2014, 5.1% of the added-value produced by the country, its gross domestic product (GDP), was devoted to financing pre-primary, primary and secondary education. This was not only well above the OECD average (3.4% of GDP), but also more than one percentage point higher than Southern European peers such as Italy and Spain. However, despite the high levels of investment as measured compared to the overall size of the Portuguese economy, its annual expenditure per student, corrected for differences in purchasing power across countries, is around 15% below the OECD average. As a result, significant core activities of the educational system, including its vocational network and equity strategies, rely heavily on international funds, particularly the European Social Fund (ESF). Given the inherent unpredictability of international funds over the long term, key priorities for the Portuguese system are subject to changing international conditions.

The financial crisis increased attention on the efficient use of resources but the current mechanisms for allocating funding to schools have inefficiencies and are opaque

Budget restraint due to the economic crises has increased awareness about the importance of efficiency in education and further fostered processes such as the consolidation of the school network that reduced the number of small schools and increased class sizes. Other current efforts that reflect the commitment to an efficient use of public resources include: the restriction of state funding to private schools only in geographic areas where public offer is insufficient; the centralisation of wage payments; and a more thorough monitoring of fraudulent sick leave. However, inefficiencies remain in the system as a result of fragmented decision-making authorities and budgetary responsibilities within the central administration and between vertical levels of the government. The entities responsible for planning the school network, which determines the bulk of educational expenditures, do not themselves bear the financial costs of over-spending. Furthermore, the process for defining both instructional and operational expenditure levels is opaque, understood only by a small number of central bureaucrats. This prevents open, democratic debate about the spending priorities of the system.

While programmes exist to promote equity for under-resourced communities and students, there is a lack of a system-wide strategy or sufficient levels of funds to promote equity

Portugal has developed a series of programmes intended to combat inequality for under-resourced communities and vulnerable students. Means-tested social support exists for all students from disadvantaged socio-economic backgrounds alongside specific programmes, instructional supports and additional resources for students struggling in school as well as schools facing concentrations of student need. Despite the existence of these programmes, concerns persist about whether their funding levels are sufficient and more broadly about whether they are effective. Targeted funding for equity purposes in Portugal remains small – flagship programmes constitute only 1.4% of the educational budget – both by comparative standards and judged against levels estimated in research required to overcome opportunity gaps. As a consequence, schools serving high-needs communities receive relatively meagre additional resources, either human or otherwise. Further, within-system evidence suggests that these funding streams are not always targeted towards schools that have the greatest levels of need. More broadly, while Portugal has a large set of programmes targeting particular dimensions of student need, many appear additive and to some extent overlapping, without a clear vision for an overall strategy to address the needs of under-resourced communities and students.

There is an incipient focus on programme evaluation to inform decision-making that benefits from a rich wealth of data, but funding is not related to goals and assessment of results, which limits system learning

Portugal collects a wide range of data on students and schools that could be used to highlight strengths and challenges in the system and steer resource allocation. Systems for evaluation have expanded over the past 10 to 15 years, with more widespread data collection and the production of internal and external project evaluations, a growing attention to results-based decision-making and the development of school and teacher evaluation frameworks. Future planning is underway to create additional applications to track school finances and human resources. Despite the potential for Portugal to leverage these resources to set goals, use multiple forms of data to review progress, disaggregate data for different populations and make decisions based on outcomes, these types of actions are insufficiently pursued in practice. There is not a systematic definition of shared outcome goals on which stakeholders agree. Interventions are not systematically evaluated to determine their efficacy. Further, there are rarely course corrections when project goals are unmet. During the review visit, system and school leaders were rarely able to articulate what the specific goals they held for a given project were, nor whether these goals had been accomplished. Not all projects are launched with a mechanism to evaluate them, either *ex ante* or *ex post*. Some programmes persist and are extended nationally, in some instances in the absence of clear knowledge about their impact or effectiveness. This results in a series of overlapping and coincident projects without an overall strategy and goals under which all the projects fit.

Over the past twenty years, Portugal has increased access to and attainment in school education but high levels of variation by background and region persist

Graduation rates from upper secondary education in Portugal have been climbing and are well above most OECD countries. Between 2005 and 2015, the proportion of youth under 25 years of age that graduated from secondary schooling jumped from 51% to 83%, by

far the largest increase among OECD countries for which there is available data. However, students' socio-economic backgrounds (and in some cases immigrant, language and ethnic backgrounds) remain highly predictive of their performance in school. These differences are often exacerbated by the concentration of students of particular backgrounds and with high levels of need in some schools. Between-school socio-economic segregation rates are high in Portugal, as are rates of immigrant isolation. These are produced by a variety of factors, including residential segregation, geographic assignment of students to schools, public rankings of schools and private schooling. Portugal also experiences high rates of between-school performance variation.

The central government has articulated clear priorities regarding which educational functions are to be decentralised to municipalities and schools, but these priorities do not align with promoting school autonomy and equity in student outcomes

The central government has clearly articulated the school functions which it hopes to transfer over to local control. The primary priorities the ministry and government currently articulate for decentralisation in education relate to the construction and maintenance of school buildings, the hiring and employment of non-teaching staff and peri-educational activities such as full-day enrichment activities and sports. Alongside the decentralisation efforts that allocate powers and responsibilities across governmental levels, Portugal is also undertaking efforts to promote school autonomy. Despite clearly articulated goals around decentralisation, the political leadership of the ministry is clear that some areas are not under consideration for local control: hiring and placement of instructional staff and the organisation of the school network. Autonomy for curriculum development has been broadened but it is still somewhat constrained. School autonomy, as conceptualised by Portuguese authorities, is largely limited to tailoring a part of the national curriculum to the specific needs and interests of its students but does not include broader curricular and pedagogical autonomy or other types of school autonomy such as local responsibility for financial or human resources. Together, these patterns create a risk that both municipal and school-level actors will understand their key autonomies to be related to the operational and management side of educational endeavours. As municipalities and parishes receive additional authorities over schools, they may hold these responsibilities closely, inhibiting school-level decision-making. Power play and conflicts of responsibility in education may arise at the local level, with different local authorities crowding out each other's autonomy. The decentralisation processes in education may also lead to undesired effects with respect to equity in education as a result of different capacity levels in schools across the country, if not accompanied by structures to support and monitor the process.

