3 Looking ahead: Innovative skills policies for a strong recovery

Japan needs to ensure that upskilling and reskilling policies are targeted, inclusive, and based on a more systematic analysis of labour market developments. This chapter reviews how Japan has adapted its adult learning policies after the outbreak of the COVID-19 pandemic, and explores the need for digital, modular, and flexible training opportunities. Furthermore, the chapter emphasises the need of better leveraging existing data to create analytical tools to assess and anticipate skills needs to enable decision makers to quickly adapt training offers and career guidance services to the evolving world of work.

In Brief

Japan needs to ensure that upskilling and reskilling policies are targeted, inclusive, and based on more systematic analysis of labour market developments

Japan was quick to react to the pandemic, and many training courses were adjusted to face the new realities of social distancing and teleworking. Though training programmes for both employed and unemployed adults have increased in number and become easier to access, large gaps in skills use and training persist. In Japan, women are employed in occupations that involve limited leadership skills such as co-ordination, problem solving and high-level decision making, and they participate less in job-related training compared to men. Non-regular workers are working in occupations with lower skill demands and display a large gap in training participation compared to regular workers. Recent adult learning reforms have not fully addressed these gaps.

To move the needle on adult learning in Japan, digital, modular and flexible training opportunities that address the gaps in participation are needed. Digitalisation and online provision can increase the availability of training and circumvent many of the time constraints that adults in Japan face. Modularisation, micro-credentials and tailored training programmes can increase participation by offering shorter courses that can be stacked together over time to achieve a recognised qualification, and are better aligned with local labour market needs and the skills and experience of the adult learner.

Employment outcomes of participants in Japan's public training programmes is relatively high. However, there is room to improve public vocational training and align better to changing skill needs. Building better labour market information systems will help identify changes in the labour market and skill needs in real time, allowing policy makers to quickly adapt training offerings and career guidance services. The adult learning market in Japan can be further expanded by creating a virtuous circle of adults' participation in training by linking a good labour market information system with the provision of appropriate training and career guidance.

3.1. Differences in skill level and training participation between socio-demographic groups in Japan

As discussed in previous chapters, not only did the COVID-19 pandemic change the composition of skills in the Japanese labour market, but it also triggered a range of policy responses from the government intended to increase labour market flexibility and withstand shocks. These initiatives were introduced to respond to a sudden and immediate crisis and they contributed to the longer-term trends towards digitalisation and teleworking experienced across OECD countries. However, more efforts to ensure a strong and sustainable recovery are needed, with more attention devoted to specific segments of the population.

3.1.1. There are large differences in skill level between demographic groups in Japan

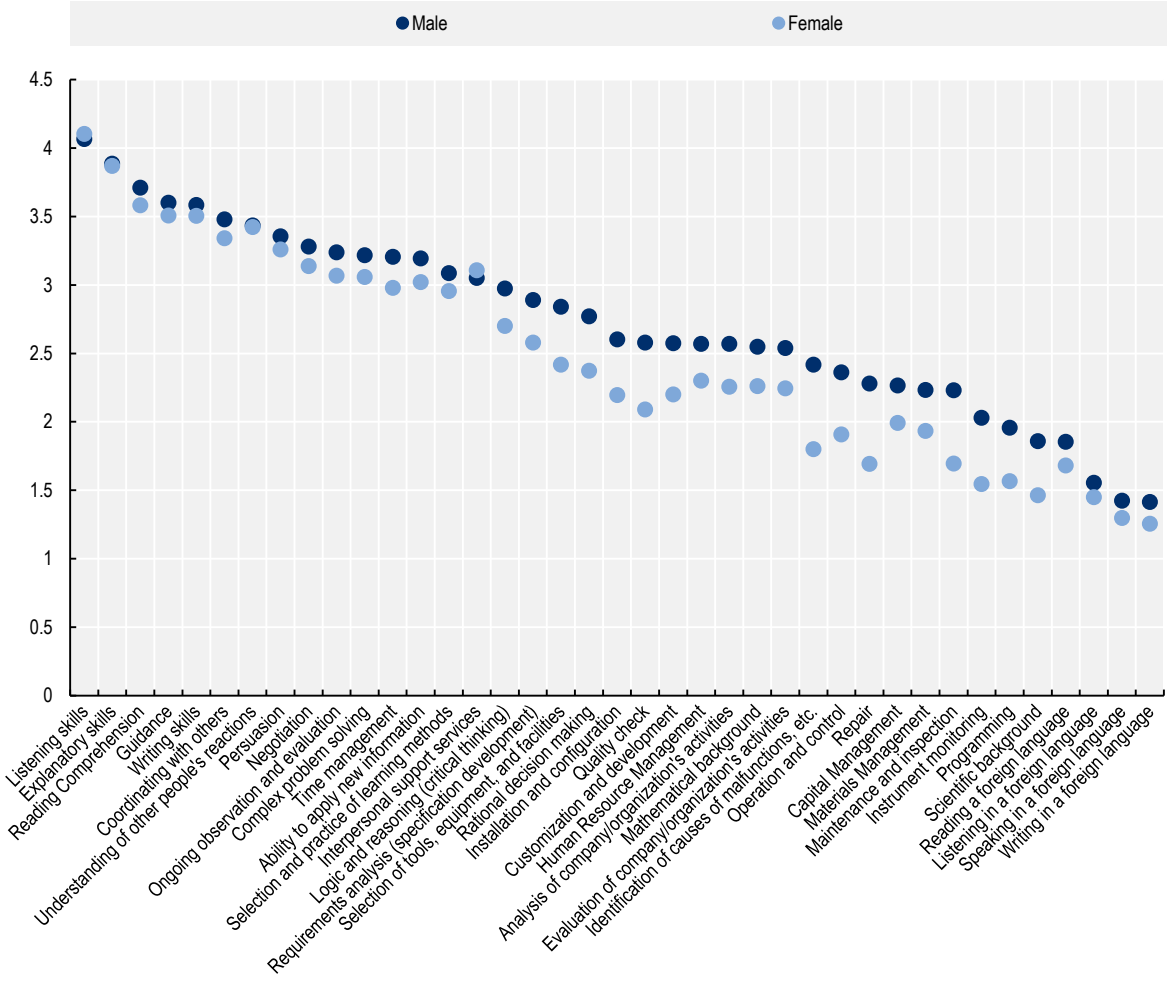
The analysis of the skill composition in Japan presented in Chapter 1 suggested that the Japanese economy requires high levels of foundation and social skills – indicators of a knowledge-based economy. When the same analysis is carried out for different demographic groups, it becomes evident that there are important differences in skill requirements faced by socio-demographic groups in the Japanese population. Figure 3.1 shows that men and women in the workforce hold jobs with approximately the same level of high-frequency skills (such as foundational skills) and low-frequency skills (such as knowledge of foreign

skills). However, women in the workforce are also more likely than men to be employed in occupations with lower levels of most social skills, as well as lower levels of advance cognitive skills (i.e. time management and complex problem solving skills).

On average, relative to men, women are employed in jobs that involve less leadership, less responsibility, where they do not carry out tasks that require high levels of co-ordination, problem solving and high-level decision making. The higher level of understanding of other people's reactions and interpersonal support services could be a reflection of women traditionally dominating in customer-facing occupations such as hospitality. Women are also employed in occupations with lower levels of technical skills than men. This is likely caused by gender stereotyping in service-related occupations and provides a policy opportunity for the government. Information campaigns, career guidance and female role-models in education could help boost female employment in male-dominated professions.

Figure 3.1. Women hold jobs with lower requirements in social, technical and high-level decision making skills

Skills composition indicator (scale 1-7)



Note: The Skills Composition Indicator is calculated using a weighted average, taking into account both skill level of occupation and number of people working in that occupation, and it is calculated by multiplying each skill level for a given occupation with the number of workers in that occupation, and then dividing by the total number of workers in the data set. The sample includes employees between 20 and 65 years old. The full scale for skill level ranges from 0 to 7, but has been shortened to 0-5 to better present the data.
Source: Japanese Panel Study of Employment Dynamics and Japanese O*NET survey.

