EUROPEAN UNION
European Structural and Investment Funds

OPERATIONAL PROGRAMME
SCIENCE AND EDUCATION
FOR SMART GROWTH

Reimbursable Advisory Services Agreement on Public Expenditure Review in Science, Technology and Innovation and Support for Building Evidence-Based Approach for the National Strategic Framework in Education 2030

PILLAR 2: Support for Building an Evidence-Based Approach for the National Strategic Framework in Education 2030

Vocational Education and Lifelong Learning in Bulgaria: Situation Analysis and Policy Direction Recommendations

BG05M2OP001-4.001-0008 "Provision of information and publicity activities of the Operational Programme Science and Education for Smart Growth, evaluations and studies of Operational Programme Science and Education for Smart Growth and preparation for the next programming period" under priority axis 4 "Technical Assistance" of the "Operational Programme Science and Education for Smart Growth"

WORLD BANK GROUP

Bulgaria Vocational Education and Lifelong Learning

Situation Analysis and Policy Direction Recommendations

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Abbreviations and Acronyms

AES	Adult Education Survey
CVET	Continuing Vocational Education and Training
CVTS	Continuous Vocational Training Survey
EC	European Commission
EHEA	European Higher Education Area
EQAVET	European Quality Assurance Reference Framework for VET ()
EQF	European Qualifications Framework
ESIF	European Structural and Investment Funds
ESL	Early School Leavers
EU	European Union
GDP	Gross Domestic Product
GoB	Government of Bulgaria
ICT	Information and Communication Technology
ISCED	International Standard Classification of Education
LLL	Lifelong Learning
MLSP	Ministry of Labour and Social Policy
MES	Ministry of Education and Science
NAVET	National Agency for Vocational Education and Training
NEAA	National Evaluation and Accreditation Agency
NEET	Neither Employed Nor in Education or Training
NESPSSE	National Electronic System for Preschool and School Education
NGO	Nongovernmental Organization
NP	National Program
NQF	National Qualification Framework
NSI	National Statistical Institute
OECD	Organisation for Economic Co-operation and Development
OP	Operational Program
OPSE	Operational Programme Science and Education
OPSESG	Operational Programme Science and Education for Smart Growth
PISA	Programme for International Student Assessment
QA	Quality Assurance
RAS	Reimbursable Advisory Services
SES	Socioeconomic Status
STEM	Science, Technology, Engineering, and Mathematics
STEP	Systematic Tracking of Exchanges in Procurement
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UTF	Training Companies
VET	Vocational Education and Training

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Executive Summary

This report was prepared under the Reimbursable Advisory Services (RAS) Agreement of February 12, 2020 (effective as of June 10, 2020), signed between the International Bank for Reconstruction and Development (The World Bank), the Ministry of Education and Science (MES) of the Republic of Bulgaria, and the Executive Agency 'Operational Programme Science and Education for Smart Growth' (OPSESG) of the Republic of Bulgaria with registration number 'Д01-69/12.02.2020'. The RAS is designed to support two activities: (a) public expenditure review in science, technology, and innovation and (b) building evidence-based approach for the National Strategic Framework in Education 2030. In relation to the second activity, the technical assistance is aimed at supporting the Bulgarian Ministry of Education and Science in the development of evidence-based policies, particularly in the implementation of the forthcoming education strategic framework, and in the design of program options to include in the Operational Programme (OP) for Education under preparation for the European Union (EU) financial period 2021–2027. **This report focuses on vocational education and training (VET) and lifelong learning (LLL) policy areas and offers a situation analysis and recommendations for policy directions.** It reflects the comments received from MES and EAOPSESG as of February 25, 2021.

The report aims to provide the analytical basis for the development of future VET and LLL strategies, priorities, and activities, including the design and implementation of EU-financed support to this area. The report is a snapshot of the status and performance of the system to date and derives lessons learned and recommendations from the assessment of previous programs in support of VET and LLL. As such, it intends to support evidence-based decision-making, as recommended in a recent report by the Organisation for Economic Co-operation and Development (OECD).[1] It also aims to facilitate addressing of feedback from the European Commission (EC) on a recent draft Operational Programme Science and Education (OPSE), related to the need for the OPSE to be based on an analysis of achievements and lessons learned.[2]

The analysis uses a systems approach to assess the policies, strategic foundations, and principal dimensions that link investments to outcomes. The analysis started with a review of written documentation and databases with quantitative and qualitative data from various sources including the MES, the Executive Agency, the National Statistical Institute (NSI), Eurostat, CEDEFOP, OECD, and the World Bank. Data collected through this initial review were complemented with information provided during a series of consultations with staff from the MES and the Executive Agency and additional databases and documentation provided by these institutions.

Vocational education and training

The current status and performance of the VET system was assessed along five dimensions: strategic and policy framework, access and completion, equity in VET, quality and relevance, and financing and governance. Each section includes references to lessons learned from relevant initiatives recently

[1] OECD. 2019. *Vocational Education and Training in Bulgaria: Governance and Funding.* OECD Reviews of Vocational Education and Training. Paris: OECD Publishing.
[2] European Commission. 2020. *Commission Services Observations Based on Draft OP Science and Education*. EC Directorate General for Employment, Social Affairs and Inclusion.

implemented; a summary of the key challenges identified; a review of the policy priorities identified in the current policy-making process that relate to the issues analyzed in the section; and policy directions recommendations, including examples of international good practice for further discussion in the next stages of this technical assistance work.

There is a regularly updated strategic and policy framework for VET. VET fits into broader national strategies and policies on economic development, education, and LLL. Beyond these, current strategic documents specifically focusing on VET are the 'Strategy for the development of VET in the Republic of Bulgaria 2015–-2020', the 'Action Plan for the implementation of the strategy for the development of VET in the Republic of Bulgaria 2019-2021', and the VET Act.

The strategic and policy framework articulates broadly appropriate priorities, but with frequent changes and lack of clarity on results framework and costing. The strategy highlights, appropriately, the importance of dimensions such as demand responsiveness, flexibility, stakeholder participation, and EU harmonization. The strategy then describes ten challenges and four priority impact axes to help achieve this focus. Expected impact is described in rather general terms and has not been translated into measurable indicators. The Action Plan 2019–2021 does include measurable indicators at the activity level, but overall output and outcome indicators are missing. Overall, this makes it difficult to assess progress in achieving the strategy. Additionally, we have no documentation showing that sound cost estimates for implementing the strategy have been developed. The VET Act, like the strategy, captures many of the key concepts of VET. However, the act was changed 27 times since its adoption in 1999, which makes it difficult for all stakeholders to keep up with the changes.

Recent efforts to optimize the secondary VET school network were successful and should continue. In recent years, the number of secondary VET providers steadily declined. Still, the network shows signals of needed optimization again, considering among others that over 41 percent of VET students are enrolled in classes in schools in small or very small towns.

The offer of post-secondary VET is minimal and may be expanded. Bulgaria's 23 vocational colleges, that provide post-secondary VET, comprise just over 5 percent of all VET schools. Especially considering that an increasingly sophisticated and diverse economy will demand higher-level skills, it can be reviewed if post-secondary VET should be expanded.

A crucial challenge for VET is the low student survival rate. Compared to general education, VET performance is much worse and deteriorating, so specific attention to improving retention and completion in VET is crucial. The dropout rate over the entire cycle of VET programs is over 21 percent, much higher than in general education where the dropout rate was 8.5 percent.[3] Completion rates in VET are much lower than in general education (75.5 percent in VET compared to 94.7 percent in general education in 2017). In recent years, both dropout rates and completion rates in VET worsened dramatically, while in general education these rates improved. This means that the survival rate and internal efficiency of VET are substantially worse than in general education and require particular attention.

[3] This includes both dropouts in compulsory school education (ages 14–16) and ESL from non-compulsory education in grades 11–12 (age above 16).

The share of VET students is relatively stable at around half of the student population. The government aims to increase the share of VET students but does not have a clear labor-market based justification for this goal. Since 2005, approximately half of upper secondary education students were enrolled in VET programs. The steady decline in the number of enrolled students (by almost 30 percent between 2005 and 2016) broadly corresponds to the reduction seen in general education and to a large extent reflects demographic trends. The VET Strategy aims to increase VET enrolment; however, this ambition does not seem to be informed by data about the demand in the labor market for secondary VET students compared to those with secondary general or higher education.

The share of VET students taught in general schools is increasing. Close monitoring is needed to ensure that adequate teachers and infrastructure are available. The share of VET students enrolled in VET classes in general schools has steadily increased, from 5.2 percent in 2015/16 to 12.5 percent in 2018/19. The rising shares of students enrolled in VET classes in general and united schools increase the importance of monitoring to ensure that these schools have the appropriate teachers, technical equipment to provide quality vocational education, and access to work-based training.

Students from households with lower socioeconomic status (SES) are strongly disadvantaged in their progression and achievement. School segregation in Bulgaria continues to be an issue. Bulgaria has one of the largest indexes of social segregation in schools[4] among all EU member states.[5] The high concentration of low performers from disadvantageous background could be a sign of serious disparities in access to quality education provided by different schools. Students' SES has a strong influence on student progression and achievement. Apart from social segregation, the education system demonstrates high level of academic segregation, triggered to a large extent by the system-wide ability-based selection after grade 7.

There is a need to collect relevant data and use it to design evidence-based policies to mitigate the disadvantages faced by students from low-status households and other causes of vulnerability. Large inequities between students from households with different SES pose serious challenges to the ability of the education system to provide equal opportunities and quality education to all. Yet, the relationship between (on the one hand) SES and other types of vulnerability and (on the other hand) participation and achievement in VET has not yet been adequately investigated and researched, which makes it difficult to develop and implement adequate policies to reduce inequities.

There is ample scope to improve the collection, analysis, and use of labor market information to improve the relevance of VET. Currently, data to assess the quality and relevance of VET are not systematically collected and analyzed, which prevents evidence-based policy making. Various initiatives to measure and project labor and skill demand have been conducted and are still ongoing but have not yet resulted in a situation where reliable labor market data are effectively used as input to guide decision-making on VET provision.

The process from developing the 'List of Professions' to developing and rolling out updated curricula can be made simpler, faster, and more effective. The List of Professions, consisting of nearly 600 specialties, should be rationalized and updated (based on reliable labor market information). To speed

[4] This index measures school segregation as the correlation between the SES of each student and the average SES of the respective school.
[5] Herrera Sosa et al. 2018.

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up the currently very slow process of developing new curricula, the process needs to be simplified and implementation capacity strengthened.

VET remains mostly school based, and fewer than 10 percent of Bulgarian enterprises are involved in VET. Efforts to increase work-based learning mostly focus on dual VET. Dual VET is considered the 'gold standard' in work-based learning and is an approach that is demanding on all stakeholders and difficult to roll out at scale. Strong efforts are required to incorporate international best practices on the topic and appropriately adapt these to the local context, to increase the likelihood of success.

The ageing of the teacher workforce in VET-specific subjects, combined with a low attractiveness of the teaching profession for young specialists, poses serious challenges for VET schools. Schools in regions with a higher concentration of poverty and in rural areas experience severe problems in attracting new teachers in VET-specific subjects and finding replacements for the ageing VET-specific teaching workforce, especially in technical and engineering subjects. Little is known of the technical expertise of VET teachers. Teachers in VET subjects are exempt from acquiring the qualifying teaching certificate that is required of teachers in general subjects. No data are available on the extent to which VET schools are able to attract highly qualified trainers. CEDEFOP considers the professionalization of teachers/trainers in VET a principal challenge of the VET system.

Compared to other EU countries, public spending in Bulgaria on education, and especially on VET, is low. Since 2001, Bulgaria's expenditures as share of gross domestic product (GDP) have been among the bottom four EU countries. The share of the school education budget allocated to VET has fallen in recent years, and VET spending relative to general education also seems to decrease. Municipal spending plays a growing role in public VET spending. A rising (and fluctuating) share of the VET budget also comes from external funds. From 2011 to 2018, the share of public VET spending from municipalities more than tripled, to 37 percent, reflecting the ongoing transfer of ownership of part of the VET schools from the central to local governments. The share of external financing of VET spending rose from 0.8 percent in 2011 to 12.3 percent in 2018. In this period, there have been strong fluctuations in the share of EU financing in total VET expenditures. EU funding for VET comes from the OP 'Science and Education for Smart Growth' and the regional development-related OP 'Regions in Growth'. In 2014–2020, VET was supported by the OP 'Regions in Growth' for an amount of BGN 162.4 million. (EUR 83 million), under the procedure 'Support for VET Schools in Bulgaria'. Under the OP 'Science and Education for Smart Growth' an amount of BGN 29.1 million was allocated to projects that exclusively targeted VET. In addition, VET schools and students benefited from various other projects under the OPSESG, but no data are available about the amount of these projects that was targeted at technical and vocational education and training (TVET) (see also below).

The Impact of National Program (NP) and OPSESG Investments in VET

A total of ten NPs and six OPSESG investments in the 2014–2020 period were assessed. Some of these were exclusively targeted at VET ('fully targeting VET'), others targeted VET as well as general education ('partially targeting VET'). The programs were assessed on several key dimensions: basic features such as duration and budget, the extent to which they addressed key policy challenges and horizontal policy fields, effective targeting, and indicators and intervention logic. The key findings of the assessment are in the following paragraphs.

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There has been political commitment and funding for VET. Authorities have succeeded in identifying TVET-related priorities sector and, using a mixture of OPs and NPs, have allocated resources and distributed funds across the sector to address these priorities.

NPs allocated more funds explicitly to VET than OPSE programs. Investments that exclusively targeted VET amounted to BGN 29.1 million in the 2014–2020 period. Most of these funds were channelled via NPs (62 percent) rather than OPs (38 percent).

Of the investments that partially targeted VET, it is unknown how much was allocated to VET compared to general education. Investments in interventions that targeted VET as well as general education amounted to BGN 339.0 million, of which the majority originated from NPs. It is unknown which share of these funds benefited VET. None of the NPs and OPs had specific targets for VET in terms of budgetary allocation or indicators.

NPs tend to be continued over a long period and do not achieve their purpose of short innovative pilots to inform future reforms. NPs are expected to introduce innovations and be of short (annual) duration.[6] In practice, however, this aim does not appear to be achieved. Of the ten NP series that were reviewed, five had been under implementation for eight years or more.

The objectives and design of investments are broadly aligned with key policy objectives, especially related to teachers. There is a strong emphasis on investing in teachers.

However, there is a concerning lack of clarity on how interventions will address early school leaving and inequities in VET. Programs that exclusively target VET do not include substantive activities to directly promote retention and equity (they rather assume an indirect impact of their interventions). Direct interventions to address early school leaving and inequity are included in OPs and NPs that partially target VET. However, for those investments, there is no information on the share of financing for VET or specific activities or targets for VET.

There is no information on outcomes or impact. Information on the implementation of OPs and NPs tends to be generic and concerns process and outputs rather than outcomes. Indicators are also process and output oriented and do not measure outcomes, and no internal or external evaluation reports are available for any of the reviewed interventions.

The incorporation of lessons learned from previous investments in the design of new projects appears to be ad hoc rather than systemic. The possibility to build on lessons learned is clearly hampered by the absence of evaluation reports. Where evaluations of relevant programs do exist, the approach to ensuring that good practices and lessons learned are incorporated in the design of new investments seems to be ad hoc.

The extent to which investments target horizontal policy fields is mixed, with quite a lot of focus on teachers and quality and little on science, technology, engineering, and mathematics (STEM), climate adaptation, and on impact monitoring and evaluation. The fields 'teachers and school leadership' and 'education quality' are well represented; most investments target teachers and

[6] *Source:* Consultations with MES and EA representatives and World Bank team on NP 'Modernization of VET', September 18, 2020.

foresee other activities to improve education quality, such as improving equipment and curricula. Inclusive access to education is addressed. There is a relatively strong focus on digitalization, a modest focus on STEM, and hardly any focus on climate adaptation. Unfortunately, none of the investments targets the horizontal field of impact monitoring and evaluation.

Investments are broadly targeted to students, teachers, and schools in the VET system. There tends to be no clear targeting of specific target groups, such as vulnerable students, and no explicit efforts made to address regional disparities. OPs and NPs describe their target groups in broad terms, such as 'primary and secondary school students' or 'teachers'. None of the interventions explicitly targeted particular regions. In some cases, particular subgroups are emphasized (such as 'primary and secondary school students, including those at risk of dropping out'). With some exceptions, it is often not clear from program descriptions and indicators how these subgroups were targeted and if they were effectively reached.

The intervention logic of investments can be substantially improved. Program objectives, activities, and indicators can be better aligned, and the results framework should include relevant outcome indicators. Indicators already tend to provide broad data on beneficiaries but can be better disaggregated to capture VET-specific performance and reach of specific target groups.

Five priority goals of future reforms and interventions in VET. Based on the assessment of the current performance of the VET system, it is proposed that any future strategies, reforms, and investments prioritize five topics that were identified as substantial and persistent challenges of the VET system:

1. Improving retention and completion (reducing early school leaving)
2. Improving equity in access and completion
3. Improving responsiveness to labor demand
4. Strengthening teacher development and management
5. Improving access, quality, and relevance of work-based learning.

Seven recommendations to strengthen the impact of future investments. The assessment of VET interventions financed by NPs and the OPSESG resulted in the following recommendations:

1. Continue investing in VET to address key policy objectives in a well-targeted manner.
2. Strengthen investments to address the key challenge of early school leaving in VET.
3. For all investments that target both VET and general education, explicitly clarify the VET-specific elements.
4. Improve the intervention logic and measure the impact of all investments.
5. Include a stronger targeting of vulnerable students, lagging regions, and priority occupations.
6. Establish sound data-gathering, processing, and reporting mechanisms to enable the planning of VET-specific interventions and the allocation of resources.
7. Use annual NPs to finance short pilots and alternative programmatic approaches for longer-term investments.

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Lifelong learning

LLL in Bulgaria, as in many other countries,[7] has been narrowly interpreted thus far, but adopting a more holistic approach would provide significant benefits to Bulgaria. The analyses conduced for this report revealed that LLL is widely understood (in practice) to refer to adult education and, in particular, as continued VET. Yet, a more holistic approach to LLL appears suitable in times of rapid change and uncertainty that have characterized the 21st century so far, including the current COVID-19 related crisis and the challenges that Bulgaria is facing regarding demographic changes and an increasing demand of higher and better-skilled workforce.

The adoption of a more holistic approach to LLL concerns three main adjustments. First, it would entail the effective incorporation of the crosscutting features of LLL across all levels and settings of education — that is, learner-centered and competence-based teaching. Second, it would require to expand the focus of LLL beyond work-related adult training to emphasize more the importance of on non-job related education and training, including opportunities for informal learning offered by entities such as libraries and sports centers, among others. Third, the integration of these different forms of learning into the education and training system and existing education pathways would require careful assessment and possible reforms to ensure that they facilitate the creation of individual learning pathways for all individuals.

Providers of LLL opportunities include the formal institutions of the education system as well as nonformal providers. In the case of adults, most formal training is provided in VET Centers, of which there are more than 900 in the country VET schools and VET Colleges[8] also offer trainings leading to professional qualifications for adults. Yet, the main institutions offering work-related adult education and training in Bulgaria are employers and mostly the training they offer is nonformal. However, a recent World Bank enterprise survey found that only 20 percent of firms in Bulgaria offer formal training to their employees.[9] Furthermore, according to the Bulgarian NSI data, it is companies with more than 250 employees that offer more learning opportunities to their employees (78 percent of them in 2015[10]); yet, only 0.2 percent of companies in Bulgaria are this big.[11] A number of providers of nonformal learning opportunities that are not directly job-related are present at the community level, and adult education for completing basic education or raising literacy or numeracy skills is run by schools. No registers of these providers were located, which suggests that this is an incipient and marginal sector in the system and data on providers of nonformal and non-work related trainings, such as those under the remit of the Ministry of Culture and the Ministry of Youth and Sport, are collected and available, but appear to be disconnected from the LLL policy-planning sphere beyond their mentions in related strategic documents.

[7] UNESCO-ILL 2020. *Embracing a Culture of Lifelong Learning. Contribution to the Futures of Education Initiative. Report: A Transdisciplinary Experts Consultation.* UNESCO-Institute of Lifelong Learning (ILL): Hamburg.
[8] VET schools also provide education to under 16 year-old
[9] World Bank. 2020. Bulgaria Public Expenditure Review, Draft July.2020]
[10] Bulgarian NSI: https://www.nsi.bg/en/content/4925/enterprises-provided-cvt.
[11] NSI, "Annual Data for Business Demography by size of the enterprise"

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The governance of the LLL sector in Bulgaria is complex and fragmented. The management of the school and formal system is under the remit of the Ministry of Education, which is also responsible for promoting LLL, setting strategic direction for all LLL related activities, and coordinating the development of the State Educational Standards (SES).[12] The SES set out the guidelines to ensure that all education and training provided, including in community or in organizations from the labor market, if their trainings are formal, comply with the quality and contents required for the degrees they grant. Within the MES the Directorate of Vocational Education and Training is responsible for VET schools, including those that offer courses targeted to adults, and the Directorate of Preschool Education and Content manage adult literacy (or 'second chance') programs. d VET Centers, instead, are under the remit of the National Agency for Vocational Education and Training (NAVET), which is under the remit of the Council of Ministers. The NAVET issues VET Centres their licenses to operate and participates in the development of SES by coordinating the sectoral councils, which prepare the first proposal of VET SES and then submit them to the MES for their consideration. VET Centres, VET schools' adults' courses, and adults' literacy courses, in turn, operate in close relationship with the Employment Agency, at the MLSP.

There is a significant low level of public investment in adult training in continuing VET, especially when compared with the rest of EU countries, whereas employers make most of the investments in adults training. Public funds are channelled mostly via active labor market policies coordinated by the Ministry of Labour and Social Policy (MLSP). While continuing VET in the secondary and post-secondary levels is funded by the state, VET centers are mostly private, and training is self-funded by the learners, by their employers, or, in some cases, it is financed by ESIF projects. In most cases, individual trainees pay the costs of trainings in VET centers[13]. The share of employers' investments in adult training is significantly high when compared to the rest of the EU countries. In 2015/16, employers in Bulgaria financed 80 percent of adult trainings. In no other EU country, except for Romania (86 percent), Luxembourg (85 percent), and Malta (82 percent), was the employers' share in investments in this policy area higher than in Bulgaria.

Public investment in LLL-related interventions consists of European funds, mainly European Structural and Investment Funds (ESIF) and national funds. Money allocated for LLL-related interventions increased from BGN 1049.3 million in the 2007–2013 programming period to BGN 1272.3 million in the 2014–2020 period. Yet, European funds have accounted for a significant portion of the funds allocated for LLL-related interventions in Bulgaria for the past 13 years. Moreover, their weight has increased in the current programming period when compared to the previous one, which raises the question of whether it is possible to achieve policy sustainability in this area without EU funds.

[12] The Law on Preschool and School Education of Bulgaria from 2016 indicates that education is carried out according to established State Educational Standards—formerly known as State Educational Requirements. These requirements are formulated in terms of learning outcomes and comprise the study content, the type of school, the grading system, the documentation of education, the textbooks, out-of-class and out-of-school activities, material, cultural and environmental conditions, medical care, and medical and hygiene education rendered in schools and kindergartens. *Sources:* ELANI, Literacy in Bulgaria, 2016; and experts' interviews.

[13] Analysis of the activity of the Centres for Professional Training and Centers for Information and Professional Orientation. NAVET presentation, National Conference 2019 https://www.navet.government.bg/bg/media/Ref_lovech_analiz_CPO.pdf (data from 2018) and European Center for the Development of Vocational Education, Vocational Education and Training in Bulgaria, Short descriptions, 2018 (data fro 2016).

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The fragmentation of the governance of the LLL policy area precludes effective strategic planning, implementation and monitoring of strategic priorities, including data collection. In 2014, in the context of the start of a new financial period of ESIF, Bulgaria, like most EU MS, launched a new National Strategy for Lifelong Learning (NSLL), which followed a previous one that covered the 2008–2013 period. The differences in the focus and priorities adopted in these strategies denote an expansion in the understanding of LLL at the level of strategic planning and offers a better-defined set of indicators to measure progress toward the priorities set. However, the link between the actions and objectives proposed with the indicators and targets selected was not made explicit in either strategy.

Progress toward the targets set in the NSLL 2014–2020 has been modest if not null. The lack of progress in these indicators is more concerning if it is considered that work towards improving in these indicators had started already with the previous NSLL adopted for 2008-2013. Monitoring progress toward the objectives and targets set in the NSLL is a challenging task due to the cross-sectoral and inter-institutional character of the LLL policy area, and this may preclude policy learning and adjustments as it may result in overload of tasks and difficulties to coordinate activities of staff mainly allocated to other related educational and training units across relevant government bodies. Fragmentation may also have precluded a design that clearly established how each proposed action was expected to contribute to the achievement of the set goals and indicators.

Preschool year children learn from their environment and in nonstructured settings but attendance to formal preschool education can be associated with better chances to become lifelong learners. In Bulgaria, data confirm that the longer children attend preschool the better they perform at school. By 2016, almost 80 percent of fourth graders had attended kindergarten for three or more years. This group's performance in reading skills was 75 points higher than those who had not attended.[14] The most critical contribution of preschool attendance toward good performance later at school is its importance in levelling the ground for children whose first language is not Bulgarian. Hence, command of the Bulgarian language is a key competence to pay attention to during preschool education as it affects later performance in school and thus may influence dropouts and the acquisition of a key LLL competence—learning to learn.

The high share of people in Bulgaria who leave education before completing lower secondary is a key obstacle underpinning labor and skills shortages and precluding the adoption of an LLL attitude in the country's population. By 2019, almost 14 percent of those between the ages of 18 and 24 years had left their studies without completing lower secondary education (International Standard Classification of Education [ISCED] 0-2). This means that Bulgaria has at present the fourth highest share of early school leavers (ESL) in the EU. The share of those between the ages of 25 to 34 who have a low educational attainment is also higher in Bulgaria than in the EU. In 2019, in Bulgaria 18 percent in this age group had completed education up to ISCED level 2 or below and in the EU the share was 15 percent. Those who have left education early are more prone to unemployment in Bulgaria and are also less interested in working.

Skills shortages can be linked to low levels of educational attainment but also to the quality of the skills of the labor force, which can be a consequence of poor acquisition of these skills through education. Since 2012, the shares of 15-year-olds achieving poor performance in reading,

[14] PIRLS 2016, p. 57.

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mathematics, and science have been increasing. Reading is the most critical area—from 2012 to 2018, the share of young people without basic knowledge and skills related to reading increased by 6.1 percentage points. While competence-based teaching is a central piece of an approach to education that seeks to equip students to become lifelong learners, a recent World Bank analysis of the introduction of competence-based approaches into education in Bulgaria notes that this has not been fully implemented in recent curricular reforms in the country. Furthermore, teachers' training is one of the pending challenges in Bulgaria to ensure the provision of quality education that is engaging and thus instils a positive attitude toward learning.

Participation in learning activities of individuals who are between the ages of 25 and 64 is quite low in Bulgaria. With a participation rate of only 2 percent in 2019, Bulgaria has the lowest levels of participation of this age group in learning in the region apart from Romania, which has a low participation rate for those of working age but older than 35 years—of those between 35 and 54 years only 0.8 percent participated in 2019. Adults with low education attainment also have low participation rates in education and training, which represent a key challenge in Bulgaria since they represent the 17.4 percent of the working-age population (25–64) and demand of this level of skills is decreasing in the country. Almost 60 percent of those with low educational attainment indicate that cost is a major barrier to their participation in education or training.

Adults' participation in formal education may take place in literacy and numeracy programs (or 'second chance' programs); in VET schools, colleges, and centers; and in higher education institutions. Regarding second chance programs, data collection on the participation of adults in 'second chance' programs is not institutionalized in the Government of Bulgaria (GoB). Technical reports of the OPSESG project for adult literacy 'New Chance to Success'[15] and the national budget reports refer only to participation in this EU-funded project and depending on the source, the figure varies from 7,774 to 8,579 participants. In VET Colleges, in school year 2019-2020 there were 658 students enrolled (all above 19 years old).[16] In the same year, there were 514 adults (defined as 16 years old or above) enroled in trainings leading to a full professional qualification offered in adults courses run by VET schools. Yet, most adults participate in training in VET Centers. In that same year 12,881 were enroled in VET Centres for full professional qualification. In addition, the majority of adults take partial qualifications in VET Centres. In 2016 a total of 77,251 adults aged 25-64 years old were enroled in any form of training in VET centres, including both full and partial qualifications. VET centers have significantly more enrolments because they outnumber VET schools and have a a wider territorial coverage; they offer a broader range of trainings, including for low educational attainment levels of trainees, and many of the trainings they offer are of short duration. In both VET centers and VET schools' adult courses, most of the participant are aged 40 or above, whereas, as noted ealier, the share of low skilled adults below 34 years old in Bulgaria is higher than in the EU on average, whereas among those 35 or above the share of low skilled adults in equal or below EU average.

Most of adult education and training is acquired in nonformal settings. Yet, the low level of participation among the unemployed in nonformal education and training is concerning. In 2016, the

[15] Technical report, 'A New Chance for Success' Project, point 3: Indicators, reported value with accumulation, no date, extracted June 2020.
[16] NSI -- https://cutt.ly/ZcXQwzZ "Students in Programs after secondary education, Data on adults' (defined as 25+) participation in colleges by age have not been provided by the NSI.

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share of employed persons in nonformal education was 31.6 percent, but only 3.5 percent of the unemployed participated. Employers provided most of the nonformal education and training and this is confirmed by the high share of participants in nonformal learning who used these providers. Of the total participants in nonformal learning in Bulgaria, 63.5 percent declared this. In contrast, only 1.7 percent participates in education or training organized by trade unions and 4.2 percent in those organized by employers' organizations. Bulgaria is the country with the highest share of all learners in the EU who participated in nonformal education and training provided by employers.[17]

Available data show that the share of working-age people with low level of education in Bulgaria is below the EU average, but since 2014, this share remained quite stable while in the EU it decreased at a faster and steadier rate. Also, when comparing young adults' populations, the share of those between the ages of 25 and 34 who have a low educational attainment (i.e. that left school just as they completed lower secondary education or before) is higher in Bulgaria than in the EU, at 18 and 15 percent[18], respectively by 2019. It is worth noting that the share of those aged 25–34 who attained only lower secondary education or below in Bulgaria (18 percent) is higher than those aged 18–24, who are 14 percent in 2019[19]. These relatively low levels of educational attainment in Bulgaria among young adults, and especially among those between 25 and 34 years old, call for an increased focus on second chance programs that can give them the opportunity to raise their educational attainment and skills levels.

Specific studies have looked at a selection of adults' skills in Bulgaria. Although educational attainment is significantly but not perfectly correlated with skill levels, research has shown that lower educational attainment of Roma and other ethnic groups leads to important skill gaps with ethnic Bulgarians. Roma and individuals from other ethnic groups (who mostly identify themselves as Turkish) had lower cognitive and socio-emotional skills than non-Roma. In turn, unemployed and inactive individuals have significantly poorer cognitive skills as well as relational skills than those who are working.[20] These findings highlight the importance of providing disadvantaged groups and those out-of-employment opportunities for learning throughout life. The only data that are regularly collected in Bulgaria on adults' basic skills regards digital skills through the Digital Economy and Society Index and the data show that Bulgaria ranked last or near last in most of the indicators.[21]

One of the biggest shortcomings in adult education is the lack of a comprehensive system for teacher and trainers training and assessment. In addition to the challenges in the teaching profession in general, teachers working with adults fall into the same professional category as the rest of the teaching staff and, as it is in the case also for trainers working with adults in VET education (in VET schools as well as in VET centers), not enough attention has been paid to the specifics of adult education and the need for special qualifications for professionals working with vulnerable groups. The low digital skills levels of the Bulgarian population also include teachers. Without adequate

[17] AES 2016/Eurostat: trng_aes_170

[18] Eurostat

[19] Eurostat

[20] World Bank 2016. The sudy was based on data collectd by the Bulgarian Longitudinal Inclusive Society Survey looking at the population ages 18–65 and collected in 2013.

[21] Digital Economy and Society Index 2020, Human Capital chapter.

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training in digital skills targeted to teachers it will be difficult to keep pace with development in the world of work and prepare children and students for their future.

In line with the priorities identified for LLL in the current policy planning processes in the country, the policy directions recommendations in this report are focused on adult education and training. [22] At the same time, the challenge is adopting a broader understanding of LLL than the current one in the country since this would be beneficial for fostering a population inclined and prepared to learn and relearn in rapidly changing contexts as technological changes continue to reshape the world of work as well as everyday lives. The key recommendations are as follows:

1. **To focus on the institutionalization of a coordinated governance structure in this policy area.** This entails building on the experience of the international, national, and regional networks of LLL developed in recent years in the country and scale them up.

2. **To focus on strengthening and further developing a system of career guidance.** This takes on board the preference, in current national policy making, to focus LLL on adult education and on aligning skills with labor market needs but also incorporates the importance of school-age years in fostering LLL.

3. **To promote and support the offer of adults' 'second chance' education opportunities.** This should be aimed at contributing to reduce the high share of ESL and of adults with low educational attainment.

4. **To develop a multipronged action plan for adult education and training.** This recommendation addresses the priority given to adult education and allows to bring together in an articulated form the different challenges identified in these processes and in this section, such as upskilling and reskilling with a focus on those who participate less and expansion of non-work related education and training.

5. **To improve data collection and reporting systems on adult education and training**, adopting a conceptually broad and inter-institutionally coordinated approach. This key recommendation is embedded in the proposed multipronged action plan.

6. **To pay special attention in designing actions for those who participate less**—those above the age of 35, with low education levels and the unemployed.

7. **To increase flexibility of the education and training system** especially by improving the efficiency and functionality of the system for validation and recognition of prior knowledge, which requires close interaction across the VET and general education sector as well as with the Ministry of Labour and economic actors.

[22] National Lifelong Learning Strategies for 2008-2013 and for 2014-2020; National Education Framework for 2021–2030 (adopted by Council of Ministers on 24th February 2021); Draft ESIF Operationa Programme for 2021–2027 as of October 2020; European Commission and Coucil Specific Country Recommendations (every June or July) and Country Reports on the (every January or February) from January 2019 to May 2020; and interviews with relevant policy makers at the Government of Bulgaria.

8. **To increase the support for adult second chance provision,** as in key recommendation 3, especially ensuring its sustainability and institutionalization beyond EU funds support.

9. **To develop a methodology for QA for all adult education.** This should be coordinated and compatible with a QA methodology for VET and for general education and higher education, so it can be used for adult education and training in a broad sense.

10. **To regularly participate in international assessment such as PIAAC.** This will offer the possibility to identify better skills gaps in the population and develop comprehensive and targeted approaches to address the skills shortages reported.

11. **To train teachers and trainers serving in adult education programs.** In particular the trainings should give priority to digital skills acquisition for teachers and digitally based teaching methods. Training teachers at both VET and general education sub-sectors to ensure they use methods that encourage and motivate learners to learn for life is essential to mainstream a holistic lifelong learning approach to education in the country.

12. **To enhance the current system to align education and training with the labor market.** This should look beyond supplying employers with the qualifications and degrees needed and include information on graduates' satisfaction with the use of the skills learned. This could build on actions that can be developed under the priority area noted above for the TVET sub-sector regarding improving responsiveness to labor demand.

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Introduction

This report was prepared under the Reimbursable Advisory Services (RAS) Agreement of June 10, 2020, signed between the International Bank for Reconstruction and Development (The World Bank), the Ministry of Education and Science (MES) of the Republic of Bulgaria, and the Executive Agency 'Operational Programme Science and Education for Smart Growth' (OPSESG) of the Republic of Bulgaria with registration number 'Д01-69/12.02.2020'. The RAS is designed to support two activities: (a) public expenditure review in science, technology, and innovation and (b) building evidence-based approach for the National Strategic Framework in Education 2030. This report is under the second activity and part of the situation analysis of the education system. It focuses on **vocational education and training (VET) and lifelong learning (LLL)**. It reflects the comments provided by MES and EAOPNOIR as of February 25, 2021.

The World Bank Systems Approach's assessment methodology was used to make a structured diagnostic of the education system and assess its orientation and ability to achieve the intended national goals over the cycle of the last education strategy and operation program. It covers the strategy and policy framework for each subsector, articulating both European Union (EU)-wide objectives and Bulgaria's main strategic direction. It examines the principal dimensions that, together, determine the performance of the system in relation to access and completion, equity, quality and relevance, and financing and governance. The analysis concludes with a discussion on past, current, and future EU-financed support to the sector. Figure 1 describes the framework for the assessment. Overall, the diagnostic is based on the following:

1. Review of outcomes based on the results framework of the previous strategy and assessment of what was and was not achieved. This will include gap analysis, relevant comparisons, efficiency and returns on investments, and perceptions.
2. Review of the effect of new policies and public actions during the last decade and the ability to enhance the enabling conditions to improve education system outcomes.
3. Systematic review of programs and investments and implementation strategies during the life cycle of the strategy and the OPSESG 2014–2020. This review will investigate program formulation, identification and utilization of indicators, monitoring and evaluation methods and processes, measuring of program impact on beneficiaries during the life of the process, improvement processes, and assessment of implementation process at the different levels.
4. Identification of factors associated with progress or lack of it, lessons learned, and policy recommendations.

The methodology of investigation and analysis behind this report include (a) relevant policy documents, strategic frameworks, operational program (OP), relevant progress reports, studies and papers; (b) interviews with local experts, focus groups and technical discussions with experts in the Ministry of Education and the EA; (c) program evaluation and impact assessment (goals, processes, and outcomes) documents based on available information; and (d) assessment of relevant political economy dimensions and organizational commitment.

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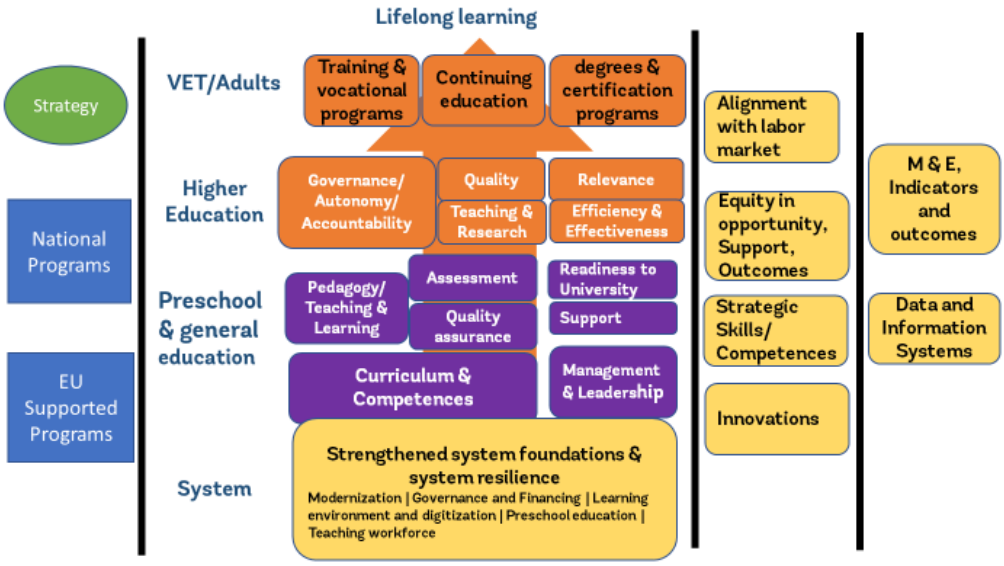
Figure 1. Analytical conceptual framework for the assessment of the education system in Bulgaria



Country context

Bulgaria entered the EU in 2007 and was consequently affected by the region's economic crisis in 2010–2012. However, gross domestic product (GDP) growth has picked up since 2014 and accelerated to 3.7 percent in 2016–2018, due in part to a dynamic export sector which took advantage of improving external conditions and an expanded share in global trade. In 2019, it stood at 3.4 percent. Bulgaria features a young, energetic local private sector that successfully competes internationally in machine building, automotive parts, information technology, and outsourced business activities.

Traditionally an agricultural country, Bulgaria has shifted to a considerably industrialized country. The agricultural sector only accounts for 3.6 percent of GDP and employs 7 percent of the workforce (World Bank 2019). The main crops are sunflowers, tobacco, and wheat. The industry represents 23.8 percent of the GDP, and 30 percent of the workforce is employed in the industrial sector, estimated to contribute to 14 percent of GDP (World Bank 2019). However, the most dynamic sectors are textile, pharmaceutical products, cosmetic products, mobile communication, and the software industry. The tertiary sector has more than doubled its contribution to the country's economy since 1990, accounting for 59.2 percent of the GDP and employing 63 percent of the workforce. Tourism is one of the fastest-growing sectors, with more than 9.3 million tourists visiting the country in 2018, accounting for 11.7 percent of GDP and 11 percent of total employment.

Overall, the Bulgarian economy still struggles with low employment and labor force participation. Challenges are posed by a persistently low employment rate, which is among the lowest in Europe at 52 percent (see Figure 2). While this has steadily increased over time, it has slightly declined since late 2019. The national Europe 2020 employment target is 70 percent for the population ages 20–64. For Bulgaria, low labor force participation means that out-of-the-labor-force working-age people do not contribute to economic growth.

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Figure 2. Employment rate recorded between 2012 and 2020 in Bulgaria

Source. https://tradingeconomics.com/bulgaria/employment-rate, 2020.

Bulgaria has a population of 7 million, with 76 percent living in the urban area, which is expected to decrease by 0.5 million until 2030 and by 1 million until 2050, according to Eurostat, requiring a better balance between policy reforms in education and the economy. Bulgaria's population has been declining significantly in the last two decades, mostly attributable to a low birth rate and emigration, and is ageing rapidly. The dependency ratio in Bulgaria in 2020 is 47.3 percent, and it explains the pressure on the productive population imposed by the dependent part of the population. Less than half of the population must produce for the other half, which is represented by children and elderly people, and must stay in large percent employed. The negative demographic trends associated with weak public social, health, and education services delivered pose one of the main challenges for designing, funding, and implementing future systems. In addition, the living standards for people in danger of marginalization, exclusion, discrimination, and unemployment may deteriorate and they may need more robust support. If current projections hold, the total number of school-age children and youth will decline rapidly, prompting the need for education reforms that address quality, access, equity, and relevance. The declining working and student populations have immediate and long-term implications for Bulgarian's human capital and macroeconomic agenda to promote employment and economic growth.

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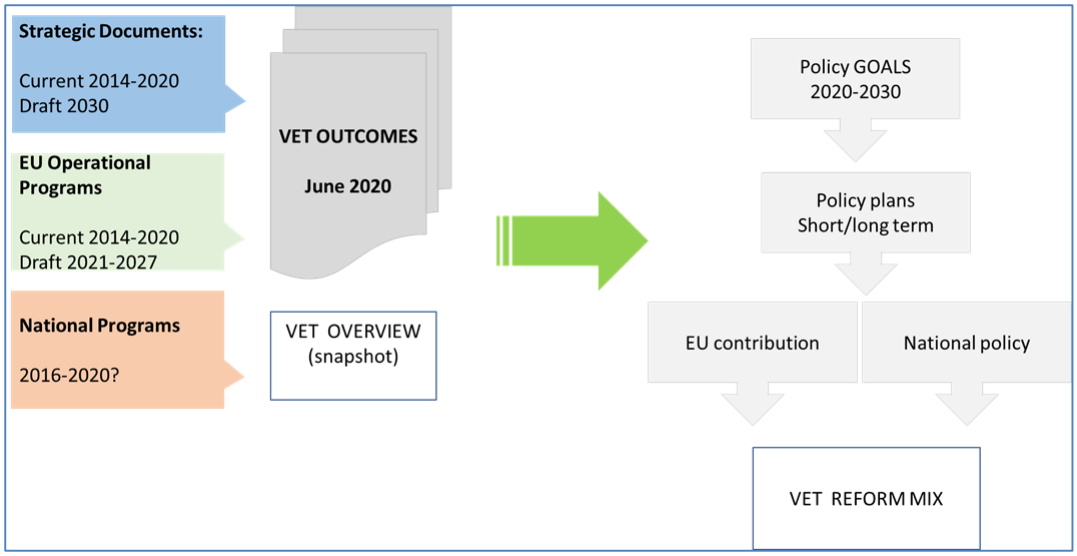
Vocational Education and Training

The aim of this chapter is to provide the analytical basis for the conceptual framework underlying future VET strategies, priorities, and activities, including the design and implementation of EU-financed support to VET (see also Figure 3). The snapshot aims at presenting achievements to date and uncovering lessons learned from previous programs to be utilized for the next phase in the development and modernization of the VET sector. As such, it intends to support evidence-based decision-making, as recommended in a recent report by the Organisation for Economic Co-operation and Development (OECD).[23] It also aims to facilitate addressing feedback from the European Commission (EC) on a recent draft Operational Programme Science and Education (OPSE), related to the need for the OPSE to be based on an analysis of achievements and lessons learned.[24]

Figure 3. VET snapshot within the broader process of designing VET strategies and actions



The analysis uses a systems approach methodology to assess the enabling policies, the strategic foundations, and the principal dimensions that link investments to outcomes. It starts with a description of the strategy and policy framework for VET, discussing both EU-wide objectives and Bulgaria's main strategic and policy framework for VET. The following sections then discuss the principal dimensions that, together, determine the performance of the VET system: access and completion, equity, quality and relevance, and financing and governance. The next section provides a brief overview of EU-financed support to VET in the country. Then, there is a summary of initial findings from the preceding analyses, complemented with topics that would merit further policy analysis, possibly as part of a longer-term research agenda on technical and vocational education and training (TVET). Finally, it summarizes and assesses the performance of investments in the VET sector during the current strategic period of 2014–2020.

[23] OECD. 2019. *Vocational Education and Training in Bulgaria: Governance and Funding.* OECD Reviews of Vocational Education and Training. Paris: OECD Publishing.
[24] European Commission. 2020. *Commission Services Observations Based on Draft OP Science and Education*. EC Directorate General for Employment, Social Affairs and Inclusion.

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Quantitative and qualitative data have been utilized in the analysis. This includes strategy and other documents provided by the MES, quantitative data from various sources (see Box 1), and reports from external sources including, CEDEFOP, OECD, and the World Bank. The chapter provides findings and highlights areas where additional data collection and analysis can be considered and, where data already allow, it offers suggestions for possible policy directions. Throughout the snapshot these are summarized under 'Aspects for further analysis and policy questions'.

Box 1. Quantitative data used and data challenges

The main quantitative findings in this report are based on the following:

1. Data from the MES National Electronic System for Preschool and School Education (NESPSSE). The MES provided specific datasets customized to reflect the analytical needs of a comprehensive VET analysis, which have been partially analyzed and incorporated in this draft.
2. Publicly accessible educational statistics provided by the National Statistical Institute (NSI)
3. World Bank database with detailed information about public expenditures by functions at national and regional levels based on data provided by the Ministry of Finance (BOOST).
4. Various Eurostat datasets, including the joint collection of education data by the UNESCO Institute for Statistics (UIS), OECD and Eurostat (referred to as UOE data), Classification of the Functions of Government (COFOG) statistics for public expenditures, and Labor Force Survey Statistics.

Bulgaria has comprehensive administrative registries in education, providing valuable information and support mechanisms to enable planning and decision-making in education. However, there are several essential data challenges that should be considered in the light of this analysis:

1. Discrepancies exist between the VET-related data provided by the NESPSSE, NSI, and Eurostat. These are due mainly to methodological differences of data collection. The administrative data collected in NESPSSE are uploaded directly by schools and are updated regularly in the course of the school year. At the same time, the NSI educational data are collected annually (October–November) based on census via a statistical questionnaire 'Report on schools' (NSI is the source of Eurostat data as well). Having different data collection methods at different points of time, we used NESPSSE data when possible.
2. Data comparability over time is hampered by various changes in national legislation. Since the 2017/18 school year, there is a break in the time series due to changes in the Pre-school and School Education Act. This compromises comparability with previous school years.
3. The MES started to collect data providing reliable proxies for the socioeconomic status (SES) of students only in 2017, meaning that the analysis of equity-related inputs, processes, outputs, and outcomes over time is not possible.

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The Strategy and Policy Framework for VET

This section provides the strategic context that forms the foundation for the assessment of the various dimensions that is provided in the following sections of this VET analysis. This section first summarizes the EU's strategies and objectives related to VET. It also discusses the current Bulgarian VET Strategy and its associated Action Plan and summarizes the current VET Act.

A. EU strategies and objectives related to VET

EU's current strategies and objectives[25]

The EU considers VET a key element of LLL systems, which equip citizens with knowledge, skills, and competences required in particular occupations and in the labor market. VET responds to the needs of the economy and provides learners with skills important for personal development and active citizenship. VET can also boost enterprise performance, competitiveness, and research and innovation and is a central aspect of successful employment and social policy. The EU's current strategies and objectives related to VET are informed by a range of communiqués, conclusions, recommendations, and decisions (see Box 2). EU institutions, member states, social partners, and VET providers agreed on a set of deliverables for 2015–2020

- **Work-based learning:** To promote work-based learning in all its forms with special attention to apprenticeships, by involving social partners, companies, chambers, and VET providers as well as stimulating innovation and entrepreneurship.
- **Quality assurance**
  - **EQAVET**: Establish a European Quality Assurance Reference Framework for VET (EQAVET).
  - **Evidence-based decision-making:** Establish continuous information and feedback loops in VET systems based on learning outcomes
- **Access:** Enhance access for all through a more flexible and permeable system, guidance services, and the validation of nonformal and informal learning.
- **Key competencies**: Strengthen key competences in VET curricula and provide more effective opportunities to acquire or develop those skills through I-VET and C-VET.
- **Teachers**: Systematic approaches to, and opportunities for, initial and continuous professional development for VET teachers, trainers, and mentors in school- and work-based settings.

[25]See https://ec.europa.eu/education/policies/eu-policy-in-the-field-of-vocational-education-and-training-vet_en

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Box 2. The EU's guiding frameworks for VET

- Riga Conclusions 2015 on a new set of medium-term deliverables in the field of VET for the period 2015–2020 as a result of the review of short-term deliverables defined in the 2010 Bruges Communiqué
- Bruges Communiqué 2010 on enhanced European Cooperation in Vocational Education and Training for the period 2011–2020
- Decision (EU) 2018/646 of the European Parliament and of the Council of 18 April 2018 on a common framework for the provision of better services for skills and qualifications (Europass)
- Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning
- Council Recommendation of 22 May 2018 on Key Competences for Lifelong Learning
- Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET)
- Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Credit System for Vocational Education and Training (ECVET)
- Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning
- Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults
- Council Recommendation of 20 November 2017 on tracking graduates
- Council Recommendation of 15 March 2018 on a European Framework for Quality and Effective Apprenticeships.

Source: Advisory Committee on Vocational Training. 2018. *Opinion on the Future of Vocational Education and Training Post 2020.*

The future of VET from 2020 onward[26]

Beyond 2020, the EU's Advisory Committee on Vocational Training recognizes that changing and increasing skills demands, coupled with economic, demographic, and technological developments pose considerable challenges and provide opportunities for innovative responses from VET systems. The future vision proposed by the Advisory Committee includes aiming for VET systems that

- Promote employability, adaptability, personal development, and active citizenship of individuals;
- Provide accessible, attractive, valued, and innovative quality assured provision for all; and

[26] Advisory Committee on Vocational Training. 2018. *Opinion on the Future of Vocational Education and Training Post 2020.*

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- Are integrated, responsive, diversified, and quality assured and underpinned by governance, funding, and guidance which foster excellence, inclusion, effectiveness, and shared responsibility.

B. National strategies and policies - overview

VET fits into broader national strategies and policies on economic development, education, and LLL. Beyond these, the following key documents specifically focus on VET:

- **Strategy for the development of VET.** The 'Strategy for the development of VET in the Republic of Bulgaria for the period 2015–2020' was adopted in 2014.
- **VET Action Plans.** The VET strategies are accompanied by action plans. The first was for 2015–2017. The currently applicable action plan is the 'Action Plan for the implementation of the strategy for the development of VET in the Republic of Bulgaria for the period 2019–2021'.
- **VET Act.** The VET Act is regularly updated, with the most recent amendments having occurred in 2018.[27]

C. Reflection on the current VET Strategy and Action Plan

The VET Strategy identifies ten challenges and four priority impact axes. The VET Strategy recognizes VET as a key factor for sustainable socioeconomic development in Europe, and that VET systems need to be permanently improved in response to rapid economic and societal changes. The strategy mentions that the development of Bulgaria's VET system should focus on (a) making initial vocational and continuing vocational education and training (CVET) an attractive learning opportunity, (b) providing flexible access to training and acquisition of qualification, (c) improving the active participation of key stakeholders in VET, and (d) coordinating the implementation and management of national and European instruments in the recognition of acquired competences, QA, mobility, and transparency of VET mechanisms and processes. The strategy then describes ten challenges and four priority impact axes to help achieve this focus (see Box 3).

The expected impact is described in rather general terms and has not been translated into measurable indicators. Expected impact is mostly described in terms of process ('monitoring conducted' and results directions ('infrastructure modernized', 'employment increased'), whereas best practice would recommend quantifiable or otherwise measurable indicators categorized in input, output, and outcome measurements. The Action Plan 2019–2021 does include measurable indicators at the activity level, but overall output and outcome indicators are missing. Overall, this approach will make it difficult to assess progress in achieving the strategy. The 'National Strategic Group' under the leadership of the MES is responsible for the monitoring of strategy implementation, including the preparation of implementation and monitoring reports to determine the degree of implementation of the objectives and monitoring the effectiveness[28].

[27] We assume that the VET Act is accompanied by supporting legislation and regulations. Furthermore, the functioning of the VET system is influenced by broader regulations in (among others) the field of education and labor. This section is not meant to be comprehensive and therefore does not list any of these regulations.

[28] Currently the VET strategy monitoring and performance mechanism is rather week. Both (a) monitoring and implementation reports and (b) evaluations of the costing of the VET strategy implementation are not available.

We have no documentation showing that sound cost estimates for implementing the strategy have been developed. If indeed a costing has not been developed, then this will further complicate the feasibility assessment of the strategy.

Aspects for further analysis and policy questions

- Looking forward, the World Bank could possibly review with the MES how to strengthen the development and monitoring of future strategies.

Box 3. Key elements of the VET Strategy 2015–2020

Focus:

1. Making initial vocational and continuing VET an attractive learning opportunity
2. Providing flexible access to training and acquisition of qualification
3. Improving the active participation of key stakeholders in VET
4. Coordinating the implementation and management of national and European instruments in the field of recognition of acquired competences, QA, mobility, and transparency of VET mechanisms and processes.

Challenges facing VET:

1. Optimizing the school network
2. Boosting the attractiveness of VET
3. Reducing the share of early school leavers (ESL) and of youth with low level of education and qualification
4. Attracting students into vocational training for acquiring first and second level of professional qualification and attracting students with excellent school performance into training in hi-tech professions
5. Establishing a system for updating vocational teachers' and trainers' qualifications in their higher education specialty
6. Attracting young vocational teachers and trainers to join the VET system
7. Expanding the participation and responsibilities of line ministries in the implementation of the state policy for VET
8. Expanding the involvement and responsibilities of social partners in VET
9. Participating in the European education and training space with transparent qualification systems allowing the transfer and accumulation of learning outcomes, recognition of qualifications and competences, and expansion of transnational mobility
10. Providing easily accessible and high-quality career guidance services to students and adults

Priority impact axis

Priority axis 1. Ensuring the quality and efficiency of VET

1.1. Organizing work-based VET (dual education) as partnership between a vocational secondary school and an employer

1.2 Expanding the application of the modular organization of vocational training

1.3 Fine-tuning the VET quality management system

1.4 Creating prerequisites for material security of vocational training

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1.5 Developing a system for updating and supplementing vocational teachers' and trainers' qualifications in their higher education specialty and career development support
1.6 Training mentors to carry out practical training in a real working environment

Priority axis 2. Improving the opportunities for access to VET
2.1. Introducing 'protected' professions
2.2. Developing a package for specific support to VET and ensuring flexibility of vocational education and training in schools
2.3. Providing vocational training for students and persons over 16 years of age with special educational needs
2.4. Providing easily accessible and high-quality career guidance services for students and adults

Priority axis 3. Vocational education and training in the context of lifelong learning
3.1. Establishing a system for validation of knowledge, skills, and competences, acquired through nonformal and informal learning
3.2. Introducing a credit system in vocational education and training
3.3. Enhancing adults' enrolment in trainings for acquisition of professional qualification and its continuous updating and for acquiring key competences to supplement their professional knowledge and skills, in accordance with the adopted National Strategy for Lifelong Learning (NSLL) for 2014–2020

Priority axis 4. Strengthening the involvement and responsibilities of all stakeholders to secure the availability of staff with the necessary economic qualifications
4.1. Boosting social partners' involvement in the VET system

D. VET Act

Key concepts are included in the VET Act but with frequent changes. CEDEFOP observes that while many of the key concepts for VET are captured in the VET Act (such as QA, work-based learning, demand-responsiveness of VET, the validation of nonformal and informal learning), the extent to which they are implemented in reality varies. The VET Act has been changed 27 times since its adoption in 1999. While the apparent willingness to reform is laudable, it is unclear whether stakeholders involved in implementation have been able to keep up with the changes.

The most recent substantive amendments, in 2016, focused on improving flexibility and mobility and increasing practical learning. Recent amendments to the Pre-school and School Education Act, also known as the education reform, have triggered changes in the VET Act, also known as VET reform. The main objective was to make education pathways more flexible, allowing for better permeability and integration between general education and VET. The amendments also changed the ratio between theoretical and practical training in favor of the latter, including practice in a real working environment. (*Source:* CEDEFOP).

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Aspects for further analysis and policy questions

- There appears to be a disconnect between the content of legislation and the reality on the ground. It would be useful to review the bottlenecks that prevent legislation from being implemented, so that actions can be designed and carried out to reduce the discrepancy between 'paper' and 'practice'.

VET Access and Completion

This section reviews access to VET and the progression (or lack thereof) of students through the system. It looks at the number of VET schools and VET students to provide a sense of the size of the system. It also assesses how many students who initially enroll exit the system with appropriate certifications. This latter assessment is done not only to understand how well the VET system serves its students but also to assess internal efficiency (for example, relative to cost) of the VET system.

