

STRENGTHENING SKILLS ANTICIPATION AND MATCHING IN SLOVAKIA

Skills intelligence support
to policy-makers and learners



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The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States.

Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

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Foreword

The Covid-19 crisis and its economic impacts will make it challenging to steer education and training and to align employment policy to social needs in the near future. More generally, in a rapidly changing world of work, reliable information on current and future labour market trends and skill needs is critical. Skills governance requires the involvement of key stakeholders in the generation, dissemination and use of such labour market and skills intelligence, to support employers, citizens, education and training providers, and other stakeholders in making informed choices. A central feature of successful skills governance is consensual dialogue among key stakeholders to bridge the worlds of education and work.

As part of its support to the EU skills agenda and strategy, Cedefop started in 2016 to provide direct support to Member States to strengthen their skills intelligence policies and systems. A first round of *Skills governance country reviews* has been concluded in four countries: Bulgaria, Greece, Estonia and Slovakia.

These reviews have sought to identify country-specific challenges and provide informed policy support to the respective government, in close alignment with national policy priorities and interacting with key national stakeholders. This report summarises the key insights and lessons of the review of the Slovak skills anticipation and matching system. Largely based on wide stakeholder consultation and an online opinion survey among employers and VET providers, it analyses current challenges and bottlenecks, with a view to uncovering root causes of key issues.

The insights the report provides also support making progress towards new EU policy priorities for the coming years. The second building block of the new skills agenda launched in 2020 highlights the role of skills intelligence as a foundation for up-and re-skilling and emphasises the importance of inclusive, holistic and whole-of-government approaches in shaping national skills strategies.

At the project dissemination meeting in Bratislava in April 2019, high-level policy-makers responsible for education and employment said they were not surprised by the findings. The honest account of what stands in the way of effective skills governance was appreciated and seen as a reflection

opportunity. Addressing deep-rooted coordination and cooperation challenges will help build a future-proof skills governance system. We hope this report can contribute by shaping ideas for further work, building on actions already set in motion. Cedefop will continue to follow the developments in Slovakia with great interest.

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Disclaimer

This report was prepared as part of Cedefop's thematic project *Governance of EU skills anticipation and matching systems: in-depth country reviews*. The Slovak review was initiated following a letter sent to Cedefop on behalf of the then Minister for Education, Science, Research and Sport of the Slovak Republic Mr Peter Plavčan in November 2016, formally requesting Cedefop support in assessing and strengthening the skills anticipation and matching system in Slovakia.

All programme outputs and processes were subject to the scrutiny of an appointed national steering committee. Implementation of suggestions emerging from this country review is the sole responsibility of the national government.

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Executive summary

Introduction

In common with other EU Member States, Slovakia is grappling with the consequences of technological transformation in skill needs; employment growth is concentrated in occupations with a high risk of being automated over the medium term (OECD, 2018). In the recent past, the country has seen a substantial increase in the share of graduates with tertiary level qualifications but high-skill demand has failed to keep up. This has contributed to tertiary graduates accepting jobs for which they are overqualified. These two factors – technological change and overqualification – have rekindled debates about the supply of labour and skills and the extent to which they are matched, quantitatively and qualitatively, to demand. It is apparent that skill matching needs to be addressed. Against this background, the Slovak government has requested Cedefop in 2017 to review skills anticipation and matching arrangements and practices and to provide support and guidance to develop ways to improve them. The themes and issues covered by the review are closely linked to the new EU skills policy priorities for the coming years.

Reviewing skills governance in Slovakia

This report contains the findings of Cedefop's thematic country review on the governance of skills anticipation and matching in Slovakia, conducted between 2017 and 2019. Three priorities, set in close collaboration with national stakeholders, have guided the review:

- (a) institutional framework: the review examined current processes and the responsibilities of main stakeholders, aiming to provide suggestions for bringing together current activities;
- (b) data and methods capacity building: the review focused on mapping possible improvements in the use of existing data sources and identifying

- new methods to create policy-relevant skills intelligence (such as tracer studies or employer surveys);
- (c) a future-proof skills governance system: the review reflected on how present skills governance arrangements can be developed in the medium-term (5 to 10 years ahead) to ensure adequate responses to the challenges brought about by the digital transformation of work.

Insights into current governance arrangements and suggestions for improvement were collected at different review stages; this was mainly through face-to-face interviews and an online opinion survey with stakeholders and key skills governance actors. Responses were analysed using Cedefop's analytical skills governance framework, providing the basis for a more in-depth assessment of the present situation as well as analysis of possible improvements that could be undertaken in the medium term.

Skills governance in Slovakia: state of play

Skills governance arrangements in Slovakia have been shaped by various institutional changes and developments. Most recently, in response to persistent challenges in organising a well-functioning institutional framework, the 2015 VET Law attempted to establish a clearer division of stakeholder rights and responsibilities. With stakeholders in skills governance arrangements active across different governance levels, defining formal roles has been challenging. Currently, the key responsibilities are shared by two main ministries: the Ministry of Education, Science, Research and Sport (Ministerstvo školstva, vedy, výskumu a športu, MŠVVaŠ) (hereafter education ministry) and the Ministry of Labour, Social Affairs and Family (Ministerstvo práce, sociálnych vecí a rodiny, MPSVR) (hereafter labour ministry). Many other institutions are also involved. Several actors interviewed as part of the review perceived institutional competences and responsibilities as unclear and indicated that – in their view – not all stakeholders are sufficiently familiar with them. This makes effective steering challenging.

It has been noted that data shortcomings prevent informed policy decisions and hamper informed student choice. Authorities collect high quality and detailed data, for example on jobseeker previous occupation, school completed and year of graduation or take-up of active labour market policies. However, access to such data is difficult and some key data crucial

for developing labour market intelligence are not collected at all. For example, a graduate survey could provide additional information on wages, the match between field of study and employment, skills used and job satisfaction. Detailed data about the school-to-work transition, including to employment abroad or becoming a NEET (not in employment or formal education and training) are currently also lacking.

While several regions have recently made progress in surveying employer skill needs, employer surveys focusing on skill and task use and/or needs are not systematically conducted nationally, and data collection among SMEs in particular remains a problem. In the online survey conducted during this review, education providers and employers underlined the need to improve information on skills supply and demand at regional and local levels. In their view, better information could help increase the practical impact of existing regional collaboration between firms and training providers. It could ease shaping concrete solutions to address local skills shortages by training existing staff and interns and apprentices.

Exploring options for change

Institutional foundations

Past reforms aimed at strengthening skills governance have brought about only partial improvements. Presently, skills governance arrangements allocate main responsibilities to a range of different actors, who do not always cooperate actively and effectively. As a result, labour market intelligence is often produced in a fragmented way and does not fully meet the needs of various end-users. The purpose of this review has been systematically to map these challenges and identify possible ways to address them. In doing so, the review uncovered a general willingness among stakeholders to become involved and contribute more to the system. The review also showed that some key building blocks of what is needed in terms of developing labour market and skills intelligence (LMSI) – such as data, methods, and expertise – is actually in place. Making more effective use of these resources and further developing existing practices into a coherent system of skills governance can drive future progress.

Stakeholders acknowledged the importance of continuous development of skills governance arrangements. A long-term vision for skills governance ensures continuity in the development of the institutional framework and

governance arrangements and encourages innovation in methods and tools to help shape policies over the medium-term (5 to 10 years). The notion that the skills governance agenda needs greater political support was widely shared among stakeholders. Many advocated doing more to tap the potential of institutions with a more strategic outlook on the economy, such as the Ministry of Economy, to integrate skills anticipation and governance more systematically in policy-making processes.

There is potential for reducing fragmentation and improving the links between data collection and analysis and actual decision-making. Progress in these two areas could be complemented by efforts to improve the involvement of social partners in stakeholder bodies such as councils and institutions. Stakeholders pointed towards the current reality of strong involvement of large employers (particularly in the automotive sector), national employers' associations and foreign chambers of commerce. These have been actively engaged and have been pushing some of the key reforms in recent years. Stakeholders see a need for more intensive and systematic engagement of SMEs and sectors currently not fully represented; this requires efforts to capitalise on the willingness of stakeholders to become more involved in skills governance.

While stakeholders already involved in skills governance value cooperation opportunities, they also criticise the way processes are shaped in practice. Overlapping mandates cause confusion about roles and responsibilities. Respondents also indicated that information flows are not timely or complete enough to be fully useful for informing decision-making. Frequent legislative changes tend to aggravate such bottlenecks.

The review points towards three development areas for the institutional framework underlying skills governance in Slovakia:

- (a) improving coordination: most stakeholders support the idea of establishing an independent, overarching body which would be responsible for managing and coordinating different institutions or could take over some of the responsibilities currently dispersed across various bodies. The mandate of such a body could potentially range from a more narrowly defined role (coordinating implementation and interpretation of forecasting results) to an all-encompassing agenda (defining strategic vision, coordinating all aspects of skills governance from a life-course perspective, career guidance, data management, capacity building);
- (b) supporting regional ambitions and development opportunities: it is necessary that skills governance arrangements better reflect the

institutional competence of regions in education and training and local labour markets. Future initiatives need to allow for sufficient room for developing regional and supra-regional visions/strategies that recognise the strong economic and labour market links between regions and for shaping initiatives which recognise regional differences in economic development, the structure of sectoral employment, ethnic diversity, and resources;

- (c) rebalancing employer representation: the recent revitalisation of the sectoral councils – which has broad support among stakeholders – can be seen as an important step in this direction. The review also identified a need for more incentives to encourage membership in employer associations and to ensure a more balanced representation. To reduce the fragmentation of employers' associations some stakeholders suggested merging existing organisations into one umbrella organisation. This could increase the employers' power of negotiation, their resources to develop knowledge and capacities in LMSI, and representativeness. It is important to consider carefully the pros and cons of different options. Some stakeholders were worried that greater centralisation would reduce the representation of SMEs even more.

Processes

The review also analysed processes which comprise skills governance and collected suggestions on how to improve them. Interviewed stakeholders agreed there is ample room for improving links between existing tools and improving cooperation between stakeholders involved. At regional level, several cooperation processes appear to be functioning quite well: several stakeholders mentioned inter-regional cooperation, cooperation between regions and VET providers, and cooperation between regions and large employers. At national level, there is significant scope to strengthen cooperation between employers and VET providers, and between SMEs and all other stakeholders. Better cooperation can be a catalyst for spreading knowledge about the tools in place and current activities among main stakeholders.

Skills governance processes could also be better linked to key challenges in VET, which range from the present funding mechanisms that cause high levels of competition between providers to the quality of the programmes they offer. It was suggested that the introduction and/or further development of skills anticipation methods, such as tracer studies and employer skill needs

surveys, can contribute hugely to improving the quality of skills governance. Such steps would not only strengthen the quality of LMSI, but also have the potential to broaden the group of possible beneficiaries to include the general population, teachers and education counsellors. Possible actions include:

- (a) strengthening data coordination: action is already under way to address some of the shortcomings identified in the review. A range of additional measures can be considered to improve the interaction between different types of data and bring about better use of existing sources. Many stakeholders see mandating one institution to manage and coordinate data as an important step;
- (b) investing in analytical capacity: strengthening capacity to analyse and comprehend skills data and intelligence at key ministries and of education experts in self-governing regions could potentially bring large benefits to skills governance. Some stakeholders favoured more formalised engagement of the Slovak Academy of Sciences, or of the wider research and academic community, to encourage data production and use;
- (c) sustaining and embedding tracer studies: setting up a structure for a systematic graduate tracer survey would help increase overall knowledge on how (formal) skills gained in the education and training system are used. There are several initiatives ongoing, but it appears that stakeholders are insufficiently aware of these efforts. Sustained support and broader dissemination of the findings of graduate tracking surveys is important to promote awareness of skills intelligence beyond the inner circle of stakeholders and to include the general public, teachers and school counsellors;
- (d) systematically mapping employer skill needs: a representative survey mapping the changing tasks and skill needs of employers could be useful to overcome identified knowledge gaps on skill needs at regional and sectoral levels. The influence of different sectors on the policy debate varies significantly: more vocal ones (such as the automotive industry) have been more successful in gaining support and modifying policy outcomes and have been strong advocates of the approach of detailed regulation of supply in different fields on the basis of macro-economic forecasts, while less vocal or less organised ones play a much smaller role. A representative survey of employer skill needs could help overcome this problem and provide a more objective perspective.

Sustainability

The sustainability of skills governance arrangements was also addressed, with particular attention to financing and reliance on EU funding. Stakeholders indicated a long-term and stable budget would help further structure current skills governance arrangements and increase the sustainability of such efforts. Meeting national, regional and provider information needs is another driver of sustainability of skills governance.

- (a) establishing stable funding: stakeholders recognise the importance of ensuring skills governance activities are sustainable, taking steps towards more stable and long-term funding. This is linked to the suggestion to designate a single coordination body, which could be made responsible for overseeing how the budget allocated to skills governance is spent. Stable long-term funding, a clearer division of responsibilities, and transparency and accountability could help encourage other actors and stakeholders to invest and become involved and could contribute to improving information flows between institutions and actors;
- (b) supporting information needs: the key issue is to provide relevant information nationwide, to inform the work of the government and to support VET providers. Shaping data collection, methods, analyses and collaboration arrangements in ways that balance national, regional and VET provider needs should also ease the work of regional structures in skills governance as key skills intelligence users, as it drives the development of skills intelligence that has the potential for better support to decisions on the allocation of places to fields of study.

CHAPTER 1.

Matching skills in a changing world

1.1. The need for labour market and skills intelligence (LMSI)

The European economy is grappling with the challenges posed by digitalisation, particularly the fourth industrial revolution and artificial intelligence (AI), globalisation, ageing societies, migration, climate change and overall low productivity. Jobs markets, in consequence, are gripped by uncertainty. Technological change seems to be constantly on the verge of transforming the world of work, if not eradicating it (Frey and Osborne, 2017). Old certainties such as globalisation are also beginning to feel more tenuous as some countries revert to protectionist trade policy. More recent analyses of how AI, robotics and new digital technologies are likely to affect employment in Europe suggest an employment impact more limited than initially suggested (Nedelkoska and Quintini, 2018; Pouliakas, 2018), but even piecemeal change can accumulate over time. Displacement effects associated with technological change can often be concentrated in specific sectors or locations, affecting vulnerable population groups such as the lower-skilled.

This all implies a need for employment and skills systems – and the policy-maker embedded within them – to be informed, prepared and agile with respect to changes they might need to anticipate and accommodate. To date, most EU Member States, including Slovakia, have responded to the challenges posed by different drivers of skill demand by seeking to increase skill supply, notably through raising educational attainment. This has been, for most, a reasonable response to projections of future skill demand shifting towards more highly skilled economic activities (Cedefop, 2018a). At the same time, concerns have mounted about the extent to which this strategy is sufficiently meeting Europe's skill needs. A wide range of evidence suggests many workers' skills are poorly matched to their jobs (Cedefop, 2010; Pouliakas, 2014; Lessaer et al., 2015).

While some mismatch may be temporary (Sicherman, 1991), evidence has mounted that skill mismatch exhibits a high degree of persistence (Mavromaras and McGuinness, 2012; Meroni and Vera-Toscano, 2017). The rush to widen access to higher education, without accompanying investment in the productive capacity of economies, can come at a cost of qualifications inflation (Delaney et al., 2020). Individuals who become stuck in jobs for which they are manifestly overeducated face hefty economic and social costs – they are paid less and gain less satisfaction from their work – compared with their counterparts who were able to find a job matching their skills (McGuinness et al., 2017 and 2018; Cedefop, 2018b). Aggregating workforce mismatches in Europe shows skill mismatch has a significant macroeconomic cost. Cedefop’s European skills and jobs survey (ESJS) suggests skill mismatch translates to an EU-wide annual productivity loss of about 2.14%, around EUR 0.8 for every hour worked (EESC, 2018).

In many respects the root cause of mismatch is that too much of Europe’s education and training is supply-driven. VET providers deliver what they have the capacity to deliver or face poorly designed incentives. The consumers of that education and training – learners (and families) – are not sufficiently informed about which programmes and skills have a favourable return in the labour market. Education and training systems need to anticipate labour market developments better and, where necessary, consider reforms such as amending existing curricula and learning outcomes or designing new programmes. International evidence suggests this is not straightforward. ETF-Cedefop-ILO (2016), the ILO (McGuinness et al, 2017) and the OECD (2016) have pointed towards the problems that ineffective skills anticipation and skill mismatch pose for many western economies.

