Skills System International Case Studies

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Report prepared

By

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City-REDI

Based at the University of Birmingham, City-REDI is a research institute focused on developing a robust understanding of major city regions across the globe. City-REDI's aim is to develop practical insights, which better inform and influence regional and national economic growth policies.

Table of Contents

Executive Summary

This paper presents five country case studies - Canada, France, Japan, the Netherlands and Sweden - to identify the key features and challenges of different international skills systems. Information is also provided on the German skills system (Annex 4) following a study visit. With the exception of Japan, each of the countries profiled has higher levels of productivity than the UK. The report has been designed to identify successful aspects of the different systems and provide policy learning relevant to the United Kingdom.

The **skills systems profiled differ from the UK in a number of key aspects**. Firstly, **they have experienced less flux in their skills system**. Secondly, **almost all have stronger employment legislation** than the UK. Thirdly, **many of the countries' skills systems involve a greater role for social partners** (employer representative and employee representative organisations) than exists in the UK.

Key strengths of the skills systems profiled relate to flexibility of provision, the role of social partners and business engagement with training, and the value placed on Vocational Education and Training (VET) within society.

Flexibility is important for both successfully aligning learning systems with changing skills needs in terms of the future state of the economy and employer demand, as well as providing training that is attractive to individuals. **The Netherlands has an extremely flexible VET system** and combines high employment protection legislation, high company investment in training and employee development, with high lifelong learning rates. **France has promoted uptake of lifelong learning through personal training accounts**.

Several countries, including **France and The Netherlands, provide examples of flexible opportunities for social mobility for those with low skills levels.** The holistic approach, which combines work experience, education and training, and housing and coaching, has been shown to be important in engaging and motivating disadvantaged young people with low skills levels to participate in training.

France, the Netherlands, Japan, and Sweden have introduced initiatives to promote uptake of lifelong learning and closer collaboration between business and education. These include: personal training accounts, increased opportunities for school staff to work with business, improved training for trainers and mentors, and the establishment of technical colleges. The **key role that industry can play in VET is shown in Sweden** where industry has recently sought to improve the supply and quality of industry and technology-orientated education programmes through establishing a technical college scheme.

Germany demonstrates the importance of society valuing VET training. 50% of school leavers still pursue VET, although the proportion has declined in recent years as the popularity of university degrees has risen. The latter receive on-the-job training from qualified instructors, leading up to a recognised vocational certificate, while also receiving apprenticeship pay.

In Canada industry plays a considerable role in developing the national standard for each trade, whilst in Germany employers influence the content and organisation of VET and donate to vocational schools. Work-based learning has improved considerably in Sweden over recent years thanks to stricter requirements for work placements in vocational programmes and the expansion of the role of social partners. **A strong evaluation and data culture is a key strength of the Swedish VET system**.

Whilst each country profiled has introduced new policies over recent years, none of the changes have been as wide-ranging or frequent as policy changes that have occurred in the UK. **Policy stability has been shown to be a particularly important factor behind the success of the *Second Chance* training schools in France and the *Invest in Talent* programme in the Netherlands**.

Introduction

Human capital is a crucial determinant of productivity, and skills policy is a key lever for influencing it. This report examines the factors underpinning the success of different skills systems internationally. It presents **five country case studies** - Canada, France, Japan, the Netherlands and Sweden - to identify the key features and challenges of different international skills systems. Information is also provided on the German skills system following a study visit.

The aim of each case study is to **identify key aspects of different international skills systems and analyse their merits in order to generate policy learning** relevant to the UK. The case studies **focus on post-compulsory education** (further education, higher education, adult education, and apprenticeships), but draw out where there are important lessons for compulsory education.

Structure of Report

Each international case study begins with a contextual introduction to the country being profiled. It includes subsections on administration, population, economy, welfare model and a summary of labour market trends and labour market flexibility. This is followed by key features of the skills system, key skills challenges, and notable policy initiatives. For readers who are familiar with the country context and want to move straight to the sections on skills and training systems, the same format is followed throughout.

Each case study presents metrics comparing the performance of the country's skills system to that of the UK. The metrics used enable comparison across the countries in terms of choice, extent of employer involvement, flexibility, inclusivity, and uptake across the lifetime.

In addition to the five country case studies covered, Annex 4 provides information on the German VET system following a fact-finding trip conducted by the Industrial Strategy Council in September 2019.

Choice of Countries

Fifteen countries were considered for inclusion in this report: Austria, Canada, Denmark, France, Germany, Japan, the Netherlands, the Republic of Korea, Serbia, Slovakia, Singapore, Slovenia, Switzerland, Sweden and the United States.

Analysis of measures of performance from Cedefop[1], the European Commission, the OECD, the World Economic Forum and the European Commission informed the final choice

[1] CEDEFOP is the European Centre for the Development of Vocational Training.

of countries. **The countries selected provide contrasts, whilst also operating in a context sufficiently similar to the UK to provide insightful learning.**

Literature Review

Higher levels of educational attainment and skills directly increase productivity through expanding an individual's economic capabilities, in turn permitting them to accomplish more difficult tasks and to tackle more complex problems.[2] "Workforce skills – at all levels, and whether associated with formal qualifications or uncertified - are crucial for firms' ability to put innovative ideas into practice and to increase productivity".[3] Skill gaps can contribute to a negative impact on productivity owing to lower output per worker, and can increase average labour costs.[4] Indeed, according to the What Work's Centre for Local Economic Growth, higher skill levels among London's workforce explain approximately two-thirds of the productivity gap that exists between the capital and the rest of the country.[5] Econometric approaches have been used to quantify the broader returns to education beyond the direct effects on the productivity of individual employees. A review of UK skills and productivity in an international context by the Department for Business, Innovation and Skills (2015) found that high-level and upper-intermediate skills "*have complementary functions in enhancing productivity*".[6]

Changes in the age structure of the population and global technological advances create challenges and opportunities in certain jobs and occupations.[7] This further emphasises the need for skills policy to be effective in providing workers with the skills needed for the current and future workplace. Several recent studies have identified challenges within the UK skills system.

Green and Hogarth (2016) examined the extent to which public policy and employer views of training provision are aligned, arguing that "*the major tension in the system in the UK is being able to shift to a demand led system that is able to generate a relatively high level of demand for skills from employers*".[8] Additional concerns over the UK adult skills system raised by IPPR include: low employer investment in training, provision being low quality with poor outcomes and a failure of the training system to address regional and social inequalities.[9]

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[2] Azanar, A., Forth, J., Mason, G., O'Mahony, M. and Bernini, M. (2015). *UK skills and productivity in an international context*.

[3] Green, A. (2018). *Skills*. University of Birmingham/ West Midlands Combined Authority.

[4] McGuinness, S., Pouliakas, K. and Redmond, P. (2018). 'Skills Mismatch: Concepts, Measurement and Policy Approaches'. *Journal of Economic Surveys,* 32, 985—1015, p.986.

[5] Financial Times. (14 September 2017). "Low skills and poor infrastructure blamed for UK productivity gap".

[6] Department for Business, Innovation and Skills. (2015). Op cit. p.9.

[7] Government Office for Science. (2017). *Future of Skills & Lifelong Learning*. Foresight.

[8] Green, A. and Hogarth, T. (2016). *The UK skills system: how aligned are public policy and employer views of training provision*. Future of Skills and Lifelong Learning Evidence Review. Foresight, Government Office for Science.

[9] Dromey, J. and McNeil, C. (2017). *Skills 2030 Why The Adult Skills System Is Failing To Build An Economy That Works For Everyone*. IPPR.

Industrial Strategy Council: Skills System International Case Studies

The case studies are therefore designed to provide insight into the extent of choice, employer involvement, flexibility, inclusivity, and uptake across the lifetime in international skills systems relative to the UK. Taking an international approach also builds on existing research that has emphasised the importance of learning from overseas to improve skills systems in the UK. Research published by the RSA in 2019, based on analysis of skills systems in Switzerland, Russia, China, Singapore, identified key success factors' which could help UK policy makers and practitioners. These include the benefits of stakeholder-led, locally rooted governance, the mutually reinforcing relationship between high quality Technical and Vocational Education systems (TVET) and systems which accord TVET high status, and the importance of developing an environment which supports innovative policy experiments.[10]

Methodology

The five case studies included in this report have been prepared using performance metrics and policy reviews produced by international bodies (such as Cedefop, the European Commission, the OECD and the World Economic Forum) as well as national governments, the third sector and academics.

The following section explains the key metrics used within each case study to compare performance of the country's skills system to the UK system. It also includes a table summarising how the UK performs in relation to the metrics.

Metrics

A series of metrics provide an indication of both the labour market context and the skills context in each country.

Skills development is measured using data relating to government education spending, the percentage of adults in each country with low scores in literacy and numeracy, the percentage of individuals aged 16 to 74 years with basic digital skills, and advanced skills and development, the strength of skills among young tertiary educated adults, the strength of foundational skills, and the performance of the Vocational Education and Training in each country. In terms of flexibility of the skills system, the case studies contrast the extent of flexibility of adult learning opportunities and the extent to which guidance is readily available in each country. In terms of skills utilisation, the profiles consider the degree of successful utilisation of skills, and the extent to which skills are effectively matched in the labour market.

Performance of the UK in relation to key metrics

The following table summarises the performance of the UK in the key metrics used in each of the case studies. The metrics used are explained in detail in the methodology section following the table.

[10] Shafique, A. and Dent, A. (2019). *Adapting global skills innovation for the UK*. RSA.

Figure 1: Key performance metrics in the UK

Theme	Metric	Performance
Population	*Population (2018)*[11]	66,000,000
	Elderly population as a proportion of total population (2018)[12]	18.3%
	Fertility rate (2017)[13]	1.7 children per woman
	Death rate (2018, per 1,000 people)[14]	9
	Net migration (2017)[15]	1,303,250
Economy	*GDP per person employed (constant 2011 PPP $) (2019)*[16]	82,217
	Average annual growth in labour productivity 2013-2018[17]	0.76%
Welfare	*Public spending as a percentage of GDP (2018)*[18]	20.6%
	Public expenditure on tertiary education per full-time equivalent student (2016, USD Purchasing Power Parity)[19]	$23,771
	Expenditure on Initial Vocational Education and Training as a percentage of GDP (2014)[20]	0.45%
Employment	*Employment rate (2019)*[21]	75.17%
	Unemployment rate (2018)[22]	4.0%
	Average wage (2018)[23]	44,770 US$
	Hourly Minimum wage (2018)[24]	9.6 US$
	Trade union density (2018)[25]	23.4%

[11] OECD. (2020a). *Population*.
[12] OECD. (2020b). *Elderly population*.
[13] OECD. (2020c). *Fertility rates*.
[14] World Bank. (2019d). *Death rate, crude (per 1,000 people)*.
[15] World Bank. (2019e). *Net Migration*.
[16] World Bank. (2019b). *GDP per person employed (constant 2011 PPP $)*. Data relates to 2018.
[17] World Bank. (2019b). Op cit.
[18] OECD. (2019a). *Social Expenditure Database*.
[19] OECD. (2019d). *Educational Finance Indicators*.
[20] Cedefop. (2018a). *How big is the investment in IVET?*
[21] OECD. (2019e). *Employment rate*.
[22] OECD. (2019w). *Unemployment rate*.
[23] OECD. (2019l). *Average wages*.
[24] OECD. (2019n). *Real minimum wages*. Real hourly minimum statutory wages are provided using data from the OECD. The resulting estimates are deflated by national Consumer Price Indices (CPI). The data are then converted into a common currency unit using US $ Purchasing Power Parities (PPPs) for private consumption expenditures. Real hourly minimum wages are calculated first by deflating the series using the consumer price index taking 2017 as the base year.
[25] OECD. (2019y). *Trade Union*.

Industrial Strategy Council: Skills System International Case Studies

Theme	Metric	Performance
	Percentage of firms with between 0 and 250 employees[26] *Of which:* - *Percentage of firms between 0 and 9 employees* - *Percentage of firms with between 10 and 49 employees* *Percentage of firms with between 50 and 249 employees*	99.9% 96% 4% 1%
	Percentage of firms with 249 or more employees	0%
Skills, Training and Vocational Education	Survey of Adult Skills[27]: - *Percentage of adults scoring low (at or below level 1) in literacy* - *Percentage of adults scoring low (at or below level 1) in numeracy*	 16.4% 24.1%
	OECD Skills Strategy Dashboard[28]: - *How strong are foundational skills of adults?* - *How skilled are young tertiary educated adults?* - *Is there a strong culture of adult education?*	 Around average Bottom 20-40% Top 20-40%
	OECD Priorities for Adult Learning Dashboard[29] - Urgency: extent of urgency of updating adult learning system - Coverage: extent people and firms are engaged in learning - Inclusiveness: inclusiveness of adult learning opportunities - Flexibility and Guidance: extent of flexibility of adult learning opportunities and extent guidance is readily available - Alignment: extent adult learning is aligned with labour market needs - Perceived Impact: perceived impact of adult learning	 0.3 0.5 0.5 0.5 0.7 0.6

[26] Rhodes, C. (2018). *Business statistics*. Briefing Paper. Number 06152.
[27] OECD. (2019f). *Survey of Adult Skills (PIAAC 2015): Full selection of indicators. Education GPS*.
[28] OECD. (2019h). *OECD Skills Strategy 2019. Canada*. Data for UK refers to England.
[29] OECD. (2019j). *Dashboard for priorities on adult learning*. 0=lowest coverage, 1 = highest.

Theme	Metric	Performance
	- Financing: adequacy of adult learning system financing	0.4

Industrial Strategy Council: Skills System International Case Studies

1. Canada

	Canada	*UK*
***Population** (2018)*	37,000,000	66,000,000
***GDP per person employed** (2019) (constant 2011 PPP $)*	87,936	82,217
Average annual growth in labour productivity 2013-2018	1.09%	0.76%

Summary

Canada is included in this report as an example of a country from North America, with similarities to the UK's welfare system. It also ranks high on labour market efficiency. It has similar employment rates and minimum wage levels to the UK. **Strengths of the Canadian system are the extent of employer involvement and the wide range of professional skills training available.** Canada scores highly on the OECD dashboard for alignment between adult learning and labour market needs. It has recently introduced a large-scale programme to address current and future skills needs, helping industries identify, forecast, and address their human resource and skills issues. **It offers insight for the UK in terms of developing sector-specific labour market intelligence, national occupational standards, and skills certification and accreditation systems**.

Canada has a smaller population, a lower fertility rate and lower death rate than the UK. It has higher levels of productivity than the UK but faces similar issues in terms of an ageing population and a business base dominated by SMEs.

Administration Local government legislation is overseen by provincial and territorial ministers with local government responsibilities.[30]

Population The population of Canada is just over half the size of the UK's. Since 1978, the fertility rate in Canada has been consistently lower than in the UK. Canada has a lower elderly population as a proportion of total population than the UK at 17.2% compared to 18.3% in the UK.[31]

Similar to in the UK, the population of Canada is also ageing. The number of people aged 65 and over is forecast to nearly double between 2018 and 2038.[32]

Net migration was 1,210,159 in 2017.[33] International migration has accounted for most of the population growth in Canada since the mid-1990s.[34]

[30] Commonwealth Local Government Forum. (2018). *Canada Country Profile*.
[31] OECD. (2020b). Op cit.
[32] Statistics Canada. (2019b). *Canada's population estimates: Age and sex, July 1, 2018*.
[33] World Bank. (2019e). Op cit.
[34] Statistics Canada. (2018). *Annual Demographic Estimates: Canada, Provinces and Territories, 2018 (Total Population only)*.

Economy Whereas the UK is the world's fifth ranked economic power, Canada is ranked tenth.[35] Canada experienced a milder recession and quicker recovery from the global financial crisis than most OECD countries.[36] Productivity has remained higher in Canada than the UK since the mid-1990s, with the odd exception during the period 2006-2010, and the gap has recently widened.[37] Output per worker in constant price $ PPP figures has remained at least 5% higher in Canada each year since 2013.[38] The OECD contends Canada faces longer-term challenges associated with an ageing population, and weak productivity growth.[39] Over 97% of companies in Canada are small.[40]

Welfare model Canada has a North American style free market economy but in some ways, its' economy is regulated more strongly than the US - similar to some European economies. Esping-Andersen included both Canada and the UK as examples of "*liberal*" welfare states in his typology.[41] Such welfare states are characterised by the prevalence of means-tested assistance and modest social insurance schemes. Public spending as a proportion of GDP is lower than in the UK, at 17.3% compared to 20.6% in the UK.[42] However, Government spending on tertiary education as a percentage of total government expenditure on education is higher in Canada, at 36% compared to 24% in the UK.[43]

Labour market trends Unemployment fell in Canada and the UK between 2008 and 2019 but remains higher in Canada.[44] Employment rates are similar in both countries. The OECD Indicators on Employment Protection Legislation show the labour market in Canada is less strongly regulated than the UK labour market in all aspects apart from collective dismissal. Canada's scores were unchanged between the 2008 and 2013.[45]

[35] World Bank. (2019a). *GDP (current US$)*.

[36] OECD. (2014a). *Employment and Skills Strategies in Canada*.

[37] World Bank. (2019b). Op cit. Productivity is measured in terms of GDP per person employed.

[38] Figures relate to 2018. France: 95846.1016, United Kingdom: 61666.3516. Source: World Bank. (2019b). Op cit.

[39] OECD. (2018a). *OECD Economic Surveys. Canada*.

[40] Government of Canada. (2019a). *Key Small Business Statistics – January 2019*.

[41] Bambra, C. (2007). Going beyond The three worlds of welfare capitalism: regime theory and public health research. *Journal of Epidemiology and Community Health* 61(12), pp.1098-1102.

[42] OECD. (2019d).

[43] OECD. (2019d). Op cit.

[44] OECD. (2019w). Op cit.

[45] OECD. (2015a). *OECD Indicators of Employment Protection*.