VET Providers

VET is provided by vocational, arts, sports, and religious schools as well as by vocational classes in general schools. Most vocational schools are state owned, while general schools are predominantly municipal.

Optimization of the school network—following the introduction of the formula-based funding model in 2007/08 and reflecting the demographic trends—gradually resulted in larger schools, with more opportunities to pool educational resources and to enlarge class size. Still, optimization is needed. In recent years, the number of VET providers has steadily declined. In the past eight years their number until 2019/2020 school year the total number of VET providers declined by circa 14 percent (to 427), compared to 2012, when VET providers totalled 494. , which implies that Still, the school network seems to show signals of needed optimization again, having the small number of students per classes in many smaller locations. The parallel existence of secondary schools, profiled gymnasiums and VET gymnasiums contributes to significant competition among the schools to attract pupils and blurs their specificities.

Aspects for further analysis and policy questions

- Given demographic trends, what is required for further optimization of the network of VET providers (including possible consolidation, clustering, and/or networking), and what strategy should be applied to achieve this?
- Geographical distribution: Is the location of the VET providers appropriate, considering the location of students (including minority groups) and the location of firms?[29]

The offer of post-secondary VET is minimal. The majority of Bulgaria's VET providers are vocational gymnasiums (358). The 23 vocational colleges that provide post-secondary education comprise just

[29] *Note:* For VET schools it is not only important that the location is appropriate given the location of (potential) students, but also that they are located near enterprises, to facilitate work-based learning and other forms of interactions between the schools and employers.

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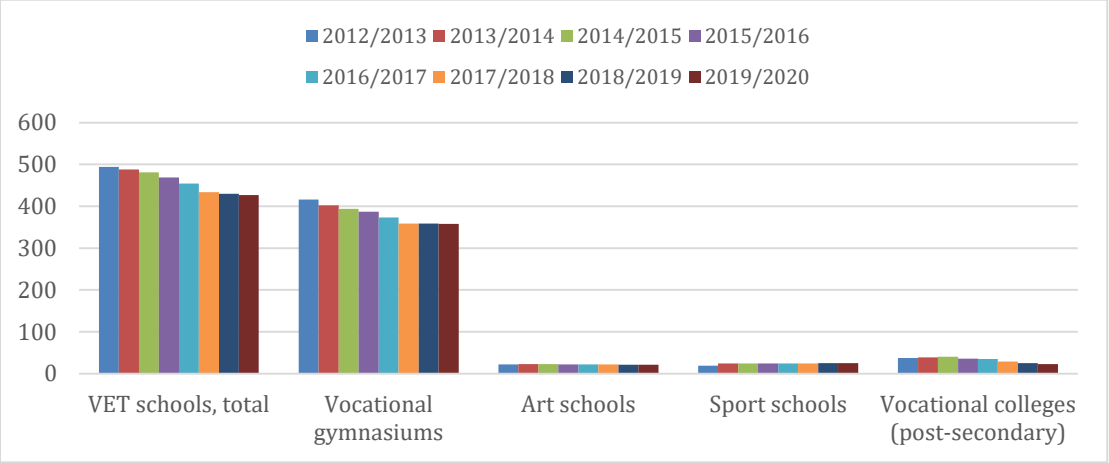
over 5 percent of all VET schools. For comparison, in 2012/13, vocational colleges made up a slightly larger share of the total, of just over 7 percent.

Of all vocational education students, 41.3 percent are enrolled in VET classes in schools in small or very small towns,[30] while another 4.4 percent attend rural schools. The local economy in those small settlements is dominated by micro and small businesses, and employers' involvement with the provision of practical training and participation in dual training is a serious challenge. Considerable efforts are needed to ensure access of VET students from small settlements to practical training through quality job placements.

Aspects for further analysis and policy questions

- How did the optimization come about? To what extent was it part of a deliberate strategy and to what extent did it result from changes in financing?
- Is the further optimization of the VET schools network and the development of possible 'clusters' of VET schools a feasible way to deliver quality VET teaching and learning in areas with predominantly small settlements, experiencing serious demographic challenges, shortages of teachers on VET-specific subjects, and limited opportunities for collaboration with local employers?
- What is the place of post-secondary VET within the educational landscape? Does the high supply of tertiary education diminish the role of post-secondary-non-tertiary vocational colleges? Given the current small number of vocational colleges and the presumed increasing demand for sophisticated skills in the labor market, should post-secondary education be expanded?

Figure 4. Number of VET schools, by type (2012/13–2019/20)



Source: NSI.

[30] Small towns have between 10,000 and 50,000 inhabitants. Very small towns have less than 10,000 inhabitants.

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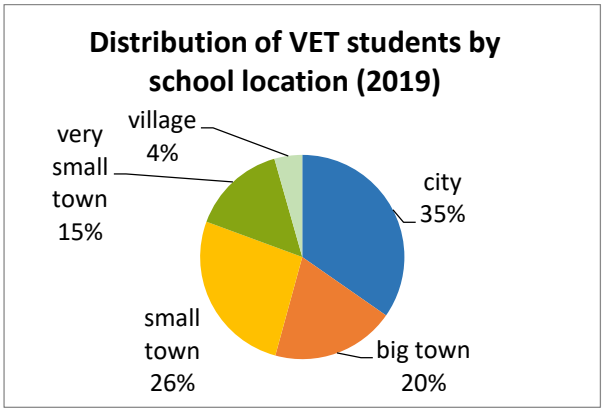
Figure 5. Distribution of VET students by location of the school (2019/20)[31]

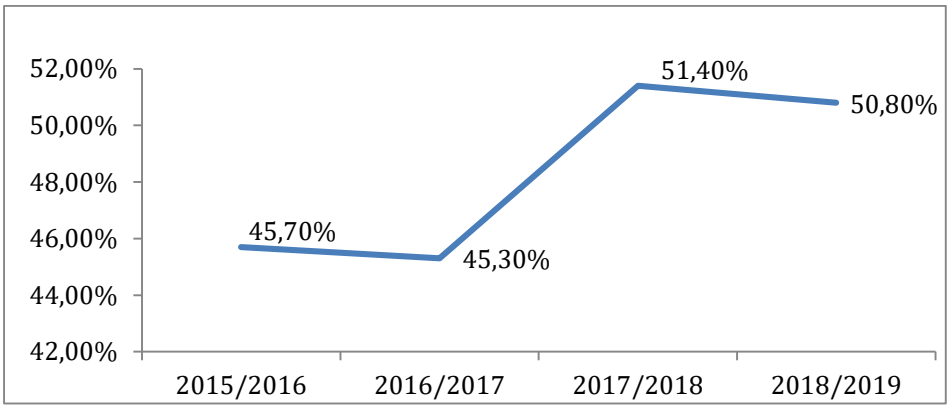


Source: Own calculations based on data from MES and NSI.

A. VET students: Enrolment

Since 2005, approximately half of upper secondary[32] education students were enrolled in VET programs. In most years since 2005/06, more than half of the students in upper secondary education were enrolled in VET programs. After 2015/2016 school year, this share fluctuated between 40.3 percent and 51.4 percent (Figures 6 and 7).

Figure 6. Gross enrolment in VET (share of upper secondary education, 2015/16 – 2018/19)



Source: Own calculations based on MES data.

[31] The cities and towns are grouped according to the following classification: cities - above 100,000 inhabitants; big town - between 50,000 and 100,000 inhabitants; small town - between 10,000 and 50,000 inhabitants; very small town- less than 10,000 inhabitants.

[32] These data are for grades 8–12. Until 2017, enrolment in upper secondary VET started in grade 9 and enrolment in upper secondary profiled classes (in profiled schools) was in grade 8. This was changed by law in 2016 and in practice in 2017, when enrolment in both VET and profiled classes started in grade 8. This suggests an interruption of the time series (for most data) due to introduction of this new structure. However, data used in this snapshot account for this peculiarity, with proper adjustments done in the respective datasets.

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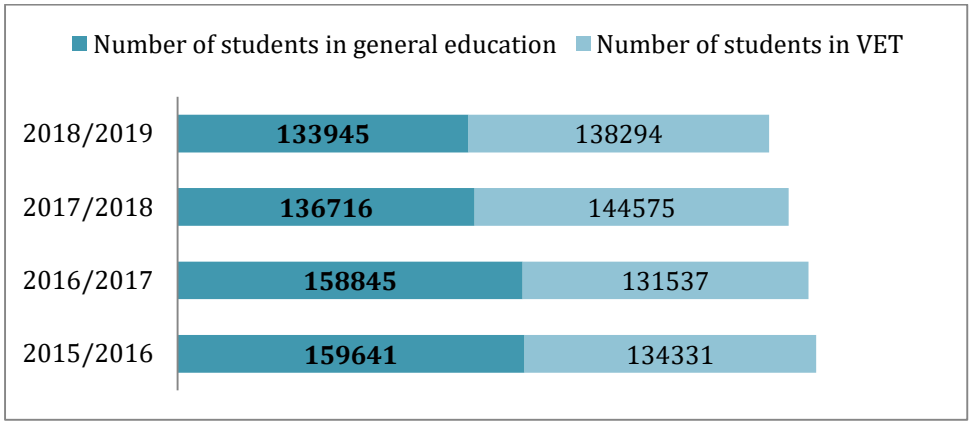
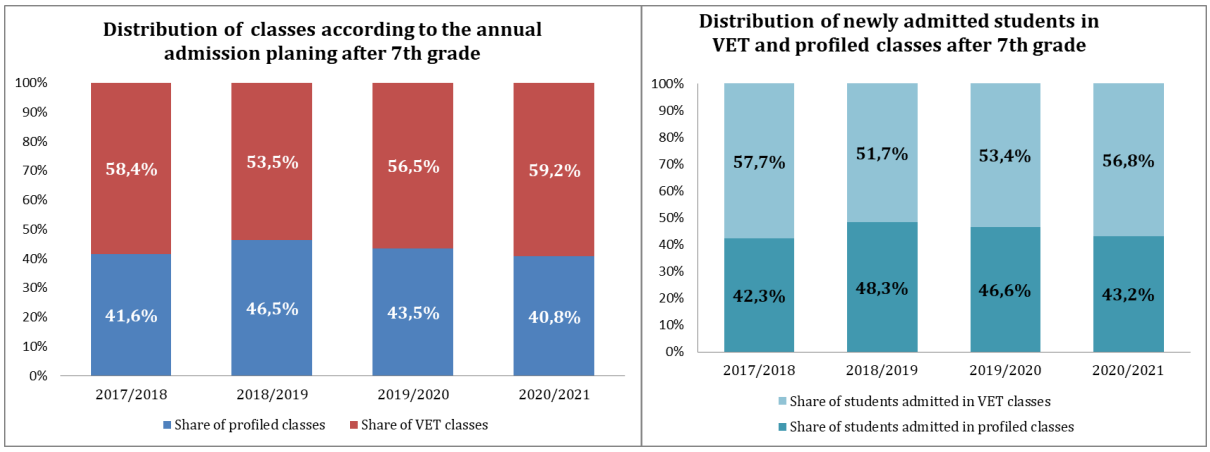
Figure 7. Enrolment in upper secondary general education and VET



Source: Own calculations based on MES data.

While targeted increase in the share of VET classes was introduced, it still needs to be accompanied by well-designed measures to ensure the quality of vocational training, including by providing the necessary technical infrastructure and sufficient special subjects teachers locally. In accordance with the goal of meeting the future employers' demand for labor force with technical vocational qualification, a special mechanism for increasing the share of vocational classes in expense of decreasing the share of profiled classes has been applied in the admission planning after 7th grade in the last 3 years. It involves setting by the Ministry of Education and Science of target values of the ratio of VET to profiled classes for each individual district in the country. Thus, the share of VET classes in 8th grade increased from 53.5% in the 2018/2019 school year to 59.2% in the 2020/2021 school year. Respectively, the share of newly admitted students in VET classes increased from 51.7% in 2018/2019 school year to 56.8% in the 2020/2021 school year.



***Source:* Own calculations based on MES data.**

Between 2005/06 and 2017/18, the number of students enrolled in VET steadily declined, by a total of 29.4 percent, which broadly corresponds to the reduction seen in general education. To a large

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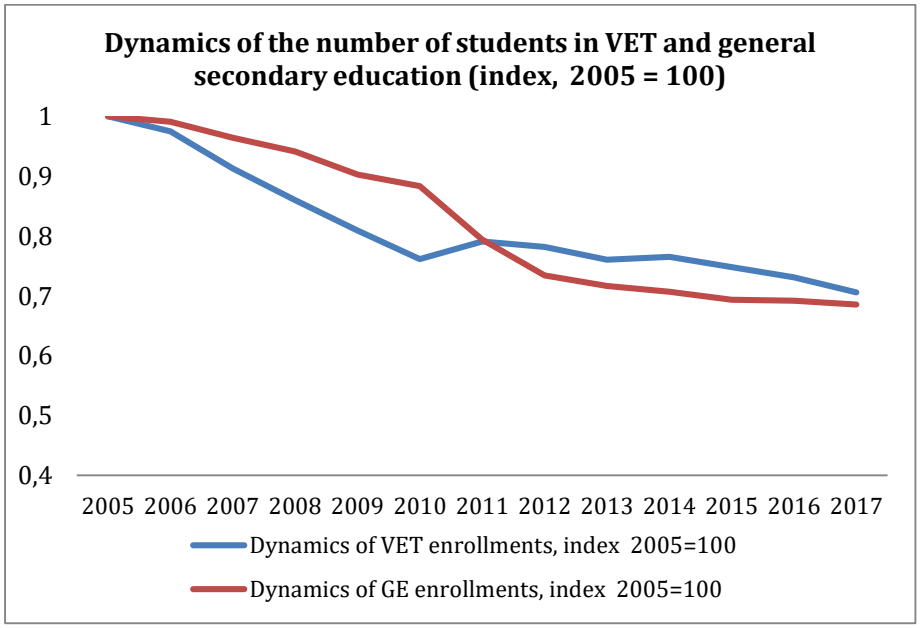
extent, this trend reflects the existing demographic challenges and shrinking school-age population (Figure 8).

Aspects for further analysis and policy questions

- Is the share of VET students in secondary education considered to be appropriate or would it preferably be lower/higher? Which factors are considered when determining what is an appropriate share of VET compared to general education?
- How do demographic trends affect the VET enrolment dynamics in the local context? Are the regional dynamics of school-age population and VET enrolments calling for restructuring of the VET school network and merging and clustering of VET providers (in neighboring regions)?

Figure 8. Enrolment in general education and VET (number of students, 2015/16–2018/19)



Source: Own calculations based on MES data.

Most students enroll in VET at the end of lower secondary education (after grade 7), but it is possible to enter a vocational pathway after the first stage of upper secondary education (after grade 10). VET programs last from two to five years and have a general part (covering the main programs in general secondary education) and a vocational part. VET graduates receive a VET qualification certificate in addition to the general education diploma.

The share of VET students who is taught in general schools is increasing. Close monitoring is needed to ensure that adequate teachers and infrastructure are available. Regulatory changes in 2015 and 2016 resulted in the opportunity of all general education schools to offer vocational programs. The share of VET students enrolled in VET classes in general schools has steadily increased, from 5.2 percent in 2015/16 to 12.5 percent in 2018/19 (Figure 9). Currently, general and united schools provide VET classes mostly in VET areas not requiring special equipment and where they could use available teachers (Figure 10 and Figure 11). However, the rising shares of students enrolled in industry-specific VET classes in general and united schools (along with offering of dual classes) increases the importance of monitoring to

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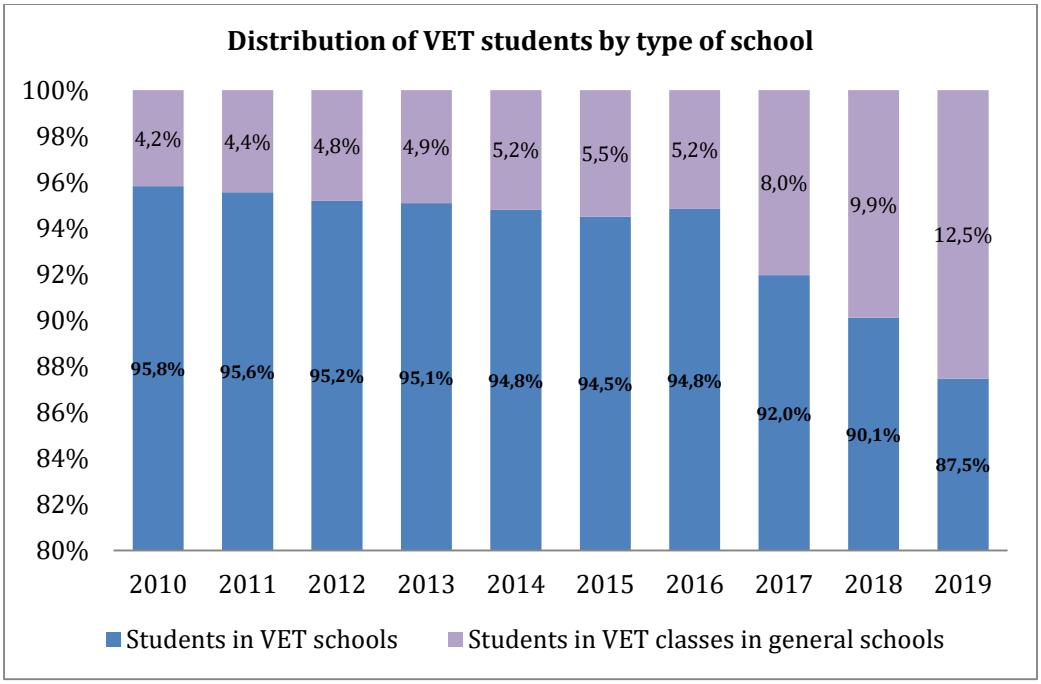
ensure that these schools have the appropriate teachers, technical equipment to provide quality vocational education, and access to work-based training.

Figure 9. Distribution of secondary VET students by school type (2009/10–2018/19)



Source: Authors' calculations based on MES data.

The large majority of VET students is enrolled in programs at European Qualifications Framework (EQF) level 4. The share of students in post-secondary VET (EQF 5) is minimal. In 2018/19, 78 percent of students were enrolled in qualification level 3, which corresponds to level 4 of the EQF. In the past years, there has been a steady increase in the share of students at the EQF 4 level; in 2015/16, the share of students at this level was 4 percentage points lower, at 74 percent. In turn, the share of students at EQF level 3 fell by 3 percentage points in the same period, from 22 percent to 19 percent. The share of students at EQF level 2 and EQF level 5 has been consistently low. Throughout the period, the share of post-secondary (EQF 5) VET students has always been less than 1 percent (Figure 10. Distribution of students by vocational qualification level (2010–2019)Figure 10).

Aspects for further analysis and policy questions

- Is the high and growing share of EQF 4 students considered appropriate?
- Are the small student numbers for EQF 1 and EQF 5 the result of a lack of student demand or a lack of school capacity? Are the small numbers of EQF 1 and EQF 5 students appropriate?
- Can the share of students per EQF level be compared to targets in the national strategy?
- How is it ensured that general education schools providing VET have adequate teachers and other resources to guarantee quality education?

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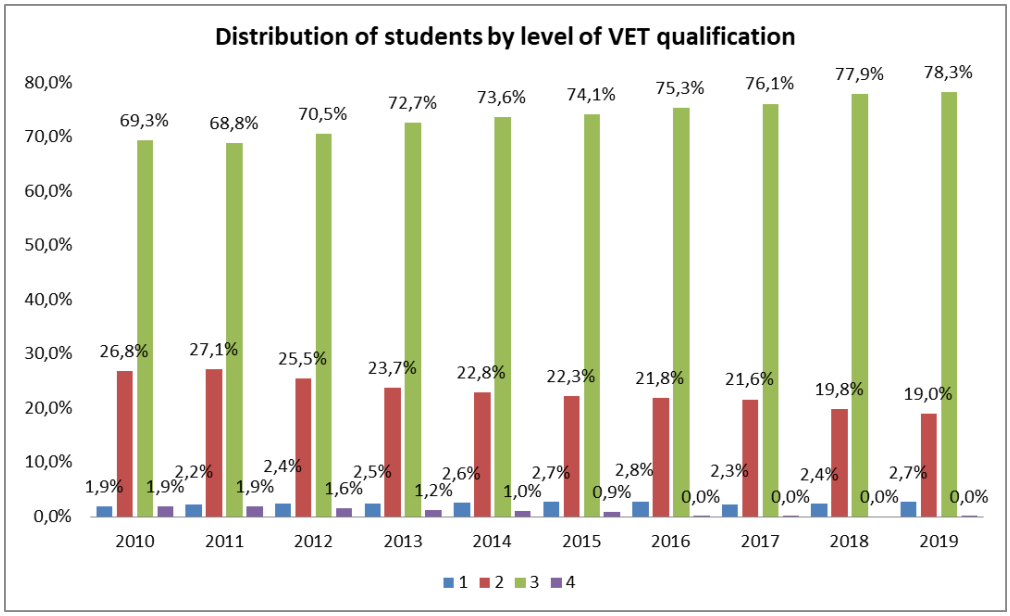
Figure 10. Distribution of students by vocational qualification level (2010–2019)



Source: Own calculations based on MES data.

B. VET students: Dropouts and completion

A crucial challenge for VET is the low student survival rate. Dropout rates in VET are more than double the rate seen in general education, and completion rates are much lower than in general education. This means that the survival rate and internal efficiency of VET are substantially worse than in general education. Since 2010, around 9 percent of students who were enrolled in VET in a given year did not enroll in the next year.[33] In 2018, around 63 percent of all dropouts were from schools located in small towns or villages (Figure 12).

The dropout rate over the entire cycle of VET programs is over 21 percent, much higher than in general education where the dropout rate was 8.5 percent.[34] This means that one out of five students enrolled in the beginning of VET/general education secondary courses did not remain in school until the end of the program. Of those VET students who make it to grade 12, only three out of four (75.5 percent) complete secondary education (2017). In general education, the completion rate is almost 20 percentage points higher, at 94.7 percent (2017) (Figure 11 and Figure 13).

In recent years, both dropout rates and completion rates in VET worsened dramatically, while in general education these rates improved. Dropout rates of VET students increased by 74 percent between 2012 and 2017. During the same period, dropout rates in general education fell by 28 percent. The result is a stark difference in the dropout rates between general education and VET, while in 2012 this difference was still less than 2 percentage points. Completion rates of the secondary

[33] According to MES data. Technically those students are not considered immediately dropouts by the national statistics because they could continue their education during the next school year and those who were under 16 years of age are obliged to continue their education.

[34] This includes both dropouts in compulsory school education (ages 14–16) and ESL from non-compulsory education in grades 11–12 (age above 16).

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education in VET also deteriorated substantially in this period, from 82.8 percent in 2012 to 75.5 percent in 2017. At the same time, the completion rate in education increased from 93.0 percent to 94.7 percent. As a result of these developments, the gap in completion rates between VET and general education doubled from (an already high) 10.2 percentage points to 20.2 percentage points (Figure 10 and Figure 11).

Results from both national external evaluation exams and Programme for International Student Assessment (PISA) indicate a higher concentration of students with lower scores in VET than in general education. At the same time, VET students are expected to study more extensive curricula, as VET education in Bulgaria encompasses both general education and VET curricula. The combination of challenging curricula and low achievement ultimately could lead to discouragement and disengagement of students and to increase in the risk of dropout.

Aspects for further analysis and policy questions

- What causes the differences in dropout and completion rates between VET and general education?[35] What is the concentration of VET students with low SES proxied by parental educational attainment? Does it affect the dropout rates considering the fact that the transgenerational transmission of educational attainment is one of the strongest determinants of early school leaving in Bulgaria, especially among minority groups.[36]
- What is the reason that the retention and completion in general education improved but that VET performance has become so much worse?
- Is there information on where former students go after they dropped out?
- What was the role of the VET Strategy and Action Plan in the observed patterns? What worked and what did not?

[35] CEDEFOP considers early leaving a priority for Bulgaria's VET system. It notes that the high dropout rate is due to "socioeconomic factors, educational difficulties and, increasingly, to emigration (which accounts for more than half of drop-outs)." (European Commission. 2017b. *Education and Training Monitor 2017: Bulgaria*. https://ec.europa.eu/education/sites/education/files/monitor2017-bg_en.pdf)
[36] European Commission 2017.

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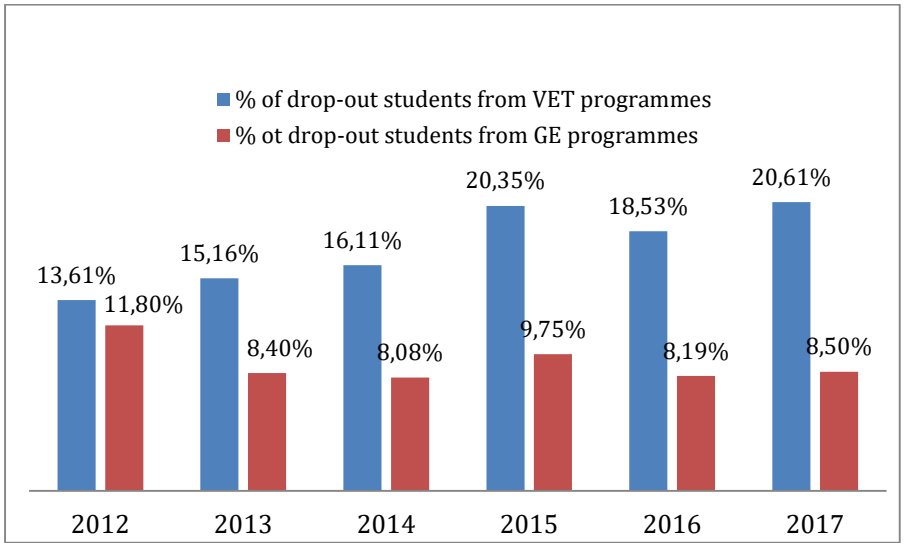
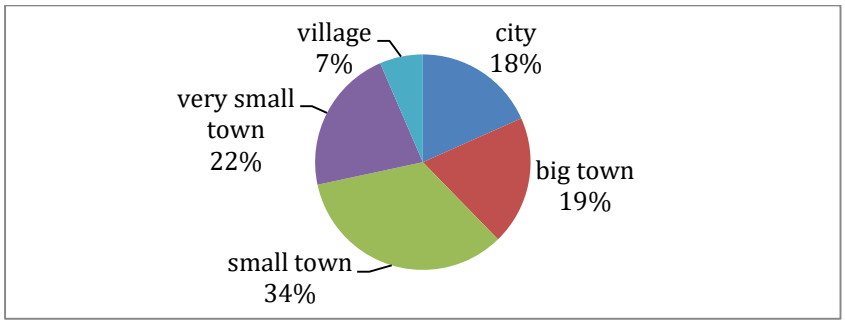
Figure 11. Dropout rates in secondary VET and general education (2012–2017)



Source: Own calculations based on MES data.

Note: Dropout rates are calculated as a proportion of pupils from a cohort that started VET/general education program and are no longer enrolled by the end of VET/general education program in a given school year. This rate also provides indication of the survival rate of the respective cohorts.

Figure 12. Distribution of VET dropouts by location of the school (2018/*19*)[37]



Source: Own calculations based on MES and NSI data.

[37] The cities and towns are grouped according to the following classification: cities - above 100,000 inhabitants; big town - between 50,000 and 100,000 inhabitants; small town - between 10,000 and 50,000 inhabitants; very small town - less than 10,000 inhabitants.

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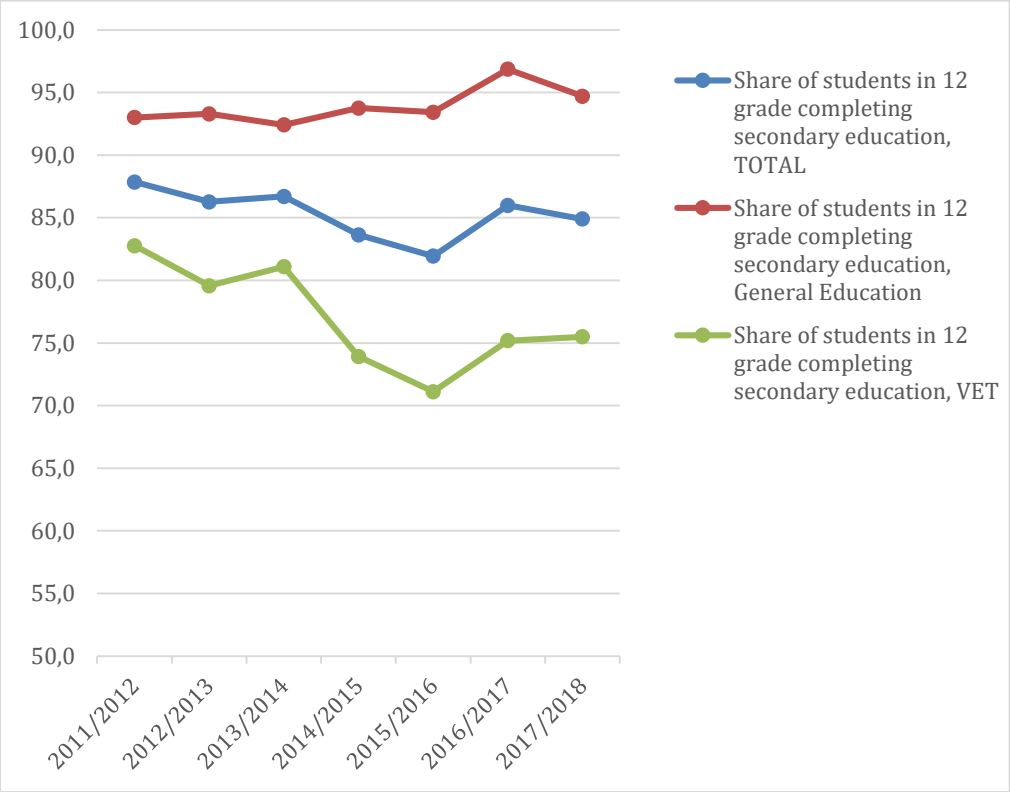
Figure 13. Completion rates in grade 12 (total, VET, and general education, 2011/12–2017/18)



Source: Own calculations based on NSI and MES data.

Equity in VET

This section reviews differences in the performance of the VET system across gender and the different vulnerable and disadvantaged population groups. This should allow the targeting and design of policies to make sure that the TVET system serves all population groups as intended. Generally, the groups that are considered are women, individuals from households with low SES, the poor, the rural population, (ethnic) minorities, and individuals with special needs.

A. VET access by population groups (gender and SES)

1. Access by gender:

Females are less likely to enroll in VET and their share has gone down in recent years. In 2018/19, 37.2 percent of VET students were female, down from 40.0 percent in 2014/15 (Figure 14). CEDEFOP notes there are also gender differences in the choice of program, noting that "[males] prefer programmes related to computer systems and coding (the most popular options), transport, agriculture, economy, construction" and that "[f]emales enroll more often in economics and

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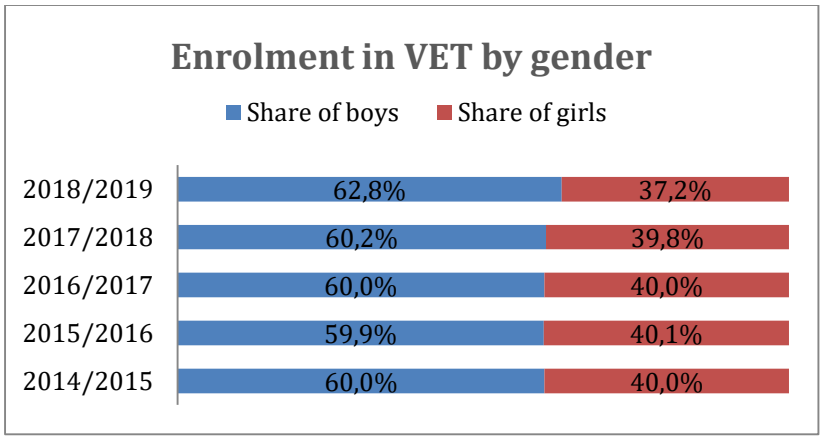
administration programmes (the most popular options), services (tourism, hotels and restaurants) as well as design and clothing."

Aspects for further analysis and policy questions

- Compare gender shares in VET with those in general education to see if males are underrepresented in general education (which could be an issue that needs addressing).
- Why do males select VET more often, and would it be appropriate to entice females to enroll?
- Gender differences in program choices: What are the causes and are these choices likely to have an impact on employment and earning outcomes?

Figure 14. VET enrolment by gender (%, 2014/15–2018/19)



Source: Own calculations based on MES data.

2. Access by SES

School segregation in Bulgaria continues to be an issue. The high concentration of low performers from disadvantageous background could be a sign of serious disparities in access to quality education provided by different schools. The school system has a high propensity to sort students by ability[38] and socioeconomic statuses,[39] thus creating 'clusters' of students based on their characteristics.[40] Bulgaria has one of the largest indexes of social segregation in schools[41] among all EU member states.[42] Concentration of children from poor families (and from ethnic minorities) in some neighborhoods and some municipalities is high. The poverty rate among children (0–17 years) is higher than 50 percent in 83 out of 265 municipalities.[43] Poverty seems to be strongly related to the residential concentration of Roma. Thus, children from poor families end up going to school with children who are also from poor families. Some 60 percent of Roma children attend classes where de facto all or most other

[38] OECD 2019.
[39] Herrera Sosa et al. 2018.
[40] OECD 2019.
[41] This index measures school segregation as the correlation between the SES of each student and the average SES of the respective school.
[42] Herrera Sosa et al. 2018.
[43] National Statistics Institute and World Bank Group Poverty Mapping, 2018.

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students are Roma.[44] Moreover, disadvantaged students are more often concentrated in schools with a small proportion of high achievers. The probability of disadvantaged students and high-achieving students to be enrolled in the same school is less than one in eight. [45]

Students' SES has a strong influence on student progression and achievement, according to both PISA data and national education and labor market statistics. Apart from social segregation, the education system demonstrates high level of academic segregation,[46] triggered to a large extent by the systemwide ability-based selection after grade 7, sorting students conditional to their external evaluation results. Sorting children this way contributes to segmentation of schools, with the most demanded schools being more likely to attract the most promising students (often from families with high SES who are able to invest extensively in private tutoring). There are also significant differences in the school value added depending on (a) Bulgarian language proficiency (with considerably lower school contribution to the achievement of Romani and Turkish-speaking students), (b) parental educational attainment, and (c) parental labor status.[47]

While some data are available, the relationship between SES and participation and achievement in VET has not yet been adequately investigated and researched. The MES started to collect family background data providing some proxy of SES in 2017, when a special funding stream for additional support to schools with concentration of vulnerable students was introduced. The vulnerability status is proxied by the low educational attainment of parents.[48] Based on these data, we estimate that 24 percent of all VET students with available family background data[49] in 2018/19 have low SES. 2018 PISA data also imply a large concentration of students with lower economic, social, and cultural status in secondary VET schools, as compared to profiled secondary schools. And SES appears to be a strong predictor of PISA results at the end of first year in upper secondary education (grade 9), with economic, social, and cultural status differences (student + school) accounting for a large part of the gap in student achievement.

Aspects for further analysis and policy questions

- While existing analyses (including by the World Bank) provide some data on VET and SES, a focused assessment on equity could usefully investigate both the differences between general education and VET and the relative performance of low SES students in VET. An analysis could address questions such as: do VET schools concentrate more students with low SES than the general secondary education and, if so, what are the mechanisms behind this? Could SES of VET students be used as an explanatory variable for significantly higher dropout and lower

[44] FRA, EU-MIDIS II 2016.
[45] OECD 2019.
[46] OECD 2019.
[47] World Bank 2019.
[48] This data are collected on a voluntary basis (parents declare their status by filling a special form), meaning that the coverage is not full. But as schools receive additional funding based on vulnerability concentration, they are incentivized to properly collect as much data as possible.
[49] Parents report these data voluntarily, so coverage is not complete. This is part of an initiative introduced when special funding for additional support to schools with concentration of vulnerable students was introduced. The vulnerability status is proxied by the low educational attainment of parents.

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survival rates in VET as compared to general education? What are the effects of early tracking and career guidance on the choice between general education and VET and between schools?

- It would be useful to compare (a) SES-related VET participation rates for different segments of the VET system (by professional areas) and between regions and (b) SES-related subject completion rates for different segments of the VET system (by professional areas) and between regions.
- Based on the findings of the above analyses, key focus areas to improve equity in access and international best practices can be identified.
- Beyond gender, SES, and Roma, are there other potentially disadvantaged or vulnerable groups? If so, what data on access to VET are (or should be) available to help design effective support interventions and incorporate these issues in the strategic direction and plans for the VET sector?

3. Access by other types of vulnerability

It is unclear if and how the VET system caters to vulnerable children and youth who are unlikely to finish a full cycle of VET education. There are likely to be vulnerable groups who are unwilling or unable to complete the full cycle of (VET) education. It is unclear to what extent the VET system caters to these groups, for example, by offering adapted and shorter courses aiming to provide individuals with at least the minimum required preparedness for the labor market.

Aspects for further analysis and policy questions

- Is alternative (short-term) education and training for certain vulnerable groups considered part of VET? If so, what information and data are available? What are important policy questions that need to be addressed?

B. VET performance by population groups

No analyses are available on the relative performance of vulnerable and disadvantaged population groups in VET. Such an analysis could assess, for example, indicators on completion and dropouts by gender or SES, which would inform policy interventions to support target groups. The World Bank team was unaware of existing analyses on this topic. Data have been requested from the MES that would allow some analysis on this subject.

Aspects for further analysis and policy questions

- Among VET students, how is performance of low SES students compared to VET students from high(er) SES? How do low SES students perform in VET compared to low SES students in general education? What are causes of relatively weak performance?
- Based on the findings of the above analyses, key focus areas to improve equity in performance can and international best practices can be identified.

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- Beyond gender and SES, are there other potentially disadvantaged or vulnerable groups? If so, what data on their performance in VET are (or should be) available to help design effective support interventions?

C. Selected notes on policies affecting equity in VET

This section presents a selection of findings from available analyses on how policies influence equity in VET access and performance. It is not an exhaustive assessment of policies. For example, it does not include an assessment of the government's efforts to improve retention in secondary education.

The education and training system appears to support vertical and horizontal mobility. OECD notes that "successful VET graduates can access higher education and post-secondary VET. In 2015, 93% of the upper secondary VET cohort in Bulgaria was eligible for direct access to tertiary education, compared to 66.7 percent across the EU." Education reforms also improved mobility at lower levels of the EFQ. "In 2017, the share of newly-enrolled VET learners in NQF/EQF level 2 increased almost five times to 6.40 percent, compared to 1.3 percent in 2012, due to education reform allowing more permeability: graduates may now continue to NQF/EQF level 3 and 4 programmes or to the labour market."

Various types of financial support measures appear to be available for VET learners. Bulgaria has the highest share of public education expenditure provided as financial aid to households and students across all education types and levels[50] (21.6 percent in 2016) among EU countries.[51] Schemes providing welfare support and other forms of aid are used to encourage students to remain within the education system, including performance-based scholarships, social allowances (or a mixture of both), students loans, and so on.[52] In 2019, the government introduced two new types of scholarships available for students enrolled in dual VET classes and students enrolled in protected professions or professions with expected shortages of qualified labor supply. CEDFOP notes that financial support for VET learners varies between 5 percent and 15 percent of the minimal national salary. All secondary VET learners can receive public transport discounts of up to 60 percent, as decided by the municipality.

Aspects for further analysis and policy questions

- A review of existing financial support schemes, including their targeting and effectiveness, appears potentially useful, although probably outside of the scope of an analysis that is exclusively VET focused.
- The effectiveness of the funding that is linked to labor market shortages would be interesting to analyze. Identifying the appropriate fields and professions at which financial incentives will be targeted seems challenging, given the absence of credible labor market information and projections.

[50] Excluding early childhood development.
[51] Eurostat, latest available data.
[52] Social allowances are for students without parents or with one parent. Needs-based scholarships are provided to students with special education needs and talented learners. Performance-based scholarships are provided to students with average marks above 'excellent' (5.50 out of 6) during the last school term. A mix between social and performance-based scholarships is provided to students with monthly household income below a minimum threshold and marks above 'very good' (4.50 out of 6).

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VET Quality and Relevance

This section reviews the quality and relevance of the VET system. While 'quality' and 'relevance' are not always easy to tell apart, they are distinct concepts: quality of the VET system relates to whether VET succeeds in providing graduates with the knowledge and skills they are intended to acquire; relevance relates to whether the knowledge and skills that are acquired are those that are needed in the labor market.

A. Data on the quality and relevance of VET

The necessary data to assess the quality and relevance of VET are not systematically collected and analyzed, which prevents evidence-based policy making. Outcome-based quality evaluation and monitoring mechanisms are missing at both the system and school levels. Relevance can be measured by collecting employment and earnings data from VET graduates and employers. While labor force surveys provide aggregated information (see also below), a more granular (for example, occupation level or school level) picture is required to facilitate sound evidence-based decision-making. Related to quality, data on learning outcomes are hard to come by. For example, PISA surveys target students who are too young to have completed VET. There were different initiatives to strengthen graduate tracking, but a systematic approach to develop a comprehensive and coherent system is still missing.[53] Under an EU-funded project,[54] the MES developed a framework indicator model[55] for monitoring and quality management of vocational education on the basis of administrative data on education and market labor. However, the model is still not enforced.

Aspects for further analysis and policy questions

- Some data to assess VET quality and relevance are unavailable, other data exist but are not systematically used to inform accountability and policy. It would be useful to develop a brief analysis of data needs and availability and review how data collection and analysis can be best improved.
- Review of ongoing and planned mandates and initiatives for implementing regular tracking of VET graduates. It would provide useful information about the feasibility of the prospects of enforcing a robust performance-based funding mechanism in VET involving a funding component for labor market relevance of delivered VET education (such labor market relevance component has been recently enforced in tertiary education).

There is ample scope to improve the collection, analysis, and use of labor market information to improve the relevance of VET. It appears that there are various initiatives to measure and project

[53] According to a recent EC report, Bulgaria is one of the countries with limited progress *toward meeting the Council Recommendation on Tracking Graduates.* There are some individual initiatives at regional and VET provider level, but they are not consistent and the results are mainly used for admission planning. Currently, the MES is piloting a prototype for graduate tracking in three regions—Vratsa, Stara Zagora, and Burgas—combining educational administrative data, labor market employment data, and field research. The results of the pilot are expected to be used as a model for development of a graduate tracking mechanism on a system level.

[54] EQAVET: Vision for Revision (VIREO). № 586523-EPP-1-2017-BG-EPPKA3-EQAVET-NPR

[55] https://www.mon.bg/upload/20126/narachnik_25032019.pdf

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labor and skill demand at various levels of design and implementation, which include quantitative models (CEDEFOP refers to a macroeconomic model for medium- and long-term forecasts), surveys (CEDEFOP mentions an annual employer skill needs survey for short-term forecasts), and discussion forums at various administrative levels. Still, it appears that these efforts have not resulted in a situation where reliable labor market data are effectively used as input to guide decision-making on VET provision. For example, OECD notes that "Echoing concerns raised at an OECD review visit, the European Union questioned the sufficiency of resources focused on VET, specifically linked to analysis and use of labour market information in the process of renewing VET qualifications (Eurydice, 2018[20]; Bulgarian Ministry of Education and Science, 2016[18])." In a (draft) final report on the technical support for the implementation of the National Qualifications Framework (NQF), CINOP Advies notes that standard setting is hampered by the "lack of proper labour market information and skills anticipation tools hamper the process for standard setting," and by the limited "involvement of representatives of sectors and of the specific professions."

Aspects for further analysis and policy questions

- Review of ongoing and planned mandates and (pilot) initiatives for skills anticipation; possibly development of action plan to increase efficient collection and use of labor market information.

B. Employment outcomes of VET graduates

VET graduates in Bulgaria are substantially less likely to be employed than their peers in the EU, and their employment rate has increased slower. In 2019, 77.1 percent of VET graduates in the EU were employed 1–3 years after graduation. In Bulgaria, this share was 68.8 percent. Moreover, across the EU, the employment rate of VET graduates has improved consistently and steadily in recent years, with an average of 1.5 percentage points per year since 2014. While the employment rate of Bulgarian VET graduates also increased in this period due to expanding economy and increased demand for labor (on average 1.2 percentage points per year), there have been large fluctuations over the years and in some years the employment rate was as low as 55 or 56 percent (Figure 15)

Aspects for further analysis and policy questions

- Does VET provide a competitive advantage in the labour market over general education?
- To what extent are employment outcomes of VET graduates linked to (a) quality of VET provision, (b) adequacy of the structure and labor market relevance of VET, and (c) existing skills mismatch?

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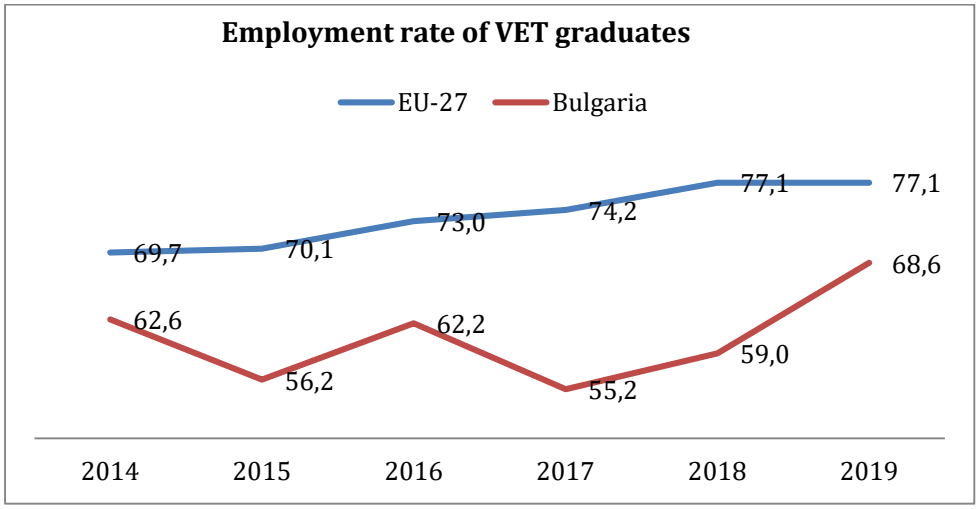
Figure 15. Employment of VET graduates (%, 15–34 years, 1–3 years after graduation, 2014–2019)



Source: Eurostat, [edat_lfse_24].

Note: Upper secondary and post-secondary non-tertiary VET (levels 3 and 4).

The share of Bulgarian VET graduates who are neither employed nor in education or training (NEET) is well below the EU average. This finding is hard to interpret. It may be a sign that Bulgarian VET graduates, especially those without jobs, often move out of the country. The employment rate of Bulgaria shows that fewer VET graduates are employed compared to the EU average, but the NEET rate shows that few are also inactive. A possible explanation is that a rather large share of VET graduates 'disappear' from national education and labor market statistics because they move abroad, likely either to continue education or to work (Figure 16).

Aspects for further analysis and policy questions

- An analysis of migration data could shed light on emigration patterns. However, since this issue is likely important beyond the focus on VET, it may be more appropriate to carry out such analysis through a broader angle.

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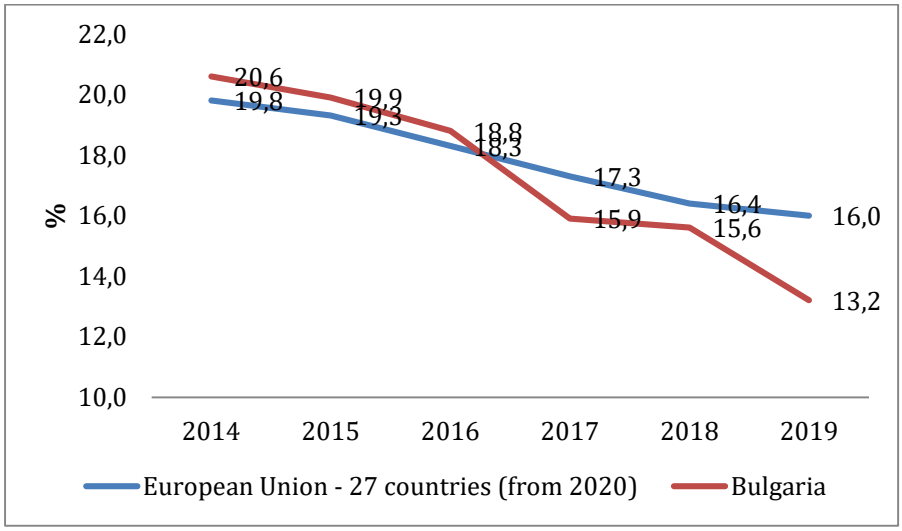
Figure 16. NEET rates of VET graduates (% of graduates of 15–34 years, 2014–2019)



Source: Eurostat [edat_lfse_21].

C. Offer of VET programs: The List of Professions

Bulgaria's 'List of Professions' consists of nearly 600 specialties grouped in 47 professional areas. The list needs rationalization and updating. Bulgaria's List of Professions distinguishes 588 specialties, grouped in 245 professions and 47 professional areas.[56] The specialties are considered too fragmented, and there is a need for rationalization and a broader formulation of professions. The List of Professions does not reflect developments in the professions in each vocational area, and some professions are outdated, irrelevant, or nonexisting in the current labor market.[57] The lack of relevant and reliable labor market information is considered a strong impediment to the development of an updated List of Professions.

Table 1. Structure of the List of Professions (2020)

	Number
Professional areas (VET areas)	**47**
Professions	**245**
Specialties, including	**588**
• I level professional qualification (2 level NQF/EQF)	59
• II level professional qualification (3 level NQF/EQF)	175
• III level professional qualification (4 level NQF/EQF)	281
• IV level professional qualification (5 level NQF/EQF)	73

Despite the fragmented scope of specialties and professions included in the List of Professions, the top 10 VET professional areas accommodate some 64 percent of all enrolled VET students in 2019,

[56] *Source:* List of Professions on https://www.navet.government.bg/bg/aktualen-spisak-na-profesiite-za-poo/. Accessed June 2020.
[57] *Source:* Draft Final Report of the Technical Support for the implementation of the BG NQF in VET - Deliverable V (May 2019), CINOP Advies.

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with the remaining 36 percent of students distributed across all other 37 VET areas. Seven VET areas are a constant part of the top 10 VET studies for the last decade, but their significance as measured by the share of enrolled students is gradually changing (Table 2Table 1). In line with the growing demand for digital skills and expansion of IT outsourcing industry, the share of students enrolled in computer sciences and applied information sciences is also growing steadily. The share of students enrolled in the area of engineering industries, metal working, and metallurgy is also increasing, reflecting to some extent the significance of those industries for the Bulgarian economy and the well-structured partnership programs between the largest employers in the sector and local VET schools.[58] At the same time, the biggest two VET areas (hotels, restaurants, and catering and plant growing and livestock breeding), attracting more than 20 percent of all VET students, are associated with low-skilled jobs, despite the restructuring of economy and gradually increasing significance of higher value-added industries, demanding higher-skills levels.[59] The share of VET students enrolled in construction-related specialties has shrunk considerably over the last decade (from 6.8 percent in 2010 to 3.5 percent in 2019), while the share of construction jobs in the structure of employment has gradually increased in recent years, up to 7.9 percent in 2019.[60] Well-designed measures are needed to increase the labor market relevance of VET structure to address the short- and mid-term skills shortages and skills gaps in a consistent way.

Table 2. Top 10 VET studies in 2010 and 2019

VET structure in 2010 (share of VET students - %)		VET structure in 2019 (share of VET students - %)	
Electronics, automation, communication and computer technology	12.0	Hotels, restaurants, and catering	12.9
Hotels, restaurants, and catering	10.4	Plant growing and livestock breeding	8.0
Music and performing arts	2.0	Electronics, automation, communication, and computer technology	7.6
Management and administration	9.1	Motor vehicles, ships, and aircrafts	7.6
Electrical and power engineering	8.9	Management and administration	5.7
Building engineering and construction	6.8	Electrical and power engineering	5.4
Motor vehicles, ships, and aircrafts	6.5	Applied information science	4.9
Plant growing and livestock breeding	6.2	Computer sciences	4.6
Textile, apparel, footwear, and leather production technologies	4.4	Engineering industries, metalworking, and metallurgy	3.5
Accounting and taxation	4.3	Building engineering and construction	3.5

Source: Own calculations based on MES data.

Aspects for further analysis and policy questions

[58] Partnership programs for VET schools are offered by KCM-2000, *Assarel-Medet JSC*, Aurubis, Dundee Precious Metals, and so on.

[59] Industry Watch. 2017. *Economic Significance of Vocational Education and Training for Labour Market Transition.* Report prepared for Ministry of Education and Science (unpublished).
Hristova, A. 2020. *International Mobility in Apprenticeships: Focus on Long-term Mobility*. Bulgaria. Cedefop ReferNet thematic perspectives series.
http://libserver.cedefop.europa.eu/vetelib/2019/international_mobility_apprenticeship_Bulgaria_Cedefop_ReferNet.pdf

[60] NSI.

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- A review of the professions that were added to or removed from the list in recent years to assess the dynamism and demand responsiveness of the List of Professions.[61]
- Quantitative data on VET system student capacity and on actual students, disaggregated by (among others) specialty, profession, and professional field to help assess (a) alignment of capacity with skill demand and (b) alignment of capacity with student demand by specialty, profession, and so on. [62]

D. Program content: From the List of Professions to curricula

Moving from the List of Professions to good curricula is a complicated, multistep process. Existing analyses have identified various weaknesses that negatively affect the quality, relevance, and flexibility of the curricula. To design or update a curriculum, a profession on the List of Professions first needs to be translated in Occupational Standards that provide clear information on the necessary professional knowledge, skills, and competences, which are then used to develop State Education Standards.[63] The MES then develops a framework program that includes the structure of the curriculum (modules) and the training module content. The MES develops the compulsory part of curricula for new professions or forms of learning, supported by VET teachers and employers. Schools should then design their programs within this framework so that they reflect the specificities of the local labor market. The school-specific curricula part is designed by VET providers (Figure 17). Curricula include a training schedule, distribution between general and vocational, graduation requirements, and explanatory notes to ensure the achievement of learning outcomes.[64] In reality, various challenges have been identified:[65]

- The Occupational Standards are not well defined.
- There is limited capacity to develop State Education Standards.
- State Education Standards are so detailed that they constrain flexibility of schools to adjust their programs to regional and changing labor demand.
- VTCs are not directly notified when State Education Standards changes are made. There is no clear procedure and timeframe for adapting their training provision to the new standards.

[61] Data requested from the MES (June 15, 2020).
[62] The World Bank team's initial intention was to also analyze the VET system's capacity, including the number of places in VET classes offered, disaggregated by specialty, profession, and professional field. However, following our request for data (June 15, 2020) a data gap remains that does not allow such analysis. The admission planning dataset provided by the MES contains data until 2015. Since 2016, the admission planning is decentralized, with state admission plans being adopted regionally by each regional division of education.
[63] CINOP Advies.
[64] CEDEFOP.
[65] All below challenges identified in CINOP Advies report.

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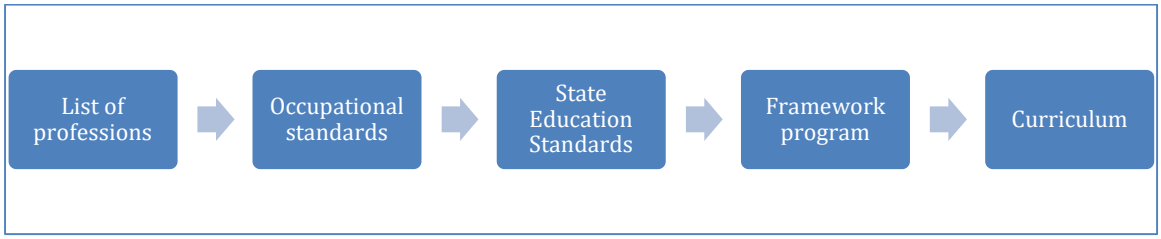
Figure 17. Designing a training program from the List of Professions to curricula



The process from updating the List of Professions to developing new curricula is slow. The number of professions in the List of Professions is large, the process to develop new curricula is cumbersome, and capacity at MES/National Agency for Vocational Education and Training (NAVET) is limited. By May 2019, only 32 State Education Standards had been approved/validated, which is less than 6 percent of the number of professions on the List of Professions.[66]

Aspects for further analysis and policy questions

- Data on number of updated curricula in recent years [67]
- Review of options to increase the speed of improving the quality and relevance of the VET offer, from revision of the List of Professions to the design of curricula by schools. Note that OECD considers that a review of the MES mandate is appropriate to ensure that it can focus its attention on essential strategic dimensions.

E. Program content: Balancing academic and technical subjects, theory and practice

VET students can complete general education as well as their VET qualification. At least in theory, this greatly increases their opportunities and prevents secondary VET from being a 'dead-end education opportunity'. The approach facilitates vertical and horizontal mobility which is positive especially for students from disadvantaged households. However, it can also create challenges, for example, when determining the appropriate balance between 'general' and 'VET' subjects in the curriculum.

Aspects for further analysis and policy questions

- What is the balance between general and VET subjects? On what basis is it determined and is the balance appropriate to ensure that students achieve the desired learning outcomes in both the general and VET dimensions of the learning program?

VET remains mostly school based, and fewer than 10 percent of Bulgarian enterprises are involved in VET. Efforts to increase work-based learning seem to be substantially focused on dual VET. Practical learning is compulsory in every VET program, but it does not necessarily take place in a real (rather

[66] CINOP Advies
[67] Information on the number of updated curricula has been requested from the MES on June 15, 2020. The national council on VET was informed that hundreds of VET curricula and programs were developed in 2017 and 2018 under the NP 'Provision of a Modern Educational Environment', Activity 2: 'Modernization of the Learning Content'. It is unclear how these numbers align with the much smaller number of SES that were revised.