For many Member States the challenge is to devise skills governance structures and practices that encompass LMSI, to balance skills supply with current and emerging skill demand (¹). There is long-held recognition in the economics and policy discourse that the efficacy of matching people to jobs – both now and in the future – is dependent upon the availability and use of LMSI (European Commission, New Skills Agenda, 2016).

(¹) LMSI is concerned with those activities that yield information about the current and future demand for, and supply of, skills, and the extent to which they are likely to be in equilibrium.

1.2. Key skills challenges for Slovakia

The political and economic transition from a centrally planned to a market economy in the 1990s severely weakened the links between education and the world of work. The period of declining production and subsequent increase in unemployment negatively affected the quality and reputation of VET. Only after significant new industrial investment (predominantly through foreign direct investments into the automotive sector) did VET regain the attention of policy-makers. Subsequent reform efforts have not achieved their aims, because of shortcomings in policy design and weak transfer of strategic policy ambitions into concrete measures (Vantuch and Jelinková, 2008).

The high share of manufacturing in the Slovak economy means that changes in the world of work are particularly relevant; see, for instance, Cedefop (2016). Demand for employment and skills is relatively high following large foreign investments in the country (OECD, 2017) and continued growth in high-skilled sectors of employment. However, reports show recent employment growth is concentrated in occupations with a high risk of automation, making the country vulnerable to automation and digitalisation. Up to 40% of jobs in western Slovakia are estimated to be at risk of automation in the near future (OECD, 2018). Some regions have considerably higher shares of jobs at risk than other EU Member States.

Slovakia also faces several labour supply-related challenges (Cedefop, 2016). While the country has high levels of emigration, including student mobility (Haluš et al., 2017; Kureková, 2018), it attracts comparatively few immigrants and is not very competitive in the international market for high-skilled workers (Machlica et al., 2017). Population aging – a demographic challenge already flagged around the turn of the century – will hit the country hard, with alarming implications for the public budget (Vantuch, 2002; Bleha et al., 2014; RRZ, 2019).

In response to past and current challenges, steps have been taken to centralise existing skill anticipation efforts and to reestablish effective links between the education system and the labour market ⁽²⁾. However, recently developed institutional tools have so far produced relatively limited results. To date, the country has introduced a series of practices and tools but has not been able to implement a balanced, effective and coherent skills governance system. This underlines the need for bold action in the coming years.

⁽²⁾ E.g. National System of Occupations (NSP); National Qualifications System (NSK); New VET law introduced in 2015 set grounds for reintroduction of dual education into Slovak system.

This chapter outlines these contextual challenges in more detail, provides an overview of broader economic and employment perspectives, and reviews current trends in skills supply and demand in the country. It provides the background which informs the approach taken for the country review carried out by Cedefop between 2017 and 2019, which is presented in Chapter 2. This sets the stage for the chapters that follow, which assess existing skill anticipation efforts undertaken in Slovakia and explore possible options for change.

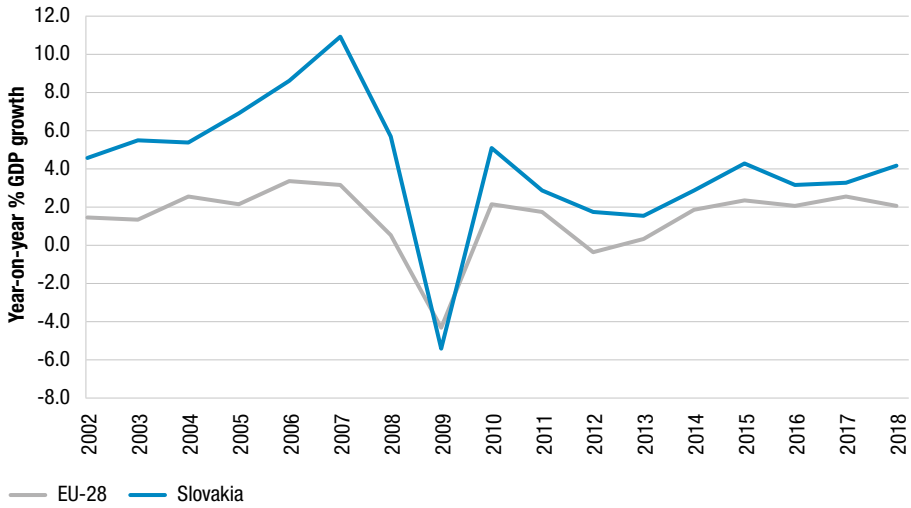
1.3. Economy and employment

After the deep recession in the early 1990s linked to rebuilding the foundations of its economy, Slovakia underwent two other severe economic dips accompanied by growing unemployment levels (Figure 1). The first economic downturn happened in 1999-2001 and was caused by the need to address the imbalances accumulated in the first years of the independent Slovak Republic ⁽³⁾. In this period, various social and tax reforms were introduced and the banking sector was rehabilitated (Kvetan, 2007). These changes are considered to have paved the way for high economic growth driven primarily by significant foreign direct investments, mainly in the automotive industry. The second downturn was the recession linked to the 2008 economic crisis, which ended the period of GDP growth attributed to the reforms in the 2000s (depicted in Figure 1). While GDP growth picked up quickly in subsequent years, it has not yet reached pre-crisis levels.

The 2008 global economic crisis had a profound effect on unemployment: following the crisis, the continuous decline in unemployment rates in earlier years was reversed and unemployment rose sharply from 2008 onwards. After staying high for several years, since 2013 the rate has been declining, along with the EU average. In 2018 it reached a post-transition minimum of just over 6% (Figure 2), while youth unemployment has also fallen close to the EU average. The Cedefop skills forecast expects continued employment growth in the coming years, although this is expected to level off (Cedefop, 2019b). However, the well-above EU average employment growth foreseen could be very different as the forecasts predate the COVID-19 crisis.

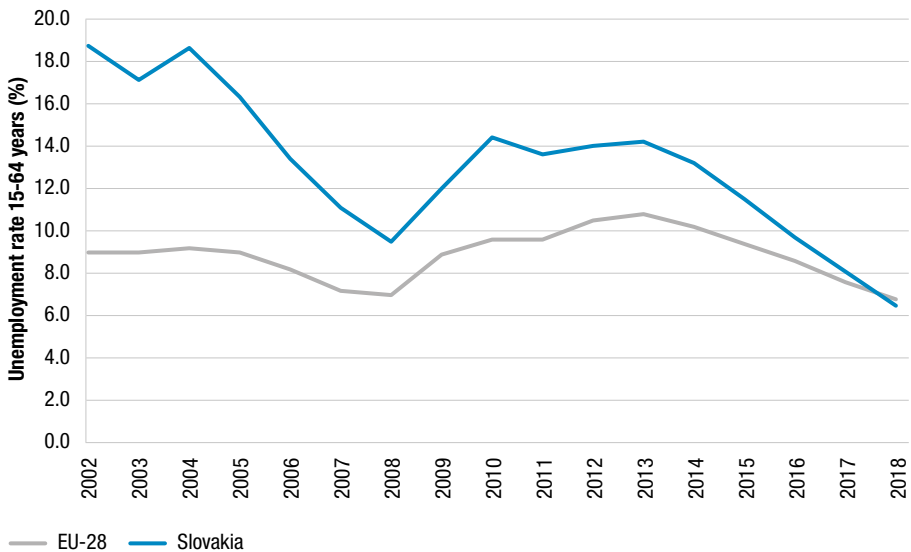
⁽³⁾ The Slovak Republic was established on 01/01/1993 after the peaceful split of the Czechoslovak Federative Republic.

Figure 1. Real GDP growth 2002-18: Slovakia and the EU



Source: Eurostat GDP 2002-18 [nama_10_gdp].

Figure 2. Unemployment rates 2009-18: Slovakia and the EU



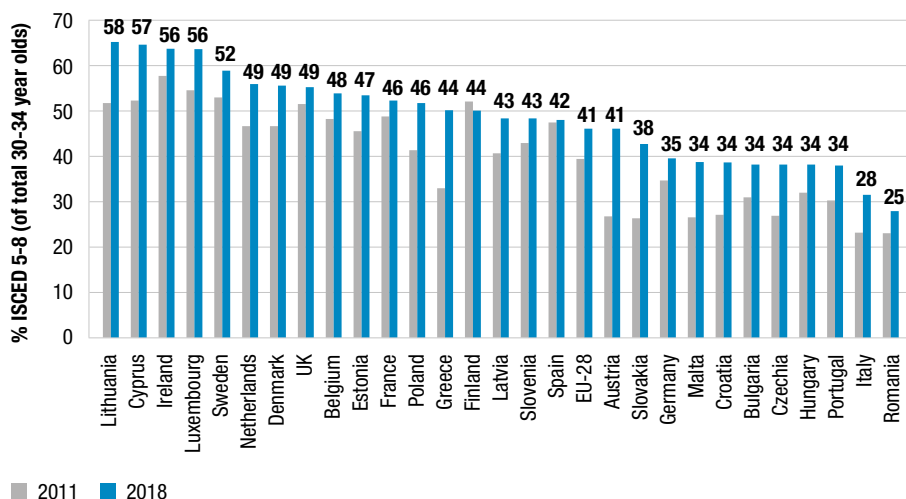
Source: Eurostat Unemployment rates (15-65 years) by sex, age and nationality (%) [lfsa_organ].

The overall positive employment growth masks considerable regional disparities in labour market performance: several regions in central and eastern Slovakia lag behind in job opportunities and have higher regional unemployment rates. Vulnerable groups facing labour market challenges, such as low-skilled, long-term unemployed, Roma and older females, are unlikely to benefit from the relatively positive employment outlook (Brožovičová et al., 2013; Messing, 2014).

1.4. Skills supply, demand and mismatches

A proxy measure of skills supply – albeit an imperfect one – is the percentage of young people who have attained tertiary level education (ISCED levels 5-8). Tertiary attainment in the age group 30 to 34 in Slovakia grew by about 15%, from 23% in 2011 to 38%, in 2018 (Figure 3). The increase is one of the fastest in the EU and helped the country come close to the national EU 2020 target (4).

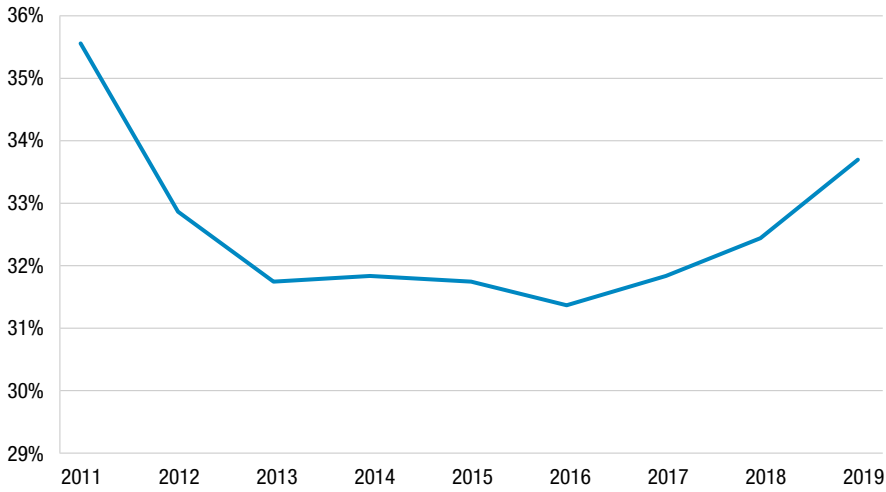
Figure 3. **Tertiary level educational attainment of 30-34 year-olds (%), 2011 and 2018**



Source: Population by educational attainment level, sex and age (%) main indicators [edat_lfse_03].

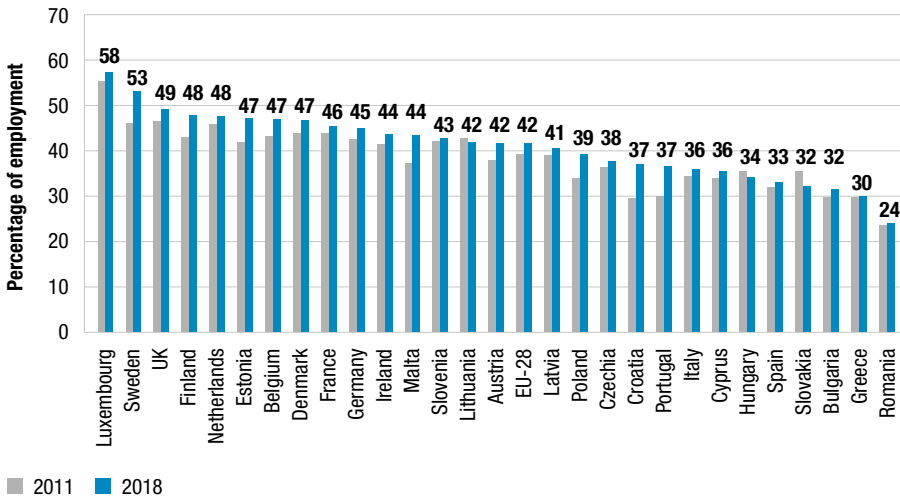
(4) The national EU 2020 target for this indicator is 40%.

Figure 4. Share of employment in high-level occupations (ISCO 1,2 and 3) in Slovakia



Source: Eurostat Employment by sex, age, professional status and occupation (1 000) [lfsa_egais].

Figure 5. Share of employment in high-level occupations (ISCO 1,2 and 3), 2011 and 2018



Source: Eurostat Employment by sex, age, professional status and occupation (1 000) [lfsa_egais].

While skills supply at the higher levels has significantly improved in recent years, it is unlikely that the labour market has been able to make effective use of these skills. Employment in high-level occupations (managers, professionals or associate professionals) ⁽⁵⁾, where a university education might be considered a prerequisite, fell substantially in the years following the economic crisis (2011-13) (Figure 4). Though the employment share of these jobs grew again between 2016 and 2018 it remains below the 2011 level and now is the fourth lowest in the EU (Figure 5).

Given the trends in skill demand and supply it could be expected that a substantial share of people with tertiary level qualifications – university graduates – will be employed in jobs where this level of education might not be required. In 2018, the overqualification rate in Slovakia (defined as share of tertiary qualified employed in other than managerial, professional or associate professional occupations, ISCO 4, 5, 6, 7, 8) was above the EU average (Figure 6) ⁽⁶⁾. It increased from 14% in 2011 to 25% in 2018, one of the sharpest increases in the EU. Cedefop's skill forecasts project a further increase in the share of workers with high-level qualifications and only a modest increase in the demand for high-skilled occupations in the medium term. Without more targeted policies and actions, it is unlikely that the trend of increasing skill mismatch will be reversed in the coming years.

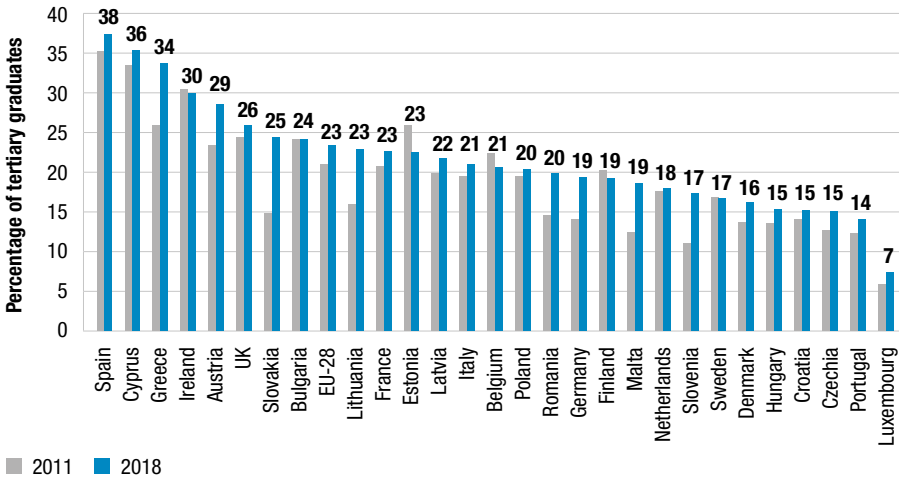
Skills outdated, a driver of qualitative skills mismatch, is another reason for concern. Some 60% of employees in Slovakia believe it is likely that their skills will become outdated in the next five years (Cedefop, 2018b); this is high compared with the EU average of 46% and the 30% reported for Germany. This is troubling in view of relatively low lifelong learning participation and the underdeveloped lifelong learning system.