Industrial Strategy Council: Skills System International Case Studies

Figure 2: Labour Market Context	Canada	UK
OECD Indicators on Employment Protection Legislation (2013)[46]		
- Protection of permanent workers against individual and collective dismissals	1.51	1.59
- Protection of permanent workers against (individual) dismissal	0.92	1.18
- Specific requirements for collective dismissal	2.97	2.63
- Regulation on temporary forms of employment	0.21	0.54
Labor Market Efficiency World Economic Forum Rank (2017-2018)[47]	7/137	6/137
Hourly Minimum wage: PPS (2018)[48]	$9.5	$9.6
Unemployment Rate (2014)[49]	6.91%	6.11%
Unemployment Rate (2018) [50]	5.8%	4.0%
Employment Rate (2019)[51]	74.4%	75.2%
Unionisation: trade union density rate (2013)[52]	25.9%	23.4%

Labour market flexibility The World Economic Forum ranked Canada 7th out of 137 countries for this measure in 2013 and 2017.[53] Under a different categorisation system, Canada was ranked 19th for labour market efficiency in 2019.[54] Average job tenure in 2019 was 8.5 years.[55] The minimum wage in Canada is very similar to that in the UK.[56] Trade union density is slightly higher in Canada than in the UK.[57]

Skills and Training Performance

Canada performs similarly in terms of staff training to the UK. The World Economic Forum ranked Canada 22nd and the UK 29th for the extent to which companies invest in training and employee development.[58] The percentage of adults participating in training in Canada and the UK is the same (49%) but the UK has a slightly higher rate of training among low-skilled adults than Canada.[59]

[46] OECD. (2015a). *OECD Indicators of Employment Protection*. According to a scale of 0 (least restrictions) to 6 (most restrictions). OECD. (2015a). Canadian data refers to 2013, UK data to 2014.
[47] World Economic Forum (2017). Op cit.
[48] OECD. (2019n). Op cit.
[49] OECD. (2019w). Op cit.
[50] OECD. (2019w). Op cit.
[51] OECD. (2019e). Op cit.
[52] OECD. (2019y). Op cit.
[53] World Economic Forum. (2014). *The Global Competitiveness Report 2013–2014*; World Economic Forum. (2017). *The Global Competitiveness Report 2017-2018*.
[54] World Economic Forum. (2019). *The Global Competitiveness Report 2019*.
[55] Statistics Canada. (2019c). *Job tenure by industry, annual*.
[56] OECD. (2019n). Op cit.
[57] Data relates to 2013. Source: OECD. (2019y). Op cit.
[58] World Economic Forum. (2019). Op cit.
[59] OECD. (2019v). *Adult participation in training, by skill level*.

Skills Indicators

As shown in Figure 3, Canada has a higher proportion of adults with low basic skills than the UK. However, it has a lower proportion of adults whose highest level of education is below upper secondary level and a higher proportion of tertiary graduates.

Figure 3: Educational Attainment	*Canada*	*UK*
Survey of Adult Skills (PIAAC 2015)[60]:		
- Percentage of adults scoring low (at or below level 1) in literacy	16.4%	16.4%
- Percentage of adults scoring low (at or below level 1) in numeracy	22.4%	24.1%
OECD Adult Education Level (highest level of education completed by the 25-64 year-old population, 2017)[61]		
- Below upper secondary	8.9%	18.8%
- Upper secondary	34.4%	35.4%
- Tertiary	56.7%	45.7%
OECD Skills Strategy Dashboard[62]:		
- How strong are foundational skills of adults?	Top 20-40%	Around average
- How skilled are young tertiary educated adults?	Bottom 20-40%	Bottom 20-40%
- Is there a strong culture of adult education?	Top 20%	Top 20-40%

The OECD Skills Strategy Dashboard demonstrates that overall skills proficiency in Canada is quite high compared to the UK. It ranks in the top 20% of OECD countries for five of ten indicators[63], scoring particularly highly for the inclusiveness of tertiary education and the strength of the culture of adult education. Teachers in Canada are well-prepared for changes in digital skills - over 50% are top performers in problem solving in a technology-rich environment and use ICTs with the same intensity as other highly-skilled workers.[64] The country scores poorly though for the extent young educated adults are skilled.

The OECD states that to perform well in high-tech manufacturing industries, workers require strong skills in problem solving in technology-rich environments, and strong numeracy and literacy skills. Canada is one of the top-performing countries identified by the OECD in terms of these skills. [65]

[60] OECD. (2019f). Op cit.
[61] OECD. (2019g). *Adult education level (indicator)*.
[62] OECD. (2019h). Op cit.
[63] The UK is scored in the top 20% for one of ten indicators. OECD. (2019h). Op cit.
[64] OECD. (2019i). *OECD Skills Outlook 2019. Thriving in a digital world. How does Canada compare?*
[65] OECD. (2017a). *OECD Skills Outlook 2017: Skills and Global Value Chains*.

Industrial Strategy Council: Skills System International Case Studies

Canada performs well for the extent to which information-processing skills are used at work. The country is ranked in eighth position for this measure two places below England.[66]

Key features of Vocational Education and Training system

Overview

Figure 4: Adult Learning	*Canada*	*UK*
OECD Priorities for Adult Learning Dashboard[67]		
Urgency: extent of urgency of updating adult learning system	0.3	0.3
Coverage: extent people and firms are engaged in learning	0.7	0.5
Inclusiveness: inclusiveness of adult learning opportunities	0.5	0.5
Flexibility and Guidance: extent of flexibility of adult learning opportunities and extent guidance is readily available	0.4	0.5
Alignment: extent adult learning is aligned with labour market needs	0.7	0.7
Perceived Impact: perceived impact of adult learning	0.5	0.6
Financing: adequacy of adult learning system financing	0.6	0.4

Countries' performance is ranked on a scale of 0 (lowest coverage) to 1 (highest coverage).

- The OECD Priorities for Adult Learning Dashboard indicates the Canadian adult learning system is performing well in terms of the extent to which it engages people and firms, is aligned to labour market needs and the adequacy of funding. Updating the adult learning system, improving the flexibility of adult learning opportunities and the extent to which guidance is available are emphasised as future policy priorities.

College Programmes

- Across most of Canada, VET is made up of two main strands – apprenticeships and college programmes. The general comprehensive high school system only offers relatively limited options for vocational education.[68]
- Private career colleges also operate within the post-secondary VET system. They do not receive public funding. Instead, their primary source of revenue is tuition fees – the costs of which are higher than in public sector colleges.[69]

[66] OECD. (2016). *How skills are used in the workplace*.
[67] OECD. (2019j). Op cit.
[68] Álvarez-Galván, et al. (2015). Op cit.
[69] Álvarez-Galván, et al. (2015). Op cit.

- In Québec, secondary students typically finish their education one year earlier than students in other parts of Canada before then enrolling in a CEGEP (*collège d'enseignement general et professionnel*). Within CEGEPs students can opt for either a pre-university programme that lasts two years or a technical training programme that lasts three years. On completion of either route students obtain a diploma that grants them access to university. Unlike the rest of Canada, Québec also offers a vocational track at secondary level.[70]
- The Provinces and Territories are responsible for determining the standards for training and certification in the apprenticeship system.
- Consistent standards and interprovincial mobility are ensured by The Red Seal Program.[71] The Red Seal Program involves a partnership between the federal government and provinces and territories, which are responsible for apprenticeship training and trade certification in their jurisdictions. The program establishes common standards to assess the skills of tradespeople across Canada. Industry plays a considerable role in developing the national standard for each trade.[72] 80% of apprenticeships take place in designated Red Seal trades. Those who pass a national test are entitled to practice their trade in any province or territory.[73]
- School and workplace learning takes place in alternate blocks with around 80% of time during an apprenticeship spent in the workplace and 20% in off-the-job education – generally in a local college.[74]

[70] Álvarez-Galván, et al. (2015). Op cit.
[71] Álvarez-Galván, et al. (2015). Op cit.
[72] Red Seal. (2019). *Red Seal Program*.
[73] Álvarez-Galván, et al. (2015). Op cit.
[74] Álvarez-Galván, et al. (2015). Op cit.

Industrial Strategy Council: Skills System International Case Studies

Apprenticeships

- As in the UK, the number of apprentices in Canada has expanded rapidly in recent years but fell from 454,008 in 2014 to 392,202 in 2018.[75]
- Apprenticeships in Canada do not usually require successful completion of high school. The average age of apprentices is between 20 and 34 years old – higher than the average age of college and university students. As such, apprentices are recognised as employees.[76]
- Thanks to the existence of the college system, a wide range of professional skills training are available on campuses located across Canada. This provides most Canadians with the opportunity to study throughout their lives to develop relevant occupational skills.[77]
- The college system in Canada offers post-secondary VET programmes as a one-year certificate, a two-year technical diploma and a three-year diploma programme.
- Community colleges are designed to respond to local labour market needs.
- The college-system "*plays a larger role in the education and training system than equivalent institutions in most other OECD countries*".[78]
- An extensive private, for-profit career college sector exists.[79]
- Post-secondary Vocational Education and Training programmes in Canada are funded through public subsidies and tuition fees.

Key Challenges

- The OECD has emphasised how apprenticeships in Canada are strong in only a relatively limited number of occupations (primarily manufacturing and construction industries). Furthermore, the status of apprenticeships is further limited by the lack of routes for graduate apprentices to develop higher professional trade qualifications.[80]
- Credit transfer has been suggested to be a challenge both among colleges and also between colleges and universities. Colleges offer Further Education and second chance opportunities for younger adults.[81]
- The Canadian college system widely recognises prior learning. This is supported by government at all levels. However, take up has been moderate.[82]

[75] Statistics Canada. (2019d). *Number of apprenticeship program registrations*.
[76] Álvarez-Galván, et al. (2015). Op cit.
[77] Álvarez-Galván, et al. (2015). Op cit.
[78] Álvarez-Galván, et al. (2015). Op cit, p.11.
[79] OECD. (2014a). Op cit.
[80] Álvarez-Galván, et al. (2015). Op cit.
[81] Álvarez-Galván, et al. (2015). Op cit.
[82] Álvarez-Galván, et al. (2015). Op cit.

Policy Responses and Success Factors

The OECD considers the extent of involvement of employers to be a strength of the Canadian post-secondary vocational education system. Industry largely drives apprenticeships and strongly influences college programmes.[83] In 2008, according to the National Apprenticeship Survey, nearly 75% of apprenticeship completers had an annual income above the Canadian annual median income.[84] The 2015 survey reported that those completing apprenticeships had higher annual earnings than those who did not.[85] In England, on average starting an apprenticeship is also associated with a positive earnings differential. The differential is higher for men than women, reflecting the different sectors in which they enter apprenticeships.[86]

Canada has used skills councils to anticipate skill needs within and across sectors and use sector-specific knowledge to develop recommendations for education and training. The Alliance of Sector Councils (TASC) acts as a forum for cooperation and learning for all Sector Councils (SCs). The SCs conduct research, develop occupational standards, implement certification programs, develop education and training strategies, sponsor internships and share labour market information. Close cooperation between SCs in the form of cross-representation on boards and advisory structures prevents duplication of functions. Whilst the SCs encourage participation from SMEs, concerns exist that SMEs are generally underrepresented on SCs. A lack of representation of non-union workers and large firms sending representatives with little decision-making power is also problematic. This stresses the importance of prioritising developing strong relationships between SC members and SMEs as well working with management in large firms to convey the value of SCs.[87]

The Sectoral Initiatives Programme (see Box 1 below) sought to address skills shortages and develop a high-quality workforce. It aims to:

- support a better match between skills available and job market demands;
- support job seekers, employers and students to make more informed labour market decisions through creating and disseminating labour market intelligence;
- support skills development to facilitate labour mobility. [88]

[83] Álvarez-Galván, et al. (2015). Op cit.

[84] Ménard, M., F., et al. (2008). *Canada Overview Report: National Apprenticeship Survey,* Statistics Canada.

[85] Frank, K. and Jovic, E. (2017). *Canada Overview Report. National Apprenticeship Survey.*

[86] Cavaglia, A., McNally, S., and Ventura, G. *Apprenticeships for Young People in England: is there a Payoff?* Centre for Vocational Education Research.

[87] OECD. (2019u). *Getting Skills Right: Making adult learning work in social partnership*; European Commission. (2009*). New Skills for New Jobs: Anticipating and Matching Labour Market and Skills Needs*; Human Resources and Skills Development Canada. (2010). *Summative Evaluation of the Sector Council Program.*

[88] Álvarez-Galván, et al. (2015). Op cit.

Industrial Strategy Council: Skills System International Case Studies

Box 1: Sectoral Initiatives Programme, Canada[89]
Stated objectives of Initiative: To address current and future skills shortages by supporting the development and distribution of sector-specific labour market intelligence, national occupational standards, and skills certification and accreditation systems. The programme is designed to help industries identify, forecast, and address their human resources and skills issues through using these products. • Short-term outcome: increase in awareness and use of the products among employers, employees and educational institutions. • Medium-term outcome: use of the products to achieve sustained change in their sectors. • Long-term outcome: the products contribute to the efficiency of the labour market and the adaptability of the labour force in priority sectors. **Date Introduced and Structure of Initiative:** Introduced in 2013, it funds partnership-based projects for key sectors of the Canadian economy. Projects are developed and implemented by industry partners including workplace organisations, employer associations, education and training bodies, professional associations, unions, and Aboriginal organisations. The programme is designed to be demand-driven, providing funding for labour market and skills development products driven by and relevant to the needs of industry. It supports the development of products relating to 4 business lines: sector-based labour market information, national occupational standards, skills certification & training programme accreditation. **Geography at which Initiative operates:** national. Projects are expected to be national in scope, developing or updating a set of products that would benefit a particular sector. **How it operates:** A call for project concepts was launched in 2012-2013. 124 applications were received of which 31 were approved. 6 unsolicited projects were also funded. **Initiative Funding:** Each project was required to have at least 5% cash or in kind funding from other sources to evidence wider stakeholder support. The programme received circa $20 million from the Consolidated Revenue Fund (the fund into which taxes and revenue are deposited) and the Employment Insurance Act. **Initiative Performance:** An evaluation of the programme published in 2018 covering the period up to 2016/2017 utilised a mixed-methods approach including: a review of the programme's administrative data, interviews with key programme stakeholders, case studies of three projects, case studies of three sectors. It concluded there was a continued need for the programme, arguing it "*fulfils a need in priority sectors and the labour market*" (p.43). Through stakeholder collaboration, the programme has produced products under all four business lines and these products are contributing to addressing sector-specific human resources challenges, particularly skills gaps and unfilled vacancies. The evaluation made two key recommendations: explore ways to encourage funding recipients to strengthen product outreach and dissemination; explore ways to improve performance measurement and increase data validity while minimising the burden on funding recipients. These recommendations stress the importance of defining programme outcomes at the outset.

College programmes are linked to labour market requirements through the existence of sector councils. Colleges are normally required by provincial ministries to establish advisory committees for each programme that include employers and other experts who inform college educators about current skill needs.[90]

An example of local providers responding to employer skill needs was the establishment of an applied research unit by Niagara College in Ontario to address challenges among employers developing product market strategies locally and connecting to global value

[89] Government of Canada. (2019b). *Evaluation of the Sectoral Initiatives Program*.
[90] Álvarez-Galván, et al. (2015). Op cit.

chains. [91] The unit supports local companies to upgrade their products and business strategies. It collaborates with firms for example, on product testing, processing applied research, engineering design, technology development, proof of concept, piloting and problem solving. The College has also designed its curriculum with a view to meeting local industrial demands in horticulture and wine making.

[91] OECD. (2014a). Op cit.

Industrial Strategy Council: Skills System International Case Studies

2. France

	France	*UK*
Population *(2018)*	67,000,000	66,000,000
GDP per person employed *(2018) (constant 2011 PPP $)*	95,846	82,217
Average annual growth in labour productivity 2013-2018	1.07%	0.76%

Summary

France has been chosen as a case study because it provides good, flexible opportunities for social mobility for those with low skills levels. The French system supports students to develop their career paths through spending a considerable part of training programmes within companies. Employers value having a clear point of contact within schools. **Profession and Qualification campuses, efforts to increase opportunities for school staff to work with the business world, improved training for trainers and mentors in enterprises, and personal training accounts, are all initiatives that could be relevant to the UK context.**

France has similar demographics in terms of population size and an ageing society, coupled with a similar size economy, and slightly higher productivity than the UK. A notable difference is public spending; France has the highest public spending as a share of GDP in the OECD. Unemployment is higher than in the UK, as is employment protection and the minimum wage. Since the election of President Macron in 2017, the French government has introduced significant labour market reform; improving labour market flexibility - particularly for small firms, and relaxing employment protection.[92]

Administration Power is devolved at three levels: the municipalities, the departments and the regions.

Population At 67 million, France's population is marginally larger than the UK population.[93] Like the UK, France's population is ageing. The elderly population's share of total population is slightly higher than in the UK.[94] The fertility rate is slightly higher in France compared to in the UK.[95] Net migration in 2017 was 182,636.[96]

[92] Ehmer, P. (2018). *Reforms in France: focused and fast*.
[93] OECD. (2020a).
[94] OECD. (2020b).
[95] OECD. (2020c). Op cit.
[96] World Bank. (2019e). Op cit.

Economy The French economy is similar in size to the UK's economy. France is the world's sixth ranked economic power whilst the UK is fifth.[97] Productivity has increased in recent years and is significantly higher than in the UK.[98] The majority of French companies are very small. 53.2% have zero employees, 40.6% have between zero and nine employees, 6.1% have 10 to 249 employees and 0.2% have 250 employees or more.[99]

Welfare model France has the highest level of public spending in the OECD, at 31% of GDP in 2018.[100] Features of the generous benefits system include; benefits linked to employment history, and, basic security supplemented through contributory benefits (e.g. pensions, unemployment).[101] Public expenditure on tertiary education per full-time equivalent student was lower than in the UK in 2015[102]. Expenditure on Initial Vocational Education and Training as a percentage of GDP in 2014 was similar at 0.46%.[103]

Labour market trends France has traditionally had lower employment and higher unemployment than the UK. Average wages are very similar in both countries.[104] France embraced active labour market policies later than the UK and its' labour market has traditionally had greater employment protection legislation than the UK labour market.

[97] World Bank. (2019a). Op cit.