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than a simulated) work environment, except for professions related to high-end technology.[68] The share of learning that needs to be practical differs by EQF level: it is at least 70 percent of the time at EQF level 2, at least 60 percent at EQF 3, and at least 50 percent at levels EQF 4 and 5. Since 2014, dual VET started to evolve. The legislation has been adjusted to facilitate dual VET, but both CEDEFOP and OECD note that its implementation is still mostly at a project/pilot basis and the model is not (yet) sustainable.[69] In the 2018/19 school year, 3,884 students were enrolled in 177 dual VET classes.[70] Most apprentices are seen in the manufacturing of machinery and equipment and manufacturing of apparel and furniture. OECD has observed opportunities to "work more methodically with employers at municipal or regional level, making use of intermediary organizations to reduce costs while maintaining the close engagement of teaching professionals."[71]

Aspects for further analysis and policy questions

- **On practical learning:** Is the required share of practical learning (for example, 60 percent at EQF 3) generally achieved? How much of practical learning takes places in school and how much in companies, and what are differences between providers and specialties? Which processes are in place to ensure that in-company learning is well aligned with learning outcomes and is well assessed?
- **On dual VET:** What are the numbers? What are the lessons learned? What are the learning and employment outcomes relative to school-based VET graduates?
- CEDEFOP considers expanding dual VET (beyond projects) one of the main challenge in VET. However, in some cases dual VET is an ambitious objective and short- to medium-term goals could also include other approaches to in-company learning and the familiarization of VET students with the world of work. Are these approaches implemented/considered?

F. Teachers: Numbers, allocation, specialization, and ability

Around half of all teachers in secondary education are in VET. This share has gradually become smaller in recent years. In 2018, 49.2 percent of all secondary education were in VET. This reflects a slow but steady decline since 2013, when the share of VET teachers was still 51.5 percent (Figure 18).

[68] WBL at school premises as part of regular classes during the school year is called study practice (*учебна практика*). In-company WBL time (for example, a week or month) at the end of grades 11 and 12 is called production practice (*производствена практика*).

[69] Other types of in-company learning are 'apprenticeships for employees' (since 1992), for up to six months including a job guarantee and internships of 6–12 months for people up to 29 years old who already have a VET qualification or higher education degree but who have no work experience in the profession (2014). Since these measures are not part of formal VET they are not further discussed in this snapshot.

[70] Based on publicly announced data by the MES.

[71] *Note*: See annex in draft section Quality and Relevance of June 22, 2020 for excerpts with more information.

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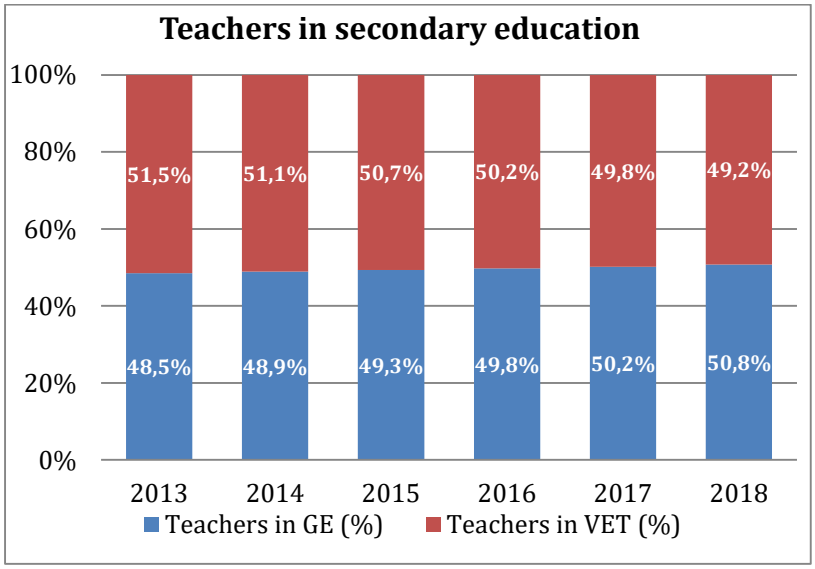
Figure 18. Distribution of teachers in secondary education (2013–2018)



Source: Eurostat [educ_uoe_perp01].

Aspects for further analysis and policy questions

- Further disaggregations would be useful: Share of teachers in academic subjects compared to VET subjects; geographic distribution (for example, student-teacher ratios by school or region) including trend and comparison with general education; differences by specialty/profession; comparing teacher qualifications and age between VET and general education.[72]

The average age of VET teachers in secondary VET is high; in post-secondary VET the average age of teachers is substantially lower. In 2018, the average age of a teacher in secondary VET was 50.6 years (up from 46.4 years in 2013). For teachers in post-secondary VET, the average age was substantially lower, at 43.8 years in 2018 (up from 39.7 years in 2013).

The ageing of the teacher workforce in VET-specific subjects, combined with a low attractiveness of the teaching profession for young specialists, poses serious challenges for VET schools (Figure 19). The fast growing share of teachers in VET-specific subjects who are of preretirement and retirement age (ages 60 and above) creates an immediate need to ensure adequate replacements and staffing in VET schools. The share of VET-specific subject teachers over 60 years of age increased from 2.4 percent in 2008 to 12.5 percent a decade later (Figure 19). Focus groups held with VET school principals revealed that schools in regions with a higher concentration of poverty and in rural areas experience severe problems in attracting new teachers in VET-specific subjects and finding replacements for the ageing VET-specific teaching workforce (especially in technical and engineering subjects). An indication of existing staffing problems is also provided by the large fluctuations in the students-to-VET-specific subject teacher ratio in small towns and villages. While in the cities one VET-specific subject teacher teaches between 16 and 24 VET students, in small towns it is between 8 and 37 students, and between 4 and 63 students in very small towns (

[72] Request for information submitted to the MES on June 15, 2020. These data will help, among others, analyze student/teacher ratios over time.

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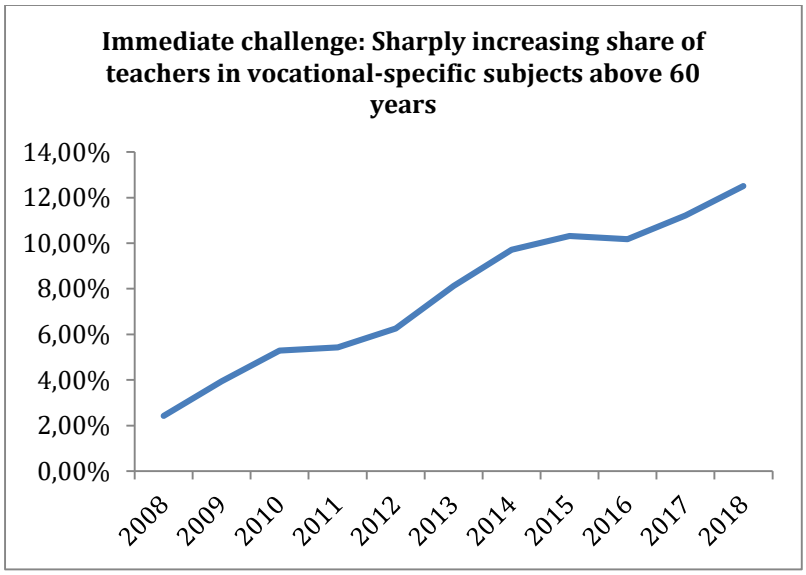
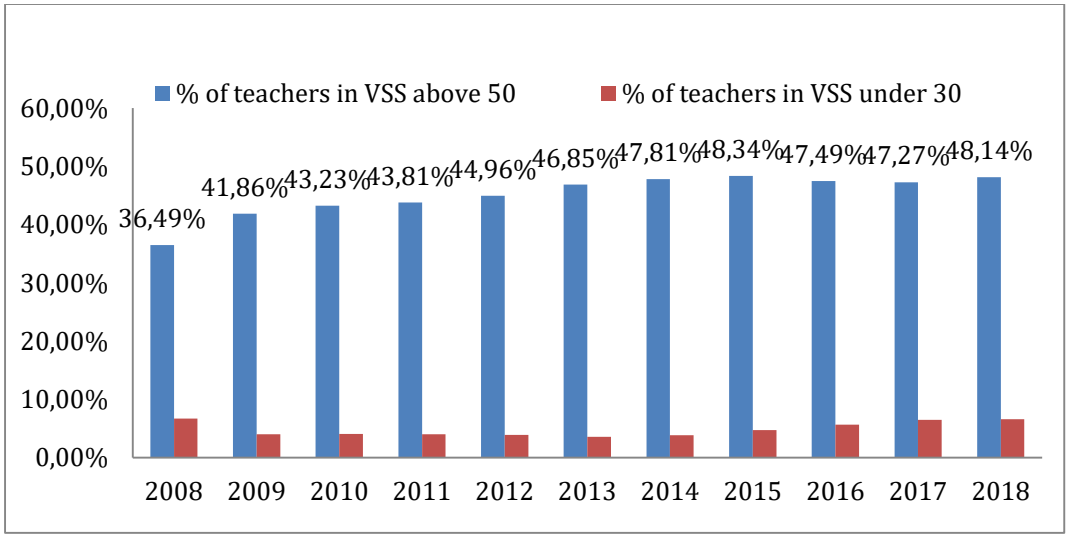
Table 3).

Figure 19. Share of teachers in VET-specific subjects above 60 years



Source: Own calculations based on MES data.

Figure 20. Share of teachers in VET-specific subjects above 50 years and under 30 years



Source: Own calculations based on MES data.

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Table 3. Students-to-VET-specific subject teacher by location[73] (2019–2020)

	Average	Median	Min	Max
City	19.7	18.9	16.4	23.9
Big town	22.2	24.0	14.4	29.0
Small town	22.3	21.5	7.7	36.6
Very small town	19.4	18.6	3.7	62.5
Village	17.7	15.1	3.0	53.0

Source: Own calculations based om MES data.

Aspects for further analysis and policy questions

- How do the ages compare to those of teachers in general education? Are there differences between teachers of general and VET subjects? Are there substantial differences between specialties, regions?

Little is known of the technical expertise of VET teachers. Teachers in VET subjects are exempt from acquiring the qualifying teaching certificate that is required of teachers in general subjects. This exemption serves to promote the involvement of highly qualified business professionals in educational activities in VET.[74] We have no information on the extent to which VET schools are able to attract such highly qualified individuals or on indicators such as the years of relevant in-company work experience of VET teachers. CEDEFOP considers the professionalization of teachers/trainers in VET a principal challenge of the VET system.

Aspects for further analysis and policy questions

- How is the technical and pedagogical expertise of VET teachers ensured? How does teacher development for VET compare to that for general education? Do VET teachers in technical subjects generally have relevant in-company expertise?

G. QA: Accreditation, inspection, self-evaluation

No analyses or evaluations of QA measures were available at the time of writing of this report. The below text highlights the type of information that would be valuable to obtain and the type of topics that further analyses could address.

Aspects for further analysis and policy questions

- What is the current QA strategy for VET? Is there a coherent mechanism for accreditation, external and internal evaluation activities and mechanisms to ensure that findings are used to improve training delivery?

[73] The cities and towns are grouped according to the following classification: cities - above 100,000 inhabitants; big town - between 50,000 and 100,000 inhabitants; small town - between 10,000 and 50,000 inhabitants; very small town - less than 10,000 inhabitants.
[74] CEDEFOP.

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- What are recent and planned changes in QA, and are there any evaluations and lessons learned available?
- Are there discrepancies between 'paper' and 'practice'? In other words, what are implementation challenges and how can these be addressed?

H. Student assessment and certification

No analyses or evaluations of student assessment and certification were available at the time of writing of this report. The below text highlights the type of information that would be valuable to obtain and the type of topics that further analyses could address.

Aspects for further analysis and policy questions

- What are the current processes for student assessment and certification? Useful dimensions to review here include, among others, the approach to evaluation of practical skills and their relative importance compared to theoretical knowledge and the extent to which experienced employers and professionals are effectively engaged in the process.
- Is there a system of industry certification for VET programs alongside the qualifications that are awarded by the government? Are such practices promoted?
- What are recent and planned changes in QA, and are there any evaluations and lessons learned available? Are there discrepancies between 'paper' and 'practice'? In other words, what are implementation challenges and how can these be addressed?

I. Infrastructure, equipment, and learning materials

No analyses of the adequacy of infrastructure, equipment, and learning materials were reviewed for this draft of the report. The below text highlights the type of information that would be valuable to obtain and the type of topics that further analyses could address.

Aspects for further analysis and policy questions

- What is the current level of adequacy of VET infrastructure, equipment, and learning materials? How are the minimum needs in terms of infrastructure, equipment, and learning determined? How often are standards updated?
- Are there any inequities in distribution across regions, schools, or programs? What measures are in place and implemented to ensure (a) that all students benefit from a minimum level of infrastructure, equipment, and resources and (b) inequities are reduced?
- What criteria are used to determine the allocation of funding for VET infrastructure, equipment, and learning?

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VET Financing and Governance

This section reviews financing and financing sources for VET as well as VET expenditures. It also includes a first step toward assessing the financing and governance mechanisms for VET, although these elements were not prioritized for this initial snapshot.

A. Financing: Budgets and expenditures

Compared to other EU countries, public expenditures in Bulgaria on education, and on VET specifically, are low. Since 2001, Bulgaria's expenditures on education as share of GDP have been among the bottom four countries in the EU. In 2017, only Ireland and Romania spent less than the 3.6 percent of GDP that was spent in Bulgaria. In the same year, the EU average was 4.6 percent of GDP and expenditures exceeded 6 percent in Belgium, Denmark, and Sweden. OECD and CEDEFOP note the relatively low expenditures on VET compared to other EU member states (Figure 21). In 2014, Bulgaria spent 0.47 percent of GDP on upper secondary VET compared to 0.54 percent across EU—nearly 15 percent lower than the average across the community.[75]

The share of the school education budget[76] that is allocated to VET has fallen in recent years, and VET spending relative to general education also seems to decrease. In 2018, the share of VET in the education budget was 12 percent lower than in 2011 (in 2017, it was 20 percent lower than in 2011). When comparing per capita expenditures on VET with those in general education, VET expenditures also seem to be decreasing. In each of the years from 2012 to 2016, per capita expenditures on secondary VET were 12 to 16 percent higher than on education provided in comprehensive schools.[77] In 2017, in contrast, per capita spending on VET was more than 10 percent lower than in general education. In 2018, per student spending on TVET and general education was broadly equal (Figure 22 and Table 4).

Aspects for further analysis and policy questions

- Is the fall in VET spending (as share of education budget and relative to per capita general education) an intentional strategy or is it due to other reasons (such as relative changes in student numbers, changes in the per student financing model or channeling additional funding to general schools)? What are considered appropriate shares?
- What type of capital expenditures decreased, that is, new school construction, school rehabilitation, equipment.?
- Is it worthwhile to conduct a VET-specific analysis on budget absorption rates (to assess absorption rates and analyze any structural or substantial over- or under-absorption)?

[75] OECD report on governance refers to CEDEFOP (2017). Since the data are from 2014, they can be updated during further analysis.
[76] The 'school education budget' excludes budgets for higher education and early childhood development and care.
[77] The Bulgarian budget classification classifies financial streams by 'functions': kindergartens, comprehensive schools, vocational schools and VET classes in general schools, and several functions related to specific schools (arts, sports, schools in prisons). It therefore does not allow a distinction of upper secondary general education, since it is grouped into 'comprehensive schools'.

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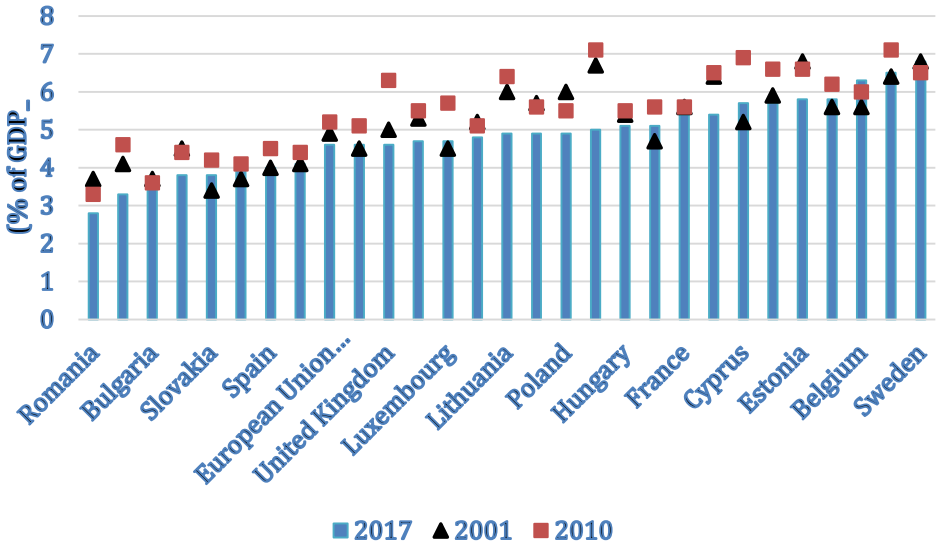
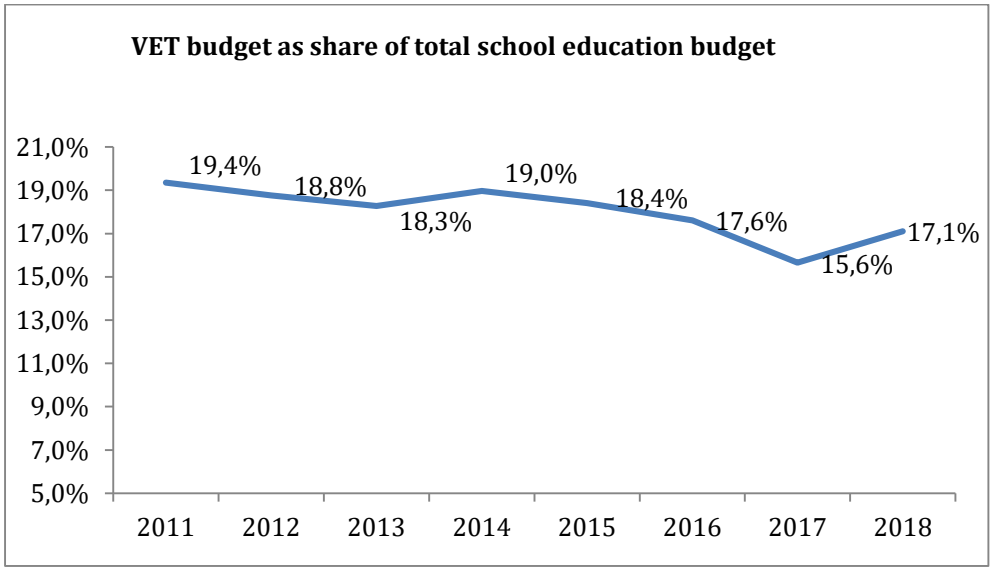
Figure 21. Government expenditures on education (% GDP, 2001, 2010, 2017)



Source: Eurostat.

Figure 22. VET budget as share of school education budget (%, 2011–2018)



Source: World Bank BOOST data.

Table 4. Public spending per student in general education (International Standard Classification of Education [ISCED] 1–3) and secondary VET (ISCED 35)

	2012	2013	2014	2015	2016	2017	2018
Per student spending in EUR, GE (all levels)	877	963	998	970	1,003	1,213	1,380
Per student spending in EUR, VET	996	1,082	1,162	1,124	1,127	1,075	1,401
Per student spending, VET relative to GE	1.14	1.12	1.16	1.16	1.12	0.89	1.02

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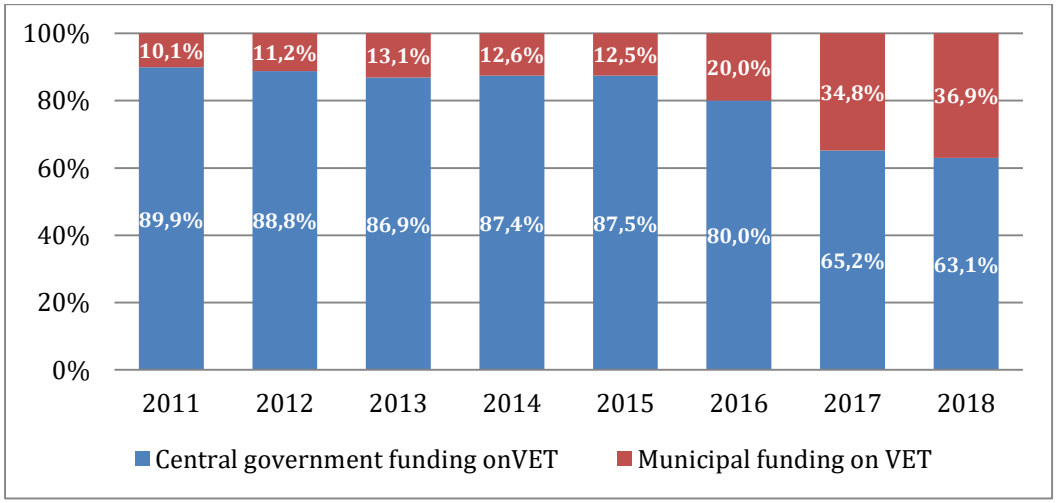
Municipal spending plays an increasingly important role in public spending on VET. From 2011 to 2018, the share of public spending on VET originating from municipalities more than tripled, from 10.1 percent in 2011 to 36.9 percent in 2011. Conversely, the share of funding from the central government reduced from 89.9 percent to 63.1 percent in this period. This development reflects the ongoing process of transferring the ownership of part of the VET schools (and the respective funding for state-mandated VET education) from the central government to the local governments (Figure 23).

Aspects for further analysis and policy questions

- Presumably, this substantial shift in public funding sources is the result of a deliberate strategy. Is implementation going according to plan?.
- What share of local funding for VET comprises fiscal transfers from the state budget, and what share consists of additional funding from other sources?
- Given the increasing importance of municipal funding, it will be useful to analyze (overall and per capita) spending on VET by different municipalities. Is there a risk that increased reliance on municipal funding exacerbates existing geographical inequities?
- Given the considerable changes resulting from the transfer of VET schools to municipal authorities and allowing any secondary school to provide VET, what are the consequences for the availability of adequate teachers and infrastructure?
- Did the decentralization of funding coincide with a decentralization of decision-making power? OECD observes that this may not be the case.
- How is an appropriate balance achieved between local-level decision-making and national-level strategic goals? A well-functioning system achieves a strong alignment between funding, autonomy, implementation capacity, and accountability. What are the strengths and weaknesses of these dimensions for Bulgaria's VET system?

Figure 23. Public funding for secondary VET by administrative level (2011–2019)



Source: World Bank BOOST data.

An increasing share of the VET budget comes from external financing. Between 2014 and 2018, the share of external financing has fluctuated substantially. The share of external financing of VET spending has increased from 0.8 percent in 2011 to 12.3 percent in 2018. In this period, there have been strong fluctuations in the share of EU financing in total VET expenditures. After an increasing

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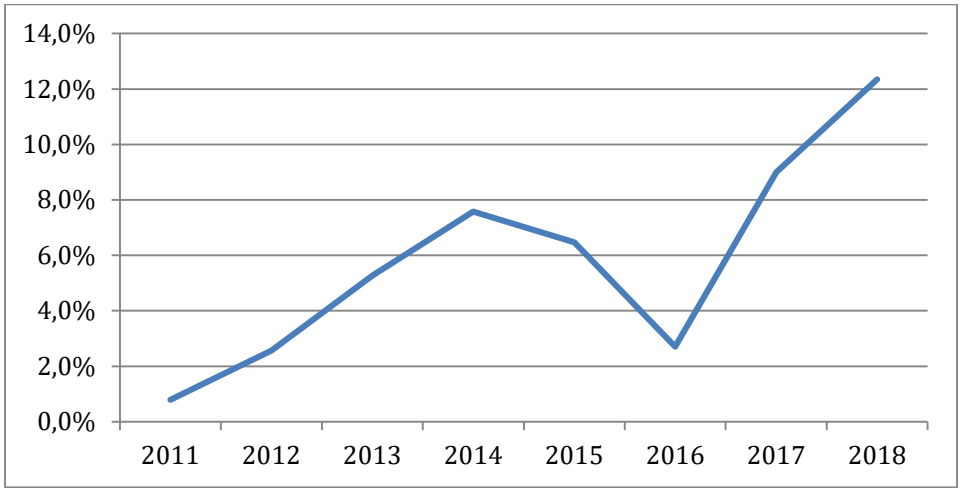
trend from 2011 to 2014, the share of EU funding dropped sharply in 2015 and 2016, before picking up again in 2017 (Figure 24). (*Note*: EU funding for VET is further discussed in later section.)

Figure 24. External funding within the total VET budget (%, 2011–2018)



Source: World Bank BOOST data.

VET schools can generate additional revenues, but it is unclear to what extent this occurs. The OECD notes that schools may raise revenues, for example, through donations from employers (which could also be in kind). We have not identified any data to reflect the extent to which this occurs.

Aspects for further analysis and policy questions

- Are there any data on additional income sources of VET providers, for example, private sector contribution, income generation activities, or fees?
- Are any measures adopted and implemented to promote revenue generation by VET schools, for example, by facilitating or incentivizing commercial activities? Are there any legal obstacles to VET schools conducting commercial activities and using the revenues to finance school operations?

Of total VET expenditures, 94 percent is allocated to labor costs, repair, and maintenance. The remaining 6 percent is mostly distributed to scholarships and the acquisition of fixed assets. In 2018, labor costs (including wages and social security contributions) made up 70.1 percent of expenditures. Maintenance and repair accounted for 23.7 percent. Much smaller shares were allocated to scholarships (3.5 percent) and the acquisition of fixed assets (2.2 percent). Between 2014 and 2018, there have been fluctuations in the shares of the different categories, but overall, the relative distribution has stayed similar (Figure 25 and Source: World Bank BOOST data.
Figure 26).

Aspects for further analysis and policy questions

- Are the current shares of main expenditures categories considered appropriate? Are any more or less significant changes expected in recent years, due to ongoing trends or the impact of current or planned policies?

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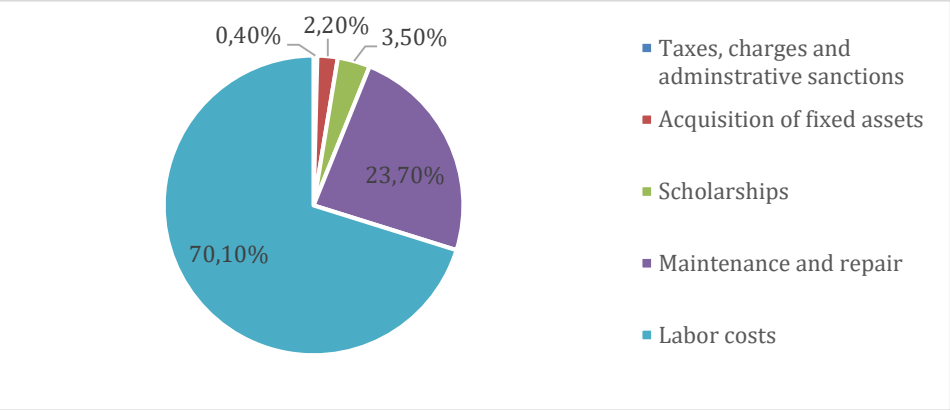
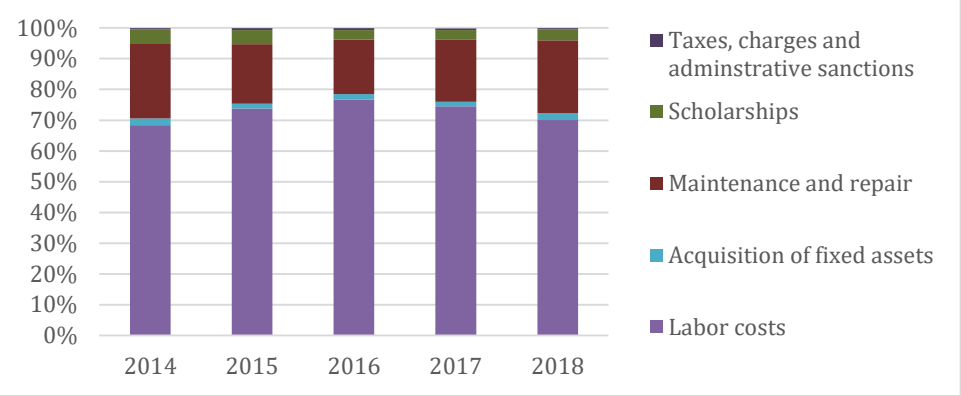
Figure 25. Expenditures on VET, by category (%, 2018)



Source: World Bank BOOST data.

Figure 26. Expenditures on VET, by category (%, 2014–2018)



Source: World Bank BOOST data.

In the 2014–2018, the bulk of EU funds was used to cover staff-related expenses (wages and social contributions), maintenance, and scholarships. More recently (2017–2018) large portions of EU funds (34.6 percent and 41.7 percent, respectively) were spent on capital repair.

Distribution of EU funding[78] across different spending categories demonstrates significant volatility from year to year. For example, while in 2015 as much as 35 percent of all EU funds provided to VET was spent on wages and salary-related costs, this share sharply dropped to 7.2 percent next year (2016). At the same time, the share of total EU funds used for maintenance rose steeply from 38.7 percent in 2015 to 89.8 percent in 2016. The same volatile distribution pattern was observable with respect to funding of scholarships (Table 11.).

In 2018, EU financing provides the lion's share (85 percent) of total funding for repairs and a third of funding for capital investments. In 2018, EU financing also covered roughly one-fifth of total expenditures on scholarships and on repairs. The share of labor costs covered by EU financing is relatively small.

[78] All grant procedures.

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Since 2014, the EU has undertaken increasingly large shares of expenditures in acquisition and especially repair of assets. The share of expenditures on repairs that is covered by the EU increased significantly, from not more than 1.1 percent in 2014–2016 to well over 80 percent in 2017 and 2018. EU financing has also been increasingly funding asset acquisition, from less than 4 percent in 2014–2016 to 15.5 percent in 2017 and 35.8 percent in 2018. In the same period, the share of scholarship expenditures covered by EU fund decreased, from 38.5 percent in 2014 to 21.9 percent in 2018 (**Error! Reference source not found.**).

Aspects for further analysis and policy questions

- Is the current allocation of EU funding across expenditure categories considered appropriate? Are any more or less significant changes expected in recent years due to ongoing trends or the impact of current or planned policies?
- Does the volatility in the distribution of EU funding across spending categories reflect policy or ad hoc project planning? Is there a strategy to ensure sustainability of the EU-funded streams for the various spending categories?
- How do the volatile EU funding streams affect the 'regular' funding from national sources of the respective category?

Table 5. Distribution of EU funds across expenditure categories (% EU budget, 2014–2018)

(Share of total EU funding)	2014	2015	2016	2017	2018
Wages and salaries expenses for civil servants and non-civil servants (on the staff)	20.2	18.8	1.5	16.1	12.7
Other wages and salaries expenses	12.7	11.4	5.1	30	3.5
Compulsory employer social security contributions	5.4	4.9	0.7	3.9	3.1
Maintenance	36.8	38.7	89.8	38.4	25.5
Scholarships	23.1	24.7	0.6	0.9	6.2
Subsidies for nonfinancial enterprises	0.4	1.1	0.2	0.7	0.9
Capital repair of fixed tangible assets	0.2	0.0	0.3	346	41.7
Acquisition of fixed tangible assets	1.1	0.5	1.9	2.5	6.3

Note: All grant procedures are considered.
Source: World Bank BOOST data.

Table 6. Share of EU funds of VET expenditures by category (% expenditures by category, 2014–2018)

(Share of expenses by category)	2014	2015	2016	2017	2018
Wages and salaries expenses for civil servants and non-civil servants (on the staff)	3.0	2.2	0.1	2.6	3.0
Other wages and salaries expenses	16.8	12.3	2.1	5.1	8.1
Compulsory employer social security contributions	3.7	2.6	0.1	2.8	3.2
Maintenance	14.1	13.7	14.2	20.9	17.9
Paid taxes, charges, and administrative sanctions	0.0	0.5	0.1	0.1	0.6
Scholarships	38.5	34.5	0.6	2.6	21.9
Capital repair of fixed tangible assets	0.4	0.0	1.1	81.1	84.8
Acquisition of fixed tangible assets	3.8	1.9	3.0	15.5	35.8

Source: World Bank BOOST data.

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B. Financing: Mechanisms

The 2019 OECD report on governance and funding of VET in Bulgaria provides several findings and recommendations related to financing mechanisms. These related principally to the financial autonomy and the capacity of lower-level administrations, cost sharing between VET providers and employers, and strengthening of the funding formula including to promote equity (Box 4).

Box 4. VET in Bulgaria - Governance and Funding (OECD 2019): Findings and recommendation on funding mechanisms

1. **Local-level financial autonomy can be improved.** Subnational and school-level financial autonomy can be strengthened to increase labor relevance, as long as the capacity to manage responsibilities related to funding is properly developed. Currently, many detailed rules steer how schools spend their resources. […] With main part of spending predefined through regulations, there is little room for schools to adjust expenditure according to local circumstances. […] Schools have financial autonomy only over limited tasks, such as the repair and upgrading of school buildings.

2. **Collaboration with employers and schools can be strengthened** notably with regard to WBL within school-based programs. This is an important means of cost sharing. On experiments with apprenticeship model, financial incentives aimed at employers should be considered with care. If rolled out, government financial investment should be based on evidence of the costs and benefits to employers by sector and designed to optimize the productive skill development of learners.

3. **More can be done to tackle the issue of equity.** Regional differences are significant with early school leaving a greater challenge in smaller towns and rural areas than in cities. Funding formula should be revised to improve equity and inclusion of vulnerable groups, since some students need more support than others.

4. **Solid funding mechanism.** The Bulgarian Government uses funding formula to determine VET resourcing. The formula considers number of students, regional differences, and differences between VET programs. It represents a solid foundation upon which to build further. Recently, performance-based funding for schools has been included in the formula.

Aspects for further analysis and policy questions

- What are the MES' views on the recommendations in the OECD report? Has there been or will there be any follow-up in terms of policy reforms?
- Strategic financing processes: To what extent do processes to allocate public funds promote achieving the objectives of the VET Strategy? How can alignment between strategic objectives and funding allocation be improved?
- Can VET providers generate their own resources from (semi-)commercial activities and use these at their own discretion?

C. Governance

The 2019 OECD report on governance and funding of VET in Bulgaria provides several findings and recommendations related to governance (Box 5). These relate principally to an overstretched mandate at the central level, capacity constraints at various administrative levels, the need to

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strengthen accountability measures and evidence-based policy making, and insufficient effective stakeholder engagement.

Box 5. VET in Bulgaria - Governance and Funding (OECD 2019): Findings and recommendation on governance

1. **National-level mandates and capacity**. VET governance is overly centralized. The national government lacks capacity to adequately carry out all of its tasks. The MES spends a lot of time and resources on detailed administrative tasks, for example, linked to its direct ownership of hundreds of VET schools and the review of hundreds of learning programs (involving cumbersome processes).

2. **Local-level mandates and capacity.** To increase demand responsiveness, Bulgaria is increasing decision-making autonomy at local levels. Capacity of local actors to act in the context of increased flexibility is challenging. While regions, municipalities, and schools are involved in VET governance, their tasks are limited. Autonomy at the subnational level should be incrementally increased for those institutions with proven capacity to deliver on increased responsibility. Providers can then engage more closely with local employers, allowing capacity to be released at a national level to steer the VET system more strategically to better ensure provision matches the needs of the labor market.

3. **Accountability.** Increased autonomy locally should be accompanied by a shift from monitoring input variables and setting detailed regulations for local actors toward building accountability by promoting a culture of continuous improvement, reviewing outcomes, and developing peer learning for local actors.

4. **Evidence-based decision-making.** There are weaknesses linked to the collection and use of data and evidence. Data and evidence should systematically be made publicly available and used within governance structures at different levels within the system to inform policy decisions. Currently there is no VET graduate tracking mechanism providing data on economic returns. Better data should be available at all governance levels, which should have capacity to make decisions based on this. […] Investing in mapping existing data on the outcomes of VET and making it available is crucial to steer the system - for Bulgaria this can be a quick win.

5. **Stakeholder engagement.** Steps should be taken to expand social partner involvement at sectoral and local levels, ensuring that stakeholders have sufficient capacity to deliver on their responsibilities. Institutionalized cooperation between social partners and the government on VET is mediated mostly through NAVET and is focused on revising the professions and suggesting new ones. Cooperation is still overwhelmingly set at an overall national level. Both sectoral and decentralized cooperation between social partners and authorities is limited. At the regional level, social partners are consulted, but the advisory bodies where this takes place are not VET specific, and the regions play a marginal role in ensuring a close contact between the labor market and schools. Cooperation between social partners and VET schools is not institutionalized and varies considerably. Challenges in cooperation with social partners appear to be linked to capacity.

Aspects for further analysis and policy questions

- What are the MES' views on the recommendations in the OECD report? Has there been or will there be any follow-up in terms of policy reforms?
- Given that efforts have been made in the past, what are the remaining reasons for the lack of effective stakeholder engagement and how can these be addressed?
- A useful next step could be to carry out a more comprehensive review of mandates, capacity, and accountability mechanisms across the various administrative level and, guided by international practices, propose reforms to strengthen overall governance of the sector.

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On evidence-based decision-making, a more in-depth review including recommendations can be developed to strengthen the collection, analysis, and use of relevant and reliable data for decision-making.

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EU-Financing for VET

This section will review previous and ongoing EU support to VET as well as proposed plans for the use of EU funds to improve the performance of VET in the future.

A. Previous and ongoing EU-financed projects in support of VET

EU funding is an important source of financing for VET and originates from two different OPs. EU finding for VET is considered an important contributor to the overall strategy for VET modernization. The majority of EU funding for VET is secured by the education-related OP 'Science and Education for Smart Growth' and the regional development-related OP 'Regions in Growth'.

VET funding under the OP 'Science and Education for Smart Growth' is both VET specific or part of broader interventions. For example, activities specifically designed for VET include support for dual VET or the provision of internships for students from vocational schools. More generic education-related investment areas that also considerably affect VET include, among others, support for career guidance, qualification of pedagogical specialists, and targeted funding to support the integration of children and students from ethnic minorities.

Funding of regional educational infrastructure is one of the main priorities of OP 'Regions in Growth' 2014–2020. Within this priority, EU funding has been provided for the modernization and upgrading of the material base and technical equipment in VET schools. For 2014–2020, the EU funding secured under the OP 'Regions in Growth' procedure 'Support for VET Schools in Bulgaria' is for BGN 162.4 million (EUR 83 million.), provided to 32 beneficiaries. Depending on the ownership of the VET schools, there are different approaches to provide this funding. Funding for modernization of the infrastructure of state-owned VET schools (grouped on a regional principle) is provided through the MES. In the case of municipal schools, the funding for specific school-related projects is extended through respective municipality.

Aspects for further analysis and policy questions:

- Review the VET-related projects under OP 'Regions in Growth', including their objectives, activities, and impact
- Review to what extent the activities under both OPs are well coordinated and well aligned to optimally contribute to the government's VET objectives and possibly propose recommendations to strengthen this alignment
- Link the different projects with the volatility of EU funding by spending categories observed in Section 'VET Financing and Governance' of this snapshot.

B. Future EU-financed support to VET

The MES, with input from VET stakeholders, has started the planning for the use of future EU financing to support VET in 2021–2027. Proposals to use future EU financing to support the VET sector

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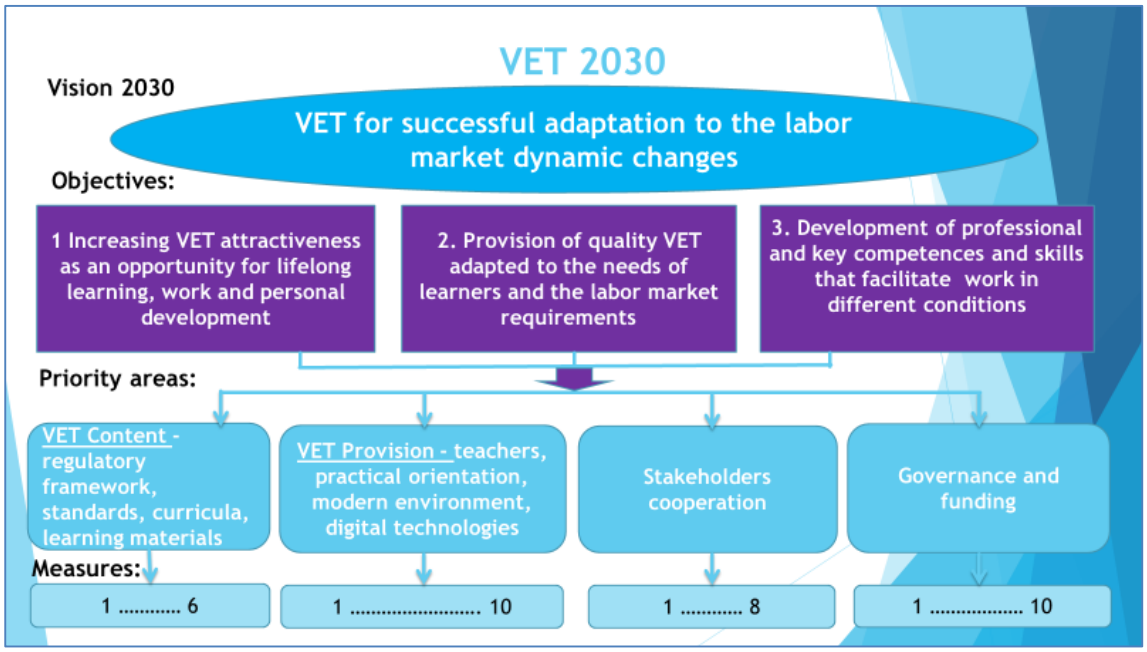
are reflected in the draft OPSE[79] and draft conclusions from the VET Advisory Board.[80] The VET-related content in the draft OPSE and the conclusion of the VET Advisory Board are broadly aligned in terms of identified overall goals, areas of change, and measures (see Figure 27). They also appear to correspond with the current VET Strategy.

Figure 27. Strategic and operational planning on VET for 2021–2027



The available documentation still lacks clarity on several aspects, including a clear conceptual framework that includes realistic outcome indicators, a results chain based on a clear understanding of current outcomes and constraints, and clarity on how the proposed activities will contribute to the desired outcomes. The EC, in its comments on the draft OPSE, recommends showing how the proposed EU-funded activities are embedded in the overall national program (NP), explicitly including an analysis of achievements and lessons learned so far, and notes that the development of indicators is still a work in progress.[81] The list of proposed measures is currently long (see Box 6) and it is unclear to what extent it is a realistic description of what can be achieved in 2021–2027.

Aspects for further analysis and policy questions

- Review support that the World Bank can provide to strengthen the conceptual framework of the forthcoming OP.

[79] *Source: Draft Annex V - Template for programmes supported from the ERDF (Investment for Jobs and growth goal), ESF+, the Cohesion Fund and the EMFF – Article 16(3).*
[80] *Sources:* (a) *Draft version 4 following remote consultations with the members of the VET Advisory Board*; (b) *presentation VET 2030 - priorities approved by the Consultative Council for VET, April 2020.*
[81] EC comments, aggregated, Draft Science and Education, 2021–2027.

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Box 6. Areas of change for 2021–2027 as developed by the Advisory Council on VET

VET CONTENT

- Legislative changes - new VET Act
- Update of LPVET in accordance with economic needs and labor market changes (simplification, integrative vocations)
- Simplification of administrative procedures for state educational requirements for VET qualifications
- VET curricula and programs based on interdisciplinary approach and integrative knowledge and skills—combination of professional skills with key competences
- Digital learning resources, shared knowledge (e-platforms for VET).

VET PROVISION

- Establishment of sector skills councils
- Centers for VET excellence
- Peer review approach for QA in VET
- Joint promotional campaigns
- Increase of participation in dual VET
- Introduction of joint programs between VET schools and universities for facilitating the transition processes (including credit transfer).

STAKEHOLDER COOPERATION

- Establishment of sector skills councils
- Centers for VET excellence
- Peer review approach for QA in VET
- Joint promotional campaigns
- Increase of participation in dual VET
- Introduction of joint programs between VET schools and universities for facilitating the transition processes (including credit transfer).

GOVERNANCE AND FUNDING

- QA indicators and mechanisms (including EU tools such as EQAVET)
- Coordination with stakeholders in different consultative formats
- Funding on the base of effectiveness and efficiency (including VET graduates tracking measures)
- Shared financial responsibilities on a sectoral level
- Additional funding for schools working predominantly with vulnerable groups of learners.

Snapshot Findings and Areas for Further Analysis and Discussion

This final section summarizes the tentative findings from the above sections as well as the aspects for further analysis and policy questions that were identified so far.

Table 7 summarizes the main observations from the preceding sections. There are several findings pointing to important challenges that need to be addressed. This includes the weak performance of VET in retaining students, systematic constraints to improve the relevance of VET provision, and the need to align capacity and accountability mechanisms with mandates across administration levels. In such areas where challenges have been clearly identified based on available data, next steps could be more in-depth review on the causes of these challenges combined with the presentation of international good practices and the preparation of recommendation for appropriate reforms.

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In other areas of VET, further data and analysis would be needed to provide an evidence-based assessment of strengths and weaknesses. This is the case, for example, for the topic of teachers and other important inputs and processes that determine the quality of VET provision. The number of identified areas that would merit further research are numerous, and many of these would require more or less substantial primary data collection to inform the analysis. Considering that these activities require time and resources, the below suggested topics could serve as input for the development of a longer-term policy research agenda for TVET.

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Table 7. Tentative findings, areas for further analysis, and policy questions

MAIN FINDINGS	ASPECTS FOR FURTHER ANALYSIS OR POLICY DISCUSSIONS
1. The Strategy and Policy Framework for VET • The VET Strategy articulates a vision and translates this into policies and measures. The expected impact is then described in rather general terms and has not been translated into measurable indicators. Cost estimates appear to be lacking. • The VET Act contains key concepts, but it changes often and there is a disconnect between the content of legislation and the reality on the ground.	• Review documentation on the costing of the strategy. • Review monitoring reports from the National Strategic Group • Strengthen the process for development and monitoring of future strategies. • Identify and address bottlenecks that prevent legislation from being implemented.
2. VET Access and Completion *Access* • The number of VET students decreased strongly due to demographic trends (circa 30% since 2005). Optimization of the school network has yielded results but is not yet completed. • Approximately half of upper secondary education students are enrolled in VET programs. • The large majority of VET students is enrolled in programs at EQF level 4. • The offer of post-secondary VET is minimal. *Completion* • A crucial challenge for VET is the low student survival rate. Dropout rates in VET are more than double the rate seen in general education, and completion rates are much lower. • In recent years, both dropout rates and completion rates in VET worsened dramatically, while in general education these rates improved.	*Access* • What is the optimal strategy to continue the optimization process while maintaining adequate access? • What is considered an appropriate share of VET students in secondary education? How is this determined? • Is the high and growing share of EQF 4 students considered appropriate? How does the share of students per EQF level compare to aims of the national strategy? • Given the presumed increasing demand for sophisticated skills in the labor market, should post-secondary education be expanded? *Completion* • What causes the differences in dropout and completion rates between VET and general education? Why did retention and completion improve in general education, but deteriorated so much in VET? What was the role of the VET Strategy and Action Plan? What worked and what did not? • Is there information on where former students go after they dropped out?

MAIN FINDINGS	ASPECTS FOR FURTHER ANALYSIS OR POLICY DISCUSSIONS
3. Equity in VET • Females are less likely to enroll in VET and their share has gone down in recent years. • Students' SES has a strong influence on student progression and achievement but the relation between SES (and other dimensions of vulnerability) and VET participation and achievement is not yet well investigated. • School segregation continues to be an issue. The high concentration of low performers from disadvantageous background points to disparities in access to quality education from different schools. • It is unclear if and how the VET system caters to vulnerable children and youth who are unlikely to finish a full cycle of VET education.	• A deeper analysis focused on equity can fill knowledge gaps and provide recommendations to strengthen interventions to improve equity in access and performance, based on national and international good practices. It could review the differences between general education and VET and the relative performance of students from vulnerable groups in VET. It would include analyzing data to disaggregate the performance of vulnerable groups, identify causes of weak performance, review strengths and weaknesses of recent and ongoing support interventions, and provide policy recommendations. • Is alternative (short term) education and training for certain vulnerable groups considered part of VET? If so, what information and data are available? What are important policy questions that need to be addressed?
4. VET Quality and Relevance *Relevance* • Relatively low employment rate compared to EU • Weak collection, analysis, and use of labor market information prevents identification of skill needs and assessment of the relevance of VET • The process from developing the 'List of Professions' to updating curricula is slow and suffers from various weaknesses (such as lack of employer engagement), resulting in programs that are not updated to meet current labor market needs. *Quality* • VET remains mostly school based. • No comprehensive analyses were available that allowed a sound assessment of the inputs and processes required to provide quality and relevant VET including teacher capacity and distribution; QA mechanisms; assessment and certification processes; and infrastructure, equipment, and learning materials.	*Relevance* • Data on VET system student capacity and actual students, disaggregated by specialty and so on, to help assess alignment of capacity with skill demand and with student demand. • A collection of labor market data and ongoing and planned initiatives to collect such data can support the design of an action plan to increase the efficient collection and use of labor market information • Review of options to increase the speed of improving the quality and relevance of the VET offer, from revision of the List of Professions to the design of curricula by schools. *Quality* • Programs: Is the balance between general and VET subjects appropriate? Is the required share of practical learning achieved? How much of it takes places in firms? • Dual VET: Lessons learned? Employment outcomes compared to school-based VET graduates? Other options to promote work-based learning beyond dual VET?

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MAIN FINDINGS	ASPECTS FOR FURTHER ANALYSIS OR POLICY DISCUSSIONS
	• Teachers: The share of teachers in academic subjects compared to VET, student-teacher ratios per school or region, differences by specialty, and so on. Teacher development for VET compared to that for general education. Do VET teachers in technical subjects generally have relevant in-company expertise? • QA, assessment and certification: Are there coherent mechanism for accreditation, evaluation, assessment, and certification? What are recent and planned changes; are there any evaluations and lessons learned; what are implementation challenges? • VET infrastructure, equipment, and learning materials: Minimum standards, current adequacy, equity in distribution, determinants for allocating funding? • With increasing shares of VET students being taught in general schools, how is it ensured that these schools have adequaet teachers and infrastructure?
5. VET Financing and Governance *Financing* • Public expenditures in Bulgaria on VET are relatively low, in EU context, and seem to be falling. • Municipal spending and EU funds are increasingly important in VET spending. Of total VET funds, 94% is spent on labor, repair, and maintenance. • There are strong annual fluctuations in EU funds for VET. In 2014–2018, EU funds were mostly used for labor, maintenance, and scholarships. In 2018, the EU covered 85% of total funds for repairs and a third of capital investments. Since 2014, the EU took on growing shares of spending on the purchase and especially repair of assets. • The OECD's findings on finance concern the financial autonomy and the capacity of lower-level administrations, cost sharing between VET providers and employers, and strengthening of the funding formula including to promote equity.	*Financing* • What are funding objectives: share of VET in the overall education budget; share of spending by expenditure categories, funding source? • Is the shift to municipal funding going according to plan? What share of local funds for VET comes from fiscal transfers, and what comes from additional sources? Could higher reliance on municipal funding exacerbate geographical inequities? • Are there any data on additional income sources of VET providers, e.g. private sector contribution, income generation activities or fees? • Can school generate and keep (commercial) revenues? • Is the current allocation of EU funding across expenditure categories considered appropriate? Is there a strategy to ensure sustainability of the EU-funded streams for the various spending categories? How does volatility of EU funds affect VET provision? • What are the MES' views on the recommendations in the OECD report? Has there been or will there be any follow-up in terms of policy reforms?

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MAIN FINDINGS	ASPECTS FOR FURTHER ANALYSIS OR POLICY DISCUSSIONS
Governance • The OECD's findings on governance concern overstretched mandates at the central level, capacity constraints at various administrative levels, the need to strengthen accountability measures and evidence-based policy making, and insufficient effective stakeholder engagement.	• To what extent do processes to allocate public funds promote achieving the objectives of the VET Strategy? How can alignment between strategic objectives and funding allocation be improved? *Governance* • What are the MES' views on the recommendations in the OECD report? Has there been or will there be any follow-up in terms of policy reforms? • What are reasons for weak stakeholder engagement and how can this be remedied? • Review mandates, capacity, and accountability mechanisms across administrative levels and propose reforms to strengthen overall governance of the sector. • Review and recommendations to strengthen the collection, analysis, and use of relevant and reliable data for decision-making. • Given the transfer of VET schools to municipal authorities and allowing any secondary school to provide VET, what are the consequences for the availability of adequate teachers and infrastructure?
6. EU financing for VET • The EU is an important source of VET funds, via two different OPs: OPSE and OP 'Regions in Growth'. • The MES, with VET stakeholders, has started planning the use of EU funds for VET in 2021–2027. • The available documents still lack clarity on several aspects, including a clear conceptual framework with realistic outcome indicators, a results chain based on a clear understanding of current outcomes and constraints, and clarity on how the proposed activities will contribute to the desired outcomes.	• Review the VET-related projects under OP 'Regions in Growth' and OPSESG, including their objectives, activities, and impact • Review to what extent the activities under both OPs are well coordinated and well aligned to optimally contribute to the government's VET objectives; and possibly propose recommendations to strengthen this alignment • Link the different projects with the volatility of EU funding by spending categories observed in Section 'VET Financing and Governance' of this snapshot • Review support that the World Bank can provide to strengthen the conceptual framework of the forthcoming OP.

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VET Policies and Investments 2014–2020

This section assesses the degree to which education policies and investments in 2014–2020 contributed to achieving policy goals in the area of VET and to identifying the key determinants of performance in this regard. This section first describes the scope and methodology of the applied review and presents a broad overview of the investments that were reviewed. It then proceeds to review the performance of VET-related investments along key dimensions and ends with recommendations.

A. Scope and methodology of the review

As agreed by the Government of Bulgaria (GoB) and the World Bank, the review of VET policies and intervention included relevant investments from the OPSESG 2014–2020 and NPs that were implemented in the review period. As per the same agreement, the analysis includes a review of the extent to which investments succeeded in addressing regional disparities in education outcomes, identification of horizontal fields, and the impact of investments on specific target groups.[82] The main steps in conducting the analysis are described below.

Selection of investments for review: 16 OPs and NPs that fully or partly targeted VET. The review included six investments that exclusively targeted VET, including three OP projects (or project modules) and three NP series.[83] It also included investments from which VET was expected to benefit, even though they were not exclusively targeted at VET. These 10 'partial VET investments' included three OP projects and seven NPs. Table 8 below summarizes key features of the interventions that were reviewed. It reflects their budget and implementation period, whether they exclusively or partly targeted VET, and if they were the focus of consultations.

Data collection. For all investments under review, documentation was collected online and provided by the Executive Agency and the MES. Documentation that was reviewed included, among others, OP grant agreements and technical reports, data from the online information system for management and monitoring of EU funds in Bulgaria 2020,[84] annual NP descriptions, annual reports for the implementation of NPs, and annual reports for the implementation of MES policy objectives. In addition, consultations were held with representatives from the MES and the Executive Agency on selected topics, including on the OPs 'Support of the Dual Education System' and 'Student Practices – Phase 1'; the NP series 'Modernization of the VET system'; and on interventions to address early school leaving in VET.

Approach to data analysis. All interventions were systematically reviewed along a set of key dimensions:

- **Basic features**, such as duration and budget.

[82] *Reimbursable Advisory Services Agreement on Public Expenditure Review in Science, Technology and Education and Support for Building Evidence Based Approach for the National Strategic Framework in Education 2030*. February 12, 2020.
[83] While, technically, NPs are annual programs, many NPs with similar objectives and design are implemented for consecutive years. For example, NPs on Qualifications have been implemented annually since 2008. In this review, these are categorized as a 'series' of NPs, and they were assessed collectively.
[84] http://2020.eufunds.bg/en/0/0.

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- **Addressing key policy challenges.** Assessment of the aims, planned and actual activities, and outcomes of all investments, focusing on the extent to which they addressed key policy challenges. The review assessed if priority challenges were explicitly included in project objectives, if project design was appropriate to address the priority, if indicators measured performance on these priorities, and the extent to which project results had a positive impact on the priority areas.
- **Addressing horizontal policy fields.** Targeting and impact of the interventions on the horizontal fields as identified by the government (see Box 7).
- **Targeting.** Identification of the intended end beneficiaries, assessment if the project design and indicators allow the effective targeting of the end beneficiaries, any data on whether end beneficiaries were effectively targeted, and an assessment of regional targeting.
- **Indicators and intervention logic.** A review of the suitability of project indicators and a broad assessment of the intervention logic.

Box 7. The government's horizontal policy fields in the education and training sector

1. Inclusive education
2. Education process quality
3. Teachers and school leadership
4. Science, technology, engineering, and mathematics (STEM), science, and innovation
5. Digitalization and connectivity
6. Climate adaptation and green investments
7. Information and monitoring systems
8. Funding, network, and administration
9. Institutional capacity-building needs
10. Monitoring and evaluation of impact

Findings and recommendations. Evidence-based findings and associated recommendations were distilled from the analysis and are summarized below.

Table 8. VET-related OP and NP interventions and their key features

Category	Name	Targets VET fully or partly	Status	Period	Budget in entire implementation period (millions)	Budget in 2014-2020 (million)[85]
OPSESG projects	Support of the Dual Education System	Fully	Ongoing	2020–2023	24.4	4.9[86]
	Student Practices - Phase 1	Fully	Completed	2016–2019	7.0	6.4
	Introducing European Credit System for VET	Fully	Cancelled	2017	2.0	0.0
	Support for Success	Partly	Ongoing	2019–2021	127.8	83.0[87]
	Qualification for Professional Development of Pedagogical Specialists	Partly	Ongoing	2019–2021	19.9	9.7[88]
	Career Guidance System in Primary and Secondary Education	Partly	Completed	2016–2018	5.2	5.4
NPs	Modernization of VET System	Fully[89]	Ongoing	2008–2020	31.3	12.3
	Training for IT Careers	Fully	Ongoing	2017–2020	2.2	2.2
	NP School Network Optimization: VET Module[90]	Fully	Completed	2009–2017	7.8	3.3
	Optimization of the Internal Structure of the Personnel	Partly	Ongoing	2018–2020	134.3	134.3
	ICT in Preschool and School Education System	Partly	Ongoing	2008–2020	99.1	79.7
	Student Olympiads and Competitions	Partly	Ongoing	2009–2020	29.3	18.1
	Qualification	Partly	Ongoing	2009–2021	6.9	4.8

[85] For OPs, this shows actual spending. For NPs, it shows budget allocation. 'Budget' reflects the total planned budget for the investments, also if the investment is not exclusively targeted at VET. So, for investments that are fully targeted at VET, the budget reflects the full amount allocated to VET. For partial VET-focused projects, the amount reflects the full project amount and it is unknown which share of this amount is allocated to VET.
[86] Data as per OIS, November 3, 2020.
[87] Data as per per OIS, November 3, 2020.
[88] Data as per OIS, November 3 2020
[89] From 2008 to 2015, the NP 'Modernization of VET' exclusively targeted TVET. From 2016 to 2020, a VET module in the NP 'Provision of Modern Educational Environment' exclusively targeted VET.
[90] Data provided here relate exclusively to the VET module of the NP 'School Network Optimization'. For example, the budget of BGN 7.8 million is for this module only and represents 3.7 percent of the total budget of this NP for 2009–2017.