Portugal has succeeded where few countries have in smoothly rationalising its provision of school places and connecting schools into networks but challenges remain with the school clustering process

The Portuguese education system has witnessed a major process of consolidation in the past decade, leading to a considerable reduction of schools in the public network. Between 2004 and 2014, Portuguese educational authorities shuttered more than 47% of public education institutions – a total of 5 600 schools, compared to a decline of about 15% of students enrolled in primary education during the same period. Consolidation can be a disruptive experience for students and families, and often results in significant political headwinds for educational authorities. In Portugal, complementary policies such

as regular consultation with community stakeholders, provision of transport, investment in infrastructure capacity and the clustering of schools in networks, reduced the potential negative impacts of consolidation by improving the quality and capacity in the school network. Nevertheless, the level of integration across schools within clusters remains uneven. Some large clusters, either in geographic spread or number of schools are unwieldy to manage for small leadership teams. Some clusters successfully leverage teacher expertise across schools to build capacity, whereas others are characterised by competitive relationships between school faculties.

The physical infrastructure of schools requalified by **Parque Escolar** *is of high quality but significant concerns persist about the overall quality of school infrastructure*

In 2007, the Portuguese government launched an effort to modernise and improve public secondary school infrastructures, implementing a management and maintenance model that relied on a state-owned private company *Parque Escolar*. A strength of the *Parque Escolar* model is linking the design of the school building to the development of innovative and modern instructional spaces, such as advanced laboratories and flexible classroom layouts. Stakeholders express high levels of satisfaction with the infrastructure of schools intervened by *Parque Escolar*. However, outside of these 173 re-qualified schools, school infrastructure experiences various states of disrepair. In 2014, Portugal spent only 3.1% of its total public education expenditure on capital expenditures (OECD average: 8.4%) and between one-fifth and one-third of OECD averages on facility maintenance. This low level of investment, despite reported recent increases, results in difficult learning conditions in many schools. Some schools struggle to maintain facilities warm enough during winter months, in others classrooms experience leaking ceilings when it rains and stakeholders report that repairs are often delayed or do not happen at all. In 2015, 15-year-old students' principals reported an average of only 0.43 computers per student, 5th worst in the OECD.

Though efforts have been made to improve the profile of Vocational Education and Training (VET) pathways, the administration and provision of these programmes is still fragmented

Portuguese authorities have set a target that by 2020, fully half of secondary students would be enrolled in VET programmes, with the expectation that this would serve to keep more students in school, increase secondary completion rates and prepare students for Portugal's labour market. This goal has been accompanied by a shift in the provision of VET places from stand-alone professional training centres and schools to an integrated model where general secondary schools offer an array of educational pathways. In fact, 89% of public upper secondary schools offered some type of VET programme in 2015/16. This expansion of VET programming has been accompanied by increasing graduation rates from VET programmes in Portugal, from only 13% in 2005 to 56% in 2014. Portuguese educational authorities have taken specific steps to increase the status of VET programming through a range of initiatives to match the VET offer to labour market needs. These efforts include a coherent national qualifications framework that anticipates the skill requirements of the labour market and matches course offerings to them, an alignment of standards for vocational programming with Europe-wide benchmark standards (the European Quality Assurance in Vocational Education and Training) and a requirement that all VET programmes provide a double-certification of their graduates assuring that students demonstrate mastery of both academic and vocational skill sets.

Nevertheless, despite these impressive accomplishments, the administration and provision of VET programmes are still fragmented. Two parallel systems often fulfil overlapping functions. Such an organisation leads to similar qualification profiles, with varying intensity of work-based learning and quality of training. The separate governance of these networks, often operating under different regulatory frameworks and overseen by different ministries, hinders the ability to plan the courses that are offered, to decide which courses will be offered by each provider and to eliminate courses that have been determined to lead to weak employment prospects. Recent promising arrangements, such as the Inter-municipal Communities (CIM), the System for Anticipation of Qualification Needs, and The National Catalogue of Qualifications (CNQ), offer the possibility of a more joined-up governance of the VET system. While these systems could potentially permit an evidence- and stakeholder-informed planning process for VET courses, in practice, they need continued political commitment, sufficient staff with relevant knowledge and high levels of inter-municipal community involvement, to avoid VET course offerings that are duplicative or not connected to labour market needs.