[98] World Bank. (2019b). Op cit. Productivity is measured in terms of GDP per person employed.

[99] INSEE. (2017). *Les entreprises en France. Edition 2017*.

[100] OECD. (2019a). Op cit.

[101] Bambra, 2007. Op cit.; Bonoli, G. (1997). Classifying welfare states: a two-dimension approach. *Journal of Social Policy*, 2(6), pp.351–372; Esping-Andersen, Gosta (1990). *The Three Worlds of Welfare Capitalism.* Cambridge: Polity Press; OECD. (2019k). *OECD tax-benefit data portal*.

[102] OECD. (2019d). Op cit.

[103] Cedefop. (2018a). Op cit.

[104] OECD. (2019l). Op cit.

Industrial Strategy Council: Skills System International Case Studies

Figure 5: Labour Market Context	France	UK
OECD Indicators on Employment Protection Legislation[105]		
- Protection of permanent workers against individual and collective dismissals	2.82	1.59
- Protection of permanent workers against (individual) dismissal	2.60	1.18
- Specific requirements for collective dismissal	3.38	2.63
- Regulation on temporary forms of employment	3.75	0.54
Labor Market Efficiency World Economic Forum Rank (2017-2018)[106]	56/137	6/137
Hourly Minimum wage: PPS (2018)[107]	$11.5	$9.6
Unemployment Rate (2014)[108]	10.3%	7.5%
Unemployment Rate (2018) [109]	9%	4%
Employment Rate (2019)[110]	65.5%	75.2%
Unionisation: trade union density (2018)[111]	8.8%	23.4%

Labour market flexibility The labour market remains considerably less flexible in France than in the UK, but some convergence occurred between 2008 and 2013. The extent of protection for permanent workers against individual and collective dismissals declined according to the OECD Indicators on Employment Protection Legislation. Since the election of President Macron in 2017, the significant labour market reform have been introduced (e.g. improvement in flexibility for small firms and relaxing employment protection).[112] France rose from 71st to 56th in the 2013 and 2017 World Economic Forum's ranking for labour market efficiency.[113] Under a different categorisation system, in 2019 the World Economic Forum ranked France 35th for labour market flexibility.[114] While these figures indicate a noteable rise, labor efficiency remains weaker than in the UK, which is ranked 6th. The OECD has stated the overregulation of progressions is limiting career progression in France.[115] Average job tenure is similar in both countries, which may be indicative of the two economies moving in a similar direction in terms of labour market fluidity. There is some evidence that people in employment for 10 years and over hold onto jobs for slightly longer in France. [116]

[105] OECD. (2015a). Op cit. According to a scale of 0 (least restrictions) to 6 (most restrictions). French data refers to 2013, UK data to 2014.
[106] World Economic Forum, 2017. Op cit.
[107] OECD, 2018b. Op cit.
[108] OECD. (2019w). Op cit.
[109] OECD. (2019w). Op cit.
[110] OECD. (2019w). Op cit.
[111] OECD. (2019y). Op cit.
[112] Ehmer. (2018). Op cit.
[113] World Economic Forum. (2014, Op cit; 2017, Op cit).
[114] World Economic Forum. (2019). Op cit.
[115] OECD. (2017b). Getting Skills Right: France.
[116] OECD. (2019m). *Employment by job tenure intervals – average tenure*. Average job tenure in 2018 was the same for job tenure of < 1 month, 1 < 6 months, and 6 months to 1 year. Average for tenure for 10 years and over was 20.7 years compared to 19.2 years in France.

Recent reforms may help to make the French labour market more inclusive by taking greater account of the interests of non-standard workers and the diversity of workers within sectors.[117]

Skills and Training Performance

France ranks similarly to the UK in terms of training.

Annex 3 shows participation in education and training for those aged 25-64 is broadly comparable in both countries, particularly for non-formal training. However, there is greater engagement in formal education and training in the UK.

The World Economic Forum ranked France 28th and the UK 29th out of 137 countries for the extent to which companies invest in training and employee development.[118] .

A higher proportion of adults participated in job-related training in the UK than in France, and for non-job related training it is the reverse.[119] Unemployed people undertake training less frequently than employed people in France but the training they undertake is longer in duration.[120]

Skills Indicators

Figure 6: Educational Attainment	*France*	*UK*
Survey of Adult Skills (PIAAC 2015)[121]:		
- Percentage of adults scoring low (at or below level 1) in literacy	21.6%	16.4%
- Percentage of adults scoring low (at or below level 1) in numeracy	28.0%	24.1%
OECD Adult Education Level (highest level of education completed by the 25-64 year-old population, 2017)[122]		
- Below upper secondary	21.6%	18.8%
- Upper secondary	43.2%	35.4%
- Tertiary	35.2%	45.7%
European Skills Index (encompasses indicators focusing on various age groups from pre-primary education to age 64, 2020)[123]		

[117] Cazes, S. and Carcillo, S. (2019). *The Future of Work. How does FRANCE compare?* OECD Employment Outlook 2019.

[118] World Economic Forum. (2019). Op cit.

[119] Eurostat. (2019b). *Participation rate in education and training (last 12 months) by type, 2016 (% of adults aged 25–64)*. 83.5% compared to 73.5%.

[120] Centre Inffo. (2016). *Vocational education and training in Europe – France*. Cedefop ReferNet VET in Europe reports: 2016.

[121] OECD. (2019f). Op cit.

[122] OECD. (2019g).

[123] Cedefop. (2020). *European Skills Index*.

Industrial Strategy Council: Skills System International Case Studies

Figure 6: Educational Attainment	*France*	*UK*
- *Overall Indicator:*	51	53
- *Skills Development:*	48	50
- *Skills Activation:*	63	76
- *Skills Matching:*	44	41
European Commission Digital Economy and Society Index (encompasses indicators focusing on various age groups from 5 years+, 2017)[124]:		
- At least basic digital skills	57.1%	70.5%
- Advanced Skills and Development: ICT Specialists	3.7%	5.1%
OECD Skills Strategy Dashboard[125]:		
- How strong are foundational skills of adults?	Bottom 20-40%[126]	Around average
- How skilled are young tertiary educated adults?	Top 20-40%[127]	Bottom 20-40%
- Is there a strong culture of adult education?	Around average	Top 20-40%

France performs strongly for education to upper secondary level and the skills level of tertiary educated young adults. It has relatively low levels of basic skills though, with a higher percentage of adults scoring low in literacy and/or numeracy in the Survey of Adult Skills in 2015 than the UK. France also scored poorly for the strength of adults' foundational skills in the OECD Skills Strategy Dashboard. In the European Skills Index, performance of training and education activities in both countries and the skills developed and attained are similar, but skills activation is much lower in France. The latter reflects the challenges France faces with regard to underutilisation of skills and the extent to which skills are effectively matched in the labour market. The extent to which information-processing skills are used at work is lower than in the UK.[128]

The European Commission Digital Economy and Society Index (2019) reveals France is in line with the EU but behind the UK in terms of digital skills and advanced skills development.[129]

[124] European Commission. (2019). *Digital Economy and Society Index. 2 Human Capital, by Sub-dimensions of 2 Human Capital*.

[125] OECD. (2019h). Op cit. Data for UK refers to England.

[126] Missing data.

[127] Missing data.

[128] OECD. (2016). Op cit.

[129] European Commission. (2019). Op cit.

Key features of Vocational Education and Training system

Overview

Figure 7: Adult Learning	*France*	*UK*
OECD Priorities for Adult Learning Dashboard[130]		
Urgency: extent of urgency of updating adult learning system	0.4	0.3
Coverage: extent people and firms are engaged in learning	0.5	0.5
Inclusiveness: inclusiveness of adult learning opportunities	0.6	0.5
Flexibility and Guidance: extent of flexibility of adult learning opportunities and extent guidance is readily available	0.5	0.5
Alignment: extent adult learning is aligned with labour market needs	0.7	0.7
Perceived Impact: perceived impact of adult learning	0.4	0.6
Financing: adequacy of adult learning system financing	0.5	0.4

- The French education system places a high value on accreditation.[131]
- French students can choose to follow a vocational education path from age 16, having completed general lower-secondary education between the ages of 12 and 15. Students choosing the vocational path either attend school-based vocational learning or take an apprenticeship. The vocational path is designed to enable students to obtain level 4 and 5 qualifications.
- In 2014, the latest year for which data is available, a lower proportion of those students enrolled in upper secondary programmes were participating in vocational education in France, 32.3%, compared to the UK, 38.6%.[132] However, this partly reflects how France combines school and work-based learning. 11.9% of students participated in this form of learning.[133]
- Students taking the vocational track were more likely than students taking general and technological pathways to come from a disadvantaged background.[134]

[130] (OECD. (2019j). Op cit. 0=lowest coverage, 1 = highest.

[131] Recotillet, I. and Werquin, P. (2017). Creating 'Second Chance' Opportunities for Young People. The French Écoles de la Deuxième Chance. In: IPPR *'Making Inclusion Work: Reaching disenfranchised groups through work-based learning'*.

[132] OECD. (2015b). *OECD Economic Surveys: France 2015*.

[133] OECD. (2015b). Op cit.

[134] OECD. 2017b). Op cit.

Industrial Strategy Council: Skills System International Case Studies

- Social partners (unions and employer representatives) play a strong role in VET.[135]
- Participation in lifelong learning in France was above the EU average in 2015.[136]
- The OECD Priorities for Adult Learning Dashboard indicates adult learning provision is similar in France and the UK but the UK system is stronger in terms of perceived impact, whilst the French system has strengths in inclusiveness and financing.

Key Challenges

- The quality of vocational training is mixed, as is the quality and availability of careers guidance.
- Participation in education and training remains unequal. Whilst many innovative initiatives exist, there are low participation rates among individuals from disadvantaged backgrounds and also low-skilled individuals, in some education and training courses. [137] Participation in job-related non-formal education tends to increase with establishment size.[138]
- Level of educational attainment is crucial in terms of individual's experiences when they first enter the labour market in France.[139] Unemployment is strongly associated with having no qualifications. In 2018, 15.5% of adults with no qualifications were unemployed compared to 5.1% of people with Bac +2 degree (post-secondary or higher level qualification).[140] The high overall unemployment rate suggests there is "*a large reservoir of unused skills*".[141] Long-term unemployment is particularly high, leading to a risk of skills obsolescence and depreciation.
- The OECD has suggested skills underutilisation is a key issue in France. To tackle skills imbalances, it suggests France makes better use of the national, regional and sectoral skills needs assessments that are currently undertaken. It maintains that better cooperation between actors is essential if France is to better understand its skills needs to better match the demand and supply of skills required.[142]

Policy Responses

Supporting businesses to address skills challenges

In 2015 France launched an Industry of the Future Plan (*Industrie du Futur)*, to modernise the production system in France and support industrial employers in dealing with the impact of digitalisation on their business models, their organisation, and their design and marketing

[135] Clarke, L. and Winch, C. (2016). 'Lessons from abroad: the need for employee involvement, regulation and education for broad occupational profiles', in *Where next for Apprenticeships?* Chartered Institute of Personnel and Development.

[136] Cedefop. (2018b). *Developments in Vocational Education and Training policy in 2015-17*. France.

[137] OECD. (2017b). Op cit.

[138] Cedefop. (2015a). *Unequal access to job-related learning: evidence from the adult education survey*.

[139] Centre Inffo. (2016). Op cit.

[140] INSEE. (2020). *Taux de chômage selon le niveau de diplôme et la durée depuis la sortie de formation initiale en 2019*.

[141] OECD. (2017b). Op cit, p.16.

[142] OECD. (2017b). Op cit.

practices. It includes five pillars, the third of which is relevant to skills. It focuses on the training of employees, particularly equipping the next generation of students with the skills needed for future occupations and sectors.

France has developed policies to stimulate re-industrialisation. In 2013, the New Industrial France (*Nouvelle France Industrielle*) project was launched to revitalise the manufacturing sector through promoting the use of digital technologies, modernising production tools and transforming business models.

Significant effort has been placed into creating closer collaboration between business and education. Campuses of Professions and Qualifications were introduced in 2013 to better coordinate at the local level the work of secondary and higher level Vocational Education and Training institutions and businesses in given sectors. 78 campuses in 12 sectors had been established by 2017. An evaluation of the Campuses for the French state, praised their ability to bring together different actors but found it was impossible to measure the value of the campuses[143] due to a lack of monitoring measures when the campuses were initially set up.[144]

In 2015, the Ministry of Education rolled out over 350 internship hubs to all French regions. Designed to support students to find work placements, they organise schools and businesses into networks.[145] Each hub is managed by a facilitator and coordinated at regional level. Policies at regional level have included strengthening school/business relationships through increasing opportunities for school staff to work with the business world, including young people on youth voluntary service in the internship hubs. Careers guidance in schools has also been more aligned more closely with business needs.[146]

Improving education and training systems

Supply-side policies have focused on general and professional education and training, career guidance and migration. The State has brought general education more in line with labour market needs by adapting the secondary education curriculum and providing universities with greater flexibility. Social partners have been given a greater role in the creation and evaluation of training programmes. France has also sought to make vocational education more attractive through introducing new initiatives and incentives to encourage employers to make more apprenticeships available.[147]

Personal training accounts (*Comptes Personnels de Formation, CPA*) (see Box 2 below) were introduced in 2015 to promote uptake of lifelong learning. The CPA was designed to address the shortcomings of its predecessor, 'The Individual Right to Retrain' which was rarely

[143] Caraglio, M., Amarara, F., Arambourou, D. and Thollon, F. (2017). *Premier bilan des campus métiers et des qualifications*.

[144] Collignon, J.-P. and Quénet, P. (2017). Les sections de techniciens supérieurs et les campus des métiers et des qualifications dans le contexte de bac – 3 à bac + 3. *Administration & Education*. 4:160. pp.61-67.

[145] Cedefop. (2018b). Op cit, p.9.

[146] OECD. (2017b). Op cit.

[147] OECD. (2017b). Op cit.

Industrial Strategy Council: Skills System International Case Studies

used.[148] Based on their work history, individuals are entitled to vocational training credits. Following a 2016 reform, the scheme now extends to the self-employed and freelance professionals.[149] Given the large share of businesses with zero employees, this reform is particularly important in a French context.

Box 2: Personal Learning Accounts, France[150]

- Accounts are valid throughout individuals' professional lives.
- Employers, individuals, social partners, regional and national government, and the Public Employment Service, can add further credits to individuals' accounts. Training is funded by the social partner organisation or by the employer.
- Employees wishing to undertake training during their working hours, must seek permission from their employer. If granted, they receive their full salary during training.
- Accounts can only be used for training options on national, regional or sectoral lists developed by social partners in response to labour market needs.
- By October 2016, training accounts could be used on almost 11,000 training options.
- The accounts are designed for short-term training but can be used to obtain part-qualifications, which can be combined into full qualifications.
- The programme has been criticised for increasing the complexity of finances for the training of job seekers. To respond to this criticism, the French government chose to adopt a finance-based system as they perceived it would be easier to understand. Claimants can register for courses via a mobile app as opposed to being required to go through an intermediary organisation as previously.
- Full and part-time employees and the self-employed are now entitled to training up to the value of 500€ per year up to a limit of 5,000€. For people with no qualifications and those with recognised special circumstances, 800€ (up to a limit of 8,000€) is available.
- Only 8.6 million people had opened and under three million people had used accounts under the hourly-based system. The objective of the Euro-based system is to more than double the number of training courses taken through personal training accounts.

France has also used sector councils to anticipate skill needs within and across sectors and use sector-specific knowledge to develop recommendations for education and training. Employers' organisations and trade unions have taken a leading role in funding SCs in France. The French Occupation and Skills Observatories (*Observatoires Prospectifs des Métiers et des Qualifications: OPMQ*) map occupations, conduct analysis of skills management, training and recruitment needs and certify training scheme. They are generally joint funded by employer organisations and trade unions. This provides flexibility in terms of legal status, composition

[148] Eurofound. (2019). *France: Employers obligation to provide skill development plans or training*.
[149] Cedefop. (2018b). Op cit.
[150] [150] Service Public. (2019). *Compte personnel de formation (CPF – Secteur privé*; Les Echos. (14/12/2018). *Les dix questions clefs sur le compte personnel de formation en euros*. Le Point. (21/11/2019). *Formation professionnelle : et Pénicaud dégaina son appli « révolutionnaire »*.

and funding according to sectoral requirements.[151] However, the OPMQs have been found to often lack visibility and sufficient resources to fulfil their roles.[152]

To address high (youth) unemployment, France has introduced measures to support training, reskilling and upskilling of jobseekers. In January 2016, a plan to create 500,000 training places for jobseekers was launched. VET was tailored to support the long-term unemployed to set up or takeover a business. 945,000 people benefitted from the scheme in 2016.[153] Low-qualified young people aged 16-25 and jobseekers aged 26+ can benefit from a professionalisation contract, a work contract where employees spend 15%-25% of their time on training. The programme lasts 12 months. In addition, the Second Chance mechanism (see box 3 below) programme has been developed to provide personalised training for 16-25 year olds with severe challenges finding work.

[151] OECD. (2019u). Op cit.

[152] d'Agostino, A., and Delanoë, A. (2012). *Les observatoires prospectifs des métiers et des qualifications: des outils pour agir*. Céreq Bref.

[153] Cedefop, 2018b. Op cit, p.21.

Industrial Strategy Council: Skills System International Case Studies

Box 3: Second Chance Schools *Écoles de la deuxième chance (E2C)*, France[154]

Objective: To provide personalised training for 16-25 year olds with severe challenges finding work.

Date Introduced and Structure of Initiative: Introduced in 1997, E2Cs belong to a national network but benefit from "*significant autonomy*". In 2015, as part of the Second Chance mechanism, a new 24-month form of the scheme was launched to support long-term unemployed people. Participants can spend over 24% of their time on training.

Geography at which Initiative operates: Nation-wide. 130 labour-oriented E2Cs have been developed across France since 1997. They now support 15,000 young people per year.