Category	Name	Targets VET fully or partly	Status	Period	Budget in entire implementation period (millions)	Budget in 2014-2020 (million)[85]
	Support Municipalities in Activities for Educational Desegregation and Prevention of Secondary Segregation	Partly	Ongoing	2019–2020	2.0	2.0
	Together for Every Child	Partly	Ongoing	2018–2020	1.0	1.0
	IT Business Teachers	Partly	Ongoing	2019–2020	1.0	1.0

B. General observations on the collection of reviewed interventions

The collection of OPs and NPs that was reviewed allow for a number of broad-based observations regarding their number and budgets, the balance between NPs and OPs and between investments that exclusively or partially target VET, and the purpose of NPs. They are the following, which are all further described below:

1. There has been political commitment to support the TVET sector and financial allocations have been made accordingly.
2. Investments that exclusively targeted VET amounted to BGN 29.1 million in 2014–2020. Most of these funds were channelled via NPs (62 percent) rather than OPs (38 percent). In terms of budget, the NP series 'Modernization of VET System' was most important and accounted for over 40 percent of total financing for investments that exclusively targeted VET.
3. Reviewed investments that targeted general education as well as VET totalled 339 million from 2014 to date. From available documentation, it cannot be derived how much of these funds were allocated to VET nor how these investments affected VET students, teachers, and schools.
4. NPs tend to be continued over a long period of time and do not appear to achieve their purpose of short innovative pilots to inform future reforms**.**

1. Political commitment and funding for VET

There has been political commitment to support the TVET sector. Authorities have succeeded in identifying TVET-related priorities sector and, using a mixture of OPs and NPs, have allocated resources and distributed funds across the sector to address these priorities.

2. Investments exclusively targeting VET

Three NP investments and two systemic OP projects that exclusively target VET are/were implemented in 2014–2020. VET-focused NPs include 'Modernization of VET System', which started providing financing to VET providers in 2008 and still continues. 'Modernization of VET System' was a distinct NP from 2008 to 2015. From 2016 onward, VET was financed through a VET-module as part of the NP 'Provision of Modern Educational Environment'. 'Training for IT Careers' is another NP exclusively targeting VET. Third, the NP 'School Network Optimization' included a module that was specifically targeted at the VET system. The OPSESG funded 'Student Practices - Phase 1', which focused on providing practical skills to VET students through promoting work-based learning and creating training companies from 2016 to 2019. In 2020, it was succeeded by the OP 'Support of the Dual Education System', which aims to strengthen dual VET.

A fifth VET-specific project was initiated under the OPSESG, but it was cancelled due to lack of progress. The 'Introducing European Credit System for VET (systemic)' was intended to be implemented from 2017, but it was cancelled at the end of that same year without spending any of the allocated budget.

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Box 8. OPSESG and NP interventions exclusively targeting TVET (2014–2020)

OPSESG:

- Support of the Dual Education System (2020–2023)
- Student Practices - Phase 1 (2016–2019)
- European Credit System for VET (2017, cancelled)

NPs:

- Modernization of TVET (2008–2020)
- Training for IT Careers (2017-2020)

School Network Optimization - VET Module (2009–2017)

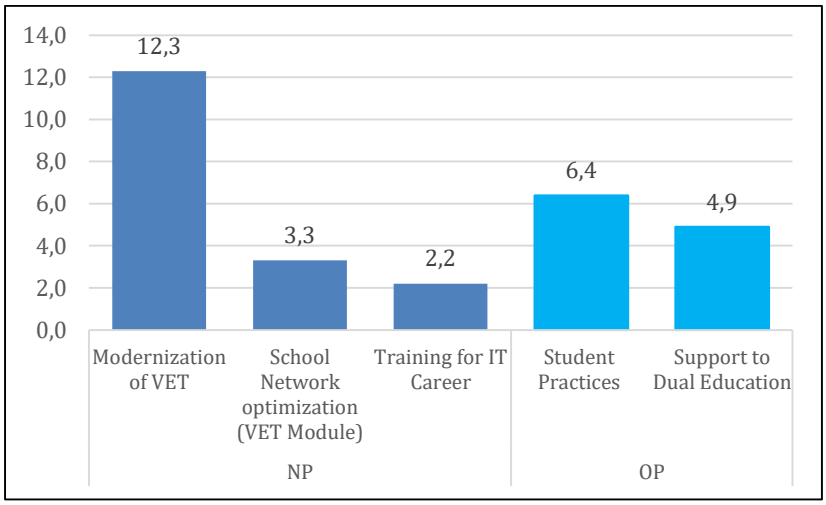
The total budget for OPSESG and NP interventions that exclusively targeted VET was BGN 29.1 million in 2014–2020, with most of these funds being allocated through NPs. Of the total amount allocated to VET-specific interventions, 62 percent (BGN 17.8 million) originated from NPs compared to 38 percent (BGN 11.3 million from OPs) (Table 9). The largest intervention in terms of expenditures in this same period was the NP 'Modernization of VET System', which absorbed 42 percent (BGN 12.3 million) of all VET-specific funding (Table 9 and Figure 28).

Table 9. OP and NP investments targeting VET, exclusively and partly (2014–2020, number and budget)

	Number of interventions		Budget 2014–2020 (million)[b]	
	OPSESG	**NPs**	**OPSESG**	**NPs**
Fully targeting VET	3[a]	3	11.3	17.8
Partly targeting VET	3	7	98.1	240.9

Note: a. This includes the OP on Qualification Framework that was terminated without any spending.
b. For OPs, this reflects actual spending up to November 3, 2020 (as reflected in the 'Information System for management and monitoring of EU funds in Bulgaria 2020' (http://2020.eufunds.bg/en/0/0). For NPs, the data reflect budget allocations.

Figure 28. Spending on VET-specific OP and NP investments (2014–2020, in BGN million)



3. Investments partially targeting VET

Beyond investments that exclusively targeted VET, there are many interventions targeting the broader education system, from which the VET system could benefit. There is no information,

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however, on whether and how these investments reached VET schools, teachers, and students. Of the 16 investments that were reviewed, 10 were targeted at multiple segments of the education system, including VET. For example, the ongoing OP 'Qualification for Professional Development of Pedagogical Specialists' aims to improve the capacity of pedagogical staff of general and VET schools. It does not have specific targets for reaching VET teachers. At the same time, the category of VET teachers comprises (a) teachers in general education subjects, (b) teachers in VET-specific subjects, and (c) teachers that combine teaching in both general education subjects and VET-specific subjects and the needs for continuous professional development of these different groups often differ substantially. Also, the project indicators measure the number of pedagogical staff who benefit from the project but without distinguishing between teachers in VET (both general and VET-specific subjects) and in general education. Another example is the NP 'Optimization of the Internal Structure of the Personnel'. This NP aims to improve the efficiency of public education spending through optimization of the internal structure of the staff in preschools and schools. As a significant (and increasing) share of VET teachers reaches retirement age, this program could be an important source for financing VET teachers' compensations in case of retirement. However, it is not known how many VET schools and VET teachers benefit from the program nor how these activities have improved the efficiency of the VET system.

In 2014–2020, investments in interventions that partially targeted VET amounted to BGN 339.0 million, of which the majority originated from NPs. It is unknown which share of these funds benefited VET. Budgets for NPs that partially targeted VET comprised 71 percent (BGN 240.9 million) of the total amount of interventions. The remaining 29 percent (BGN 98.1 million) was spent through OPSESG projects (Table 9). None of the NPs and OPs concerned had specific targets for VET in terms of budgetary allocation or indicators.

Funding that partially targeted VET was mostly provided through three investments: NP 'Optimization of the Internal Structure of Personnel' (BGN 134.3 million), OP 'Support for Success' (BGN 83.0 million), and OP 'ICT in Preschool and School Education System' (BGN 79.7 million). Together, these interventions channelled 87.6 percent of all reviewed interventions that partially target VET. The remaining seven NPs and OPs that partially target VET financed the remaining 12.4 percent, with amounts varying from BGN 1 million (the NPs 'Together for Every Child' and 'IT Business Teachers') to BGN 18.1 million (NP 'Student Olympiads and Competitions').

4. NPs as catalysts of reform

NPs do not achieve their purpose of piloting innovations to inform future reforms or larger-scale interventions. As reported during consultations, the main purpose of NPs is that they allow the piloting of new ideas to inform future reforms and investments through other instruments, such as OPs. As such, NPs are expected to introduce innovations and to be of short (annual) duration.[91] In practice, however, this aim does not appear to be achieved. Of the ten NP series that were reviewed, five had been under implementation for eight years or more. Only one of the reviewed NPs had ended (NP 'School Network Optimization', which was implemented for eight years until 2017). The other nine NP series continue to be under implementation to this date (see Table 10). The NP 'Qualification' has been supplemented with larger-scale OP 'Qualification for Professional Development of Pedagogical

[91] *Source:* Consultations with the MES and EA representatives and World Bank team on NP 'Modernization of VET', September 18, 2020.

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Specialists' and both are now implemented simultaneously. The largest and longest running NP that exclusively targets VET, NP 'Modernization of VET System', seems to resemble a structural income stream for VET schools rather than a vehicle for innovation and piloting (see also Box 9, which describes the NP 'Modernization of VET System' in more detail.)

Table 10. NP series and their duration

NP series	Number of years under implementation	Implementation status	Implementation period
Modernization of VET System	12	Ongoing	2008–2020
ICT In Preschool And School Education System	12	Ongoing	2008–2020
Qualification	12	Ongoing	2009–2021
Student Olympiads and Competitions	11	Ongoing	2009–2020
School Network Optimization: VET Module	8	Completed	2009–2017
Training for IT Careers	3	Ongoing	2017–2020
Optimization of the Internal Structure of the Personnel	2	Ongoing	2018–2020
Together for Every Child	2	Ongoing	2018–2020
Support Municipalities in Addressing and Preventing Educational Desegregation	1	Ongoing	2019–2020
IT Business Teachers	1	Ongoing	2019–2020

Box 9. NP 'Modernization of VET System'

NPs for the development of education are a separate *funding pillar* within the system of education finance in Bulgaria. The funds are distributed by providing specific-purpose grants to schools or by resourcing centrally implemented programs. NPs are considered a flexible mechanism for resourcing interventions and school activities that cannot be financed by the institutional funding provided with the unified cost standards or other earmarked fiscal transfers for (a) carrying out the activities aimed at the education and upbringing of children and pupils; (b) equal access to schooling and supporting the development of the child's personality; and (c) developing kindergartens, schools, and personality development support centers. NPs are adopted annually, but in fact most of them provide long-term financial streams to support the same set of objectives and activities. As reported during consultations on NP 'Modernization of VET System' held with MES and Executive Agency representatives, the NPs are designed to provide funding for piloting innovative ideas and testing new models and are supposed to inform future reforms and larger-scale investments through other instruments, such as OPs. However, such an innovative aspect of the NPs is not apparent from the legal acts establishing the model of school education finance.[a]

The NP 'Modernization of VET System' is the government's largest NP for VET. For the last 12 years, it has provided regular funding for VET equipment and infrastructure. The program did not evolve into a larger-scale intervention. Eight years after the launch of the first separate annual NP 'Modernization of VET System', it evolved into a module of the NP 'Provision of a Modern Educational Environment' and the annual funding gradually decreased.

The program's general objectives are to provide conditions for equal access to VET and to improve the quality of the educational process. More specifically, it aims at providing labor market responsive learning environment though funding contributions of budget and employers. For almost a decade, the NP's design was based entirely on investment in infrastructure (VET-specific equipment, machines, software, vehicles, and so on). In 2018, this activity was complemented with activities to modernize content (for example, curricula and national examinations for LPVET specialties). In 2019, a third activity was added, focusing on development and/or adaptation of teaching aids for LPVET specialties. No documentation was made available that clarified the program's intervention logic or results framework. For example, it is unclear how especially the two newest types of activities contribute to improving equity to VET.

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The indicators of the NP focus on immediate outputs, such as the number of funded school projects, established partnerships with employers, developed/updated training plans, and developed learning aids. There are no indicators on the actual acquisition of specific equipment or the numbers of students using this equipment and there are no outcome indicators.

Note: a. Pre-school and School Education Act and the Ordinance on the financing of the institutions in the system of preschool and school education.

C. Performance of selected investments on VET

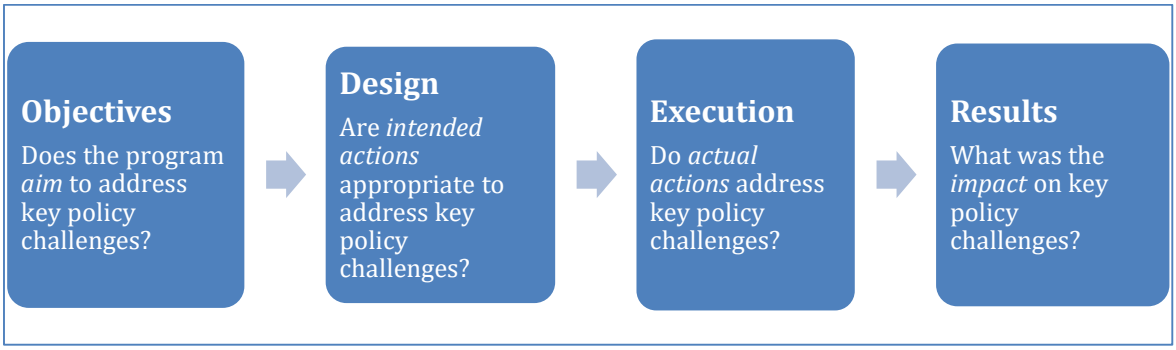
1. Responsiveness to key policy goals

As described earlier in this report, the current VET Strategy 2015–2020 articulates a broad vision for VET and translates this vision into a range of strategic goals, priority areas of impact, activities, and measures (see Section 'The Strategy and Policy Framework for VET'). The strategic goals are centered around creating optimal opportunities for learners to acquire the necessary professional and civic skills in a sustainable manner. Combined with the assessment of the current performance of the VET system in the preceding chapters of this report, this results in the following key policy goals that investments should ideally address:

1) Improving retention and completion (reducing early school leaving)
2) Improving equity in access and completion
3) Improving responsiveness to labor demand
4) Strengthening teacher development and management
5) Improving access, quality, and relevance of work-based learning.

To assess the extent to which recent VET investments have addressed these key policy challenges, it was reviewed how their *objectives*, *design*, *execution,* and *results* were aligned with each of these policy goals (Figure 29). The findings resulting from this assessment are described below.

Figure 29. Assessing how investments responded to key policy challenges



Program objectives are broadly aligned with key policy objectives. Some investments aim to increase VET enrolment, which is a government objective but without a clear justification.

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The objectives of OPs are described in their Grant Agreements. The objectives of NPs are reflected in annual NP documents adopted by the Council of Ministers. NPs' objectives are aligned with the broader policy objectives of the MES. Despite the available written documentation, the objectives of NP and OPs cannot always be clearly derived. For example, the listed 'objectives' in the Grant Agreement are not always consistent with aims of the investment that are included in the 'project description' of the same document. NPs are not always appropriately and consistently aligned with the MES annual policy objectives. For example, the NP 'Modernization of VET System' has financed similar investments over the year. However, in 2017 and 2018, this NP was categorized under the annual policy objective 'developing partnerships with VET stakeholders', while in 2019 it was categorized under the policy objective 'increasing skills in the field of entrepreneurship, information technology and active'.

Despite the challenges to clearly identify the objectives of investments, the reviewed interventions are broadly aligned with EU and government objectives and strategies and with the identified five key policy challenges. There is a particularly large number of investments that aim to support the key policy challenge 'teacher development and management'. Especially NPs have a strong focus on teachers, as 7 out of 10 reviewed NPs include element of teacher development and management. The objectives of both OPs and NPs also include regularly addressing the key policy challenges of labor market responsiveness, early school leaving, and equity. The key policy challenge of promoting work-based learning is an explicit objective in all three OPs that were reviewed and is less prevalent in the NPs.

Various interventions include increasing VET enrolment as an explicit objective.[92] However, as observed in Section 'VET Access and Completion' of this report and confirmed by MES officials, there is currently no well-founded understanding of what the appropriate number or share of VET students would be. It is therefore unclear if increasing VET enrolment is an appropriate objective.

Program design is also broadly aligned with key policy challenges, with an even stronger focus on teachers and somewhat less attention to early school leaving and equity. Investments can only achieve their objectives if their design is appropriate.[93] The review of the OPs and NPs shows that their objectives and design are not always well aligned. This means that some interventions have stated objectives which are not clearly reflected in their design. For example, the design of the reviewed OPs has a less explicit focus on the key challenges of equity and retention than is implied by their objectives. In some other cases, programs are designed in such a way that they would address other key policy challenges than are mentioned in their objectives. For example, the NP 'School Network Optimization' funds activities to prevent dropouts and the program has a separate module for inclusive education, even though improving equity and retention is not explicitly mentioned in the program objectives.

Based on their design, interventions continue to be broadly aligned with policy challenges. Interventions have an even stronger emphasis on teachers in their design than in their objectives, since OPs tend to include teacher-focused activities even when this is not clear from their stated

[92] OPs that have increasing VET enrolment as an explicit objective are the OP 'Support of the Dual Education System' and the (cancelled) OP 'European Credit System for VET'.
[93] Information on the design of OPs is provided in grant agreements and technical reports. For NPs, this information is found in decisions by the Council of Ministers for approval of the NPs for development of education for the respective year.

objectives. Planned activities in this regard include, among others, developing teacher key competencies, increasing teacher motivation, improving the attractiveness of the teaching profession, and supporting innovative teaching practices. On the other hand, the design of interventions is somewhat less focused on addressing early school leaving and equity than is implied by their objectives.

There is a concerning lack of clarity on how interventions will address early school leaving and inequities in VET. The design of programs that exclusively target VET does not include substantive activities to directly promote retention and equity. Rather, they assume an indirect impact where, for example, improved quality of teaching or learning materials would improve the motivation of students, which would in turn discourage them from dropping out. While this is not an implausible assumption, the challenges of early school leaving and inequity are so substantial that they do justify substantial and direct interventions. Such direct interventions are foreseen in the design of OPs and NPs that partially target VET, such as the OP 'Support for Success' and the NP 'Together for Every Child'. But, for these investments, information on program design does not convey which share of financing is intended to be allocated to VET nor how activities will be aligned to the specificities of VET provision compared to general education (see also Box 10).

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Box 10. Early school leaving and dropping out from VET: Data needs and limitations to evidence-based decision-making

The World Bank's analysis highlighted early school leaving as a key challenge to VET. Therefore, in addition to reviewing documentation about NPs and OPSESG projects addressing early school leaving, the team had consultations with experts from the MES Directorate for VET. This resulted in various observations related to weaknesses in the system for facilitating evidence-based decision-making:

- There are many investments in Bulgaria, funded from national or EU funds, that aim to increase outreach and combat dropping out from compulsory school education. However, there is a lack of evidence about which measures make a difference and to whom, including for those targeting VET.
- Authorities have insufficient information to inform decision-making. This makes it difficult to (a) identify students who are most at risk of early school leaving and VET programs with high shares of dropouts, (b) understand the causes of dropping out, (c) monitor early school leaving, (d) elaborate well-targeted VET-specific early school leaving interventions, and (e) monitor and evaluate the results. A well-designed and coherent data collection mechanism is needed to produce credible and consistent VET-specific information that (a) fuels an early warning system, (b) provides for data-driven interventions targeting early school leaving in VET, (c) supports coordination of intervention measures, and (d) allows for systematic monitoring and evaluation.
- The VET Directorate seems to have no clear mandate, empowerment, or engagement to address early school leaving. The responsibility for these aspects appears to lie elsewhere. The VET Directorate does not appear to be empowered to lead or contribute to functions related to (a) planning, designing, and implementing interventions targeting early school leaving and (b) monitoring the performance and analyzing and evaluating the impact of targeted policy interventions to reduce early school leaving in VET.
- Like many other OPs and NPs, interventions targeting early school leaving lack a clear intervention logic demonstrating the relationship between aims, activities, and results and a clear underlying theory of change, explaining how the different activities should lead to the expected outputs (the product of spending resources through policy interventions), results (changed attitudes and behaviors of dropouts or students at risk of dropping out), and impacts (desired social change). The interventions target both general education and VET, without having explicit budget allocations, activities, and targets for VET. Interventions do not distinguish clearly between prevention measures addressing risk factors, intervention measures supporting VET students during their VET studies, and compensation measures seeking to reintegrate dropouts back into VET programs and retain them into VET.

There is not enough information on implementation and results to assess the extent to which investments actually contributed to addressing the key policy challenges. Information on the implementation of OPs and NPs tends to be generic and concerns process steps and outputs rather than outcomes.[94] For investments that partially targeted VET, no information is available that allows to distinguish activities targeting VET from those targeting general education. Indicators are process

[94] Information on OP implementation is provided in technical reports. For NPs, it can be found in annual reports for the implementation of NPs and annual reports for the implementation of MES policy objectives.

and output oriented and do not measure outcomes (see also the below section on indicators), and no internal or external evaluation reports are available for any of the reviewed interventions.[95]

The incorporation of lessons learned from previous investments in the design of new projects appears to be ad hoc rather than systemic. The possibility to build on lessons learned is clearly hampered by the absence of evaluation reports. Where evaluations of relevant programs do exist, the approach to ensuring that good practices and lessons learned are incorporated in the design of new investments seems to be ad hoc. This is illustrated in Box 11 using the example of the design of the OP 'Support of the Dual VET Education System'.

Box 11. Support for the Dual Education System: Building on Experience and Addressing Challenges

The **OPSESG 'Support of the Dual Education System**' (Dual VET Project) was launched in 2020. It aims to (a) promote and expand the scope of dual education, (b) improve competences of VET teachers and pedagogical skills of employers' representatives, (c) improve the labor market transition of VET graduates, and (d) improve student-school-parent-employer relationships. The Dual VET Project build on two recent other projects:

- The **Swiss-supported 'DOMINO' project**, which was implemented from 2015 to 2019, introduced dual VET in Bulgaria.[a]
- The **OPSESG Student Practices - Phase 1** (2016–2019) supported, among others, the creation of over 1,800 VET–business partnerships, which resulted in the admission of 3,800 students in dual VET classes.

Efforts to strengthen and expand dual VET in Bulgaria were assessed through a review of available documents and consultations with representatives of the OPSESG EA and the MES. A key observation is that the design of the new Dual VET Project aims to build on and apply lessons learned from the previous programs. The extent to which the design of the new project facilitates this, however, is not clear from available documents. The Grant Agreement of the Dual VET Project does note that program design aims to build on 'the accumulated positive experience and good practices' of the student practices and DOMINO projects. However, the Grant Agreement does not explicitly highlight which particular practices were taken on, which were strengthened, and which were discontinued. The final review report of the DOMINO project describes a range of strengths, lessons learned, and remaining challenges, which could serve as a sound basis for the design of the new project. There is, however, no documentation that clarifies whether and how the lessons learned from previous programs were incorporated in the new project design. Moreover, some remaining challenges that were identified in the previous projects seem to remain unaddressed. For example:

- The DOMINO Final Review Report notes that the new Dual VET Project deviates from good practices established under the DOMINO project in the area of partnership cooperation. The report notes that "Systems have a natural tendency to fall back into their previous behaviours if they are not consciously controlled differently and the forces of change have a sufficiently long effect on them. The vocational training system in Bulgaria also shows clear tendencies, especially to leave the so important cooperative culture for DVET after the end of the project. The new project to promote dual vocational training with EU funds was developed in such a way that it completely contradicts the new partnership culture developed in the DOMINO project. The rhythm of the meetings and the agenda of the Consultative Council have not been fully clarified and its stability is not per se guaranteed."[b]

[95] External evaluations are envisaged for three NPs (NP 'School Network Optimization', NP 'ICT in Pre-school and School Education', and NP 'Student Olympiads and Competitions'). The process and timing for developing these is unknown.

- According to the information provided during consultations, the Dual VET Project plans to develop long-term regional partnerships/networks between municipalities, regional divisions of education, local schools, social partners, and local employers for coordinated capacity building and development of regional dual education. This would respond to main recommendations from the DOMINO Review Report. However, the current Grant Agreement description does not specify targeted investment in local capacity building.
- An essential principle applied with the Dual VET Project is that the employers share the responsibilities of financing and delivery of dual training and do not receive public funding. However, the project documentation does not provide an ex ante estimate of total employers' investment needed to ensure the sound delivery of dual training and of the associated cost-benefit challenges, especially for small and medium enterprises. Rather, the employers' contributions are expected to be determined during project implementation, through discussions between the school and the enterprise. DOMINO experience reveals, as noted by the final review, that the main incentives for employers to participate are corporate social responsibilities and the opportunity to develop and retain their future employees in a situation of increasing demand and limited supply of skilled labor. Given the depth and length of the expected post-COVID economic crisis, risk of diminishing incentives and worsening the financial viability of employers is emerging. This risk has to be considered and adequately addressed. Otherwise, it could hamper the overall sustainability of the dual model.

Note: a. *The formal name of this project was 'Swiss support for the introduction of dual-track principles in the Bulgarian vocational education system'. It was implemented under the Bulgarian-Swiss Cooperation Programme.*
b. *'DOMINO Final Review' October 2019. Business Foundation for Education and KEK CDC Consultants, on behalf of Swiss Agency for Development and Cooperation and DOMINO project.*

2. Responsiveness to horizontal policy fields

The horizontal fields of 'teachers and school leadership' and 'education quality' are well represented in the reviewed investments, although the impact of the investments on these areas is uncertain. Most investments target teachers and foresee other activities to improve education quality, such as improving equipment and curricula. Related to teachers, output indicators tend to be available on, for example, the number of teachers that received training,[96] the number of teachers participating in joint projects with information and communication technology (ICT) companies,[97] and the number of teachers receiving compensation.[98] On education quality, indicators are available on, for example, the number of developed curricula and learning aids. However, for both horizontal fields, no outcome indicators exist, so the actual impact of the measures on these horizontal fields is unclear.

Inclusive access to education is addressed, although the scope and impact are not clear. As already indicated earlier, equity in education features in the objectives of quite a few investments, although somewhat less in program design. The actual impact of the investments on VET in this area is unclear because there is no information on the VET-specific activities under investments that partially target VET, and none of the investments has outcome-oriented indicators.

[96] These indicators are available, for example, for the NP 'Qualification' and the NP 'IT for Businesses Teachers'
[97] NP 'IT Business Teachers.'
[98] NP 'Optimization of the Internal Structure of Personnel'.

There is a relatively strong focus on digitalization, a modest focus on STEM, and hardly any focus on climate adaptation. The focus on digitalization comes mostly from NPs, of which there are three that exclusively focus on information technology (IT Business Teachers, ICT in Preschool and School Education System, and Training for IT Careers). The emphasis on STEM, science, and innovation (beyond IT) is less clear, but it is possible that various investments incorporate a STEM focus in their implementation. For example, the OP 'Dual VET Project' could target STEM careers, and the NP 'Qualification' could prioritize subjects in the field of science and mathematics. Whether this is indeed the case cannot be deducted from available information on program design nor from program indicators. There is no indication that any of the reviewed investments includes a focus on climate adaption and green investments.

Unfortunately, none of the investments targets the horizontal field of impact monitoring and evaluation. Several investments include activities to build institutional capacity (mostly through training) and various investments envisaged to strengthen information systems. However, none had an explicit emphasis on the monitoring and evaluation of impact. This is unfortunate, considering that the current absence of evaluations and impact assessments makes it difficult to assess the effectiveness of any policies and investments.

3. Target beneficiaries (including regional targeting)

Investments are broadly targeted to students, teachers, and schools in the VET system. There tends to be no clear targeting of specific target groups, such as vulnerable students. OPs and NPs describe their target groups in broad terms. OP Grant Agreements include a description of the 'target group' in which beneficiaries are defined. Descriptions here tend to include not just end beneficiaries (such as students) but a broader group of actors expected to benefit from the investments. The OP 'Support for Success', for example, identifies pedagogical specialists, nongovernmental organization (NGO) representatives, and social workers as target groups. The identified target groups are generally quite broad. OPs that partly target VET tend to include 'primary and secondary school students' as beneficiaries.[99] OPs that exclusively target VET identify the broad group of 'VET students' as target group. In some cases, particular focus groups are emphasized in addition to the broader target group. For example, the OP 'Dual VET Project' targets 'VET students especially in professions of crucial economic importance', and the OP 'Support for Success' targets 'primary and secondary school students, including those at risk of dropping out'. In these cases, investments do recognize particular important target groups, but they do not aim to exclusively target them.

There are no explicit efforts made to address regional disparities. None of the reviewed investments revealed an explicit aim or effort to address regional disparities, and available indicators do not allow to assess outputs or outcomes by region.

Investments reached their intended broad beneficiary groups, although comprehensive information on this is not always available. In general, programs were designed in such a way that they could reach the intended broad target groups of students, teachers, and schools. Program indicators provide information on the reach of investments, although not comprehensively. Of the 16 reviewed investments, 12 have indicators[100] and all of these include some measure of the reach of the target

[99] This is the case, for example, in the OP 'Support for Success'.
[100] Four NPs do not have indicators at all.

groups, although not always complete. For example, the OP 'Student Practices - Phase 1' included an indicator on the number of students who benefited from in-company training, but it did not provide the number of students who benefited from training under training companies ('UTF') that were created by VET schools with financing from the OP.

It is often unclear if specifically targeted subgroups were reached. For investments that identified specific subgroups, there is mixed evidence about whether the design was actually appropriate to reach these groups. For example, the OP 'Career Guidance' aimed to reach, among others, students at risk of dropping out. However, from the description of program design it is not clear how at-risk students would be targeted, and program indicators do not provide data on this subgroup, so it cannot be assessed to which extent this objective was achieved. The OP 'Support for Success', on the other hand, includes an indicator which measures the number of students at risk of dropping out who are included in program activities.

4. Indicators and intervention logic

Of the 16 reviewed investments, only 12 have indicators, which all related to process or outputs and not to outcomes. All OPs have an indicator framework, but 4 of 10 NPs do not.[101] Available indicators tend to provide information on process, outputs, and beneficiaries. The absence of outcome indicators implies that the results frameworks do not provide information on the impact of interventions on the key policy challenges. An exception is the OP 'Support for Dual VET', which includes an outcome indicator that will measure the share of students who are employed or self-employed six months after graduation.

Program objectives, activities, and indicators can be better aligned. Indicators are not always well aligned with program objectives and/or activities. This means that the collection of indicators does not achieve its intended purpose of providing an appropriate picture of project performance, for example, because the indicators do not provide information about important parts of project activities. This, in turn, makes it difficult to impossible to assess impact, effectiveness, and cost-effectiveness of the interventions. For example,

- **NP 'Modernization of VET System':** Unlike most of the other NPs and OPs, this important investment does not include an indicator measuring the number of students who benefit from the funds
- **NP 'School Optimization':** Both the objectives and activities include a focus on inclusion, equity, and retention, but indicators measure neither outputs nor outcomes on these.
- **OP 'Student Practices':** Actions focused on providing students with work experience, either through work placements in actual firms or in 'training companies' (UTF) created by schools. Indicators measured the number of students in real work environments and the number of training companies but not the number of students who gained experience in UTFs.

Indicators generally provide broad data on beneficiaries but can be better disaggregated to capture VET-specific performance and reach of specific target groups. For example,

[101] List NPs without indicators.

- As already indicated earlier, for investments that target both general and vocational schools, indicators do not show VET-specific outputs or outcomes;
- For investments that specifically target vulnerable groups, indicators do not always provide information on whether these groups are reached. For example, the OP 'Career Guidance' was specifically targeted at students 'at risk of dropping out and with special learning needs'. However, indicators measured the number of students reached but without distinguishing these particular groups. An exception is OP 'Support for Success', which measures the number of students at risk of early school leaving who participate in project activities;
- Indicators do not always provide information on the reach to particular target groups. For example, indicators of the OP 'Support for Dual Education System' measure the number of students in dual VET. However, the project focus is on professions that are considered crucial for the economy and that distinction is not made in the indicators; and
- While the majority of VET-focused interventions have the improvement of labor market relevance as an objective, most interventions do not include indicators that measure relevance or include employers as an important beneficiary. (An exception is 'OP Support to Dual Education System', which includes share of employed students as an indicator.)

An assessment of program indicators based on the SMART framework shows that indicators are by and large measurable, time-bound, and attainable, but that specificity can be improved and there are major issues with their relevance. The indicators of those programs that do have indicators can be quantified (*measurable*) and the results framework indicates when targets are expected to be met (*time-bound*). From those programs that have been completed or have been under implementation for several years, it can be derived that targets are by and large met (*attainable*). Indicators target specific areas for improvement but, as mentioned earlier, could be better disaggregated to capture data on VET-specific performance and reach of specific target groups (*specific*). Moreover, the absence of outcome indicators, combined with the regular lack of alignment between the results framework and program aims and activities, means that the collection of indicators do not measure the right dimensions to soundly assess program performance. (See Box 12for a description of the dimensions that are assessed by the SMART framework.)

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Box 12. SMART indicator framework

The SMART framework stands for indicators that are specific, measurable, attainable, relevant, and time-bound. A brief description of each term is provided in the table below.

SMART dimensions - description

Term	Description
Specific	Targets a specific area for improvement.
Measurable	Indicator can be quantified.
Attainable	Results can be realistically achieved, given available resources.
Relevant	Indicator has strong correlation with objective.
Time related	Specifies when result is to be achieved.

D. Recommendations

1. **Continue investing resources in VET with the aim to address key policy objectives in a well-targeted manner.** The allocation of both national and EU resources to VET is essential and appropriate and should continue. The government should also continue aligning its program objectives with national and EU policy aims, although some rebalancing may be needed:

   - There is currently no evidence-based justification for the policy objective to increase VET enrolment. It is recommended that VET investments do not include a strong focus on increasing enrolment until the government has developed a sound understanding of what the appropriate number or share of VET students would be.
   - Out of the 10 reviewed NPs, 7 include investments in teacher development and management. There is an opportunity to better align these interventions with the actual continuing professional development needs of various groups of teachers. It should be considered if focusing investments on teachers in a smaller number of NPs will be more efficient. For example, it would be appropriate to develop a program for training and retraining teachers on VET-specific subjects, where both the targeting of teachers and the targeting of the skills on which they are trained is based on a clear understanding of where the priority skill gaps are.

2. **Strengthen investments to address the key challenge of early school leaving in VET.** There needs to be a clear focus on reducing early school leaving in VET. If investments to address early school leaving in VET are integrated in broader programs that also target general education (as is currently the case), then these need to include clear VET-specific targets, budget allocations, activities, indicators, implementation arrangements, and accountability mechanisms (see also recommendation 3 below). Another option that can be considered is to design programs that exclusively target early school leaving in VET (rather than bundling them with interventions targeting general education). Either way, the design of VET-specific interventions needs to consider specific characteristics of VET that make it different from general education and that therefore requires tailored interventions. This relates both to the particular features of the VET

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student body (which tend to be more at risk of dropping out) and the specific nature of VET delivery (with its strong focus on practical skills).[102]

3. **For all investments that target both VET and general education, explicitly clarify the VET-specific elements.** Many investments in VET are combined in a single NP or OP with investments in general education, for example, those targeting early school leaving and those focusing on teacher development and management. For these 'combined' investments, it needs to be clear what the VET-specific elements are. This means that it needs to be clear what the VET-specific objectives, budget, activities, and indicators are. In terms of process, it is also important to specify implementation arrangements and accountability mechanisms related to the VET-specific investments, since these may differ from those related to general education.

4. **Improve the intervention logic and measure the impact of all investments.** All investments need to have a clear and consistent alignment between program objectives, activities, and indicators. To be able to assess if investments achieve their objectives in a cost-effective manner, the results frameworks need to include appropriate outcome indicators. Depending on the objectives of the investments, outcome indicators can include, for example, indicators measuring student retention and completion, especially of at-risk students (related to dropouts and equity); job outcomes of graduates and employer satisfaction with the performance of VET graduates (related to relevance); indicators on acquired skills; and changed attitudes and behavior of teachers (related to teacher-focused investments). Program evaluations and the systematic use of evaluation findings to inform further interventions need to be part and parcel of the ministries' reforms activities

5. **Include a stronger targeting of vulnerable students, lagging regions, and priority occupations.** The focus on *vulnerable* students should be stronger and clearer, meaning that more investments should be targeted to supporting them and that these investments should have a clear intervention logic (see also recommendation 6) that is based on a clear understanding of the various causes of vulnerability and the resulting specific constraints (for example, vulnerability that is caused by poverty requires a different approach than gender-based or disability-based vulnerability). A *regional* focus is currently absent from all investments and should be introduced. Lastly, and importantly, VET investments should be better targeted at training for those professions and skillsets for which there is most need. This means prioritizing the improvement and/or expansion of training in professional areas for which there is strong unmet labor demand (nationally or locally) and strong weaknesses in the quality and relevance of training provision.

6. **Establish sound data-gathering, processing, and reporting mechanisms to enable the planning of VET-specific interventions and the allocation of resources.** The National Electronic Information System for Preschool and School Education (maintained by the MES) provides a good basis for development of a coherent data collection and data processing mechanism to produce credible and consistent VET-specific information that provides for (a) ongoing and detailed monitoring of VET enrolment and completion rates; (b) monitoring of dropouts and identification of ESL (on the system level, VET area level, regional level, and school level); (c) identifying and monitoring of vulnerability in VET (especially in terms of SES); (d) supporting design and targeting of interventions in TVET; (e) supporting of coordination of intervention measures funded by different

[102] The MES is already using the CEDEFOP Toolkit for Early School Leaving in VET, which can probably provide further insights and guidance.

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OPs and NPs; and (e) systematic monitoring and evaluation of NPs and OPs. More specifically, establish clear data gathering protocols and develop transparent information system providing (a) NPs/OPs monitoring data, (b) NPs/OPs evaluation data, and (c) reporting on NPs/OPs results. To ensure better labor market alignment of OPs/NPs, interventions focus on delivery of (a) relevant and sound forecasting data about labor market needs in different occupations, (b) comprehensive skills anticipation data, and (c) regular VET graduate tracking data.

7. **Use annual NPs to finance short pilots and alternative programmatic approaches for longer-term investments.** Annual NPs are not suitable to finance investments that span many years because they do not allow for a sound longer-term planning and monitoring process. Investments that require a long implementation period should therefore be provided through programmatic instruments with a longer implementation period. Annual NPs can then focus on providing short-term funding for innovations and pilots. In this way, provided that they are soundly monitored and evaluated, the NPs can be a very useful tool to inform future larger and longer-term programs and thereby make a strong contribution to the effectiveness and efficiency of future VET investments.

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Lifelong Learning

Introduction

The findings presented in this chapter draw on a combination of policy analysis, quantitative data collection, and interviews with experts involved in policy implementation. The documents analyzed range from European position papers and country-specific recommendations to national strategies, government websites, and technical reports for EU-funded projects in Bulgaria. Data have been gathered from a variety of sources, including global databases, such as World Bank development indicators; European statistics, such as Eurostat; and national databases, including data collected and processed by the Bulgarian NSI and relevant government databases such as that managed by the NAVET. Interviews were held with government staff involved in the implementation of LLL policy in the MES—namely the National Directorate for VET—and in the Ministry of Labour and Social Policy (MLSP)—namely the Labour Market Policy and Labour Mobility Directorate—as well as with the Director of NAVET. An interview was also conducted with a nongovernment stakeholder involved in the local implementation of a selected project which is financed by the 2014–2020 EU OPSESG.[103]

This chapter contains seven sections including this introduction.

- **Section 2** presents the LLL approach and its relevance in the case of Bulgaria.
- **Section 3** examines the current system of LLL in the country in terms of providers, governance, finance, and strategic policy framework.
- **Section 4** analyzes at key aspects of LLL at school age.
- **Section 5** focuses on adults' participation in LLL.
- **Section 6** explores issues of quality of LLL.
- **Section 7** summarizes key challenges identified and policy direction recommendations presented.

Each section includes references to lessons learned from relevant initiatives recently implemented; a summary of the key challenges identified; a review of the policy priorities identified in the current policy-making process that relate to the issues analyzed in the section; and policy directions and recommendations, including examples of international good practice for further discussion in the next stages of this technical assistance work.

Rationale

This section presents the key features of a holistic understanding of LLL and shows why an approach to education and training based on this understanding is particularly suitable for Bulgaria. The first part highlights the principles of the current broad understanding of LLL and briefly refers to the evolution of the notion in the EU's perspectives. The second part shows the current view of LLL in the country and the proposed vision of a system where LLL is broadly interpreted. It also highlights how

[103] The World Bank team members are grateful to all the interviewees who gave us their time during the meetings and responded kindly to additional follow-ups and emails.

the LLL approach to education and training can address key challenges which exist today in Bulgaria's education system, particularly regarding its relevance in a context of rapid technological changes, an aging population, and the overall decline in the size of the population.

The Concept of Lifelong Learning

Due to rapid technological change, LLL appears as a critical approach to education and training since it can contribute to not only improve employability and entrepreneurship but also to enhance the personal development of individuals and their ability to function as active members of their communities. A shift to an LLL approach to education and training is particularly suitable for a 21st century characterized by rapid changes and increasing uncertainty. If learners 'learn how to learn' and are sufficiently motivated, they will be prepared to confront new and complex problems. These individuals will have the ability to not only use what they have learned in changing and challenging circumstances but also will be able to unlearn and learn again in trying to address unforeseen problems.

Box 13. Principles underpinning an LLL approach to education and training

- It focuses on fostering and facilitating the realization of individuals as lifelong learners.
- It promotes flexible and permeable learning systems that allow for different personalized learning pathways.
- These pathways may include formal, nonformal, and informal learning.
- The development of competences—and not simply transmitting knowledge or technical skills—is at the core of curricula and learning environments' design and teachers' pedagogies.

Special attention is paid to the diversity of learners and their learning needs and contexts.

An LLL approach to education and training focuses on fostering and facilitating the realization of individuals as lifelong learners. The development of competences—and not simply of knowledge or technical skills—is at the core of curricula, learning environments, and teachers' pedagogies in this approach. Flexible and permeable learning systems that allow for different personalized learning pathways are also key in education and training systems that adopt an LLL approach. Allowing for flexible learning pathways contributes to widening participation in activities that enhance and update the populations' skills and competences either to get a better job or for the joy of satisfying one's curiosity.[104]

From an LLL perspective, learning can take place in formal, nonformal, and informal settings. Schools, universities, or training institutions are examples of formal settings. Nonformal learning takes place in institutions and are organized in study plans, but these may not necessarily lead to the learner

[104] UNESCO-ILL. 2020. *Embracing a Culture of Lifelong Learning. Contribution to the Futures of Education Initiative. Report: A Transdisciplinary Experts Consultation.* UNESCO-Institute of Lifelong Learning (ILL): Hamburg. p.12.

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receiving a qualification. Structured on-the-job training is an example of nonformal learning. In informal learning, learners often *intend* to learn, but the learning process is less structured or the learner structures it himself/herself. Learning in informal settings may include activities that occur in the family, in the workplace, and in one's daily life. Learners are expected to engage in learning throughout the lifecycle, from early childhood to post-retirement, beyond the walls of the traditional institutions of education.

Therefore, lifelong learning should not be interpreted only as learning beyond school age. This means that, even for school-age children and young people, learning activities developed beyond the school walls and the formal curricula should be regarded as part of their own learning pathways. Furthermore, in an LLL approach to education and training, the principles of competence-based teaching and the focus on the individual learners needs and their contexts should cut across all levels and settings of education, from preschool to higher education as well as in formal, nonformal and informal settings.

The diversity that characterizes learners and their contexts occupies center stage in an LLL approach to education and training. Since learning can occur in different settings and at any time in life, from this perspective, the different ways in which learners learn should be taken into account. Learners are to be considered not only in their individuality but also in the context of their environment. The teaching of competences needs to be linked to the learners' realities in ways that they can relate to these competences in the process of learning, which affects teaching methods and curricula but also the applicability in the realities of each learner, which is linked to the quality and relevance of the learning acquired. Taking the diverse characteristics of learners—from physical to cognitive and emotional diversity, to their vulnerable backgrounds—as starting points for teaching rather than as obstacles for learning shows how the LLL approach contains the potential for widening participation in learning opportunities.

Ensuring that pupils and students become lifelong learners requires a shift away from teachers as conduits of knowledge toward emphasizing the learner's ability to learn. The main aim of education from an LLL approach is to equip the learner with the necessary foundation and motivation to continue learning throughout their lives. Formal educational institutions create the foundations for learning on a lifelong basis, offering both the necessary knowledge and the skills for learners' continuous access to learning opportunities. This entails widening the scope of formal education from teaching subject-knowledge primarily to incorporating the teaching of competences essential to become a lifelong learner. These competences comprise knowledge and skills, values, and attitudes. This is why an LLL approach to education is characterized as competence based.

The EU has been increasingly focusing on the importance of adopting an LLL approach in education policy since the mid-1990s. The decision to designate 1996 as the European Year of Lifelong Learning, and the publication of the Strategy for Lifelong Learning[105] the same year marked the initial steps toward that adoption. In 2006, the first recommendations on the key LLL competences on which member states should focus to ensure their populations adapt "to a rapidly changing and highly

[105] Council of Europe (1996), in Bulgarian National Strategy for Lifelong Learning (2014–2020).

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interconnected world"[106] were published. In 2018, these recommendations were updated since, increasingly, "automation, technologies [are] playing a bigger role in all areas of work and life…" [107] The EU stresses the importance of competence-based education and defined a list of eight key LLL competences with the aim of establishing a common framework of reference for policy making across member states, detailed in Box .

Box 14. The eight key LLL competences defined in the European Council Recommendation of 2018

(1) Literacy Competence
(2) Multilingual Competence
(3) Mathematical Competence and Competence in Science, Technology, and Engineering
(4) Digital Competence
(5) Personal, Social, and Learning to Learn Competence
(6) Citizenship Competence
(7) Entrepreneurship Competence
(8) Cultural Awareness and Expression Competence

Lifelong Learning in Bulgaria

LLL in Bulgaria, as in many other countries,[108] has been narrowly interpreted thus far. An analysis of strategic and policy documents as well as insights that emerged during interviews with key government experts in Bulgaria indicate that the concept is widely understood (in practice) to refer to adult education and, in particular, as Continued Vocational Educational and Training (CVET) that leads to professional qualifications or on-the-job trainings directed to specific skills acquisition. A focus on adult 'Second Chance' education, to offer adults the opportunity to complete compulsory education and raise the level of their basic skills—mainly literacy and numeracy—appears to be emerging gradually as the second key dimension of LLL.

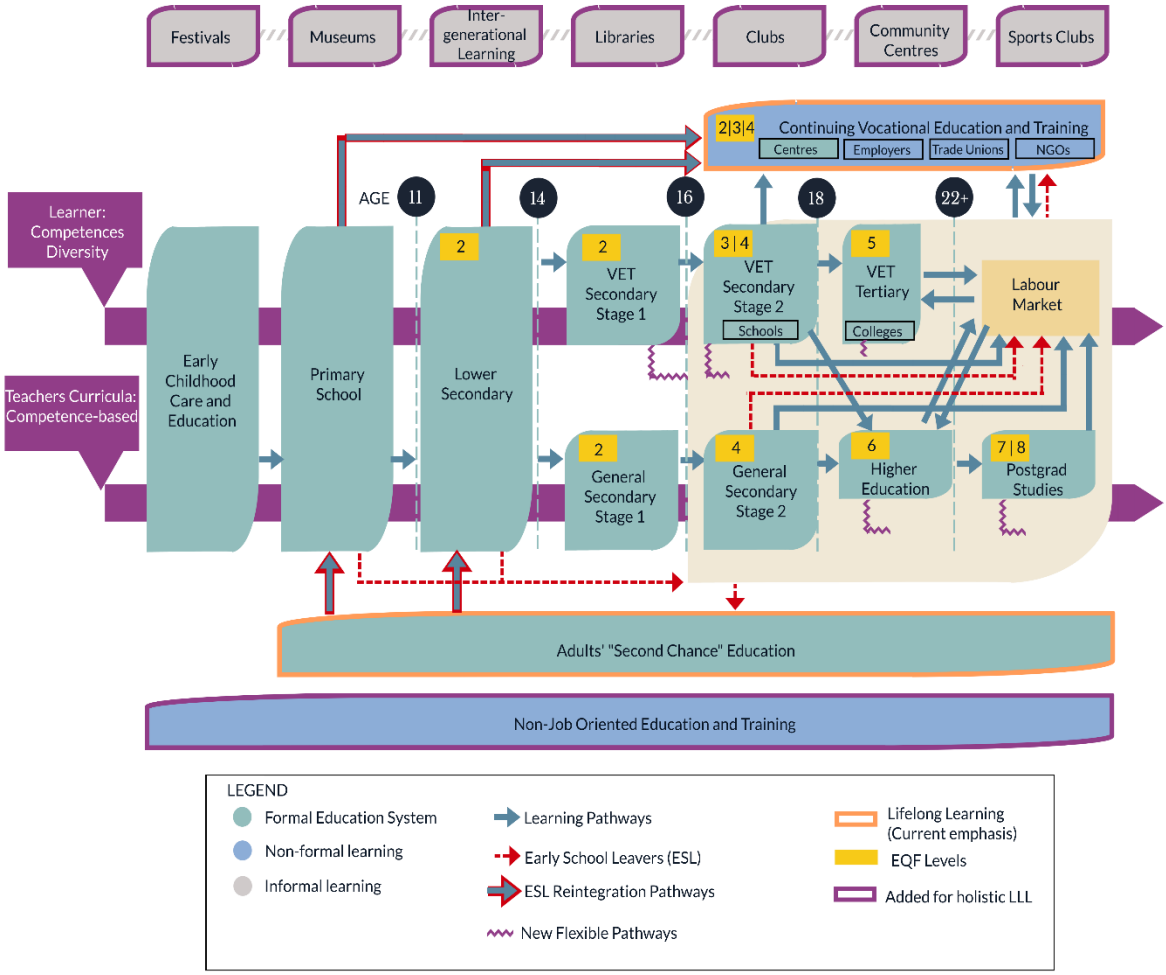
Features of an LLL approach that is embedded across all levels of education and different learning settings have received less attention in the planning and implementation of LLL initiatives in the country. These features include, especially, processes of curricular reform leading to competence-based teaching, the adoption of learner-centered approaches in the formal education system, the expansion of opportunities to engage in learning activities beyond the school system, including for school-age children, and beyond job-skills training for adults.

Several reforms introduced in recent years indicate that a nascent expansion of the understanding of lifelong beyond adult education and training could be emerging. Efforts seeking to align all types

[106] Recommendation of the European Parliament and of the Council of December 18, 2006, on key competences for lifelong learning. Official Journal of the European Union (2006/962/EC), p. 13 [annex].
[107] Council Recommendation of May 22, 2018, on key competences for lifelong learning (text with European Education Area relevance) Official Journal of the European Union (2018/C 189/01).
[108] UNESCO-ILL 2020.

and levels of education with the skills needs of the labor market have been emphasized. In addition, initial progress is evident in reshaping the education system toward a competence-oriented education and in making learning paths more flexible through processes of recognition and validation of learning obtained in different learning settings. However, as explained in more detail in Section 3 and Section 4, none of these measures have been fully and successfully implemented.

Figure 30. LLL in Bulgaria—current approach and expanded vision



Source: World Bank authors.

Figure 30 represents the current approach to LLL in the education and training system in Bulgaria and what the adoption of a more holistic understanding of lifelong learning would entail. Orange borders represent the current focus of LLL policy making in Bulgaria. This focus includes CVET for adults—defined as those who are above the age of compulsory education, that is, 16 years—and, more incipiently, on adults' 'Second Chance' education or literacy courses.

The adoption of a more holistic approach to LLL concerns three main adjustments. These adjustments are indicated in purple in Figure 30. First, this adoption would entail the effective incorporation of the crosscutting features of LLL—that is, learner-centered and competence-based teaching—across all levels and settings of education. Second, it would require an increased emphasis

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on non-job-related nonformal education and training and on the opportunities for informal learning offered by entities such as libraries and sports centers, among other possibilities. Third, to integrate these different forms of learning into the education and training system, existing education pathways would require careful assessment and possible reforms to ensure that they facilitate the creation of individual learning pathways for all individuals. The existing structure of the providers of LLL opportunities in Bulgaria, as well as participation levels are analyzed I the sections: System for Lifelong Learning Provision in Bulgaria, and Fostering Lifelong Learners of this report, respectively.

"… the challenges that Bulgaria is facing in terms of demographic changes and an increasing demand of higher and better skilled workforce suggest that adopting a broader approach to lifelong learning could contribute to unlock competitiveness and innovation in the country."

Adopting a more holistic approach to LLL would provide significant benefits to Bulgaria. LLL appears as a suitable approach to education in the times of rapid change and uncertainty that have characterized the 21st century so far, including the current COVID-19-related crisis. Additionally, the challenges that Bulgaria is facing regarding demographic changes and an increasing demand of higher and better-skilled workforce suggest that adopting a broader approach to LLL could contribute to unlock competitiveness and innovation in the country.

Demographic trends in Bulgaria are characterized by an aging population, a decrease of the working-age population as a result of birth rate trends, and a marked rise in emigration among that age group. By 2018, the share of the population ages 65 or older in Bulgaria (22 percent) was above the EU average (20 percent). This share represents the growth almost 5.5 percentage points of that age-group population in Bulgaria since 2000. Only five European countries have the same or a higher share of that age group than Bulgaria: Italy (23 percent) and Germany, Finland, Greece, and Portugal (22 percent).[109] The working-age population in Bulgaria (data are for 15 to 64 years) has been decreasing in the past 20 years, especially since 2009. From 2001 to 2019 the population in this age group registered a 17 percent reduction, from 5.37 million to 4.44 million.[110]

The share of working-age population in relation to the total population has also decreased significantly in the past two decades. From a peak of 69.3 percent in 2005, this share declined to 63.9 percent in 2019 (Figure 31). This decline is partly attributed to a sharp decrease in birth rates between the mid-1970s to 1997. During this period, births per 1,000 inhabitants plummeted from 17.4 to 7.7 and corresponds to years when a large number of the participants of the current labor force were born. Birth rates recovered slightly since then and reached EU averages, around 10 births per 1,000 inhabitants (2010).[111] However, the prospects of an increase in the size of the working-age population in Bulgaria are grim due to persistent outward migration trends.

[109] World Bank, DataBank: https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS?end=2019&locations=EU-BG&start=2000.
[110] World Bank authors' calculations based on data from the Bulgarian NSI: https://infostat.nsi.bg/infostat/pages/reports/query.jsf?x_2=1168.
[111] World Bank, DataBank: https://data.worldbank.org/indicator/SP.DYN.CBRT.IN?locations=BG-EU&view=chart.

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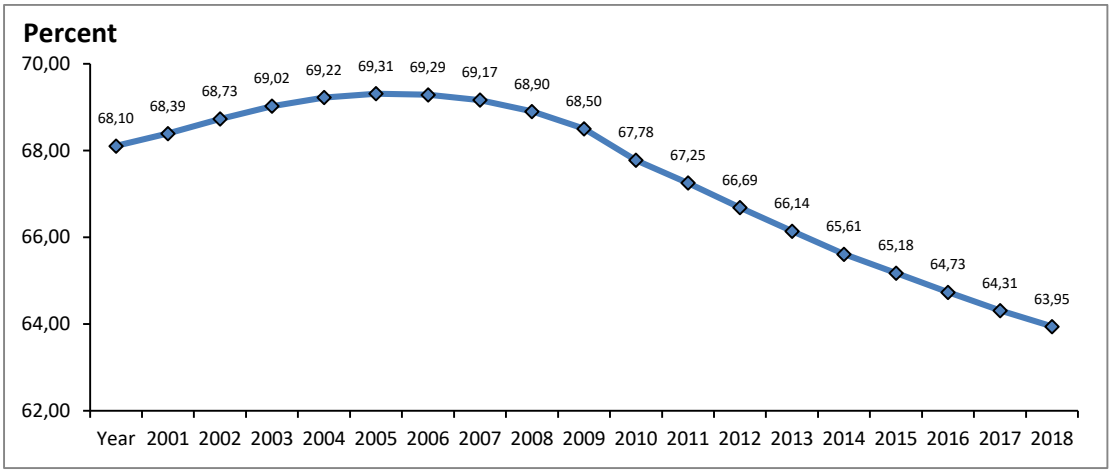
Figure 31. Share of working-age (15–64 years old) population in the total population of Bulgaria



Source: World Bank authors based on data from the Bulgarian NSI.

An analysis of migration trends since 2007 clearly shows the significant increase in outward migration and its effects on the working-age population. While 2,958 people left Bulgaria in 2007, in 2019 the figure reached almost 40,000. This increase means that outward migration grew by 12.5 percent during that period. The growth rate of emigration for those within the working-age population in that period is even higher at almost 14 percent. Since 2009, individuals between the ages of 20 and 39 years represented roughly two-thirds of the total outward migration of Bulgaria. Until 2012, significantly more women had been leaving Bulgaria. After that year, and until now, male emigration represents just above 50 percent of total emigration from Bulgaria.[112]

A number of recent studies indicate that labor and skills shortages are a central concern for firms in Bulgaria.[113] A 2018 Eurostat firm survey[114] shows that 45 percent of Bulgarian businesses believe that labor shortages limit their production and the 2019 World Bank Enterprise Survey of Bulgaria finds that inadequately trained workforce is one of the largest business environment constraints in the country, with 22 percent of responding firms reporting challenges finding skilled workers, higher than the Europe and Central Asia average of 13 percent.[115] A study by the Bulgarian MLSP, conducted in early 2020,[116] indicates that more than half of employers experience difficulties in finding staff. They declared (Figure 32) that they have difficulties in finding staff who have the necessary skills and qualifications when they seek to cover vacancies either always (27.3 percent) or half of the times (22.7 percent).