Portugal maintains extremely high rates of inclusion for students with Special Educational Needs (SEN), yet too few resources are invested to support the success of students with moderate SEN in mainstream classrooms

Portugal has a long history of prioritising the inclusion of students with special educational needs (SEN), resulting in an extremely high level of school-level inclusion by international standards: 98.8% of SEN students were assigned to regular schools in 2016/17. Various supports exist to promote the success of students with special educational needs. Initial teacher preparation includes a required course for all teachers on how to support students with SEN. Resource Centres for Inclusion (CRIs) provide specialised support to schools and students in the form of direct services and knowledge support. Further, Communication Technology Resource Centres for Special Education (CRTICs) assess student needs and provide adaptive technologies to students with SEN. For students with severe needs, a reduced class size maximum of 20 students applies and these students frequently receive the in-class support of a SEN teacher. Despite high rates of inclusion, the quality of the education students with SEN receive is hampered by insufficient and inadequate resource investment and teaching skill gaps. SEN students with moderate disabilities particularly risk being overlooked as there are insufficient resources available to effectively include them. Due to full caseloads and responsibilities for teaching classes of students with severe disabilities, SEN teachers rarely have the time to provide meaningful support to students with less intense needs. Between 2010/11 and 2016/17, the ratio of SEN students to SEN teachers grew by nearly 2.5 students per teacher and most of the newly hired SEN teachers were temporary and part-time.

Portugal benefits from an experienced, dedicated and well-compensated teaching staff; nevertheless, Portuguese teachers do not feel valued by society and their time is not used wisely in schools

Portuguese school children benefit from an experienced, highly-qualified teaching staff. Teaching ages in Portugal imply that the typical teacher has over 20 years of teaching experience. Furthermore, over 91% of Portuguese teachers are fully certified, with no disparities in the levels of certified teachers by schools' average socio-economic status, urbanicity or public/private governance. Portuguese teachers' minimal starting and maximal salaries, adjusted for international differences in prices and incomes, are higher than the OECD and EU-22 averages. Even when compared within their country,

Portuguese teachers can expect to earn 1.3 times as much as other tertiary-educated Portuguese workers. Despite stated national commitments to education, and significant investment in both the salary and working conditions of teachers, Portuguese teachers do not perceive a high degree of societal esteem for the teaching profession. Only 10.5% of Portuguese lower secondary teachers consider teaching a valued profession in society, among the lowest in the 2013 Teaching and Learning International Survey (TALIS 2013). This perceived low-level of esteem may translate into low levels of interest in joining the teaching profession by young people. In 2015, only 1.3% of students indicated they planned to enter the teaching profession, among the lowest across all PISA-participating systems. As a result of various factors including high task demands, the freezing of teacher career progression, political discussions around teacher appraisal and challenges associated with student engagement, a perception exists among teachers that they are under-appreciated in society. Given the substantial financial investments the Portuguese system already makes in salary, student-teacher ratios and non-teaching time, this challenge appears to be one that will be solved not through additional resource investments but through cultural changes.

Opportunities exist for the development of instructional and leadership skills within schools but few effective structures exist to leverage these skills to improve the teaching practice

Portuguese teachers benefit from many policy, practice and classroom features that create the potential for the development of strong instructional and leadership skills within schools. As reported by their 15-year-old students, Portuguese teachers frequently employ the types of instructional practices shown to consistently correlate with increased learning outcomes. Further, school faculties in Portugal are characterised by collaborative, collegial relationships. At the system level, multiple formal positions, with dedicated work time, have been created within Portuguese schools for teachers to guide the instructional and strategic directions of the school. Additionally, there is a mandated school governance structure in place that requires teacher consultation for all school decisions. Finally, school cluster leaders have broad discretion in identifying effective second-tier leaders to join their leadership team. They can also deploy teachers to schools across their cluster in strategic ways; for example, to spread instructional skill across schools, to create faculties with the best chance to promote a positive adult culture or to align class need and teacher skill to ensure that the students with the greatest need are paired with the highest-skilled teachers. However, while all of the above factors could contribute to an environment of professional development and learning in schools in theory, in practice, according to TALIS 2013 results, many Portuguese teachers never participate in such activities as co-teaching (49.5% never co-teach) or peer observation (71.2% never participate). Few Portuguese teachers participate in formal induction programmes (only 20%), few cost-free opportunities exist for ongoing professional development (57% of teachers paid for some of their professional development activities) and even fewer are paid accompanied by release time (only 15%). Finally, only 41% of Portuguese teachers work in schools where school leaders observe lessons and even fewer external observations occur (31% of teachers report being observed).

Steps have begun to create greater curricular autonomy for teachers, yet concerns remain about the constraints the national curriculum imposes on innovative teaching practices

In 2017, Portugal launched a pilot project of curricular autonomy and flexibility in 235 schools. These schools, as part of plans developed by their Pedagogic Councils, may diverge from the national curriculum for up to 25% of the weekly compulsory teaching hours. Schools may create new subjects by combining existing ones. This would permit, for instance, the combination of a history and Portuguese class into a humanities class that would cover similar content in an integrated fashion. In other cases, the autonomy might take the form of small numbers of additional teaching hours to be allocated to the school and to be used at their discretion. Recipients of the autonomy contracts may also organise the school calendar in innovative ways. For instance, they may offer some subjects more intensively, but only for part of the year, or they may divide the school year in two semesters rather than the traditional trimester format. The intent of the Portuguese authorities is to extend this pilot to all public schools in 2018/19. Stakeholders reported mixed opinions on the degree to which these autonomies provided meaningful flexibility to the national curriculum. Some suggested these changes provided opportunities to dive more deeply into a set of skills and content, allowing them to address student misconceptions more thoroughly and employ innovative pedagogical techniques. Others reported that despite the autonomies provided, students still were expected to master the same total material and were tested on it in national exams. Still others indicated that the additional resources were insufficient to accomplish their stated goals.