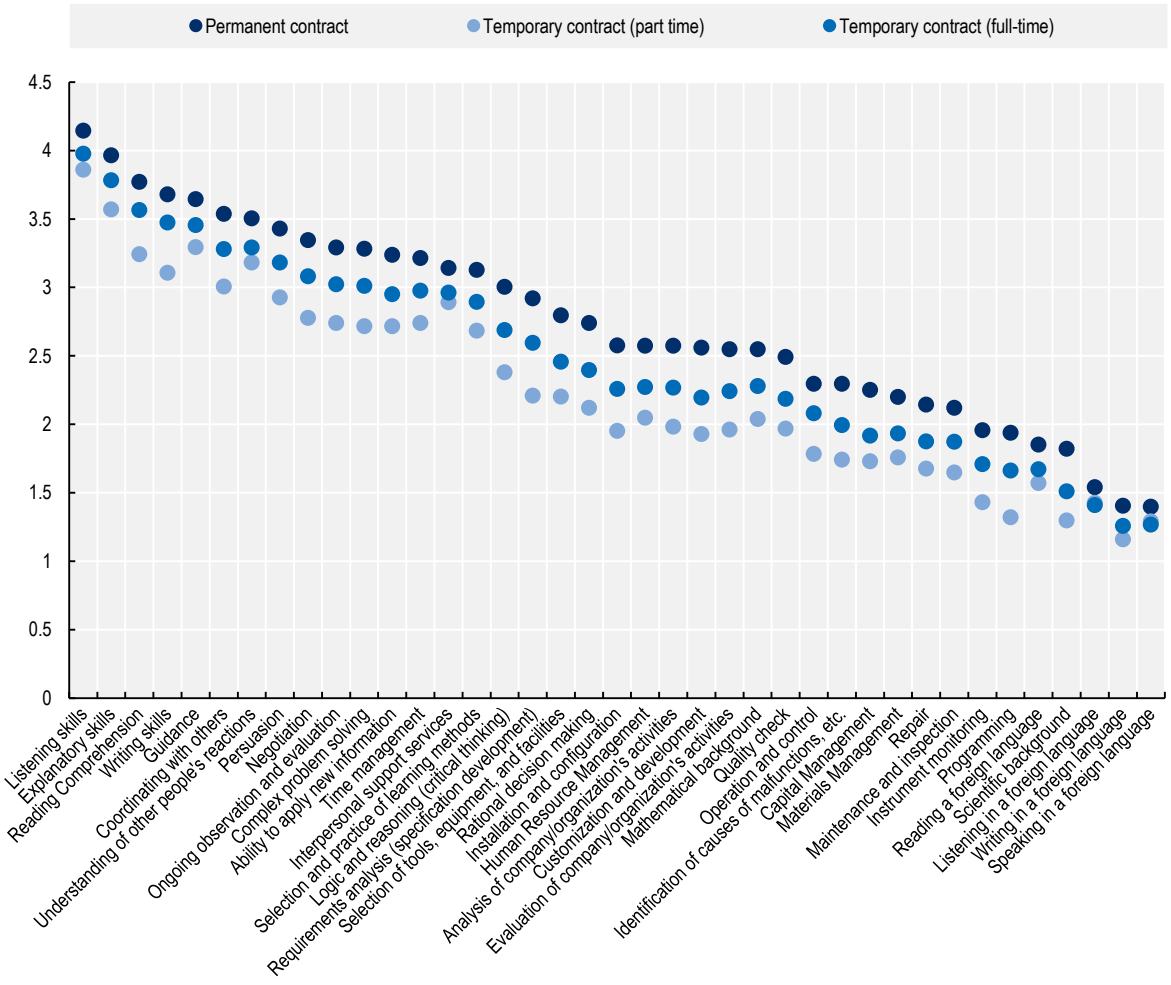
Unlike women who are less likely to work in leadership positions requiring high social and advance cognitive skills but are as present as men in occupations using high levels of foundation skills, non-regular workers generally hold lower-skilled occupations. Indeed, non-regular workers (temporary contract) are employed in occupations with lower skill levels for all skills when compared to regular workers (permanent contract) (Figure 3.2). Among non-regular workers, those with part-time contracts are in occupations using skills at lower levels than those in non-regular full-time contracts. This is a reflection of two aspects of the Japanese labour market: i) there is a higher instance of non-regular workers in low-skilled occupations; and ii) there is little investment in training and development for non-regular workers meaning there is little innovation and skill increase in positions filled by non-regular workers.

Recently, the Japanese Government passed legislation intending to address some of the gaps between regular and non-regular workers, and full-time and part-time workers. For instance, the Act on Improvement of Personnel Management and Conversion of Employment Status for Part-Time Workers and Fixed-Term Workers came into effect in April 2020 for companies with over 300 employees, and April 2021 for companies with over 100 employees, and prohibits unreasonable disparities between the treatment of regular employees and part-time/non-regular workers (Ministry of Health, Labour and Welfare, 2018[1]). Placing the responsibility of fair treatments of non-regular workers on employers, the law seeks to increase job security and rights of these workers, including training rights.

Though traditional forms of lifetime employment (permanent contracts) have been the dominant work contract in Japan, especially for men (OECD, 2021[2]), Following the pandemic-induced digital transformation there has been a shift in contract types offered to young people. Some companies now require new graduates and mid-career hires to have a digital skillset for key positions via "job-based employment", and the scope of such forms of employment is expected to be expanded to include other types of skillsets (Ministry of Economy, Trade and Industry, 2020[3]). Job-based employment entails an employment contract which includes duties, work location, working hours, etc., and the employees work only within that range. This is different from traditional lifetime employment in which employees devote their career to one company and their work location, duties and working hours are not narrowly prescribed and evolve over time. It remains to be seen how this will affect the skills composition of the labour market, as hiring practices may change towards more independent and self-sufficient workers.

Figure 3.2. Non-regular (temporary) workers are employed in generally lower-skilled jobs

Skills composition indicator (scale 1-7)



Note: The Skills Composition Indicator is calculated using a weighted average, taking into account both skill level of occupation and number of people working in that occupation, and it is calculated by multiplying each skill level for a given occupation with the number of workers in that occupation, and then dividing by the total number of workers in the data set. The sample includes employees between 20 and 65 years old. The full scale for skill level ranges from 0 to 7, but has been shortened to 0-5 to better present the data.
Source: Japanese Panel Study of Employment Dynamics and Japanese O*NET survey.

3.1.2. Changes in training policies are not been adequately addressing skills gaps

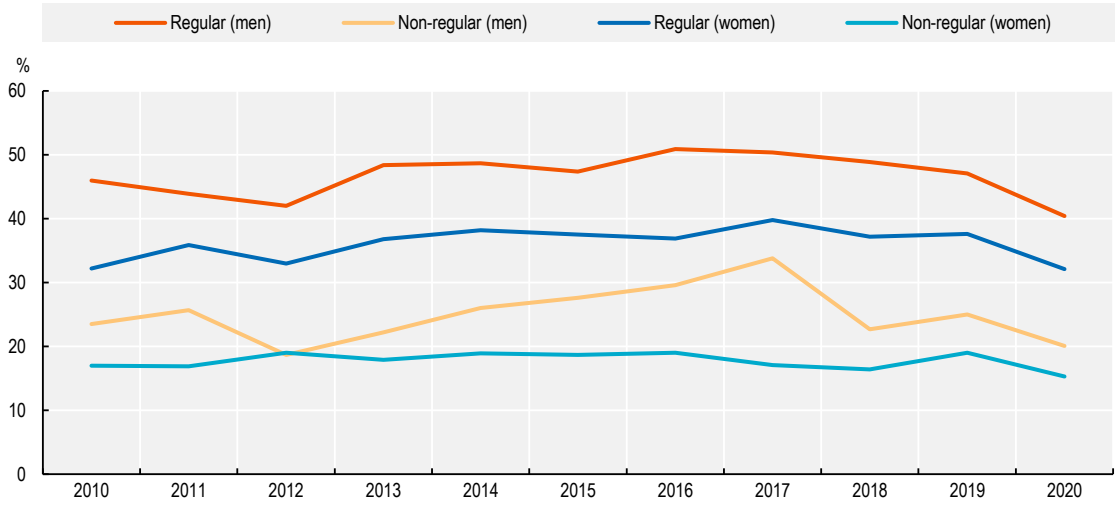
Job-related training is a policy tool that can be used to address and minimise skills gaps in the labour market. A well-designed training system takes into account changes in the demand for skills, availability of skills in the labour market, inequalities and barriers, as well as strategic planning for economic growth and labour market developments. Though many adults could benefit from upskilling and reskilling through training, there are large gaps in participation between both women and men, and regular and non-regular workers in Japan (Figure 3.3). Men in regular contracts train more than all other demographic groups, with a 40% participation rate in 2020. The group that follows in terms of the training participation rate is women in regular contracts (32%), men in non-regular contracts (20%), and the group with the lowest participation rate is women in non-regular contracts (15%). Both men (regular workers and non-regular workers) and women non-regular workers exhibited to a large extent the same trends in participation in training, namely