[112] World Bank authors' calculations based on data on Bulgaria's NSI data: https://infostat.nsi.bg/infostat/pages/reports/result.jsf?x_2=120.
[113] World Bank. 2020. *Bulgaria Country Needs and STI Policy Mix Assessment*. Decisions Review Draft, July.
[114] World Bank, 2020, *ibid*.
[115] World Bank, 2020, *ibid*.
[116] MLSP (Ministry of Labor and Social Policy) 2020. *Study on the Possibilities for Increasing the Income from Work and Promoting the Employment of the Long-term Unemployed and Inactive Persons*.

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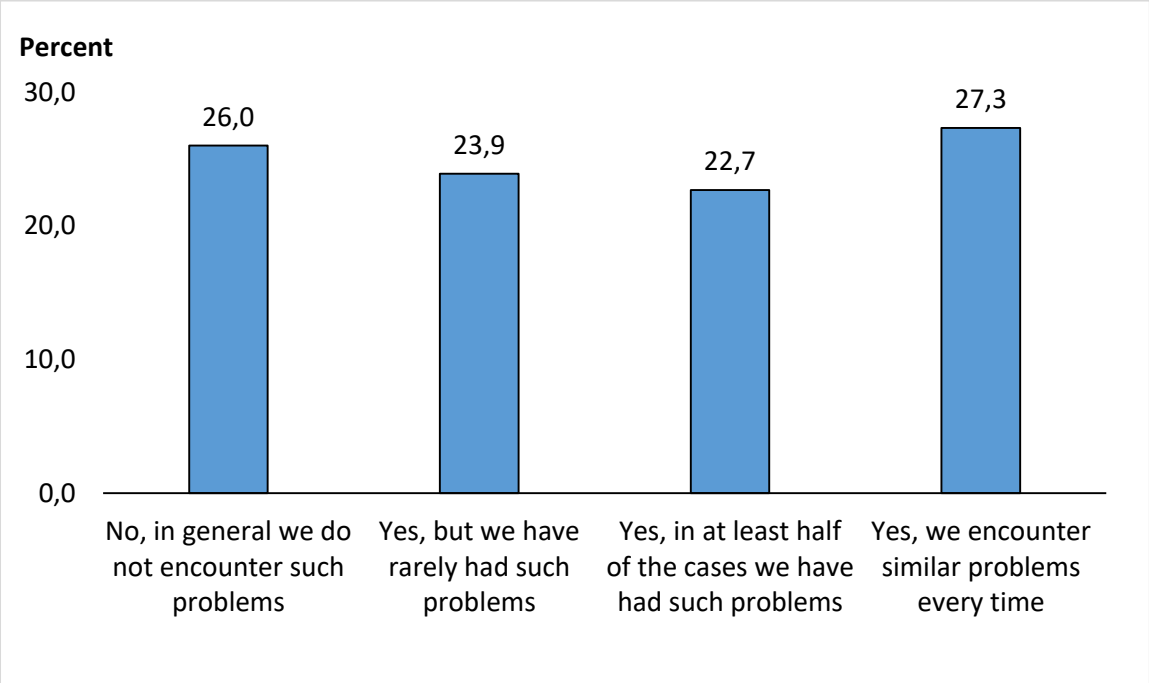
Figure 32. Share of employers who declared having had problems finding staff with the necessary skills and qualifications to fill vacancies in their company



Source: MLSP 2020.

In fact, in Bulgaria, 17.4 percent of those ages 25–64 (approximately 677,000 people) are low skilled. Yet, the number of jobs available that require only an elementary level of skills is just half the size of that population (357,000). At present, workers with advanced degrees constitute a relatively low share of the Bulgarian workforce when compared to the EU average. Bulgaria is the seventh last among all 27 EU member states in this respect (Figure 33). This clearly highlights the need for substantial upskilling and reskilling in the country,[117] especially because the demand for advanced skills is projected to increase over the next decade, while the demand for low- and medium-skilled workers is expected to decline (Figure 34).[118]

[117] Education and Training Monitoring (2019), Bulgaria, p. 9.
[118] World Bank 2020*, ibid*

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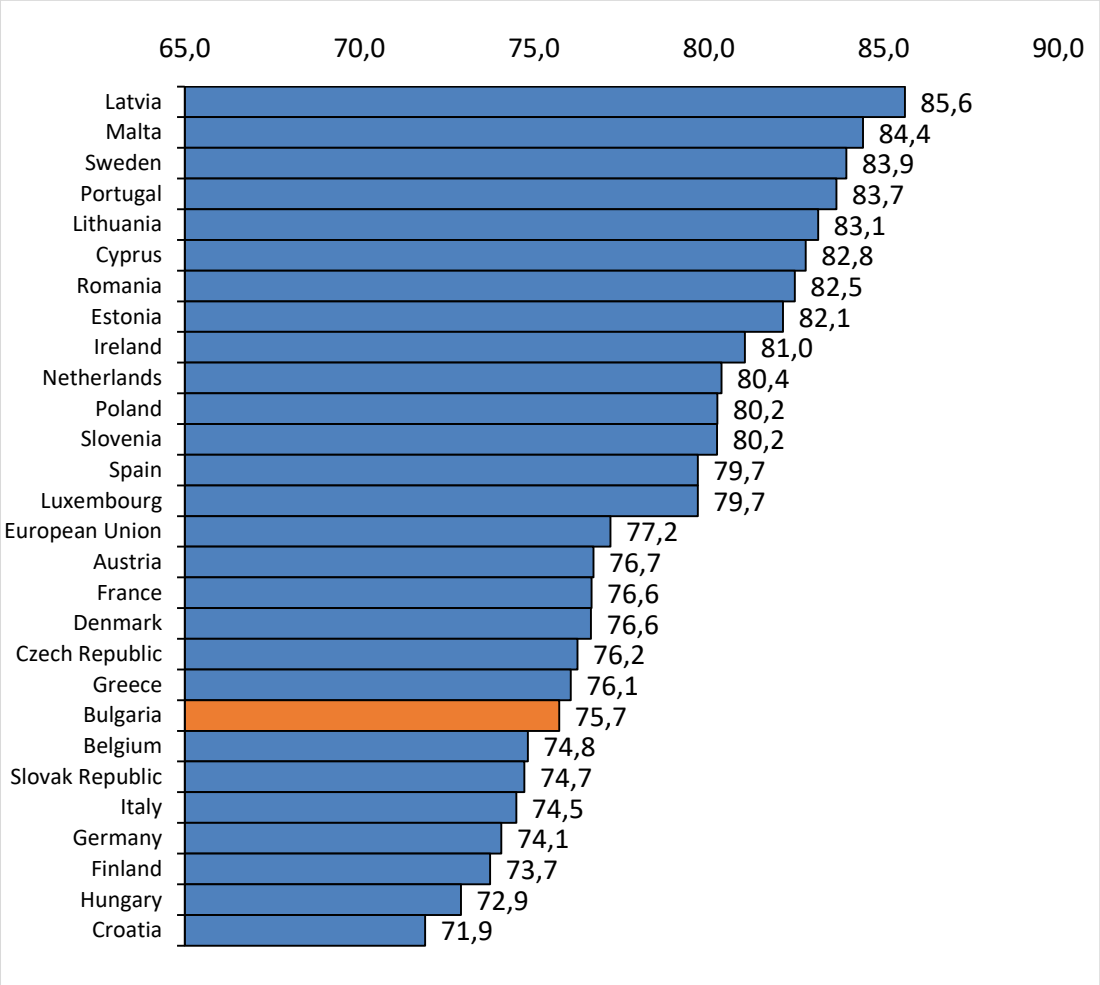
Figure 33. Labor force population with a high level of education (ISCED 5 or above), 2019 (percent)



Source: World Development Indicators (WDI).

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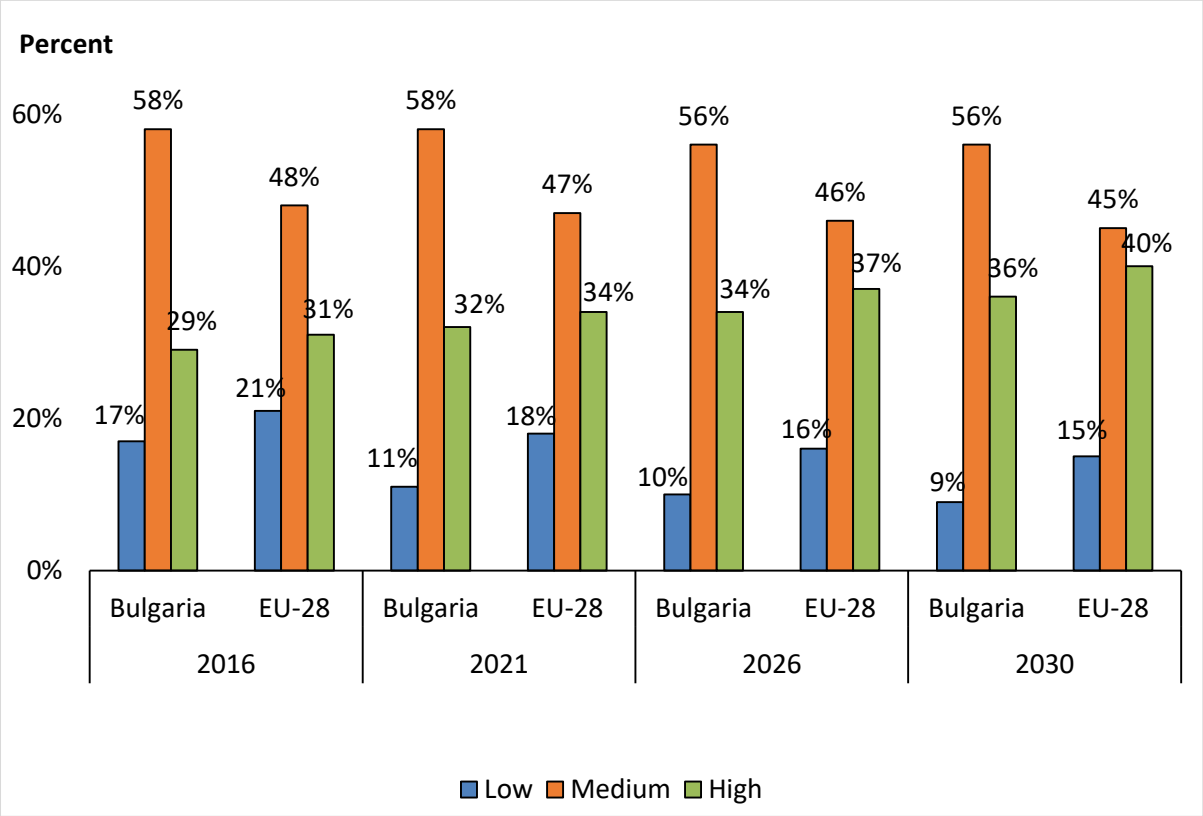
Figure 34. Forecast of labor force share by level of education, 2016–2030



Source: CEDEFOP Skills Forecast Bulgaria 2018.

Labor and skill shortages are underpinned by several factors beyond demographic challenges. Bulgaria has one of the highest rates of ESL in the EU and its young populations have been consistently underperforming in international tests assessing basic skills since these were started in the country. Moreover, among those who complete their compulsory education, teaching and learning environments are still mostly focused on transmitting subject knowledge rather than on teaching learners to learn and acquire key competences. All this means that most individuals are not only ill-equipped to enter the labor market but also that the chances to instil an LLL attitude from early stages are limited. In fact, the levels of participation of adults in education and training as well as their willingness to participate are low in the country.

> *"… most individuals are not only ill-equipped to enter the labor market but also that the chances to instil a lifelong learning attitude from early stages are limited."*

Regarding skills beyond the education attainment level or performance at school, not much is known at present about the level of basic skills such as literacy and numeracy of the adult population in the county. Bulgaria does not participate in international adults' skills surveys, such as PIRLS or Systematic Tracking of Exchanges in Procurement (STEP) and no survey of this kind is carried out at the national level. The only available data on basic skills consider digital skills, and the latest data indicate that these are particularly low. Bulgaria ranked last or near last in most of the Digital Economy and Society Index indicators related to digital skills in 2019. This affects labor market opportunities and economic competitiveness of the economy, since

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these skills are increasingly in demand. It also means less options for learning are open to these individuals as digitally supported teaching and learning, a format that is increasingly in use especially after the push given by the COVID-19 pandemic.

After offering further details about the system of LLL in the next section, the report focuses in these factors underpinning current skills shortages in Bulgaria. The section on LLL in school years looks at concerns with ESL and low basic skills acquisition, the section on LLL in adult life examines different aspects of the low levels of adults' participation in education and learning in the country, and the section on quality and relevance of LLL offers more details about the skills levels of the adult population in Bulgaria. More detailed analysis of these and other topics related to LLL aspects at school education years – such as quality and relevance – are dealt with in the separate situation analysis prepared under this RAS that look at preschool, general education and teachers.

The System for Lifelong Learning Provision in Bulgaria

This section looks at the structure of providers of LLL opportunities for adults in Bulgaria, the governance and financing of the LLL policy area, and the strategic framework and key policy measures recently introduced. It shows that the majority of the providers of LLL opportunities for adults are VET centers, which offer only professional qualifications, and notes that these trainings are mostly financed with learners' own funds. Employers are the main providers of nonformal training for adults, but small companies offer significantly fewer learning opportunities. Governance of the sector is complex and fragmented and a significant portion of the funds for LLL comes from European sources. Strategic planning and implementation for the current period and the previous have not led to significant results in relation to what the strategies set up to achieve. Part of this is related to the lack of sufficient material and institutional support and another part can be linked to interventions and investment decisions that do not clearly contribute to achieve the goals and targets set in strategy documents.

Providers

Providers of LLL opportunities include the formal institutions of the education system as well as nonformal providers, as shown in Table 11. If the relevant education authority in the country has authorized the institutions and their programs via accreditation or licenses, they are considered part of the formal system. Providers of nonformal learning opportunities include institutions and organizations offering courses of different contents and lengths for all ages, but these courses do not lead to officially recognized degrees. They can be as varied as foreign language or IT courses and work-based training offered by employers or art history programs run by museums. These courses usually do not lead to officially recognized educational or qualification levels.

The formal system of education and training in Bulgaria currently consists of a total of 5,258 institutions. Within these, 4,216 are formal institutions that offer educational services ranging from early childhood to secondary education—1,840 are kindergartens and 2,376 are schools, including 1,963 general schools, 358 VET schools, 25 arts and 21 sports professional schools, and 9 special education schools.[119] In addition, post-secondary university education is offered in 52 higher

[119] NSI: https://www.nsi.bg/sites/default/files/files/publications/education2020.pdf

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education institutions, distributed between higher schools and university colleges, and 23 post-secondary non-university colleges provide professional training leading to professional qualifications but not general education degrees. Finally, training opportunities leading to the acquisition of professional qualifications are offered in VET centers, which are licensed and overseen directly by NAVET and of which there are currently 967. While the majority of schools and post-secondary educatio**Error! Not a valid link.**n institutions are public, VET centers are mostly private.

LLL opportunities for adults in Bulgaria are mostly offered in the form of training for acquiring professional qualifications and training for acquisition and improvement of basic skills.[120] Considering as adults those individuals above the theoretical age for completing lower secondary studies in Bulgaria (16 years old), the formal education institutions and study programs that offer learning opportunities for them are presented in Table 11.

Table 11. Providers of formal LLL opportunities for adults in Bulgaria, by 2020

Type of provider	Requirement for entry	Description Level of education or qualification offered	Number of providers
VET schools	EQF2	▪ Secondary education stage 2 ▪ Duration: 2 years (theoretically 17–18) ▪ Leading to EQF3 or 4 and ISCED3	358
VET colleges	EQF3 or 4	▪ Post-secondary non-tertiary education ▪ Duration: 2 years (theoretically 19–20) ▪ Leading to EQF5 and ISCED4	23
VET centers	EQF2 level of qualifications require only primary school (EQF1/ISECD1)	▪ Qualification training ▪ Duration: varies from 6 months to 2 years ▪ Leading to EQF2, 3, or 4	967 360 offer full qualifications 607 offer only partial qualifications
Schools offering adult 'Second Chance' education	Secondary school stage 1 (ISCED2) or below	▪ Can be primary, lower secondary, or secondary stage 1. ▪ Generally, the aim is to reach minimum ISDCED/EQF level requirements to access a training leading to professional qualification or complete compulsory formal education.	*Not located*
Universities and tertiary colleges	Secondary school stage 2, either VET or general	▪ Higher education ▪ Duration 3 years for professional bachelors and 4 for bachelors; 2	52

[120] Employment Promotion Act, https://www.az.government.bg/pages/zakoni/. Accessed November 27, 2020.

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years for masters and 4+ for doctoral studies
- Leads to ISCED and EQF6, 7, 8

Source: World Bank authors based on Education and Training Monitor 2020 (Bulgaria), Bulgarian NSI, NAVET, and interviews with government experts.

VET schools, VET centers, and VET colleges[121] offer trainings leading to professional qualifications for adults. Yet, according to the current legislation in Bulgaria, training in VET centers leads only to qualifications that provide access to the labor market but not to an educational degree. Learners can also choose to train for a full qualification or for a partial qualification in VET centers (that is, a specific part of a profession). If learners who obtained a qualification from a VET center wish to obtain an educational degree, they need to take a separate test. The lowest level of qualification granted by VET centers is EQF2, which is equivalent to the EQF level achieved at the end of secondary education, that is, ISCED3. Therefore, a learner who obtains an EQF level 2 qualification could sit an exam, if desired, and obtain a secondary education degree.

Other institutions besides VET schools, VET colleges, and VET centers provide job-related nonformal training in Bulgaria and, if they obtain authorization from NAVET, can also provide formal training. These comprise ministries, municipalities, universities, general hospitals, employers' organizations, workers' and employees' organizations, and individual employers. Seven providers of these kinds have been identified: the National Institute for Training and Qualification in the Educational System Educational System (NITQES), the Bulgarian-German Vocational Training Center, the Center for Special Education Support, the Bulgarian Industrial Capital Association (BICA), the Bulgarian Industrial Association - Union of the Bulgarian Business (BIA), the Confederation of the Independent Trade Unions of Bulgaria (CITUB), the Confederation of Labour 'Podkrepa', and the Federation of Societies for Spread of Knowledge.

Various forms of enrolment are available for the training programs offered by all of these providers. They include day, evening, or part-time enrolment as well as independent learning. Distance—either by correspondence or online—and work-based learning (in the case of programs that offer dual education in VET schools) are also available. The availability of these different modes of learning are decided, as well as the number of enrolments, by each training institution and can be agreed with the applicant. However, not all programs are offered in all forms and the most popular study form in upper secondary VET is daytime. This was attended by 85.9 percent of VET learners in 2017.[122]

In Bulgaria the main institutions that offer adult education an training focused on improving skills needed for jobs – usually knows as Continued VET (CVET) are the employers and the training they offer is mostly nonformal. As of 2015, there were 11,793 enterprises offering training in Bulgaria. The education they provide consists mostly of work-based training, usually technical and skills oriented, and it is offered to their employees. It can be financed completely or partially by the companies (directly or indirectly, for instance, they could use work time for the training activity or they could finance equipment) and undertaken in the company or outside.[123] When the trainings offered by companies are part of dual education programs or internship schemes run in partnership

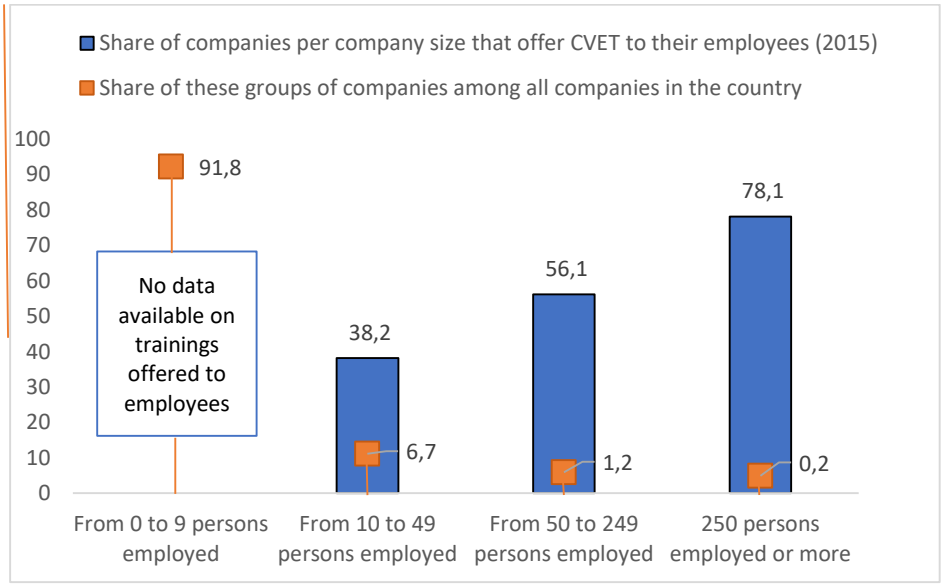
[121] Learners within the age of compulsory education (up to 16 years old) train for professional qualifications in vocational high schools, arts schools, theological schools, sports schools, and schools in prisons.
[122] CEDEFOP. 2018. *Vocational Education and Training in Short Description Bulgaria.* p. 25.
[123] Bulgarian NSI: https://www.nsi.bg/en/content/4925/enterprises-provided-cvt.

with formal educational institutions, however, these programs are considered part of the formal system. A recent World Bank enterprise survey found that only 20 percent of firms in Bulgaria offer formal training to their employees. This is below the Europe and Central Asia average of 31 percent. The exception is the firms in the manufacturing sector, of which 63 percent offer trainings, above the Europe and Central Asia average of 50 percent.[124]

"… while more than 80 percent of the companies with 10 or more employees in Bulgaria have between 10 and 49 employees, less than half of the companies of this size offer any form of training to their employees."

In fact, it is mostly large companies that offer CVET in Bulgaria, and they constitute a small portion of the companies in the country. According to the Bulgarian NSI Survey on Continuing Vocational Training (CVTS), in 2015, 11,793 companies with 10 or more employees offered trainings to their employees.[125] Yet, enterprises with 10 or more employees constitute, as Figure 35 illustrates, only a small share (8.1 percent) of all companies in Bulgaria. [126] The large majority of companies in Bulgaria have 9 or less employees (91.8 percent), but data on trainings provided by companies with less than 10 employees are not collected by this NSI survey. Furthermore, it is companies with more than 250 employees that offer more learning opportunities to their employees (78 percent); yet, only 0.2 percent of companies in Bulgaria are this big.

Figure 35. Big companies offer more trainings to their employees, but constitute a very small share in the total number of companies in the country (2015)



Source: NSI.

[124] World Bank. 2020. Bulgaria Public Expenditure Review, Draft July.2020
[125] Bulgarian NSI: https://www.nsi.bg/en/content/4925/enterprises-provided-cvt.
[126] NSI, "Annual Data for Business Demography by size of the enterprise"

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A number of providers of nonformal learning opportunities that are not directly job-related are present at the community level. Bulgaria has a tradition of cultural community centers ('chitalishte'-читалище) that offer nonformal trainings. They also provide access to their library and internet services, which facilitates informal self-study for small towns and villages.[127] In 2020, there were 3,699 registered chitalishte in Bulgaria.[128] In all of Bulgaria there were in the same year 160 museums and they organized more than 50,000 lectures, more than 2,000 exhibitions, and more than 500 book discussion clubs.[129] There are also 3,214 sports clubs, which provide both structured and self-guided sports activities.[130]

Adult education for completing basic education or raising literacy or numeracy skills is run by schools. International NGOs may also run literacy courses for adults, especially targeted to ethnic minorities or vulnerable populations, but these usually do not lead to official education degrees or qualifications. Data on numbers of schools that run adult second chance or literacy courses are not collected by the NSI, which may indicate that this policy area is only incipiently developed or strategically marginal. Before the transition to a market economy in 1990, adult basic education was not regarded as necessary since enrolment in either education or in some form of employment was compulsory and education was so only until grade 8, that is age 13 years instead of 16 as it is now and since 1990.[131] Public money (either national or EU funds) can be used in the context of these projects for materials and books.

Governance and Finance

The MLSP, together with the MES, shares responsibilities in the governance of adult education and LLL in Bulgaria.

- **The MLSP** develops, coordinates, and implements the state policy for retaining and stimulating employment and adult training and strives to ensure that the needs of the national labor market are covered. For this purpose, the MLSP, together with other ministries and social partners, annually develops a National Employment Action Plan. The National Employment Promotion Council at the MLSP discusses the list of professions in which vocational training of unemployed people is to be conducted.
- **The MES** implements the state policy in the field of VET school and colleges, including for adult education. Among other functions, the MES maintains the register of the institutions in the system of providers of training for acquiring professional qualification; it approves the number of places for training in the state VET institutions, including for public VET centers, and accredits training programs leading to qualifications. The MES is also responsible for approving the list of professions for VET and every two years it proposes to the Council of Ministers a list of protected and priority professions, based on MLSP forecasts on shortages of specialists in the labor market. These lists are defined by the MES for both VET and higher

[127] Bulgarian National Strategy for Lifelong Learning 2014–20.
[128] https://chitalishta.com/?act=regions
[129] https://www.nsi.bg/en/content/4659/museums-and-organized-events
[130] http://registers.mpes.government.bg/registers/r1_clubs
[131] This emerged from interviews with key government experts and was complemented with information included in Ministry of Finance. 2003. *Overview of Public Spending: Education. State, Problems and Opportunities*: p. 5. Additional interviews with government experts in adults' literacy courses could not be conducted due to COVID-19 infections.

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education. The MES also is responsible for adult literacy initiatives and maintains a database with information of adults' participation in education.

In addition to the MES and the MLSP, the finance and management of the community, cultural and sports organizations are governed by the Ministry of Culture and by the Ministry of Youth and Sport. These organizations are part of the current landscape of LLL and adult education in Bulgaria, but they are also critical providers of learning opportunities across all ages. They may offer nonformal and non-job-related learning as well as opportunities for informal learning.

Other national ministries and organizations are involved in different aspects of the governance of adult education and learning regarding job-oriented training. These include the Ministry of Health and other sectoral ministries and departments, as well as employers' organizations and workers' organizations. These ministries and organizations participate in the development and updating of the list of professions for VET and make proposals for inclusions in the list of protected and promoted professions. Some ministries are directly responsible for the training institutions that are under their remit.

NAVET is responsible for issuing licenses to authorize the operation of VET centers. It maintains a register of VET centers and the licences issued and revoked, as well as the register of the centers for information and vocational guidance. NAVET develops and proposes to the Minister of Education and Science, for the ministry's approval, the list of professions for VET and the State Educational Standards that correspond to the trainings to acquire those professions. NAVET also defines indicators for VET centers to provide annual information on their activities and for the centers to use in their own internal processes of quality self-assessment. NAVET also has responsibilities related to the validation and recognitions of professional skills and competences—it supports VET institutions that conduct validation processes and it promotes international recognition of VET qualifications.

The Employment Agency, under the remit of the MLSP, is in charge of guiding job seekers to relevant trainings that could enhance their employability. Therefore, their local branches connect prospective learners, mostly unemployed or economically inactive, with the trainings offered in VET centers, VET schools and the adult literacy courses. The Employment Agency also maintains close links with companies to identify their needs for qualifications and skills and direct these learners toward qualifications that are more sought after by employers, considering the predisposition, interests, and talents of each person.

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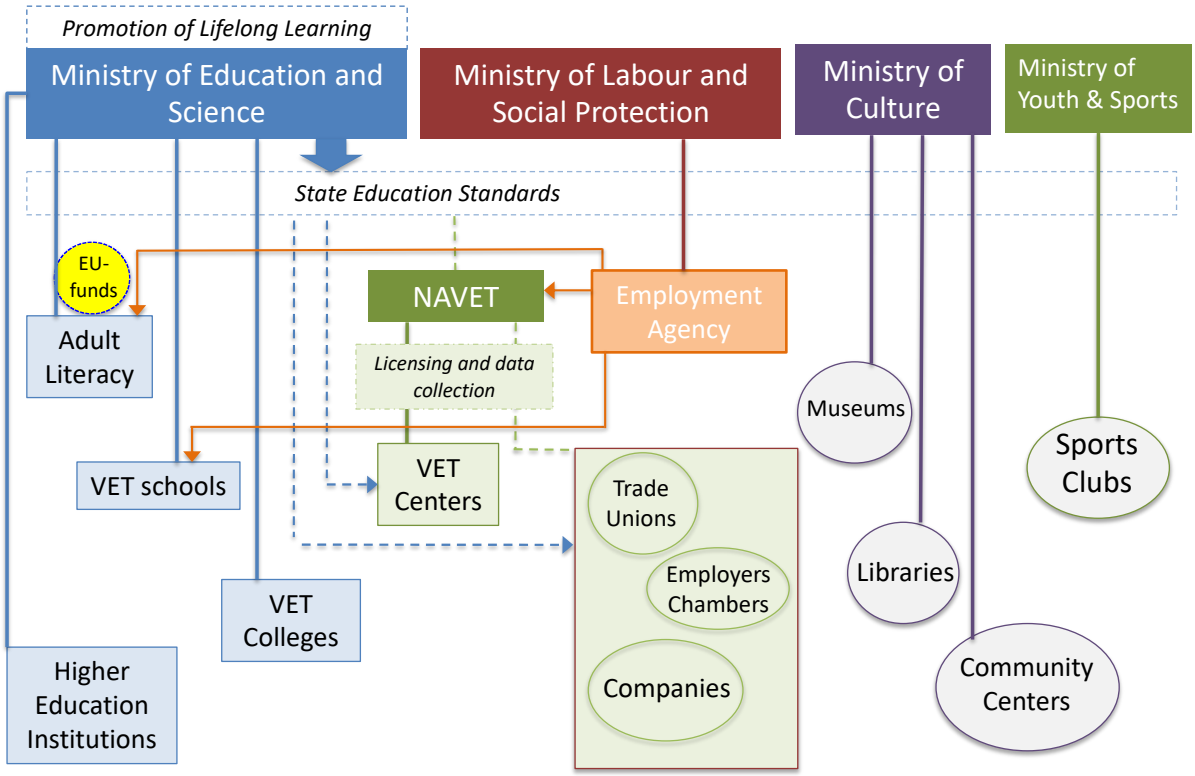
Figure 36. Complex and fragmented governance of LLL in Bulgaria



Source: World Bank authors.

The governance of the LLL sector as set up currently in Bulgaria is complex and fragmented. As Figure 36 illustrates, the management of the school and formal system is under the MES. The MES is also responsible for the promotion of LLL in the system and for setting strategic direction in these policy areas with the VET Directorate being the most actively involved unit in the ministry in charge of promotional activities related to LLL and adult education. At the same time, the Ministry of Education coordinates the development and updates of the State Educational Standards (SES),[132] which set out the guidelines to ensure that all education and training provided – including in the community or organizations from the labor market (companies, trade unions, or employers' chambers), if their trainings are formal – complies with the needed quality and contents required for the degrees that are granted. Finally, the Ministry of Education is responsible for adult literacy courses but there is no dedicated unit in the ministry and management of the sector appears to have been focused on the administration of EU investment funds allocated to fixed-term projects for adults' second chance programs so far.

[132] The Law on Preschool and School Education of Bulgaria from 2016 indicates that education is carried out according to established State Educational Standards, formerly known as State Educational Requirements. These requirements are formulated in terms of learning outcomes and comprise the study content, the type of school, the grading system, the documentation of education, the textbooks, out-of-class and out-of-school activities, material, cultural and environmental conditions, medical care, and medical and hygiene education rendered in schools and kindergartens. *Sources:* ELANI, Literacy in Bulgaria, 2016; and experts' interviews.

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Responsibility over the different educational institutions that offer adult education and training is also compartmentalized. Within the MES, the VET Directorate is responsible for VET schools, including those that offer courses targeted to adults, and the Directorate of Preschool Education and Content, as responsible for general education, liaises with the schools offering adult literacy programs. d VET Centers, instead, are within the remit of the National Agency for Vocational Education and Training (NAVET), which is under the Council of Ministers. The NAVET issues VET Centres – as well as other training organizations that provide formal trainings leading to professional qualifications - their licenses to operate. VET Centres, VET schools' adults' courses, and adults' literacy courses, in turn, operate in close relationship with the Employment Agency, at the MLSP.

At the moment there is no system of quality assurance (QA) for adult literacy or for VET schools and VET centers and their respective programs. The NAVET participates in the development of SES by coordinating the sectoral councils that prepare the first proposal of VET SES, which are submitted to the MES These are submitted to the MES for their consideration. The State Educational Standards are used as the guideline to ensure quality both in VET schools and VET centers. There are also curricula for adults' second chance education which have been developed in the contexts of the EU-funded projects for adults literacy and consist of an adaption of the SES to adults' education needs. In addition to issuing the licences, the NAVET holds an information system that collects data such as enrolments, graduates, and types of qualifications offered in the licensed providers. Yet, the system of QA in VET was abolished in 2016 with the approval of the Law for Preschool and Education[133]. The law establishes that a methodology for QA in VET should be developed but this has not yet materialized. The MES regional education units have advisory and control functions on VET schools and represent the main system instrument to ensure quality in the VET schools. There' isn't a similar system exists VET centres and other providers licensed by NAVET. These develop their internal quality assessment system based on the system of indicators provided by NAVET and present to NAVET annual reports (self-reported) based on those indicators which are kept in the NAVET Information System. NAVET only keeps register and data reported by the VET centers it licences but does not visit the providers for QA purposes.

In the case of higher education, the official body responsible for external QA of higher education institutions is the National Evaluation and Accreditation Agency (NEAA). The NEAA's methodology follows the rules and procedures adopted in the European Higher Education Area (EHEA) and recent efforts have been focused in the full alignment of the NEAA's methodology with the European Standards and Guidelines approved in 2015 (ESG 2015). The NEAA is the only authority in Bulgaria that can accredit higher education institutions and thus grant them the right to issue higher education degrees. It is assumed, hence, that any courses offered by higher education institutions that are tailored in any form to the particular needs of mature students also require the accreditation of the NEAA.

[133] SG No. 68 of July 30, 1999, article 42 (Amended, SG No. 103/2002), point 2a (New, SG No. 36/2009, amended, SG No. 61/2014), accessed April 30, 2020.

Box 15. Laws governing LLL and adult education in Bulgaria

Law on Preschool and School Education (from 2015, in force since July 18, 2017, last amended September 18, 2020). It regulates the quality management process, including in continuing education and training.

Law on Vocational Education and Training (promulgated, SG No. 68 of July 30, 1999, last amended, SG No. 21 of March 13, 2020). It defines the goals and tasks of the system of VET, as well as its structure and EU nature. Regulates the organization, institutions, management, and financing of the system of VET.

Law on Higher Education (promulgated, SG No. 112 of December 27, 1995, last amended and supplemented, SG No. 17 of February 25, 2020). It defines the structure, functions, management, and approaches for financing higher education in the country. It defines the purpose of higher education, namely the training of highly qualified specialists above secondary education and the development of science and culture.

Law on the Development of the Academic Staff in the Republic of Bulgaria (promulgated, SG No. 38 of May 21, 2010, last amended, SG No. 68 of February 25, 2020). It defines the public relations related to scientific degrees and academic positions in the Republic of Bulgaria and the principles for acquiring scientific degrees and holding academic positions.

Law on Lending to HE Students (promulgated, SG No. 69 of August 5, 2008, last amended, SG No. 107 of December 24, 2014) regulates the terms and conditions for lending to students and doctoral students by the state. The main purpose of the law is to improve the conditions for access to higher education

Employment Promotion Act (promulgated, SG No. 112 of December 29, 2001, last amended, SG No. 21 of March 13, 2020) introduces opportunities for employers to finance CVET. It also encourages the recruitment of new staff and the creation of jobs for trainees.

Law on Recognition of Professional Qualifications (promulgated SG No. 13 of February 8, 2008, last amended SG No. 895 of October 24, 2017).

There are four sources of funding for adult education and training in Bulgaria: the state budget, the European Structural and Investment Funds (ESIF), employers, and the learners themselves. In addition, a number of training programs targeted to vulnerable groups are financed with international cooperation funds. As per Figure 36, how state funding for education and training is channelled is denoted by full lines and coincide with the institution that is responsible for their management.

State expenditure in education is low in Bulgaria. In 2018, the total budget expenditures in Bulgaria for education reached 3.5 percent of the GDP.[134] This represents an improvement in relation to previous years, but still public spending on education remains among the lowest in the EU, as Figure 21 in the above chapter on VET shows.

While continuing VET in the secondary and post-secondary levels is funded by public funds, VET centers are mostly private and training is self-funded by the learners. Some learners can obtain scholarships or vouchers if the trainings are offered in the context of EU-funded OPs in 2014–2020 or to be paid by the program. But in most cases, the individual trainees pay the costs of trainings in VET

134 Eurostat, in Education and Training Monitor 2020, Bulgaria Report: https://ec.europa.eu/education/sites/default/files/document-library-docs/et-monitor-report-2019-bulgaria_en.pdf

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centers. Data from different sources found that, in 2016, 53 percent[135] and, in 2018, 60 percent[136] of trainings had been paid by the trainees themselves. In the higher education system, 14 out of 52 higher education institutions (27 percent) are private and do not receive state funds. But students also pay fees in public higher education institutions. In the 2014–2020 EU financial period, a scholarships program was made available to eligible students in these institutions. Adult literacy courses, as Figure 36 illustrates, have been funded mostly with ESIF so far.

Investment in work-related adult training is low in Bulgaria when compared to the rest of the EU. Available figures show that in 2015/16 only EUR 177 million were invested in adult training in the country.[137] Only 5 out the 28 EU countries invested less than Bulgaria in adult education in the same year: Estonia (EUR 133 million), Lithuania (EUR 117 million), Latvia (EUR 81 million), Cyprus (EUR 77 million), and Malta (EUR 55 million). Bulgaria's investment in adult education is 170 times less than what Germany invested, which is the EU country that invested the most in adult training in that year (EUR 26,155 million), followed by France (EUR 21,713 million) and Italy (EUR 9,550 million).[138]

In Bulgaria, employers make most of the investments in adult training and their share in this investment in the country is significantly high when compared to the rest of the EU countries. In 2015/2016, employers in Bulgaria financed 80 percent of adult trainings. In no other EU country, except for Romania (86 percent), Luxembourg (85 percent), and Malta (82 percent), was the employers' share in investments in this policy area higher than in Bulgaria. In turn, state expenditure in active labor market policies targeted to adult training was only 4 percent. Only in Slovakia the contributions from state active labor market policies for adult training were smaller, at 2 percent.[139]

[135] European Center for the Development of Vocational Education, Vocational Education and Training in Bulgaria, Short descriptions, 2018.
[136] Analysis of the activity of the Centres for Professional Training and Centers for Information and Professional Orientation. NAVET presentation, National Conference 2019 https://www.navet.government.bg/bg/media/Ref_lovech_analiz_CPO.pdf (data from 2018)
[137] The data may be incomplete because they exclude investments made in adult education in the formal education system (adult literacy 'second chance' courses and upper secondary school) and by companies in the public sector and those with less than 10 employees. However, as explained earlier, small companies tend to invest less in trainings in Bulgaria and the vast majority of adult trainng takes place in VET centers which are linked to the active labor market policy field under the orbit of the MLSP rathar than that of the MES.
[138] European Commission. 2019. *Education and Training Monitor 2019*. Luxembourg (August), p. 76.
[139] European Commission 2019.

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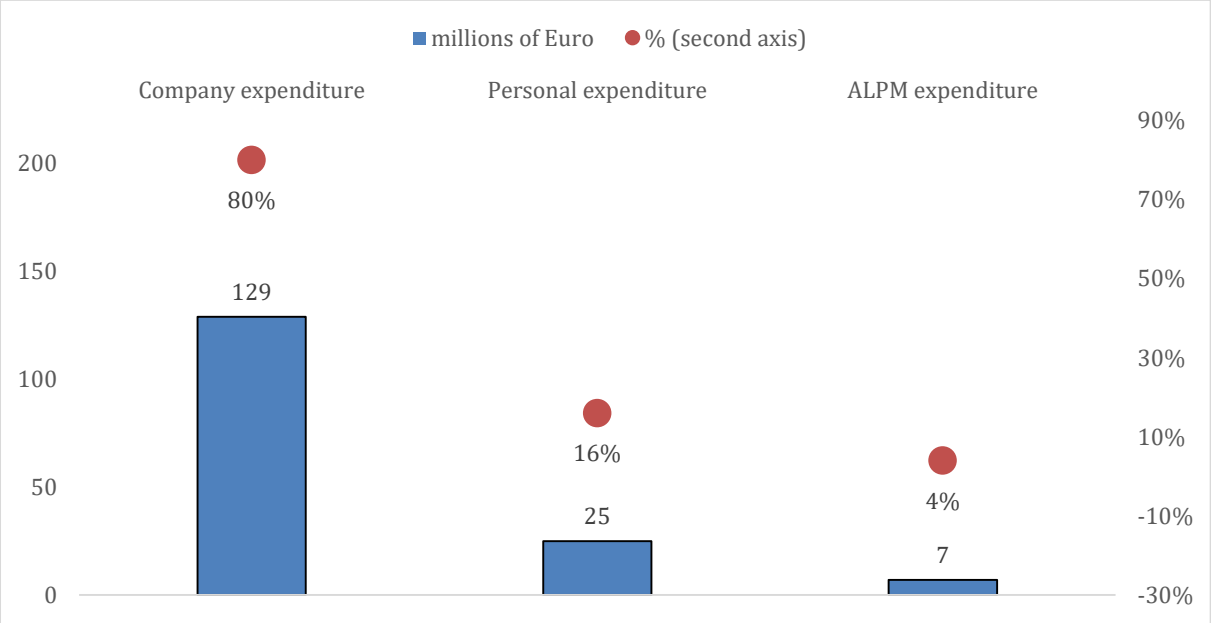
Figure 37. Investment in adult learning (EUR, millions) Bulgaria 2015/2016



Source: World Bank authors based on Education and Training Monitor 2019, Figure 35.

Only partial data are available for expenditure in adult training beyond work-related training and post-secondary, non-tertiary education training. However, the literature reviewed indicates that in Bulgaria financial barriers to accessing adult education outside those financed by employers are prominent.[140]

Public investment in LLL-related interventions consists of European funds, mainly of ESIF, and national funds. Money allocated for LLL-related interventions increased from BGN 1,049.3 million in the 2007–2013 programming period to BGN 1,272.3 million in the 2014–2020 period. The increase is proportional for these two main sources of funding and in both periods the share of European funding remains just over a quarter. The increase in ESIF in the second programming period reflects a new intervention for the development of school students' activities for the promotion of extracurricular activities and increased funds for adult literacy. There was also an increase in national funds allocated to the National Employment Plan's measures for training of adults, which was channeled through the Employment Agency.

[140] Boyadjieva, P., P. Ilieva-Trichkova, R. Stoilova, V. Kirov, G. Yordanova, and D. Nenkova. 2019. "Adult Education for Vulnerable People in Bulgaria: Challenges and Opportunities." ENLIVEN Policy Brief.

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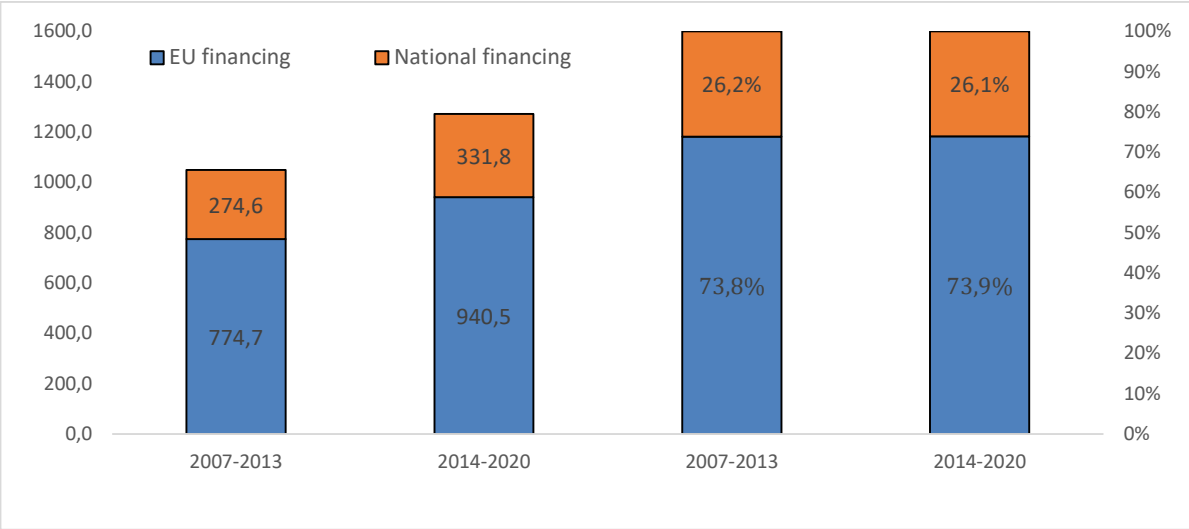
Figure 38. Public funds for LLL-related interventions, by source of funding (BGN million and %)



Sources: National Budget report of Republic of Bulgaria, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, and 2020; Unified management information system for the EU structural instruments in Bulgaria 2007–2013; Information system for management and monitoring of EU funds in Bulgaria 2020; National Action Plans for Employment 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, and 2020.

Most of the public funding for LLL-related interventions is allocated to training for employed and unemployed people with a focus on work-specific skillsIa These trainings may comprise skills development, reskilling, motivation, activation, and support for employment of different target groups with specific needs (including people with disabilities, NEETs, youth unemployed, people aged 50+. Funding for other measures such as adult literacy or career guidance is significantly lower (Figure 39). The money for policy development decreased in the 2014–2020 period as national budget funds for LLL in the MES budget were reduced. This means that funds decreased for activities such as strategic planning (including the preparation of action plans and analyses as well as the maintenance of monitoring and evaluation instrument like the National Information System for Adult Learning), coordination of stakeholders' networks, and dissemination and information events and materials.

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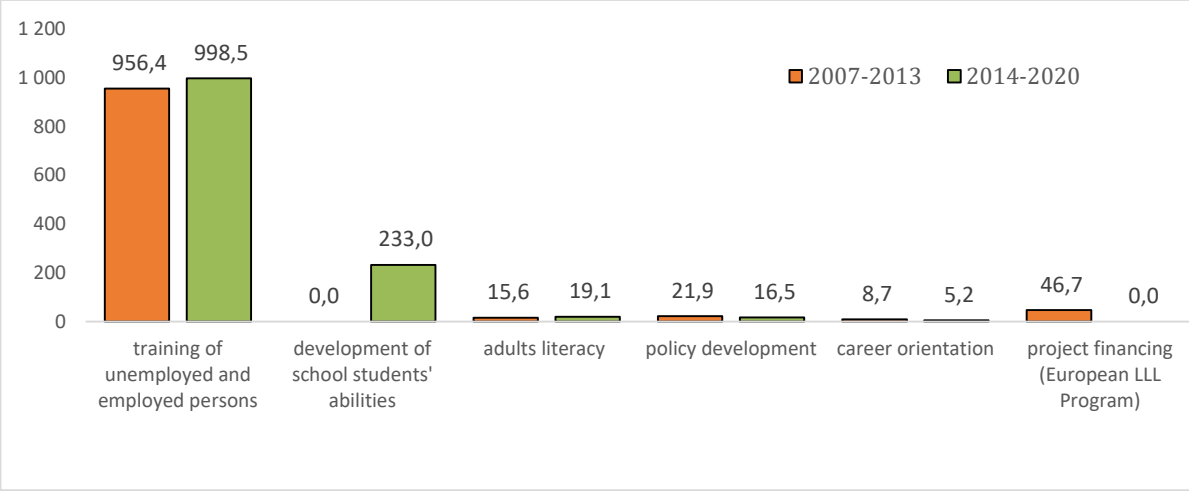
Figure 39. Allocation of public funds for LLL-related interventions, by type of intervention (BGN, millions)



Sources: National Budget Report of Republic of Bulgaria, annual reports published between 2007 and 2020; Unified management information system for the EU structural instruments in Bulgaria 2007–2013; Information system for management and monitoring of EU funds in Bulgaria 2020; National Action Plans for Employment, annual plans published between 2007 and 2020.

European funds have accounted for a significant portion of the funds allocated for LLL-related interventions in Bulgaria for the past 13 years. Moreover, their weight has increased in the current programming period when compared to the previous one, as shown in Figure 40. This raises the question of whether it is possible to achieve policy sustainability in this area without EU funds. Complementarities with national funds are crucial for the measures to cover a larger share of the target groups defined in ESIF-funded projects and to, therefore, meet national targets for LLL.

Many of the strategic goals and targets set in the NSLL for the 2014–2020 period have not been followed by clearly related measures and funding. In general, the annual plans for the implementation of this strategy have focused more on administrative and coordination measures, which are important for the policy, but activities that directly provoke change and solutions to the problems identified are often missing. Future strategic and action planning would require careful consideration of the connections between the design of interventions and their funding with the objectives and targets set at the strategic level.

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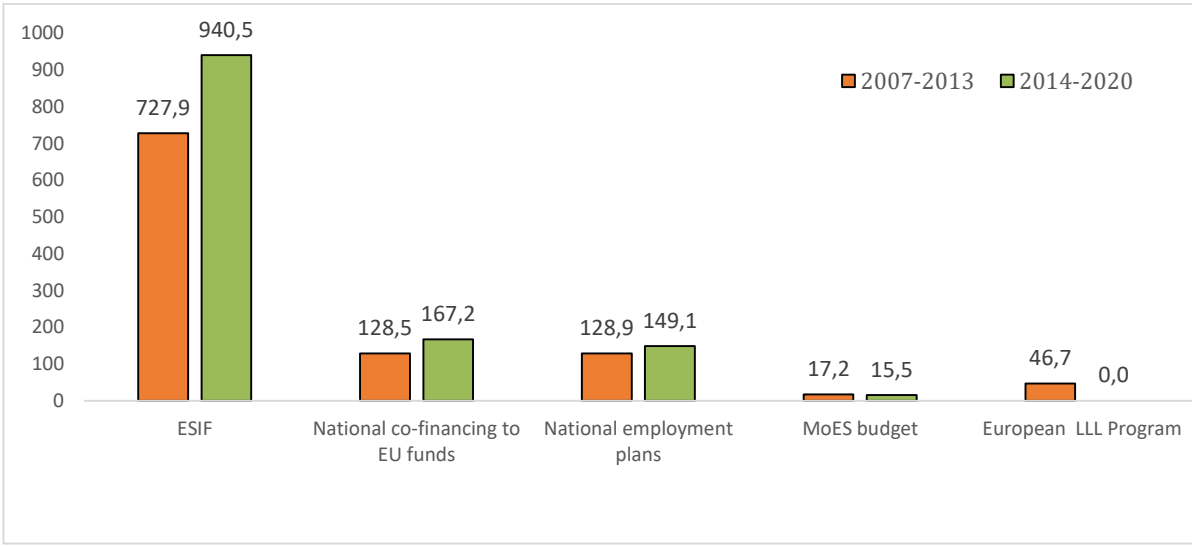
Figure 40. Public financing of LLL-related interventions, by funding lines (BGN, millions)



Sources: National Budget report of Republic of Bulgaria, annual reports published between 2007 and 2020; Unified management information system for the EU structural instruments in Bulgaria 2007–2013; Information system for management and monitoring of EU funds in Bulgaria 2020; National Action Plans for Employment, annual plans published between 2007 and 2020.

Strategic and Policy Framework

In 2014, in the context of the start of a new financial period of ESIF, Bulgaria, like most EU member states, launched a new NSLL. This NSLL defines the strategic framework of the state policy for education and training for the period 2014–2020.

The NSLL 2014–2020 followed a previous strategy for LLL that covered the 2008–2013 period. The differences in the focus and priorities adopted in these strategies denote an expansion in the understanding of LLL at the level of strategic planning. The 2008 strategy stated that LLL concerned learning across life, but in defining policy directions for different stages of individuals' development, activities were defined only for secondary school, including those offering VET, for higher education, and for adult learning, defined as that in which anyone above 16 years old would participate if in need of updating their skills. In the 2014–2020 strategy, the focus is expanded to also cover preschool and basic school education. Furthermore, while the strategy for 2008–2013 had two key priorities—improving access and ensuring quality and efficiency of LLL—the NSLL for 2014–2020 added two more key priorities—one related to innovation in education and training and the other related to aligning education and training with the needs of the labor market. In both levels, focus, and priorities, the 2014 NSLL denotes an expansion in the understanding of LLL.

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"Future strategic and action planning would require careful consideration of the connections between the design of interventions and their funding with the objectives and targets set at the strategic level."

Regarding the activities and impact areas proposed in the 2008 and 2014 strategies for LLL, the latter strategy pays more attention to contextual factors beyond the structure of the education and training system. In the 2014 NSLL, the importance given to curricula reform in the previous strategy is subordinated to the acquisition of key competences. The latter, in turn, are related in the 2014 strategy to the importance of improving students' achievements and special concern emerges with addressing the issue of early leavers of the school system. On-the-job training, which was a key sub-priority in the 2008 strategy, is seen in the 2014 strategy as one approach among others, including increasing links with employers, to improve the alignment of education with the needs of the economy. Furthermore, in the 2014 strategy the importance of enabling conditions is noted and, as such, the coordination of the interaction of different stakeholders in the LLL policy area as well as the development of opportunities for nonformal and informal learning is presented as one of the areas of action.

Looking closer at the Bulgarian NSLL for 2014–2020, this strategy adopts eight impact (or action) areas. The first impact area regards the creation of a functioning LLL environment and specifies that the strategy concerns all levels of education. It requires to focus on learners' personal and professional objectives, and, thus, the building of more flexible learning paths and the promotion of learners' participation in forms of learning beyond the formal educational system, supported by an extensive use of the NQF, are essential. The other impact areas refer to different levels of education: preschool education, early school leaving in general education, VET and in particular on ensuring employability of those graduates, and higher education. Transversal LLL aspects are also included in the list of impact areas and they include key competences across all education levels, nonformal and informal learning, and the importance of the coordination of stakeholders in the governance of a well-functioning LLL environment.

Regarding key competences, NSLL 2014–2020 incorporates a ninth key LLL competence for the country. The key competences defined in the NSLL comprise the eight key competences adopted in the 2008–2013 strategy as recommended by the EU in its 2006 communication—and later updated by the EC in 2018 (see Box 16)—and a ninth key competence. The ninth competence regards skills in support of sustainable and healthy lifestyle.

For each of its impact (or action) areas NSLL 2014–2020 defines a set of actions that are required to address the issues identified for the area. For instance, to create a functioning LLL environment (impact area 1) the strategy proposes, among other actions, the application of the NQF and to develop sector-specific qualifications frameworks, the introduction of a validation and recognition system and of a credits system for the VET area that is compatible with the one in place in higher education. In case of concerns with ESL and performance in general education (impact area 3), some of the actions include the development and implementation of an early warning system to prevent dropout, the introduction of an electronic registry of students until completion of secondary education, and the creation of adequate paths to facilitate the reintegration of ESL back into formal education.

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NSLL 2014–2020 was designed as a comprehensive strategy for the education sector, and thus nine thematic educational strategies were developed along with or after the NSLL.[141] These strategies were developed with the intention to address specific topics and problematic areas related the achievement of the NSLL's goals. They are in different manners connected to the NSLL. The Strategy for Promoting and Raising Literacy (2014–2020), for instance, focuses on the performance of school-age students in a basic skill that is linked to one of the key LLL competences as defined by the EC and the Bulgarian NSLL. The strategy for active life of the elderly associates the active life and health of the elderly with participation in the social life, including in voluntary activity, LLL opportunities including for technical and job-related training and thus ensure permanence in the labor market.

The 2014-2020 NSLL offers a better-defined set of indicators to measure progress toward the priorities set than the 2008 strategy did, but the link between the actions and objectives proposed with the indicators and targets selected was not made explicit in either. While the 2008 strategy presented only a list of 11 indicators, the 2014 NSLL also includes baseline values and targets for the list of indicators selected. Also, the 2014 NSLL provides definitions and sources of each indicator and links them to the different action areas of the strategy. While the 2014–2020 NSLL included a table establishing the connection between the strategy's priorities with the selected indicators, no clear rationale was presented to link the activities set out for each action area and the progress these would generate towards the targets set.

NSLL 2014–2020 sets out 11 targets to achieve by 2020. These 11 targets are detailed in Table 12. In addition, the strategy includes two more targets related to participation in nonformal and informal learning settings: to increase the share of the population ages 25–64 who take part in nonformal learning from 24.4 percent in 2011 to 38.0 percent in 2020 and to increase the share of the population ages 25–64 who take part in informal learning from 12.5 percent in 2011 to 18.0 percent in 2020.

Progress toward the targets set in NSLL 2014–2020, however, has been modest if not nil. An exception is the progress made in relation to the employment target. Regarding the most relevant indicator for LLL in adult education and learning—'participation in LLL of 35–64 years old'—progress has been negligible. It is not only still distant from the 5 percent target but it is also only 0.5 percentage points above the baseline value of 1.5 percent (Table 12).

The lack of progress in these indicators is more concerning if it is considered that work on most of the indicators in NSLL 2014–2020 had already started with the NSLL 2008–2013. Except for two indicators in the list of NSLL 2014–2020—those related to employment and to illiteracy—the same indicators were included, among others, to measure progress with the objectives set in the 2008–2013 strategy. The deficient progress made as of 2019 with indicators present in the 2008–2013 and 2014–2020 LLL strategies reveals a persistent lack of improvement for 12 years in areas of LLL repeatedly made national strategic priorities. Further analysis of the indicators relative to the progress made toward the 2014–2020 NSLL targets is included in the next sections of this report.

[141] The thematic strategies linked to the NSLL are the following: (a) National Strategy for Reducing Early School Leaving (ESL) (2014–2020); (b) Strategy for Promoting and Increasing Literacy (2014–2020); (c) Strategy for the educational integration of children and students from ethnic minorities (2015–2020); (d) Strategy for the effective implementation of information and communication technologies in education and science (2014–2020); (e) Strategy for the Development of Vocational Education and Training (2015–2020); (f) National Strategy for the professional development of pedagogical staff (2014–2020); (g) Strategy for the development of higher education (2014–2020); (h) National Strategy for the Development of Scientific Research (2017–2030); (i) National Strategy for active life of the elderly (2016–2030).