The shifting age profile of Portuguese teachers and the structure of the teaching profession pose substantial staffing challenges, and some opportunities, in the coming years

As a result of various historical and current-day demographic and policy changes, the Portuguese teaching workforce is ageing. Factors contributing to the older teaching workforce include the overall ageing of the population, increases to the retirement age in response to the economic crisis, low interest in entering the teaching profession and selection and assignment structures that heavily favour existing teachers. A challenging facet of the ageing teacher profile is not only that the average or median teacher has become older due to shifts throughout the distribution of teaching ages, but that the proportion of teachers under 30 years old has shrunk to around 1% of all teachers. The shrinking number of new entrants into the profession and the coming wave of retirements will create both expertise voids and absolute supply problems if there are insufficient numbers of qualified candidates who enter the teaching profession. Even if the system is able to accommodate the wave of future retirements through the recruitment of a fresh cohort of teachers, there will be a missing generation of teachers with 10-15 years of experience who can preserve the skills currently present among Portuguese teachers. Furthermore, in some geographical areas, particular subject areas will be especially affected by coming retirements. While demographic patterns and retirement age policies clearly contribute to this ageing teacher profile, the structure of the teaching profession prioritises early entrance and seniority benefits. Entry into the professional teaching career requires many years of service as a temporary contract teacher which involves low salaries and frequent position changes. Once teachers have attained professional status, they progress from one salary step to the next based almost exclusively on years of service. No credit is given for years of work in the private sector. Combined, these provisions make it difficult to recruit mid-career changers or to attract early-career

candidates interested in exploring the profession. While the ageing profile of the teaching force clearly presents challenges, it may also present an opportunity to revitalise the profession with new ideas, higher skill levels and professional expertise from career changers. Much depends on how Portugal conceptualises and brands the teaching profession and opportunities for development within it.

Initial Teacher Preparation (ITP) and induction programmes do not sufficiently prepare new teachers with the skills needed to enter the classroom

The applied requirements of Initial Teacher Preparation (ITP) programmes are minimal and insufficiently rigorous to adequately prepare prospective teachers for the challenges of classroom teaching. The average skill profile of teaching candidates ranks 21st out of 22 areas of tertiary study in Portugal. Portugal has strong measures in place to vet the quality of the co-operating teacher who will work with prospective teachers; however, unlike 16 European countries that establish minimal credit hours for student teaching in schools, Portugal grants higher education institutions autonomy in deciding how many hours to require. Once through the formal stage of initial teacher education, early career Portuguese teachers receive minimal formal support. Portuguese teachers have access to the lowest levels of formal induction programmes of any TALIS 2013 system.

An inefficient system of teacher distribution through national assignment creates instability and inequities

While transparent standards exist for ranking teachers in priority order in the initial assignment process, schools and teachers have limited ability to express their preferences for a specific candidate or school profile. This results in a mismatch between the needs of schools and teachers' interests and skills. Nearly one-quarter (24%) of Portuguese lower secondary teachers "strongly agreed" or "agreed" that they would like to change to another school if it were possible. This constrained-choice teacher assignment policy creates conditions in which some teachers are dissatisfied with the school in which they work and this appears to disproportionately affect low-income and low-achieving students. In addition to the general mismatches between school needs and teacher interest, the temporary-contract teacher placement process results in frequent movement of teachers across schools and the delayed placement of teachers in schools. This leads to instability in the teaching force in schools, especially in high-needs areas, and creates an insider-outsider staffing structure. Local and regional disparities exist between schools in the proportion of temporary and permanent teachers on their faculties; schools serving greater proportions of students on social support and with low maternal education had higher proportions of temporary faculty. Further, urban areas have substantially higher actual student-teacher ratios than rural areas, despite a system that should provide for equal levels of assignment across the country.

Despite comparatively high staffing levels, repeated and ongoing concerns exist about the correct level of school staffing, particularly as it relates to non-teaching staff

Portugal has low student-teacher and student-assistant ratios compared to other OECD countries. Despite the relatively high staffing levels, various stakeholders in the educational community have concerns that these are insufficient. Principals representing 66.8% of Portuguese teachers reported they had insufficient support personnel for their school community in 2013. These concerns were echoed during the review team's visit. It

may be that the level of student need is higher in Portugal than in other countries. Or, it may be that Portuguese educators feel the need for support staff more acutely than educators in other school systems. As in other areas, the significant challenge in assessing the appropriate level of resource allocation in Portugal is that this topic has not been evaluated.

Formal leadership skills and responsibilities are insufficiently developed and overly focused on operational and managerial tasks

There is an insufficient conception of school leaders in Portugal as responsible for instructional leadership. According to TALIS 2013, Portugal has the lowest percentage of school leaders observing classroom instruction among OECD and partner countries, with only 5.2% reporting that they have observed classroom instruction "often" or "very often" in the past 12 months. Portuguese principals report participating in other activities such as promoting the use of new teaching practices, promoting responsibility for improving teaching skills or student outcomes at rates lower than the TALIS average. By contrast, Portuguese school leaders spend more time working on discipline problems, and especially on family interactions and the schedule of classes. This lack of focus on instructional improvement may stem from the fact that the role of school leader is not conceptualised as a profession into itself. Only 39% of Portuguese principals report having strong leadership training in their studies and a full 24% of Portuguese principals report having no leadership training, the highest proportion in TALIS. In addition to limited pre-service development, Portuguese leaders have access to minimal ongoing professional development for the purposes of developing instructional leadership capacities. They collaborate with other school leaders at lower rates than the TALIS average and less than 11% participated in a professional network or mentoring activity compared to a TALIS average of 51%. Over 23% of Portuguese principals of school clusters including lower secondary levels did not participate in any professional development in the past 12 months (TALIS average: 9.5%).