a very slight increase in participation between 2010 and 2019 ranging from between 1.1 to 2% points. The training participation of women regular workers increased by over 5% points in the same period. However, participation dropped for all groups during the first year of the pandemic, ranging from a reduction of 5.5% points for women who are regular workers, and a 6.7% point reduction for men who are regular workers, compared with 2019. Comparatively, participation in other OECD countries has risen significantly more in the last decade (2012-19), e.g. in France (13.8% points), Sweden (7.3% points), Ireland (5.1% points) and Finland (4.5% points) (Eurostat, 2021[4]).

Adults' participation in learning is key to unlocking the benefits of a changing world of work, especially for those at risk of falling behind and experiencing a deterioration in their labour market prospects. For women in Japan, who already experience disparities in several segments of the labour market, training can be used to bridge gaps in both industries where women are underrepresented, but also increase hiring of women in leadership roles. Adults working in non-regular, lower skilled jobs have a higher risk of their jobs being automated, and at the same time are not engaging in training and limiting their opportunities to further develop their skills, and increasing the risk of being stuck in a 'low-skill trap'.

Figure 3.3. Prior to the pandemic, training participation had only increased moderately for men and non-regular workers, but has decreased for all groups since the pandemic

Trend in share of workers' participation in off-the-job training, by contract type and gender



Note: The questionnaire question asks "What kind of OFF-JT training did you participate in?" (Multiple choice). Rate of participation is calculated by subtracting the option "I did not participate in OFF-JT" from the total.
Source: Basic Survey of Human Resources.

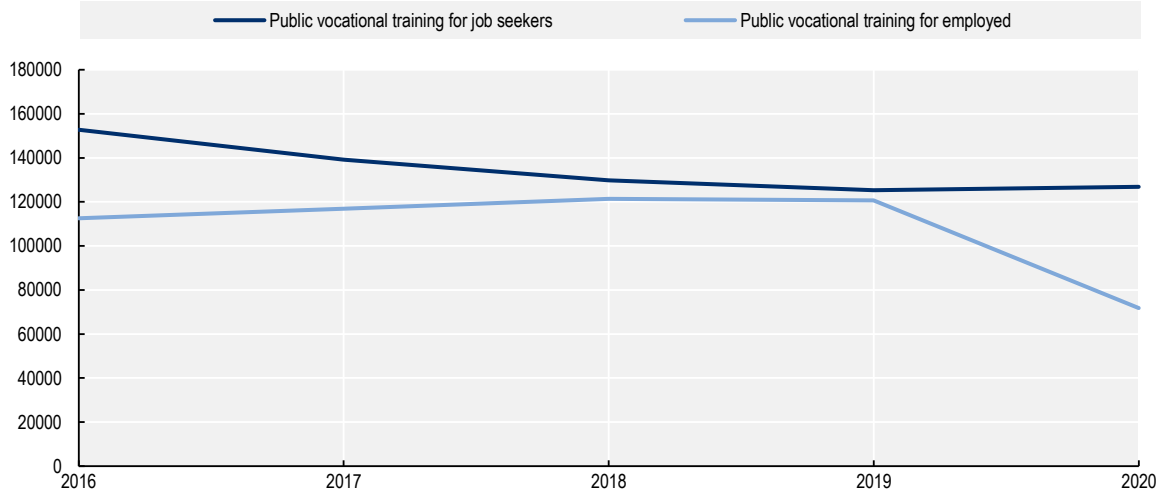
Since the outbreak of the pandemic, it has become even more apparent that adult learning is an important policy lever to adjust to changing work modes and styles. Throughout the pandemic, the increase in the number of infections and the measures to contain the spread of the virus, including stay-at-home requirements, also affected vocational training provision and participation. During the first wave of the outbreak, the government forced the public vocational training operators to close facilities where coronavirus infections among training participants took place, and to consider preventive closure even in the absence of infections.

Shortly after the first cases of the virus in Japan, the negative impacts on training became visible. Compared to 2019, vocational training for the unemployed remained largely unchanged, but for the employed, the number of people that undertook training in 2020 was 40% lower than in 2019 (Figure 3.4).

In Japan, public vocational training for both job seekers and employed workers is conducted at public training facilities administered by the national and prefectural governments. As discussed in detail in Section 3.3.1, the number of people eligible for training (for unemployed adults and workers) is determined according to the size of the budget after discussions at a council of interested parties each year, and detailed in a "National Vocational Training Implementation Plan". Following this, each prefecture draws up a plan for its own prefecture to be consistent with those figures (Ministry of Internal Affairs and Communications, 2016[5]). There is an established system whereby if there is an urgent need to increase training for job seekers, it is possible to reduce the scale of training offered to employed workers. During the pandemic, the number of working participants dropped due to containment measures (before courses pivoted to online delivery), while participation for job seekers remained the same, as the training providers prioritised this group.

Figure 3.4. Reduced training opportunities due to COVID-19 affected mostly employees

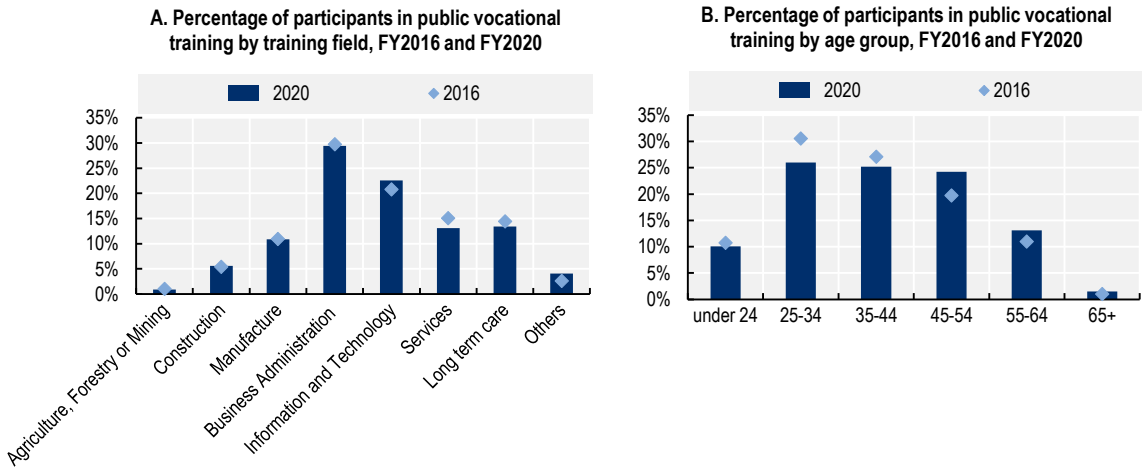
Changes in public vocational training enrolment



Note: Training for job seekers includes public job training and job seeker support training (mainly short-term training for those who cannot receive employment insurance).
Source: OECD Questionnaire on Policy Responses to the COVID-19 crisis.

Among jobseekers who attended public vocational training, participants in the clerical field account for about 30% of the total, making it the field with the largest number of participants in public vocational training. The next largest share of training is in IT and other information-related fields, at about 23% (Panel A of Figure 3.5). Looking at the number of trainees by age group, trainees are clustered in the 25-54 age group, with the 25-34 age group having the largest number of trainees. The number of participants in public vocational training declines sharply after the age of 55 (Panel B of Figure 3.5). There has been very little change in the composition of publicly provided vocational training, by field or by age of participants over the past five years.

Figure 3.5. The share of participants in public vocational training by field remains stable



Note: Number of participants is the sum of those continuing from the previous year and those who entered the public vocational training. For Panel B, the number is the sum of public vocational training and the Support System for Job Seekers.
Source: OECD Questionnaire on Policy Responses to the COVID-19 crisis.