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Table 12. Targets set in the NSLL (2014–2020) and progress to date (%)

INDICATOR		BASELINE (2012)	TARGET (2020)	Progress by 2019
Children covered by the preschool education from 4 years old to 1st grade		87.80	90.00	82.40[a]
Reduce share of ESL ages 18–24		12.50	11.00	13.90
Reduce share of 15 years old with poor achievements *[that is, below 2nd level in PISA]*	In Reading	39.40	30.00	47.10[a]
	In Maths	43.80	35.00	44.40[a]
	In Science	36.90	30.00	46.50[a]
Increase number of graduates in IT, technical degrees (for example, manufacturing, architecture, construction)		no	At least 60	41.01[a]
Increase share of higher education graduates among 30–34 years old		26.90	36.00	32.50
Increase employment rates of 20–64 years old		63	76	75
Increase participation in LLL of 25–64 years old		1.50	5.00	2
Decrease share of illiterate *[definition and baseline source: Census 2011]*	15–19 years old	2.00	1.50	n.a.
	20–29 years old	2.30	1.50	n.a.

Source: Bulgarian NSLL and Eurostat.
Note: a. 2018.

Monitoring progress toward the objectives and targets set in the NSLL is a challenging task due to the cross-sectoral and inter-institutional character of the LLL policy area, and this may preclude policy learning and adjustments. In addition, the fragmentation of the governance of LLL in Bulgarian results in overload of tasks and coordinating activities for staff mainly allocated to other related educational and training units across relevant government bodies. For instance, staff at the VET Directorate in the MES, who hold the most responsibilities in the promotion of LLL in the country, need to gather data and information from ministries such as the Ministry of Culture to assess progress and approaches to participation in cultural activities or to coordinate with NAVET to track progress on enabling LLL opportunities for the unemployed or those who left the education system early (ESL). The challenges in the processes of monitoring and evaluation of the strategy may have precluded the possibility to adjust or change the actions being taken to address the priorities identified in the strategy and thus to achieve the targets set.

In addition, tracking progress through monitoring investment in LLL proves challenging. The World Bank team attempted tracing the progress made toward the actions set in the NSLL in 2014 by an analysis of the national budget, but again this proved extremely challenging as numerous funding lines may contain aspects linked to the LLL strategy but are not disaggregated as such in the budget

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information. In addition, while funds used for LLL-related activities coming from the EU can be traced and combined in this analyses, several funds for education come from international donors and this requires a separate tracking exercise. These observations regarding the difficulties in assessing progress made toward LLL objectives again underline the need to find more coordinated approaches to the governance of this policy sector in Bulgaria.

> *"The deficient progress made as of 2019 with indicators present in the 2008–2013 and 2014–2020 lifelong learning strategies, reveals a persistent lack of improvement for twelve years in areas of lifelong learning repeatedly made national strategic priorities."*

Another reason for the difficulties in assessing the progress made toward objective and targets set in NSLL 2014–2020 concerns policy planning. Due to fragmented strategic and policy planning, aforementioned the NSLL-related strategies may lack targets and indicators or define objectives differently. For instance, the strategy for active life of the elderly does not include clear targets nor does it propose indictors to follow up progress in the achievement of the vision and priorities set out. This is also a consequence of the fragmented governance of the sector, which affects the instances of policy planning.

Despite the bureaucratic and coordination hurdles that need to be overcome to assess the progress in the LLL policy area, a few implementation reports have been produced by the GoB in relation to both national LLL strategies. Annual implementation reports have been prepared for 2014 and 2015[142] and a final evaluation report on the implementation of the NSLL throughout the 2014–2020 period is under preparation and is due for publication in March 2021. An equivalent final evaluation report was published in 2014 for the 2008–2013 strategy.[143]

A number of key measures seeking to address the main priorities set out in NSLL 2014–2020 have been identified. These include the development of a coordinated system to provide career guidance, the introduction of a dual system of education, the expansion of the extracurricular offer in schools, the creation of protected and priority professions for VET and higher education, the adoption of a validation and recognition system, the provision of literacy courses for adults, and the development of a system to monitor adult education in the country as well as a network of stakeholders in adult education. Table 13 presents general descriptions of the measures identified. Further details on selected measures are presented in the next sections, on LLL in school age (Fostering Lifelong Learners), adults' participation in education and training (Learning for Life: Adults' Participation in LLL 5), and quality and relevance of LLL (Quality and Relevance of LLL Opportunities).

[142] http://www.strategy.bg/StrategicDocuments/View.aspx?Id=880
http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=476
[143] https://www.mon.bg/upload/6629/otsenka_LLL_strategy_28_01_2013.pdf

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Box 16. Lessons Learned I
The European Platform for Adult Education and the National Coordination Group for Lifelong Learning

A National Support Service to the **Electronic Platform for Adult Learning in Europe** in Bulgaria was established in 2014 and its hosted by the MES as part of its role as national coordinator for the implementation of the European Agenda for Adult Learning in Bulgaria.

EPALE is an online platform where different stakeholders—including professionals, experts, leaders, education providers, teachers, and trainers at regional, national, and European level—share experiences, debates, and events' information. It is not targeted for the participation of learners.

It is an EC initiative and it is funded with Erasmus+ funds.

In parallel, a **National Coordination Group for Lifelong Learning** was established in 2014 in Bulgaria. Its creation responded to the action set up in NSLL 2014–2020 to create a 'Council' for LLL.

The coordination group is a consultative body whose main tasks are to develop LLL-related strategic documents and monitor the implementation of NSLL 2014–2020, as well as support the activities of the national adult learning coordinator. In this respect, more specific tasks include the preparation of annual plans for implementation of the strategy and an annual report on implementation of the strategy and its submission to the Council of Ministers (by June 30) as well as the development of policies for adult learning in a common coherent framework.

The group also has responsibilities related to the implementation of activities related to the NSLL, including developing a national LLL platform, raising awareness of the benefits of adult learning, improving interaction with all stakeholders, and facilitating the exchange of good practices.

Positives

- Interaction with stakeholders and promotional activities such as the organization of seminars for sharing practices and debates has contributed to raise awareness among key stakeholders involved in the delivery of adult education.
- A number of reports and analyses have been produced at the regional or sector-specific levels by motivated stakeholders.
- A system for collection of data on adult education has been set up.

Pending issues

- The preparation of specific strategies, implementation plans, and monitoring and evaluation reports has been limited mainly due to material and human resource constraints.
- The analyses and policy directions that emerged from stakeholder exchanges and contributions from the field have not been mainstreamed in policy decision-making for the sector.
- The maintenance of the data collection system for adult education is disconnected from other relevant government databases and its update requires sustainable financial and institutional support.

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Table 13. Key initiatives adopted in recent years in Bulgaria in the LLL policy area

The National Employment Action Plan 2020	✓ It aims to upskill unemployed people from disadvantaged groups through training and subsidized employment, particularly in municipalities with high levels of unemployment. ✓ Some programs are envisaged to also cover the employed. These programs are financed with 2014–2020 ESIF under the OP 'Human Resources Development'. ✓ A key issue identified so far with regards to this plan is the reduced availability of adult trainings aimed at people with disabilities and people from minority groups.
The Employment Promotion Act (2001, 2017)	✓ Promulgated in 2001 and amended and supplemented in 2017. ✓ It sets out the options for the funding of continuing education and training by employers, the recruitment of new staff, and the creation of training placements. ✓ It defines the opportunities available from the state budget for the training of teachers in adult education and development of training materials and activities related to organizing the selection and evaluation of institutions offering adult education The activities are organized and financed by the Employment Agency.
System for validation and recognition of non-formally and informally acquired knowledge, skills, and competences in the VET sector	✓ As of January 1, 2015, Ordinance № 2 of 13.11.2014 on the terms and conditions for validation of professional knowledge, skills, and competences of the Minister of Education and Science is in force. ✓ For vocational training centers that plan to carry out validation according to Art. 5. para. 3 of the ordinance, it is necessary to specify in the regulations for the activity of the vocational training center the validation procedure and the obligations and responsibilities of the participants in the validation process. ✓ According to Art. 15. para. 1 of the ordinance, the vocational training centers must notify in writing to NAVET at least one week before the dates for the examinations. ✓ The manual for validation of professional qualification acquired through nonformal and informal learning was developed within the project BG051PO001-4.3.03 'Creation of a system for identification and recognition of informally acquired knowledge, skills and competencies', funded by Operational Program Human Resources Development (OPHRD). Link: http://validirane.mon.bg/
Coordinated system to provide career guidance	✓ It aims at providing interested learners with information about their choices in learning opportunities. It built on a project financed with ESIF at the beginning of the current financing period. ✓ It consists now of a national online portal that has a gallery of career guidance services in the regional centers for support of personal development of learning pathways. It contains information on levels of education, types of training, and opportunities for horizontal and vertical permeability in the system. ✓ It also contains a searchable database that helps prospective students to self-assess their skills in relation to professions. ✓ There is an option to select a one-to-one consultation by registering on the website. ✓ The National Portal for Career Guidance of Students was established under Project BG05M2OP001-2.001-0001 'Career Guidance System in School Education', funded by the OPSESG, co-financed by the EU through the ESIF.

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Introduction of the dual system of education[144]	✓ Established by Ordinance № 1 (2015)[145] which orders the conditions and the order for realization of training through work (dual training). ✓ The ordinance provides for the appointment of a mentor from the organization who undergoes special training and participates in the development and updating of curricula for practical training in a real work environment for students over 16 years of age. ✓ This measure is aimed to equip students with up-to-date technical skills and the development of additional soft skills required in the workplace, such as teamwork and organization. ✓ It also constitutes an option more appealing to learners more prone to practical rather than theoretical learning, hence widening participation as it caters for diverse learners profiles and has the potential of reducing ESL and instilling a positive approach toward learning.
Protected and priority professions	✓ The measure is aimed at promoting enrolments in VET and higher education in professions in which the MLSP has forecast there will be shortages but are needed for the economy and welfare of the country. ✓ It is based on the cancellation of fees and scholarships made available for conducting studies leading to the corresponding qualifications and degrees. ✓ The first list was introduced in 2014 and it was updated in 2018. ✓ The lists include, for instance, teachers and health professionals among the protected professions and architects and ICT professionals.
National system for monitoring adult learning sector	✓ Its development started in 2013 and a National Information System for Adult Learning was in place by 2014 ✓ Up until 2015 the system of adult education and learning and LLL by 2015 only collected information on certificates or qualifications issued and not on quality indicators such as completion rates, labor market outcomes, or social outcomes in the areas of health and well-being and community cohesion.
Annual Adult Learning Days and other promotional events	✓ These have been organized in Bulgaria since 2013. ✓ The aim is to publicize opportunities and benefits of adult learning for the population and stakeholders. ✓ Info-days and seminars had been organized since 2008 for promoting LLL or European LLL Program. ✓ Other promotional events include seminars, conferences, and roundtables with stakeholders at the national and local levels. ✓ Alongside promotional goals, these events also aimed at developing monitoring skills and partnerships as well as sharing good practices.
Adult literacy project: 'New Chance for Success' (2008–2013)	✓ The project is aimed at people who have not completed education, as well as those who are unemployed and illiterate. ✓ It developed an overall model for adult literacy education including training methodology (training schemes, curricula, learning packages), training process, tests, and certification. ✓ Training was conducted in courses for literacy provision and in master courses envisaged for pre-secondary level grades of basic education. ✓ By September 2014 over 16,000 people had participated in training for completion of primary level and grades from the secondary level. ✓ Financing comes primarily from ESIF and is complemented with public funding (materials development), employers, and fees from course participants.
Trainings for adults who have taken literacy courses	✓ It provides training for unemployed through apprenticeships and internships. ✓ As a complementary measure and to increase the effect of social inclusion and employment, after literacy courses, specific training for increasing of motivation and improvement of abilities to search for a job and to present their skills were organized for the same target groups.

[144] Check the Dual VET review in the VET chapter

[145] Ordinance № 1 of September 8, 2015, on the terms and conditions for conducting training through work; in force since 11.09.2015; issued by the MES Prom.

Adult literacy project: 'New Chance for Success' (2016–2020)	✓ ✓ ✓	It was initiated in 2016 and run until 2019 and built on the experience with the Adult Literacy project of the 2008–2013 EU-financing period. It is also financed primarily by ESIF. The projects' activities are similar to those of the same project in the previous financing period. The main novelty introduced was the activity for the development of a pilot for a system of validation and recognition of prior learning for the purposes of adult second chance education.
Participation in EPALE network	✓ ✓	The MES in Bulgaria participates in EPALE National Support Services. EPALE is an online community supported by the EU with the objective of exchanging good practices and research in LLL across the region.
Creation of the National Coordination Group for Lifelong Learning	✓ ✓ ✓	It was set up in 2014. It carries out coordination and consultation among the central government bodies, civil society, trade unions on a national level, and employer organizations on a national level for the implementation of the national LLL and adult learning and education policies. A communication plan for interaction among the stakeholders in the field of LLL and adult education and learning was launched in 2014 as an attempt for a coordinated governance approach and to open communication channels between the stakeholders to cooperate. The plan defines the major objectives and priorities of the communications on a national level to achieve optimal publicity and information synergy at all levels.

Source: World Bank authors based on answers provided by the GoB to UNESCO in the context of the research conducted to produce the UNESCO-UIL 3rd Global Report on Adult Education and Learning (GRAEL), supplemented with information contained in the EU Education and Monitoring Report 2019, and * from ELINET (2016) "Literacy in Bulgaria," p. 11.

Summary of observations on the system of LLL in Bulgaria: Governance and strategic framework

Providers

- Most formal training for adults is provided in VET centers, of which there are more than 900 in the country.
- Most nonformal training for adults is provided by companies; however, large companies offer significantly more trainings to their employees than small companies while the latter constitute more than 90 percent of companies in Bulgaria.
- Adult literacy or second chance education is done in primary or secondary schools but no registers of these providers were located, which suggests this is an incipient and marginal sector in the system.
- Data on providers of nonformal and directly non-work-related trainings, such as those coordinated and financed by the Ministry of Culture and Ministry of Youth and Sport are collected and available, but appear to be disconnected from the LLL policy-planning sphere beyond their mention in related strategic documents.

Governance and Finance

- The governance of the LLL policy area is overly complex and highly fragmented, which precludes effective strategic planning, implementation, and monitoring of strategic priorities, including data collection.
- No QA mechanism exists for the specific areas of VET and adult learning.
- There is a significantly low level of state investment in adult training in continuing VET, especially when compared with the rest of EU countries, and this is channelled mostly via active labor market policies coordinated by the MLSP.
- European funds have accounted for a significant portion of the funds allocated for LLL-related interventions in Bulgaria for the past 13 years, which raises the question of whether it is possible to achieve policy sustainability in this area without EU funds.

Strategic and Policy Framework

- Poor progress toward targets set for 2020 in NSLL 2014–2020 is especially concerning given the fact that similar indicators were already set up in the previous LLL strategy launched in 2008.
- The intersectoral character of the LLL policy area was reflected in a strategy for 2014–2020 that was linked to several different strategies and this added complexity to the monitoring and evaluation of progress made. This, in turn, may have precluded the possibility to adjust or change the actions being taken to address the priorities identified in the strategy and thus to achieve the targets set.
- In terms of strategic planning, the links connecting each proposed action with the achievement of the set goals and indicators could be made more explicit, which would facilitate the identification of obstacles and need for replanning in the implementation processes.

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Policy priorities and directions identified in the ongoing policy-making processes regarding the system of LLL in Bulgaria

The National Education Framework for 2021–2030[146], puts special emphasis on inter-institutional initiatives in priority 6, which is dedicated to LLL. It calls for alignment of the actions of MES, municipalities and vocational schools and the MLSP, the employment agency, and local businesses "in order to 'close the circle' of services". However, no specific actions are included in the list of targets and sets of measures for this priority. Furthermore, the definition of the actors among which coordination needs to be ensured reflects a continued preference for a narrow understanding of LLL focused on work-related skills training.

Looking at the European Commission and Council recommendations for Bulgaria in the past two years, two sets of concerns with governance and finance related to LLL are mentioned. The first regards concerns with "[t]he fact that many adult learning initiatives continue to be project-based [which] calls into question their sustainability and strategic approach."[147] In previous reports, the Council had also noted that "this highlights the need for a more strategic approach by authorities and employers."[148] The second set of concerns regards finance. The Council mentions that investment in education not only remains low for EU standards but it is not adequately targeted nor is it results oriented enough.[149] Further, while the targeting of active labor market policies improved, the level of resources allocated to training is still insufficient.[150]

The latest version of the OP for Education for 2021–2027 presents evidence that system-level project funding with EU funds ensures better coordination and sustainability of the investments. An internal assessment conducted in 2019 by the managing authority of EU funds compared the two different types of procedures financed under OPSESG: system-level projects, which are awarded directly to all schools, for instance, for the participation of targeted populations, compared to competition-based projects, in which all schools can apply to participate but only those selected receive funds. Among the key conclusions of the assessment was that system procedures ensure that approaches are developed and coordinated at a wider level, achieve higher efficiency, and have denser regional and territorial scope and its monitoring can be better systematized as the data and registers are centralized in the MES.

Drawing on these analyses, the draft OP 2021–2027 states that a balanced approach will be used to decide the type of procedure for each investment priority and a competitive approach is selected for investments in adult education. In the definition of the intervention funds and the related types of actions to adopt for the specific objective related to LLL, **SO VI,** the focus is on adult literacy and the proposal is to build on the success of the system-based project for adult literacy ('New Chance for Success') financed under the 2014–2020 OPSESG but to downscale it to become a competitive-based procedure. This is justified on the bases of the need for enhanced partnership at the regional level in

[146] adopted by the Council of Ministers in February 2021
[147] Country Report Bulgaria, European Semester, February 2020, p. 40
[148] Country Report Bulgaria, European Semester, January 2019 (updated in May), p. 43.
[149] Country Report Bulgaria, European Semester, February 2020, p. 39.
[150] Country Report Bulgaria, European Semester, January 2019 (updated in May), p. 11.

the implementation of adult literacy activities, but it seems to overlook the current fragmented character of the LLL policy area in Bulgaria and the potential of system-based projects to contribute to develop more coordinated initiatives, to better monitor and lead to more sustainable initiatives.

Recommended policy directions and program options to focus on regarding the system of LLL in Bulgaria

In view of the challenges identified in the policy directions noted in different ongoing instances of policy planning in education and training, the key recommendation with regard to the system of LLL is to focus on the institutionalization of a coordinated governance structure this policy area. This entails building on the experience of the international, national, and regional networks on LLL that have developed in recent years in the country and scale them up. This experience comprises the participation of Bulgaria in the European Platform for Adults Learning and Education, the creation of the National Coordination Group with regional branches working on LLL in the country, and the development of a database for collection of information for the monitoring and evaluation of adult education policies. All these initiatives are listed in Table 13 and further explored in Box7.

Key recommendation 1

To focus on the institutionalization of a coordinated governance structure for lifelong learning

An additional policy recommendation is the use of theories of change in the planning and design of actions that will be adopted to implement the education strategy. Based on identified inconsistencies across strategic goals, activities, and targets noted above, the next implementation period would benefit from the use of theories of change since this helps visualize the causal chains that link interventions with results. These exercises can also be used in the process of planning the actions to be financed with European Social Investment funds in the Education OP 2021–2027.

An LLL coordinating body would take up the ongoing initiatives in the field of LLL and by coordinating across the multiple actors involved in the field would also contribute to address additional challenges identified in this section:

- It can contribute to expand the remit of LLL from a focus in work-related learning opportunities for adults to include more active participation in learning in different community organizations and spaces.
- It can explore in depth obstacles for participation in LLL and develop ways to address them.
- It can enhance the links between education and training, on the one hand, and the world of work, on the other, taking the lead in coordinating the development of State Educational Standards that are adequate for VET in the formal and nonformal spheres.
- It can follow up and coordinate the different actors that are needed in the processes of alignment of job descriptions with the update of curricula content.
- It can lead in the development of a QA mechanism for the overall LLL system, including nonformal, distance provision, and adult literacy and VET.

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- It can focus on understanding the different profiles of learners that engage in LLL through regular and coordinated data collection and develop strategies to tailor the offer to the learners' needs and contexts.
- It can ensure that approaches in school-age education and training embed the key principles of life-long learning, either in curricula, modes of delivery, or attendance and teachers' training.
- It can continue the organization of promotional events on the importance of learning through life such as the Adult Day but also incorporate a focus on extracurricular and nonformal learning in school-age students.

The format and functioning of this coordinating body should be explored well as its design should ensure that its creation does not imply only the formation of a new bureaucracy layer or discussion forum. Instead, this body should supervise and facilitate concrete progress and materialization of improving the transversal decision-making and evaluation, expanding the notion of LLL, and introducing effective measures to increase the offer and participation in LLL opportunities for all ages, learners' characteristics, and type of learning.

To understand the best options for Bulgaria, a number of questions could be explored. For instance, how much decision-making and financial resources are at the regional and local levels? How effective is the participation of stakeholders in policy planning? What are the functional obstacles in the system that may be precluding effective policy planning and implementation? To contribute to this exploration, Box 17 and Box present three different international good practice that can be considered.

Box 177. Good Practice I
Coordination of LLL via Sectoral Skills Council and Local Centers of Knowledge, Poland

Poland reported working with Sectoral Skills Councils in the fields of health, construction, finance, tourism, fashion, internet technology, and the automotive industry, including electro-mobility. The aim of these councils is to enhance cooperation between educational institutions and the labor market, so that competences possessed by adults (employees) meet employers' needs.

Poland also reported that Local Centers of Knowledge and Education, being established in underdeveloped areas of the country, connect adult education and learning provision with the needs of the local community.

As part of the civic education path of the NP for Supporting the Development of Civil Society, support for folk universities is another strategic approach of Poland to increase stakeholder involvement.

The National Network of Folk Universities, which consists of nonprofit organizations that offer ALE in rural areas based on the principles of Nicolaus Grundtvig, aims to develop folk universities as centers for ALE.

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Box 18. Good Practice II
Coordination through monitoring and evaluation processes, The Netherlands

In the Netherlands, the government works closely with an NGO (the Read Write Foundation) to design, implement, and govern adult basic skills policy and programs. Within the government, there are strong efforts to achieve political consensus and ownership across a range of ministries, and there is also a broader policy trend within the Netherlands of decentralization, resulting in larger policy roles for municipalities and a more facilitating role for central government. National policy makers and their partners then use rigorous research methods to monitor and evaluate results, note effective practices, and feed this information back to the local level.

The Language for Life policy, for instance, was launched in six regions in 2012, with a strong emphasis upon cross-organizational partnership. The policy combines bottom-up and top-down approaches, with increased efforts to create more effective local infrastructures for adult basic skills education. Local Literacy Hubs are the most visible manifestation of the partnership based orientation of the policy: these are community-based centers based in libraries, hospitals, and other public spaces, at which, potential adult learners can find help desks, volunteer tutors, and opportunities to receive guidance and can also undergo literacy assessments. The national government's role is to closely monitor the different aspects of the implementation of this process with carefully designed indicators and qualitative assessment techniques.

Fostering Lifelong Learners: Key Aspects of LLL at School Age

LLL is about the participation of adults in education and training and about the preparation of school-age children and students to become lifelong learners—that is, people who have the tools and motivation to adapt and relearn as societies and economic conditions change. The key features of a school education that focuses on fostering lifelong learners are systems in which

1. Key competences related to basic skills (literacy, numeracy, science, and digital skills) are obtained by all;
2. Key competences related to transversal or soft skills (learning to learn, teamwork, active citizenship, knowledge of foreign languages, and so on are embedded and learned by mainstreaming them in teaching and learning processes;
3. Teachers are trained in pedagogical methods that promote creativity, resilience, self-efficacy, and innovation; and
4. Learners' characteristics are put at the center when planning and deciding content and mode of delivery.

Early Childhood Education and Care and LLL

Preschool year children learn from their environment and in non-structured settings. This includes their families, the exposure to everyday life, playgroups and playgrounds, and so on. Family and community contexts are essential for the first years of learning of individuals. In these contexts, children make their first and fundamental steps in acquiring key competences for life—language and social competences. Ensuring families' financial and emotional stability is essential in children's

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development. Providing adequate community spaces that favour and motivate learning is also crucial. In an LLL approach to education, these factors should not be overlooked.

Attendance to formal preschool education, moreover, can be associated with better chances to become lifelong learners. As the international studies PIRLS, TIMMS, and PISA[151] have shown, the longer children attend kindergarten or preschool, the higher their performance in school.[152] In turn, PISA results indicate that students who perform poorly at age 15 face a high risk of dropping out of school altogether.[153] Data on participation of adults in education and training presented in the next section show that those with higher levels of education attainment tend to participate more.

In Bulgaria, data confirm that the longer children attend preschool, the better they perform at school. By 2016, almost 80 percent of fourth-graders had attended kindergarten for 3 or more years. This group's performance in reading skills was 75 points higher than those who had not attended.[154] In mathematics skills, this group performed 35 points higher than those who did not attend in mathematics and 70 points higher in science.[155]

But the most critical contribution of preschool attendance toward good performance later at school is its importance in levelling the ground for children whose first language is not Bulgarian. The level of proficiency in the language of testing has a serious impact on students' reading achievement.[156] But it also affects performance in mathematics and sciences. The fourth graders assessed in TIMMS who almost never speak Bulgarian at home (18 percent) performed 28 and 56 points below those who always speak Bulgarian at home in mathematics and natural sciences, respectively. Those who never speak Bulgarian at home (6 percent) performed 69 and 100 points below, respectively. Yet, the analysis conducted by the GoB on the country's results in PISA 2012 shows that participation in at least two years of preschool education before entering school increases the mathematical results by an average of 19 points for children who speak another language at home.[157]

> *"… the most critical contribution of pre-school attendance towards good performance later at school is its importance in levelling the ground for children whose first language is not Bulgarian."*

In preschool education, therefore, attention to informal education as well as to ensuring that basic skills such as literacy are acquired are the two central aspects of LLL to take into account. From an LLL perspective, one of the key characteristics of the learners to take into account is the children's first language. Attention to this should be reflected in curricula and teaching methods design. Social and other transversal skills such as learning to learn need to be facilitated in

[151] The PIRLS assesses reading skills and it is carried out by the OECD; the TIMSS assesses skills in mathematics and sciences and it is conducted by the International Evaluation Association. Both assess pupils in grade 4. PISA assesses reading, mathematical, and science skills in 15-year-olds and is carried out by the OECD.
[152] PIRLS Bulgaria 2016, p. 57; TIMMS Bulgaria 2015, p. 65.
[153] OECD. 2016. *Low-Performing Students: Why They Fall Behind and How to Help Them Succeed*. PISA, OECD Publishing, Paris. p. 34.
[154] PIRLS 2016, p. 57.
[155] TIMSS 2015, p. 65.
[156] PIRLS 2016, p.63.
[157] Analysis of the Socio-Economic Development of Bulgaria Defining the National Priorities for the Period 2021–2027, Adopted by Decision of Council of Ministers (# 196/11.4.19).

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preschool curricula and activities but also beyond it—in extracurricular opportunities, in the community, and in the families.

Early School Leaving and Low Performance in School Matter for LLL

The high share of people in Bulgaria who leave education before completing lower secondary is a key obstacle underpinning labor and skills shortages and precluding the adoption of an LLL attitude in the country's population. By 2019, almost 14 percent of those between the ages of 18 and 24 had left their studies without completing lower secondary education (ISCED 0–2). This means that Bulgaria has at present the fourth highest share of ESL in the EU (Figure 41). In particular, most dropouts occur among those that choose the VET track at secondary education level, as noted in Figure 11 of the previous section on VET.

This share is also now higher than it was almost a decade ago, despite some improvement in 2017 and 2018. While in 2012 the share of ESL in Bulgaria and in the EU on average were similar (12.5 percent and 12.7 percent, respectively), since then in Bulgaria the share grew and in the EU it decreased (Figure 42). The result was a gradually widening gap between Bulgaria and the EU in terms of ESL.

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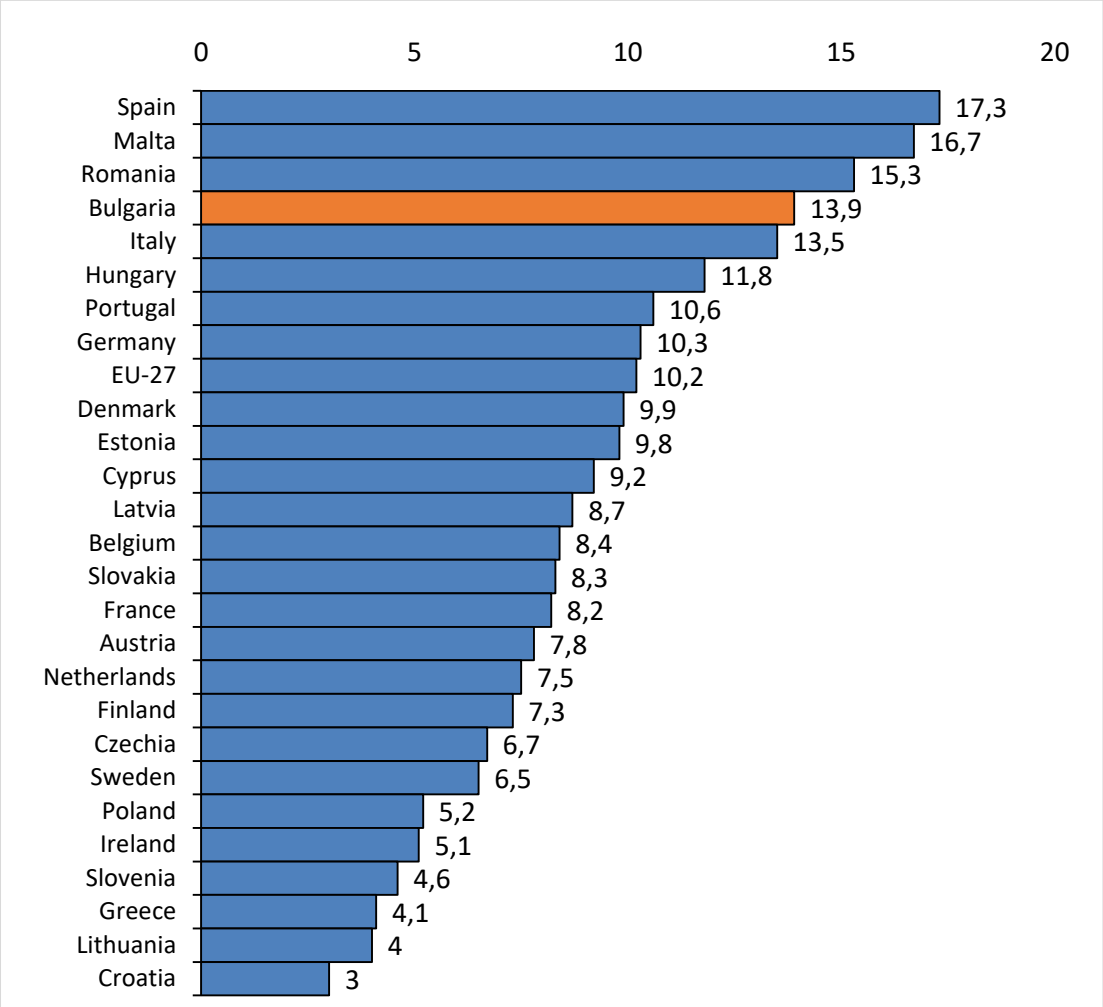
Figure 41. Share of ESL among those ages 18–24 years, 2019 (percent)



Source: Eurostat.

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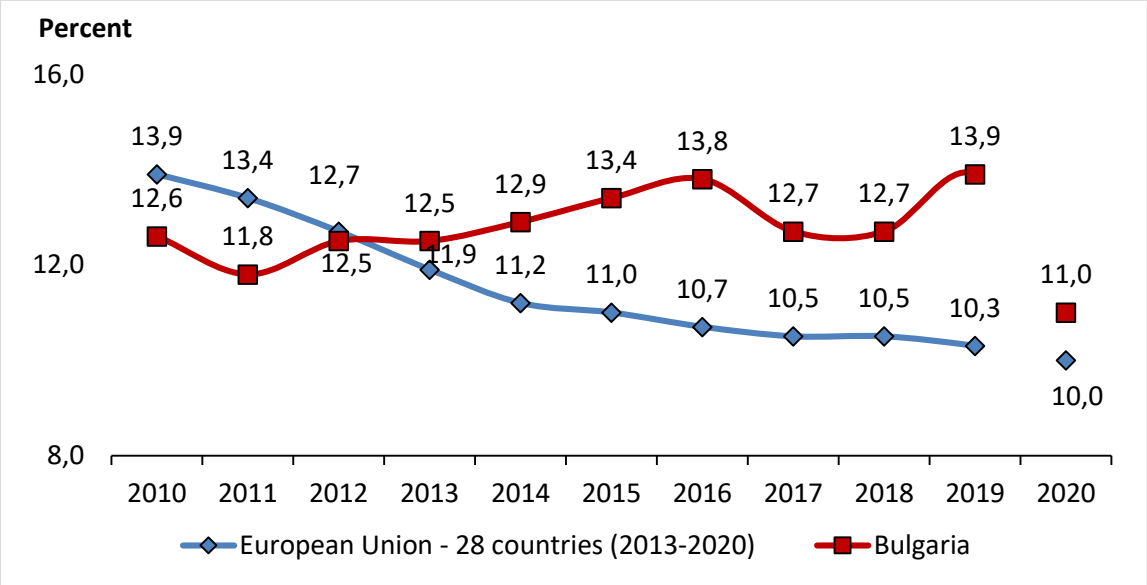
Figure 42. Evolution of the share of ESL ages 18–24 years, including 2020 national and EU target (percent)



Source: Eurostat.

Those who have left education early are more prone to unemployment in Bulgaria and are also less interested in working. When compared with EU member states with similarly high levels of ESL, it emerges that Bulgaria has the highest levels of unemployed ESL. This is similar to Italy, Spain, and, to a lesser extent, Romania. Yet, in the latter two countries, ESL have higher rates of employment than in Bulgaria (Figure 43). Moreover, in Spain and Italy, a higher share of ESL than in Bulgaria declare they would like to have a job, irrespective of whether they are actively looking for it or not. Only 2.7 percent of Bulgarian ESL declared so, as opposed to 6.5 percent in Italy and Spain. Of these countries with high levels of ESL, only in Romania there is a smaller share of those who would be interested in having a job (2.2 percent).

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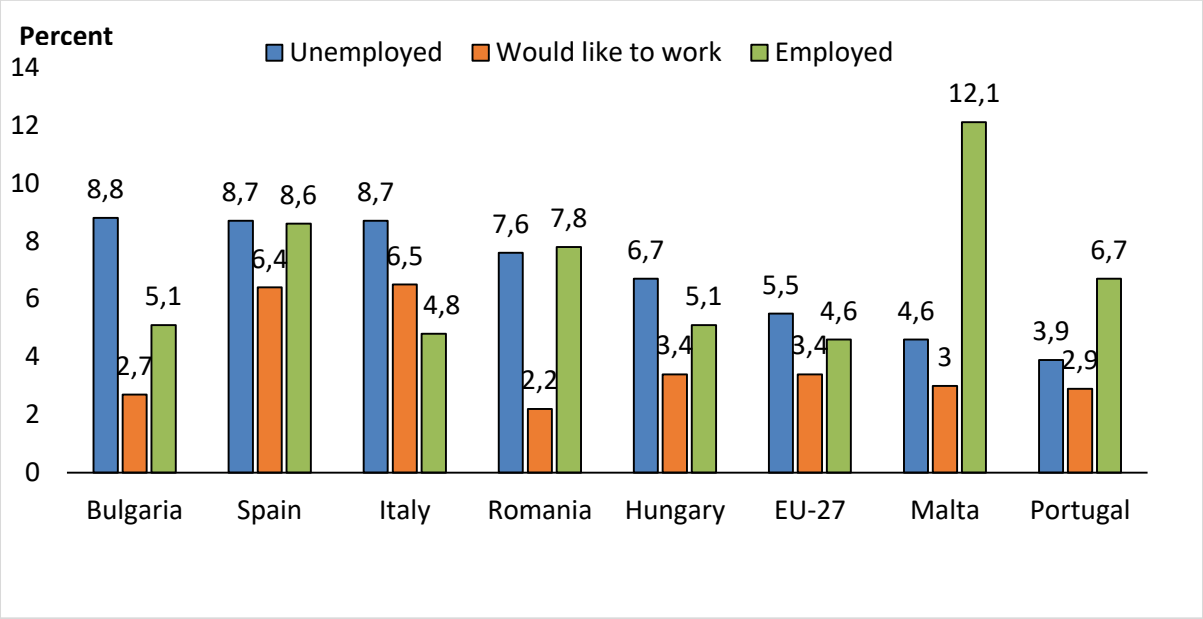
Figure 43. ESL rates of employment, unemployment, and willingness to be in employment, 2019 (percent)



Source: Eurostat.

The share of those between the ages of 25 and 34 who have a low educational attainment, and thus left school just after completing lower secondary education or before, is higher in Bulgaria than in the EU. Figure 44 shows that, **i**n 2019, in Bulgaria, 18 percent in this age group had completed education up to ISCED level 2 or below, and in the EU the share was 15 percent. It is worth noting that the share of those ages 25–34 who left education before completing compulsory education is higher than those ages 18–24 who left education early, as per the definition of ESL and shown in Figure 42.

It is important to note also from Figure 44 that, in the EU, the younger the age group the higher their share of high educational attainment and the lower their share in low educational attainment. In Bulgaria, instead, those ages 25–34 and 35–44 have a higher share of people with high education attainment than those ages 45 and above, but the share of highly educated among the youngest adults (25–34 years) is not significantly higher than that among those 5 years older (35–44 years). So, while the share of mid-level education is reducing in Bulgaria and in the EU in the youngest generations, in Bulgaria this is resulting in an increase in lower levels of education rather than an increase in higher shares of people with high level of educational attainment. Finding pathways for the reintegration of those who left the education system early, also above the age of 25, could be crucial to raise the skills levels of the Bulgarian population and keep up with the increasing upskilling trends in the EU.

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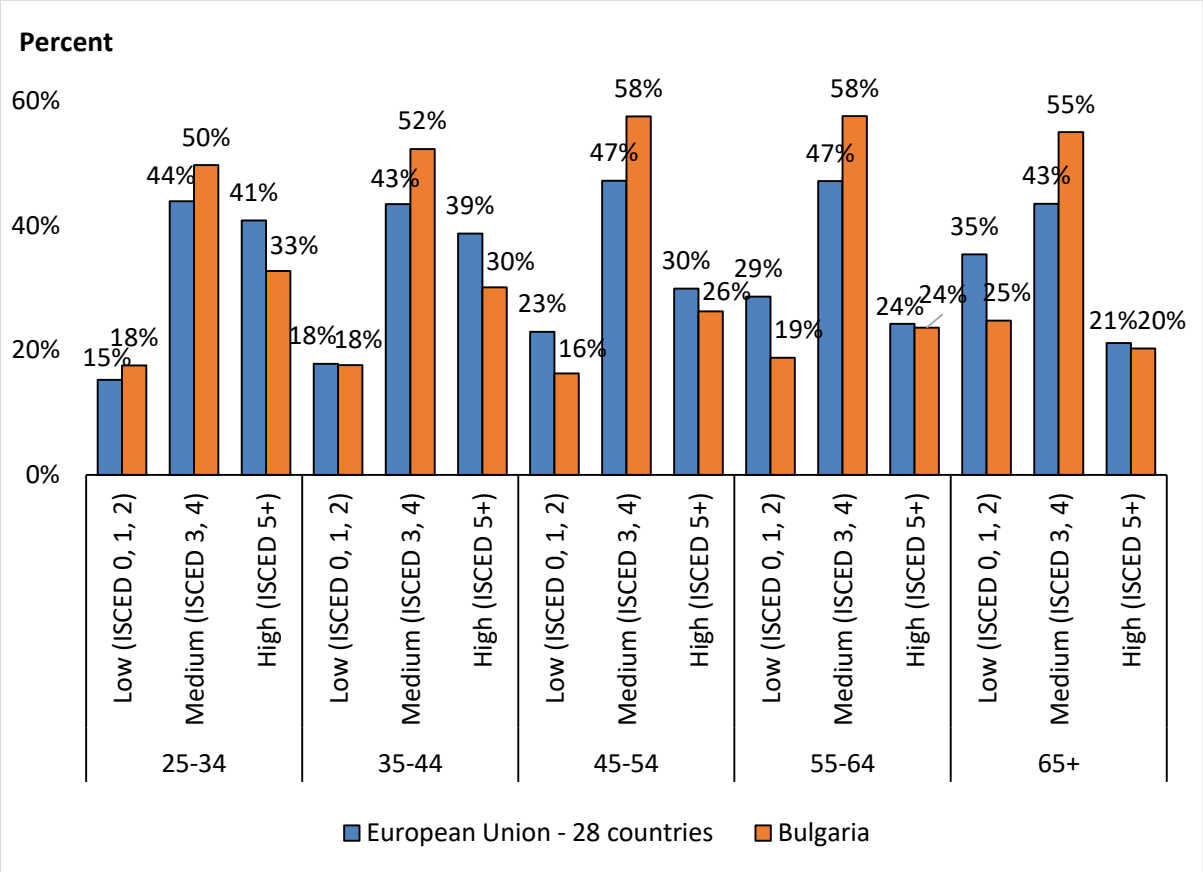
Figure 44. Population by age and educational attainment level in Bulgaria, 2019 (percent)



Source: Eurostat.

Skills shortages can be linked to low levels of educational attainment and to the quality of the skills of the labor force. This, in turn, can be seen as a consequence of poor acquisition of these skills through education. The long-term low performance of young adults in the international PISA tests that measure basic skills and problem-solving skills in reading, mathematics, and science at the age of 15 is a reflection of this. Low performance in school results not only in low skills to access opportunities in the labor market but is also a sign of a system that is not encouraging students to learn.

"Low performance in school results not only in low skills to access opportunities in the labour market but also is a sign of a system that is not encouraging students to learn."

Since 2012, the shares of 15-year-olds achieving poor performance in reading, mathematics and science have been on the increase. As a result, Bulgaria has been moving away from the 2020 targets set in the NSLL. In all three areas, the performance has instead deteriorated since the introduction of the NSLL. From 2012 to 2018, the share of young people without basic knowledge and skills related to reading increased by 6.1 percentage points. Compared to the data on the achievements in mathematics and natural sciences, reading is the most critical area in relation to the set national goals.

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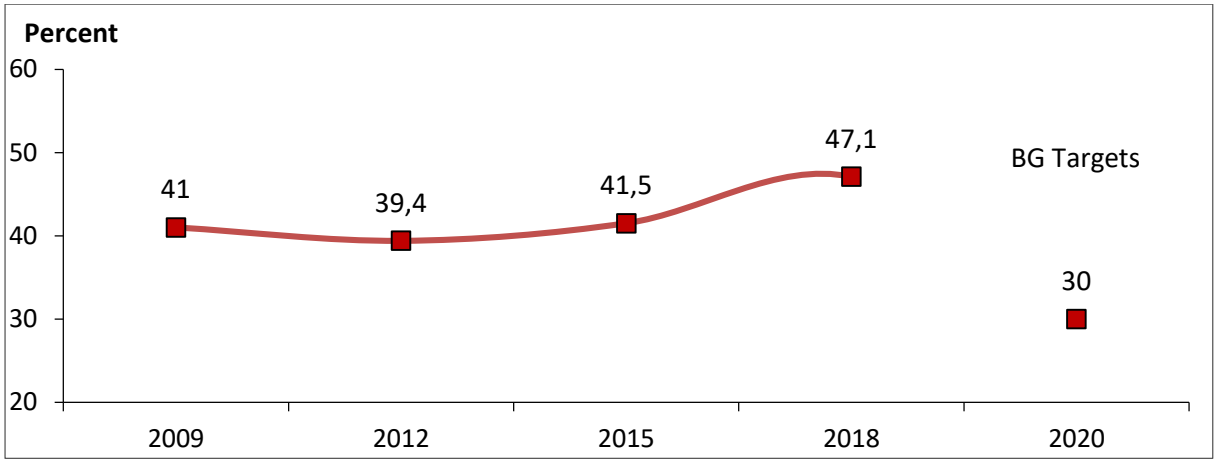
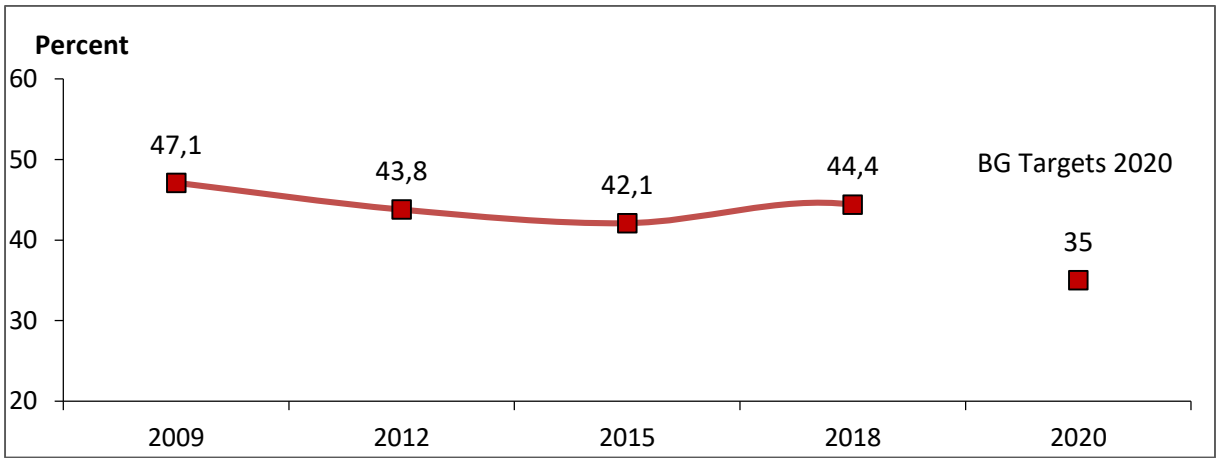
The national target for reducing the share of 15-year-olds with poor math performance will also not be met by 2020. The target is to reach 35 percent, while in 2018 the share was just over 44 percent. Although from 2009 to 2015, progress was made in attempts to reverse the trends, with a decrease in the number of young people with low achievements by 2.7 percentage points, in 2018 it again increased to 44.4 percent.

Figure 45. Share of 15-year-olds with poor achievement in reading



Source: Eurostat.

Figure 46. Share of 15-year-olds with poor achievements in mathematics



Source: Eurostat

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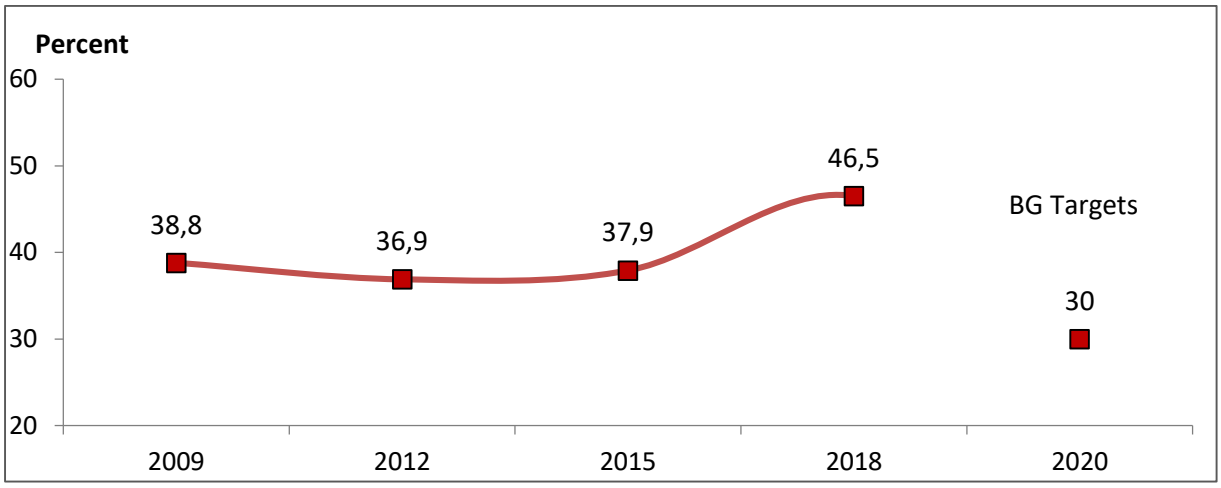
Figure 47. Share of 15-year-olds with poor achievements in natural sciences



Source: Eurostat

Competence-based teaching is a central piece of an approach to education that seeks to equip students to become lifelong learners ready to adapt and relearn in rapid changing environments. A recent World Bank analysis of the introduction of competence-based approaches into education in Bulgaria notes that key competences are listed in only one impact area of the NSLL but also that the approach has not been implemented in recent curricular reforms in the country. In the recent curricula reforms in general education, key competences were incorporated alongside subject-based study programs and not mainstreamed in the programs.[158] In the NSLL, the competences are mentioned in a competence area in terms of "improving the quality of school education and training towards acquiring key competences."[159] The way in which this phrase is worded shows that key competences are seen as only an outcome of good quality education and not as a constitutive part of the process of education.

[158] Lazarov and Kutznesova. 2019. *Competence-Based Learning in the Bulgarian Education System;* European Commission and the International Bank for Reconstruction and Development Trust Fund Project: A Roadmap to Teachers' Policy Development and Reform. Final Background Report. July 2020. Unpublished, p. 8.
[159] Emphasis as in original document.

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Box 199. Lessons Learned II
Career Guidance and Extra-Curricular Activities at schools

Two different projects financed under OPSESG 2014-–2020 targeted at schools addressed aspects relevant to LLL: "Career Guidance" and "'Your lesson".

The Career Guidance project aimed at the development of a career guidance system in secondary schools of the 28 administrative areas of Bulgaria. It was active until 2016. Among the main results and outputs are the piloting and development of career guidance systems at school level, the creation of tools for early career guidance for those at risk of dropout, and the introduction of a national portal for career guidance (http://orientirane.mon.bg)).

The project "'Your Lesson" aims at contributing to increase educational achievements by developing creative competences and overcoming students' educational difficulties. The project was launched after the "Careers Guidance" ended as it is currently active. "'Your Lesson" gives the opportunity to students to create extracurricular activities of their interest. These should fall within predefined areas such as science, health education, arts, or entrepreneurship but the students develop their proposals based on their preferred fields.

In practice, interviews with stakeholders involved in the implementation of these projects indicated that students' choice of extracurricular activities coincidences with their future career interests; thus, in practice this project has continued in part the previous project focused on career guidance.

Positives:

- Children who participated in the "Career Guidance" project continued to education despite coming from vulnerable sectors of the population with high shares of dropouts or low educational attainment levels, such as Roma or low-income sectors.
- "Your lesson"' succeeded in generating interest in education and learning among students with low performance and at risk of dropout, but it was also used as a form of continuing the preceding career guidance project.

Pending issues identified:

- Weak sustainability:
  - After the funding for the 'Career Guidance' project ended, only some municipalities and schools continued.
  - With low material and human resources, therefore key activities such as the online platform or the site visits cannot be performed.

Teachers' training is one of the pending challenges in Bulgaria to ensure the provision of quality education that is engaging and thus instils a positive attitude toward learning. Low salaries and unattractive working conditions, for example, reflected in insufficient opportunities for professional development, are major factors deterring people from choosing a teaching career.[160] As a result, the teacher body is not renewed and currently the main share of the teaching staff in the country is over

[160] European Commission. 2019. *Education and Training Monitor Bulgaria 2019*. Luxembourg (August).

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50 years of age. In 2017, the government increased teachers' salaries by 15 percent, announcing its intention to make further increases by 2021.[161] The measure aims to attract young teachers to the teaching profession. For 2020, possible minimum increases for all pedagogical positions are envisaged.

Summary of key challenges identified in LLL aspects of school-age education in Bulgaria

- Command of the Bulgarian language is a key competence to pay attention to during preschool education as it affects later performance in school and thus may influence dropouts and the acquisition of a key LLL competence—learning to learn.

- The share of people who left school early in Bulgaria is high not only among those ages 18–24 but also among older age groups, especially among those ages 25–34, where Bulgaria has a higher share also than the EU on average.

- Career guidance and the adoption of extracurricular activities supported with EU funds have been successful initiatives to encourage school continuation but issues with their sustainability are critical.

- Competence-based curricula have only partially been adopted in Bulgaria. It needs to engage learners to challenge themselves and improve their performance and to be in line with the teaching of competences beyond purely transmission of subject knowledge

- Lack of attractiveness of the teacher professions leads to low quality of teaching and learning and lack of engagement and low skills in pupils and students. Few professional development opportunities is one of the factors that makes the teaching profession little appealing to young people.

Policy priorities and directions identified in the ongoing policy-making processes regarding LLL aspects of school-age education in Bulgaria

The current draft of the National Education Framework for 2021–2030 includes a number of proposed measures in its priority 6 on LLL that relate to the challenges presented above. It proposes the creation of an integrated system for career guidance but as a complement to VET for student and adults. Crucially, it calls for ensuring access to education and training for persons who have failed to complete secondary education. Additional related actions regard improving teaching quality are also included. However, a clear focus on VET and adult education emerges from these proposed actions.

In the European Commission and Council recommendations for Bulgaria of the past two years, several directions that are linked to the key challenges identified above regarding aspects of school-education years that are relevant to LLL were noted. The recommendations emphasize the need to improve inclusive, accessible, and quality early childhood education and care.[162] Early childhood

[161] Vocational education and training in Bulgaria. https://www.cedefop.europa.eu/files/4161_en.pdf file:///C:/Users/User/Downloads/4161_bg%20(3).pdf.
[162] Country Recommendations (European Semester) January 2019 (updated in May), p. 76.

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education and care is seen as playing "a key role in creating equal opportunities, improving cognitive skills and possibly reducing the chance of underachievement and early school leaving." [163]

The European recommendations stress the importance of addressing Bulgaria's high rate of ESL. In 2019, they noted the need to address it using a targeted approach[164] and that early school leaving has "negative consequences for future employability and labour market outcomes".[165] In the most recent recommendations, the focus is on the particularly high rates of ESL in rural areas and among Roma. It refers to the inter-institutional mechanism adopted in Bulgaria to identify out-of-school children and return them to education and the renewed focus on preventing dropouts especially by keeping the interest of children in the classroom and overcoming learning gaps, which corresponds to projects financed by ESIF (OPSESG project 'Support for Success'). It questions, however, the recently introduced measure that links social assistance to school attendance "as it does not address the root causes of early school leaving."[166] Only a brief reference is made in the European recommendations of the past two years on the need to implement second chance programs for adults who have not completed the basic or compulsory level of education in the country.[167]

Regarding educational outcomes, the European recommendations highlight that Bulgaria invests insufficiently in preprimary and primary education, which is instrumental to creating equal opportunities from an early age.[168] Increased investments could contribute to overcome the strong influence that parents' SES has in children's school performance in the country.[169] Furthermore, the latest country-specific recommendations document notes that improving quality in the provision of education and training and a better skilled workforce will be critical in the recovery phase following the COVID-19 crisis.[170]

Teaching quality also occupies center stage in the European recommendations of the past two years. Emphasis has been placed on the need to improve the provision of both initial and continuous education programs for teachers and trainers, to promote innovative teaching methods and content,[171] and to improve the working conditions of education staff.[172] While acknowledging that continuing professional development for school teachers was made compulsory and tied to career progression recently in the country, the European Council notes that monitoring and evaluation of the quality and effectiveness of these trainings are needed.[173]

The latest version of the OP for Education for 2021–2027 echoes the view of the national education strategic framework of LLL as concerning exclusively VET and adult education.

[163] Country Recommendations, European Semester (CR, ES) February 2020, p. 38.
[164] CR (ES) January 2019 (May), p. 76.
[165] Country Specific Recommendations (CSR) June (by European Council) 2019, p. 7.
[166] CR, ES February 2020, p. 38
[167] CR, ES January 2019 (May), p. 76.
[168] CSR June, 2019, p. 7.
[169] CR, ES January 2019 (May), p. 45.
[170] CSR May 2020.
[171] CR, ES January 2019 (May), p. 76.
[172] CSR June, 2019, p. 7.
[173] CR, ES February 2020, p. 39.

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Recommended policy directions and program options to focus on regarding LLL aspects at school age in Bulgaria

In view of the challenges and lessons learned identified, as well as of the policy directions noted, two key recommendations are proposed. First, to focus on strengthening and further developing a system of career guidance and, second, to promote and support the offer of adults' 'second chance' education opportunities to contribute to reduce the high share of ESL and of adults with low educational attainment.

These two key recommendations take into account the preference in current national policy-making processes to focus LLL efforts on adult education and on aligning skills with labor market needs. At the same time, these recommendations go beyond that focus by building on the experience with career guidance-related projects in the country that promoted the creation of extracurricular activities in schools, thus underlining the importance of nonformal learning and of key LLL competences such as creative expression and learning to learn. Moreover, the recommendation is that career guidance should not focus only on VET and labor market insertion and instead also cover general education and further education. Similarly, promoting adults' participation in second chance education entails broadening the scope of LLL beyond job-related training.

Three additional recommendations stem for the key challenges and policy directions identified. First, teachers training and curricula design in ECEC need to pay special attention to address difficulties in learning related to a lack of command of the Bulgarian language. Second, step up efforts to ensure that preschool and school curricula and syllabi mainstream key lifelong competences in a way that the shift from purely knowledge-based teaching to competence-based teaching occurs. Third, echoing latest European recommendations, ensure participation and quality in the recently developed continued training schemes for teachers and also update and ensure high quality in preservice teachers' trainings. A key focus should be on improving the digital skills of teachers, especially in the context of the push that the COVID-19 pandemic gave to online learning.