How it operates: Support lasts at least 6 months and is provided through *Training*, *Business* and *Social Hubs*. Students follow individualised learning paths tailored to their needs (e.g. someone aiming for a career as a kitchen assistant will focus on measurements). The programme provides strong links to business with classroom-based learning alternated with time in the business world (40%). Students receive a certificate of acquired learning academic and practical skills). The programme is designed to support motivated learners who have made a positive choice to enrol.

Initiative Funding: E2Cs receive national and regional funding (81.1 million€ in 2017). Regional councils contributed 35%, the State contributes 28.2%, the European Social Fund 11.6%, local and regional authorities 10.3% and the Apprenticeship tax 5%. Significant variations exist according to the area.

Initiative Performance: A 2012 qualitative review of the E2Cs emphasised how E2C students have often left school early due to social and personal issues. The programme has been found to deliver a return to education and training or employment for over 50% of attendees. Post-training, 61% enter sustainable employment or training. Key advantages are how students can enrol any time in the school year, teaching is tailored to participant's career path and assessment is classroom and workplace based meaning that assessment covers all competences acquired. Other success factors identified include:

1. The contract-based *pedagogy* which aims to value success, foster the commitment of participants and provide encouragement. The personalised certificate of acquired competences appears important in valuing student success whilst facilitating job market entry.
2. E2C learners spend close to half of their time in companies undertaking *internships*, enabling them to build a realistic professional project, addressing misconceptions learners may have about working in a particular sector.
3. *Strong links with enterprises* to ensure learners find placements for internships, E2Cs prioritise developing and maintaining strong links with enterprises. A critical success factor identified is that enterprises have a clear contact point within the school.
4. *Continued political support*: successive French governments have recognised the added value of the E2C concept contributing to their across France.
5. *An independent audit system* ensures schools meet certain standard quality criteria, contributing to the development of an E2C identity and facilitating a sense of belonging among E2C learners.
6. The *nationwide E2C association* disseminates the concept through networking, exchange of practices, supporting the development of new schools, advocacy and branding.
7. *Multidimensional support*: schools employ education and training professionals, social workers, employees with a business background and experts in pedagogy to help students to develop their skills and support them into sustainable employment. Support is also provided by external partners (health services, bike support).

[154] Recotillet and Werquin. (2017). Op cit; Cedefop, 2018b; Op cit. Réseau E2C. (2019). *Le Réseau des Écoles de La 2e Chance*. Cedefop. (no date given). *Second chance schools – France*.

3. Japan

	Japan	*UK*
***Population** (2018)*	126,000,000	66,000,000
***GDP per person employed** (2019) (constant 2011 PPP $)*	76,419	82,217
Average annual growth in labour productivity 2013-2018	0.78%	0.76%

Summary

Japan is included in this report as it provides an interesting example of a large advanced economy with a traditionally statist[155] Vocational Education and Training (VET) system. The country faces similar challenges to the UK in terms of university graduate employment prospects, and demand for work-related competencies.

It has a much larger population, lower unemployment and slightly higher employment levels than the UK. The labour market is less flexible that than in the UK.

Japan is also a pertinent case study as a forerunner in global ageing trends and as a country facing labour market issues adjusting to digitalisation. This report considers how it is facing significant labour market disruption and future of work challenges.

Administration Japan is an archipelago of 6,852 islands located in the Pacific Ocean.[156] It has a constitutional monarchy. The Japanese system of government has a three-level structure: national, prefectural and municipal.[157]

Population The population of Japan is nearly twice the size of that of the UK and is rapidly ageing.[158] The country has a much higher elderly population (25.1% of the total population) compared to the UK.[159] The fertility rate is lower and the death rate higher than in the UK.[160] Net migration in 2017 was 357,800.[161] Japan's population reached a peak of over 128 million in 2010 but is projected to fall below 100 million in 2050.[162] The working age population has been declining sharply since the mid-1990s.[163]

[155] Statist refers to a system where economic controls and planning are highly centralised by government

[156] OECD. (2018b). *Education Policy in Japan: Building Bridges towards 2030, Reviews of National Policies for Education*.

[157] United Nations Centre for Regional Development (UNCRD). (2007). *Japanese Administrative System*.

[158] OECD. (2020a).Op cit.

[159] OECD. (2020b). Op cit.

[160] OECD. (2020c). Op cit; World Bank. (2019d). Op cit.

[161] World Bank. (2019e). Op cit.

[162] OECD. (2019x). *OECD Economic Surveys Japan*.

[163] Kawaguchi, D. and Mori, H. (2019). *The labor market in Japan, 2000-2018*. IZA World of Labor.

Industrial Strategy Council: Skills System International Case Studies

Economy As in the UK, productivity growth over recent years has been subdued and productivity remains lower than in the UK.[164] The number of SMEs fell by 21% between 1994 and 2013 due to ageing business owners retiring and weak entrepreneurial activity. Labour productivity is considerably lower among firms with 20-49 employees than firms with over 250 employees.[165]

Welfare model Japan has been classified as a Confucian model of the welfare state[166] due to how it has "*relatively low levels of state intervention and welfare, but with socially grounded obligations on immediate family members and strong advocacy and investment in education and emphasis on work ethic*".[167] Public spending as a percentage of GDP is slightly higher than that in the UK but government expenditure for total tertiary education per full-time equivalent student is lower than in the UK in 2015.[168]

Labour market trends Japan has traditionally had lower unemployment and slightly higher employment levels than the UK. The employment rate among women is rising rapidly, driven by increasing demand in the healthcare services industry as a result of ageing trends. It remains stable among men.[169] Average wages are lower in Japan at US$ 40,600 per annum.[170] The Japanese labour market remained stable during the financial crisis but fixed term contracts have become more common.[171]

[164] World Bank. (2019b). Op cit.

[165] OECD. (2017c). *Improving the Performance of Japan's SME sector*.

[166] Aspalter, C. (2006) 'The east Asian welfare model', International Journal of Social Welfare, 15(4), 290-301; Walker, A., & Wong, C. K. (2005) 'Introduction: East Asian welfare regimes', In: *East Asian welfare regimes in transition*, pp.3-20.

[167] Isakjee, A. (2017). *Welfare State Regimes: a Literature Review*. Institute for Research into Superdiversity University of Birmingham. Working Paper., p.6.

[168] OECD. (2019a, d). Op cit. Japan figure includes data from another category.

[169] Kawaguchi and Mori. (2019). Op cit.

[170] OECD. (2019l). Op cit.

[171] Kawaguchi and Mori. (2019). Op cit.

Figure 8: Labour Market Context	Japan	UK
OECD Indicators on Employment Protection Legislation[172]		
- Protection of permanent workers against individual and collective dismissals	2.09	1.59
- Protection of permanent workers against (individual) dismissal	1.62	1.18
- Specific requirements for collective dismissal	3.25	2.63
- Regulation on temporary forms of employment	1.25	0.54
Labor Market Efficiency World Economic Forum Rank (2017-2018)[173]	22/137	6/137
Hourly Minimum wage: PPS (2018)[174]	8.1 (2017)	$9.6 (2018)
Unemployment Rate (2014)[175]	3.6%	6.1%
Unemployment Rate (2018)[176]	2.4%	4%
Employment Rate (2019)[177]	77.7%	75.2%
Unionisation: trade union density (2018)[178]	17%[179]	23.4%

Labour market flexibility The OECD Indicators on Employment Protection Legislation show the Japanese labour market is more strongly regulated than the UK labour market in all aspects. There was no change in the Japanese scores between the 2008 and 2013 versions of the Index.[180] The World Economic Forum ranked Japan below the UK for labour market efficiency in 2014 and 2017.[181] Under a different categorisation system, in 2019 the World Economic Forum ranked Japan 11th and the UK 14th for labour market flexibility.[182]

The minimum wage is lower in Japan than in the UK[183] and the country has lower trade union density. The proportion of union members among employees is declining rapidly.[184]

Skills and Training Performance

Companies in Japan invest strongly in training and employee development. The World Economic Forum ranked Japan more highly on this measure (9th) than the UK (29th).[185]

[172] OECD. (2015a). Op cit. According to a scale of 0 (least restrictions) to 6 (most restrictions). Japanese data refers to 2013, UK data to 2014.
[173] World Economic Forum. (2017). Op cit.
[174] OECD. (2019n). Op cit.
[175] Eurostat. (2019w). Op cit.
[176] Eurostat. (2019w). Op cit.
[177] OECD. (2019e). Op cit.
[178] OECD. (2019y). Op cit.
[179] Relates to survey not administrative data.
[180] OECD. (2015a). Op cit.
[181] World Economic Forum (2014, 2017). Op cit.
[182] World Economic Forum. (2019). Op cit.
[183] OECD. (2019n). Op cit.
[184] OECD. (2019o). *OECD Employment Outlook 2019. The Future of Work. How does Japan compare?*
[185] World Economic Forum. (2019). Op cit.

Industrial Strategy Council: Skills System International Case Studies

However, Japan is among the bottom 40% of countries for the strength of its adult learning culture.[186] Participation in job-related adult-learning (35%) remains below the OECD average (41%). This falls to 13.5% for low-skilled adults (although the gap in participation rates between high and low-skilled adults is smaller than the OECD average).[187]

Skills Indicators

Figure 9: Educational Attainment	*Japan*	*UK*
Survey of Adult Skills (PIAAC 2015)[188]:		
- Percentage of adults scoring low (at or below level 1) in literacy	4.9%	16.4%
- Percentage of adults scoring low (at or below level 1) in numeracy	8.1%	24.1%
OECD Adult Education Level (highest level of education completed by the 25-64 year-old population, 2017)[189]		
- Below upper secondary	N/A	18.8%
- Upper secondary	N/A	35.4%
- Tertiary	51.4%	45.7%
OECD Skills Strategy Dashboard[190]:		
- How strong are foundational skills of adults?	Top 20%	Around average
- How skilled are young tertiary educated adults?	Top 20-40%	Bottom 20-40%
- Is there a strong culture of adult education?	Bottom 20-40%	Top 20-40%

Japan's skills performance by OECD measures is excellent. It had the highest PISA scores for fifteen year olds among OECD countries in mathematics and science and was 6th for reading. Adults have one of the highest scores for literacy and numeracy too.[191] In the 2012 and 2015 Survey of Adult Skills, Japan's scores for literacy and numeracy were the highest in the OECD. The percentage of adults from age 16 onwards scoring low in literacy and numeracy is considerably below that of the UK.[192] The country is ranked in the top 20% of countries for six of ten skills development indicators in the OECD Skills Strategy Dashboard, performing particularly strongly in the extent youth are skilled and the intensity with which youth skills are developed, the number of young adults attaining tertiary education, the strength of foundational skills of adults, the extent adults have a broad set of skills and the extent adults

[186] OECD. (2019p). *OECD Skills Strategy 2019. Skills to Shape a better future. Japan*.
[187] OECD. (2019o). Op cit.
[188] OECD. (2019f).
[189] OECD. (2019g). Op cit.
[190] OECD. (2019h). Op cit. Data for UK refers to England only.
[191] OECD. (2019p). Op cit.
[192] OECD. (2018c). *Education Policy Outlook 2018: Putting Student Learning at the Centre*.

skills are developed inclusively. Evidence suggests the success of the Japanese education system is a reflection of the quality of the state-set curriculum. The curriculum places emphasis on students both mastering discipline-specific information and developing strong problem-solving skills.[193]

Skills use in the workplace appears strong in Japan. Japan performs well in terms of the extent to which information-processing skills (reading, writing, numeracy, ICT and problem solving) are used at work. The country is ranked above the OECD average but below the ranking for England for this measure.[194]

Key features of Vocational Education and Training system

Overview

Figure 10: Adult Learning	*Japan*	*UK*
OECD Priorities for Adult Learning Dashboard[195]		
Urgency: extent of urgency of updating adult learning system	0.5	0.3
Coverage: extent people and firms are engaged in learning	0.4	0.5
Inclusiveness: inclusiveness of adult learning opportunities	0.4	0.5
Flexibility and Guidance: extent of flexibility of adult learning opportunities and extent guidance is readily available	0.1	0.5
Alignment: extent adult learning is aligned with labour market needs	0.2	0.7
Perceived Impact: perceived impact of adult learning	0.2	0.6
Financing: adequacy of adult learning system financing	0.8	0.4

- The Japanese Education system is described by the OECD as "*centralised in some ways, but decentralised where it matters*". The Ministry of Education, Culture, Sports, Science and Technology (MEXT) develops and implements national policy, distributes public resources for education at national, prefectural and municipal levels, and guides national curriculum standards. The 47 prefectures each have their own board of education which is responsible for coordinating education in its area in line with its Local Basic Plan for Education. Prefectural boards of education regulate the number of institutions, certify teachers, control the quality of teaching and are responsible for

[193] Center on International Education Benchmarking. (no date given). *Japan overview*.
[194] OECD. (2016). Op cit.
[195] OECD. (2019j). Op cit. 0=lowest coverage, 1 = highest.

Industrial Strategy Council: Skills System International Case Studies

offering support measures necessary for implementing projects in cities and towns and for the operational management of the facilities.[196]

College Programmes

- Tertiary education institutes in Japan are highly stratified. They include:
  - universities (entrance to public universities is granted based on performance in a standardised national examination and special examinations administered by the individual universities),
  - junior colleges (which tend to offer professionally-oriented short-cycle degrees in fields such as teaching, gardening, nursing and home economics),
  - Colleges of Technology (*koto senmon gakko*) which offer theoretical and practical training designed to be of immediate use to employers, mostly in the field of engineering;
  - Specialised (or professional) training colleges (*senmon gakko*) which offer one-year to three-year employment-related programmes at either upper-secondary or post-secondary level to meet immediate workforce needs.

- Currently, around a sixth of upper secondary school graduates subsequently attend a Professional Training College. 8 fields of study exist within the *Senmon Gakko*: industry, agriculture, medical care, health, education and social welfare, business practices, apparel and homemaking, and culture and the liberal arts.[197]
- Provision and supervision of the VET sector is mostly overseen by the MEXT and the Ministry of Health, Labour and Welfare (MHLW). MEXT is responsible for general comprehensive school education which includes some vocational schools (e.g. Colleges of Technology and specialised upper secondary schools). MHLW's role involves overseeing public vocational training and administering trade skills and qualification tests.[198]
- Students attending junior colleges and colleges of technology receive an associate degree. Those enrolled at specialised training colleges receive a diploma after two to three years of study, or an advanced diploma after four years.[199]
- The Professional Training Colleges were established in 1975 and enjoy greater autonomy than public and private universities. The OECD reports that the Professional Training Colleges are perceived by students to offer market-oriented skills (and to provide reliable employment results (some guarantee employment to all who complete courses). By contrast, universities are often viewed as delivering theoretical and academic content only. While offers of employment fell for university graduates in the 1990s, employment offers among graduates from Professional Training Colleges

[196] OECD. (2018b). Op cit.

[197] National Institute for Educational Policy Research. Ministry of Culture, Sports, Science and Technology, (no date given). *Senmon Gakko (Professional Training Colleges) in Japan*.

[198] Tsukamoto, K. (2019). *Vocational Education and Training (VET) in Japan*. Australian Government Department of Education and Training.

[199] OECD. (2018b). Op cit.

remained strong.[200] A survey by MEXT found that 80% of *senmon gakko* graduates find employment, of which approximately 90% find employment in roles related to their study course.[201] High student satisfaction has also been reported.

- As a result of sectoral changes in industry and changing skills demand, vocational education courses – particularly those at the Professional Training Colleges – have become more popular. Following a period of continuous decline, enrolments at Professional Training Colleges are now increasing. The colleges are attracting both senior secondary school graduates and university graduates unable to secure employment upon graduation.[202]

Key Challenges

- Challenges have been identified regarding the transition from school to work. Tsukamto (2016) reported that 20% of university graduates are not able to find stable work.[203]
- Higher value is generally placed on academic education than vocational education among parents and students in Japan. Vocational education is often viewed as a second-rate option after university for students who have lower grades and/or for students from lower socio-economic backgrounds[204]. While university admissions have risen, admission numbers to vocational education courses have declined.[205]
- Digitalisation and population ageing are creating reskilling challenges[206].
- Although older workers in Japan exhibit a willingness to engage in training, this group have few training opportunities to improve their skills and job prospects.[207]
- Professional knowledge and training was previously promoted through in-house and other employer-based training. However, changes in the employment structure (such as an increase in the number of irregular workers and companies increasingly outsourcing training) has meant that individual workers often need to develop new skills on their own. Increased movement between sectors and careers, has resulted in fewer opportunities to engage in vocational training after initial education. A key message here that the employer-oriented training system has contracted with changes in the employment structure and that lifelong learning has not taken its place. With the population declining, it has been suggested that the Professional Training

[200] Santiago, P., Tremblay, K., Bari, E. and Arnal, E. (2008). *Tertiary Education for the Knowledge Society Volume 2 Special Features: Equity, Innovation, Labour Market, Internationalisation*, p.212; National Institute for Educational Policy Research. Ministry of Culture, Sports, Science and Technology, (no date given). Op cit.

[201] National Institute for Educational Policy Research. Ministry of Culture, Sports, Science and Technology, (no date given). Op cit.

[202] Tsukamoto. (2016). Op cit.

[203] Tsukamoto. (2016). Op cit.

[204] Tsukamoto. (2016). Op cit.

[205] National Institute for Educational Policy Research. Ministry of Culture, Sports, Science and Technology, (no date given). Op cit.

[206] OECD. (2019o). Op cit.

[207] OECD. (2019o). Op cit.

Industrial Strategy Council: Skills System International Case Studies

Colleges will need to adapt by responding to company demands for the outsourcing of education and training.[208]

Policy Responses

Promoting lifelong learning

Japan has a strong history of organised school to work transition and of in-house investment in training and employee development. It has sought to promote lifelong learning as a means of addressing challenges associated with its ageing population. Lifelong learning opportunities have been developed to reduce pressures on public finances, enabling workers skills to remain relevant in the labour market for longer and enhance their wellbeing. The 1990 Lifelong Learning Promotion Form formalised lifelong learning policy and led to the establishment of Learning Councils at national and prefectural levels, support for promoting and developing lifelong learning at community level and surveys for assessing the learning needs of the population.