Policy recommendations

Improve governance using combined budget and education information systems, moving from a focus on inputs and rules to results and processes

While resources alone are not sufficient to ensure excellent and equitable outcomes, they are a pre-requisite to design smart policies that invest limited resources wisely. A funding system based on the allocation of inputs and the compliance with rules, even with an inclusive focus, does not maximise the capacities that are available in each school and local community to respond creatively to each student needs. A first step is to improve governance mechanisms to reduce inefficiencies and bureaucratic controls. One simple initial practice would be to eliminate duplicative budgeting efforts on all non-teaching staff and operational expenditures so that school administrators do not complete tasks rendered irrelevant by central algorithms. A more fundamental improvement would be the establishment of a co-ordination mechanism that aligns the goals of various entities responsible for planning and implementing the budget. Portugal might also consider increasing school level responsibility for budget management to promote responsivity to local needs while gradually increasing the allocation for non-staff expenditures to bring the country more in line with international standards.

Initiate steps to shift to a transparent, publicly-debated weighted student funding formula

The complex and non-transparent budgeting process generates too many distortions that might be corrected by shifting gradually to a transparent, publicly-debated weighted student funding formula. This formula should be based on the true costs of school provision and equity considerations. More resources should be allocated to students from disadvantaged backgrounds and to schools educating large proportions of these students. When funds are distributed via formula rather than the allocation of staff and resources, it creates the potential for local decision-making on the use of these funds. A funding formula increases efficiency only insofar as principals and school clusters have the managerial capacities to take advantage of this flexibility and allocate and use this funding with effectiveness. Important considerations exist to ensure these funds are used wisely; this requires capacity building at the school level. At the same time, municipalities and schools should be made responsible and accountable for results achieved with this funding or whatever other degrees of freedom are transferred to the local level.

Improve strategic thinking around use of funding to increase equality of opportunity

Portugal should consider shifting away from addressing inequality of opportunity through a series of nationally managed, application-based, categorical funding initiatives that lack an overall strategy towards a comprehensive approach to equity funding. The most straightforward way this could be accomplished is through the funnelling of these equity funds into the weighted-student formula described above. However, in the near-term, Portuguese authorities could consider developing a process to include a broad cross-section of educational stakeholders to develop a comprehensive equity policy that ensured programmes did not duplicate efforts and were adequately funded. This approach would be facilitated by an estimation of the true costs required to provide equal educational opportunities. Independent, but concomitantly necessary, of a comprehensive equity strategy, Portugal should consider increasing the share of the educational budget targeting students from under-resourced communities and who face learning obstacles.

Improve learning capacity of the system through more transparent and widely shared performance indicators, data access and a culture of planning and evaluation

Portuguese central authorities should consider re-establishing a division within the Ministry of Education with planning and evaluation responsibilities similar to those of the former Office of Foresight and Strategic Management in Education. This unit should co-ordinate the formulation of a shared strategic medium- and long-term vision and estimate resource needs to achieve this vision. It might then prepare a medium-term expenditure framework to guide each annual budget process. Broad-based discussions should be initiated, involving multiple stakeholders to identify measurable outcomes for the system: performance targets, metrics and progress monitoring processes. Critically, a culture change this significant will require building national and local staff's capacity to use outcome-based approaches to guide their work. Over the long-term, Portugal could consider a gradual shift to outcome-based budgeting procedures that increase funding for successful initiatives and cut those that are unsuccessful.

Initiate a plan to incorporate core budget priorities into national budget, reducing reliance on European funds

Portugal currently relies on international funding to support what have become key priorities in its educational strategy. To buttress against the potential decrease of these funds, Portugal should consider gradually absorbing some of these funds into the national budget. The first priority should be to shift the funding of equity programming to national funds. Equity funds currently represent a much smaller portion of the overall budget than other priorities supported by international funds, so this is a more easily accomplishable goal in the short term given fiscal realities. Such a step will likely require hard trade-offs between such goals as universal reductions in class size and targeted support for students from under-resourced communities. When economic conditions permit, Portugal can explore assuming more national responsibility for the budget for vocational programming.

Integrate decentralisation in education and promotion of school autonomy into a comprehensive strategy for effective governance of the education system

The currently proposed decentralisation and school autonomy strategies in Portugal are relatively narrow in scope. The decentralisation measures are primarily of an operational and administrative nature, focusing on more efficient subcentral administration of buildings, equipment, and hiring and allocating non-teaching staff, rather than on core educational improvement efforts. Portugal must review its priorities around decentralisation and school autonomy and determine whether these established priorities are likely to accelerate school improvement outcomes. Portugal should consider integrating its current decentralisation goals in education into a comprehensive strategy for effective governance and embrace the challenge to shift its current legalistic approach to a more systemic approach focusing on processes and governance culture. Portugal could explore various alternative governance structures. For instance, the education system could take advantage of its strong central decision-making powers, retain control of educational issues at the central level and work to promote system-wide steering strategies with a particular emphasis on promoting equity. On the other hand, Portugal could devolve most operational responsibilities to municipalities and instructional responsibilities to schools. It would need to articulate a clear division of responsibilities between actors such that municipalities and/or parishes were not tempted to infringe on the educational autonomies of schools. One sensible division would be to assign municipalities responsibility for all operational matters, including non-teaching staff responsible for operational management (security, cleaning, food services, etc.). Schools would then be granted further control over all resources (financial and human) which contribute directly towards student learning and development. The central government role would be to support municipalities and schools with capacity-building efforts, with a particular eye towards assisting schools and communities in which weak governance and leadership skills exist. Other blends of such approaches could potentially be successful.