3.2. Digital, modular and flexible training opportunities to increase participation in adult learning

As illustrated, the Japanese workforce is very diverse with different workers using different skill sets to carry out their job-related tasks. There are trends in the development of certain skills in the labour market, such as analytical and social skills, but when looking at different demographic groups and work contract types it becomes evident that there is a diversification in skills use and training participation in Japan. Therefore, a universal approach of "one size fits all" does not work for adults. Learners need personalised and flexible training opportunities.

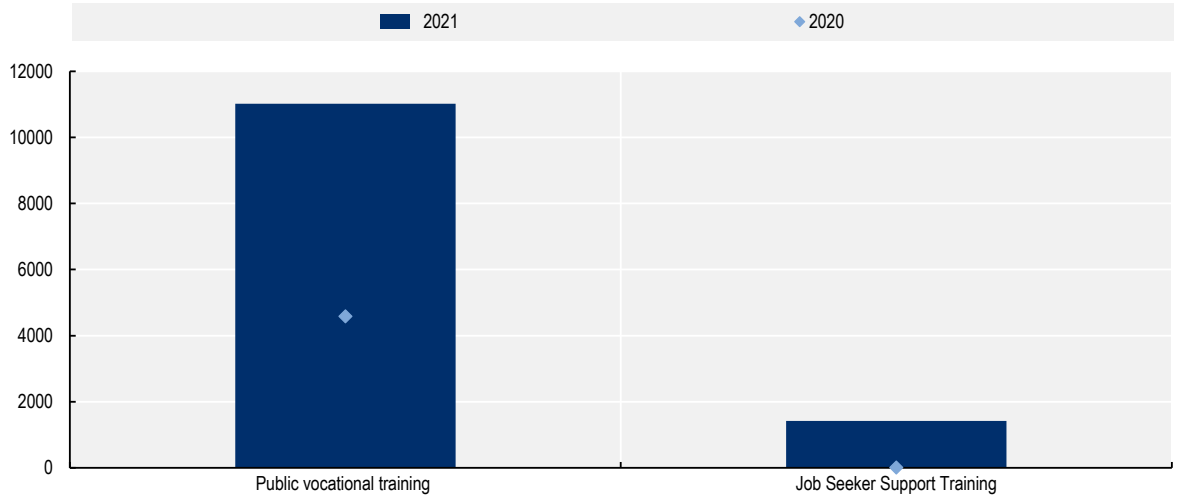
Online distance learning has the potential to address many of the barriers to adult learning. It allows learners to choose a time, pace and place that is compatible with their professional and personal responsibilities, and is often cheaper than equivalent face-to-face training. As shown in the context of the current COVID-19 crisis, online learning also has the potential to provide continuity when face-to-face training is not available. However, inclusiveness is a major concern when addressing online learning, as on one hand, online courses could facilitate access to training for adults with disabilities or those living in rural communities, but on the other hand, it requires basic digital skills and devices, as well as reliable internet infrastructure (OECD, 2020[6]). Investing in digital skills learning and infrastructure is crucial to the digitalisation of training. Therefore, in order for online training to be successful, broader training policy changes will need to accompany the digitalisation of learning.

As found by OECD (2021[2]), lack of time and scheduling constraints play a large role in Japan. The main reasons for not participating are a lack of time due to work responsibilities (29%), a lack of time due to child care or family responsibilities (27%), and the training taking place at an inconvenient time or place (19%). Despite its potential, data at the onset of the pandemic suggests that few adults took advantage of online learning as a means of training. Government data show that only around 4 700 job seekers were enrolled in government-funded online public vocational training in FY 2020. The low uptake of online learning is also due to low provision of online learning courses. For public vocational training, real-time interactive online training courses were introduced in May 2020. For the *Support System for Job Seekers*, real-time online interactive training courses have been available since February 2021, and on-demand (recorded) training courses have been available since October 2021. In part due to these changes and the

better accessibility of online training opportunities, the number of participants in online public job training exceeded 10 000 in 2021, less than 1% of the total labour force. For the *Support System for Job Seekers,* only 1 000 people participated in online courses in 2021 (Figure 3.6).

Figure 3.6. Online course training enrolment is growing but remains low

Number of job seekers who participated in online public vocational training



Note: The Number is the sum of on-demand and simultaneous interactive online training.
Source: OECD Questionnaire on Policy Responses to the COVID-19 crisis.

Online distance learning is just one piece of the puzzle when it comes to flexible learning. Low-skilled adults are less willing to participate in time-intensive training compared to high-skilled adults, not least due to the different preferences and personality traits of the two groups and the fact that low-skilled adults are likely to have lower digital skills (Fouarge, Schils and de Grip, 2012[7]). In this context, modular learning, whether online or in person, is the key in increasing training participation, as it allows adults to learn at their own pace. In contrast to traditional learning programmes, which must be completed in full to obtain a qualification, modular learning breaks up courses into self-contained modules. In the best-practice systems, each module has its own distinct learning outcomes, which are certified as partial credits or qualifications once completed. Students can study to get a full qualification over time, by adding more modules to their learning portfolio. In Flanders (Belgium), formal adult education is provided by the Centres for Adult Education (*Centra voor Volwassenonderwijs, CAE*), where all courses are modular and flexible (e.g. evening courses) (European Commission/EACEA/Eurydice, 2021[8]). After completing a module, the student receives a partial certification, and after completing a programme (composed of several modules) the student receives a formal certification recognised by the government. Graduates also receive a tuition reimbursement upon graduation. Further, the Flemish Government incentivises the Centres for Adult Education to provide distance learning by offering systematic direct financial support for training providers with programmes where at least 50% or the content is provided through distance learning.

Some improvements were made in Japan by shortening the length of training courses during the pandemic. For public vocational training, the standard training period used to be minimum three months, but during the pandemic, courses that last one or two months were established and the minimum training hours to qualify for financial support were reduced from 100 hours to 60 hours. This made the course more accessible to employed people, who often face time constraints in participating in training. Courses with reduced durations were established in a wide range of fields, such as training and exercises for the care

and welfare industry (66-hour course), training on security engineer training and information system operation and maintenance for the IT industry (60-hour course), training for salespersons who are authorised to sell pharmaceutical products (60-hour course), and training to learn and practice how to operate machines for the construction industry (60-hour course).

For the *Training in support of Job Seekers,* the minimum length of training programmes was reduced from two months to two weeks, thereby enabling people to participate in different types of training over a shorter period of time. In addition, the minimum training hours to qualify for financial support were lowered from 100 hours to 60 hours per month.

Reducing the length and intensity of training courses can increase their uptake, as it tackles important barriers to participation such as time constraints. However, existing modules are still relatively long and cannot be stacked to lead to full certification. On-demand classes are available for workers who are restricted from leaving the home due, for example, to childcare, but most of the other training programmes still rely heavily on real-time interactive training, which can still be a challenge to fit into a busy schedule when there are no longer confinement measures. Taking into account the heavy reliance of overtime work in the Japanese labour market, attending live-time courses can be very challenging for those in full-time employment.

Japan has also made efforts to strengthen its training support for employers and job seekers through financial incentives. For the *Support System For Job Seekers,* where job seekers or workers who are not eligible for employment insurance find employment quickly through job training while receiving benefits (JPY 100 000 per month), the income requirements to receive benefits for training participants have been relaxed. Before the system was revised, job training benefits paid to participants were only available to those whose monthly income was JPY 80 000 or less (if they were employed at the time of training), but as a special temporary measure for those who work in shifts or have a second or dual job, the upper wage ceiling has been increased to JPY 120 000 per month. In addition, the attendance requirement for receiving benefits was relaxed (from 100% attendance except in unavoidable reasons such as sickness to 80% or more attendance) to make it easier for those working during training to receive benefits. Table 3.1 summarises the main programme reforms that have taken place during the pandemic.