Lifelong learning policy in Japan has encompassed structured learning through school and social education as well as learning resulting through sports, cultural activities, hobbies, recreation, and volunteer activities. The law has been considered to have "generally" achieved its goals and enhanced non-formal learning for people of all ages in Japan. It led to an increase in awareness of vocational education and increased numbers of participants in social education courses offered by the State.[209]

Challenges to promoting lifelong learning

Evidence exists that the success of the lifelong learning strategy has been hindered by limited government funding and worsening employment conditions for education providers. The Ministry of Economy, Trade and Industry was important in encouraging the involvement of the private sector in lifelong learning through financial assistance, primarily direct subsidies. Research has identified difficulties with turning to private sector funding, which dried up when Japanese firms experienced the 1990s economic crisis.[210]Strengths of the policy include how the Law identified clear, measurable objectives and was based on strong evidence of need.

- The Ministry of Education, Culture, Sports, Science and Technology (MEXT) Central Council for Education recommended establishing new four-year universities for career and technical education. The Council recommendations stated that courses would be offered in IT, agriculture and tourism and that would include 600 hours of practical courses.[211]

[208] National Institute for Educational Policy Research. Ministry of Culture, Sports, Science and Technology. (no date given). Op cit.

[209] Centre for Public Impact. (2018). *Japan's Lifelong Learning Promotion Law*; Ogden, A. (2010). A brief overview of lifelong learning in Japan. *The Language Teacher.* 34:6.

[210] Centre for Public Impact. (2018). Op cit.

[211] Center on International Education Benchmarking. (no date given).

- An increasing number of schools have recently introduced dual education cooperative programmes which allow students to enrol simultaneously in a university and Professional Training College programme. Students attend classes in a Professional Training College in the mornings and at a university in the afternoon. This option allows students to study a wide range of subjects including highly specialised subjects whilst also receiving practical vocational education and obtaining vocational qualifications.
- As part of a trial for a new framework for vocational and practical professional courses, MEXT has certified new vocational courses that are practical and involve cooperation with industry. By 2014, 470 schools and 1,365 courses were certified under the scheme.[212]
- In 2017, the Japanese government launched a programme expanding financial assistance for unemployed adults looking to learn new skills. As part of the programme, adults who lose their jobs, will be eligible for subsidies covering 40% of fees at designated educational institutions or 60% of all tuition if they complete certification requirements.
- Japan supports human resource development co-fund business expenses for training with higher subsidies for SMEs.[213]

[212] Tsukamoto. (2016). Op cit.
[213] OECD. (2018e). *Good Jobs for All in a Changing World of Work*.

Industrial Strategy Council: Skills System International Case Studies

Box 4: School Education Act Amendment, Japan

Objective:

- Support the more robust training and education of specialist professionals through close partnerships with industry
- Expand the range of options available for specialist professionals through close partnerships with industry
- Expand the range of lifelong learning options for older adults who would like to advance or change their careers.[214]
- To respond to student demand for courses which provide work-related competencies.
- To provide better pathways between vocational education and university, improve the quality of VET and to support take up of adult learning

Date Introduced: 2014-2019

Structure of Initiative:

Japan partially amended the School Education Act to create new higher vocational education systems within the university system from 2019. The amendment is based on a 2014 proposal from the Japanese educational Rebuilding Council to strengthen tertiary vocational education, Colleges of Technology, professional training colleges, high schools and related schools. The new higher educational institutions are provisionally entitled: *senmonshoku daigaku* (professional universities) and *senmonshoku tanki-daigaku* (professional junior colleges).

[214] OECD. (2018c); Santiago et al. (2008). Op cit.

4. Netherlands

	Netherlands	*UK*
Population *(2018)*	17,000,000	66,000,000
GDP per person employed *(2019) (constant 2011 PPP $)*	99,030	82,217
Average annual growth in labour productivity 2013-2018	1.44%	0.76%

Summary

The Netherlands is included in this report as it performs well in key education and training measures, and very strongly in terms of staff training. It is the highest performing country profiled in the World Economic Forum's ranking of the extent to which companies invest in training and employee development (5th in the world). **It has strengths in terms of flexibility and guidance provided to adults regarding training opportunities, as well as alignment between learning systems and changing skills needs.** It provides an example of an extensive and highly flexible Vocational Education and Training system.

The Netherlands has a **smaller population than the UK but has similar demographics** in terms of birth and death rates, and an ageing society. Productivity growth is slightly higher than in the UK. A notable difference is public spending which as a percentage of GDP is lower in 2018 in the Netherlands than the UK, yet **public expenditure on Initial Vocational Education and Training as a percentage of GDP is considerably higher** in the Netherlands.

The Netherlands has slightly lower unemployment than the UK, a similar employment rate and higher average wages.

Administration Public administration operates on four tiers: central government, provincial government, municipal government, and the water authorities.[215]

Population At 17 million, the population of the Netherlands is considerably smaller than that of the UK. The fertility rate is slightly lower than that in the UK, whilst the death rate is very similar.[216] Net migration in 2017 was 80,000.[217] The elderly population as a proportion of total population is similar to in the UK.[218]

Economy In line with its' smaller population, the Netherlands is ranked outside the top twelve economic powers, whilst the UK is ranked fifth.[219] The OECD contends that the "*Netherlands enjoys a strong economy and a good standard of living*".[220] Productivity has

[215] Business.gov.nl. (no date given). *How Dutch government works*; European Union. (2019). *Netherlands*.
[216] OECD. (2020c); World Bank. (2019d). Op cit.
[217] World Bank. (2019e). Op cit.
[218] OECD. (2020b). Op cit. Data relates to 2013.
[219] World Bank. (2019a). Op cit.
[220] OECD. (2017d) *OECD Skills Strategy. Diagnostic Report Netherlands*, p.21

Industrial Strategy Council: Skills System International Case Studies

remained higher in the Netherlands than the UK since the start of the 1990s.[221] GDP exceeded pre financial crisis levels in 2016 but productivity growth has stagnated in recent years.[222]

Welfare model Public spending as a percentage of GDP was lower in the Netherlands than in the UK in 2018[223], yet public expenditure on Initial Vocational Education and Training as a percentage of GDP was significantly higher in the Netherlands than in the UK.[224] In 2015, government expenditure per full-time equivalent student for total tertiary education was, however, lower in the Netherlands than the UK.[225]

Labour market trends In the early 2010s, the unemployment rate was lower in the Netherlands than the UK but between 2014 and 2017 was higher in the Netherlands than the UK. It is now slightly higher in the UK.[226] Long-term unemployment as a percentage of the active population fell by over 50% between 2015 and 2018 but remains slightly higher in the Netherlands than the UK.[227] Unemployment is particularly high among immigrants.[228] Employment rates are similar in both countries.[229] As in the UK, a long-term trend of job polarisation exists. Increasing employment can be identified at the lower and upper ends of the labour market whilst employment in the middle has declined.[230] Average wages are higher in the Netherlands.[231]

Figure **12**: Labour Market Context	Netherlands	UK
OECD Indicators on Employment Protection Legislation[232]		
- Protection of permanent workers against individual and collective dismissals	2.94	1.59
- Protection of permanent workers against (individual) dismissal	2.84	1.18
- Specific requirements for collective dismissal	3.19	2.63
- Regulation on temporary forms of employment	1.17	0.54
Labor Market Efficiency World Economic Forum Rank (2017-2018)[233]	13/137	6/137
Hourly Minimum wage: PPS (2018)[234]	$10.4	$9.6

[221] World Bank. (2019b). Op cit. Productivity is measured in terms of GDP per person employed.
[222] OECD. (2019q). *Netherlands Economic Snapshot*.
[223] OECD. (2019a). Op cit.
[224] Cedefop. (2018a). Op cit. Data relates to 2014.
[225] OECD. (2019d). Op cit.
[226] OECD. (2019w). Op cit.
[227] Eurostat. (2019c). *Long-term unemployment rate by sex*.
[228] Cedefop. (2015b). *Skills, qualifications and jobs in the EU: the making of a perfect match? Evidence from Cedefop's European skills and jobs survey*.
[229] OECD. (2019e). Op cit.
[230] Van den Berge, W.; Ter Weel, B. (2015). *Baanpolarisatie in Nederland [Job polarisation in the Netherlands]*. CPB policy brief 2015/13. Den Haag: Centraal Planbureau.
[231] OECD. (2019l). Op cit.
[232] OECD. (2015a). Op cit. According to a scale of 0 (least restrictions) to 6 (most restrictions). Data for the Netherlands refers to 2013, data for the UK refers to 2014.
[233] World Economic Forum. (2017). Op cit.
[234] OECD. (2018a). Op cit.

Figure **12**: Labour Market Context	Netherlands	UK
Unemployment Rate (2014)[235]	7.4%	6.1%
Unemployment Rate (2018) [236]	3.8%	4%
Employment Rate (2019)[237]	78.2%	75.2%
Unionisation: trade union density (2018)[238]	16.4%	23.4%

Labour market flexibility The World Economic Forum's ranking for the Netherlands for labour market efficiency rose from 21 in 2013 to 13 in 2017[239] signalling improved flexibility. Under a different categorisation system, in 2019 the World Economic Forum ranked the Netherlands 12th for labour market flexibility.[240] Other indicators that the labour market is becoming more flexible in the Netherlands include a rise in the share of self-employed workers since 2010, an increase in the share of workers employed on a temporary basis, and a rise in those working from home.[241]

According to the OECD Indicators on Employment Protection Legislation, the Netherlands has stronger employment protection legislation than the UK. Between 2008 and 2013, legislation was tightened in terms of specific requirements for collective dismissal. In 2019, the Dutch Senate approved legislation designed to reduce the legal gap between working as an employee and as a temporary worker. The Balanced Labour Market Act aims to make it more attractive for employers to employ workers on a permanent basis through reducing the gap between permanent contracts and flexible employment. Labor efficiency remains weaker in the Netherlands than in the UK. Despite the differences in employment protection legislation, average job tenure is very similar in the Netherlands and the UK. This possibly indicates that the two economies are overall moving in a similar direction in terms of labour market fluidity.[242] The Netherlands had the highest level of part-time employment in the EU in 2018.[243] Trade union density is lower than in the UK.[244]

The Netherlands has a relatively high minimum wage, ranked joint fifth of the 32 OECD countries, and above the UK.[245]

Skills and Training Performance

[235] OECD. (2019w). Op cit.
[236] OECD. (2019w). Op cit.
[237] OECD. (2019e). Op cit.
[238] OECD. (2019y). Op cit.
[239] World Economic Forum. (2014. Op cit; 2017. Op cit).
[240] World Economic Forum. (2019). Op cit.
[241] Cedefop. (2016). *Vocational education and training in the Netherlands. Short description*.
[242] OECD. (2019m). Op cit. Average job tenure in 2017 was the same for job tenure of < 1 month, 1 < 6 months, and 6 months to 1 year. Average job tenure for 10 years and over was 20.6 years compared to 19.2 years in the UK.
[243] OECD. (2019r). *Part-time employment rate*.
[244] OECD. (2019y). Op cit. Data relates to 2013.
[245] OECD. (2019n). Op cit.

Industrial Strategy Council: Skills System International Case Studies

The Netherlands performs very strongly in terms of staff training. The World Economic Forum ranked the Netherlands 5th and the UK 29th in terms of the extent to which companies invest in training and employee development.[246]

Lifelong learning rates are very high. In 2017, over 19% of adults aged 25 to 64 participated in some form of learning, only exceeded by the Scandinavian countries in Europe.[247] National data and research emphasise the relevance and impact of vocational training and lifelong learning.[248] In 2012 only 5% of employees reported experiencing problems in work due to a lack of knowledge or competences.[249]

Training undertaken appears to have significant spill over effects. 44% of the trained employed expected the knowledge they have developed to be useful in another sector. Over 50% have shared learning with colleagues.[250]

Nonetheless, as in the UK where higher skilled individuals or those with higher levels of education are more likely to receive training, participation in training is unequal. Workers over the age of 45, people with low-skills levels, those with weaker labour market positions such as the unemployed and temporary workers, and those who have not participated in training previously have below average participation levels. Self-employed workers compensate for lower access to training by investing greater amounts of time in self-study to develop new skills.[251]

Annex 3 indicates participation in non-formal education and training for those aged 25-64 is considerably higher in the Netherlands than the UK. However, engagement in formal education and training is lower than in the UK.

Skills Indicators

Figure 13: Educational Attainment	*Netherlands*	*UK*
Survey of Adult Skills (PIAAC 2015)[252]:		
- Percentage of adults scoring low (at or below level 1) in literacy	11.7%	16.4%
- Percentage of adults scoring low (at or below level 1) in numeracy	13.2%	24.1%

[246] World Economic Forum. (2019). Op cit.

[247] Centraal Bureau voor de Statistiek. (2018). *Nearly 1 in 5 adults in education or training.*

[248] Vlasblom, J.D; Van Echteld, P.; De Voogd-Hamelink, M. (2015). *Aanbod van arbeid 2014: arbeidsdeelname, flexibilisering en duurzame inzetbaarheid. [Labour supply 2014: participation, flexibilisation and employability]. Den Haag: Sociaal en Cultureel Planbureau*.; Borghans, L.; Fouarge, D.; De Grip, A.; Van Thor, J. (2014). *Werken en leren in Nederland. [Working and learning in the Netherlands]* ROA-R-2014/3. Maastricht: Maastricht University, School of Business and Economics.

[249] Cedefop (2015a). In: Cedefop. (2016). Op cit.

[250] Cedefop. (2016). Op cit.

[251] Cedefop. (2016). Op cit.

[252] OECD. (2019f). Op cit.

Figure 13: Educational Attainment	*Netherlands*	*UK*
OECD Adult Education Level (highest level of education completed by the 25-64 year-old population, 2017)[253]		
- Below upper secondary	21.6%	18.8%
- Upper secondary	41.2%	35.4%
- Tertiary	35.2%	45.7%
European Skills Index (encompasses indicators focusing on various age groups from pre-primary education to age 64, 2020)[254]		
- *Overall Indicator:*	64	53
- *Skills Development:*	62	50
- *Skills Activation:*	86	76
- *Skills Matching:*	52	41
European Commission Digital Economy and Society Index (encompasses indicators focusing on various age groups from 5 years+, 2017)[255]:		
- At least basic digital skills	79.5%	70.5%
- Advanced Skills and Development: ICT Specialists	5%	5.1%
OECD Skills Strategy Dashboard[256]:		
- How strong are foundational skills of adults?	Top 20%	Around average
- How skilled are young tertiary educated adults?	Top 20%	Bottom 20-40%
- Is there a strong culture of adult education?	Top 20%	Top 20-40%

The Netherlands performs well in key education and training measures, reflecting the "*relatively high and stable level of public investment on education*".[257] The OECD notes the importance of its highly skilled population in creating the strong economy and good standard of living currently enjoyed in the Netherlands.[258] The OECD Skills Strategy Dashboard ranks the Netherlands in the top 20% of countries for four of the indicators relating to skills development. The Netherlands has a smaller percentage of adults scoring low in literature and numeracy.

In the European Skills Index, the Netherlands performed more strongly than the UK on all measures, and particularly stands out in terms of skills activation. The Netherlands also

[253] OECD. (2019s). *Adult education level (indicator)*.
[254] Cedefop. (2020). Op cit.
[255] European Commission. (2019). Op cit.
[256] OECD. (2019h). Op cit. Data for UK refers to England only.
[257] Cedefop. (2019a). *The Netherlands. European Inventory on NQF 2018*.
[258] OECD. (2017d). Op cit.

Industrial Strategy Council: Skills System International Case Studies

outperforms the UK in terms of digital skills in the European Commission Digital Economy and Society Index. Concerning the proportion of ICT specialists in total employment - used as a measure of advanced skills and development – the Netherlands is very similar to the UK. The Netherlands performs well in education to upper secondary level.

Key features of Vocational Education and Training system

Overview

Figure 14: Adult Learning	*Netherlands*	*UK*
OECD Priorities for Adult Learning Dashboard[259]		
Urgency: extent of urgency of updating adult learning system	0.3	0.3
Coverage: extent people and firms are engaged in learning	0.5	0.5
Inclusiveness: inclusiveness of adult learning opportunities	0.3	0.5
Flexibility and Guidance: extent of flexibility of adult learning opportunities and extent guidance is readily available	0.7	0.5
Alignment: extent adult learning is aligned with labour market needs	0.7	0.7
Perceived Impact: perceived impact of adult learning	0.2	0.6
Financing: adequacy of adult learning system financing	0.5	0.4

- The OECD Priorities for Adult Learning Dashboard indicates the system in the Netherlands has strengths in terms of flexibility and guidance provided to adults regarding training opportunities, as well as alignment between learning systems and changing skills needs. The system outperforms or performs equally as well as the UK system on all measures other than perceived impact, which relates to the certification, monitoring and evaluation of training.
- Education in the Netherlands is compulsory between the ages of 5 and 16. 45% of learners in the third year of secondary education are in general programmes (HAVO.VWO). Over 50% take a lower secondary pre-vocational programme (VMBO).[260]
- The Vocational Education and Training (VET) system is more expansive in the Netherlands than in the UK. It places greater emphasis on general learning to support young people to move into careers in particular occupations whilst also gaining work

[259] OECD. (2019j). Op cit. 0=lowest coverage, 1 = highest.
[260] Cedefop. (2016). Op cit.

experience or employment. Broad courses enable later specialisation in a specific occupation or career.[261]

College Programmes

- The Netherlands operates a highly flexible VET system, which is followed by over half of students over the age of 16. Known as MBO, it includes two pathways: college-based training (BOL) (where students spend 4 days per week in college and one day doing a work placement) and work-based training (BBL) (where students spend 4 days per week completing a work-placement and 1 day per-week in college).
- The two pathways are integrated. Students take the same qualification irrespective of the pathway followed. The system is flexible depending on the state of the economy and the level of employer-demand.[262] Most participants in the school-based pathway are young people whilst nearly 50% of participants in the work-based learning pathway are 24 or over.[263]

Foundation Degrees

- The Netherlands has piloted two-year foundation degrees but several years after their establishment, enrolment remained considerably lower than on bachelor degrees.[264]
- As the public sector faces barriers in delivering part-time programmes to adults, the private sector is responsible for delivering the majority of such courses in the Netherlands.[265]

Lifelong Learning

- In 2012, the Dutch government sought to respond to the modest and declining number of part-time students in public education by proposing a system of publically funded loans for adults who would like to return to education, as well as a system in which some target groups are able to spend vouchers on selected post-secondary vocational education programmes.[266]
- There is a strong role for social partners (unions and employer representatives) in VET.[267]
- The Dutch government is responsible for 68% of total spending on upper secondary VET. Companies and individual households cover the remaining costs.[268]

Key Challenges

[261] Pullen, C. and Dromey, J. (2016). *Earning and Learning. Making the Apprenticeship System Work for 16-18 year-olds*. IPPR.