Leverage school autonomy to improve the educational capacity of school clusters

Portugal should work to improve the educational governance and leadership capacities in school clusters to get the full benefits of increased school autonomy. Schools must develop a clear vision of effective teaching and learning and an overarching strategy for achieving quality education and school success in collaboration and consultation with

teaching and non-teaching staff, students and parents. Importantly, they must be able to implement this vision. Some schools in Portugal have taken full advantage of their granted autonomies to develop a clear vision of effective teaching and learning and an overarching strategy for promoting innovative learning environments for their students. Portugal can invest in leadership development to promote the spread of these practices that break away from the predominant legalistic and bureaucratic approach towards educationally-focused school governance and leadership.

Continue efforts to rationalise the school network, while preserving support for unique schools meeting the needs of under-served populations

Portugal must address the heterogeneous needs for school places, meeting the strong demand for new school places in some locations and anticipating a much lower and more scattered demand for school places in others. A system-wide and differentiated strategy to provide schooling places is needed to address this complex and varied demand. While rationalising the school network, Portugal should consider additional investment in schools providing high-quality schooling for unique populations, particularly because many under-served populations in Portugal live in poor, remote areas. For instance, the process for de-funding government-dependent private schools takes into account the location and capacity of public schools in the region, the school infrastructure and transportation services, but crucially does not consider specialised need or school performance. Therefore, Portugal must shift away from a unified, one-size-fits-all approach, and take a diversified, tailor-made and situational approach in the provision of schooling options. In particular, the consolidation process, which disproportionately affects remote, poor and under-served areas, should consider multiple criteria for the decision of closing down or de-funding schools that meet particular needs.

Tackle between-school segregation through complementary policies

Multiple strategies are employed internationally to promote integration and inclusion in education systems, with varying degrees of success and sustainability. Examples include: re-drawing of school catchment areas to include more diversity in the neighbourhoods they encompass; revising school assignment policies to de-prioritise proximity of residence to school as the dominant factor in placement decisions; offering increased choice to families between public schools with complementary educational and informational campaigns to empower all families to make best choices; establishing controlled choice systems that offer expanded choice only when selecting a school other than the default school; or the siting of schools with unique profiles (e.g. "magnet schools" offering unique curriculum, arts focus, or other specialised offers) in low-income neighbourhoods. While considering whether Portugal can learn from these policies and measures, and potentially adopt them, careful translation to the Portuguese context is essential.

Focus on improving the quality of learning for struggling students, rather than simply adding more teaching time

Portugal should consider shifting away from the dominant model to respond to students' struggles in schools of adding additional teaching time in the form of extra instructional time in mathematics and Portuguese, tutorials or year repetition. Rather, Portugal should explore alternative instructional and student support strategies in response to academic and social struggles. Such approaches could include: appropriate teacher training and

support; student counselling to orient students to second-chance education, accelerated education and the labour market; improved early-warning data systems to identify students at-risk of failure and assign trained staff to intervene with support early; or the development of clear, objective criteria including cognitive and non-cognitive factors to determine the appropriateness of students for year repetition and limiting repetition to a specific subject area or course in secondary education.

Reduce fragmentation of governance and operation of the VET network

Portugal should consider eliminating the overlapping provision of vocational programmes in comprehensive schools, professional schools and apprenticeship programmes in private training centres. Increased efficiencies could also be leveraged by closing less successful VET programmes. Freed resources could be allocated to reinforce the quality of human and physical resources of the remaining providers. While the system of needs anticipation has gradually permitted data-informed steering of the existing offer, greater efforts should be made to make the provision of VET courses less duplicative and more labour-market relevant. To improve the quality of quantitative estimates, Portugal should develop technical capacity within the National Agency for Qualification and Professional Education (ANQEP) to estimate the costs and benefits of offering each strand of VET courses across different networks of providers. To improve the effectiveness of steering bodies, Portugal should endow ANQEP with budgetary control over the VET offer and build more binding and effective contracts to signal the costs to municipalities of not participating in regional co-ordination efforts.

Develop a differentiated profile of VET, while pursuing the strategy of integration within secondary schools

Portugal should continue to smooth transitions across general and VET secondary programmes to allow students to experiment in the different pathways and ensure that VET courses are not dead-end tracks. Portugal should also facilitate transitions of VET students to post-secondary education, in particular, tertiary education. The jobs of the future will require some form of post-secondary training, but only 6% and 10% of Portuguese VET students progress to either long- or short-cycle tertiary education respectively. The existing regime of entrance examinations to higher education could be modified by re-structuring the contents of access examinations in two parts: a general component and a component of modules specific to each type of upper secondary education offer. In particular, entrance examinations should be designed to include modules aligned with VET curricula. Simultaneously improving secondary VET students' skills and the quality of higher education support will be critical to increase access and success. Higher education institutions and VET sector leaders can collaborate to identify VET graduates' skill and knowledge gaps and take steps to improve the transition by improving the VET programmatic curriculum and providing supports and transitional courses in higher education. Strong VET sectors crucially depend on the engagement of employers and the provision of work-based learning. VET sector leaders should reflect on the best way to incentivise companies to participate in apprenticeships that go beyond the relatively superficial current offerings. A stronger work-based learning component should not preclude solid general skill instruction be built into VET programmes. Finally, system actors must act to ensure that students are not funnelled into VET programming simply because they are struggling in school or because they come from a disadvantaged background.