Table 3.1. Training policy review focused on improving access to training

Training policies revision in response to COVID-19

	The Support System for Job Seekers	Public Vocational Training
Training Period	Relaxed from 2 months to 6 months to 2 weeks to 6 months	New courses of 1 to 2 months were established instead of 3 months.
Training Hours	Course length shortened from 100 hours or more to 60 hours or more per month.	Course length shortened from 100 hours per month to 60 hours or more per month
Relaxed income and attendance requirements for benefits	Relaxed income and attendance requirements for benefits	–
Online training	Facilitate setting up online training	Facilitate setting up online training

Source: Based on the "New Employment and Training Package" by the Ministry of Health, Labour and Welfare (2021).

While there has been progress on the fronts outlined above, little changes were made to target groups, delivery models or channels, and support for sectoral and occupational reallocation. In the 30 OECD countries for which information is available, about 30% changed the target groups of the training programmes, about 70% changed their delivery models or channels, and about 40% made to support sectoral and occupational reallocation – see Chapter 2 of OECD (2022[9]). Though several actions have been taken to improve labour market conditions for vulnerable groups with poorer labour market performance, such as requiring equal treatment of regular and non-regular workers and companies' reporting on gender equality plans, there have been no targeted measures for these groups with respects to training. As the Japanese labour market is being shaped by global megatrends and the pandemic, underserving those who are already falling behind risks increasing the gap further, making later intervention more costly. Utilising the momentum that has built during the pandemic, where stakeholders have a higher need and willingness to reform, is crucial to ensure that the Japanese labour force has a strong and supportive education and training system to support its workers in the new world of work.

3.3. Labour market information system (LMIS) as a tool to provide better estimates of skills needs

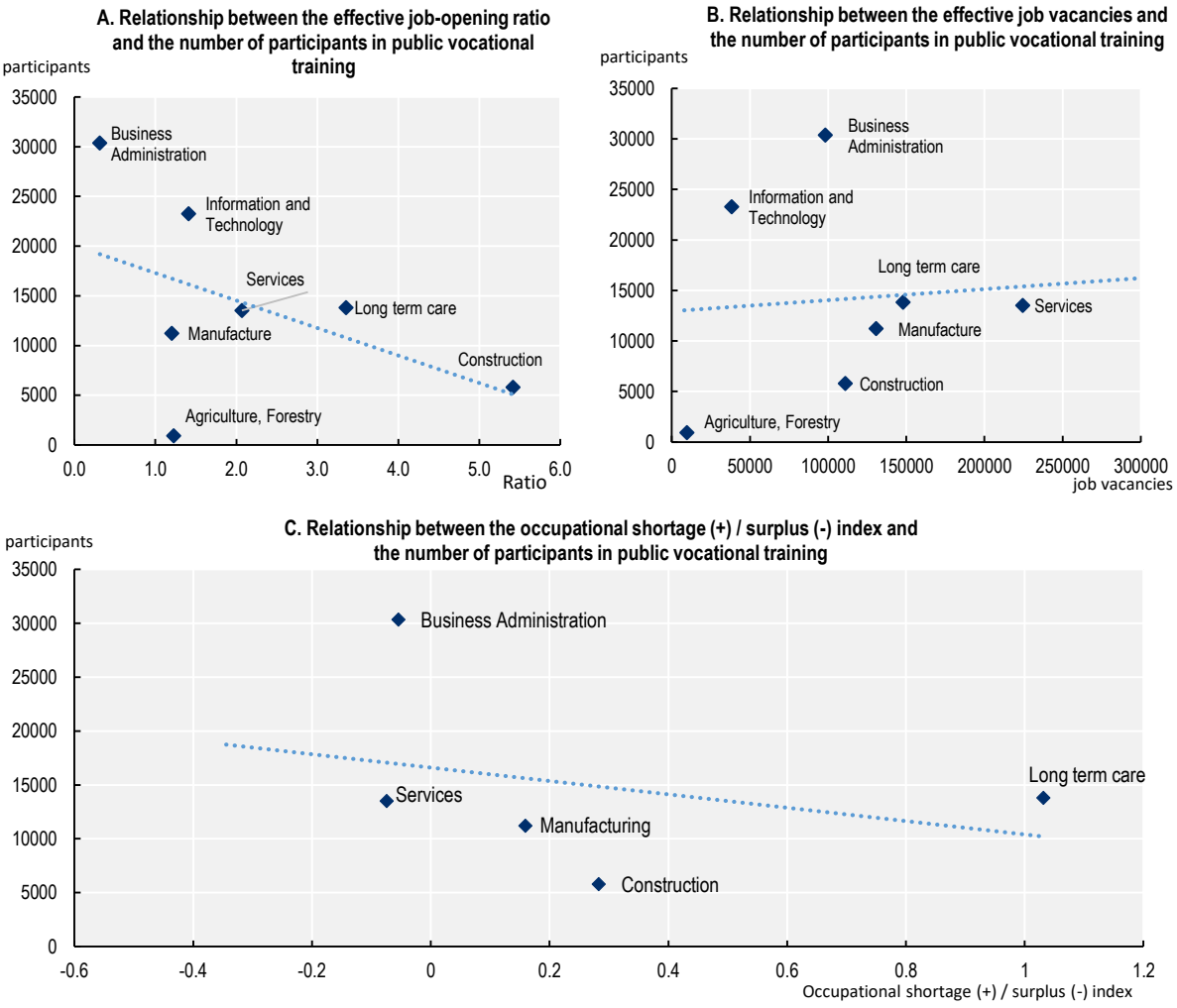
3.3.1. Public professional training needs to be responsive to changes in the labour market and skill needs

Professional training provided by the State, prefectures and the private sector – called 'vocational' training in Japan – aims to help participants' reskill and upskill in view of finding employment or develop their career, particularly in in-demand and growing sectors. To achieve this goal, it is important to ensure that training is responsive to changes in the labour market and skill needs.

Re-employment figures for participants in public vocational training in Japan have been quite high. The employment rate three months after completion of training provided by either the State or prefectures was 84% for unemployed individuals in FY2020, and 71% in FY2020 for training outsourced to the private sector (Ministry of Health, Labour and Welfare, 2022[10]). More rigorous evaluations confirm this finding. Research into the employment effects of training using the propensity score matching methods has confirmed that attending public vocational training increases the likelihood of employment, regardless of the type of training (Ministry of Health, Labour and Welfare, 2022[11]) This is in line with international evidence from cross-country meta-analyses also showing that training is, on average, effective in promoting employment one or more years after programme completion, although there is wide variation in the country-level estimates (Card, Kluve and Weber, 2017[12])

However, there is still room to improve public vocational training to make it more responsive to changes in skill needs due to megatrends such as digitalisation, globalisation and unexpected shocks such as the COVID-19 pandemic. Although the provision of public vocational training for the unemployed has evolved in line with the changing demand for training and other factors (as discussed below), a rough mapping of trainees and labour market openings by occupation shows that there is not proportional strong relationship between the number of people attending job-related training or the volume of job offers within that occupation (Panel A and B of Figure 3.7). The relationship with shortages is also weak and negative, when using the OECD Skills for Jobs Indicators which measure shortages (demand exceeds supply) and surplus (supply exceeds demand) across occupations in over 40 countries, including Japan (Panel C of Figure 3.7) For instance, in Japan, a significant number of participants attend training for service and clerical jobs (business administration) while these occupations are in surplus. Comparatively, long-term care faces a relatively high shortage in workers but a low number of training participants.

Figure 3.7. The number of participants in public vocational training does not necessarily correspond to the demand for jobs as a whole



Note: The effective job-opening ratio is defined as the ratio between the number of job openings and the number of job seekers registered at Hello Work. The effective job-opening ratio and the number of effective job vacancies are averages for FY 2020. The number of participants in public vocational training is for FY 2020. Occupational shortage (+) / surplus (-) index is for 2018. The occupation of the effective job-opening ratio and the effective job vacancies are classified based on occupational classification in the public employment service. The occupation of occupational shortage (+) / surplus (-) index are classified based on the Labour Force Survey.
Source: OECD calculations based on report on Employment Service by the Ministry of Health, Labour and Welfare, MHLW (2022[10]), Hello Training (public vocational training) (Actual results for fiscal years 2017 to 2021), https://www.mhlw.go.jp/content/11801000/000894633.pdf; and OECD Skills for Jobs Database, www.oecdskillsforjobsdatabase.org.

It should be noted that public vocational training is generally provided for sectors where little private provision is available. Irrespective, there is scope to make public vocational training more responsive to changing skill needs.