[262] Pullen and Dromey. (2016). Op cit.

[263] Cedefop. (2016). Op cit.

[264] Fazekas and Litjens. (2014). Op cit.

[265] OECD (2014). *Skills beyond School. Synthesis Report*.

[266] Department for Education. (2019*). International comparisons of post-compulsory education systems. Appendices: Country reports;* Fazekas and Litjens. (2014). Op cit.

[267] Clarke and Winch. (2016). Op cit.

[268] Cedefop. (2016). Op cit.

Industrial Strategy Council: Skills System International Case Studies

- Priority areas for action in the Netherlands identified by the OECD[269] are:
    - Fostering more equitable skills outcomes. Despite the overall high skills levels, a considerable number of adults (primarily immigrants) in the Netherlands continue to have very basic skills levels. Older workers also continue to have greater difficulties (re) activating their skills.
    - Creating skills-intensive workplaces – although according to analysis of the 2012 and 2014 OECD Survey of Skills database the skills of workers are used more in Dutch firms than in most OECD countries[270], there is room to harness skills further, particularly in SMEs. The country is ranked 13th whilst England is ranked 6th.[271]
    - Promoting a learning culture – the OECD suggests this could help to support more equitable skills outcomes and the formation of skills-intensive workplaces. Although a well-established network of schools exists in the Netherlands offering adult general education or "second chance" education. Nonetheless, courses to upskill adults, including ethnic minorities, with the lowest skills levels have been "*too few, too modest in ambition, have unclear objectives and lack adequate budget and oversight*". Upper secondary vocational education (MBO) and tertiary education has been criticised for being insufficiently flexible and responsive to learner needs.[272]
    - A key recommendation for employers is that they take a more proactive approach to supporting students from lower socio-economic backgrounds and migrants through providing them with more work-based learning opportunities.
- Concern has been raised that the recent expansion in the use of flexible contracts will have an adverse impact on skills development activity.[273]

[269] OECD. (2017d). Op cit.

[270] Based on analysis of information-processing skills (reading, writing, numeracy, ICT and problem solving) used at work by working population aged 16 to 65.

[271] OECD. (2016). Op cit.

[272] OECD. (2017d). Op cit, p.24.

[273] OECD. (2017d). Op cit.

Policy Responses and Success Factors

Improving school retention rates and strengthening the skills of young people

To reduce early leaving from school and education, the 'qualification duty' (*kwalificatieplicht*) was introduced in 2008. This requires 16 and 17 years olds who have not achieved a general or basic vocational qualification at upper secondary level to continue learning.

- Dialogue began on a national curriculum for compulsory education in 2015 and policies to improve the quality of teaching are currently being implemented.[274]
- In 2018, the government signed an agreement with the upper secondary vocational education sector (*middelbaar beroepsonderwijs*, MBO), designed to improve the quality on Initial Vocational Education and Training, and to make VET more flexible in terms of responding to different needs in terms of time, place and forms of learning.[275]

Through the *Invest In Talent* Initiative, the Netherlands has taken a holistic approach to reducing school dropout rates and supporting young people to develop sustainable career paths.

Box 5: *Invest in Talent*, the Netherlands[276]

Stated objectives of Initiative: Through strengthening the skills of young people the scheme aims to prevent young people from dropping out of school, reduce youth unemployment, reduce social and economic exclusion and reduce benefit payments/costs.

Date Introduced: Began in 2002 as "WerkHotel", a programme in Leiden/Amsterdam to provide disadvantaged young with housing, educational support, internships and advice. Between 2009 and 2012 the concept was transformed into Invest in Talent which was sector orientated (sectors differ by city e.g. care and retail in Rotterdam, construction and hospitality in Amsterdam).

Structure of Initiative: Local public-private partnerships between a number of local partners (i.e. employers, educational institutions, youth support associations, housing associations, and local municipalities). The partners offer young people 4 coordinated types of support: work, education, housing and coaching in order for them to enter the labour market with sufficient skills to find sustainable employment.

How it operates: Potential participants are selected through a special Warming Up program; training on social and employee skills; realising skills-intensive learning internships and apprenticeships at and with companies as well as temporary and permanent job guarantees where possible; developing transferable skills for the workplace; providing continual coaching to participants at all stages of the programme; matching demand from employers with young people's talents. The programme prioritises coordination with employers. Each participant on the Rotterdam programme receives approximately 2 hours of coaching support per week with a fixed coach.

[274] Cedefop. (2019a). Op cit.

[275] Cedefop. (2019a). Op cit.

[276] Cedefop. (no date given). *Invest in Talent*; Investeer in Talent. (no date given). *Invest in Talent*; Talent voor Amsterdam. (no date given). *Tackles loss and youth unemployment;* Talent voor Rotterdam. (no date given). *Invest in your talent*.

Industrial Strategy Council: Skills System International Case Studies

Box 5: *Invest in Talent*, the Netherlands[276]

Initiative Funding: Local projects (e.g. Talent for Amsterdam, Talent for Rotterdam) are financed by local partners (in the private and non-profit sectors). The programme does not receive public funding. Organisations take part in the programme according to social and economic interests.

Initiative Performance: Two independent evaluations have been conducted so far. The evaluation of Talent for Rotterdam concluded that young people participate for an average of 16-18 months and around 90% finish the programme and receive a basic qualification. In addition, around 70% of participants who obtain a basic qualification continue on to higher education. The other partial evaluation of Talent for Zorg/ Techniek – Utrecht found that "*Talent for Care leads to different social effects on different fields such as the labour market, the economy and public health. […]. The social benefits outweigh the costs for the project*". Key success factors identified by Cedefop include.[277]

- The integrated holistic nature of support, which combines work experience, education and training, housing and coaching
- Working closely with employers to secure the placements, which reduces the burden on young people in the project.
- Managing the risks involved in working with unemployed young people by selecting young people who are motivated and meet the programme requirements.

Improving lifelong learning

The Netherlands has relatively low participation rates in formal and non-formal training, informal learning activities among employees in small businesses, and among older, low-skilled and flex workers. This raises their risk of job loss and hinders their ability to find a new one. To address this challenge, in 2018 the Dutch Cabinet announced a new £10.5 million lifelong learning policy in cooperation with social partners, sectoral training and development funds, educational institutions and other stakeholders (see Box 6 below).

Box 6: New lifelong learning policy in the Netherlands[278]

Key aspects of the policy include:

- Adapting the fiscal frameworks and reintroducing 'individual learning accounts' in cooperation with social partners, sectoral training and development funds and executive agencies; developing a portal providing overviews of training and learning programmes to the public; and introducing pilot programmes for low qualified job-seekers and employees not in a position to obtain a basic qualification offered by secondary VET institutions;
- Supporting a positive learning culture in SMEs, through focus on formal and informal learning and sustainable employability.
- Introducing flexible education paths for adults in secondary VET schools;
- Arranging agreements with social partners, for example on fiscal frameworks for private learning and development initiatives.[57]

[277] Talent voor Amsterdam and Cedefop. (2017). *Tackle drop-out and youth unemployment*.
[278] Cedefop. (2018). *The Netherlands: policy developments in lifelong learning*.

Developing sector plans in conjunction with social partners

Sector plans (*sectorplannen*) are jointly developed by employer organisations and trade unions. In addition, some plans are developed in conjunction with other stakeholders including education providers and local authorities. The plans identify policies designed to improve the short and medium-term functioning of the labour market. Measures generally fall into six areas: i) transition support for individuals switching jobs; ii) wage subsidies to promote the inclusion of young people and vulnerable groups in the labour market; iii) education and training; iv) knowledge transfer from the older to the younger generation; v) health at work measures and vi) evidence base improvements.

Since 11 April 2013, sector plans have been included within a Social Agreement as part of efforts to make the Dutch labour market more resilient to future challenges. The plans are co-financed by the government with EUR 600 million (OECD, 2017).[279] Social partners have initiated sectoral training and development funds (*Opleidings- en Ontwikkelingsfondsen*) which are financed principally through payroll levies, fixed in collective agreements. The funds are important in enabling workers to maintain their skills and anticipate future skills needs.[280]

[279] OECD. (2019u). Op cit; OECD. (2017e). *Getting Skills Right: Financial Incentives for Steering Education and Training*.

[280] OECD. (2018d). *Good Jobs for All in a Changing World of Work: The OECD Jobs Strategy*.

Industrial Strategy Council: Skills System International Case Studies

5. Sweden

	Sweden	*UK*
***Population** (2018)*	10,000,000	66,000,000
***GDP per person employed** (2019) (constant 2011 PPP $)*	100,078	82,217
Average annual growth in labour productivity 2013-2018	2.03%	0.76%

Summary

Sweden is included in this report as it **performs highly in a number of measures including flexibility and alignment** between adult learning and labour market needs and digital skills; it has a **strong reputation for excellence in vocational education**. **Traditionally,** Sweden has adopted **a statist** and **school-based system** for Vocational Education and Training (VET) **but industry has recently driven a large-scale initiative. Public Expenditure on Initial Vocational Education and Training** as a percentage of GDP is **much higher** in Sweden than the UK.

Sweden has similar demographics to the UK in terms of its fertility rate and death rate but has a much smaller population and higher levels of productivity (although productivity growth has slowed over the last decade).

The country features higher unemployment coupled with higher levels of public social spending and employment protection legislation than the UK. Nonetheless, government expenditure per full-time equivalent student for total tertiary education is lower.

A new government formed of Social Democrats and Greens was appointed in Sweden in January 2019. Planned labour market reforms include revising labour legislation to create more exceptions to the order of lay-off rules, enhancing access to adult education and skills development, better integration of immigrants. The latter will be achieved through an Entry agreement negotiated by the social partners and an Integration year scheme which combines vocational education and training with language learning[281].

Administration Sweden is a parliamentary representative democratic constitutional monarchy with three levels of government: national, regional and local.

[281] OECD. (2019k). *OECD Economic Surveys Sweden. Overview*.

Population Sweden's population is less than a sixth of the size of that of the UK. While its fertility and death rates are similar to the UK, the elderly account for a larger share of Sweden's total population.[282] Net migration is positive, at 200,000 in 2017.[283]

Economy Whereas the UK is the world's sixth ranked economic power, Sweden is ranked outside of the top fifteen countries, with GDP of 551 billion US dollars (in current US$).[284] Sweden has "*a strong knowledge-based economy, well integrated in global value chains, which ensures high standards of living, well-being, income and gender equality, as well as a high environmental quality to its inhabitants*".[285] The service sector is particularly important. Productivity has increased in recent years and is significantly higher than in the UK.[286] 99.9% of businesses are SMEs.[287]

Welfare model Sweden has a highly developed welfare state. It is an example of a social-democratic regime.[288] Such regimes are the most interventionist, guaranteeing universal benefits at generous levels.[289] Public social spending as a percentage of GDP at is higher than in the UK.[290] Public Expenditure on Initial Vocational Education and Training as a percentage of GDP is much higher in Sweden than the UK.[291] Nonetheless, government expenditure per full-time equivalent student for total tertiary education is greater in the UK.[292]

Labour market trends As evidenced in Figure 15, unemployment has fallen in Sweden and the UK since 2014 but remains higher in Sweden.[293] Unemployment is particularly high among 20-24 year olds born in Sweden with a low-level of education and among low-educated people born outside of the EU.[294] Over the past ten years, the employment rate has steadily increased in Sweden. Average wages are very similar in Sweden and the UK.[295]

According to the OECD Indicators on Employment Protection Legislation, employment protection legislation is much stronger in Sweden than in the UK.

[282] OECD. (2020a). Op cit.; OECD. (2020d). Op cit.; OECD. (2020c). Op ci.t; World Bank. (2019d). Op cit. (2020b). Op cit.

[283] World Bank. (2019e). Op cit.

[284] World Bank. (2019b). *GDP (current US$)*.

[285] OECD. (2019t).

[286] World Bank. (2019b). Op cit. Productivity is measured in terms of GDP per person employed.

[287] European Commission. (2019). *2019 SBA Fact Sheet*.

[288] Esping-Andersen. (1990). Op cit.

[289] Isakjee, A. (2017). *Welfare State Regimes: a Literature Review*. Institute for Research into Superdiversity University of Birmingham. Working Paper.

[290] OECD, (2019a). Op cit. Sweden: 26.1%. UK: 20.6%. Data relates to 2018.

[291] Cedefop. (2018a). Op cit. Sweden: 0.78%. UK: 0.45%. Data relates to 2014.

[292] OECD. (2019d). Op cit. UK: $26,320.1. Sweden: $24,417.4. Data relates to 2015.

[293] OECD. (2019w). Op cit.

[294] SCB. (2017). *High unemployment among young persons and persons born outside Europe with a lower level of education*.

[295] OECD. (2019l). Op cit. Sweden: US $44,200 per annum. UK: US $44,800.

Industrial Strategy Council: Skills System International Case Studies

Figure 11: Labour Market Context	*Sweden*	*UK*
OECD Indicators on Employment Protection Legislation[296]		
- Protection of permanent workers against individual and collective dismissals	2.52	1.59
- Protection of permanent workers against (individual) dismissal	2.52	1.18
- Specific requirements for collective dismissal	2.50	2.63
- Regulation on temporary forms of employment	1.17	0.54
Labor Market Efficiency World Economic Forum Rank (2017-2018)[297]	20/137	6/137
Hourly Minimum wage: PPS (2018)[298]	N/A	$9.6
Unemployment Rate (2014)[299]	8.0%	6.1%
Unemployment Rate (2018) [300]	6.4%	4%
Employment Rate (2019)[301]	77.1%	75.2%
Unionisation: trade union density (2017)[302]	65.6%	23.2%

Labour market flexibility The World Economic Forum's ranking for labour market efficiency in Sweden is lower than the UK's. It decreased marginally from 18 in 2013 to 20 in 2017.[303] Under a different categorisation system, in 2019 the World Economic Forum ranked Sweden 32nd and the UK 14th for labour market flexibility.[304] Despite the differences in employment protection legislation, average job tenure is very similar.[305] Sweden is one of the only advanced Western democracies not to have a national minimum wage. Trade union density (65.6% in 2012) is higher than in the UK.[306] Swedish unions benefit from extensive freedom to strike than unions in the UK. Consequently they enjoy substantive power in direct bargaining with employers. The main union for workers in the manufacturing and service sector has continually opposed the introduction of a legal minimum wage because strong low-wage competition does not yet exist.[307] Sweden scores above the UK in terms of the quality of the working environment.

[296] OECD. (2015a). Op cit. According to a scale of 0 (least restrictions) to 6 (most restrictions). Swedish data refers to 2013, UK data to 2014.

[297] World Economic Forum. (2017). Op cit.

[298] OECD. (2019n). Op cit.

[299] OECD. (2019w). Op cit.

[300] OECD. (2019w). Op cit.

[301] OECD. (2019e). Op cit.

[302] OECD. (2019y). Op cit.

[303] World Economic Forum. (2014) Op cit; (2017), Op cit. The UK is ranked 6th.

[304] World Economic Forum. (2019). Op cit.

[305] OECD. (2019m). Op cit. Total – Sweden (8.5) years, UK (8.6 years) Average job tenure in 2018 was the same for job tenure of < 1 month, 1 < 6 months, and 6 months to 1 year. Average for tenure for 10 years and over was 20.7 years compared to 19.2 years in the UK.

[306] OECD. (2019y). Op cit.

[307] Meyer, B. (2016). Learning to love the government. Trade unions and late adoption of the minimum wage. *World Politics.* 68:3. Pp.538-575.

Skills and Training Performance

Sweden performs very strongly in terms of staff training. The World Economic Forum ranked Sweden 10th and the UK 29th in terms of the extent to which companies invest in training and employee development.[308]

As shown in Annex 3, participation in both formal and non-formal education and training for those aged 25-64 is considerably higher in Sweden than in the UK.

However, Sweden had the highest drop in enrolment in VET among OECD countries between 2009 and 2015.[309]

Skills Indicators

Figure 16: Educational Attainment	*Sweden*	*UK*
Survey of Adult Skills (PIAAC 2015)[310]:		
- Percentage of adults scoring low (at or below level 1) in literacy	13.3%	16.4%
- Percentage of adults scoring low (at or below level 1) in numeracy	14.7%	24.1%
OECD Adult Education Level (highest level of education completed by the 25-64 year-old population, 2017)[311]		
- Below upper secondary	17.0%	18.8%
- Upper secondary	41.0%	35.4%
- Tertiary	41.9%	45.7%
European Skills Index (encompasses indicators focusing on various age groups from pre-primary education to age 64, 2020)[312]		
- *Overall Indicator:*	72	53
- *Skills Development:*	75	50
- *Skills Activation:*	87	76
- *Skills Matching:*	62	41
European Commission Digital Economy and Society Index (encompasses indicators focusing on various age groups from 5 years+, 2017)[313]:		
- At least basic digital skills	77.2%	70.5%
- Advanced Skills and Development: ICT Specialists	6.6%	5.1%

[308] World Economic Forum. (2019). Op cit.

[309] Kuczera, M. and Jeon, S. (2019). *Vocational Education and Training in Sweden. OECD Reviews of Vocational Education and Training*.

[310] OECD. (2019f). Op cit.

[311] OECD. (2019g). Op cit.

[312] Cedefop. (2020).

[313] European Commission. (2019). Op cit.