Build capacity and increase staff support for the mainstreaming of moderate-needs special education students

Portugal must support its teachers to better meet the needs of moderate-needs special education students through increased training and staffing. Currently, while special educational needs teachers receive training in supporting the needs of SEN students, subject-area teachers have no requirements beyond their initial training to pursue expertise in this area. Subject-area teachers, as well as special needs teachers, can grow their skills in differentiating classroom content for all students. Mandating ongoing, job-embedded training with staff from resource centres for inclusion (CRIs) available to provide technical capacity building could be an effective strategy. Portugal must also invest additional resources in the form of special education teachers to support students in mainstream classrooms. A key premise in the inclusion of students with SEN in the mainstream classroom, in addition to its ethical justification, is that they will benefit from positive learning models. However, inclusion means more than simply placing students with SEN in the same classrooms or schools as other students. It requires thoughtful planning and intensive supports. To realise the promise of inclusion, the Portuguese education system needs to ensure that all students who have Individualised Education Plans (IEPs) that call for additional support within reading or mathematics classrooms, in fact, receive these supports.

Reconsider the teacher career structure to respond to shifting teacher demographics

Portugal should consider offering voluntary retirement buyouts with no pension penalty incurred. Introducing flexible retirement rules carries many benefits, with some pitfalls to avoid. Offering early retirement can provide a mechanism for ageing teachers to leave a cognitively and physically demanding profession in a dignified manner. It can also limit the negative effects of teacher absenteeism. Additionally, opening up additional teaching positions may stimulate new entrants into the profession. This infusion of new teachers could also receive cohort-wide training in line with national priorities to shape the development of the profession for the next generation. Finally, shifting the age profile of the teaching profession can reduce expenditures within the education budget by replacing high-salary senior teachers with lower-cost early-career ones. However, flexible retirement policies should be accompanied by other complementary labour market policies to avoid possible negative side effects. Opportunities for part-time teaching should exist to make early retirement a financial possibility. Teachers need clear and honest information on the benefits they can expect to receive if they retire early to assist with making an early retirement decision to avoid mis-estimation of their financial needs in retirement. As a mechanism to attract and retain new teachers to the profession and ensure they remain during their early improvement years, Portugal could consider shifting the largest salary increases to earlier in the career progression with flatter increases later on, resulting in an overall budget-neutral reform.

Explore intensive residency models for teacher preparation

Portugal should consider piloting a graduate-level training programme that prioritises the development of applied pedagogical skills in an intensive teaching residency. Such a residency would integrate aspects of traditional university classroom preparation with the on-the-job learning of alternative pathways into an immersive learning experience. The model in Portugal could include a selective application process targeting top performers

in bachelor's subject-area courses. This would ensure that these prospective teachers would meet the high subject-matter expertise standards. Candidates would then be placed for a one-year residency in a local school. Prospective teachers could in the bulk of their training in the classroom with a highly-effective experienced teacher, progressively taking more responsibility for leading the class. A smaller proportion of time could be spent learning with the cohort of residents at a local polytechnic or university. The effective development of this pilot depends on the quality of the polytechnic/university partnership, the skill of the host classroom teachers and the design of the residency pilot in such a way to evaluate its effectiveness. In order for the residency to provide the appropriate mix of skills, the co-operating polytechnic/university department will need to agree to design the programme curriculum to align with the goals of the project. Specifically, the coursework should efficiently introduce key theory around learning sciences, while primarily supporting teaching candidates in building skills in response to the realities they face in their classrooms. Residency programme leaders should work with school principals to identify high-capacity experienced teachers to serve as host classrooms for teaching candidates. Instructional as well as adult coaching skills are important in these roles. Finally, if the pilot programme is to provide valuable lessons for the broader development of teacher education in Portugal, formal evaluation structures should be in place. The design of such a pilot should consider the most appropriate actor to manage the pilot, either a unit with the Ministry of Education or the Ministry of Science, Technology and Higher Education, a joint venture between them or a non-governmental actor.

Examine short- and long-term approaches to better match teachers' skills and interests with schools' needs

Portugal's current teacher assignment policy does not permit a mutual match between the interests and skills of teachers and the needs of schools. As a result, it does not maximise either teachers' or students' interests. However, reform to this long-standing practice should preserve the advantages of the current system in terms of transparency and equity. The current process was developed to avoid local nepotism or cronyism and does so successfully. In the short term, Portugal should develop a force of high-skill and high-motivation teachers who have priority placement in the most challenging school contexts and receive additional support and compensation as a result. Teaching candidates would apply to a simultaneous national placement process that would be used to assign teachers to high-needs schools. Schools participating in the Priority Educational Intervention Areas (TEIP) programme could be the primary targets. Participants in this parallel placement contest would go through a screening process to ensure they had the appropriate beliefs and attitudes to work with students and families from different backgrounds. As a complement to the targeted recruitment and placement of teachers in under-served communities, Portugal could work with one or several polytechnics/universities to develop a graduate programme to build teachers' abilities to successfully meet the needs of groups of students who have traditionally been disfavoured in Portuguese society. In the long term, Portugal can explore a system-wide reform to its teacher placement process. Portugal should consider creating regional or local hiring competitions that use multiple screens and actors to preserve impartiality. Regional or municipal review panels could identify sets of qualified candidates who enter into a local hiring pool. These panels could include members from schools, municipalities and the ministry to balance local interests with national standards. The panel screen could then present a list of qualified candidates to school leaders, who would be free to pick from among the list. An alternative process could involve a system where school leaders

can view teacher profiles and exert some level of influence on the placement of a new teacher in the school. For example, school leaders could have veto power over a defined number of teachers if they felt that the profile of the teacher did not match their needs. There could be a more formal probationary period where, if a teacher was deemed ineffective in a particular school context within a set timeline, school leaders could request the re-assignment of this teacher to another context. While there are several methods to accomplish this end, the key is to achieve some level of mutual consent in placement between teacher and school.