Although migration can potentially alleviate skills imbalances, in the case of Slovakia this appears not to have been the case. Outward skilled migration is relatively high and contributes to shortages, even in VET occupations. Slovaks working abroad represent a considerable portion of the workforce: in Q2 2019, nearly 128 000 workers are reported to work abroad (Statistical Office of the Slovak Republic, Labour force survey, *Short-term labour migration abroad*). In reality, the true number is likely to be higher as LFS only captures short-term labour mobility and is unable to measure migrants working abroad longer (Bahna, 2013). While work experience from

⁽⁵⁾ As defined by ISCO groups 1, 2 and 3.

⁽⁶⁾ That is ISCO major groups 4 to 9.

Figure 6. **Share of tertiary level educated people employed in occupations other than managerial, professional and associate professional ones, 2011 and 2018**



Source: Eurostat Employment by sex, age, professional status and occupation (1 000) [lfsa_egised].

abroad is valued in the labour market after return (Kureková and Žilinčíková, 2018), return rates appear low in comparison to other EU Member States (Masso et al., 2016). Slovakia has only attracted limited numbers of qualified immigrants and is currently insufficiently able to compete in the international quest for brains and high-qualified labour (Machlica et al., 2017).

Skills imbalances and mismatches in Slovakia are pervasive. While skills supply has increased, in the aftermath of the economic crisis the aggregate level of demand for skills has fallen. Skills outdated is a major issue and migration flows have so far contributed little to alleviating skills mismatches. While this is undoubtedly a significant part of the story, other evidence indicates that the skills system may struggle to meet the modest levels of skills demand it faces. A majority of employers reported recruitment difficulties, with shortages in the skills they require, particularly for skilled manual and managerial/professional positions. This confirms that the skill matching problem should not only be addressed in quantitative terms (number of vocationally schooled graduates and number of those with tertiary education), but equally in qualitative terms. The current system offers limited incentives to education providers (particularly at the tertiary level)

to provide education relevant for labour market needs. Where information about such needs is not effectively disseminated, it contributes to qualitative skill mismatch: the number of graduates/workers at a certain level may be in line with needs, but not the specific skills they need for professions with skills shortages.

Cedefop's European skill index (ESI) ⁽⁷⁾ provides insight into the comparative performance of national skills systems through separate scores for three individual pillars of a country's skills system:

- (a) skills development, which refers to the training and education activities of the country and the immediate outputs of that system in terms of the skills developed and attained;
- (b) skills activation, which recognises that the potential workforce of a country is determined not only by the development of skills in the population, but also by the activation (or participation) of skills in the labour market;
- (c) skills matching, which represents the degree of successful utilisation of skills and the extent to which skills are effectively matched in the labour market.

The ESI provides a measure of the distance from ideal performance. The ideal is scored at 100 and each country is given a score which equates to the percentage achievement of the ideal. The overall score of 60 for Slovakia indicates that the country is 60% of the way to achieving ideal performance ⁽⁸⁾.

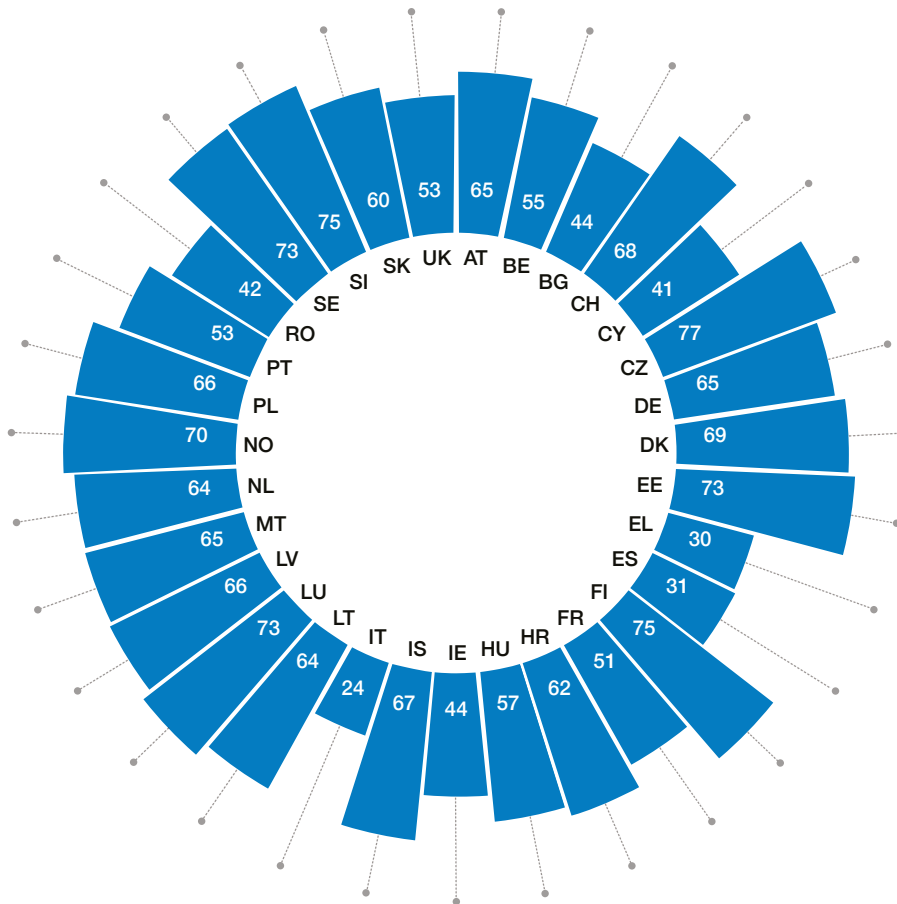
This score puts it around the average of EU Member States (Figure 7) and scores on the individual components are also in line. It scores slightly lower for skills development (55%), and scores best in terms of skills matching (71%). While this may appear contradictory to the findings presented above, the composite measure for skill matching is partly based on (long-term) unemployment, and only partly on the overqualification rate as shown in the previous section ⁽⁹⁾. Given the considerable improvements in employment

⁽⁷⁾ More information about the index can be found in Cedefop (2019a). A dedicated online navigation tool is also available: www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/european-skills-index

⁽⁸⁾ For example, Austria scores 65, Czechia 77, Hungary 57 and Poland 66.

⁽⁹⁾ Another factor that influences the relatively high score on skill matching arises from the methodology to calculate skill mismatch. In addition to a separate score for overqualification (in which Slovakia scores relatively poorly, as shown in the sections above), the ESI also consists of a measure that combines scores for under- and overqualification. With relatively favourable scores for underqualification, Slovakia scores among the best European MS, even though this is more likely to be result of the structure of the economy (the supply side), and not so much on the demand side.

Figure 7. Slovakia's position on the European Skills Index



Source: Cedefop Skills Panorama: 2016 data, based on 2018 methodology.

rates shown in Figure 2, the overall scores on the skills matching index also improved, even though structural challenges remain. Also, the data informing the ESI are based on 2018, which may not yet fully capture the recent increased demand for higher-skilled labour (Figure 4). The skills development pillar warrants particular attention, as it scores the lowest. This reflects limited life-long learning opportunities as well as comparatively low investment into active labour market policies of education and training for unemployed.

1.5. Skills governance to strengthen skills matching

Slovakia performed well in terms of macro-economic indicators in recent years and GDP growth was almost double the EU average in 2018, but is set to slow in 2021 (European Commission, 2019). In recent years, the country has been successful in attracting large foreign investments in its key sectors, such as the automotive industry, and has experienced continued growth in other sectors that can be expected to rely on high-skilled employment as well.

Cedefop skills forecasts predict an increasing demand for higher skills in these sectors, against comparable increases in the supply of higher-educated people. At the same time, a substantial part of anticipated employment growth is projected for occupations with relatively high risks of automation in the medium term. The trends do not necessarily mean that the skills of higher-educated people are matched with the skills required on the labour market, as evidenced by the low (and decreasing) share of people with tertiary qualification employed in high-level occupations. To reduce skill mismatch, it is necessary that more attention is paid to attracting students to tertiary programmes that prepare them in the skills growing sectors need. It is also necessary to increase the contribution of the tertiary education system to skills improvement, which is currently one of the lowest in the OECD (Machlica, et al., 2017).

Slovakia's score on the skills development indicators is only average. The index suggests substantial mismatch between supply and demand in terms of acquired skills and competences, especially overqualification, which has intensified the need for a well-trained workforce and rekindled debates about how to ensure sufficient labour supply both qualitatively and quantitatively. The increased demand for labour underlines the importance of skill matching: how to ensure that future skill demand can be satisfied with the skills on future labour markets?

Against this background, the Ministry of Education, Science, Research and Sport of the Slovak Republic (MŠVVaŠ) has requested Cedefop to provide methodological support and guidance to encourage improvement of the institutional framework, to build capacity in data collection and analysis methods, and to develop a forward-thinking skills governance system. This report contains the findings of the Cedefop review. Before analysing current skills governance practices and reporting on what stakeholders view as viable ways to strengthen it, a summary of the methodology employed to identify possible improvements is provided in the next chapter.

CHAPTER 2.

Reviewing skills governance

2.1. Conceptualising skills governance

The Cedefop project *Governance of skills anticipation and matching in EU: in-depth country reviews* ⁽¹⁰⁾ is concerned with understanding how skills anticipation and matching in EU countries might be improved (Box 1). This chapter describes in detail how current skills governance practices in Slovakia were reviewed and provides a summary overview of institutions and stakeholders involved and main tools and methods used. It also defines the priorities for the review, which are clearly linked to broader macroeconomic factors and labour market developments and challenges presented in Chapter 1. The main focus of the review is to assess previous action and contribute to a better understanding of how skills anticipation and skills governance in Slovakia might be improved.

Building on the definition of the European Commission (2015) and OECD (2016), Cedefop defines skills governance as ‘the process of involvement of stakeholders from the public, private and third sector, from different economic sectors and geographical units, in generating, disseminating and using LMSI to appropriately steer a wide array of policies for the purposes of balancing skill supply and demand and providing an informed basis for further economic development via targeted skills investments’.

This comprises a negotiation perspective, which represents the needs of the education system and of the labour market from short-, medium- and long-term perspectives. Skills governance covers a wide range of issues related to skills anticipation and matching: skill needs at the entry point into the labour market; the utilisation of workers’ skills in the labour market; and future skill supply and skill demand trends to support the transformation of the labour market and the employability of the workforce in a life cycle perspective. The core of the skills governance process is the generation of labour market and skills anticipation information and data, its analysis, dissemination of results

⁽¹⁰⁾ More information on the project: www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching; Pouliakas (2017).

and their use in steering the design of policies (education and training, employment, active labour market, migration, environmental policies) and ensuring that the skills system is responsive to findings. What constitutes effective skills governance will be largely dependent on national specificities as well as the ability of a country to overcome information asymmetries and coordination failures among key stakeholders (Pouliakas and Ranieri, 2018).

Box 1. Cedefop's reviews on the governance of skills anticipation and matching

In line with its mandate, Cedefop supports the EU strategy and shared goal of improving skills intelligence and skills policies in Europe by producing regular skill demand and skill supply forecasts at European level and analyses of skill needs and mismatches across EU countries and sectors. The skills governance reviews carried out in Bulgaria, Estonia, Greece and Slovakia between 2017 and 2019 complement this work and go one step further. They take a close look at what types of skills intelligence are produced nationally and how these are used to inform skills policies (education and training, employment, innovation) and to support the decision-making processes of learners and employers.

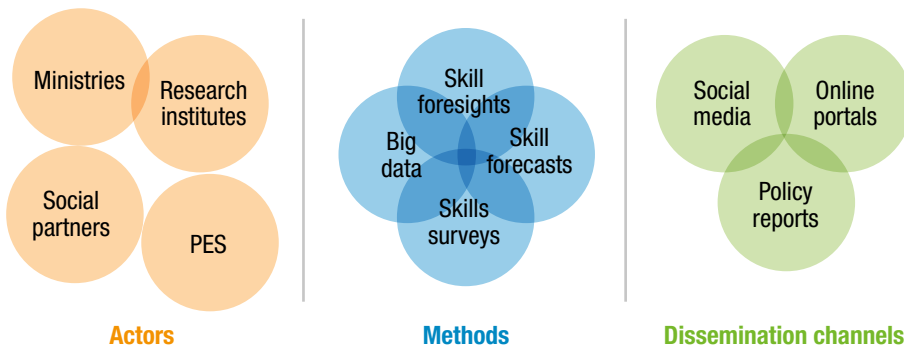
The new EU policy priorities for the coming years underline the importance of skills intelligence as a foundation for up- and reskilling and emphasise the importance of inclusive, holistic and whole-of-government approaches in shaping national skills strategies.

The aim of the country reviews is to identify country-specific challenges and provide informed policy support to the government, in close alignment with national policy priorities and interacting with key national bodies and stakeholders. The reviews use a tailor-made methodology and analytical framework to analyse the governance of skills anticipation and matching in the national context and to identify possible development opportunities for the near future. They are not evaluations and do not rely on assessment-focused peer-review methods. Instead, the reviews aim to promote dialogue among stakeholders and to develop consensus on directions for policy and concrete actions that can help overcome the barriers and challenges to making skills governance stronger.

The national steering committee (NSC) appointed by national authorities was in the driving seat in all review phases. The NSC set the review priorities, assisted in making information collection possible, engaged with stakeholders, provided support in analysing findings and validated review outcomes. Cedefop's role was to manage and facilitate the process, to stimulate learning from international practices and to provide access to expertise on skills anticipation methods through targeted training.

Figure 8 illustrates the need to consider stakeholders at multiple levels. This includes the agencies involved in the production and use of skills assessment and anticipation at a strategic level (such as various government ministries), at a policy level including various stakeholders (often the social partners) who potentially have some opportunity to shape skills anticipation exercises, and at an operational level (the organisations, such as research bodies, that produce the skills anticipation outputs).

Figure 8. **Cedefop classification of a skills anticipation system**



Source: Cedefop skills governance country reviews.

The methodological accuracy and relevance of the tools used to undertake skills anticipation exercises are also of critical importance (Cedefop, 2016). Skills anticipation can be based on skill assessments/surveys (employers/employees/sectoral bodies) that review the current state of skills demand and supply based on labour market indicators and information. It may also be undertaken through forecasts of the future demand and supply of skills, typically using an economic model where skills are proxied by occupations and/or qualifications. Skill forecasts are projections of plausible skill supply and demand trends building on past trajectories. Deeper insight into the future trajectory of a country’s labour market may be gauged through technological and skill foresight activities that commonly use more qualitative methodologies to develop informed views about likely ‘futures’ or how to shape a desired future.

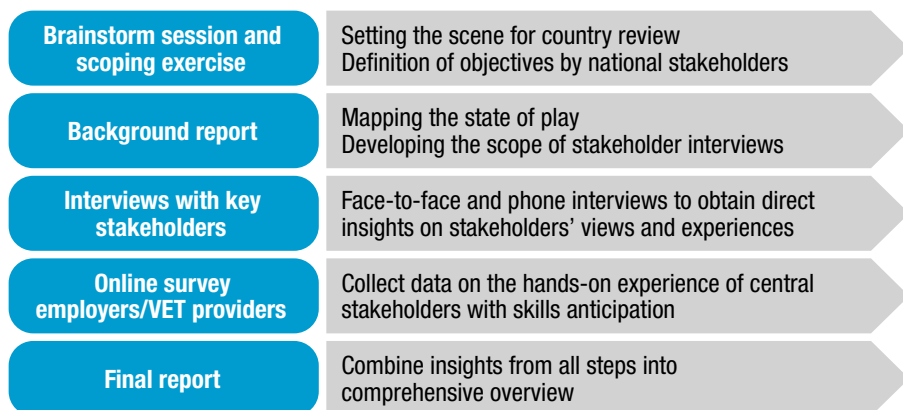
The final layer of a skills anticipation system relates to dissemination. This incorporates considering who are the audiences or target groups at which those outputs are aimed, developing suitable and impactful communication

approaches and formats for diverse user groups, and ensuring a continuous cycle of feedback between the VET system and the labour market (Cedefop, 2010).