Industrial Strategy Council: Skills System International Case Studies

Sweden has higher skills levels than the UK and appears stronger at skills development and skill utilisation. The percentage of adults scoring low in literacy and numeracy in the Survey of Adult Skills in 2015 was considerably lower in Sweden than the UK. In the European Skills Index, Sweden outperforms the UK on all indicators and performs strongly in terms of education to upper secondary level. In the European Commission Digital Economy and Society Index, Sweden also outperforms the UK for digital skills and the proportion of ICT specialists in total employment and the extent to which information-processing skills are used at work. The country is ranked two places below England in eighth position for this measure.[314]

Key features of Vocational Education and Training system

Overview

Figure 17: Adult Learning	*Sweden*	*UK*
OECD Priorities for Adult Learning Dashboard[315]		
Urgency: extent of urgency of updating adult learning system	0.3	0.3
Coverage: extent people and firms are engaged in learning	0.7	0.5
Inclusiveness: inclusiveness of adult learning opportunities	0.6	0.5
Flexibility and Guidance: extent of flexibility of adult learning opportunities and extent guidance is readily available	0.7	0.5
Alignment: extent adult learning is aligned with labour market needs	0.5	0.7
Perceived Impact: perceived impact of adult learning	0.3	0.6
Financing: adequacy of adult learning system financing	0.4	0.4

- Young people attend compulsory education from 6-16. Following successful completion of compulsory education, students can choose to apply to one of 18 national upper secondary programmes. The programmes normally last 3 years and all contain the same eight core required subjects. The scope and the amount of credits associated with the core/foundation subjects differ across vocational and higher education programmes. Subject to the upper-secondary national programme studied, students completing upper-secondary school can apply to universities, university colleges and/or higher vocational education.

[314] OECD. (2016). Op cit.
[315] OECD. (2019j). Op cit. 0=lowest coverage, 1 = highest.

Vocational Education

- The VET system has developed considerably in recent years. Work-based learning has improved thanks to stricter requirements for work placements by schools in vocational programmes and the expansion of the role of social partners. It is now almost universal in Swedish upper-secondary VET. It is valued by both students and employers.[316] It is now considered "*strong*" according to the OECD, in terms of how it enables students to develop the sound basic and occupational skills required to enter higher levels of education and employment.[317]
- The OECD Priorities for Adult Learning Dashboard indicates adult learning provision is more flexible (in terms of the extent of flexibility of adult learning opportunities and the extent guidance is readily available), more inclusive and offers greater coverage than the UK system. However, the dashboard suggests that adult learning is less aligned with labour market needs in Sweden than the UK. A greater proportion of employers in Sweden report difficulties filling jobs and a lower proportion provide training in response to future skills needs.

Key Strengths

- The OECD argues that the strong evaluation and data culture is one of the biggest strengths of the Swedish VET system. A national register identifying individuals according to personal identification numbers is linked to various education and employment administrative datasets. Commissions of inquiry are used for to examine areas where significant challenges are identified. A recent example examines fragmentation in the VET system and explores whether, and how, regional co-ordination among VET stakeholders should be encouraged. New policies are generally introduced as pilots, before being scaled up if they are successful. The apprenticeship path being one example[318] The evaluation culture is longstanding – the 2013 OECD commentary on post-secondary VET praised the strong data and evaluation culture in the higher Vocational Education system in Sweden.[319]
- Higher VET is very flexible in terms of responding to labour market needs. Policy is designed to take account of the labour market situation and training courses are then offered in specific fields. Decisions regarding which educational programmes are offered are taken by the Swedish National Agency on Higher Vocational Education which analyses labour market demand on a regional and national level. Education providers deliver each course over a short period of time. Upon completion, the provider is required to reapply for a new training course which is tailored to respond to current labour market needs.[320]

[316] Kuczera and Jeon. (2019). Op cit.
[317] Kuczera and Jeon. (2019). Op cit, p.9.
[318] Kuczera and Jeon. (2019). Op cit.
[319] Kuczera, M. et al. (2008), *OECD Reviews of Vocational Education and Training: A Learning for Jobs Review of Sweden 2008.* OECD: Paris.
[320] Ulicana, D., Luomi, K., Messerer, K.L. (2016). *Study on higher Vocational Education and Training in the EU*; Kuczera and Jeon. (2019). Op cit.

Industrial Strategy Council: Skills System International Case Studies

- Higher VET has been expanded. 16 fields of study and training exist, with specialisations available in approximately 250 professional roles.[321]
- Links between VET and the labour market have been strengthened recently. When the OECD conducted its first review of VET in Sweden in 2008, it found that there was little interaction between the VET system and the world of work.[322] However, in 2019, the OECD recognised that Sweden has since introduced a series of reforms and described these reforms as "considerable achievements".[323] For example, the creation of a national framework for social partners' engagements through National Programme Councils and the requirement for all VET programmes to include a work placement.
- All training courses in Sweden which lead to an advanced diploma in higher vocational education include 1/3 of time spent on work-based learning. Work-based learning can also be followed in other types of training course.[324]
- The employment rate among graduates from higher VET Courses in Sweden is quite high (80%-90% with some variation according to education area).[325]

Key Challenges

- The percentage of young people 16+ enrolled in upper-secondary VET is declining. Between 2009 and 2015 the highest drop in VET among OECD countries was recorded in Sweden. The OECD suggests weak pathways from VET to higher education are the cause - it can be difficult for students completing upper-secondary VET programmes to apply to universities, university colleges and/or higher vocational education.[326]
- VET schools in Sweden tend to be small compared to in other European countries, increasing costs and creating a potential mismatch between provision, career aspiration and employer demand. According to the OECD, the efficiency of the match between VET provision and labour market needs could be improved in the short-term through increased collaboration between VET providers and VET schools. Collaboration between schools is limited, partly because of unconstrained student choice and high competition between schools.[327] This would enable schools to offer a broader syllabus. In the long-term, the OECD argues for the rationalisation of the network of VET schools and an increase in the average size of VET schools.[328]
- Although the engagement of social partners in the system is strong nationally, it varies at a local level.[329] Social partners are involved less in the design and provision of apprenticeships than in many other countries. Swedish employers have fewer responsibilities for and less influence over apprenticeships than elsewhere.[330] Local

[321] Ulicana et al. (2016). Op cit; Kuczera and Jeon. (2019). Op cit.
[322] Kuczera et al. (2008). Op cit.
[323] Kuczera and Jeon. (2019). Op cit, p.25.
[324] Ulicana et al. (2016). Op cit.
[325] Ulicana et al. (2016). Op cit.
[326] Kuczera and Jeon, 2019. Op cit.
[327] Kuczera and Jeon, 2019. Op cit.
[328] Kuczera and Jeon, 2019. Op cit.
[329] Kuczera and Jeon, 2019. Ibid; Skolverket. (2016). *Det arbetsplatsförlagda lärandet på gymnasieskolans yrkesprogram*.
[330] Kuczera and Jeon, 2019. Op cit.

employers have reported difficulties influencing policy at a regional level.[331] Lack of engagement among employers in the system may help to explain why the Swedish adult learning system is ranked lower than the UK system in terms its alignment to labour market needs.

- Questions exist concerning the quality of work-based learning provision. This differs considerably according to individual school and individual VET teachers.[332] The OECD emphasised that teachers are "*often time-constrained and may lack the specialist skills to organise WBL*".[333] Teachers or mentors delivering higher VET programmes are required to have specific knowledge and skills within their field obtained through education or experience, specific education requirements do not exist.[334]
- The Swedish VET system has faced increasing criticism for not responding well to new challenges, in particular high youth unemployment. Challenges young people have faced trying to enter the labour market have created increased demands for a more-apprentice-orientated system.[335] Export-orientated engineering companies and associated stakeholders have lobbied for greater cooperation between schools and industry.[336]
- Important challenges for the Swedish economy include the potential impact of global trade tensions and digitalisation. Automation could affect nearly one third of jobs in Sweden, and lead to the disappearance of a further 8% of jobs.[337]

Policy Responses and Success Factors

Ensuring quality and flexibility in the VET system

Quality Assurance of higher VET studies is provided by the Swedish National Agency for Higher Vocational Education which monitors and audits education providers and training courses. Systematic feedback loops exist to support developing new training courses and ensuring new courses are adapted to labour market needs. This system also contributes to ensuring existing training courses are effectively adapted.[338]

The focus placed on regularly reviewing the content of higher VET courses to ensure provision responds to labour market demand has been cited as an important factor behind the higher employment rate among VET graduates. The high flexibility in the Swedish VET system has

[331] Skolverket. (2017). *Regionalt yrkesvux. UPPFÖLJNING 2017, Rapport Dokumentdatum: 2018-05-30*.

[332] Kuczera and Jeon, 2019. Op cit.

[333] Kuczera and Jeon, 2019. Ibid, pp.9-10.

[334] Ulicana et al. (2016). Op cit.

[335] Persson, B. and Hermelin, B. (2018). Mobilising for change in vocational education and training in Sweden – a case study of the 'Technical College' scheme. *Journal of Vocational Education and training.* 70:3, pp.476-496.

[336] Industrial Council [Industrirådet]. 2014. *Industrirådets syn på kompetensförsörjning* [The Industrial Council's view on Competence Provision]. Stockholm: Industrirådet.

[337] OECD. (2019j). *Launch of the 2019 Economic Survey of Sweden*.

[338] Ulicana et al. (2016). Op cit.

Industrial Strategy Council: Skills System International Case Studies

played an important role not just in ensuring that provision responds to labour market demand but also in terms of high transferability.[339]

Role of social partners

The involvement of social partners has increased gradually over recent years. A national architecture has been created in which social partners work with the government to oversee the VET system. This could be strengthened further in relation to apprenticeships. Employers in Sweden have fewer responsibilities for and influence over apprenticeships than employers in other countries. [340] Based on international best practice, the OECD maintains that employers in Sweden should be given the opportunity to choose their apprentices, and influence the content and mode of delivery of apprenticeships more strongly.[341]

Engaging employers

Recent reforms have introduced incentives to persuade employers to pay apprentice wages and to engage in the training of workplace trainers. Training workplace trainers is considered important to ensure trainers are sufficiently trained to mentor workplace trainees and apprentices.[342] Industry has recently sought to improve the supply and quality of industry and technology-orientated education programmes through establishing a technical college scheme (see Box 7 below).

[339] Ulicana et al. (2016). Op cit.
[340] Kuczera and Jeon, 2019. Op cit.
[341] Kuczera and Jeon, 2019. Op cit.
[342] Kuczera and Jeon, 2019. Op cit.

Box 7: The Technical College scheme (*Technikcollege*), Sweden[343]

Stated objectives of Initiative: To improve the supply and quality of industrial and technology-orientated education programmes at the upper secondary level.

Date Introduced: start of the 2000s. Industry stakeholders and the engineering industry trade union established the scheme to respond to sustained difficulties recruiting skilled labour attributed to low quality industrial VET, the low-status of blue collar employment, and difficulties upper secondary schools faced recruiting students for technical training courses.

Structure of Initiative: a certification scheme for upper secondary school education in technology. It is administered by the Council of Swedish Industries. A cross-sector alliance between industry and the unions has been fundamental to the establishment and development of the scheme.

Geography at which Initiative operates: Local and regional across Sweden. The majority of schools in the scheme are run by the municipalities. Those which have most enthusiastically taken up the scheme are in areas with strong manufacturing traditions.

How it operates: The Council of Swedish Industries invites municipalities, education providers and firms to establish local and regional partnerships which upon meeting the Technical College scheme criteria expand the industrial relevance and quality VET programmes in the area. To become a member, schools agree to 10 criteria concerning the education programme and form, and the industrial partner responsibilities. Substantial industrial involvement in education and work-based training is required. Companies must commit to providing support for pupils (e.g. access to modern equipment/machinery during training, supervision, opportunities for project work and employment during the summer). By 2015, 150 certified Technical Schools existed, involving 2000 businesses.

Initiative Funding: Following state, industry and union negotiations; the state provided funding for the administration and development of Technical College partnerships at a local level.

Initiative Performance: Considered a role model for how to develop VET programmes across political parties in Sweden, the scheme has had a markedly different impact to recent policies aimed at increasing industry engagement in VET through expanding apprenticeship provision which were not particularly successful. It has increased the "*involvement and commitment*" of industry in the traditionally statist Swedish VET scheme "*considerably*".[344] It complements state-regulated VET.

[343] Persson and Hermelin. (2018). Ibid; Industrial Council. (2014). Ibid; Olofsson, J. 2015. *Yrkesutbildning i förändring: från lärlingsutbildning till yrkescollege (rapport nr 18)* [Changes in Vocational Education and Training: From Apprenticeship Education to Vocational College]. Stockholm: Ratio; Technical College Homepage, National Association of the Technical College scheme [Riksföreningen för Teknikcollege]. 2014b. *Riktlinjer för Teknikcollege* [Guidelines for Technical College]. Stockholm: Riksföreningen för Teknikcollege; Ljungzell and Jakobsson, 2018; Swedish Government. 2015a. *Budgetproposition för 2016* [The Budget bill for 2016]. Stockholm: Regeringskansliet; Swedish Government. 2015b. *Välja Yrke* [To Choose Occupation]. Stockholm: Utbildningsdepartementet. Swedish Government Official Report [SOU] 2015: 97; Swedish National Agency of Education, 2013; Swedish National Agency of Education [Skolverket]. 2013. *Utvecklingen av lärlingsutbildningen (rapport 397)* [The Development of the Teacher Education]. Stockholm: Skolverket.

[344] Persson and Hermelin. (2018). Op cit.

Industrial Strategy Council: Skills System International Case Studies

Conclusion

This report has explored the relative merits of the skills systems in five countries, namely Canada, France, Japan, the Netherlands and Sweden, supplemented with additional insights from a study visit to Germany. It has been designed to consider the success of different aspects of the systems and provide policy learning relevant to the United Kingdom.

The systems profiled differ from each other in terms of the extent of flexibility in the skills system, the amount of employer involvement in the skill system and the degree of emphasis on monitoring and evaluation. They also contrast with the UK skills system in several important ways – notably, they have experienced less flux in their skills system; almost all have stronger employment legislation than the UK; and many feature a greater role for social partners than exists in the UK.

Key strengths of the skills systems profiled relate to flexibility of provision, the role of social partners and business engagement with training, and the value placed on VET within society:

- The **Netherlands** combines an **extremely flexible VET system** with high employment protection legislation, high company investment in employee skills development, and high lifelong learning rates.
- **France** has sought to promote uptake of lifelong through **personal training accounts**.
- A **strong evaluation and data culture** is a key strength in **Sweden**.
- **Germany** demonstrates the **importance of society valuing VET training**.
- The **key role industry can play in VET** is shown in Sweden, Canada and Germany.
- France, the Netherlands, Japan, and Sweden have introduced initiatives to **promote uptake of lifelong learning and closer collaboration between business and education.** Sweden demonstrates how such collaborations can be strengthened in a relatively short period of time.

The case studies emphasise the importance of policy vision, policy flexibility, policy stability, holistic support and partnership.

An **overarching vision** is a crucial element of the most successful skills systems. Instigated and led by government, it helps to align stakeholders around a shared goal and build partnerships. A pertinent example of developing a national vision is the recent introduction in Canada of a large-scale programme to address current and future skills needs. The programme is designed to help industries identify, forecast, and address their human resources and skills issues, such as sector-specific current and future skills shortages. It funds projects building partnerships between: workplace organisations, employer associations, education and training bodies, professional associations, unions, and cultural organisations.

Flexibility is important for successfully aligning learning systems with changing skills needs in terms of the future state of the economy and employer demand, and providing training that is attractive to individuals. The Netherlands, where two integrated pathways within the Vocational Education and Training system, offers flexibility according to the state of the economy and the level of employer demand.

The case studies also indicate that balance must be sought between flexibility and structure. Of all the countries profiled, Japan features the most formalised system of school to work transitions, with firms taking the lead in the development of employees' skills over the course of their working lives. Whilst Japan performs very strongly in terms of youth skills, the strength of its adult learning culture is poor. Increased movement between sectors and careers, has resulted in fewer opportunities for individuals to engage in vocational training after initial education which historically has been left to employers.

Policy stability - Whilst each country profiled has introduced new policies over recent years, none of the changes have been as wide-ranging or frequent as policy changes that have occurred in the UK. Policy stability has been shown to be a particularly important factor behind the success of the Second Chance training schools in France. Conversely, the success of lifelong learning policy in Japan declined following a move to promote private sector involvement and reduce public sector involvement in the programme.

Holistic support – the value of holistic support in moving disadvantaged, young people into employment and raising skills levels has been emphasised in both France and the Netherlands. Both countries have developed programmes which integrate holistic support combining work experience, education and training, housing and coaching.

Partnership – The most successful skills systems feature strong partnerships between the State, education providers, and businesses and, in many cases, social partners. Closer collaboration between business and education can be supported through increased opportunities for providers to work with business, improved training for trainers and mentors, and the establishment of technical colleges. Sector councils play an important role in anticipating skill needs within and across sectors and using sector-specific knowledge to develop recommendations for education and training in both Canada and France. France shows how employers' organisations and trade unions can take a leading role in funding sector councils and highlights that without significant levels of state funding, sector councils can lack visibility and sufficient resources to fulfil their roles effectively,. Strong support from central government for partnerships between employers, employers, government and social partners is important.