3.3.2. Better labour market information systems can help policy makers plan adult learning and career guidance strategically

Building better labour marker information system can help understand changes in the labour market and skills needs in real time, so that policy makers can quickly adapt their training provision and career guidance services.

The decision-making process for public vocational training in Japan

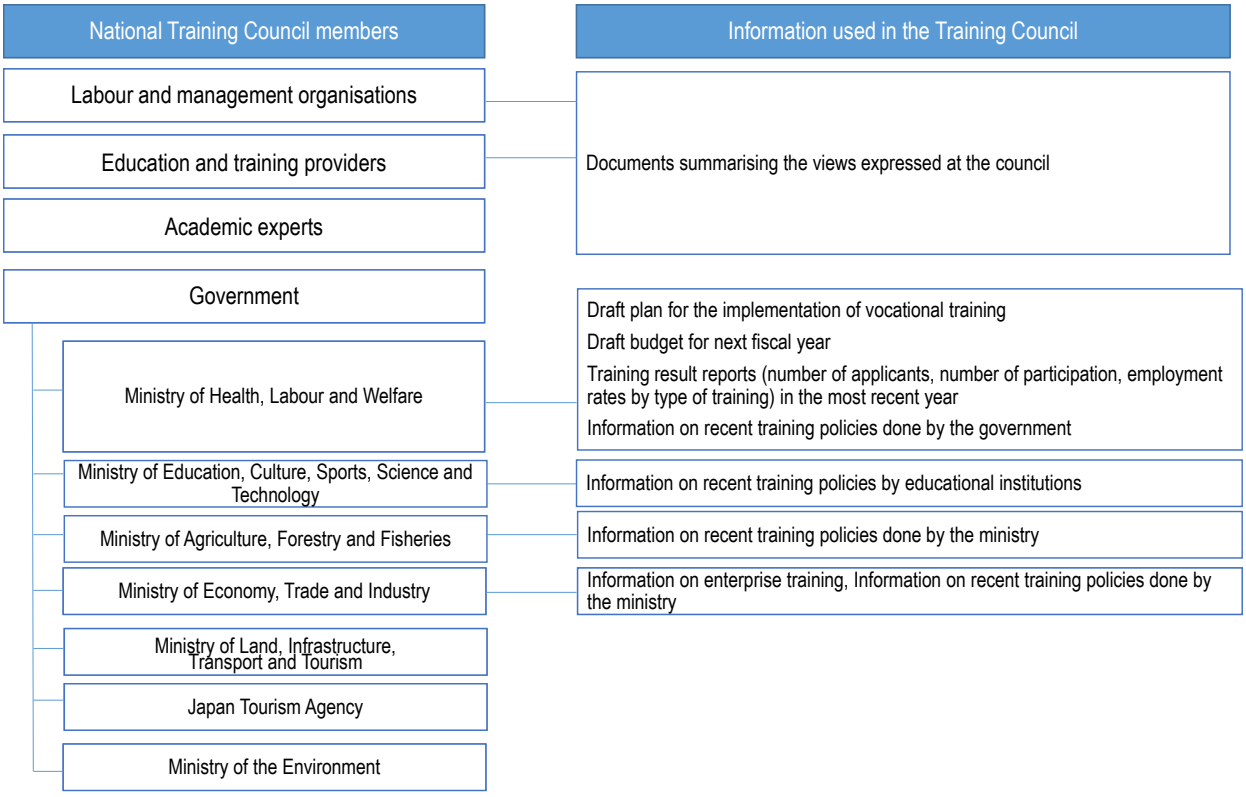
Public vocational training in Japan is provided in accordance with the Plan for the Implementation of Vocational Training prepared by the Minister of Health, Labour and Welfare, based on the Law for the Promotion of Vocational Skills Development. The plan is decided by the Central Training Council, which includes representatives from labour, management, academics, education-related organisations and relevant ministries and agencies. It is elaborated based on discussions of the focus areas of skills development policies and considering the determinants of future skill needs trend at national level, such as sectors suffering from shortages or growing sectors. Thereafter, at the regional level, each of the 47 prefectures in Japan formulates its own plan after discussions with the Prefectural Training Councils, in which local business sectors, training providers, and local labour bureaus participate. The prefectures decide on target areas and on the scale of training programme implementation to address local skill needs, based on the direction discussed at the Central Training Council. These national and prefectural plans are updated every year.

Previously, prefectural councils were not backed by law and there were no explicit rules for the operation of the councils in each prefecture. In response, the Government of Japan amended the Law for the Promotion of Vocational Skills Development in 2022 to facilitate the establishment of more appropriate public vocational training courses are the regional level. This amendment makes it a statutory requirement to establish a consultative forum comprised of a wide range of stakeholders, including: local labour and management organisations; education and training institutions including universities; labour bureaus; prefectures; and job placement agencies (Ministry of Health, Labour and Welfare, 2022[13]). The councils can conduct hearings of individual cases, for example, from companies that have employed participants of public vocational training or from the training participants themselves, to ascertain training needs and the training effects of individual courses. The prefectural councils can also be used to discuss how to develop career counselling services and employment support.

Central training councils and local councils are powerful tools that can co-ordinate with various ministries and stakeholders who hold data on training, labour market, and education. At the moment, however, information systems are not fully utilised to analyse current skill needs and assess future trends when planning training provision. The Training Council mainly discusses the type and scale of training to be provided in the following year, based on existing government policy and data on applications for public vocational training in the most recent year, the number of training participants in the previous years and their employment rate. The training plan is also constrained by the fact that the total amount of training is subject to government budgetary constraints, and the number of trainings cannot be significantly changed in the absence of enough budget. The scale of public vocational training therefore depends more on the most recent training participation results, rather than mismatch or future estimates based on the demand for skills such as specific qualifications (technical, vocational, university, etc.), fields (law, medicine, economics, etc.) or specific skills (numeracy, literacy, problem solving, soft skills, etc.). Indeed, the documents used for discussion at the Central Training Council do not include quantitative data relating to skills (Ministry of Health, Labour and Welfare, 2022[14]).

Figure 3.8. Data on skills are not often used in discussions on the size and content of public vocational training

The National Training Council's membership and the information examined in making planning decisions



Source: Prepared by authors based on materials from the 2022 National Training Council, available at: https://www.mhlw.go.jp/stf/shingi/other-syokunou_128998.html.

Not using quantitative demand forecasts focusing on skills and tasks when setting up training plan may be related to traditional employment practices in Japan. Japanese employment practices have been characterised by lifetime employment, a seniority-based wage system and the regular intake of new graduates (OECD, 2021[2]). In this context, adult learning has been primarily provided by firms through on-the-job training, where training has been based on career change within the same company according to the company's needs, rather than skill-specific training.

However, in recent years, this situation has changed. In 2018, the government issued guidelines targeting labour market flexibility and creating conditions that would support job changes at all ages, and in order to better match workers who want to change jobs with companies, an amendment was made in 2020 to impose an obligation on large companies to publish the percentage of mid-career hires (OECD, 2021[15]). In addition, the new Japanese O*NET database (called "job tag") was released in 2020, and has made it possible to visualise the skills required for each occupation, gradually making skill-focused research possible. "Job tag" provides a comprehensive overview of a wide range of labour market information for around 500 occupations, including job descriptions, required education and qualifications, degree of vocational training required before and after employment, number of workers, working hours, average wages, average age and other working conditions, labour shortage conditions, required skills, knowledge and work values. The number of "job tag" page views exceeded 2 million in FY2020 when it was launched and 5 million in FY2021. The platform is steadily attracting a large number of users. The information accumulated could be incorporated into the labour market information system (LMIS) to enable even more effective policy decision-making.

Developing a better Labour Market Information system (LMIS)

A LMIS is "a network of institutions, persons and information that have mutually recognised roles, agreements and functions with respect to the production, storage, dissemination and use of labour market related information and results in order to maximise the potential for relevant and applicable policy and programme formulation and implementation" (ILO, n.d.[16]). Ideally, an LMIS provides a foundation for employment and labour policies, informing the design, implementation, monitoring and evaluation of more focused policies.