Key Recommendation 2

To focus on strengthening and further developing a system of career guidance

Key Recommendation 3

To promote and support the offer of adults' "second chance" education

A number of program options could be considered to operationalize these two key recommendations in the form of policy interventions. For example, approaches that make use of behavioral change strategies, making use of short and clear messages and of social media, can be considered as the backbone of a strategy to promote participation in adults' second chance opportunities. A set of questions and enabling conditions for this to happen need to be explored. Is the legal framework in need of amendments to ensure and facilitate the reintegration of those above the age of school education to the system? Which are the sectors of the population that fall into this category and how should the offer address their particular needs? Are the schools that offer second chance opportunities near the place of residence of the low-skilled persons? What are the obstacles

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and possible benefits (perceived or real) for these individuals to re-enter education? Box presents one salient international good practice that can be considered for further discussions for the design of this policy intervention option.

With regard to career guidance, further exploration of the successes and pending issues emerging from the experience of the EU-funded projects would be necessary. This would require interviews and focus groups with different stakeholders involved in the implementation of the projects 'Career Guidance' and 'Your Lesson' and focus on finding how the system can be embedded in the education system more sustainably. Box 23 presents a case of an international practice to be considered in the stages of development of interventions along the lines of this policy direction recommendation.

Box 20. Good Practice III
Adult and Continuing Education system, Denmark

In 1996, Denmark introduced an education system for adults that is parallel to the regular system: the adult and continuing education (ACE) system, giving adults the chance to obtain secondary and/or higher education degrees. Much of the provision enables learners to combine learning modules from a diversified range of provision (including nonformal educational programs that take place in independent institutions) and across different subjects. Individuals obtaining a vocational qualification in Labour Market Training Centers, for example, can choose from a wide range of vocational training courses, as well as subjects provided by the general education system.

This allows learners to tailor education and training programs to their individual needs and interests. The provision of education and training can take the form of short vocational training programs (either open workshops or programs organized in classes, the duration of which varies from half a day to six weeks), usually taking place during working hours, but may be organized in the evenings or weekends. It is also possible to organize training activities at the workplace or in the form of distance learning. This flexibility and diversity of learning help address barriers to participation for adult learners with limited time due to work or household responsibilities.

Source: https://www.oecd-ilibrary.org/sites/3da9613a-en/index.html?itemId=/content/component/3da9613a-en#section-d1e7966

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Box 21. Good Practice IV
Embedding career guidance in schools by setting up 'good career guidance' benchmarks, England

In 2013, the British government commissioned a research to find out ways to improve career guidance in the country. The good career guidance benchmarks were developed on the basis of a report that drew on international visits, analysis of good practice in English schools, and a comprehensive review of existing literature.

The report identifies eight benchmarks: (1) A stable careers program, (2) Learning from career and labor market information, (3) Addressing the needs of each pupil, (4) Linking curriculum learning to careers, (5) Encounters with employers and employees, (6) Experiences of workplaces, (7) Encounters with further and higher education, (8) Personal guidance.

The guidelines also emphasize the role of parents and caregivers in career guidance, the importance of offering support for special educational needs and disabilities, the use of data to inform career guidance, and the need of school career leaders.

Source: https://www.gatsby.org.uk/education/focus-areas/good-career-guidance.

Learning for Life: Adults' Participation in LLL

In line with the definition of the headline target of the NSLL related to adults' participation in education and training, this section focuses on that age group 25–64. However, it is noteworthy that in Bulgaria the definition of adults is those above 16 years old. Hence, some references beyond that age group are included when different definitions of age ranges are used in the data available or with the aim to identify better how aspects analyzed affect different age populations. The latter is especially the case when trying to understand the participation of adults above the theoretical age of secondary school in the country (up to 18 years old) and in line with international indicators of adult participation in education and training.

Participation in formal and nonformal learning

Participation in learning activities of individuals who are between ages 25 and 64 years is quite low in Bulgaria. With a participation of only 2 percent in 2019, Bulgaria has the lowest levels of participation of the population of this age in learning in the region apart from Romania (Figure 48). The target for this indicator set in the NSLL (2014–2020) was 5 percent and since the approval of the strategy modest progress was made. Bulgaria seemed to be on a modest path to improve these levels of participation by the time the NSLL was approved, but progress was very slow and 2019 was marked by a return to values of 2015. Furthermore, as participation in learning of this age group improved since 2012 in the EU on average, the gap between Bulgaria and Europe in this respect is bigger now than when the NSLL was approved (Figure 48).

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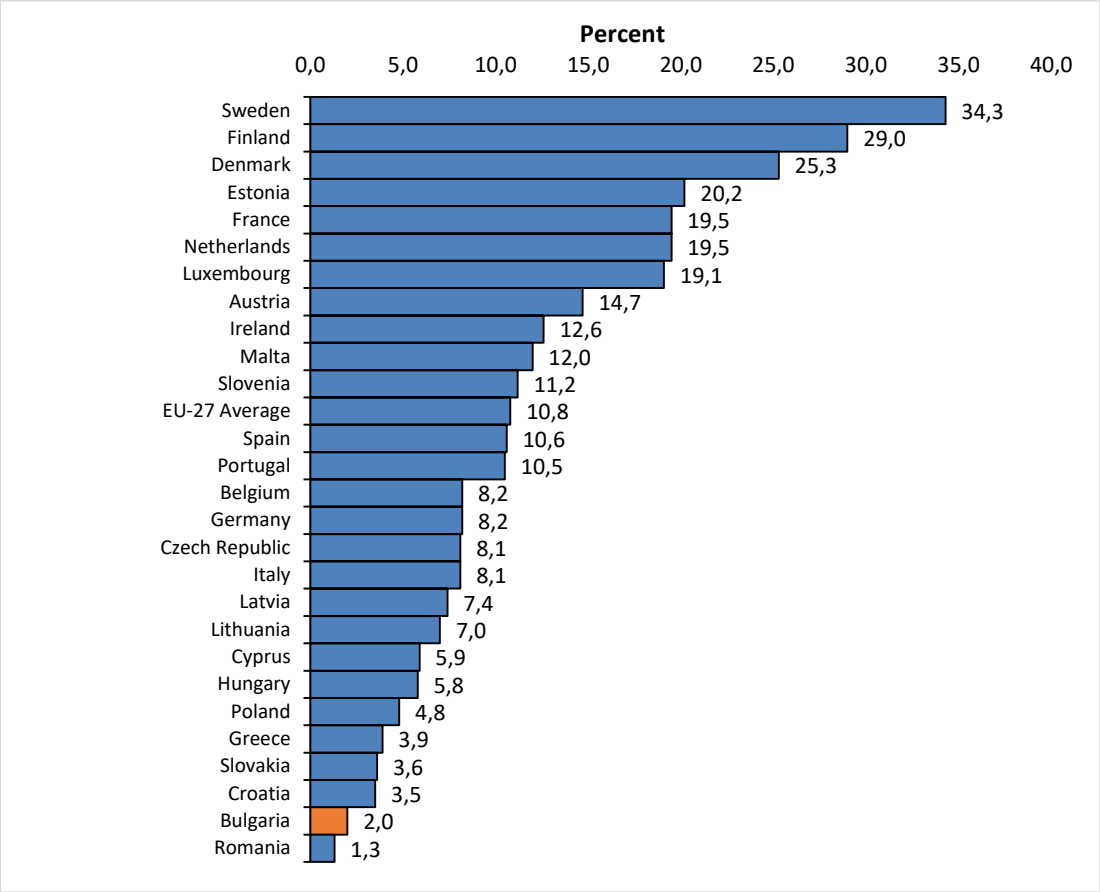
Figure 48. Participation in formal and nonformal education and training - 25–64-year-olds, EU-27 - 2019 (percent)



Source: Eurostat (LFS).

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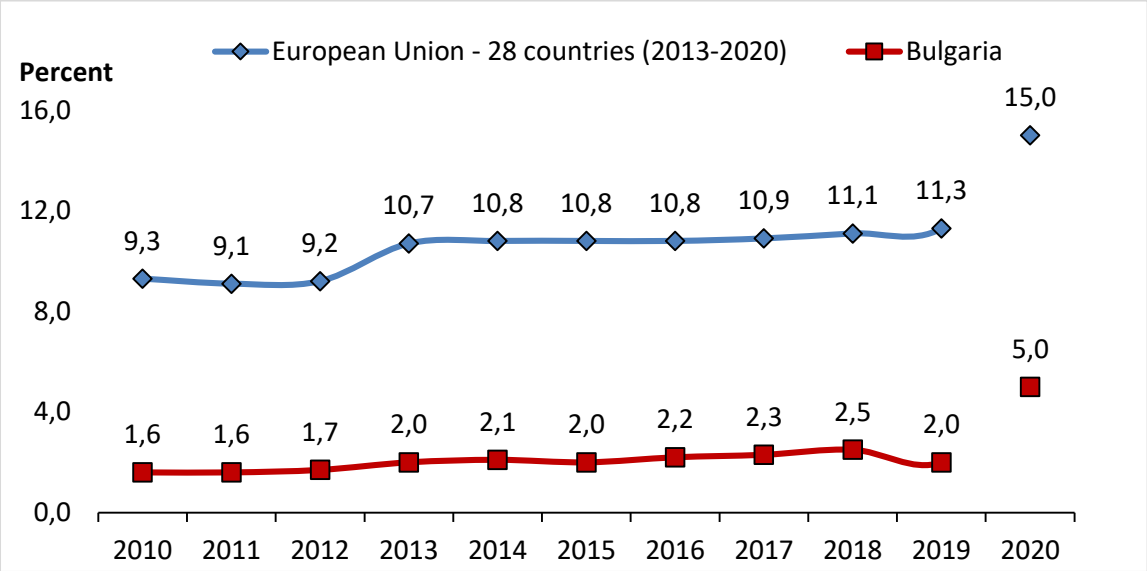
Figure 49. Participation in formal and nonformal education and training - 25–64-year-olds, including 2020 national and EU targets (percent)



Source: Eurostat (LFS).

Those ages between 25 and 34 years are those who participate the most in formal and nonformal education and training in Bulgaria. This is a pattern that is repeated both in the EU on average and in countries with higher levels of participation. It is also worth noting the low participation of the population older than 35 years**.** Of those between 35 and 54 years, only 0.8 percent participated in 2019 and close to 0 of those above 55 years did so. This represents a significant challenge because those populations could benefit from updating their skills and knowledge but also means there is room for increasing adults' participation in education in Bulgaria if LLL opportunities tailored to the needs of these age groups are made available.

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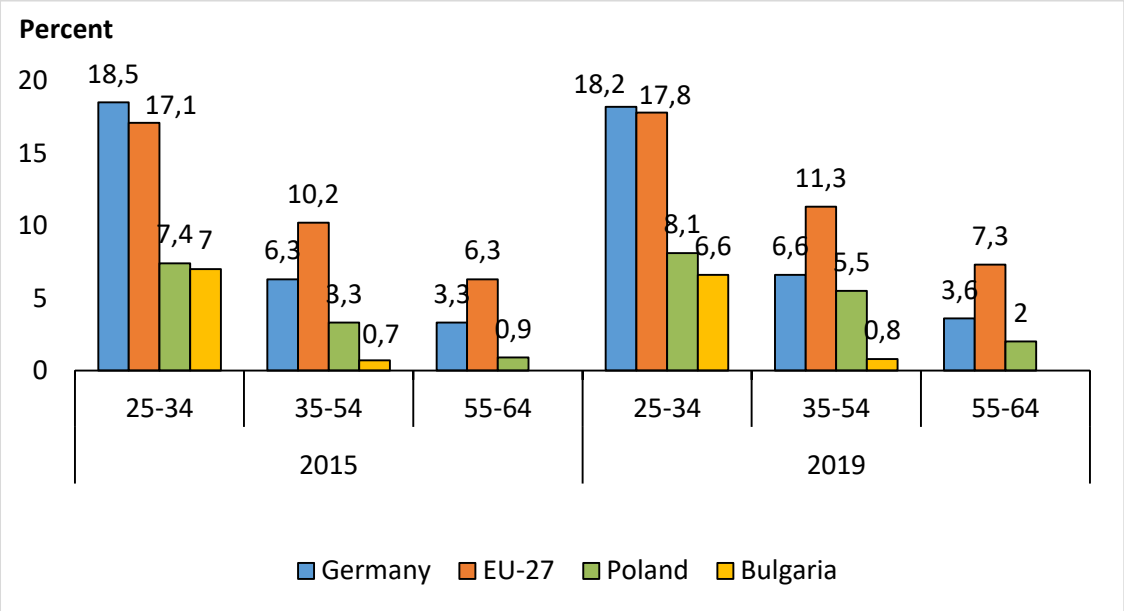
Figure 50. Participation in formal and nonformal education and training in Bulgaria and selected EU countries, by age (percent)



Source: Eurostat (LFS).

Adults with low education attainment have very low participation rates in education and training. In 2019, only 0.6 percent of that group of adults with up to lower secondary degrees had participated in some form of educational activity in the four weeks preceding the survey. However, albeit still representing a small number of participants, only for this group of adults, participation was higher in 2019 than in 2015. Adults with high educational attainment (tertiary or above) are almost a third more likely to participate in education and training than those with medium level of education (secondary school degrees).

The low participation in education and training of those with low skill levels represents a key challenge in Bulgaria. They represent the 17.4 percent of the working-age population (25–64 years), and demand for this level of skills is decreasing in the country.[174] In 2016, among the respondents to the AES (2011), almost 60 percent of those with low educational attainment indicated costs as a major barrier to their participation in adult education or training.

[174] European Commission. 2019. *Education and Training Monitor 2019*, Bulgaria Report,. Luxembourg (August), p. 9.

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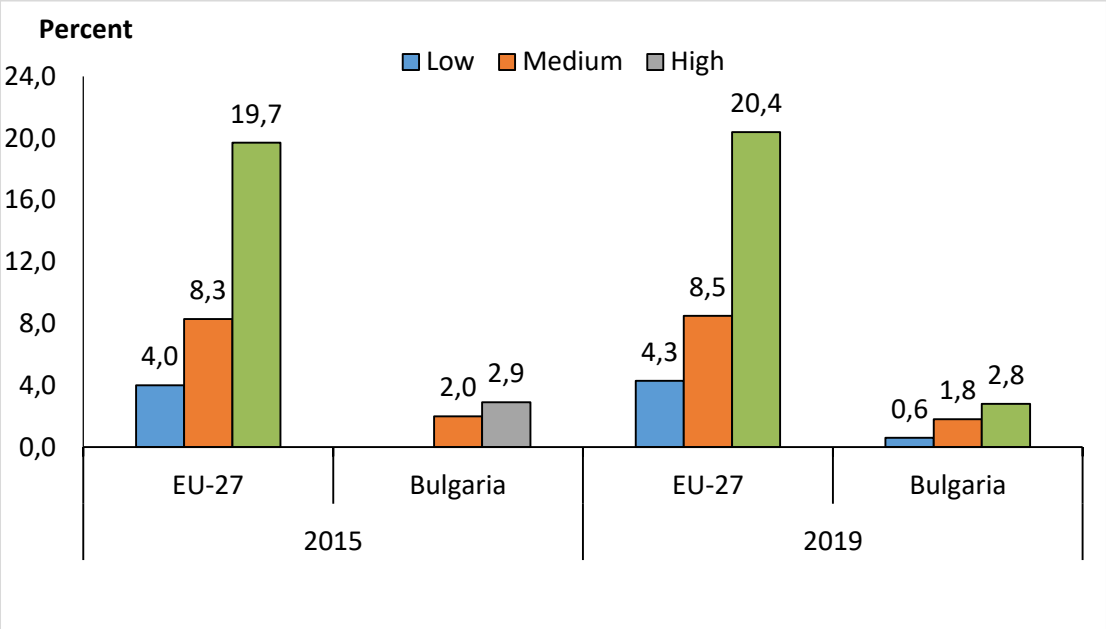
Figure 51. Participation in formal and nonformal education and training - 25-64-year-olds, by level of education (percent)



Source: Eurostat (LFS).

In addition to these differences in participation across demographic characteristics, the AES gathered adults' views on the reasons why they do not participate in education and training. One important finding is that only 11.5 percent of the population ages 25–64 surveyed declared that they had wished or needed to participate in a particular training in the previous 12 months but could not participate.[175] As Figure 52 illustrates, the main reasons for no participation was lack of free time to schedule the training (58.9 percent) followed by the high costs of the program (40.9 percent).

Comparing with 2011, the reason that was cited the most in 2016 was lack of time, whereas the cost of the courses moved from being the top obstacle for participation down to the second-most cited reason for no participation. Lack of time was mentioned as a reason for no participation by 42 percent of those surveyed in 2011 and the most important reason for no participation was the cost of the courses in that year, with 51 percent of respondents saying this is why they did not participate in the trainings they wanted or needed to participate. The fact that no courses were available for their needs of preferences also increased from 2011 to 2016, being mentioned by just 13 percent of respondents in 2011 and 20 percent in 2016. Instead, according to the interviewees' responses, the obstacles related to family reasons decreased from 27 percent in 2011 to 19 percent in 2016.

[175] NSI. 2016. "Main Results from the Adult Education Survey (Third Wave)." p. 5.

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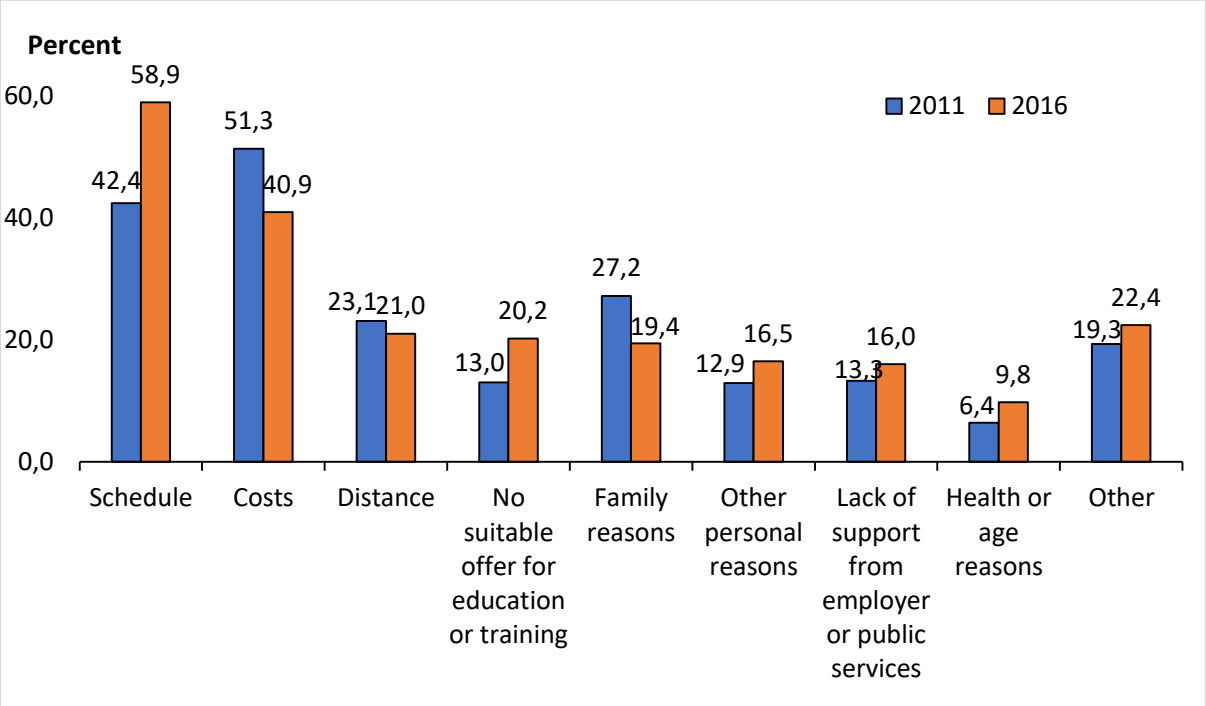
Figure 52. Reasons for no participation in desired or needed training, 25–64-year-olds, 2011–2016 (percent)



Source: Eurostat/AES 2016.

Focus on adults' formal education and training

A closer look at whether the education and training acquired by adults takes place in formal or nonformal settings shows that to a large extent this takes place more in nonformal settings in Bulgaria. This is in line with the rest of the EU member states. The share of those who participated in formal education in 2016 from the total of 25–64-year-olds in Bulgaria represented 12.9 percent of those who participated in nonformal education in the country, which is also in line with the EU average of 12.1 percent.

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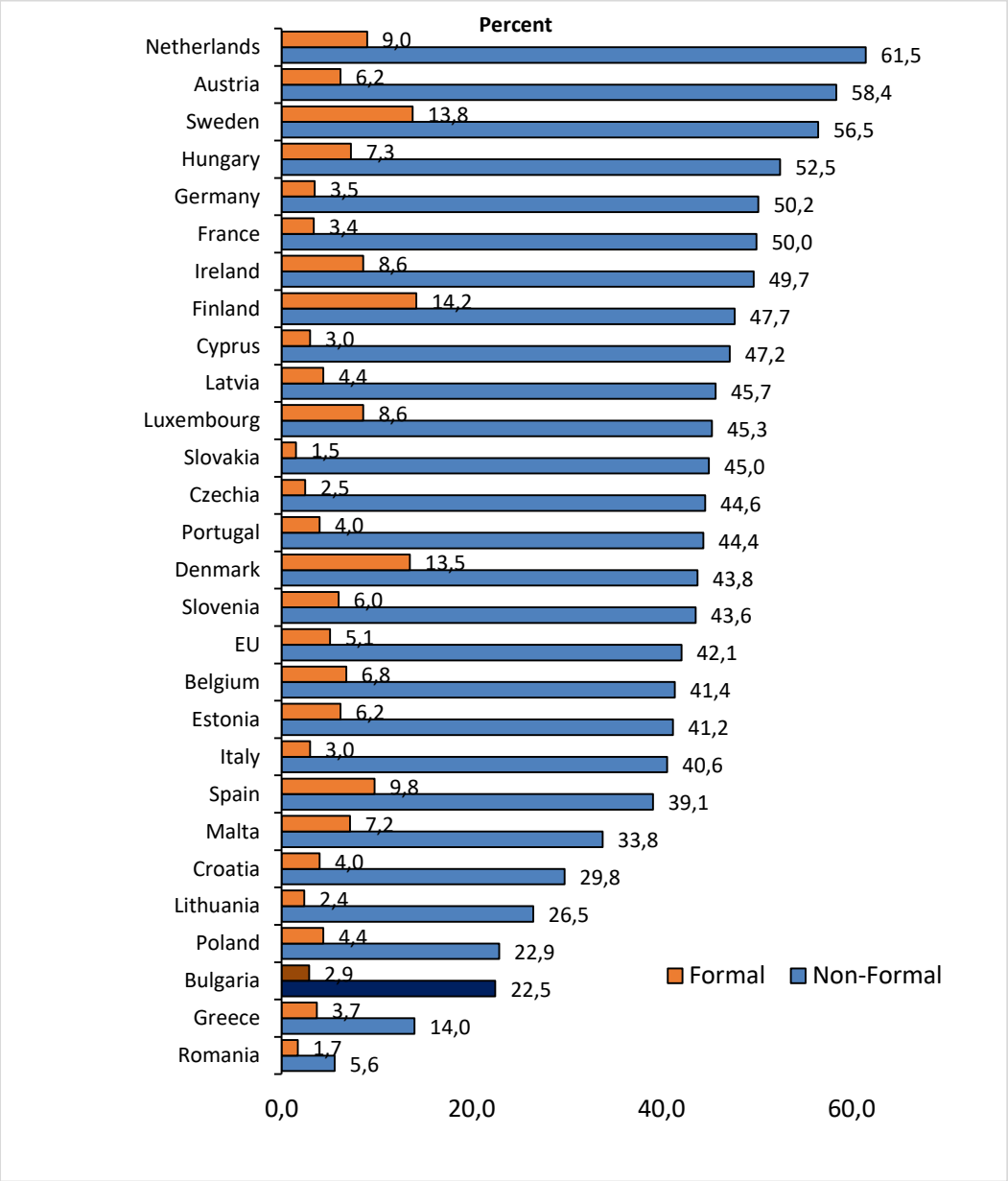
Figure 53. Participation in education and training by type of setting (24–64 years), previous 12 months, 2016 (percent)



Source: Eurostat (AES).

Adults' participation in formal education may take the form of literacy and numeracy programs. These allow adults to increase their basic skills levels and their educational attainment levels and may improve their employability as these can lead to the acquisition of higher professional qualifications that those attainable with low education levels.

Data collection regarding participation in adults' literacy or 'second chance' school is not institutionalized in the GoB. Instead, these data were located in the technical reports of the OPSESG

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project for adult literacy 'New Chance to Success'[176] and in the national budget reports, but in both cases they refer only to participation in this EU-funded project. If there are other instances or spaces in which courses for the completion of primary or compulsory secondary education for adults take place, these data have not been located either in the NSI or in the recently developed database on Adult Education hosted by MES.

> *"… those between 35 and 54, only 0.8 percent participated in 2019 and close to 0 of those above 55 years did so. This represents a significant challenge because those populations could benefit from updating their skills and knowledge but it also means there is room for increasing adults' participation in education in Bulgaria if lifelong learning opportunities tailored to the needs of these age groups are made available."*

The data on participation in adults' second chance education is inconsistently reported. According to the technical reports of the OPSESG-funded project, 5,500 people participated in the course for the acquisition of competences for the junior high school stage and a total of 7,774 participated in all three training stages offered. However, it is not clear how many of these are the same persons who progressed through the three stages: 3,392 participated in the first stage, 1,627 in the second stage, and 2,755 in the third stage. The budget report for 2018[177] contains disaggregated data for participation in courses for acquiring primary education competences (grade 5–7) and courses for lower secondary competences (grade 8–10) only for 2018. Then the accumulated figure is available from the 2018 budget reports[178]—8,579 persons. This figure is inconsistent with the lower figure of 7,774 that emerges from the Technical Report of June 2020.

The participation of those aged between 25 and 64 years old in VET represents an important portion of VET students in Bulgaria. As Figure 54 shows, total enrolments in VET, disregarding of age[179], decreased from 2013 to 2016—from 232,020 to 209,067and so did the number of enrolments and the share of those aged 25 and 64 among VET students in those years (Figure 54). In 2013, 94,608 of VET students in both VET Centres and VET schools-run adults' courses in Bulgaria were 25 years old or above, which represented almost 42 percent of students in that type of education, but in 2016, enrolments decreased to 77,251 for that age group, which was the 37 percent of VET students. Hence, the participation in VET of those aged 25 or below increased from just above 59 percent in 2013 to 63 percent in 2016. The picture from 2013 to 2016 suggests that attention is needed to understand why adults are participating less in this form of education.

[176] Technical report, "A New Chance for Success" Project, point 3: Indicators, reported value with accumulation, no date, extracted June 2020.
[177] *Report on the Implementation of the Program Budget*, as of December 31, 2018, of MES, published at shorturl.at/nwV07.
[178] ibid.
[179] Including students in VET centers (enrolled in full and partial qualifications) and students in VET schools (enrolled both in regular education programs and full qualification programs).

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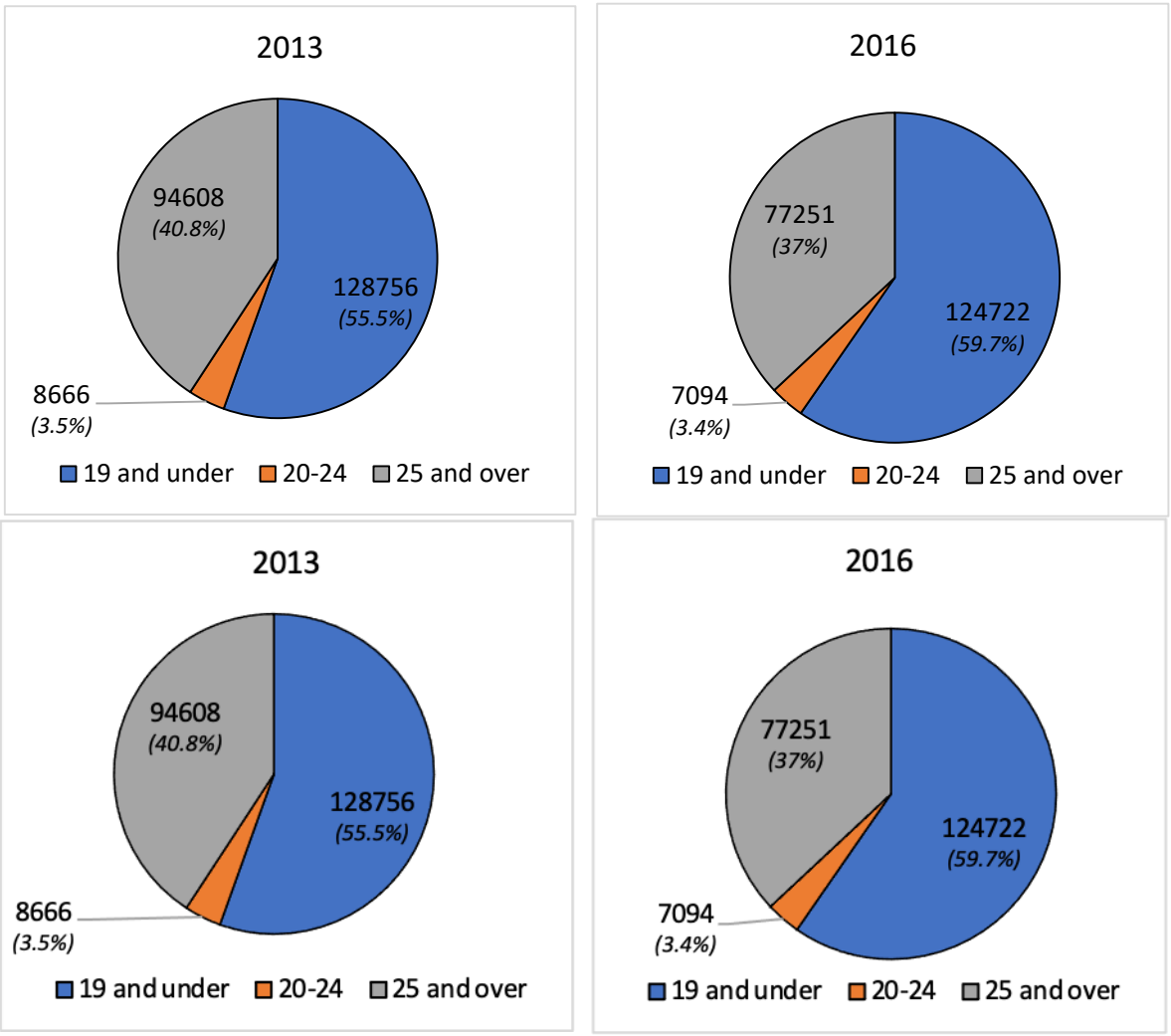
Figure 54. Enrolments in VET schools and VET Centers by age



Source: World Bank authors on data from MES, NAVET; VET in Bulgaria, CEDEFOP (2018).

Most adults participate in VET Center trainings for adults rather than in those offered in VET schools. Looking only at those training for full professional qualifications, in 2019, 12,881 adults (16+ years old) were enrolled in VET centers as opposed to 514 doing it in adult courses offered in VET schools. This is in line with the fact that VET centers outnumber VET schools, as shown in Table 11. In addition, according to interviews with policy experts, this big difference in enrolments can be explained by their wider territorial coverage; a broader range of trainings offered, including for low educational attainment levels of trainees, and many of the trainings are of short duration. In VET Colleges, in school year 2019-2020 there were 658 students enrolled (all above 19 years old).[180]

[180] NSI -- https://cutt.ly/ZcXQwzZ "Students in Programs after secondary education"

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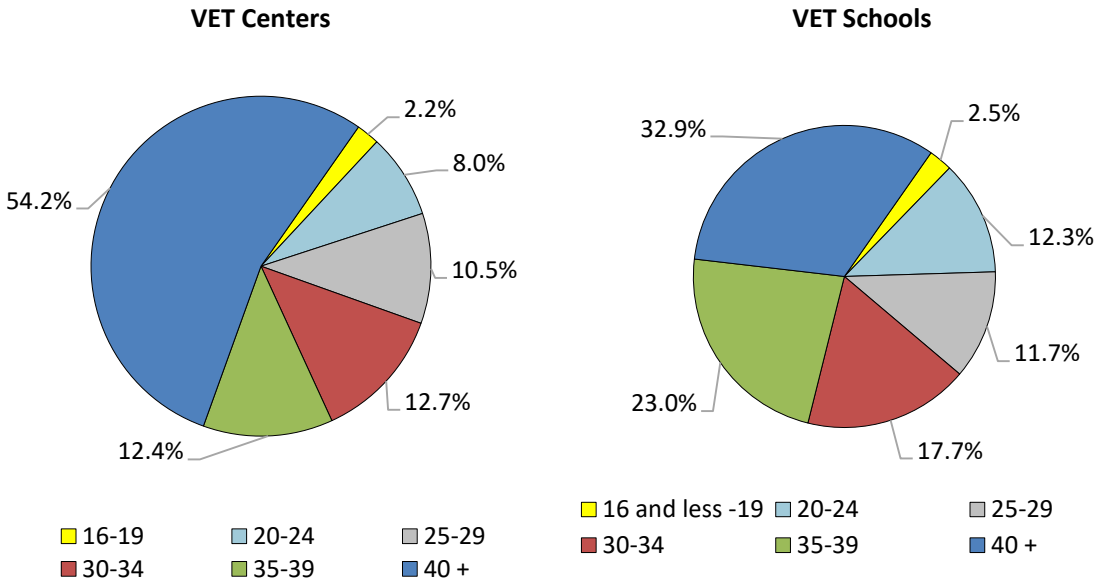
Participation in adult training programs declined, however, both in VET centers and VET schools, as it did throughout the VET sector. In 2014, 1,777 and 568 more adults were enrolled in VET centers and VET schools for acquiring a full degree of professional qualification, respectively, than in 2019. That represents a decline of more than 50 percent for VET schools.[181]

The age structure of those enrolled in VET centers and VET schools' courses for adults presents some patterns and differences worth noting. First, participants over the age of 25, which is the defintion of adults used in international indicators measuring adult participation in education and learning, such as LFS and AES, represent 90 percent (11,560 learners) VET centers and 85 percent (438 leaners) in VET schools-run adult education programs (Figure 55).[182] Second, in both VET centers and VET schools, the biggest share of participants are ages 40 or above. Yet, more than half of those who participate in VET centers' trainings are ages 40 or above, whereas this age range represents just over a third in VET schools. This is interesting and needs attention since, as noted earlier, the share of low skilled adults below 34 years old in Bulgaria is higher than in the EU on average, whereas among those 35 or above the share of low skilled adults in equal or below EU average (see Figure 44 earlier).

Figure 55. Participation in adults' programs of VET centers and VET schools by age, 2019



Source: World Bank authors based on NSI-provided data.

In the past decade, the number of those who obtained partial qualifications has been increasing compared with those who obtain full qualifications. Partial qualifications are only offered in VET Centers and other licensed providers. There are no standardized definitions of partial qualifications for professions across providers in terms of required time-load or content covered requirements. This precludes transferability, mobility and progression towards full qualification. However, these partial

[181] World Bank authors' calculation on NSI data behind Figure 55.

[182] Data on adults enrolled in regular programs in secondary school VET who are above the theoretical age of upper secondary school (16–19) and in particular 25–64 years, which is the population covered in international surveys looking at adults' participation in education and training (LFS and AES), have not been located.

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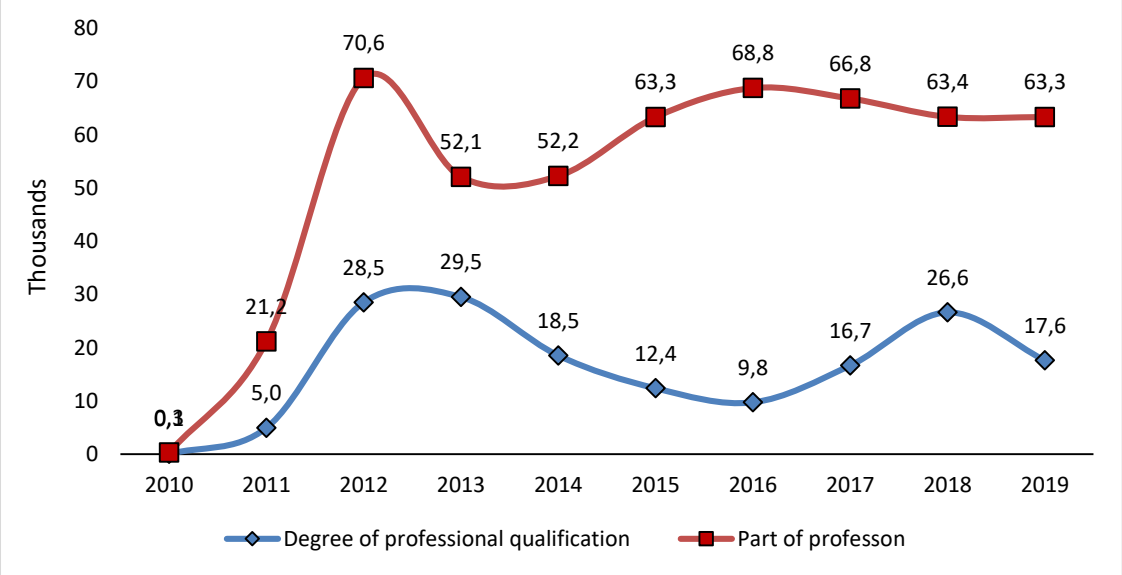
qualifications can ensure better employability or career progress as employers value the skills gained through training beyond formal certifications. Moreover, partial qualifications are an important opportunity for learners to develop their individual learning pathways. Yet, in terms of progression towards full qualification, ensuring the adequate functioning of the systems of validation and recognition is critical. As shown in Box 5, a number of issues still need to be addressed to ensure this. lt.

Figure 56. Full and partial VET qualifications obtained by adult learners (16+)



Source: NAVET; https://www.navet.government.bg/bg/statistika-na-obuchenite-litsa/.

Participation in tertiary education in Bulgaria has been decreasing since 2012. This may be the result of demographic trends, including the increasing numbers of Bulgarians who study abroad,[183] or the introduction of measures to limit the entrance to programs for which there is low demand in the labor market,[184] which is probably linked to the introduction of the protected and priority professions mentioned earlier. Between 2012 and 2017, the number of enrolments in tertiary education decreased by 12.3 percent, from 284,995 to 249,937 (Figure 57). There is also some gender imbalance in participation in tertiary education as about 54 percent of the students enrolled in the years between 2012 and 2017 were women. This, however, is in line with the share of female in tertiary enrolments in the EU on average.

Regarding the participation of those ages 25 or above in tertiary education, initial findings indicate that it is not substantial. The values are below or in line with EU averages for those ages 26–34 and become slightly above EU average for those ages 35 to 39. Data for 2018 on tertiary enrolments in ISCED levels 5 to 8 (bachelors, masters, and doctoral studies) show that in Bulgaria 9.1 percent of those ages 26 were enrolled in tertiary education that year, 6.3 percent of those ages 28 years, and

[183] In 2017, 8.1 percent of upper secondary graduates in Bulgaria had finalized tertiary education abroad. From Education and Training Monitor 2019, Bulgaria, p.7.
[184] Education and Training Monitor Report 2019, Bulgaria, p. 7.

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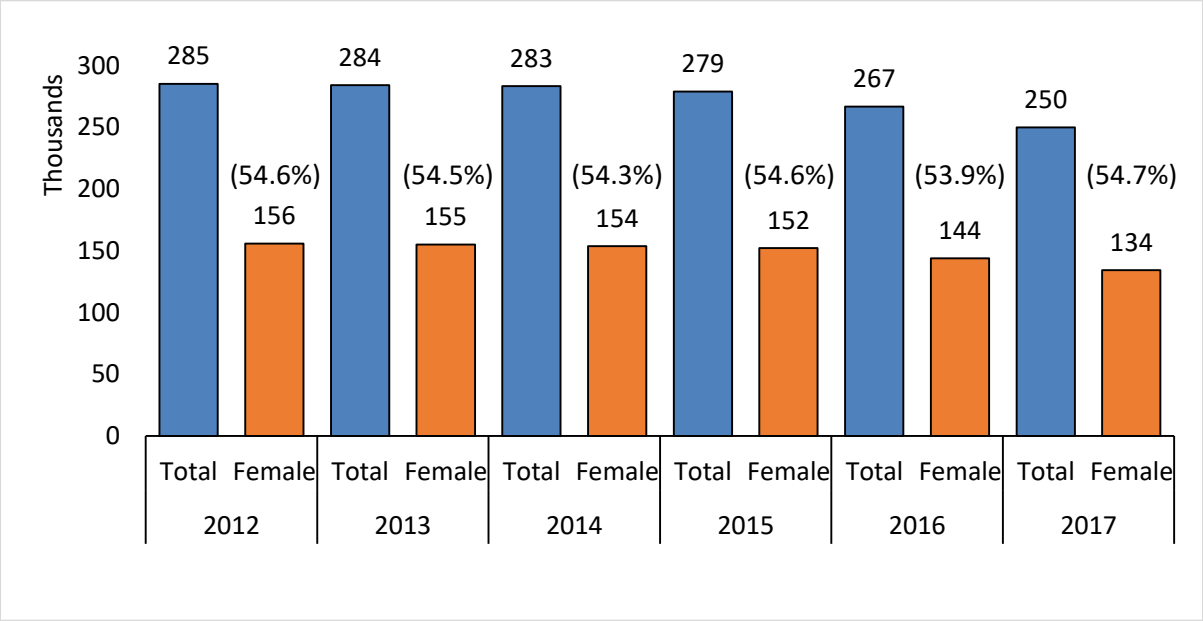
4.3 percent of those ages between 30 and 34. Among those ages 35–39, 3 percent were enrolled in this level of education in Bulgaria.[185] When compared with the whole EHEA, in 2014, 13 percent of those enrolled in higher education were 30 years old or above, which was below the EHEA average of 15.7 for that year and also represented a decline from 2012 when those in that age group were 18.3 percent of the Bulgarian higher education students' population. This decrease of 5.3 percentage points was the fourth highest decrease among EHEA countries, after Andorra, Cyprus, and Turkey.[186]

Figure 57. Number of enrolments in tertiary education in Bulgaria



Source: World Bank authors based on World Bank EdStats data.

Bulgaria has made slow progress toward achieving the NSLL's 2020 target set for tertiary education. As of 2019, the share in the population of 30–34 years who hold tertiary degrees is still below 33 percent, so it is highly unlikely that the set target of 36 percent will be next year (Figure 58). Bulgaria seemed on the right path to reach that target since the population with tertiary education attainment had been growing since 2012 at a good pace. Yet, no improvements were registered after 2013 and last year the values returned very close to 2015 levels, which stand at 32.1 percent. While the gap seemed to be narrowing between Bulgaria and the EU average by 2013, currently the gap is as wide as it was in 2012, accounting for 9.1 percentage points of difference again.

[185] Eurostat.

[186] European Commission/EACEA/Eurydice (2018*). ibid. https://eacea.ec.europa.eu/national-policies/eurydice/sites/default/files/structural_indicators_2018.pdf*

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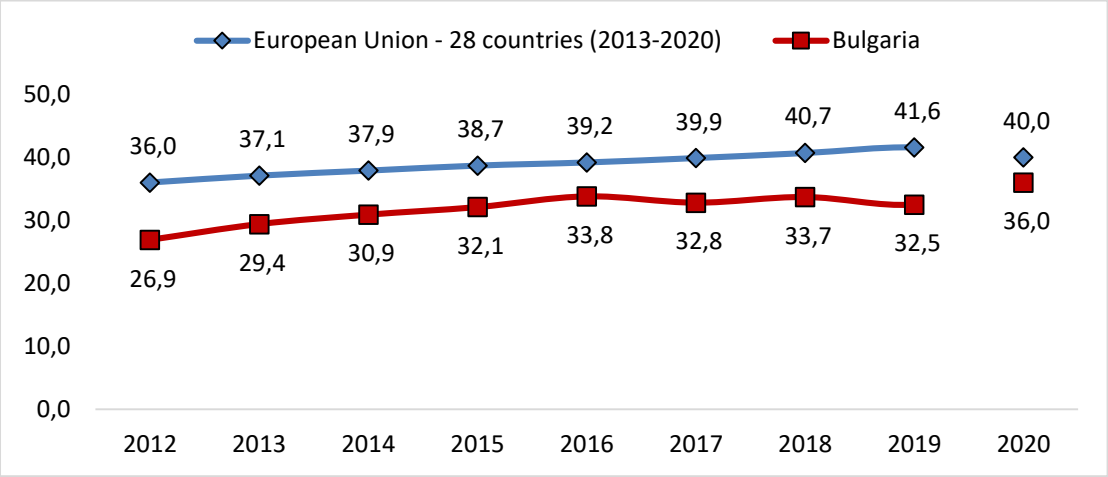
Figure 58. Share of tertiary graduates among the 30–35-year-old population, including 2020 EU and national targets



Source: Eurostat.

Understanding the factors that led to a halt in the progress toward achieving this 2020 target requires future research into barriers to access, progress, and completion of tertiary education in Bulgaria. Initial insights point to the introduction of quotas to limit enrolments in professions with lower employment prospects, as mentioned earlier, but also to low enrolment of people from disadvantaged backgrounds.[187]

Focus on adults' nonformal learning

While adults' participation in nonformal learning is markedly more important than in formal settings, their engagement in learning in nonformal settings has consistently declined since 2007. In the EU, instead, participation in nonformal education and training grew since 2007 so while participation in nonformal training was higher in Bulgaria than in the EU in 2007, this was reversed in 2011. In Bulgaria, 35.2 percent of adults declared having participated in nonformal education in 2007 but this went down to 24.4 percent in 2011 and further down to 22.5 percent in 2016. By 2016, the gap between Bulgaria and the average for the EU was three times wider than the gap in 2007.

Data from the AES show that adults' participation in formal settings remained low but stable in Bulgaria since 2007 instead. The latter could only be reflecting adults' participation in second chance courses since the participation in formal VET education, as shown above, has declined. However, this may need further investigation as the number of participants in adult literacy/second chance courses is small.

[187] The European and Training Monitor 2019 for Bulgaria indicates that the EC has observed that less than 2 percent of students enrolling in a bachelor program in Bulgaria come from families where the parents' level of education is low (European Commission 2018; Education and Training Monitor 2019, 7).

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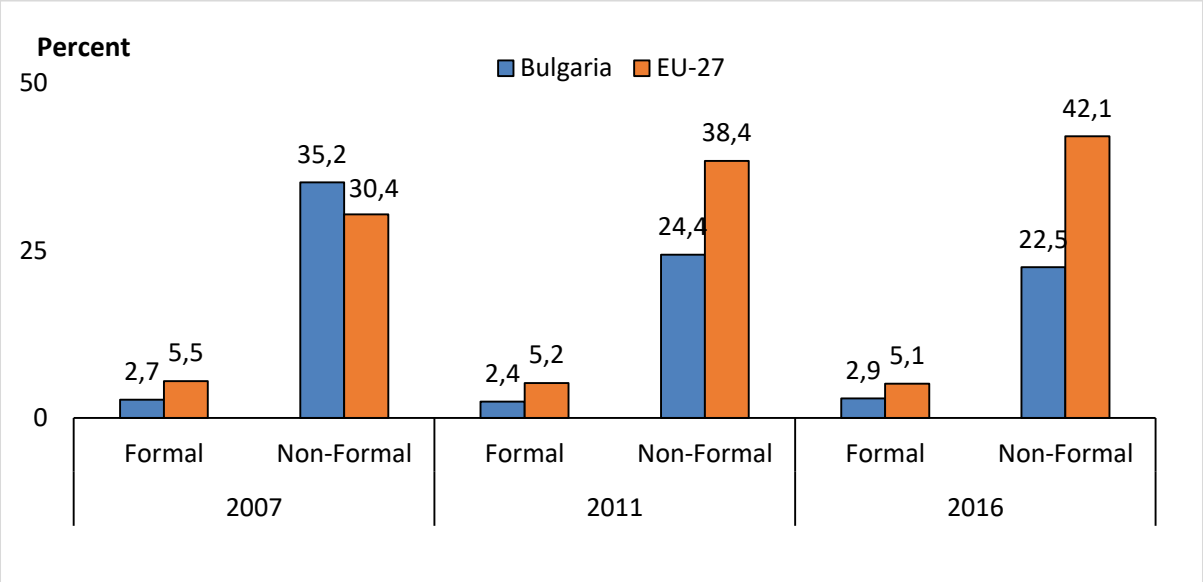
Figure 59. Participation in education and training by type of setting (age 24–64) in previous 12 months (percent)



Source: Eurostat (AES).

The low levels of participation among the unemployed in nonformal education and training is concerning. In 2016, the share of employed persons in nonformal education was 31.6 percent, declining from 49.3 percent in 2007 and 37.3 percent registered in 2011. But only 3.5 percent of the unemployed participated in nonformal learning in 2016, which is almost half the share of the unemployed participation in 2007 (6.3 percent) and is 21 percentage points below the EU average. Thus, those who could probably benefit more from learning new skills or updating those already acquired are precisely those with the lowest level of participation in nonformal learning opportunities.

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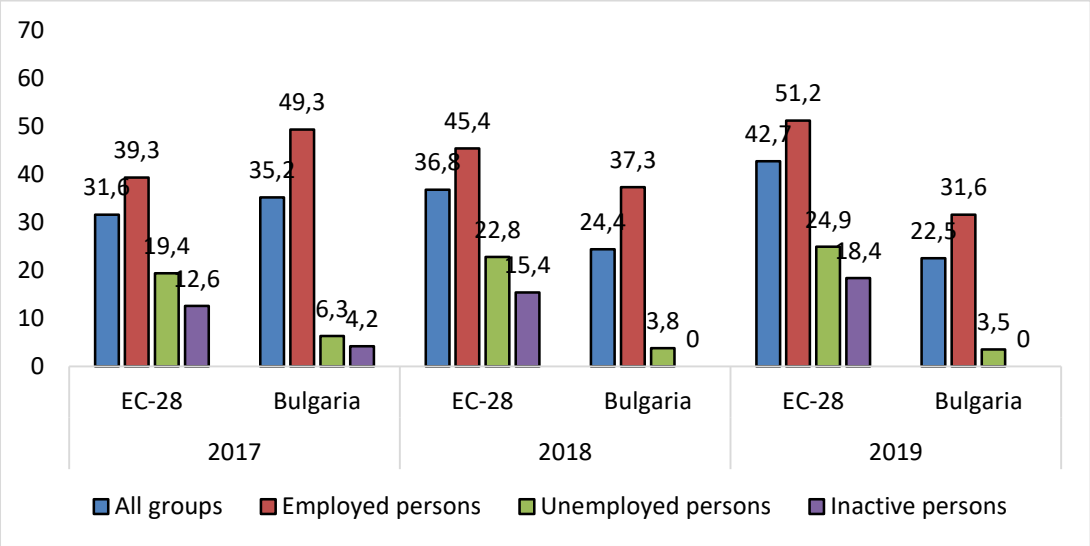
Figure 60. Participation in nonformal education in the past 12 months (25–64-year-olds), by labor status (percent)



Source: Eurostat (AES).

Employers play an outstanding role in Bulgaria in providing nonformal education and training and this is confirmed by the high share of participants in this type of learning who used these providers. Of the total participants in nonformal learning in Bulgaria, 63.5 percent declared this, followed by 17.5 percent who attended activities in nonformal education institutions. Only 1.7 percent participated in education or training organized by trade unions and 4.2 percent in those organized by employers' organizations. Bulgaria is the country where the highest share of all learners in the EU who participated in nonformal education and training did so in activities provided by employers. Hungary and Slovakia registered the next closest levels of concentration, where the share of learners who declared they participated in education or training activities provided by employers was 57.9 percent and 48.8 percent, respectively.[188]

In fact, an exercise of mapping the providers of adult continuing education and training based on their enrolment numbers clearly shows the size of the nonformal sector and the relevance of employers in this map. As Figure 61 shows, in 2015 and 2016, a total of 547,286 persons participated in nonformal training offered by employers whereas 330,720 did so in training offered by a variety of other entities, including employers' organizations and trade unions. This means that more than 42 percent were trained by employers. As mentioned earlier, most of the trainings are offered by large companies. A number of nonformal trainings are offered by formal education and training entities; these may include the VET centers that offer courses to obtain partial qualifications.

The mapping also shows that VET centers are the most important provider of formal education and training for adults in terms of enrolments. An enrolment of 73,443 in 2016 in VET centers[189] indicates that they cover more than two-thirds (66 percent) of the adult population involved in education and

[188] AES 2016/Eurostat: trng_aes_170
[189] NAVET data.

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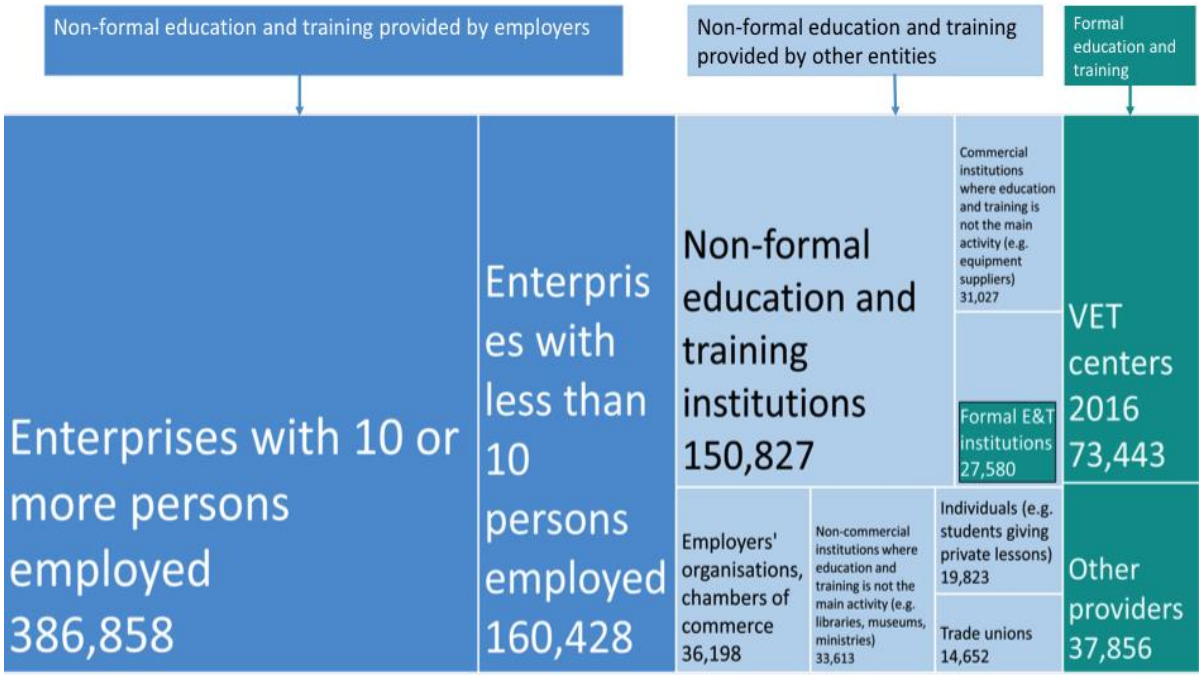
training in the country. The other third enrols in a variety of providers, including schools and higher education institutions.

Figure 61. Map of providers of formal and nonformal education and training for adults by enrolments, 25–64-year-olds[190]



Source: World Bank authors based on AES 2016, CVTS 2015, NAVET 2016 data, and NSI population 25–64 data.

Focus on adults' informal learning

Participation in informal learning has grown from 2011 to 2016 both in Bulgaria and in the EU. The ways in which learners engage with informal leaning in Bulgaria include intergenerational learning; reading; and the use of television, radio, or video, but the means most used is computers. In 2016, 35.7 percent of those who had participated in some form of informal learning in Bulgaria in the 12 months before they were interviewed had done so using computers. This was followed by the use of television, radio, and video (33.3 percent) and the use of printed material (27.7 percent). Learning from a family friend or colleagues was the answer given by 14 percent of the interviewees and learning via guided tours such as in museums or by visiting learning centers, including libraries, was the least popular (10.4 percent and 6 percent, respectively).[191] The adults that participate are the youngest, but the older population participates more in these kinds of learning activities than in formal or nonformal learning.

[190] To make the figures comparable, the reference population was 25–64 years old and the reference year was 2016 to align it with the Continuous Vocational Training Survey (CVTS), for which latest data are for 2015. If the 16–24-year-old age group is included, in VET centers there were 84,857 enrolled trainees (own calculations) in 2016.
[191] AES Report.

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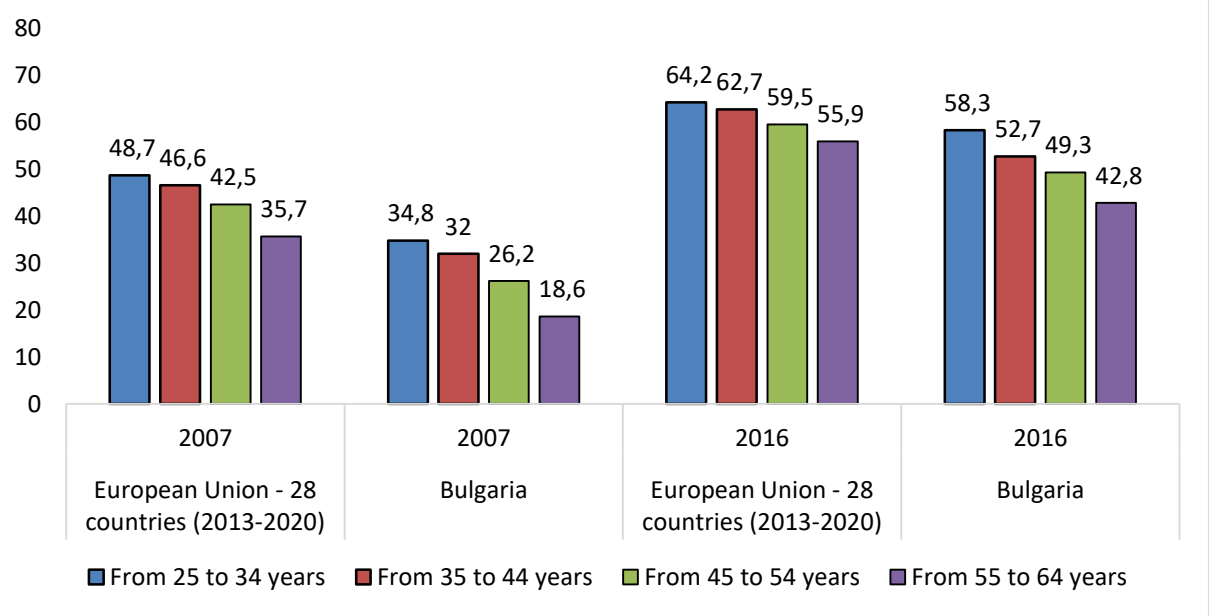
Figure 62. Participation in informal learning 12 months before survey (25–64 years), by age (percent)



Source: Eurostat (AES).