Industrial Strategy Council: Skills System International Case Studies

Annex 1: Metrics Used in Case Studies

Labour Market Indicators

- OECD Indicators of Employment Protection Legislation. A scale of 0-6 is used with 6 being the most restrictive. The indicators included are: Protection of permanent workers against individual and collective dismissals; Specific requirements for collective dismissal; Regulation on temporary forms of employment.
- Labor Market Efficiency World Economic Forum Rank (2017-2018). The rankings covering 137 countries were produced based on sub-rankings for: cooperation in labour-employer relations, flexibility of wage determination, hiring and firing practices, redundancy costs (weeks of salary), effect of taxation on incentives to work, pay and productivity, reliance on professional management, country capacity to retain talent, country capacity to attract talent and female participation in the labour force.
- Hourly Minimum Wage. Real hourly minimum statutory wages are provided using data from the OECD. The hourly wages are deflated by national Consumer Price Indices (CPI). The data are then converted into a common currency unit using US $ Purchasing Power Parities (PPPs) for private consumption expenditures.
- Average Wage. Average wages are calculated by dividing the national-accounts-based total wage bill by the average number of employees in the total economy, which is then multiplied by the ratio of the average usual weekly hours per full-time employee to the average usually weekly hours for all employees. This indicator is measured in USD constant prices using 2016 base year and Purchasing Power Parities (PPPs) for private consumption of the same year. OECD.
- Unemployment rate. The rate is provided for both 2013 and 2018 to give an indication of recent change in unemployment rates in each country.
- Employment rate. OECD data is provided for 2018.
- Trade union density rate. This rate provides the ratio of wage and salary earners that are trade union members to the total number of wage and salary earners in the economy. Data is provided from the OECD and primarily relates to 2018.

Skills and Skills System Indicators

- The Survey of Adult Skills (PIAAC 2015). Each case study lists the percentage of adults in each country scoring low (at or below level 1) in literacy and the percentage of adults scoring low (at or below level 1) in numeracy. Data for the UK refers to England only.

- The European Skills Index (ESI) is a composite indicator measuring the performance of EU skills systems devised by Cedefop.[345] It measures countries' "distance to the ideal" performance. Cedefop calculates ideal performance as the highest achieved by any country over a period of 7 years. The ideal performance is scaled to 100 and the scores of all countries are then computed and compared to that. The ESI has three components: (i) skills development, (ii) activation and (iii) matching;
    - *Skills Development* relates to the training and education activities of the country and the skills developed and attained in that system.
    - *Skills Activation* looks at the transition from education to work, together with labour market activity rates for different groups of the population, to identify those which have a greater or lesser representation in the labour market.
    - *Skills Matching* examines the degree of successful utilisation of skills, and the extent to which skills are effectively matched in the labour market. Scores for each aspect are calculated using 15 individual indicators from various international datasets. The scores are calculated across countries at the indicator level.[346] For example, an Index (or pillar, sub-pillar) score of 65 would suggest a country has reached 65% of the ideal performance. Thus, there is still 35% potential for improvement.
- The European Commission Digital Economy and Society Index. The Index encompasses indicators focusing on various age groups from 5 years+ and relates to 2017. Two indicators are included in the profiles: individuals aged 16-74 years with at least basic digital skills, and advanced Skills and Development: ICT Specialists.
- The OECD Skills Strategy Dashboard. The objective of the dashboard is to present the relative position of OECD member countries on key skills outcomes. It provides a general overview of the strengths and weaknesses of different skills systems. The case studies include three indicators in particular: How strong are foundational skills of adults? How skilled are young tertiary educated adults? Is there a strong culture of adult education? The OECD produced the dashboard following internal consultation and analysis of core indicators used in the National Skills Strategy Projects.
- The OECD Priorities for Adult Learning Dashboard is used an indicator of the performance of the Vocational Education and Training system in each country. The dashboard compares the future-readiness of countries' adult learning systems using seven dimensions: i) urgency, ii) coverage, iii) inclusiveness, iv) flexibility and guidance, v) alignment with skill needs, vi) perceived training impact, and vii) financing. All dimensions have been selected for use in this report.
    - The *urgency* dimension considers how pressing the need is to update the adult learning system.

[345] Cedefop is the European Centre for the Development of Vocational Training. It works closely with the European Commission to support development of European vocational education and training (VET) policies and to contribute to their implementation.

[346] The scores are then averaged at the various layers and finally the Index score is formed.

Industrial Strategy Council: Skills System International Case Studies

- The *coverage* dimension examines the extent to which individuals and employers are engaged in adult learning.
- The *inclusiveness* dimension assesses how equitable participation in adult learning is across countries.
- The *flexibility and guidance* dimension measures how well countries do in providing information and guidance to adults on training opportunities and reducing barriers to their participation through flexible provision.
- The *alignment* dimension assesses how well adult learning systems take into account the changing skill needs of the labour market.
- The *perceived training impact* dimension considers certification, monitoring and evaluation of training.
- The *financing* dimension measures the extent to which adult learning systems are adequately financed by different actors.

Countries' performance is ranked on a scale of 0 (lowest coverage) to 1 (highest coverage).

Other indicators used in the text of the case studies include:

- The World Economic Forum Measure of Labor Productivity metric relates to the output per unit of labour input. Purchasing power parity (PPP) GDP is converted to 1990 constant international dollars using PPP rates. Data is sourced from World Development Indicators.
- Public Social Spending as a percentage of GDP is used as an indicator of the welfare model adopted in each country. Data is taken from the OECD and refers to 2018 or the most recent year of available data. The OECD defines Public Social Spending as "*Social spending with financial flows controlled by General Government (different levels of government and social security funds)*" It includes social insurance and social assistance payments".[347]
- Government education spending. Two measures are provided in this respect. First, Expenditure per full-time equivalent student for total tertiary education is given for each country in US$ using OECD data from 2015. Secondly, Public Expenditure on Initial Vocational Education and Training as a % of GDP is provided using data from CEDEFOP. Of the 36 countries for which data was available, expenditure per FTE student for total tertiary education was highest in Luxembourg (48,906US$) and lowest in Indonesia (3,764.7US$). For the 32 countries analysed, public Expenditure on Initial Vocational Education and Training ranged from 1.2% of GDP in Finland to 0.04% of GDP in Romania[348].

In the context of skills system flexibility, the following measures seem particularly relevant and indicative of responsiveness to labour market demand:

[347] OECD. (2019a). Op cit.
[348] Cedefop. (2018a). Op cit.

- Skill matching (European Skills Index)[349]
- Flexibility and guidance (OECD Priorities for Adult Learning Dashboard[350]) Whilst this measure is more about flexible skills provision as opposed to a skills system adapting to changing demand for skills, flexibility of provision would be an indicator of a system responding to changing learner demand.
- Alignment of adult learning to skills needs (OECD Priorities for Adult Learning Dashboard[351]),
- Industry engagement with adult learning and developing qualifications (see column three).

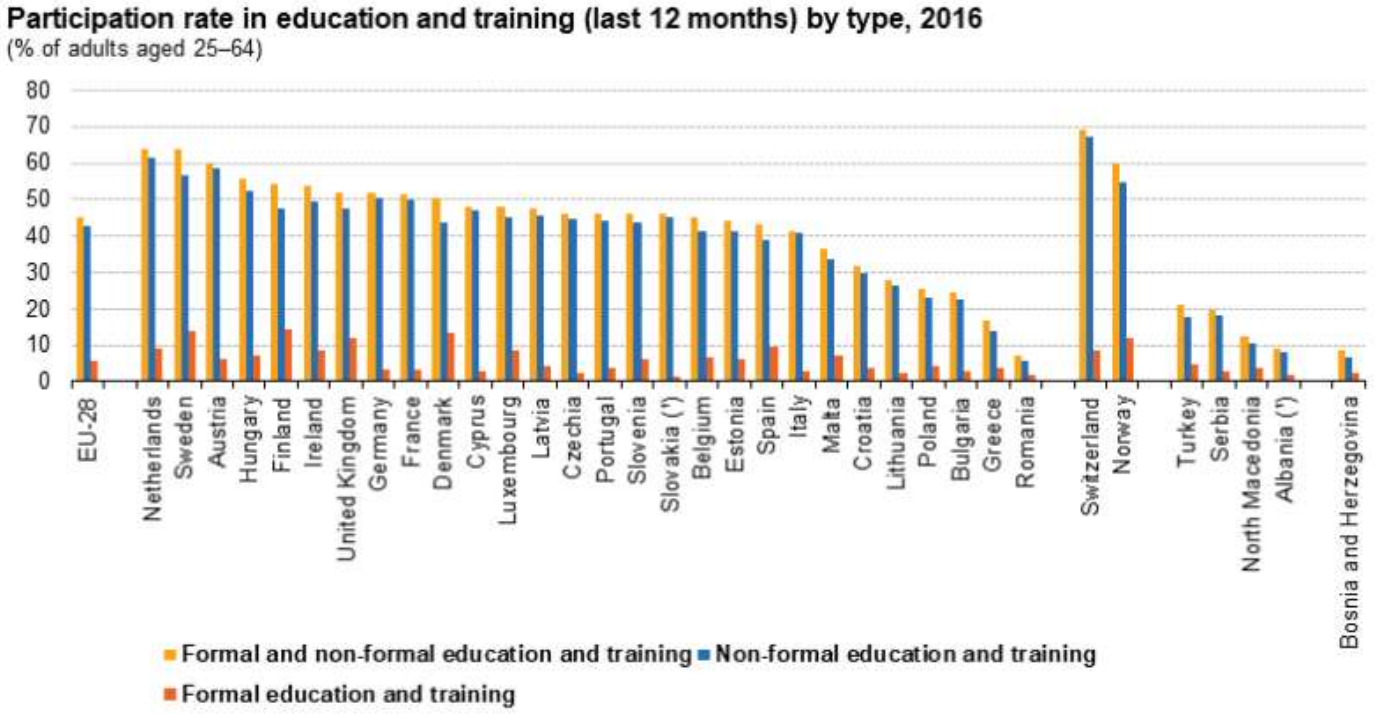
[349] Cedefop. (2020). Op cit.
[350] OECD. (2019j). *Dashboard on priorities for adult learning*. 0=lowest coverage, 1 = highest.
[351] OECD. (2019j). Op cit.

Annex 2: Distribution of non-formal education and training activities by type and sex, 2016 [352]

	Total				Male				Female			
	Job-related	Of which		Non-job-related	Job-related	Of which		Non-job-related	Job-related	Of which		Non-job-related
		Sponsored by employer	Not sponsored by employer			Sponsored by employer	Not sponsored by employer			Sponsored by employer	Not sponsored by employer	
France	73.5%	63.9%	9.6%	25.4%	80.3%	71.5%	8.8%	18.6%	67.9%	57.6%	10.3%	31.1%
Nether-lands	79.0%	70.9%	8.0%	17.3%	80.7%	74.2%	6.6%	15.5%	77.2%	67.7%	9.5%	19.2%
Sweden	81.6%	78.9%	2.6%	15.5%	83.4%	81.1%	2.3%	12.8%	79.9%	77.0%	2.9%	17.9%
United Kingdom	83.6%	79.2%	4.4%	15.0%	87.4%	83.8%	3.6%	11.3%	80.3%	75.2%	5.1%	18.1%

[352] Eurostat. (2019g). *Distribution of non-formal education and training activities by type and sex, 2016*.

Annex 3: Participation rate in education and training (last 12 months) by type, 2016[353]



(') Formal education and training: low reliability.
Source: Eurostat (online data code: trng_aes_100)

[353] Eurostat. (2019h). *Participation rate in education and training (last 12 months) by type*.

Annexe 4: Fact-Finding Trip to Berlin

The below text summarises a trip to Berlin which took place on 5th-6th September 2019 to examine the German Dual Education *duale Ausbilding* System.

Background information on German Dual Education System

- Each of the 16 states in Germany have considerable powers with regard to education policy.
- Vocational training under the German dual education system primarily covers school leavers – with a minimum age of 15 – and university dropouts. (There is no broad-based government involvement in late-career vocational training and "lifelong learning".)
- A new trainee signs a contract with a training company for 2-3.5 years. 3.5 year professions are almost at the level of a Batchelor's degree. Over this period, the trainee receives 3-4 days of on-the-job training per week from their company, and 1-2 days of broader education in dedicated schools.
- The State pays for apprentices to attend school training. Companies pay the wages of apprentices. Their pay is often governed by agreements between companies and trade unions; where no agreement exists, legislation provides a minimum payment level.
- Following the conclusion of their training, trainees receive one of 325 registered qualification titles, each of which is recognised Germany-wide.
- Existing titles can be amended, and new titles introduced, as the result of a dialogue between unions, employers and the Ministry of Education. The process is moderated by the Federal Institute for Vocational Education and Training (BIBB). This permanent dialogue supports graduate incremental improvements to the system in response to societal and labour market changes such as digitalisation.
- Professions are grouped into two types, A and B. In type A professions, a "Meister" title is required to start a business. Type A professions are typically those in which there is a legitimate public safety concern regarding the qualification of a vocational entrepreneur (e.g. electricians). In type B professions, no "Meister" title is required to start a business (e.g. floorers).
- The apprenticeship system is characterised by strong, stable relationships between the Federal Government (who set the broad legal and organisational framework for vocational education), the Federal States (who pay vocational school teachers), Local Authorities (who pay for school infrastructure) and employers (who organise, and pay for, the on-the-job training they offer). In this sense, the dual education system represents a contract between the Federal Government, the states, local authorities and private companies.
- Each state has its own Chamber of Commerce and Industry (CCI). CCIs are key in facilitating vocational training. Each company registered in a state must become a member of the state's CCI and pay a fee. Companies which train apprentices pay a higher fee. In return, CCIs check and register contracts, set up bodies of examiners for intermediate and final vocational exams (made up of volunteers), train trainers and

offer consultations. Individual CCIs also fund a limited set of initiatives (e.g. Berlin provides subsidies to promote women training in certain professions, and to promote the training of immigrants).

- There is high engagement among employers in the system. Companies can influence the content and organisation of vocational training. They also occasionally donate to vocational schools (e.g. buying equipment).
- In the past, CCIs were heavily involved in matching companies and trainees. However, in the face of apprentice shortages, more companies now advertise directly to find trainees.
- Formal vocational training was introduced in a 1956 Act of Parliament, which was amended in 1969 to introduce the comprehensive classification system of job titles. The most recent amendment took place in 2005 to provide a legal framework for apprenticeship placements abroad, and part-time training.
- Nevertheless, part-time apprenticeships remain uncommon: fewer than 5% of vocational training contracts are part-time.
- The popularity of vocational training has also declined over time as the popularity of university degrees has risen. While in the past 70% of school leavers would enter vocational training, this number has now fallen to 50%. Policy aims to provide a choice between following a vocational or academic route, and to ensure that both options are equally as respected.
- Like in the UK, concerns exist regarding ensuring that the population have the skills required to megatrends such as globalisation, digitalisation, changes in values and demographic development and maintain the position as a leading economy. However, the starting point in Germany is very different given the far greater take up of vocational education.

What are the perceived benefits of the system?

- For trainees, the system is seen as a route towards a portable qualification obtained at a low opportunity cost: they receive on-the-job training from qualified instructors, leading up to a recognised vocational certificate, while also receiving apprenticeship pay. The system is credited with successfully integrating less academic students into the labour market, reducing the inheritability of educational advantages, and keeping youth unemployment low.
- For companies, the system offers the opportunity to share the content and organisation of vocational training. It creates a transparent structure of qualifications, which makes hiring easier. Moreover, it offers companies the opportunity to screen apprentices on the job and is said to reduce recruitment costs. Apprentices are viewed as having good theoretical skills, whilst also knowing how to work in teams, and use technical equipment. Companies also value apprenticeships as they provide them with an insight into how workers operate that is not provided when you recruit someone straight into a job role. The system is seen to be especially beneficial for SMEs, which form the backbone of the German manufacturing sector (Germany only has 30-50 large companies.)

- For the public sector, a key advantage is that the system is funded in part through contributions from private companies.

What are the perceived drawbacks?

- Only 20% of companies train.
- The large number of stakeholders implies that the system is slow to adapt to change. For example, introducing a new qualification title can take 4-8 years. The most recent title introduced is "e-commerce salesperson".
- There is an argument that globalisation, automation and demographic trends will lead to a greater premium on a number of broader skills – IT knowledge, soft skills, self-management and lifelong-learning skills. These may be underrepresented in vocational training curricula. ("*Duales Studium*" – dual degrees – have emerged in some states which allow students to combine vocational training with a bachelor degree, and which may address this shortcoming.)
- There is a concern that the dual education system induces (some) school leavers to specialise too early. While the system successfully funnels young people into employment, there is evidence that middle-aged workers with only vocational training have a higher tendency to fall into long-term unemployment.
- Moreover, there is a view that vocationally trained workers in larger companies are likely to get stuck in "middle management" positions – which are especially taxing on mental and physical health.
- More broadly, questions emerge regarding the extent to which apprenticeships will support the delivery of IT skills, contextual knowledge, emotional and soft skills, creative competencies and lifelong learning skills, which are increasingly valued by German employers in the Fourth Industrial Revolution. The jobs of tomorrow cut across disciplines and professions.

Why do companies train, instead of poaching trained workers from elsewhere?

- Research shows that, for the average company, the training cost is €18.000 per year over 3 years. However, the company also receives the equivalent of €12.500 per year in labour services from the trainee. Therefore, the total net training cost to the company is (3x€5.500=) €16.500. This compares to an average recruitment cost of €8.000. By these numbers, there should be an incentive for companies to poach trained workers, instead of training themselves.
- Culture may explain why companies are prepared to offer expensive on-the-job training: in an environment in which all companies train, it is seen as "unacceptable" for a particular company not to.
- Another reason may be that as well as company loyalty, workers acquire company- and equipment-specific skills through on-the-job training, which are not portable.
- A third reason is that, in many manufacturing sectors, wages are determined by sectoral collective bargaining. The resulting wage agreements make it more difficult to poach workers through financial incentives alone.
- Finally, business representatives emphasise that apprenticeships allow companies to learn about apprentices' motivation and work ethic. This gives them an informational

advantage – and may also imply that apprentices who do not receive a permanent job at their training company are seen as a "bad risk".

- Whatever the reasons, a large majority of apprentices take up permanent employment with the company that trained them after completing their training.

Why is the take-up of vocational education declining?

- One reason for the decline is a change in perception – parents and students view university education as a better route towards high-quality, high-paying jobs.
- The change in the structure of German university degrees – from a 5-year first degree to a 3-year BA with an optional MA – has lowered the opportunity cost of university education relative to vocational training. In 2015, 58.2% of school leavers initially attended a university course – up from 33.5% in 2000.
- Finally, the decline in the relative size of the manufacturing sector, and an "apprenticeship shortage" in the early 2000s may have made vocational education seem less attractive.