2.2. Analysing skills governance in Slovakia

Following the request by the Slovak education ministry to conduct a thematic review of current skills governance arrangements and to provide support in identifying how these can be improved, a NSC was formed. The NSC comprised current public and private actors in skills governance arrangements (Annex 1). The review had five phases (Figure 9).

Figure 9. **Phases of the skills governance review in Slovakia**



Source: Cedefop.

NSC members took part in a brainstorming session during the review launch meeting and a scoping exercise to identify key priority issues the review should address. This produced a wealth of possible themes, issues and areas of concern. In order to be focused and effective, Cedefop worked with the NSC to define three priority areas (Box 2). These have guided the country review throughout the process.

After setting review priorities, a multifaceted research design was employed to map current skills governance practices in Slovakia and to identify those that might be improved. A background report (internal working document) was

drafted which summarised the situation with respect to the mismatch between the demand for, and supply of, skills. The background report also presented a first stocktaking of the main challenges, the institutional arena (key actors involved in the skills anticipation and matching system) and prior studies and evidence on skills anticipation methodologies in the country and their use.

Box 2. **Priorities defined by NSC**

- **Institutional framework:** despite recent positive developments, NSC members stressed the need for the Cedefop review to focus on the institutional setting and framework. A more stable institutional setting is needed to develop and deliver the data needed for policy-making. New evidence can support better matching between skills and labour market needs and inform the design and implementation of measures to support employment among particular groups (such as long-term unemployed persons, Roma minority, older females, school drop-outs, and low-skilled job seekers with low or outdated qualifications).
- **Data and methods – capacity building:** NSC members identified the need to use existing data sources better. They also clearly voiced concerns about the availability of data on skills and labour market outcomes. Stakeholders and employers recognise the need to address the lack of relevant data to inform VET, education and training, and skills policies. NSC members also pointed towards the unused potential of social security data and other administrative sources (e.g. student registers), which cannot be combined at individual level due to legal and other restrictions.
- **A future-proof skills governance system:** the discussion at the launch meeting showed that NSC members acknowledge the importance of the dynamic and continuous development of the skills governance system. Besides ensuring a stable institutional framework and developing capacity to use methods and tools that deliver the information needed to shape policies, reflecting on how to develop the skills governance system in the medium-term (5 to 10 years ahead) is seen as important. NSC members underlined the profound changes that digitalisation brings to traditional sectors, and its likely consequences for the required set-up and nature of policy-relevant skills anticipation and intelligence.

The review priorities were mapped to Cedefop's skills governance framework (Table 1) ⁽¹⁾. The framework summarises the interlinked parts

⁽¹⁾ Cedefop's skills governance analytical framework: [www.cedefop.europa.eu/files/20171016-
cedefop_skills_governance_framework.pdf](http://www.cedefop.europa.eu/files/20171016-cedefop_skills_governance_framework.pdf)

common to any system of skills governance and was developed to support all Cedefop skills governance reviews. It identifies the common elements that need to be considered when thinking about the effectiveness of skills governance in a holistic manner. Depending upon the specific issues that need to be addressed in a particular national context, some elements may be more important or pressing than others. While all elements in the framework were considered, three were chosen as ‘entry points’ for analysing skills governance (shaded in Table 1). The legal and institutional framework plays an important role in the Slovak country review. The two other priorities identified by the NSC underline the importance of utility of methods, both existing (capacity building in data and methods) and those developed for the near future (future-proof skills governance).

Table 1. **Analytical framework used in the Slovak skills governance review**

	Organisation	Resources	Stakeholders	Use of information
Foundations	A Legal and institutional framework	D Funding and human resources	G Cooperation arrangements	J Feedback mechanisms
Processes	B Management and control	E Data, methods and expertise	H Feedback and validation	K Customisation and dissemination
Sustainability	C Vision and strategy	F Stability	I Integration of stakeholder needs	L Reputation

Source: Cedefop.

A set of key issues that need to be considered was identified for each cell in the framework ⁽¹²⁾. This formed the basis for developing a semi-structured interview schedule for carrying out face-to-face interviews with stakeholders. Policy-makers, academics, social partners and actors in the education and training system were interviewed to understand their

⁽¹²⁾ An enhanced framework was developed where all possible issues relevant to a particular cell in Table 1 was identified.

perspectives on skills anticipation practices and skills governance. Given their involvement in steering upper secondary education, it was vital for the review systematically to include the regions. To understand better how national legislation and institutional frameworks impact on what happens at regional level, extensive face-to-face interviews were held with representatives of all self-governing regions. Follow-up telephone interviews were used to collect additional information on issues that had not been fully covered in the main interviews and to ensure review findings are sufficiently representative.

The online survey administered as part of the review was used to map the perceived utility of current skills governance arrangements and processes among primary beneficiaries of labour market and skills intelligence (LMSI). Representing the demand and supply side of skills, employers and training institutions were invited to share their views about how skill demand in Slovakia might be more effectively met in the future. This helped increase understanding on how current arrangements and practices are perceived at ground level. It also provided rich insight into the perspective of information users vis-à-vis the current LMSI collection and dissemination processes and helped map possible improvements.

2.3. Institutions, stakeholders and main methods and tools

In a landscape of actors at national, regional and local level contributing to skills governance practices or being an integral part of decision-making, largely autonomous tertiary education providers, and private stakeholders, arrangements for skills governance in Slovakia are implemented in a 'particularly complex governance context that requires intelligent and sophisticated steering and policy implementation approaches' (Šiškovič and Toman, 2015). Table 2 provides a synthetic overview of the regulatory and institutional arrangements of the Slovak skill governance system, mapping the different institutions and stakeholders, in relation to different core responsibilities.

Table 2. Overview of regulatory and institutional arrangements of the Slovak skill governance system

Elements of skill governance system	Regulation of secondary education, including VET	Forecasting labour market developments
Key Legislation	Education Act (2008) Act on Vocational Education and Training (2015) Regulation determining lists of occupations in over/under-supply (2015, 2017) Ministerial Decree 252/2018	Act on Employment Services (2004) Life-long Learning Act (2009)
Key responsible institution	Education ministry Self-governing regions	Labour ministry Central Labour Office Alliance of Sectoral Councils Trexima
Other institutions involved	National VET council Regional (VET) councils	Regional labour offices Self-governing regions Sectoral councils
Levels of responsibility	National Regional	National (prevails) Regional
Stakeholders involved	State employer associations Unions Firms Self-governing regions Schools	State Various stakeholders represented in National VET Council which validates forecasts
Main funding sources	National (per capita funding) Firms engaged in dual education	ESF National

Source: Cedefop.

Career guidance	Providing information to labour market actors	Activation, including training and education
Act on Employment Services (2004) Act on pedagogical and professional staff (2009, 2019) Act on Higher Education (2002)	Act on Employment Services (2004) Act on Vocational Education and Training (2015)	Act on Employment Services (2004)
Labour ministry Central Labour Office Schools Universities	Central Labour Office Education ministry Trexima	Central Labour Office
	Trexima	
National Local (school, university, labour office)	National	National
Schools Pupils/Students Labour Offices	PES Trexima Education ministry ⁽¹³⁾	PES Unemployed
National ESF	ESF	ESF

⁽¹³⁾ For example: www.cem-uk.sk/partneri/lepsie-skoly-pro-academia/

A key tool used in skills governance in Slovakia is the forecasting of future labour market supply and demand. While the forecasts are formally the responsibility of the labour ministry, they are managed and carried out by Trexima, based on its own independent data collection and other data provided by several agencies and stakeholders (Box 3). Mid-term projections (five years and longer) are prepared for 400 ISCO-08 subgroups at regional level, reflecting self-governing structure as well as by sectors (NACE, Rev. 2). The projections are methodologically complex and include econometric models using data collected via a panel of enterprises⁽¹⁴⁾, qualitative data gathered from employers through field work and from regional sectoral experts in cooperation with social partners, and official macroeconomic forecasts from the Ministry of Finance.

The results of the forecasts, especially those related to anticipated occupational shortages, are validated and discussed in a dedicated working group in the National VET Council. Adjustments are made to the forecasts based on feedback provided by various stakeholders, such as professional and employer associations. Regional platforms discuss the results and should reflect them in regional labour market strategies and in VET provision. Forecasts are also directly used in the preparation of 'black and white lists of fields of study' (also Box 7).

Box 3. Trexima

Trexima, s.r.o is a private consultancy firm specialised in labour market research, data collection and statistical analysis. The company was established in 1992 and since then has been actively involved in several projects underpinning the work of the Labour Ministry, as well as in data collection linked broadly to labour market and social policies. For example, it collects data on wages, it oversees semantic and statistical implementation of ISCO in Slovakia and is in charge of labour market forecasting and the presentation of its results. Trexima has broad experience in data collection, data storing and data processing, and labour market analysis and research (more information: www.trexima.sk).

Slovakia has recently taken important steps in tracing graduate employability and in improving presentation and dissemination of labour market intelligence. Several administrative databases have been linked to measure graduate wages and to analyse the match between field of study and employment.

⁽¹⁴⁾ All large firms are surveyed, but only a small share of SMEs is covered, for obvious reasons. Firms are also surveyed qualitatively, in the form of interviews with human resource managers or legal representatives.

Information about the time needed for graduates to enter employment and the expected demand for occupation in the next five years complements matching information. This results in detailed insight into the labour market prospects of different fields of study. The information is available via the new portal www.trendyprace.sk which presents, in a user-friendly and accessible way, data about labour market trends and expectations based on forecasts and also data relevant for study-path decision-making. Following a proposal in the *Learning Slovakia* discussion paper to monitor graduates, the Footprint of graduates portal [*Stopa absolventov*] was launched early 2020. It provides information about the employability of secondary and tertiary education graduates ⁽¹⁵⁾.

Various activities have been undertaken to map and analyse vacancies. The Statistical Office organises regular surveys among employers. The ÚPSVAR (Central Office of Labour, Social Affairs and Family) collects vacancies registered by employers with labour offices, a practice mandatory since 2019, along with the requirement to state the offered wage in vacancies. Academic researchers have been using online vacancy data from the largest job portal Profesia ⁽¹⁶⁾ to analyse labour market and skills issues, including:

- (a) mismatch (Štefánik, 2012);
- (b) skill needs (such as digital and language skills) (Drahokoupil and Fabo, 2019; Fabo et al., 2017) and skill requirements for different labour market segments such as low-skilled or students (Beblavý et al., 2016; Kureková and Žilincíková, 2016);
- (c) return migration (Kureková and Žilincíková, 2018).

While this research is not systematic, it demonstrates that the information on the portal (vacancies and resumés since 2007) is valuable and could be used as a data source in national skills anticipation activities to complement other data and skills forecast work.

In the chapters that follow, the information collected in the different review stages is analysed and synthesised. The next chapter provides insights into how key players – VET providers and employers – perceive the information on skill needs they currently have at their disposal and what – in their view – might be improved to meet skill needs better in the future. Based on the stakeholder consultation, Chapter 4 analyses key issues and sketches possible directions for future policy development.

⁽¹⁵⁾ www.uplatnenie.sk/

⁽¹⁶⁾ www.profesia.sk/

CHAPTER 3.

Employer and VET provider views

3.1. Introduction

This chapter approaches skills governance from the perspective of stakeholders ‘on the ground’. These stakeholders have to adapt to changes in the institutional and legal framework and, through their actions, can contribute to improving skill matching. To obtain deeper insight into their experience, an online opinion survey ⁽¹⁷⁾ was part of the review.

The survey aimed to collect information on how stakeholders perceive currently available LMSI and to map their views on how skill demand in Slovakia might be more effectively met in the future (Box 4). It also mapped how the collection and dissemination of information about current and future skill needs in Slovakia could be improved. It targeted employers (as representatives of skills demand) and education providers (the supply-side). This chapter presents and discusses the main survey findings.

Box 4. Online opinion survey implementation

The online opinion survey used an open e-mail invitation, which was distributed among various organisations to reach as many potential respondents as possible. A letter signed by the then Minister for Education, Science, Research and Sport and Cedefop’s acting director encouraged them to participate. The field work was carried out between end-February and mid-March 2019. Reminders were sent to potential respondents after two weeks, with a total field time of three weeks. The survey consisted of a core set of questions posed to both types of respondent and dedicated respondent-specific modules. The questionnaire was programmed using Limesurvey software.

⁽¹⁷⁾ Although the survey was not representative in statistical terms, the information collected proved useful in developing important insights into currently available skills intelligence tools and on the skills matching practices of stakeholders. The survey questionnaire used and its English translation are available on request.

The self-governing regions and the education ministry supported dissemination to education providers while employer associations and foreign chambers of commerce disseminated the invitation to participate in the survey to their networks. Cedefop promoted the survey through announcements in Slovak on its social media channels. The total number of observations was 274. Of these, 46 were excluded as they do not contain any usable information. This means the number of usable responses is 228. Of these 90 respondents (39.5%) represented a private sector organisation, while 138 (60.5%) represented an education or training provider.

3.2. VET provider views

Even though considerable effort was devoted to obtaining a good balance between various types of education provider, most survey respondents (88.7%) represented secondary VET providers⁽¹⁸⁾. The responding institutions predominantly train younger people (94%) and are public institutions (96%). In most cases directors or managers of the organisation (72%) responded to the questionnaire. Some responses were given by teachers, lecturers or trainers.

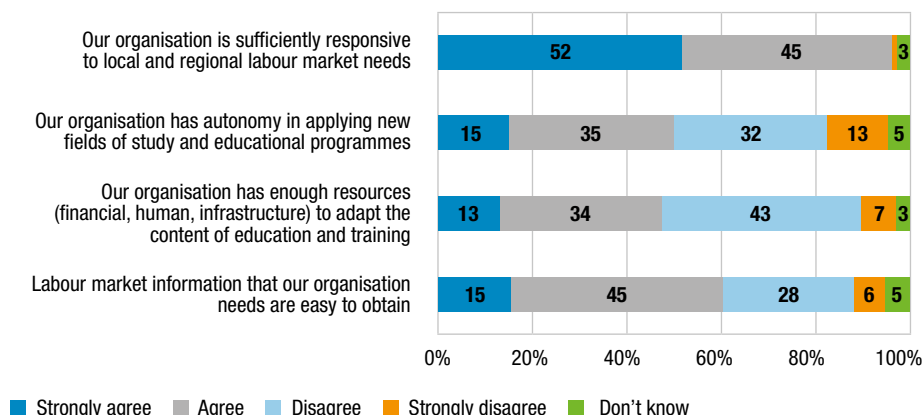
While responses were collected from all regions in the country and from education providers of different sizes, the distribution of responses received is neither representative of the regional distribution of education providers in the country, nor of the distribution of education providers of different sizes⁽¹⁹⁾.

3.2.1. Importance and use of LMSI

The survey findings highlight the importance of LMSI for providers, with 96% seeing information about skill needs in the labour market as (quite) important, for the purpose of providing relevant courses, as well as for guiding students in their programme choice. The perceived high importance of LMSI makes it likely that respondents are relatively well-placed to assess the availability and utility of current LMSI. The survey used four statements relating to LMSI availability and perceived responsiveness of providers to labour market needs (Figure 10).

⁽¹⁸⁾ For brevity, in this chapter we refer to providers when presenting the findings of the online opinion survey.

⁽¹⁹⁾ Most providers responding to the survey are located in the Prešov, Nitra or Banská Bystrica region.

Figure 10. **Education provider views on LMSI: availability and use**

Source: Online opinion survey (n=between 108 and 114).