Analyse staffing needs across educator category and revisit the appropriate balance

Portugal must address concerns around a shortage of operational assistants through a needs-assessment study. The study should examine what roles are currently performed by operational assistants, how their time is spent, what needs schools have that are currently unmet and whether operational assistants are the best staff category to fill these responsibilities. As part of this needs-assessment, it will be valuable to explore the extent to which concerns on staff shortages are manifestations of the need for support for students with behavioural disorders and/or special educational needs. If these are the primary needs schools experience, increased training for all staff in developing trauma-sensitive schools and building a supportive school culture may be a more efficient and effective use of resources than investing in untrained support staff.

Support schools to become learning organisations – for adults as well as students

Portuguese schools are not currently sites where adults engage in significant collective learning activities. Portugal's education sector should consider four levers for instructional improvement: i) induction, mentoring and coaching; ii) teacher teaming; iii) peer observation and feedback; and iv) formal appraisal for the purpose of growth. First, Portugal should create formal induction and coaching supports for new and struggling teachers. Portuguese schools already provide multiple leadership opportunities at departmental, class and school levels for its teachers. A shift in the conception of teaching leadership roles to involve more direct feedback on practice could have significant positive impacts on teachers' growth trajectories. Second, Portugal should work to establish professional learning communities in schools through capacity development and use of non-teaching time in educator teams. This can be accomplished through a combination of re-conceptualising the role of department co-ordinators and class heads, repurposing some portions of non-instructional time away from tutorials towards goal-oriented team meetings, and building the capacity of teachers to work in teams through system-wide professional development priorities. Third, Portugal can consider incremental steps to open up the classroom door to promote the sharing of strong practices and the development of pedagogical skills. As a first step, Portugal should develop the capacity of departmental co-ordinators and class heads to observe and provide regular feedback to teachers. This might be accomplished through the formal writing of this expectation into the roles and responsibilities of the position. Additionally, or alternatively, targeted professional development or working groups for these categories of educators could be used to build capacity for these mid-level leaders to observe and provide feedback. Finally, Portugal should move incrementally towards meaningful feedback and appraisal for teachers. Portugal should consider investing in ongoing capacity development support for teacher evaluation among its school principals

(including deputy and assistant principals). Principals should be paired with the external evaluators provided for in the current evaluation framework to build appraisal capacity throughout the school system, and especially at the school level. Once confident in the majority of evaluators' alignment, Portugal should reintroduce observation-based appraisals tied to teachers' progression past Steps 2, 4 and 6 of the teaching career. The initial goal of these appraisals should be primarily developmental in nature. Thus, the emphasis can be on ensuring the quality of the feedback is high, rather than on assigning a certain proportion of teachers to each of the five rating levels. Schools could also develop an internal component of the evaluation system that had as its products: i) a qualitative assessment of the teacher's practice; and ii) a personalised professional development plan based on the appraisal for each teacher rather than a rating system with incentives and consequences.

Leverage the network of Regional Training Centres to provide more incentives and opportunities to participate in ongoing professional development

The network of 91 Regional Training Centres that provide localised professional development to all schools in Portugal has broad credibility due to the centres' ability to respond to the authentic challenges faced by educators in schools around the country. These centres have histories of designing a sequence of learning events to build teachers' skill and promote collaboration to respond to these challenges. Portugal can leverage the credibility these centres have, as well as the practice-informed problems they address, to promote system-wide priorities. Clear priorities exist for ongoing professional development around: i) teacher-driven, in-class formative assessment; ii) responding to difference among students; iii) building student relationships and classroom management; and iv) the use of ICT in the classroom. Portugal should leverage the Regional Training Centres to build skills in teachers around the country in these areas. To complement the bottom-up, volunteer-reliant existing model of Regional Training Centres, Portugal will need to invest additional resources in the centres to allow them to recruit external expertise, increase the centres' organisational capacity, and potentially to provide teachers release time or remunerate them for their time participating in ongoing professional development.

Reconceptualise educator career development, including re-imagining formal leadership roles as professional pathways

The Portuguese education system already has a strong concept of the formal school leader as a career teacher who must bring instructional expertise to the role. Portugal should build off this conception of principals as instructional leaders to expand expectations that they are the strategic and pedagogic leaders of the school. This requires re-envisioning the roles of school leaders as professionalised ones that mandate candidates acquire additional skills beyond the ones they developed as teachers. School leaders should have formal training in educational strategy, system management and adult learning. These should complement the training required of department heads in school management, teacher evaluation or pedagogical supervision. By linking the development of skill sets across roles, Portugal can create a sequenced, professional pathway for teachers to take on additional leadership responsibility, from classroom teacher to department head, to assistant/deputy principal to cluster principal. Once in the role, school principals continue to benefit from opportunities for growth and development. Portugal should develop more explicit connections between school leaders from various clusters to allow leadership teams to collaborate and learn from each other. Explicit allocation of resources to free up

school leaders' time and strategic decisions about the leadership developmental areas on which to focus are important. Further, as principals develop expertise over the course of their tenure in the role, they should be provided with the opportunity to mentor other principals. Portugal could consider creating formal opportunities for cross-school leadership for successful cluster principals.