Box 22. Lessons learned III
Adult Literacy 'New Chance for Success'

A project financed by OPSESG 2014–2020 is dedicated to providing opportunities to illiterate people to access general education and vocational training and thus facilitate their participation in the labor market. The project's duration was 3 years, from 2016 to 2019.

The project built on the completed project 'New Chance for Success', financed by the OP Human Resources Development (2007–2013).

The project's core activities are

- Organization and conducting adult literacy courses and courses for acquisition of competences from the **junior high school stage of primary education (grade 5–7) and lower secondary stage (grade 8–10);**
- Provision of opportunities for continuing education in the **high school stage of secondary education by distance learning**; and
- Development and pilot implementation of a **system for validation** of informal and nonformal learning by evaluating correlation between competences acquired with the requirements for completing a class, stage, or level of education.

Another important activity of the project is promoting and raising awareness of the needs and benefits of improving literacy.

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In 2018, 33 schools ran courses for the acquisition of competences of the junior stage of primary education and 60 schools ran courses for acquiring competences of the lower secondary stage. By 2019, according to an interim technical report, curricula had been adapted for adult students and 5,500 students had participated in courses, out of a target of 10,000. No certificates of validation of completion, out of 80 planned, had been issued, and the distance learning system was still under development.

Additional pending issues

- While the 'illiterate' are the target population of the project, it is not clear which level of literacy is used to define eligibility. Levels of educational attainment could define more accurately eligibility and ensure clear indicators are used to track results.
- There seems to be low uptake of the learning opportunities offered, although this might need further interviews with those involved in the implementation of the project.

Sources: Adults Literacy 1 (2016–2019); Grant Agreement Adults Literacy 1 (2016–2019) Technical Report (intermediate); and Budget Report 2018.

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Box 23. Lessons learned IV
System of validation and recognition of prior learning

A system of validation and recognition of knowledge and skills acquired outside the formal education system has been approved in Bulgaria. It is based on checking compliance with the State Educational Standards, which are defined in learning outcomes. The system allows learners to accumulate credits that can be transferred across different qualifications in the same vocational area. All accredited VET providers are entitled to conduct validations.

The process of validation has three main steps.

1. Applicants present evidence of their skills, knowledge, and competences to the provider conducting the validation.
2. Applicants sit an exam to test how many units of the learning outcomes defined in the State Educational Standards.
3. Depending on the number of units the applicant showed to have acquired in the examination, the education provider issues a certificate for the corresponding qualification or education level.

The cost of the validation is covered by the learner, their employers, or, in some cases, with funds from national or international projects.

Pending issues

- NAVET data show that in 2016, 257 people acquired qualifications through validation (105 full qualifications and 152 partial), which represents only 2.9 percent of all qualifications obtained in 2016.
- Despite the introduction of the validation process, the number of qualifications obtained through validation is reported to remain stable at around 300 per year.
- The low uptake of the validation pathway could be because the validation process is long and sometimes it is shorter to take the whole training leading to the qualification pursued.
- The cost of the validations can be higher than the cost of a training and there is more financial support available to enroll in training than to cover the costs of validation. The system has been developed with a focus on the VET and qualifications system but it is based in the State Educational Standards ,which so far have been developed mostly for general education.
- It is not clear how the system of validation of prior knowledge developed for the adults' reintegration into primary or secondary basic education is articulated with the system of validation for VET.
- The level of flexibilization of the entire education and training system introduced with this validation mechanism appears to be limited because its credit system allows only for transfers within the same vocational area.

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- Low cooperation with business and slow progress in developing a coordinated approach to QA in the VET sector may be hindering an adequate functioning of this system of validation and recognition or prior knowledge.

Summary of key challenges identified in LLL aspects of school-age education in Bulgaria

- Adults' participation in education and training is low and has decreased in recent years in Bulgaria. Those who participate less are those above 35 years and those with low educational attainment.

- In formal education, participation in VET and in higher education have decreased and is low for those above 25 years old.

- In nonformal education and training, participation has decreased across age, education levels, and labor status categories, but an emerging concern is the low and decreasing participation of the unemployed because this could equip them with skills needed to enter the labor market.

- The system of validation and recognitions of prior learning that has been introduced still needs adjustments for it to work, to speed up the upskilling and reskilling of the labor force. This especially relevant in view of the increasing numbers of learners that choose to obtain only partial qualifications.

- Data collection on participation in adult literacy and second chance programs is not institutionalized and data gathered from different sources indicate this is significantly low. Given the shortage of skills reported in the country and the skills forecasts that point to an increasing need of higher skills, it would be critical to address this and be able to monitor progress.

Policy priorities and directions identified in ongoing policy-making processes regarding participation of adults in LLL opportunities

The current draft of the National Education Framework for 2021–2030 highlights, in priority 6 on LLL, a number of action areas related to the challenges identified above. These include the need to improve the mechanisms for validation of knowledge and skills in VET acquired through nonformal or informal learning; expand the adult literacy education system, including ensuring access to education and training of persons who have failed to complete secondary education; and the promotion and implementation of a credit transfer system that allows for flexible pathways for research and masters degrees.

In the European Commission and Council recommendations for Bulgaria, three main concerns emerge relating to challenges in the participation of adults in education and training. First, the recommendations stress the importance of addressing inequalities in the participation in education and training and upskilling opportunities. These concerns regard Roma and other disadvantaged groups as well as regional differences. The country-specific recommendations of June 2019, for instance, refer to the need to "[s]trengthen employability by reinforcing skills… in particular for Roma

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and other disadvantaged groups."[192] The European Semester report that year stated "there is still a wide gap between regions in terms of human capital."[193] Second, a special focus is placed on upskilling and reskilling and the need to invest more in these efforts.[194] These efforts are seen as instrumental in bringing people back to work in the post-COVID-19 crisis and in "preparing the labour force for the challenges and opportunities resulting from digitisation." [195] Third, the recommendations note that adult learning initiatives continue to be mostly project based—that is, not funded with national budget—which calls into question their sustainability and strategic approach.[196]

The latest version of the OP for Education for 2021–2027 dedicates the special objective on LLL entirely to adult literacy. One out of the three priorities of the program strategy proposed in the OP—priority 3—is focused on contributing to achieve good results in the indicator: "Participation in 'lifelong learning' for people aged 25–64."

The intervention proposed for the use of the ESIF under the specific objective of LLL replicate the key activities of the Adult Literacy project financed under OPSESG 2014–2020. The key difference is that the proposal is to make this project competitive instead of system-managed and available for all schools as it is at present. This contrasts with concerns with the efficiency and sustainable effects of the competitive approach mentioned earlier and with concerns expressed in the European recommendations regarding the low sustainability of adult literacy initiatives in the country because they are supported with project funds. The contribution of these activities toward the indicator adopted for priority 3 of the strategic program—moreover, if the number of participants in the current Adult Literacy project is taken as reference—can be expected to be minimal unless complemented with other measures at the national level as the strategy of education proposes promoting adult participation in nonformal and informal contexts.

Recommended policy directions and program options to focus on regarding participation of adults in LLL opportunities

In view of the challenges identified in this section and the policy priorities noted in ongoing policy planning processes in Bulgaria, the first key recommendation proposed here is the development of a multipronged action plan for adult education and training. This recommendation responds to the priority given to adult education in the current policy planning processes regarding LLL and allows to bring together in an articulated form the different challenges identified in these processes and in this section. Figure 63 illustrates the basis of this multipronged model of action plan proposed.

[192] CSR June 2019 (by European Council), p. 8.
[193] CR (European Semester) January 2019 (updated in May), p. 55.
[194] January 2019 (updated in May), p. 45.
[195] CSR - May 2020.
[196] CR (ES) February 2020, p. 40; CR (European Semester) January 2019 (updated in May), p. 43.

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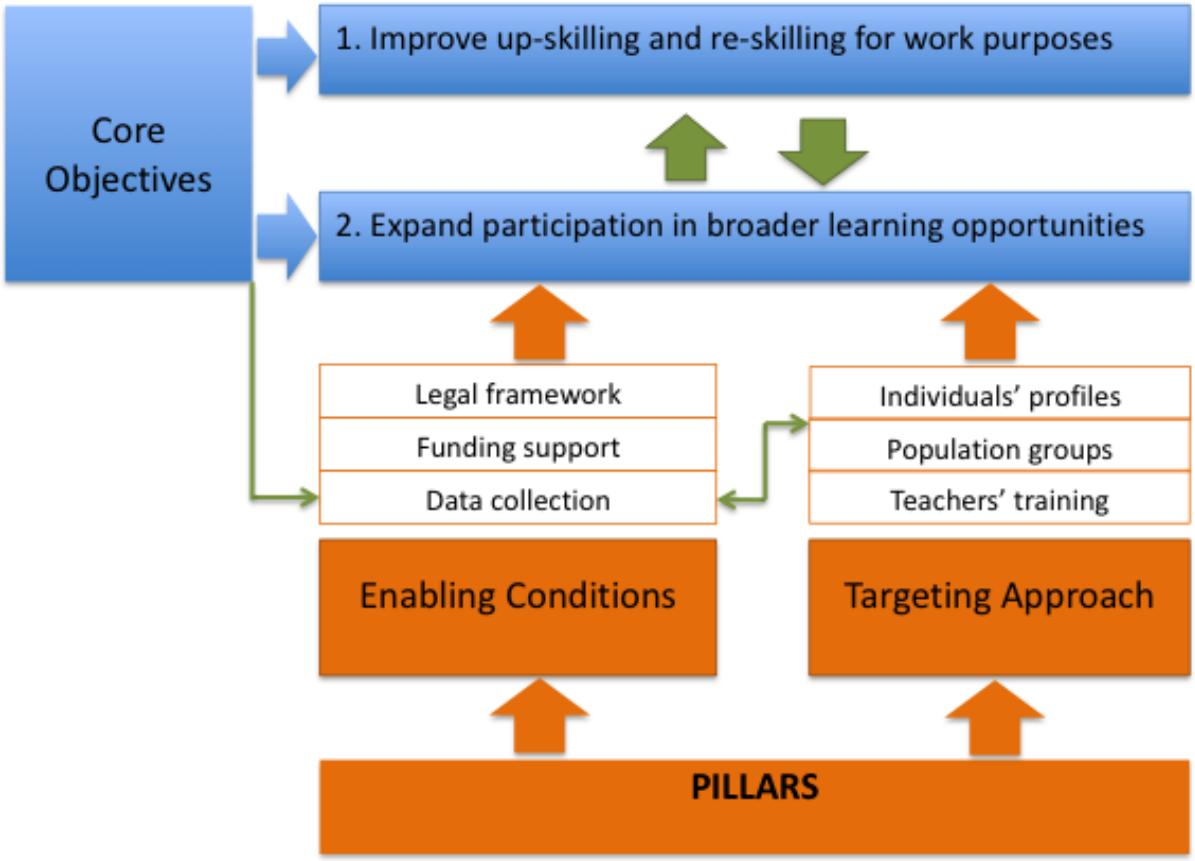
Key recommendation 4

To develop a multi-pronged action plan for adult education and training

In order to incorporate the policy priorities and challenges identified above, the recommendation is to design the plan around two core objectives: (1) honing work-related upskilling and reskilling participation and (2) expanding participation in LLL opportunities, which should build on two pillars, (a) enabling conditions and (b) a targeting approach. The first objective concerns the enhancement of the current system of LLL focused on training and skills development. The second objective addresses the need to widen that focus and increase the participation of adults in education and training by bringing more actively into the scene community opportunities and the formal education system, including second chance programs and higher education. The pillar on enabling conditions comprises the legal framework, finances, and data collection; the pillar on a targeting approach refers to efforts to involve those sectors of the population that participate less and would benefit the most and to identify adequately the profiles and contexts of learners to provide the learning that would suit them best. It also refers to the need for training teachers in approaches and techniques adequate and engaging for adult learners and their specific profiles and contexts.

Figure 63. Basis for a multipronged action plan for adult education and learning



Source: World Bank authors.

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The synergies across the objectives and pillars of this model should be stressed and reflected in the design of the specific actions that will put it in practice. The objective on upskilling and reskilling concerns mainly the preparation for the world of work and the objective on expanded participation on training beyond professional qualifications to include cultural activities and adult second chance education. These two objectives are interrelated as the latter can provide transversal skills for work and a level of education needed for upskilling pathways or raise motivation and readiness to learn and adapt to societal and economic conditions that may arise. Also, data collection processes and reporting should be designed in a format that supports planning and monitoring. The availability of up-to-date analyses of data is essential to identify the sectors of the population that are most in need of upskilling and access to learning opportunities and their individual profiles. Data are also crucial to assess progress in the implementation of actions toward the achievement of the two core objectives.

The rest of the key recommendations proposed in relation to adult participation in LLL are strategically linked to this multipronged action plan.

- To improve data collection and reporting systems on adult education and training, adopting a conceptually broad and inter-institutionally coordinated approach. This key recommendation is embedded in the proposed action plan

- To pay special attention in the design of actions in the adult education and training sector to foster the participation of the sectors that emerged from this analysis as those who participate less—those above the age of 35, with low education levels, and the unemployed.

- To increase flexibility of the education and training system especially by means of integrating through accreditation and aligning with the NQF the increasing preference for the acquisition of partial qualification and of improving the efficiency and functionality of the system for validation and recognition of prior knowledge.

- To increase the support for adult second chance provision, as in key recommendation 3, especially ensuring its sustainability and institutionalization beyond EU funds support. This can take the form of complementary actions that can strengthen capabilities in the

Key recommendation 5

To improve data collection and reporting systems on adult education and training, adopting a conceptually broad and inter-institutionally coordinated approach.

Key recommendation 6

To foster the participation of the sectors that participate less—those above the age of 35, with low education levels, and

Key recommendation 7

To add flexibility to the education and training system via the integration of partial qualifications and the enhancement of the system of validation and recognitions of prior knowledge.

Key recommendation 8

To ensure the sustainability and institutionalization of adult 'second chance' education.

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system such as investing in the development and establishment of teachers' training programs specialized in adults or support the opening of evening classes in primary and secondary schools offering supplementary pay for the existing or newly hired staff.

A key intervention that could be further explored for enhancement or implementation is, thus, related to the system of validation and recognition of prior knowledge. Systems of validation and recognition are crucial to ensure flexibility and permeability in education and training systems and this, in turn, allows for faster adjustment of learning provision with labor market and societal needs as well as to upskilling and reskilling the population for their personal development. Strengthening the system is critical in the context of the increasing numbers of adult learners that choose to obtain partial qualifications.

An overarching system of validation and recognition that covers both general education and vocational training, including employers' and other providers' training, as well as higher education, is desirable. For these purposes, the State Educational Standards would need to add more specific aspects related to VET and the current validation system would need to be combined with the system developed for the adult literacy project, which is more focused on basic skills like literacy and numeracy. The use of European instruments such as EuroPass and the adoption of different types of credentials,[197] including micro-credentials, are possible tools to integrate into the system. In addition, Box introduces the cases of Australia's and New Zealand's use of micro-credentials.

In the process of improving the current system of validation and recognition in Bulgaria, a number of questions should be explored. For instance, who are those who choose the validation pathway over enrolment in training—people with any form of vulnerability such as ethnic minorities, those living in geographically remote areas, the unemployed? Also, it would be important to understand whether the acquisition of qualification through validation is facilitating re-entry to the system and to what extent the cost of the validation process, in relation to other factors, is hindering the use of these processes.

[197] A recent OECD working paper outlines three categories of alternative credentials: certificates, digital badges, and micro-credentials. OECD. 2020. "The Emergence of Alternative Credentials." Working Paper No. 216, OECD, Paris, France.

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Box 24. The importance of recognition and validation mechanisms for an LLL-oriented education and training system

- They are key policy features of education systems that adopt a holistic approach to lifelong learning.
- They allow for bridging the formal, non-formal. and informal education settings.
- They bring flexibility and permeability to the system, allowing the learners' to personalize their learning pathways according to their needs, preferences, and contexts.
- They set the bases for widening participation in learning opportunities and those contribute to the rise of the skills level of the population.

Regarding partial qualifications, accrediting them could enhance the flexibility of the system by adding options for individuals to build their own learning pathways. While partial qualification are currently awarded only by VET centers, this could also be introduced in VET schools and colleges. In Denmark, this is already a feature of VET school education. For example, a qualification training leading to a certificate as a 'veterinary nurse' has a shorter version that leads to a certification as a 'veterinary nurse aide' and can be obtained at exit from compulsory education. The rationale behind this system is that qualifications are obtained as building blocks and enriched with practice in the world of work in between.

First steps in exploring this option for Bulgaria would require further understanding of the current use of partial qualifications. Who prefers them to full qualifications? How are these qualifications regarded in the labor market? Do those with partial qualifications return later to complete their trainings toward full qualifications?

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Box 25. Good Practices V
Micro-credentials, Australia and New Zealand

Australia

Micro-credentials will be bankrolled under a 'new funding envelope' for Commonwealth-supported university places, to be developed over the next five years. Separately, the government has committed A$4.3 million for "one-stop-shop for micro-credentials," offering students a "nationally consistent platform to compare course outcomes, duration, mode of delivery and credit point value" (although it has been suggested that the government's Course Seeker website already provides this service).

The Foundation for Young Australians. "Lifelong Learning and Reskilling: The Promise of Micro Credentials." https://www.fya.org.au/2018/09/21/lifelong-learning-and-reskilling-the-promise-of-microcredentials/
Times Higher Education. "Micro-credentials 'Permanent Fixture' in Australia Post-Pandemic."
https://www.timeshighereducation.com/news/micro-credentials-permanent-fixture-australia-post-pandemic

New Zealand

The New Zealand government has recently completed pilots for micro-credentials with three organizations to understand their value and how they can support a workforce of the future. New Zealand completed a pilot of micro-credentials in 2018 which aimed to explore how micro-credentials could be leveraged in the country's education, training, and qualification system. This pilot was implemented in collaboration with an online education provider, a polytechnic institution, and an NGO.

Micro-credentials were found to be highly beneficial in the pilot program, and they are now being implemented as part of the New Zealand Qualification Framework, allowing for the recognition of this new type of learning.

New Zealand Qualifications Authority. "Micro-credential Pilots." https://www.nzqa.govt.nz/about-us/future-state/quality-assurance/micro-credential-pilots/

Box 26. Good Practice VI
Reaching out to adults for Second Chance Education, Estonia

Program: Community Network (supporting individuals to return to education) (2013–2015)

Target Group: Parents (with young children) who have low levels of education

Overview: Awareness raising training courses titled 'Second Chance' were piloted in Pärnu County, Estonia (from March to June 2016). The main objective of the activity was to support parents—who had low levels of education—to return to the education system and continue their studies. Reaching the target group and motivating them to come out of their comfort zone and participate in the training proved to be the most challenging task.

Locating the target group took place through community networking and personal contacts, which was led and organized by MTÜ Noore Vanema Perekeskus (the NGO Family Centre for Young Parents). The operational aspects included training organizations, nursery schools, local department of Estonian Unemployment Insurance Fund, and Rajaleidja (Pathfinder) Career Counselling Centre. Childcare was arranged. Program participants were informed about learning and employment possibilities; they took study

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trips to upper secondary schools for adults and vocational schools. Organizers analyzed participants' abilities, needs, and wishes, as well as the existence of support services and supporters. Out of 20 participants, 8 took up their studies. Experience gained by the pilot activities and community involvement model has served as the basis for starting similar sets of training courses in nine counties. The aim is to involve at least 180 parents of the target group.

Source: ERASMUS+, Good Practices in the Implementation of the European Agenda for Adult Learning 2012–2016.

Quality and Relevance of LLL Opportunities

This section focuses on the quality and relevance of LLL opportunities, particularly adult education and training and adults' skills. As indicated earlier, no mechanisms for QA tailored to the sector of adult education are in place and only few data regarding outcomes are available, which indicate that the level of skills of adults in Bulgaria is low, especially among ethnic minorities. However, the lack of data precludes any analysis regarding the extent to which any form of adult education has been given attention. It can be inferred, based on the low levels of participation of adults in education and training, that currently adult education as an instrument available to raise low skills in the population is not making a significant contribution.

Insufficient data collection and reporting

In terms of outcomes, completion rates of the adult population who engage in formal and nonformal education have not been measured. They could comprise those who acquire certificates of education at basic levels after second chance or those who completed education from vocational and technical schools, as well as those from higher education institutions by age.

LLL opportunities in Bulgaria are not tailor-made to the specific needs of individuals because there are no systems in place to collect data about these learners. Since 2014, a National Information System for Adult Learning is in place that aimed at monitoring the sector. But up until 2015 the system of adult education and learning and LLL only collected information on certificates or qualifications issued and not on quality indicators such as completion rates, labor market outcomes or social outcomes in students in the areas of health and well-being, and community cohesion. There are no monitoring mechanisms that look at quality and therefore can provide a picture of where action for improvements is needed.

No data on the skills of the adult population are collected in Bulgaria. The country does not participate in PIAAC[198] or STEP assessments and national initiatives to measures the skills of the adult population have not been tracked. A measure of the skills levels in the Bulgarian population can be derived from the share of working-age population with incomplete basic education or ESL.

[198] Programme for the International Assessment of Adult Competencies, OECD.

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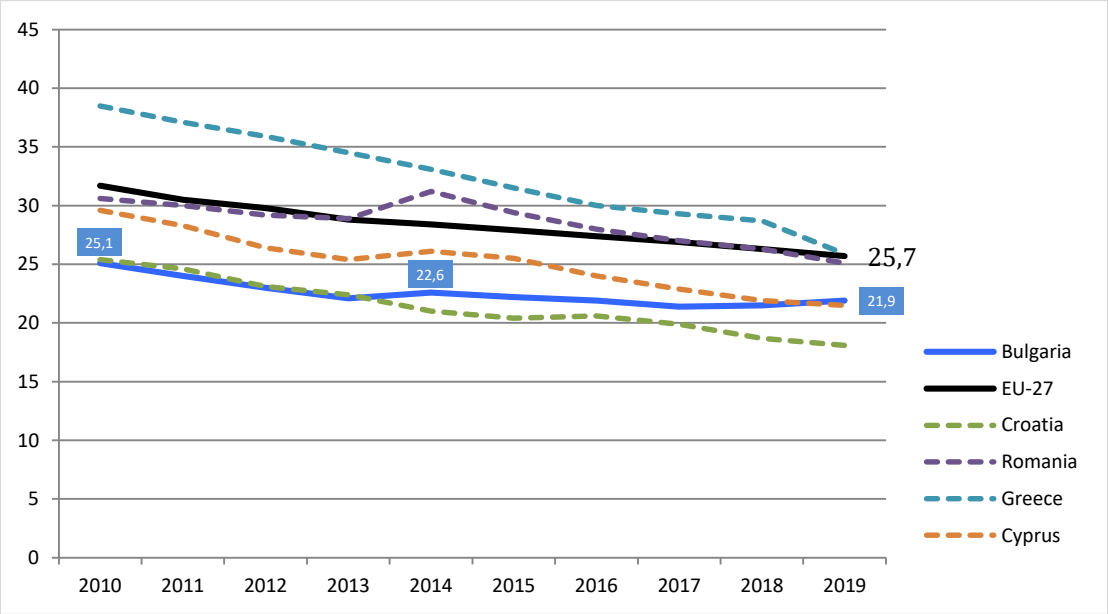
Available data on skills levels of the adult population

A key obstacle underpinning labor and skills shortages is the high number of people in Bulgaria who leave education before completing compulsory schooling. No major improvements were made in Bulgaria in the past years to decrease the number of people who have not completed basic education (ISCED levels 0–2), what is considered ESL. In 2019, almost 23 percent of the working-age population (15–64 years old) of Bulgaria had left education before completing these basic level. In the absence of regular assessments of adults' skills, it can be assumed that at least about 20 percent of the population has low basic skills.

The share of working-age people with low level of education in Bulgaria is below the EU average, yet, especially since 2014, this share remained quite stable in Bulgaria, decreasing only 0.7 percentage points. In the EU, instead this share decreased at a faster and steadier rate, from 30.5 percent in 2010 to 25.7 percent in 2019. Furthermore, when compared to the progress made by the countries that joined the EU after 2004 which had the same or higher shares of ESL in their labor force as Bulgaria a decade ago, it emerges that all of them except Romania improved more than Bulgaria.

Figure 64. Percentage of labor force (15–64 years old) with less than primary and lower secondary educational attainment (ISCED 0–2) (definition of ESL by EU) (%)



Source: Eurostat.

The stable share of the population with only basic level of education in Bulgaria for the past eight years, while it declined on average in the EU, mirrors that when comparing young populations, the level of education of Bulgarians is lower than in the EU. As shown earlier in Figure 44, in Bulgaria 18 percent of those ages 25–34 have attained at the most lower secondary education. In the EU on average this is 15 percent for that age group. This persistent share of population with low educational attainment is also directly the consequence of the high shares of people leaving education early, which is also discussed earlier and as shown in Figure 41, comprising 14 percent of those ages between 18

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and 24 and is the fourth highest share in the EU. Finally, this persistent share is linked to the low level of participation and provision of second chance programs that can allow adults to re-enter the education system and raise their educational attainment levels.

The World Bank published insights regarding cognitive and socio-emotional skills of the Bulgarian working-age population in 2016.[199] Educational attainment is significantly but not perfectly correlated with skills levels. However, the study found that lower educational attainment of Roma and other ethnic groups leads to important skills gaps with ethnic Bulgarians. Roma and individuals from other ethnic groups (who mostly identify themselves as Turkish) had systematically lower scores than non-Roma on all categories of cognitive and socio-emotional skills in this study. Also, individuals who have a job have better skills than those who do not. Unemployed and inactive individuals have significantly poorer cognitive skills (for example, for memory, semantics, reading, numeracy), working and learning style skills, and relational skills than those who are working. These findings highlight the importance of providing disadvantaged groups and those out of employment opportunities for learning throughout life.

The only data that are regularly collected in Bulgaria on adults' basic skills regards digital skills, through the Digital Economy and Society Index (DESI) indicators. In the latest edition of this index Bulgaria ranked last or near last in most of the indicators related to digital skills. For instance, only 31 percent of Bulgarians and 35 percent of Romanians have basic software skills. These are the two countries at the bottom of the list. The average for the EU is 61 percent. Enterprises are providing more and more training to their personnel to develop or upgrade their ICT skills. During 2018, overall 24 percent of enterprises provided ICT training for their personnel. The leaders in this domain are Finland and Belgium where 36 percent and 37 percent provide these trainings. In Bulgaria the provision of such training was considerably lower as only 10 percent of enterprises provided it.[200]

The levels of digital skills of the Bulgarian population vary according to age, level of education, income, and sex. Yet, when looking at those who have at least basic digital skills in these groups, the Bulgarian population is below that of the EU. The gap with the EU is less marked among the youngest, those with higher education, with higher income levels, and among women. The smallest difference with the EU is among those with higher education, but still the gap is 21 percentage points. Within Bulgaria, those with higher education are the group with a higher share of at least basic digital skills. Differences in the level of education make more difference in terms of basic digital skills. The gap between those with higher education attainment and those with low is 53.5 percentage points.

[199] World Bank 2016. The sudy was based on data collectd by the Bulgarian Longitudinal Inclusive Society Survey looking at the population ages 18–65 and collected in 2013.
[200] Digital Economy and Society Index 2020, Human Capital chapter.

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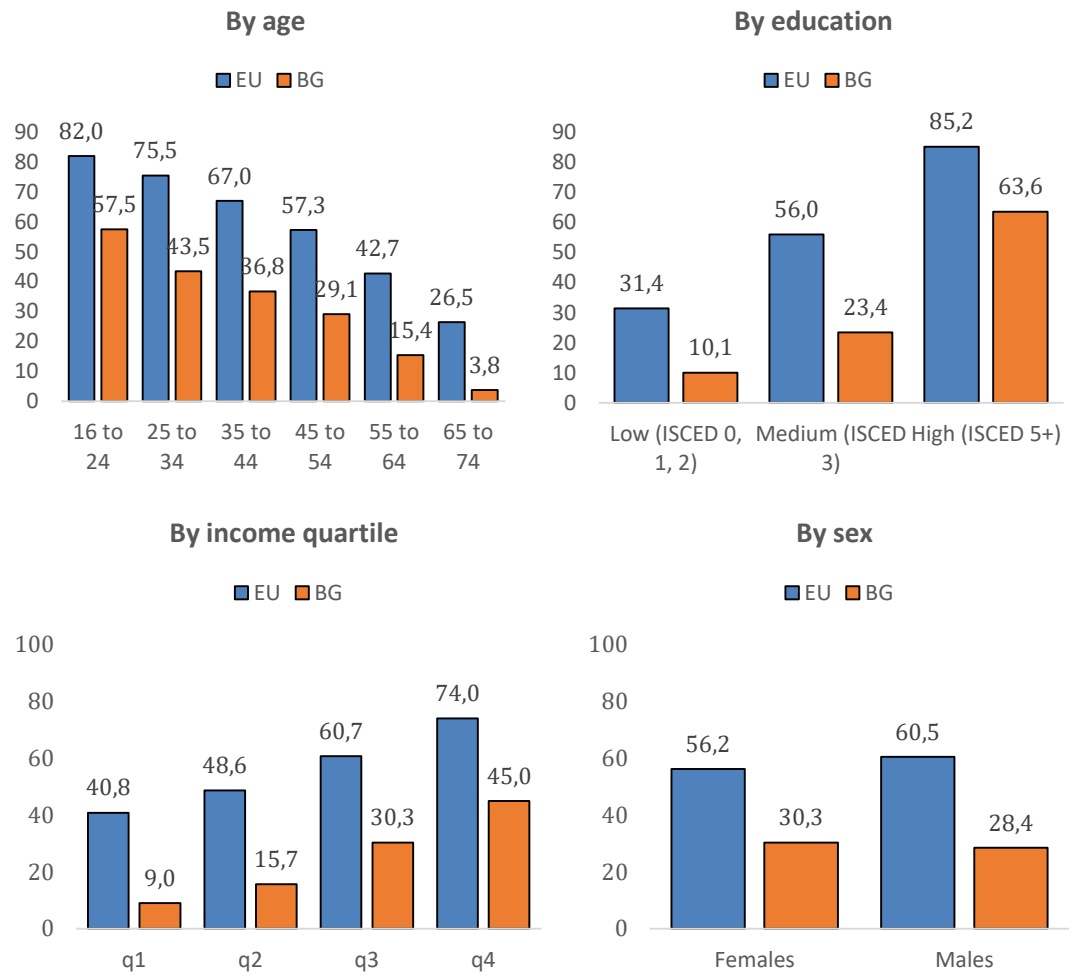
Figure 65. Share of the population with at least basic digital skills by age, education, income, and sex



Source: World Bank authors based on Digital Economy and Society Index 2019.

Relevance of LLL outcomes

Despite deficiencies in the level of educational attainment of the population and their basic and soft skills, employment in the country has been consistently increasing since 2012. From 2012 to 2019, the share of people in employment increased from 63 percent to 75 percent, with a national target of 76 percent for 2020. If the trend continues in the next year after the implementation of the strategy, it is possible to reach the national target of the country for 2020.

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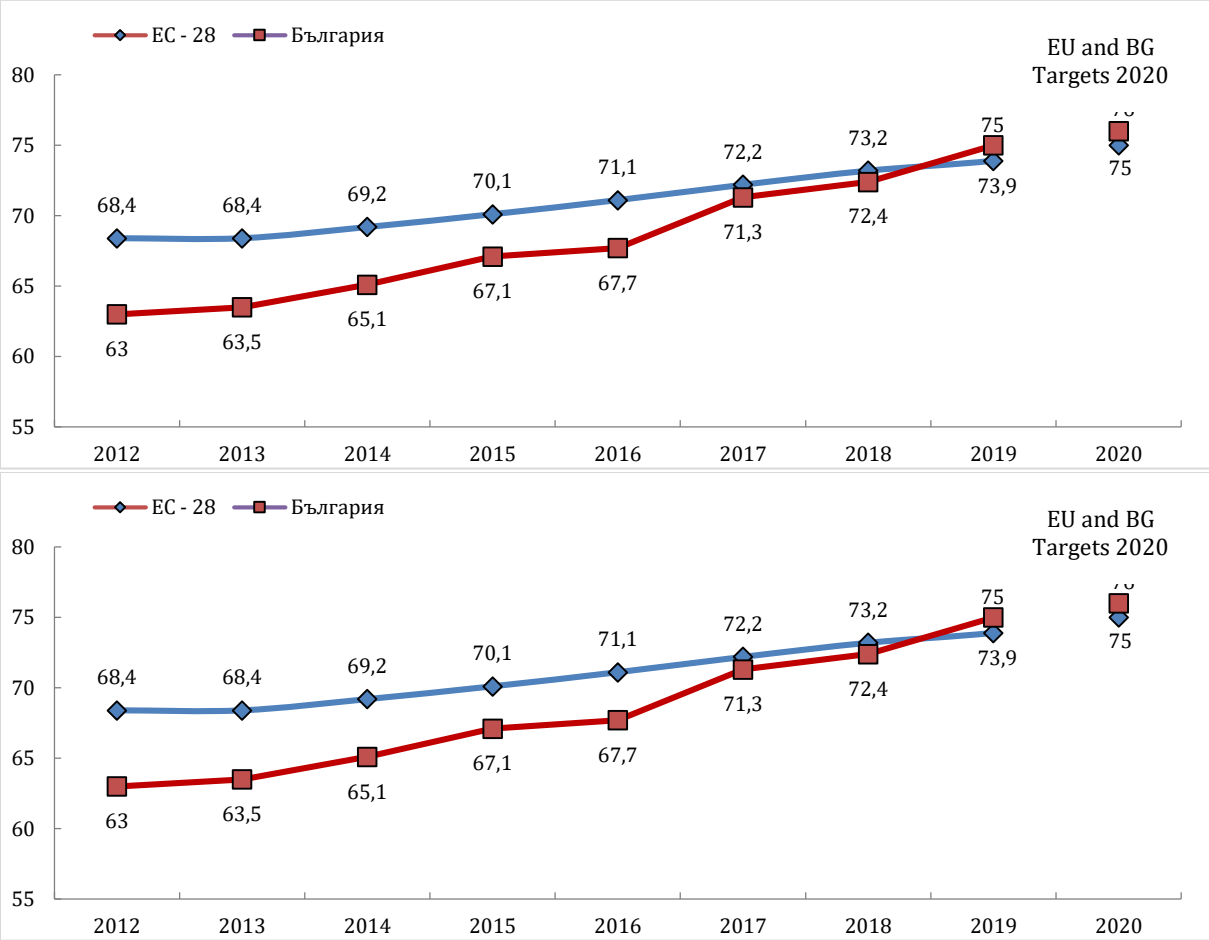
Figure 66. Employment of the population ages 20 to 64



Source: NSI.

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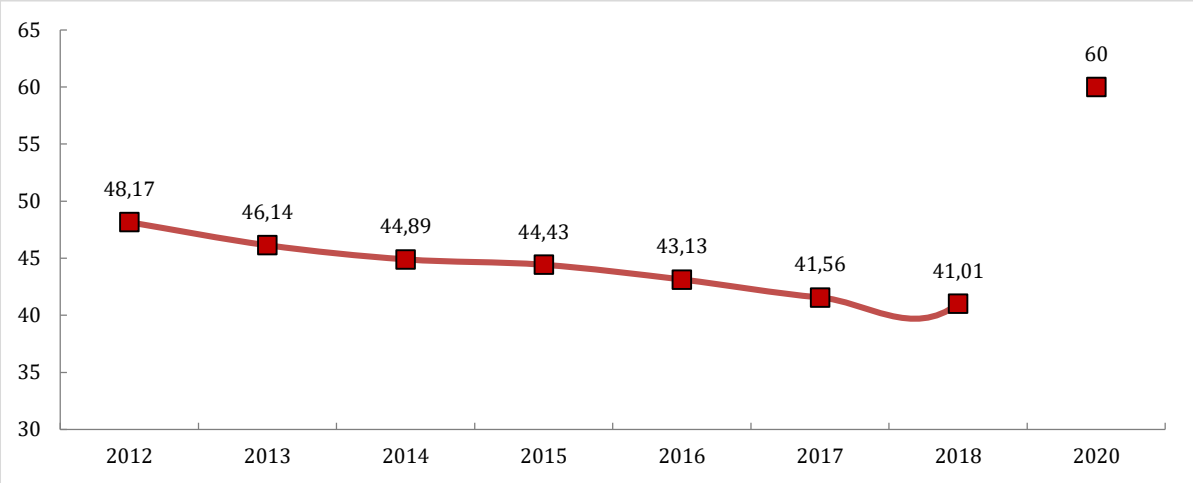
Figure 67. Share of people who acquired a degree of professional qualification in the broad fields of 'Informatics', 'Engineering', 'Production and Processing', and 'Architecture and Construction'



Source: Bulgarian NSI.

The expected numbers of qualifications obtained in the fields of specialization as set out in the NSLL 2014–2020 have not materialized in Bulgaria. From 2012 to 2018, the share of those who acquired the degree of professional qualification decreased by 7.16 percentage points, reaching 41.01 percent in 2018. This is far from the set national target of 60 percent for 2020. Emigration and decreasing interest in training are possible factors behind these outcomes.

One of the biggest shortcomings in adult education is the lack of a comprehensive system for teacher and trainers training and assessment. In addition to the challenges in the teaching profession in general, teachers working with adults fall into the same professional category as the rest of the teaching staff and, as it is the case also for trainers working with adults in VET education (in VET schools as well as VET centers), not enough attention has been paid to the specifics of adult education and the need for special qualifications for professionals working with vulnerable groups. Up until 2015 at least training for teachers or trainers in adult education was limited and only consisted of in-service training. No initial, pre-service education and training programs for adult education and learning teachers seem to be in place in Bulgaria at present and thus no pre-service qualifications are required to teach in the sector of adult education.[201] The training of trainers or teachers in adult education is not specialized nor does the teaching in the sector requires qualifications.

The low digital skills levels of the Bulgarian population also include teachers. Without adequate training in digital skills targeted to teachers it will be difficult to keep pace with development in the world of work and prepare children and students for their future. But the digital gap between teachers and their students may also preclude engagement and motivation in learning processes. Participation in international assessment such as PIAAC would also allow for the evaluation of teacher's proficiency in key skills.

[201] GRAEL III questionnaire answers.

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Box 27. Lessons Learned V
Protected specialties and priority professional fields

In 2016 a system to promote enrolments in professional fields that are forecast to be needed in the labor market, and for which current enrolments are low, was introduced. In parallel, a number of specialties for which there are low enrolments but are considered strategically important have been defined as protected professions. This scheme has been introduced both in secondary VET and higher education.

The definition of the list of priority professional fields is based on MLSP labor market forecast, which is complemented by the relevant MES Directorates with consultations and surveys among employers. This list is redefined every year. At present, key priority fields include teaching and health, for instance.

The promotion of enrolments in protected specialties or priority professional fields is based on a model of financial incentives. This consists of the provision of additional funds for institutions to offer education or training in these fields, in the form of approving and financing more vacancies in these fields, and, in higher education, this is complemented with scholarships or the exemption of tuition for students who enroll in these fields.

Pending analysis

- The system has not yet resulted in the expected increase in graduates in these fields, but it may be still too early to assess that.
- The redefinition of the list every year appears to be disconnected to the data used which are collected every 4 years.
- The methods to survey employers' needs could be improved with more systematic surveys and complemented with graduates' employment tracking.

Summary of key challenges identified in the quality and relevance of LLL

- Lack of data collection or reporting mechanism that can be used to monitor quality of the provision and of the learning outcomes of adult education. This includes the lack of regular data on adults' skills, such as PIAAC, and of labor or further education and training outcomes of adults that enroll in learning activities.

- Gaps in cognitive and socio-emotional skills between ethnic minorities and ethnic Bulgarians.

- Low digital skills across different socio-demographic dimensions, although those with higher educational attainment seems to be the ones with higher share of basic digital skills.

- Set targets to align education with labor market needs have not been realized so far.

- The quality of teaching is a concern in all education and training sectors in Bulgaria, but it stands out that training programs for adults' teachers do not exist in Bulgaria.

Policy priorities and directions identified in the ongoing policy-making processes regarding the quality and relevance of LLL

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The current draft of the National Education Framework for 2021–2030 pays special attention to teachers training in adult education. Among the actions aimed at creating the conditions for improving LLL provision and participation, the strategy includes actions related to promoting participation in different learning settings, improving teachers training, and strengthening partnerships with stakeholders. In particular, two actions refer to the need to train teachers as specialists in qualification courses and in pedagogical skills for classes with young people and adults, including through the building of professional communities of teachers/trainers for exchange of good practices in adult education.

The European Commission and Council recommendations for Bulgaria make repeated references to the importance of increasing the quality and labor market relevance of education and training in Bulgaria. The EU recommendations also emphasize the need to focus on ensuring attainment of basic and digital skills and on fostering inclusiveness in education and training.[202] After that another set of recommendations note that limited progress was made in "improving the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and other disadvantaged groups."[203] Concerns with low levels of digital skills are stressed in the latest country-specific recommendations which state that "Improving digital skills, for example through more digitally aligned degrees and curricula, could help to adapt to labour market changes produced by digitalisation and to the need for digital remote work."[204]

The latest version of the OP for Education for 2021–2027 dedicates the special objective on LLL to adult education but no specific references are made to improving or ensuring quality of the provision. In particular, no references are made to the need to train teachers in teaching adults and only mentions to support in the transition to the labor market are made. The work is to be coordinated with the Employment Agency so it can be assumed that the needs of the labor market are considered, but again no explicit mention is made in relation to the quality of the trainings as per employers' or learners' expectations.

Recommended policy directions and program options to focus on the quality and relevance of LLL

In view of the challenges identified and the priorities noted in the current policy planning debates, the key recommendation regarding quality in LLL is to develop a methodology for QA for all adult education. This should be coordinated and compatible with a QA methodology for VET and for general education and higher education, so it can be used for adult education and training in a broad sense. It can be developed in line with the EQAVET reference framework, indicators, and approaches[205] and, at the same time, with the existent Bulgarian State Educational Standards, licensing processes in VET, and the current QA methodology in higher education. The methodology could be integrated into the multipronged action plan proposed in key recommendation 4 and linked into the system of data collection for monitoring and evaluation of the AES proposed in key recommendation 5.

[202] For instance CR (European Semester) January 2019 (updated in May!), p. 76.
[203] CR (ES) - February 2020, p. 5
[204] CSR - May 2020.
[205] Recommendation on the establishment of the European Quality Assurance Reference Framework, https://www.eqavet.eu/What-We-Do/European-Quality-Assurance-Reference-Framework/Overview.

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To regularly track the level of adults' skills in the country, it is also recommended that Bulgaria takes part in international assessment such as PIAAC. This will offer the possibility to identify better skills gaps in the population and develop comprehensive and targeted approaches to address the skills shortages reported by employers in the country. At the same time, this will be beneficial to raise the quality of education and training as it can allow the evaluation of teachers' proficiency in key skills and contribute to develop plans for upskilling and reskilling the teaching staff in the country.

Key recommendation 9

To develop a coordinated quality assurance methodology for adults ' education and training

Key recommendation 10

To regularly participate in PIAAC

Key recommendation 11

To train teachers in adult education

Key recommendation 12

To enhance the current system to align education and training with the labour market

Increasing the attractiveness and quality of adult education requires the introduction of specific training in adult education for teachers and improving the relevance of adult education and training to labor market needs. The training for teachers can be seen as complementary to the multipronged approach proposed in key recommendation 4, as noted earlier. Box 32 discusses a number of options in relation to this action line. In particular the trainings should give priority to digital skills acquisition for teachers and digitally based teaching methods. This will contribute to enhance digital skills in the adult population in general.

Improving the relevance of education and training for the labor market should look beyond supplying employers with the qualifications and degrees needed. Including in the picture information on graduates' satisfaction with the use of the skills learned, for instance, could contribute to close the gap between education and societal needs. In turn, this information can help understand precisely what can attract learners to increase their education and skills levels. Box 31 includes a number of aspects that can be discussed in relation to additional angles from which the relevance of adult education and learning for the economy and society can be strengthened.

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Box 28. 'Enhancing the system to increase the relevance of adult education for the labor market and societal need' - policy options for discussion

- An approach that incorporates a focus on learning outcomes and competences rather than on subject-specific specialities can provide graduates with a set of transversal skills that enhances their employability across a variety of sectors and occupations. Misalignments between discipline and sector of employment can be addressed through the availability of professional training or further education after graduation.
- Additionally, to make certain professions attractive to prospective students hold career days in partnerships with key stakeholders of the relevant economic sector.
- Further align vocational and higher education with the needs of the economy by increasing the involvement of employers and other stakeholders in the design of curricula and in the delivery of programs.
- In the case of VET professions, it might be necessary to revise the structure of admission into vocational education and offer short curricula for broad professions similar to the option of obtaining partial qualifications'.
- Enhanced alignment requires a well-functioning system of monitoring of graduates outcomes and update of teachers' training and curricula.

Box 29. 'Teaching training on adult education' - policy options for discussion

- Introduce credits within teachers' pre-service training focused on the delivery of teaching for adults.
- Enhance the in-service training provision to allow for continuous professional development opportunities for teacher and trainers in adult education.
- Introduce measures to encourage practitioners to uptake adult teaching and enroll in credit-based system of in-service training for pedagogical methods.
- Develop systems to monitor learning needs but also challenges facing adults to participate in learning opportunities and shape curricula and teachers training on those bases.

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Key Recommendations and Policy Directions

This report presented an analysis of dimensions for LLL, regarded as a holistic approach to education and training. It highlighted that at present LLL in terms of policy making and interventions focuses on adults' vocational training and an incipient attention to adults literacy is emerging.

From a broad understanding of LLL, this situation analysis looked at the current governance of this policy area and analyzed three key aspects of LLL in school-age education. Regarding governance, the most outstanding finding regards the institutional fragmentation in the planning and management of this policy area. In terms of the school-age aspects of LLL analyzed, these included the bases set at early childhood education and care, especially language and societal skills; concerns with dropouts and low performance at general education level since they affect adults' careers and possibilities of becoming lifelong learners; and the current limitations in the Bulgarian education system in terms of competence-based teaching.

This situation analysis looked at the current situation and thus focused on adult education and learning participation and on its quality and relevance. Key findings include the significantly and decreasing level of participation of adults in education and learning, especially those with lower education levels and above 35 years old and the lack of QA mechanism for the sector. It also noted the key importance of employers as providers of LLL opportunities in adult life while participation in non-work-related learning appears to be markedly low. The lack of data on adults' skills prevents adequate monitoring of the gaps and skills shortages in the population and deficiencies in the functioning of the validation and recognition system recently developed are not contributing to a more flexible and rapid approach to upskill the labor force and keep up with the speed of the evolving labor market.

In line with the priorities identified for LLL in the current policy planning processes in the country, the key policy directions recommendations are focused on adult education and training. At the same time, the challenge is adopting a broader understanding of LLL than the current one in the country since this would be beneficial for fostering a population inclined and prepared to learn and relearn in rapidly changing contexts as technological changes continue to reshape the world of work as well as everyday lives. These key recommendations have also been defined with the objective of developing a coordinated and integrated approach that can generate synergies as the different actions linked to these recommendations are put in practice. In Figure 39 below are 12 key recommendations proposed in this report—those highlighted in yellow have strong coordination relevance.

A number of policy options and international good practices were included in this situation analysis for further discussion. These included a series of questions that could be asked to assess these options in the national context of Bulgaria and the current investment and policy priorities. These proposals are expected to serve the next steps of this advisory work for the GoB which will be focused on preparing specific program proposals to implement the education strategic framework and on honing the investment proposals for the OP under preparation for the forthcoming ESIF financing period.

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Figure 68. Summary of key recommendations for policy directions

Key recommendation 1

To focus on the institutionalization of a coordinated governance structure for lifelong learning

Key Recommendation 2	Key Recommendation 3	Key Recommendation 8
To focus on strengthening and further developing a system of career guidance	To promote and support the offer of adults' 'second chance' education	To ensure the sustainability and institutionalization of adult 'second chance' education

Key recommendation 4

To develop a multipronged action plan for adult education and training

Key recommendation 5	Key recommendation 6	Key recommendation 7
To improve data collection and reporting systems on adult education and training, adopting a conceptually broad and inter-institutionally coordinated approach	To foster the participation of the sectors that participate less - those above the age of 35, with low education levels, and the unemployed	To add flexibility to the education and training system via the integration of partial qualifications and the enhancement of the system of validation and recognition of prior knowledge

Key recommendation 9

To develop a coordinated quality assurance methodology for adult education and training

Key recommendation 10	Key recommendation 11	Key recommendation 12
To regularly participate in PIAAC	To train teachers in adult education	To enhance the current system to align education and training with the labor market

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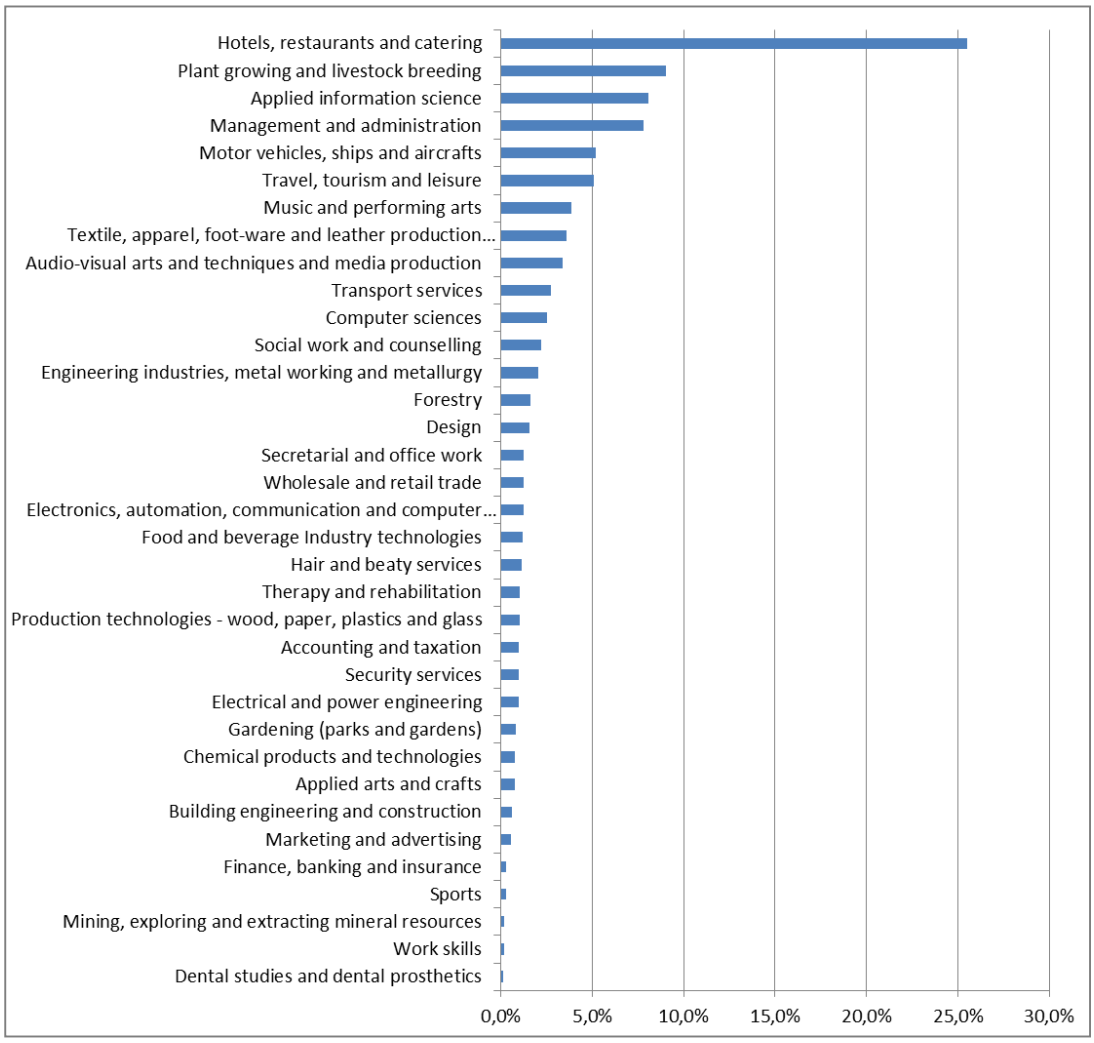
ANNEXES

Annex 1: Distribution of VET students in general and united schools by VET area (2019–2020 school year)

Figure A1.1. Distribution of VET students in general schools by VET area, 2019–2020



Source: Own calculations based on MES data.

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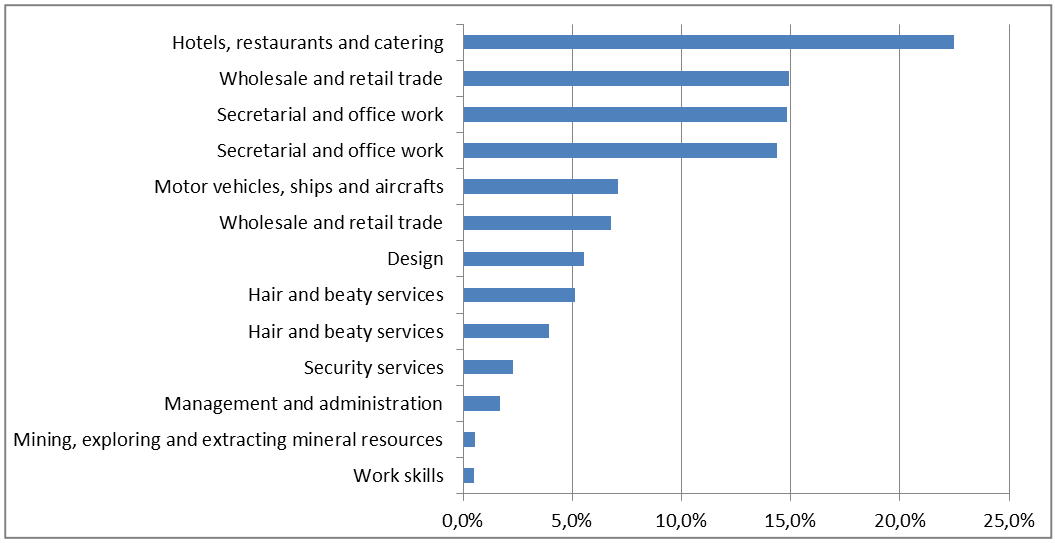
Annex 1: Distribution of VET students in general and united schools by VET area (2019–2020 school year)

Figure A1.2. Distribution of VET students in united schools by VET area, 2019–2020



Source: Own calculations based on MES data.

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Annex 2: Distribution of students by VET areas in 2010 and 2019

VET structure in 2010 (share of VET students)		VET structure in 2019 (share of VET students)	
Electronics, automation, communication, and computer technology	12.0	Hotels, restaurants, and catering	12.9
Hotels, restaurants and catering	10.4	Plant growing and livestock breeding	8.0
Music and performing arts	2.0	Electronics, automation, communication, and computer technology	7.6
Management and administration	9.1	Motor vehicles, ships, and aircrafts	7.6
Electrical and power engineering	8.9	Management and administration	5.7
Building engineering and construction	6.8	Electrical and power engineering	5.4
Motor vehicles, ships, and aircrafts	6.5	Applied information science	4.9
Plant growing and livestock breeding	6.2	Computer sciences	4.6
Textile, apparel, footwear, and leather production technologies	4.4	Engineering industries, metal working, and metallurgy	3.5
Accounting and taxation	4.3	Building engineering and construction	3.5
Engineering industries, metal working, and metallurgy	3.5	Sports	3.4
Finance, banking, and insurance	3.1	Textile, apparel, footwear, and leather production technologies	2.9
Food and beverage industry technologies	2.7	Accounting and taxation	2.8
Applied information science	2.6	Food and beverage industry technologies	2.7
Travel, tourism, and leisure	2.3	Travel, tourism, and leisure	2.7
Hair and beauty services	1.3	Design	2.4
Design	1.1	Hair and beauty services	2.0
Computer sciences	0.3	Finance, banking and insurance	1.9
Sports	0.1	Music and performing arts	1.7
Audiovisual arts and techniques and media production	0.8	Audiovisual arts and techniques and media production	1.5
Secretarial and office work	1.4	Secretarial and office work	1.5
Chemical products and technologies	1.6	Chemical products and technologies	1.4
Forestry	1.8	Forestry	1.3
Transport services	0.9	Transport services	1.3
Production technologies - wood, paper, plastics, and glass	1.9	Production technologies - wood, paper, plastics, and glass	1.2
Architecture, town planning, and geodesy	0.0	Architecture, town planning, and geodesy	0.9
Gardening (parks and gardens)	0.9	Gardening (parks and gardens)	0.9
		Veterinary	0.6

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VET structure in 2010 (share of VET students)		VET structure in 2019 (share of VET students)	
Veterinary	0.9	Wholesale and retail trade	0.6
Wholesale and retail trade	0.1	Fine arts	0.5
Fine arts	0.8	Applied arts and crafts	0.4
Applied arts and crafts	0.2	Social work and counselling	0.3
Social work and counselling	0.1	Therapy and rehabilitation	0.3
Therapy and rehabilitation	0.0	Environmental protection technologies	0.2
Environmental protection technologies	0.7	Mining, exploring, and extracting mineral resources	0.2
Mining, exploring, and extracting mineral resources	0.1	Marketing and advertising	0.2
Marketing and advertising	0.2	Medical diagnostic and treatment technologies	0.1
Medical diagnostic and treatment technologies	0.0	Religion	0.1
Religion	0.0	Security services	0.1
Security services	0.1	Library, information, and archival studies	0.0
Library, information, and archival studies	0.0	Work skills	0.0
Work skills	0.0	Dental studies and dental prosthetics	0.0
Dental studies and dental prosthetics	0.0	Earth sciences	0.0
Earth sciences	0.0	Fisheries	0.0
Fisheries	0.0	Health care services	0.0
Health care services	0.0	Domestic services	0.0
Domestic services	0.0		

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