Most providers (97%) consider themselves sufficiently responsive to local and regional labour market needs. Half perceive that their organisation has the autonomy to implement new study fields and educational programmes. As 32% disagree, and 13% strongly disagree, there is a split between providers in terms of how they view the degree to which they are able to shape provision. A similar dichotomy is visible in opinions on the resources available to adapt the content of education and training. Opinions on autonomy and the availability of resources are only partly related. Two out of three providers that see themselves as sufficiently autonomous are of the opinion that resources are sufficient to adapt education and training content. Although six out of ten providers find it easy to find the LMSI their organisation needs, a significant share (about one in every three providers) thinks this is not the case. With gaps in LMSI provision, not all providers believing it is easy to find relevant LMSI might be fully aware of the fact that they could benefit from types of LMSI currently not available.

A majority of providers felt the organisation providing the information they use most is well informed about emerging skill needs in the labour market (55% well informed, and 20% very well informed), while only 13% think this organisation is not well informed. Almost all providers (90%) claim to use LMSI to decide on the provision of programmes and to guide learners in their choices. Half of them do so regularly (45%), while the other half report that this is only done occasionally (45%).

To access LMSI, providers mainly rely on the PES (predominantly information on local vacancies) and local employers (75% and 71% respectively). Other sources, such as Ministries (Labour 41%; Education, 27%) and Trexima (31%), are less used. LMSI from independent research organisations and international organisations only plays a marginal role (each at 6%).

The two most commonly used types of LMSI are local job vacancies and general labour market information. Both are used by 70% of the providers responding to the survey (Table 3). Since most are VET providers who qualify learners for the labour market, the focus on local vacancies is logical. Other – less commonly used – types of LMSI provide information on future labour market trends (65%), changes in skills requirements (50%), specific occupations (46%), specific qualifications (30%), national vacancies (33%), and specific sectors (19%). Providers consider information on future labour market trends, information on local vacancies, and general labour market information the three most important types of LMSI.

Table 3. **Types of LMSI used by providers**

	LMSI types (% use)	LMSI importance (% rated in top-3)
Information about local job vacancies	70	54
General labour market information	70	52
Information on future labour market trends	65	64
Information on changes in skills requirements	50	41
Information on specific occupations	46	33
Information about vacancies in the national labour market	33	27
Information on specific qualifications	30	18
Sector specific information	19	15

Source: Online opinion survey (n=108).

3.2.2. Challenges in using LMSI

To understand why some education providers did not or did not frequently use LMSI, they were asked to reflect on why this is the case (Table 4). The most commonly reported reasons for not regularly using LMSI to decide on

provision were information that is too general (41%), too difficult to interpret (29%), or lacking the specific detail needed (20%). Reasons for not using LMSI in advising learners on what programmes to pursue are similar. Half of the providers reporting that they do not regularly use LMSI for this purpose find the information too general, and about a quarter said the specific information is not available or that the available information is difficult to interpret.

Some providers felt they lack knowledge about LMSI availability (15% and 18%) or were of the opinion that there are alternative approaches to gathering labour market insights (18% and 24%). Lack of trust in the available LMSI or the perception that there is no need to use it are the least frequently stated reasons for not using it. Comments illustrating why some education providers do not use LMSI regularly are presented in Box 5.

Box 5. Illustrations from respondents on reasons for limited/no use of LMSI

'Little information [exists] on whether graduates are employed in the field they studied'

'Information is statistical, not real – shortages for waiters are not a skills issue, but a wage issue'

'Information is not comprehensive – it does not cover all job opportunities.'

Table 4. Reasons for little or no use of LMSI among providers

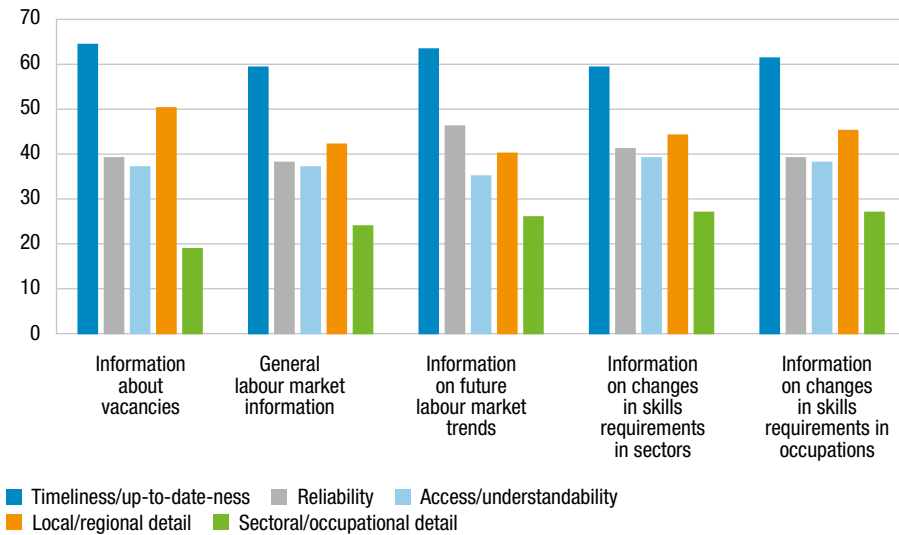
Reasons for not using LMSI regularly ... (% of respondents not using LMSI regularly or at all)	... for decisions on course provision	... in advising students on courses to take
Our organisation has only limited knowledge about the availability of labour market information	18	15
We do not trust the information	6	4
The available information is too general	41	50
The available information is difficult to interpret	29	24
Specific information required is not available	20	26
There are alternative ways to gather insights into labour market developments	18	24
There is no need to use labour market information	8	2

Source: Online opinion survey (n=51).

3.2.3. Suggestions to improve LMSI

Providers not regularly using LMSI because it does not meet their needs or for another reason see several opportunities to improve it, as do some using it regularly (Figure 11). To allow their organisations to respond better to changes in local labour market skills demand, most providers emphasise the importance of ensuring LMSI is timely and up to date. Around half suggest attention should (also) focus on providing LMSI with more local or regional detail or breakdowns, particularly for information on vacancies. Strengthening LMSI by providing more sectoral or occupational detail is the least suggested improvement area, though such information can be key to shaping VET provision.

Figure 11. **Strengthening LMSI: aspects to improve (%)**



Source: Online opinion survey (n=99).

3.3. Employer views

90 private sector organisations responded to the online opinion survey ⁽²⁰⁾. 43% have 250 or more employees; 26% have between 50 and 249 employees;

⁽²⁰⁾ Most firms are located in the Bratislava, Košice or Trenčín regions, the regions that supported the survey by disseminating survey invitations.

and 19% are small enterprises with 10 to 49 persons employed. There were only a few (12%) organisations with fewer than 10 employees. As SMEs are underrepresented, it is important to be aware that the findings mainly reflect the view of larger employers. About half of the responses came from manufacturing firms, while around a quarter originated from a service sector organisation.

Most firms reported that their workforce had been increasing in the past three years: 21% reported a large increase, while 36% reported some staff expansion and 18% were neither growing nor declining. About one in four firms reported a declining workforce. In most cases (18% of respondents) the reduction was limited; 5% reported a larger decline.

3.3.1. Anticipating future skill needs

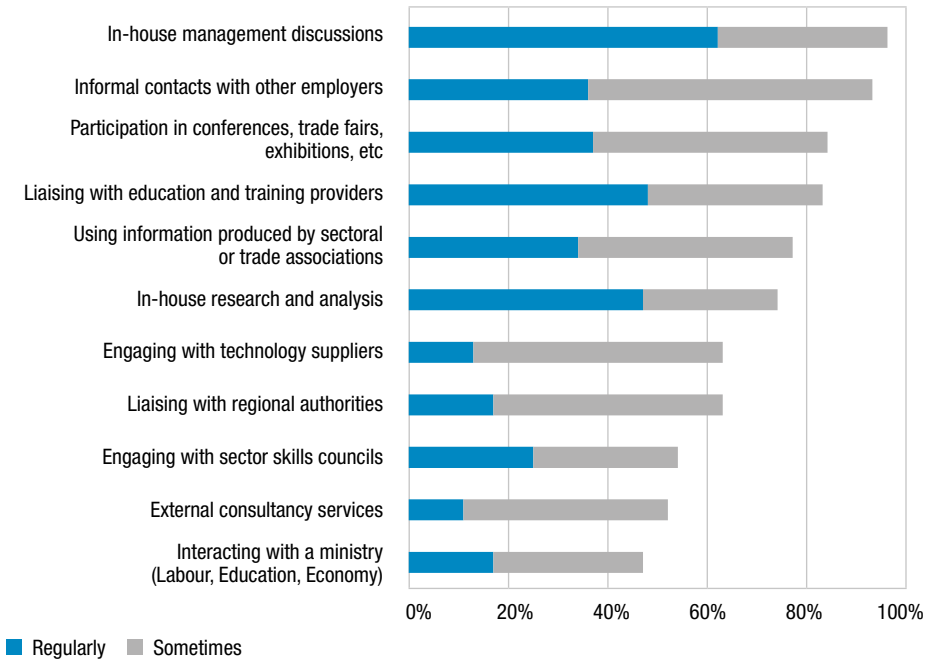
Employers exploit a wide range of methods to determine their future skill needs (Figure 12). More than four in five employers use one or more informal approaches, such as management discussion, informal discussions with other employers and/or education providers, and taking part in conferences and trade fairs. Information from sectoral or trade associations and in-house research and analysis are also commonly used.

While a majority of employers engages with technology suppliers or regional authorities to anticipate skill needs, few appear to do so regularly. One in four employers regularly engages with sector skill councils while another quarter does so occasionally. Calling in external consultants or interacting directly with a ministry are the least commonly used approaches.

3.3.2. Availability of LMSI and suggestions for improving it

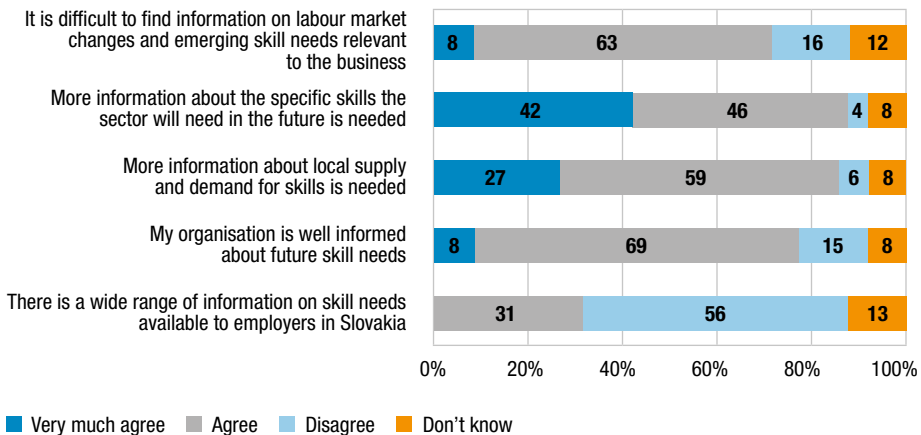
While 77% of employers feel they are well informed about their future skill needs, a majority (71%) at the same time reports difficulties in finding information on labour market dynamics or changing skills needs relevant to their business, sector or location (Figure 13). Only a minority (31%) agree with the statement that employers in Slovakia have a wide range of information on skill needs at their disposal. This suggests many employers rely on rather narrow information on immediate skills needs in their own context without having an overview of the bigger picture. A large majority of employers reported they need more information about the specific skills their sector will need in the future (88%) and information on demand and supply in the local labour market (86%). This suggests they would appreciate more accessible and comprehensive LMSI useful for their planning.

Figure 12. **Approaches employers use to determine future skill needs (%)**



Source: Online opinion survey.

Figure 13. **Employer views on LMSI availability in Slovakia**



Source: Online opinion survey (n=between 108 and 114).

These findings largely represent the voice of larger employers. SMEs tend to have less capacity and resources to anticipate their future skill needs in-house and therefore those that are looking for information are more likely to rely on externally produced LMSI – making the identified information gaps potentially an even greater issue for them. As a result of the scarcity of information, some SMEs and sectors might not realise the potential for strengthening their business operations.

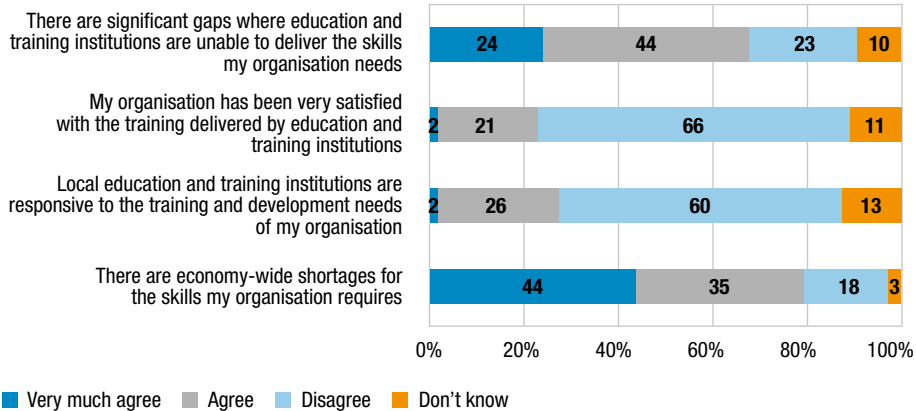
Almost all surveyed employers suggested LMSI improvements to expand and improve the information on future skill needs. Echoing the viewpoint of education providers, employers most often viewed timeliness/currency of information as an important development priority. General labour market information and information on vacancies were often mentioned as types of LMSI that could be improved to get a better sense of future labour market trends. Apart from improving the quality of such information, employers also emphasised the need to make LMSI more accessible and easy to use.

3.3.3. Hiring difficulties: key factors and approaches to address them

Current skills bottlenecks underline the importance of reliable and accessible LMSI. A majority of employers participating in the online opinion survey experiences economy-wide shortages in the skills they require and reported recruitment difficulties, particularly for skilled manual and managerial/professional positions. Across occupational categories, the main reason for hiring difficulties is a shortage of suitable applicants with the necessary experience, skills and qualifications, rather than shortages of candidates. Another reason underlying recruitment bottlenecks is fierce competition for staff with other employers.

The online opinion survey showed recruitment difficulties have several underlying causes. Employers often linked these to quantitative shortages of people with particular qualifications, gaps in specific skills (such as languages), competition with other employers nationally or abroad, and challenges in finding motivated job seekers with good work habits. A majority of surveyed employers also point to significant gaps between skills demanded and skills delivered by education and training providers, and in the quality of training (Figure 14); only a minority thinks local education and training providers are responsive to the training and development needs of their organisation.

Figure 14. **Employer views on education and training provision**

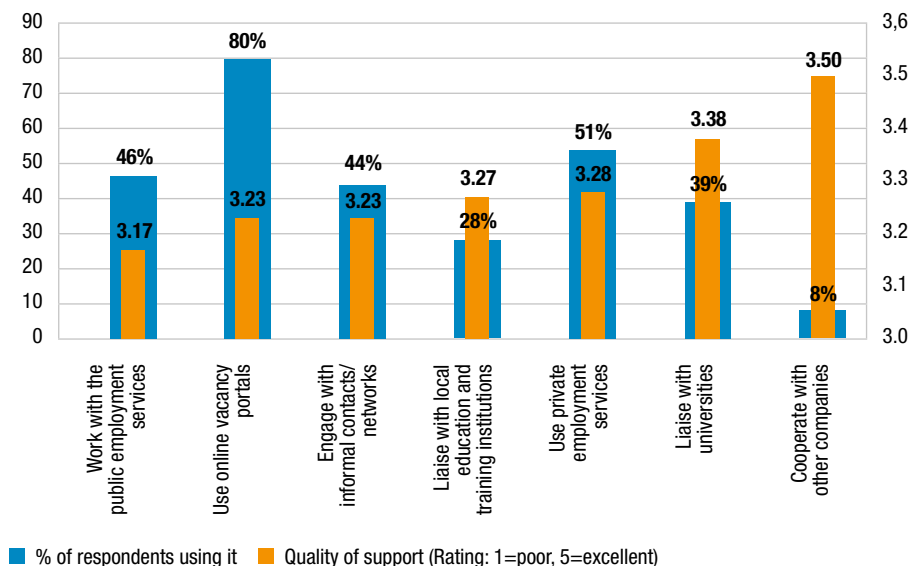


Source: Online opinion survey.