In general, labour market information includes the following information and intelligence (Hofer, Zhivkovikj and Smyth, 2020[17]):

1. Labour market conditions (national and/or regional), including demand and supply trends
2. Projections of future demand and supply
3. Occupational trends and opportunities
4. Skills requirements and links between training and education and careers
5. Interpretation and analysis of data (Woods and O'Leary, 2006[18])

An LMIS helps labour market actors overcome incomplete information and thus contributes to reducing labour market transaction costs. Providing information on market needs such as skills, tasks and other market needs for specific occupations in an LMIS not only assists government data-driven decision-making with regard to training policy, but also helps jobseekers find vocational training to develop the right skills or to be matched effectively in job placement (UNESCO, 2018[19]).

A labour market information system consists of four main elements: 1) collection and compilation of data and information; 2) information storage; 3) analytical capacities and tools; and 4) institutional arrangements and networks (ILO, n.d.[16]). In Japan, labour-related data such as the Labour Force Survey and the Basic Survey on Wage Structure have been collected and stored through government statistics portals (e-stat), and these data have been used for policy making through regular analysis or forecasting future demand and supply. At present, however, interpretation and analysis on skills and vocational training is limited, with the exception of the Basic Survey of Human Resource Development, which is an official statistic, and other databases such as "job tag", which have been launched in recent years. Institutional arrangements for analysing and utilising such information in the training policy making process are still developing. In other countries such as Canada, LMISs are strategically constructed and skills-related data is analysed by experts including labour economists and statisticians (Box 3.1).

On the one hand, as mentioned above, the collection and construction of skills databases has gradually progressed in Japan, following the launch of the "job tag" and other developments. On the other hand, the analytical and institutional capacity to make the most of the data collected is still insufficient. Understanding the relationships between occupations in terms of skill composition is a new approach in Japan. For instance, it requires mapping skill sets by occupational category and generating skill similarity scores between occupations. These similarity scores enable the investigation of potential job changes based on current and past occupations and areas for further skills development of individuals to facilitate alternative career paths (Mustafa Sayedi, Aryeh Ansel, 2021[20]). These skills matching and gap analyses provide new insights for potential career changes and also help policy makers to determine effective training programmes. However, these are still new approaches and require refinement and deepening and they also require changes to the skill system to adapt it to make use of the data.

Box 3.1. Labour Market Information System in Canada and Singapore

Labour Market Information Council in Canada

In 2017, the Labour Market Information Council (LMIC) was established with the aim of enabling Canadians to make evidence-based decisions by providing access to high-quality, relevant and comprehensive skills-related data and its analysis across the LMI ecosystem across Canada. LMIC is a pan-Canadian not-for-profit organisation and governed by a Board of Directors and three subcommittees including Executive, Audit and Strategy and Evaluation. The LMIC Board of Directors is comprised of 15 representatives from each province and territory as well as states (Employment and Social Development Canada and Statistics Canada). It is responsible for setting the direction and priorities of LMIC in consultation with stakeholders. LMIC Staff consists of labour and digital specialists such as economists, data scientists, and engineers.

The Career Guidance Stakeholder Committee was recently established to ensure that the particular needs of career guidance delivery system and its clients are accommodated. The committee is responsible to ensure that all activities such as producing new skills and related labour market information and deciding channels of delivery are evidence-based and impactful.

Recognising that vast amounts of labour market information are often dispersed across multiple sources and only available for specialists, LMIC, in collaboration with the Future Skills Centre (FSC), has launched a high quality LMI data cloud-based repository. The LMIC Data Hub is a Google Cloud Platform-based database in which information is stored and made easily accessible to people.

SkillsFuture in Singapore

The SkillsFuture aims to encourage the development of autonomous leaners by providing ongoing education and training opportunities to help them stay current with the ever-changing marketplace. A key feature of the website is to act as a gateway for the provision of SkillsFuture credits to all resident aged 25 and above that can be used to pay for pre-approved learning and skills development courses.

SkillsFuture is a statutory body operating under the Ministry of Education, which work closely with other government organisation (Workforce Singapore) to create a nation of agile workers and embrace the spirit of lifelong learning. It plans to expand the course list continually in consultation with employers and industry partners. A Training Management System provides APIs (Application Programming Interface) to retrieve information on sector, career pathways, occupations and job roles, related training and skills.

Source: LMIC (https://lmic-cimt.ca/); OECD (2022[21]), *Career Guidance for Adults in Canada*, https://doi.org/10.1787/0e596882-en; Barnes and Bimrose (2021[22]), "Labour market information and its use to inform career guidance of young people" https://warwick.ac.uk/fac/soc/ier/research/lmicareerguidanceofyoungpeople/ier_gatsby_lmis_landscape_2021_final.pdf; SkillsFuture (https://www.skillsfuture.gov.sg).

Effective use of labour market information through online portals across Japan

Once information is collected in an efficient LMIS, it is important that it feeds into policy actions to enable jobseekers, companies and career consultants to obtain timely, up-to-date and representative labour and training information. Quality information allows jobseekers to search for jobs, receive effective career guidance and participate in training that is aligned with labour market needs. Various portals to access information on education and vocational training are now available in Japan, including: the website encouraging adult learning (*Manapass*); the website set up by the Ministry of Health, Labour and Welfare's listing courses eligible for training benefits; the public employment service's website for jobseekers; the Job Card website for career development; and an occupational information website. Although each website

has a different purpose, the lack of co-ordination translates into scattered information across different government portals (OECD, 2021[15]).

In this regards, it is noteworthy that the government now plans to strengthen the link between the Public Employment Service's online job-seeking information and "job tag" (Cabinet Secretariat, 2022[23]). Bringing information on "job tag" and job search information together will help jobseekers make better decisions by enabling them to effectively identify the skills in high demand. Linking these information with vocational training currently offered could further lead to use of public employment services and directing people to public vocational training.

For instance, South Korea provides a centralised system that includes comprehensive information on the skills required of workers, job matching, relevant vocational training, and educational institutions, through collaborative partnerships with the private sector and the use of advanced technology solutions including artificial intelligence (AI) (Box 3.2).

Box 3.2. A comprehensive labour and training information platform (Work-net) in Korea

Work-net is operated by the Korea Employment Information Service (KEIS) under the Ministry of Employment and Labour (MoEL) and provides job matching and a comprehensive labour and training information. Work-net provides functions other than job matching either directly or in conjunction with the Korean LMIS sub-system.

For example, it is linked to the Korea Network for Occupations and Workers for career and skills guidance and to HRD-net for vocational training. HRD-net offers vocational training courses and qualification tests, and key statistics on vocational training, which are provided in conjunction with job vacancies on Work-net. This information includes training course content, training objectives, application requirements, relevant qualifications, training duration, training costs, government subsidies, training personnel, training facilities and post-training employment outcomes. People can search Work-net's vocational training information and apply for support for training on their computers or smartphones; Work-net and HRD-net systems and data are linked and interoperable. It also provides information on employment and welfare policies at national and local government level and links to other ministries and public authorities.

KEIS uses the information in the LMIS for evaluation, analysis, and forecasting, with the objective of helping to design, monitor, and evaluate public policy at the national, regional, and local levels. Work-net also shares information through an API (Application Programming Interface). Its functioning is supported by strong institutional arrangements involving the private sector, central and local government, the education system, a strong technical infrastructure for information sharing and advanced technological solutions (big data, artificial intelligence) to efficiently analyse data and disseminate available information.

Work-net consists of national and public job information providers, private operators, regional governments, and public vocational centres under MoEL. It has partnered with over 170 organisations to establish institutional arrangements for access to job vacancies. Private providers are free to post jobs on Work-net in addition to public employment services, but due to a multi-layered verification system involving artificial intelligence and multiple experts, only 60% of all jobs are posted, and the legal quality jobs that meet the requirements are guaranteed by the government.

Work-net also has a dedicated marketing team to attract job seekers, and works on proactive marketing activities and events, targeting specific groups (e.g. youth), promoting partnerships (e.g. universities) and disseminating research results to potential users. It has won various customer satisfaction and brand-related awards (App Award Korea, Good Brand Trusted by Consumers, Korea Top Public Service Award, Top 10 Public Apps Loved by the People, Korea National Service Satisfaction Award). In 2018, the number of registered users reached approximately 16 million.