Most employers facing hiring difficulties in recent years have managed to recruit staff despite them, with a common strategy being to accept either vertical or horizontal mismatch. More than half of employers facing recruitment difficulties hired staff with qualifications or skills below the required level and provided training to upgrade them after recruitment. Almost half accepted horizontal mismatch, recruiting staff with the right skills or qualification level but in a field different from the one the job required. Some employers reported having made use of interns or apprentices to fill the vacancies, which could be a combination of the above approaches. More than half of firms with recruitment difficulties tried to become more competitive in the process by improving employment terms and conditions. Around a third hired staff from abroad and/or changed the recruitment strategy. Firms not willing or able to change their hiring strategy report having reorganised or outsourced some core or non-core activities.

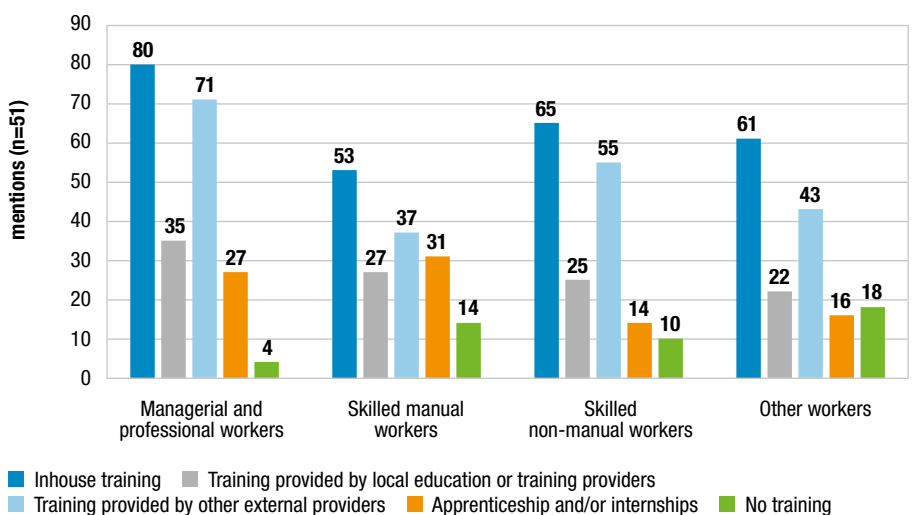
Employers tend to be quite positive about the service quality of external organisations assisting in recruitment, with around two thirds rating it as good or very good (Figure 15). Excluding cooperation with other companies, which respondents indicate they rarely use (8%), the best ratings are among direct contacts with universities (3.38), private employment services (3.28), and local education and training institutions (3.27). Respondents rate informal networks (3.23), online vacancy portals (3.23) and cooperation with PES (3.17) slightly lower.

Figure 15. External recruitment assistance: use and perceived quality



Source: Online opinion survey.

Figure 16. Training provided in the past year by staff category and provider (% of employers)



Source: Online opinion survey.

Overcoming shortages and skill mismatches by providing in-house training is particularly common in larger firms (Figure 16). Depending on the type of worker 53% to 80% of employers reported they provide such training. Employers tend to organise (internal or external) training more often for managerial and professional workers than for other types of staff. Dual training and internships are predominantly used to train skilled manual workers. Apart from their involvement in dual training and internship, local education and training providers play a limited role in providing training.

3.4. LMSI user perspectives on strengthening skills governance

The survey findings show education providers and employers view LMSI – shaped as general labour market information, information on skills development, use and shortages – as crucial for shaping their actions. Firms report that they are often confronted with shortages on the labour market, especially with respect to experience and specific skills. Providers face the challenge of using LMSI to shape and adapt their programme offer in line with labour market needs and to guide learners in their choices.

Both types of LMSI user appear to find labour market information on local vacancies quite informative. In many cases, such information will help them in making sense of skill demand and supply at local level; this is challenging when using LMSI with a national focus due to insufficient detail. Both education providers and employers advocate making available more regional and sectoral labour market information. They also highlight the importance of providing LMSI quicker, to avoid outdated information being used in decision-making processes.

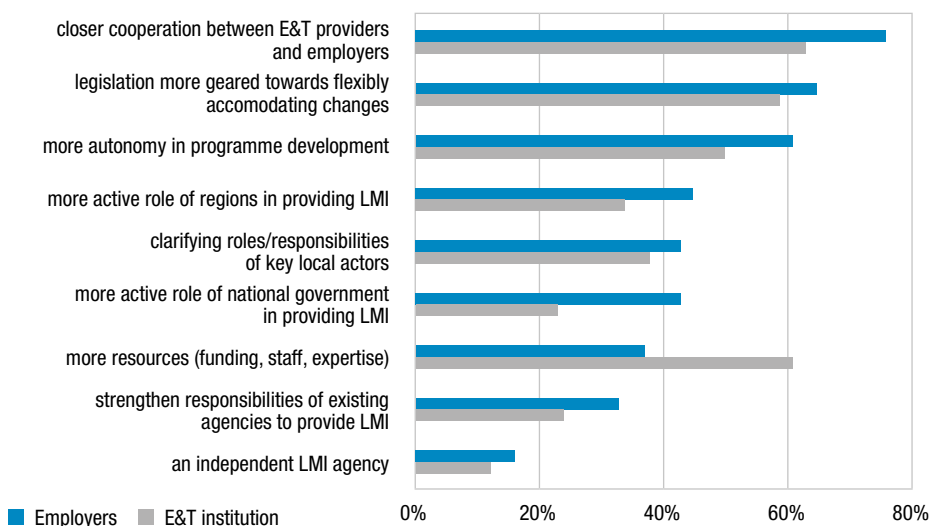
Apart from apparent agreement on how to strengthen LMSI, another key finding of the online opinion survey is the relatively close alignment in opinions on directions to improve skills governance: how to make education and training provision more responsive to labour market needs (Figure 17). Providers and employers recognise the importance of forging closer cooperation between them at regional level so that labour market dynamics can be accommodated more quickly. Most providers and employers also suggest increasing provider autonomy and making legislation and regulation more geared towards flexibly accommodating change. Employers find the collaboration with education and training institutions fruitful; it provides them with a partner to overcome recruitment difficulties through staff training and/

or dual training of interns and apprentices. Employers underline that it makes sense to allow for more flexibility in shaping partnerships, to be able to react more dynamically to current and future skills needs in their regional and sectoral context and adapt skills provision accordingly.

A substantial share of LMSI users also highlights the importance of clarifying roles and responsibilities of key local and regional actors. Legal regulation is in place but insufficient coordination, inadequate expertise and lacking capacity of actors to absorb data are possible bottlenecks in translating LMSI into appropriate action. Opinions diverge somewhat on shaping the role of the national government; employers have a more favourable stance towards expanding the role of the national government in providing LMSI than providers. And while providers tend to advocate increasing financial and human resources, this is less the case with employers. Relatively few LMSI users are in favour of strengthening the responsibilities of existing national agencies in providing LMSI.

A minority of providers and employers surveyed view establishing a new agency to create or develop LMSI as a priority in strengthening skills governance. This does not necessarily mean that LMSI users would not welcome having a new or existing institution taking on responsibility for coordination of activities. Better coordination can help improve cooperation between providers and employers and be a stepping stone for striking a better balance between provider autonomy, employer interests and long-term national ambitions.

Figure 17. **Strengthening skills governance: the views of LMSI users**



Source: Online opinion survey.

CHAPTER 4.

Exploring options for change

The stakeholder interviews held as part of the review helped identify the key skills governance challenges in Slovakia and highlighted widespread agreement that there is scope to develop existing structures and processes to address them. Skills governance has been subject to several reforms in the recent past, but so far these have only partially brought intended changes. The main responsibilities for skills remain split across different institutions and actors who do not always cooperate sufficiently. As a result, LMSI has remained fragmented, with challenges in meeting the needs of the multiple end-users (young people, unemployed, adult learners, as well as employers and education and training providers).

The apparent interest of stakeholders in participating in the skill governance structure and contributing to its institutional development is considered a strength. However, there are concerns about the strong influence of some large employers and associations. Some stakeholders would prefer the system to be governed in a more balanced way and in support of all stakeholders and beneficiaries, which also requires investing in expertise.

To identify what changes could be made for skills governance arrangements to become a system that can more adequately address the country's skill needs, Cedefop systematically mapped the challenges facing skills governance and asked stakeholders to provide concrete suggestions to address them. Suggestions made by key national and regional actors, mainly through interviews, have been analysed and an attempt has been made to approximate the level of support for various actions, based on:

- (a) the number of respondents mentioning a particular suggestion and the degree of importance they attached to it;
- (b) the degree of consensus/disagreement expressed in relation to a particular issue or intervention;
- (c) the contextual knowledge of the Slovak context in the review team;
- (d) discussions about suggestions during national stakeholder meetings.

This chapter presents potential options for change relating to the foundations, processes and sustainability of skills governance in Slovakia. It is worth stating at the outset that some key building blocks of LMSI, such as skills forecasting and the methodological knowledge and expertise it requires, are in place and progress has been made on various elements of the system since the field work was organised; some initiatives were introduced during the production of this report. Key challenges are to improve coordination and steering, to develop the missing building blocks (including national employer surveys and skills foresight) and to connect, disseminate, and use better what is already available. Examples in boxes of how other countries approach key skills governance challenges aim to provide inspiration for possible ways forward.

4.1. Foundations of skills governance arrangements in Slovakia

4.1.1. Fragmented institutional framework

The NSC asked Cedefop to focus the review on the institutional setting and framework. They pointed to the system being insufficiently stable resulting from fragmentation of activities over different organisations and responsibilities not being clearly defined. The results of the review clearly confirm this. When reflecting on the institutional framework, several stakeholders interviewed in the course of the review summarised the key issue as ‘Slovakia has a range of skills governance arrangements and practices in place, but not a system’.

These skills governance arrangements are complex, with responsibilities shared across different ministries and institutions as well as between national and regional levels, and regulated through several acts and regulations. At present, the labour ministry and the education ministry manage different processes and tools within the existing institutional framework. Inter-departmental working groups are typically set-up for these tools (such as the National system of occupations, NSP), which serve as a forum for sharing of information, validation of data or discussion. Even so, many stakeholders complained about ‘resortism’ (*rezortizmus*), acting only in a narrowly specified field of activity mainly driven by operational activities of the ministry (*rezort*) in dealing with different agendas. In fields such as adult learning or skill recognition, inter-ministerial communication is considered insufficient.

Strengthening coordination of activities between the education and labour ministries is crucial for a well-functioning system. Many tasks are interrelated, and feedback mechanisms are necessary to facilitate the flow and use of information and to steer skills governance effectively. Better interministerial coordination can also help improve steering secondary education at regional level; this is a responsibility of the self-governing regions which work on a partnership basis with regional platforms and regional VET councils. The review identified lack of an overarching vision for skills governance that sets out national ambitions for skills formation and matching. This is the main factor underlying coordination difficulties, unclear and, at times, competing roles and competences of stakeholders, and insufficient awareness among some labour market actors of which data are available and how skills governance functions in practice.

The present multi-stakeholder structure of the skills governance arrangements can be seen as a strength or a weakness. In theory, multi-stakeholder involvement and cooperation can help ensure that a wide spectrum of needs and interests are considered. Most stakeholders recognise that there are many opportunities to meet and exchange ideas and information and coordinate individual activities and practices. However, they also view it as challenging to find their way through the multitude of interdepartmental (education and labour ministries) working groups linked to different projects, sometimes with overlapping mandates. A more centralised approach to guiding agenda setting and coordination would be useful to tap into stakeholder expertise and to allocate resources more efficiently. This could also address concerns about imbalances in representation, communication and ensuring feedback from stakeholders.

From the information collected through desk research, interviews and meetings, an image arises of a system in development, with several ingredients already there: data, methods, the willingness of actors and stakeholders to invest and cooperate, are some examples. What is lacking though – to continue with the comparison – is a ‘chef with a recipe’ who takes control.

Most stakeholders support the idea of establishing an independent, overarching institution which would be responsible for managing and coordinating different institutions in the system or could take over some of the responsibilities currently dispersed across various bodies. There is substantial support for establishing such a national body dedicated to supervising skills governance; this was confirmed by key stakeholders in the final project meeting for this review. The mandate of such an institution

– which would need to be discussed in detail – could potentially range from a more narrowly defined role (coordinating implementation and interpretation of forecasting results) to an all-encompassing agenda: defining strategic vision, coordinating all aspects of skills governance from a life-course perspective, career guidance, data management, and capacity building. Experience from countries which have established national skills councils can provide inspiration on how to move forward (Box 6).

Box 6. National skills councils to strengthen skills governance: examples

Malta established a national skills council in 2016 to improve the governance of skills anticipation and be able to react better to rapid labour market change. The council coordinates work that was previously fragmented across several organisations. Legislation requires the NSC to involve labour market representatives; to study, propose and plan strategies and training opportunities that reduce labour and skill shortages; to improve skills so that (labour) market demands are met; to involve stakeholders in setting strategic priorities for education and training; to liaise with education institutions; and to perform any other function that may be assigned to it by the Minister for Education and Employment. Work focuses on better linking the worlds of education and industry through work-based learning, digital skills, and creating better conditions and incentives for lifelong learners. The council is setting up skills forecasting and is drafting a skills strategy which aims to integrate transversal skills better in all streams of education and training.

Ireland launched its national skills council and nine regional skills forums in 2017. The council's aim is to make the country a leader in anticipating and responding to rapidly changing skills needs. It oversees research, advises on prioritisation of identified skills needs and their delivery and has a key role in promoting these priorities and monitoring responses by education and training providers. Working closely with stakeholders, the regional forums and their nine managers help build stronger links between employers and the education and training sector to encourage skills development in line with regional needs. The forums also help employers better understand available education and training options, play a role in better coordinating provision and reducing duplication, and inform national funding decisions. In 2020, apart from focusing on particular sectors (hospitality and tourism, transport and logistics, construction and manufacturing-engineering), the forums also address transversal issues such as promoting sustainable development and reaching SMEs. Norway's national skills strategy 2017-21 includes a range of measures aimed at more coordination at local, regional and national level and the establishment of a Future skills needs committee. The implementation of the strategy will be monitored

through a Skills policy council, a multi-stakeholder body also discussing the work of the committee, providing input to the policy debate and in charge of updating the strategy in 2019.

Source: Cedefop, Skills Panorama and OECD (2019).

4.1.2. Discrepancies between data collection and decision-making responsibilities

In the present context, regional governments have a key role in shaping educational provision, while most of the administrative and analytical capacity in developing and interpreting labour market intelligence is with the national level. Further, the analytical capacity to use LMSI (as in producing forecasts) and work with it to shape policies and practices is limited: PES staff or self-governing region officials are often not trained in such activities.

Self-governing regions consider themselves best placed to understand developments in ‘their’ regional labour markets. Although they are largely satisfied with the current distribution of competences between levels of government, they feel that this is insufficiently reflected in skills governance processes. Few legislative proposals and/or amendments tabled by the regions to change current arrangements have been considered or taken up by the education ministry. The regions also voiced concern about excessive requirements in terms of what they are expected to deliver – for example, with respect to data – and pointed to examples of suboptimal steering and process management by the education ministry. Some regions complained about the timeliness of receiving data and other inputs. Others voiced concerns about the credibility and reliability of data received, often referring to bias towards larger employers and a lack of intra-regional perspective (Box 7).

Box 7. Regulating secondary education

National ‘lists of fields of study with over- and under-supply’ (black and white lists) produced by the education ministry are to be considered by self-governing regions when making decisions about the numbers of first-year classes in different fields of study at secondary schools within their jurisdiction (Vantuch and Jelinkova 2019; Martinák and Zápřažná, 2017). All major ministries and stakeholders involved in the skills governance structure have a say in validating them and central government adjusts per capita funding to the regions accordingly.

The introduction of the lists has drawn criticism: the methodology used in preparing them had not been widely discussed and there were doubts as to the way the lists were finalised and implemented (Martinák and Zápražná, 2017). The 2017 regulation to guide their preparation adjusted the thresholds of graduate unemployment rates to be used when defining under/oversupplied fields of study. For VET fields, the regulation defines all study fields where no dual track is offered as oversupplied.