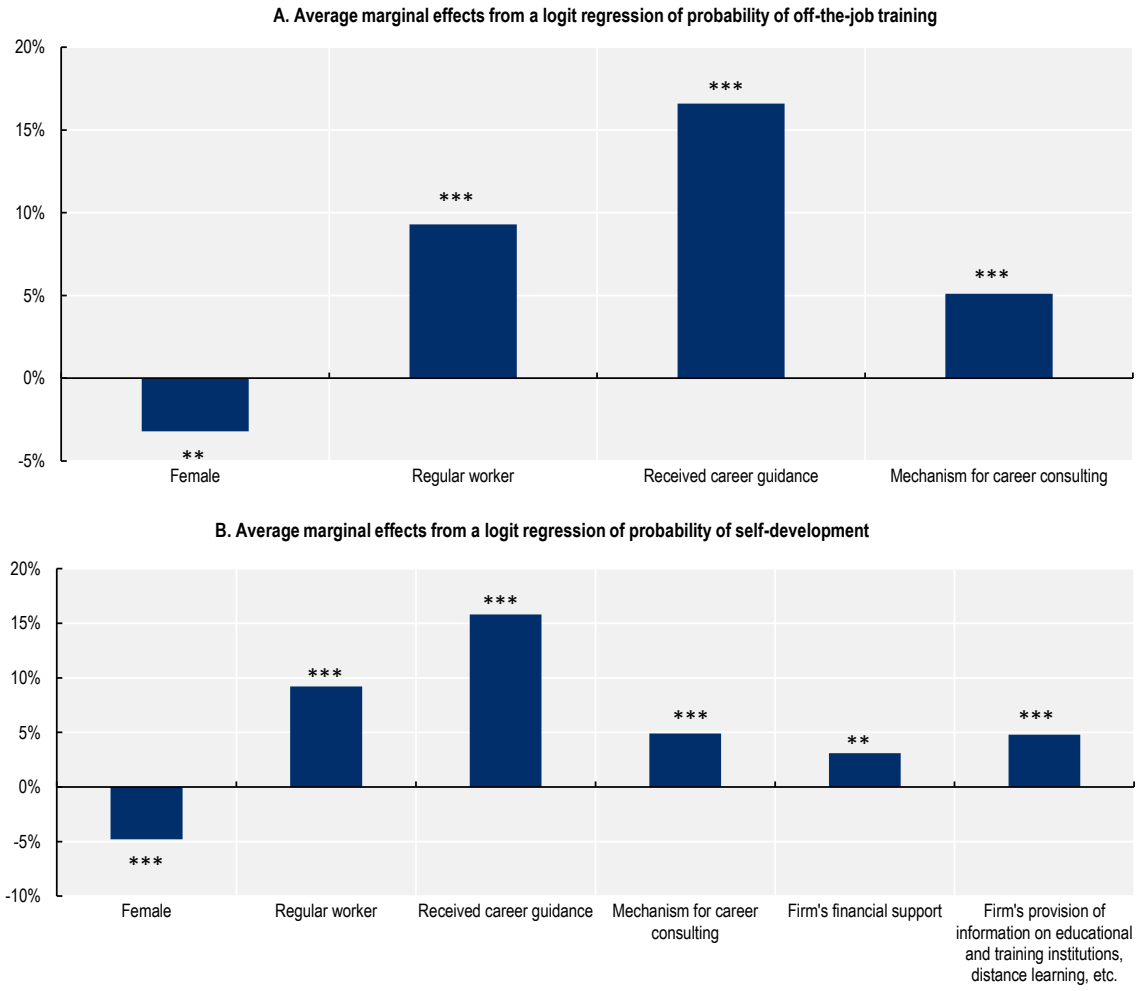
Source: WORKNET (https://www.work.go.kr/seekWantedMain.do); World Bank Group (2021[24]), https://openknowledge.worldbank.org/bitstream/handle/10986/35378/Toward-a-World-Class-Labor-Market-Information-System-for-Indonesia-An-Assessment-of-the-System-Managed-by.pdf?sequence=1&isAllowed=y.

A virtuous circle to promote training of workers

A high-quality LMIS could lead to improved quality of career guidance provided by firms and career consultants, as well as further training support for workers in companies. Workers' training opportunities are then expected to increase thanks to the support provided by firms and career consultants. Indeed, the probability of participation in off-the-job training is correlated with career guidance experiences and company support. An econometric analysis shows that the probability of undertaking off-the-job training is 6 percentage points higher for workers in companies that have put in place mechanisms for career guidance, compared with workers in other companies. In addition, workers who experienced career guidance in the past year are 17 percentage points more likely to undertake off-the-job training in the same year than workers who have not, although it should be noted that some selection bias may exist (Figure 3.9).

This situation is also the same for workers' self-development. Workers who work a company that provide career consulting support are 5 percentage points more likely to undertake off-the-job training than workers in other company. Workers in companies that provide financial support such as course fees for self-development are 3 percentage points more likely to undertake self-development, and 5 percentage points more likely to undertake self-development if their company provides information such as education and training institutions and online learning. The adult learning market in Japan can be further expanded by creating a virtuous circle of worker participation in training by linking a good labour market information system with the provision of appropriate vocational training and career guidance.

Figure 3.9. Effects of off-the-job training and self-development implementation by worker's characteristics and firm's support



Note: ***, statistically significant at the 1% level, **, statistically significant at the 5% level and *, statistically significant at the 10% level. The figure shows estimates of the average marginal impact of selected variables on receiving off-the-job training and undertaking worker's self-development. The benchmark group is male and non-regular worker. "Received career guidance" is a dummy variable for whether or not the respondent has participated on career guidance in the last year. "Mechanism for career consulting" is a dummy variable for whether or not the firm has some kind of career counselling mechanism, whether institutionalised or not. "Firms' financial support" is a dummy variable for whether or not firms provide workers with financial assistance, such as course fees, for worker's self-development. These effects are estimated with controls for age, years of experience, industry, occupation, job title, working hours, firm sizes, turnover rate, percentage of non-regular workers in a firm, and others.

Source: OECD analysis based on Japanese Basic Survey of Human Resource Development (2020) supported by the Ministry of Health, Labour and Welfare.

Policy recommendations

Expand the use of online training

- Ensure that underrepresented groups, such as older adults, non-regular workers and those living in rural areas, have access to courses on basic digital skills in-person to prevent them from falling behind in the digitalisation of public services and training.
- Support both private and public providers who want to implement distance learning, through technical assistance and certification of full online training for public providers.
- Offer additional subsidies for training providers who want to trial delivery of real-time online learning and on-demand recorded training courses, while taking into account outcomes such as post-training employment rates.

Support the scaling up of modular training provision and micro-credentials

- Introduce skills profiling and personalised learning pathways to tailor the training plan of adults to their skills and experience. Individualised training programmes that factor in both local labour market demand and the adult's past experience have a higher chance of leading to sustainable employment, and should be used in public training facilities.
- Create training programmes where smaller modules are rewarded with partial credits, and can be stacked to attain a fully-credited training programme that is recognised by the government. This would allow adults to circumvent time constraints and complete larger training programmes that have previously been unattainable due to the length of the courses.

Increase training participation of groups with lower labour market outcomes

- Exploit skills composition analysis to understand the best upskilling and reskilling opportunities for women and non-regular workers in order to ensure they are not 'left behind' in the post-pandemic recovery.
- Leverage career guidance and upskilling opportunities to increase the hiring of women in positions where they are underrepresented, such as occupations with high leadership skills and high technical skills.

Leverage existing data to create analytical tools to assess and anticipate skills needs

- Perform an extensive mapping of existing labour information data and sources, including governmental data, local data and information originating in research centres. Create an overview of the data synergy and key indicators that can be tracked to analyse skills supply and demand.
- Create a real-time labour market information system (LMIS) that runs automatically and is updated on a regular basis, as well as forward-looking labour market projections. Evaluate which public institution or department is best equipped to manage the programme and co-ordinate the stakeholders who provide data input.
- Create a structured and extensive dissemination plan for the LMIS. On a granular level, the tool should be shared with key stakeholders and practitioners involved in training and career guidance. The government should actively draw upon the analysis in the LMIS when creating and evaluating skill and labour-related policies, such as policies on training, career guidance, industry restructuring and investment.

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