As part of a 2018 amendment to the VET law, regional parliaments were taken out of the decision-making process for planning enrolment numbers (as in number of classes in different fields of study), making these decisions less likely to be influenced by lobbying. Following the change, which interviewed regional stakeholders welcomed, after discussion with members of the Regional VET Council, the president of the self-governing region [župan] approves the enrolment numbers.

The most recent legislative change, in force since September 2018, requires regions to regulate exact student enrolment numbers by field of study. The number of first year students is now strictly defined for each region. Regions are to calculate the allocation to different fields of study using a sophisticated model. Due to the difficulties experienced by the Ministries (Labour and Education) in delivering key data to feed into the model, for the academic year 2019/20 all regions relied on an exception clause and have agreed to follow the approach previously used.

Many interviewed stakeholders voiced concerns about current practices. These relate to underlying data, the suitability of methods applied at regional level (such as black and white lists not reflecting regional differences), and the extent of the financing penalty and bonus currently applied. Several stakeholders also voiced more fundamental concerns: using macroeconomic forecasts that show general trends for detailed and hard regulation of supply of study places and the focus on occupations. Often referring to what is common in practice in other countries, they favoured using forecast information more to influence demand and thought approaches based on skill bundles or transferable skills would be more appropriate. Many stakeholders felt lacking expertise at different governance levels is also a key bottleneck to improving regulation and governance. Regions are particularly concerned with the latest decree. They believe it is not enforceable in practice and consider the formula-based approach unfeasible, because it does not consider long(er)-term strategies in the regional development of secondary education.

Source: Cedefop skills governance review in Slovakia.

The present institutional framework for skill governance arrangements continues to be in flux and has been increasingly incorporating regional competences in education since 2009. However, there is room for improvement for skills governance arrangements to reflect better the institutional competence of regions in education and local labour markets and

to acknowledge the substantial interregional differences. Future initiatives should allow sufficient room for developing regional and supra-regional visions/strategies that recognise the strong economic and labour market links between regions and for shaping initiatives which recognise regional differences in sectoral composition of employment, economic development, ethnic diversity, and resources. Countries and regions can take different approaches to building such capacities (Box 8).

4.1.3. Imbalances in stakeholder representation

Social partners are involved in skills governance at different levels. At national level, stakeholders are represented in the skills governance system through participation in the National Council for VET, which has an advisory role. Its role is deemed mostly ceremonial and actual debates tend to take place outside the formal institutional setup. Many stakeholders interviewed in the review were also concerned with more structural issues, including insufficient representation of the variety of stakeholders in the field: SMEs are under-represented, data that would allow developing LMSI to serve their needs is insufficient, and expertise on VET and labour market issues is often lacking. The fact that different employer organisations often operate in relative isolation from one another is another barrier to coherent representation. As a result, inputs to debates on current and future skills and competence needs often do not represent the full picture of employer interests. Trade unions are not seen as important actors in this context, partly because imbalances in representation are systemic but also through lack of organisation on the side of social partners.

Box 8. **Strengthening regional capacities to use skills intelligence for skill matching: examples**

The regional learning and skills observatory (<http://rlp.infobasecymru.net/IAS/launch>) is an interactive online system providing local intelligence for learning, skills and the labour market in south-west and mid-Wales. It aims to improve data collection, sharing and analysis across sectors and stakeholders in the region and support evidence-based policy and improved decision-making in the areas of regeneration and education, focusing on learning and skills, employment and economic development. It also eases curriculum planning to ensure a continuous supply of appropriately skilled individuals. The interactive online mapping system allows users to manipulate different data sets across different geographic boundaries to compare and

contrast intelligence. The forecast data available to the public is accessible in more detail to members of the regional learning and skills partnership. A team of researchers is available to support users, to suggest data sets suitable for analysis and to provide the training needed to use it.

Regional skills platforms in Sweden establish structures, processes and methods to improve skills supply at regional level. Projects in all 21 regions funded by the government through the Swedish Agency for Economic and Regional Growth aim to strengthen skills analysis and anticipation and develop a knowledge base, either by developing new methods or by using existing data better. The agency also supports the expertise development of regional development managers, by organising learning, experience sharing and networking opportunities. A clear benefit of the platforms is that they can help local, regional and national level stakeholders build consensus on what should be priorities for competence development in the regions. National guidelines have been put in place to streamline the work of the platforms, as early experience has shown too much variation in regional approach, focus and function complicates national dialogues.

The 13 regional centres for adult education and continuing training (VEU centres) in Denmark target adult learners and enterprises. The centres aim at creating greater focus on the quality and impact of the vocational training system by strengthening cooperation between educational institutions. This helps attract more learners and creates a more stable and flexible supply of continuing vocational education. All providers of adult vocational training are associated with one of the 13 VEU centres. By coordinating guidance activities and contacts to enterprises and employees, the centres play a role in mitigating mismatch at regional level. They are given the task of analysing skill needs in their area. A contract with the Ministry of Education specifies objectives and performance requirements for VEU centre tasks and cooperation arrangements. Evaluation has shown the centres have helped raise awareness of CVET programmes among SMEs.

Source: Cedefop matching skills database www.cedefop.europa.eu/en/tools/matching-skills/; <https://tillvaxtverket.se/amnesomraden/kompetensforsorjning/regional-kompetensforsorjning.html>; <http://rlp.infobasecyrmru.net/IAS/aboutus>.

Many stakeholders suggest steps are taken to ensure more balanced representation of employers in skills governance arrangements. The 2019 revitalisation of the sectoral councils in the context of the ESF-funded Sectorally directed innovations (SDI) (*Sekrotovo riadené inovácie*, SRI) project – which has broad support among stakeholders – can be seen as an important step in this direction ⁽²¹⁾. Interviewed stakeholders highlighted

⁽²¹⁾ The project also sets new aims in reaction to current economic and social challenges. These include identifying innovation potential and leadership of sectors; transposing new trends and

their role in providing a forum for regular meetings – assembling actors from most sectors across the economy – and their function of engaging employers in the education system and skills governance more generally. Fully benefiting from their potential, however, requires institutionalisation and addressing underrepresentation, securing long-term sustainability and funding, and professionalisation to improve their functioning. This will help increase capacity to provide information on labour market developments and skill needs, based on sound analysis of tasks in jobs, and to use it to shape standards reflecting employer skill needs (MŠVVaŠ, 2017).

The review also identified a need for better incentives to encourage membership of employer associations and to ensure more balanced representation. Some stakeholders suggested merging existing organisations into one umbrella organisation. This could increase the employer’s power of negotiation, their resources to develop knowledge and capacities in LMSI, and representativeness. It is important to consider carefully the pros and cons of different options. Some stakeholders were worried that more centralisation would reduce the representation of SMEs even more.

4.2. Skills governance processes

4.2.1. Links and interactions between tools

Stakeholders flagged the need to use existing data sources better and to employ additional ways of collecting data and information to improve sources relevant for developing available LMSI and/or new ones. Various actors pointed towards data gaps and deficiencies. They highlighted that some qualitative skills anticipation methods, such as skill foresight or focus groups, are not systematically embedded in skill governance. Stakeholders also saw a need to expand quantitative data collection to be able to reflect on aspects of actual skill use better. This can include employer surveys, tracer surveys (graduate tracking), information on self-employment, and job vacancy data, or a combination of these. It was often suggested that

innovation into the education system; preparing the strategic document Work 4.0 [Práca 4.0]; further developing links between businesses and schools; further developing and improving dissemination of labour market intelligence; and informing the adaptation of lifelong learning programmes. Further details: www.sustavapovolani.sk/o_portali

administrative data from various key agencies (Social Insurance Agency, PES, tax records) could be better linked.

By the end of 2019, administrative data from the Social Insurance Agency and Central Labour Office had been linked to inform preparation of the Footprint of graduates portal, which will present graduate outcomes at the level of individual secondary schools and fields of study. Linked data have also already been used to inform self-governing regions in regulating the numbers of students for the 2020/21 academic year. These new arrangements to share and link data for research and analysis purposes have a lot of potential in terms of strengthening LMSI.

While some viewed the work on the registers of occupations (NSP) and qualifications (NSK) as good examples of stakeholder cooperation, the two have not been linked and calls for their simplification to make better use of their potential complementarities often emerged from the stakeholder interviews. Existing information with regard to the black and white lists (fields of study with over- and undersupply) is also not integrated, and so does not allow straightforward understanding of the labour market relevance of a qualification. Both systems can be made more sustainable by improving cross-references and regular updating to reflect changing skill developments driven by digitalisation and automation and other labour market changes. The revitalisation of the NSP and NSK work under the SDI project (see above) is viewed as a good step, but ensuring their functionality and complementarity requires professionalisation and more coordination.

Slovakia takes part in international skill assessments, including PISA and PIAAC. While these assessments provide reflection and evaluation opportunities, they have limited bearing on current skills governance activities. There are several other areas where data could be better used. Steps have been taken to use and link administrative databases better, but there is potential to benefit more from these sources. Similarly, forecasting results could be targeted more precisely at end-users, but the policy cycle must be more functional to achieve this aim: defining the problem, choosing data and methods, using, implementing and disseminating results, and evaluating the measures applied. There is concern over the evaluation of policy measures, with some stakeholders expressing doubts about the rigour of the methods typically applied, which makes it difficult to establish clearly what works and what does not.

Strengthening data coordination

The review shows that action is under way to address some of these shortcomings. The recent initiative in graduate tracking (*Stopa absolventov*) applies a methodology that links various data sources. The information it already provides and disseminates is an improvement compared to what was previously available. The ambition is to provide regular updates and further develop the work. Provided there is attention for optimising their functioning and developing their expertise, the revitalised sectoral councils, which focus on challenges of digitalisation, automation and analysing their impact on jobs and skill needs (within the Sectorally directed innovations project), can contribute to better linking the world of work and education and training.

A range of additional measures can be considered to improve the interactions between different types of data collection to increase the potential of existing sources for the production of high-quality and user-relevant LMSI. A key suggestion is to mandate one institution to manage and coordinate data. This can be organised in various ways, as proposed and apparent from experience in other countries (Box 9). It would also facilitate other areas of improvement, such as:

- (a) reduce barriers to linking of various administrative databases, including data from the social security agency, so that analysis can more effectively inform policy-making;
- (b) opening access to data and methodologies to a broader audience, such as academic experts and research institutes, to benefit from their expertise and create synergies between different types of activities;
- (c) making better use of key data in skills governance processes (forecasts, information on graduate outcomes, better use of big data analytics such as online vacancies);
- (d) closing gaps in data availability (employer surveys, skill use, skill and task needs, outward migration);
- (e) reducing time-lags between data collection, analysis and dissemination of results;
- (f) engaging researchers and supporting VET research;
- (g) contributing to updating and linking qualifications and occupations frameworks;
- (h) improving data on employer skill needs.

Box 9. Coordinating data and analysis: examples

Over recent years Estonia has invested substantially in reforming its skills anticipation process, principally through the System of labour market monitoring and future skills forecasting (OSKA). OSKA takes a coordinated and comprehensive approach to skills mapping, analysis and development. It combines labour market forecasts and other quantitative data with qualitative sectoral expertise. OSKA plays a key role in matching labour supply to demand, not only quantitatively, but also in terms of aligning workforce skills to work. Recommendations for action or reform accompany LMSI wherever possible. The OSKA coordination council – a board of high-level stakeholders – is in charge of assembling information and expertise relating to skills demand and supply and planning analyses and forecasts; a panel of advisors contributes to methodological development.

The Netherlands Research Centre for Education and the Labour Market (ROA), a research institute at Maastricht University, takes the lead in skills analysis and anticipation. It is responsible for conducting and publishing biannual labour market forecasts and developing other LMSI which are funded by several ministries, public sector organisations, and a private human resource consulting firm. The work integrates a wide variety of data sources, including economic forecasts, information from Statistics Netherlands and the ROA graduate surveys. The rationale for developing the ROA forecast activities (which started in 1986) was to produce an independent, scientifically robust, econometric forecast model that would allow stakeholders (employers, employees, sector associations, and education institutions) to anticipate trends in skills supply and demand and their potential mismatch.

Source: Cedefop skills governance review in Estonia and Skills Panorama https://skillspanorama.cedefop.europa.eu/en/analytical_highlights/skills-anticipation-netherlands#_skills_assessment

4.2.2. Increase knowledge of existing tools and activities

Labour market forecasts feed into policy-making in active labour market programmes and education at different levels. Interviews revealed that key stakeholders (including regions, employer associations/employers) who, in theory, could benefit from making more use of forecasts often have imprecise or blurred knowledge about how they are produced and how they could be used. With the perception that they are still weakly linked to policy-making, many feel it is unclear how they could be used to the full potential of turning information into intelligence.

Some stakeholders disagreed with using the forecasts to manage the supply of programmes in the education system at the micro-level, arguing that the focus in other countries is on providing information on labour market

trends to steer labour learners and other labour market actors towards desired directions. The way forecasting has been organised has also been criticised, not because of concerns about its quality, but because details on the methodology underpinning the analyses are not routinely shared and data are not widely accessible. A centralised repository managed by an institution responsible for data coordination could help expand access to data for a wider range of stakeholders and increase awareness of stakeholders in terms of what data and information is available.

It is important to concentrate on strengthening capacity to analyse, comprehend and apply skills data and intelligence within public authorities, particularly the relevant ministries and agencies and in the self-governing regions. A lack of evidence-based policymaking, weak analytical capacity, and limited data use and management skills in ministries and regions were often mentioned as barriers to better use of existing data and tools and further improvements. Strengthening analytical capacity at key ministries and of education experts in self-governing regions could potentially bring about large benefits to skills governance (for regions: Box 8). This would help key actors interpret and use skill forecasts and ease policy-relevant data-intensive work. Some stakeholders favoured more formalised engagement of the Slovak Academy of Sciences, or of the wider research and academic community, to encourage data production, analysis and use.

4.2.3. Refining LMSI methods and stepping up dissemination

Current skill governance arrangements already aim to inform a range of stakeholders about skills and labour market trends, for example through skills forecasts. Financial incentives are in place to strengthen the links between education provision and labour market needs based on the skill forecasts and first steps have been taken to adapt them with the aim to improve support to the decisions of self-governing regions and employers. Stakeholders with detailed knowledge on forecast methodology raised concerns over using the skill forecasts at regional level: in their view this implicitly assumes that each of the self-governing regions are self-contained economic units, which is not the case.

Stakeholders representing regions view the data they receive as too aggregate and would favour further disaggregation of the forecasts to 'micro-regions'. The reliability of currently available regional information is under discussion and regions themselves have serious doubts about the regional figures, also because SMEs and some sectors are underrepresented. The

image emerging is that to use skill forecasts for regional regulation of secondary education more effectively, the methodology needs further revision.

A particular area where the regions struggle is in determining enrolment numbers for programmes training people for occupations in SME sectors and those where self-employment is common: hotels, restaurants, services (waiters, hairdressers) and transport (lorry drivers). An important issue is that employers are not represented on the boards of vocational schools, so they do not contribute to developing school curricula or exams. Most regions commented on the lack of structured approaches enabling employers to provide reliable data (about their employment and skill needs) and/or the difficulties this causes; some thought that employers should invest in mapping their needs more systematically. It is important in this context to note that regions are positive about ŠIOV (State Institute of Vocational Education) and value the role it played in implementing and coordinating the dual education system via 'dual points'.

Current arrangements were deemed much less effective in informing education and training choices made by learners. Dissemination to end-users, including parents, schools, socially disadvantaged people, and workers, is seen as underdeveloped. Information about labour market demand is not transmitted to the supply side of the labour market, not least due to underdeveloped career guidance services. At the time the review interviews took place, the sole LMSI dissemination tool identified by the respondents was the ISTP portal (www.istp.sk). While this was considered ineffective for most end-users, respondents saw potential for future improvement. For example, existing data about the unemployed can be used in a more targeted way by linking them to labour market opportunities, to help this group support their labour market integration. Similarly, the skill forecast findings could be targeted at specific end-users to ease their decision-making. As it has the potential to provide LMSI that better meets user needs, the introduction and/or further development of data collection methods mentioned earlier – such as tracer studies and employer surveys – and continued efforts to disseminate the information they produce could ease the process of broadening the group of possible LMSI beneficiaries.

Sustaining and embedding tracer studies

Setting up a structure for a systematic graduate tracer survey would help increase knowledge of how (formal) skills gained in the education and training system are used. At the time the interviews took place, there was no

systematic graduate tracer survey which would identify this. In early 2019, the Slovak authorities committed to designing graduate tracking, to be able to see better how skills attained in the education system are used or what tasks they are linked to. In the meantime, the Footprint of graduates portal (Stopa absolventov) which links administrative data for secondary school graduates, has been launched. Slovakia will also participate in Eurograduate, which will make it possible to compare Slovakia with other participating EU countries⁽²²⁾. The recently launched portal by Trexima (www.trendyprace.sk) presents key information on different fields of study based on linked administrative data. While these initiatives expand information about graduate employability, it appears stakeholders are insufficiently aware of the efforts. Sustained support and broader dissemination is important to raise awareness of skills intelligence beyond the inner circle of stakeholders and include the general public, teachers and education counsellors.

Systematically mapping employer skill needs

A representative survey mapping the changing tasks and skill needs of employers could be useful to overcome knowledge gaps on skill needs at regional and sectoral levels; experience from elsewhere could inform its design (Box 10). While employer associations seem to have representatives in various bodies in the current governance arrangement, the influence of different sectors varies significantly: more vocal ones (such as the automotive industry) have been more successful at gaining support and modifying policy outcomes, while less vocal or less organised ones play a much smaller role. A regular and representative survey of employer skill needs would overcome this problem and provide a more representative and objective perspective. Even though skill forecasts already map employers' expectations to some extent, these data remain at an aggregate level, are not publicly available for further use and validation, and various stakeholders appear unaware of them.

⁽²²⁾ Eurograduate is an initiative that seeks to study students' experiences comparatively and the impact on their professional lives. It is currently in the process of conducting a one-off pilot study in eight countries, as the basis for a sustainable European-wide graduate survey (www.eurograduate.eu/).

Box 10. Mapping employer skill needs: examples

The study of human capital (BKL) in Poland, a multiannual research project, has been analysing how skill needs have been changing since 2009. There is a focus on transversal skills, which are key assets in adapting to new situations. BKL is coordinated by the Polish Agency for Enterprise Development; the education, labour, and regional development ministries, social partners, industry and scientific experts and regional self-governments are involved. Contributing to better understanding of skills demand and supply, the work supports the development of public policies and corporate HR management. Research in 2017-22 is based on surveys among employers, employees and citizens and includes a focus on the IT, tourism and finance sectors. Employer surveys are the basis for publications and research on the labour market, skills and competences in SMEs. Results are broadly disseminated online and via regional and national events and are regularly used for policy.

Employer surveys were introduced in Bulgaria in early 2018 after a 2016 amendment in the Employment Promotion Act, which requires that employment committees at the district development councils conduct semi-annual employer skill needs surveys. They aim at providing the Ministry of Labour and Social Policy with more information on short and medium-term skill needs in different types of enterprise (micro, small, medium-sized and large), locations and economic sectors. While stakeholders interviewed as part of Cedefop's skills governance review view the surveys held in 2018 and 2019 as good attempts, many of them point out there is a need to align the questionnaire better to respondent needs and avoid technical terms employers cannot easily respond to, with a view to increasing response. It was also suggested an online platform could help employers more easily and directly communicate their skill needs.

Skills play a key role in the fourth European Company Survey (ECS) carried out jointly by Eurofound and Cedefop. The survey among more than 25 000 enterprises across all EU Member States collects data on workplace practices with regard to work organisation, human resource management, skills use, skills strategies, digitalisation, direct employee participation and social dialogue. It will allow for the identification of those bundles of workplace practices that work particularly well in creating win-win outcomes: situations where workers are facilitated and motivated to use their skills to the full, share their knowledge and insights with colleagues and management, and identify opportunities to improve both themselves and the work process as a whole, allowing establishments to thrive. Results will become available in 2020 and 2021.

Source: Cedefop matching skills database, Cedefop skills governance review in Bulgaria.

4.3. Sustainability of skills governance

4.3.1. Stability of funding

Skills governance in Slovakia is jointly financed by European funds (mainly the ESF) and national funds. With different parts of the system falling under the responsibility of various ministries and institutions, mainly funded from resources allocated to them, there is no dedicated budget line attributed to skill governance. While funding information on individual projects is available, there is neither information on budget spent on skills governance nor estimates thereof (Cedefop, 2017). Coordination of funding between different programmes or projects (from ESF grants and national budgets) is seen as relatively weak.

Several – primarily ESF-funded – initiatives implemented in recent years to increase employment and reduce labour market mismatch have relied heavily on LMSI. Without an overarching strategy, such project-based support reduces the incentives to organise funding more structurally. Some of these initiatives aimed at directly developing LMSI; examples include the development of the labour market information portal, data collection underpinning the skill forecasts and the overarching forecasting exercise. However, it is not always mandatory in supported projects to publish detailed results and data, which hampers the further use of data and their validation. This raises issues about the organisational and financial sustainability of the system.

Establishing stable funding

Stakeholders recognise the importance of ensuring skills governance activities are sustainable, taking steps towards more stable and long-term funding. This is linked to the suggestion to designate a single coordination body, which could be made responsible for overseeing how the budget allocated to skills governance is spent. Stable long-term funding, a clearer division of responsibilities and transparency and accountability could help encourage other actors and stakeholders to invest and become involved and could contribute to improving information flows between institutions and actors.

4.3.2. Ensuring responsiveness to information needs at different levels

Respondents representing regions are positive about cooperation on skills governance at regional level, particularly because of the work of the association of self-governing regions. However, it is evident that in the context of the work on regulating secondary education enrolment, the regions have

more tools and capacity to work with education providers and their directors than with employers. Because of the legal requirement to regulate fields of study in line with labour market needs and trends, the involvement of the latter is just as crucial.

In line with legislation, all regional authorities cooperate with regional VET councils. Some regions expanded membership of the councils to external stakeholders to broaden their expertise and large employers are typically invited to the table as well. Some members from the National VET Council are mandated to participate in regional councils, which supports information flows between regional and national levels. Regional platforms set up by ŠIOV in the context of the dual education project and planning of enrolment numbers are sometimes seen as not well linked to the regions' education departments; some regions claimed that there is not a sufficient flow of information. To overcome this, one region plans to merge the regional platform and the regional VET council.

Apart from concerns about the reliability of regional skills forecasts (see above) regions also questioned the validity and usability of the national lists of study fields in under/oversupply that were to guide their decisions (Box 7). They often perceived labour market needs in their regions to be different from those presented in the lists and were reluctant to use them in their decision-making process. They frequently adopted alternative approaches to collecting skill needs information, such as directly engaging with school directors and some employers, but also other actors. A national employer skill survey could provide additional insight into skill needs in a more structured and reliable manner.

Supporting information needs

The key issue is to provide relevant information nationwide, to inform the work of the government and to support VET providers. Shaping data collection, methods, analyses and collaboration arrangements in ways that balance national and regional needs should also ease the work of regional structures as key skills intelligence users, as it drives the development of skills intelligence that has the potential to support better decisions on the allocation of places to fields of study.

4.4. Conclusions: moving towards a skills governance system

Members of the National Steering Committee, as well as respondents interviewed in course of the Cedefop review, acknowledge the importance of continuous development of skills governance. A long-term vision for skills governance could ensure continuity in the development of the institutional framework and help build the capacity to develop and use new and innovative skills anticipation methods and tools as input for shaping policies in the medium-term (5 to 10 years). Respondents indicated that the lack of vision has been the main barrier to developing more systematic skill governance arrangements in Slovakia. The notion that the skills governance agenda needs greater political support was widely shared among stakeholders. Doing more to tap the contribution of strategically focused institutions (such as the Ministry of Economy) was also considered useful in developing a more strategic approach.

The assessment of the foundations of skills governance arrangements has shown the potential for improvements aimed at reducing fragmentation of the institutions involved and strengthening the links between data collection (often limited to a national focus) and decision-making (largely the responsibility of regional authorities). Policies aimed at making progress in these two areas should be complemented by efforts to try to address the lack of labour market expertise and limited representation in some sectors. This would enable social partners in various councils and institutions to analyse more systematically and comprehensively how tasks and jobs in their sectors change, strengthening their contribution to skills governance. Against the background of a relatively strong influence of larger employers in recent years, stakeholders see a need for more balanced and systematic engagement of different types of employers in skills governance. Efforts should capitalise on the willingness of a wide range of stakeholders to become active partners in skill governance processes and focus on developing consensus on how to best organise this.

However, whereas many respondents value existing opportunities to be involved in skill anticipation activities, they also criticise the way the processes are shaped in practice. Criticism was made of overlapping mandates, the representativeness of (sub)groups in various bodies, and the timeliness and completeness of information flows. Most regional stakeholders, and also some national ones, often mentioned in this context frequent legislative

changes as another complicating factor. More effective regulation (a focus on flexibility and quality) should combine improved policy processes, policy evaluations, and a more balanced and structural involvement of relevant stakeholders (such as those in the regions).

Cedefop's review also analysed skills governance processes and suggestions to improve them. Stakeholders agree that there is ample room for improving the links between existing tools and improved cooperation between stakeholders. At regional level, cooperation processes appear to be functioning quite well. Several stakeholders mentioned interregional cooperation, cooperation between regions and VET providers, and between regions and large employers. At national level, there is significant scope to strengthen cooperation between employers and VET providers, and between SMEs and all other stakeholders. Better cooperation can be a catalyst for spreading knowledge about the tools in place and activities among main stakeholders. Skills governance processes should also be better linked to key challenges in VET, which range from the funding mechanisms that cause high levels of competition between providers to the quality of the programmes they offer. It was suggested that the introduction and further development of skills anticipation methods, such as tracer studies and employer skill needs surveys, can inform skills governance. Such steps would not only strengthen the quality of LMSI, but also have the potential to broaden the group of possible beneficiaries to include the general population, teachers and education and career counsellors.

Limited stability of funding and the high reliance on EU funding sources are factors negatively impacting the sustainability of skill governance. Stakeholders indicated that a dedicated long-term budget would help in structuring continuing skill governance arrangements and help increase the sustainability of current efforts. Integrating stakeholder needs is another driver of sustainable skills governance. Given that self-governing regions rely on LMSI to fulfil their legal mandate to regulate access to fields of study in secondary education in their jurisdiction, key points of attention in further shaping skills governance in the coming years include ensuring the relevance and usability of data, investing in expertise, and the sustainability of cooperation and coordination processes, nationally and regionally.

Abbreviations/Acronyms

AI	artificial intelligence
BKL	study on human capital
Cedefop	European Centre for the Development of Vocational Training
ESI	European skills index
ESJS	European skills and jobs survey
EU	European Union
GDP	gross domestic product
ISP	Inštitút sociálnej politiky [Institute of Social Policy]
IVP	Inštitút vzdelávacej politiky [Institute of Educational Policy]
LFS	labour force survey
MPSVR	Ministerstvo práce, sociálnych vecí a rodiny [Ministry of Labour, Social Affairs and Family]
LMSI	labour market and skills intelligence
MŠVVaŠ	Ministerstvo školstva, vedy, výskumu a športu [Ministry of Education, Science, Research and Sports]
NEET	not in employment or formal education and training
NSC	National steering committee
NSK	Národná sústava kvalifikácií [National Qualifications Framework]
NSP	Národná sústava povolání [National System of Occupations]
OECD	Organisation for Economic Cooperation and Development
OSKA	System of labour market monitoring and future skills forecasting
PES	public employment service
ROA	Research Centre for Education and the Labour Market
ŠIOV	Štátny inštitút odborného vzdelávania [State Institute of Vocational Education]
SRI [SDI]	Sekretovo riadené inovácie [Sectorally Directed Innovations]
SMEs	small and medium-sized enterprises
VEU	Voksen- og Efteruddannelsescentre [Danish adult education and continuing training centres]
VET	vocational education and training

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Trexima. www.trexima.sk

Trexima new portal on labour market information. www.trendyprace.sk

ANNEX 1.

Members of the National Steering Committee

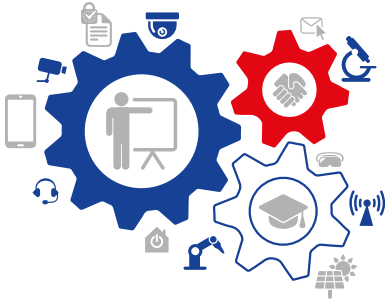
Organisation	Member
Ministry of Education, Science, Research and Sport – Regional schooling	Karol Jakubík
Ministry of Education, Science, Research and Sport – Regional schooling	Alexander Ludva
Ministry of Education, Science, Research and Sport – Education policies	Dávid Mertiňák
State Institute for Vocational Education	Juraj Vantuch
State Institute for Vocational Education	Martin Vančo
Ministry of Economy	Slavomír Sivčo
Public employment services	Petra Vrbová
Council of employers	Milan Kuzma
Entrepreneurs chamber	Denisa Kičová
National Union of Employers	Martin Hošťák
Automotive Industry Association	Branislav Hadár
Ministry of Labour, Social Affairs and Family	Ľubica Růžičková

ANNEX 2.

Glossary

Term	Definition
Apprenticeship	Systematic, long-term training alternating periods at the workplace and in an education institution or training centre. The apprentice is contractually linked to the employer who assumes responsibility for providing training leading to a specific occupation.
Cedefop skills forecasts	Econometrically derived projections of future employment by occupation and qualification as well as the supply by qualification for each EU Member State.
European skills and jobs survey	Cedefop's first EU survey of skill mismatch identifying the extent to which adult workers' skills are matched to jobs and if they face skills obsolescence due to technological or organisational changes.
European skills index	Cedefop's composite indicator measuring the performance of EU skills systems.
NEET	Measure of persons not in employment, education or training.
PISA	OECD Programme for international student assessment. Every three years it tests 15-year-old students from all over the world in reading, mathematics and science including all EU countries.
Roadmap	Plan that identifies the outcomes to be achieved over the short- to medium-term with the major steps or milestones needed to reach it. The CBE is a key input into the roadmap.
Skills anticipation	Process of identifying changing or emerging skill needs and the extent to which skills supply is likely to meet future skills demand and the reasons underlying any skill mismatch.
Skills governance	Process through which skills anticipation is implemented, with reference to the key institutions and stakeholders which have responsibility for overseeing and carrying out skills anticipation exercises as well as using their outcomes and associated operational processes. In some countries, skills governance is regulated by law.
Skill mismatch	Gap between the skills demanded by the labour market and those held by individual workers. It can manifest as skill shortages and/or skill surpluses.
Skills obsolescence	Situation in which the knowledge and (formal, non-formal and informal) skills of individuals are out of date or out of use due to changing technologies and work organisation (economic), ageing/wear-and-tear (technical) or outdated labour market perspectives (perspectivistic).

Term	Definition
Skills shortage	Situation where skills supply (quantitative and qualitative) is not sufficient to meet labour market demand, taking into account the vacancy wage offer, working conditions, accessibility of location as well as job seekers' reference wage.
Stakeholders	Key individuals, organisations and institutions that have responsibility for the design and implementation of skills anticipation activities and the development of appropriate skills matching initiatives.
Vocational education and training	Education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly on the labour market.



STRENGTHENING SKILLS ANTICIPATION AND MATCHING IN SLOVAKIA

Skills intelligence support
to policy-makers and learners

Ensuring that EU countries develop robust skills anticipation to inform responsive VET systems is a key aim of the Skills agenda for Europe. But, to have impact, skills intelligence requires good skills governance, feeding into VET and employment policies with wide outreach to diverse potential users.

In 2015 Cedefop initiated a country support scheme to assist the EU strategy of improving skills governance in Member States. Cedefop has recently concluded four skills governance country reviews in Bulgaria, Estonia, Greece and Slovakia, following pilots in Iceland and Malta. This report summarises the key insights and lessons from the review of skills governance in Slovakia. Using input from a wide stakeholder consultation and an online opinion survey among employers and VET providers, it analyses current challenges and bottlenecks, with a view to uncovering the root causes of key skills governance issues. Thoughts on possible progress and examples from other countries aim to inspire policy-makers in shaping ideas for further work.



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