



## ► Policy Brief

June 2022

# Skills development and lifelong learning in Singapore

## Challenges for trade unions<sup>1</sup>

### Key points

- ▶ Singapore is the third-largest exporter in the world, in terms of exports as a percentage of GDP, with total value of exports exceeding total output.
- ▶ Highly skilled workers make up three fifths of the resident workforce, while the proportion of low-skilled workers is one of the smallest in the world.
- ▶ Although the manager and professional occupations continue to command skills premiums, earnings since 2011 have grown by more than 50 per cent faster for workers in elementary occupations than those in the high-skill occupations.
- ▶ To meet the breadth and depth of skills required for an advanced economy with one of the highest densities of industrial robots in the world while pushing to reduce a heavy reliance on migrant workers, significant policy innovations have been implemented since the end of the global financial crisis in 2009.
- ▶ Trade unions are represented in the National Wages Council, which is the main tripartite wage-setting body. The Council's annual wage guidelines emphasize skills upgrading.
- ▶ In addition to the education accounts given to every Singaporean at birth, a personalized SkillsFuture Credit scheme was introduced in 2016 to Singaporeans upon entering compulsory basic education and for post-secondary education. This is part of a long-term strategy to strengthen lifelong learning.
- ▶ Trade unions have been at the forefront of efforts to help companies to keep up with the changing skills needs, such as the introduction of a progressive wage model and company training committees.
- ▶ Trade unions are very active in pushing for workforce skills development, including being involved in training provision and organizing funding for workers.

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## ► Introduction

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This brief examines skills development and lifelong learning in Singapore. The approach takes a macroeconomic perspective of the main challenges and outcomes in terms of labour market performance.

Singapore is the fifth-largest economy in the ten-members of the ASEAN Economic Community. In 2020, the World Bank ranked the Singaporean economy 38th globally in purchasing power parity-adjusted terms.

In the first decade of independence (1965–75), economic growth averaged 11.4 per cent a year, and Singapore was among the top-five nations globally in terms of growth. In the five and a half decades since, growth has gradually declined.

As a result of the COVID-19 pandemic, the economy suffered a severe downturn in 2020. This was its fourth full-year decline in economic output since independence in 1965 and its sixth technical recession on record. Buoyed by global demand for exports and high vaccination rates, the economy rebounded in 2021 with a 7.2 per cent growth rate, its fastest since the recovery from the global financial crisis of 2008–09.

One of the main policy concerns in Singapore has been whether workforce skills are adequate to meet the changing needs of the economy.

Compared to its regional neighbours, Singapore's economy has been much more susceptible to global economic shocks. This exposure comes with being a small open economy with a significant role as a global trade hub.

As the third-largest exporter in the world in terms of exports as a percentage of gross domestic product and also by virtue of its status as a major transshipment hub, Singapore is one of a small number of economies for which exports exceed total output. In 2019, for example, total exports amounted to 176 per cent of gross domestic product.<sup>2</sup> It is therefore inevitable for the skill needs of the economy to be linked to export trade performance.

In 2020, re-exports accounted for half of the merchandise trade, with domestic oil exports accounting for another 17 per cent, and non-oil domestic exports making up the remaining 32 per cent.<sup>3</sup>

Despite its small size, Singapore is also one of the largest exporters in current US dollar terms. In 2018, its exports were about a quarter of China's and ranked eighth globally. In terms of dollar value of goods exported, it is ranked within the top 15 nations globally. With more than half of its manufactured exports comprising high-technology goods, it is the sixth-largest exporter in this category alone.

Singapore's economy has always had a majority services sector component, which currently accounts for 70 per cent of output. The expanding share of services in the economy has spilled over into trade. In recent years, services trade has even outperformed merchandise trade, with the dollar value of services exports ranking seventh in the world each year from 2018 to 2020.

After having been in deficit since 1999, the services trade balance turned positive as of 2018. The main drivers of services exports are travel services, transport services, maintenance and repair services, financial services, insurance services and other business services.

One of the primary economic performance issues over the past decade has been the uncertain state of productivity performance. In 1970, shortly after independence, Singapore adopted a policy of industrialization based on manufactured exports and opened its doors to foreign investment and export-led growth. Remaining internationally competitive became a priority, with the pursuit of productivity improvements through national campaigns, the formation of work-improvement teams and the setting of training targets.

From 1965 to 1975, productivity gains came relatively easily. By 1980, however, concerns were raised in Parliament for the first time about declining productivity growth. As the economy matured over the years and in defiance of several decades of government efforts and exhortation, average productivity has often languished, occasionally even dipping into negative territory and thus causing persistent concerns about the sustainability of wage gains.

One area of improvement has been manufacturing productivity linked to increasing use of automation and higher-value outputs. For several years now, Singapore has ranked second worldwide in terms of the density of industrial robots in the world. In 2019, Singapore briefly surpassed the Republic of Korea to have the highest density of industrial robots globally, at 918 per 10,000 workers, before falling back to second place.<sup>4</sup>

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<sup>2</sup> Ministry of Trade and Industry, *Economic Survey of Singapore 2020: Statistical Appendix*, tables A1.1 (GDP) and A6.1 (exports of goods and services).

<sup>3</sup> *Economic Survey of Singapore 2020*, table A5.1.

<sup>4</sup> International Federation of Robotics, *World Robotics 2021*, 2021.

## ► Population and workforce profiles

Singapore's working-age population has one of the smallest shares of millennials among countries in the East Asia and Pacific and South Asia regions. Numbering 1.3 million, the group consisting of persons aged 25–39 comprises 31 per cent of the population. This is a substantial decrease from the 44 per cent that the age group represented three decades ago.

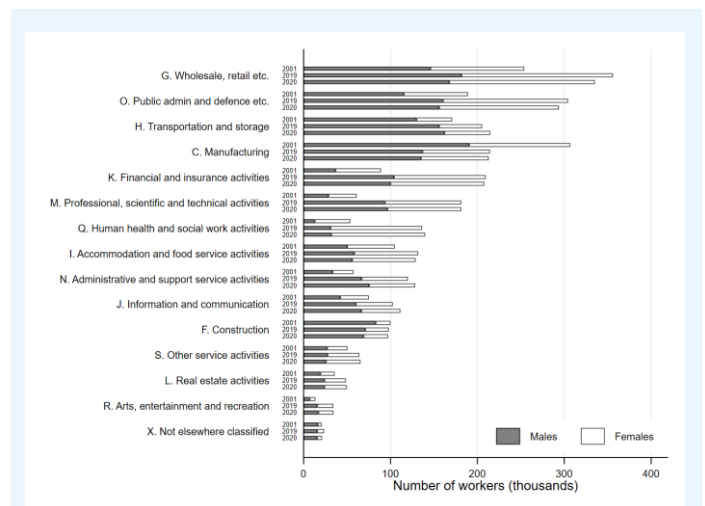
The labour force participation rate rose by nearly 20 percentage points over the past three decades. In recent years, it has hovered around 70 per cent of the resident population (which excludes the foreign workforce). This is one of the highest labour force participation rates among high-income economies.

Despite the increase in the labour force participation rate, Singapore has faced labour shortages in certain sectors, such as construction and manufacturing. There also have been shortages of health care professionals and, more recently, information technology specialists.

To ensure that the supply of human resources keeps up with the needs of the growing economy, the country has had to rely on migrant workers. From 2007 to 2020, the total foreign workforce grew by more than a third, equivalent to an annual rate of 2.4 per cent a year. This was much faster than the rate of growth of the local population in the same period (the resident population grew at a rate of 0.8 per cent a year between 2007 and 2020).

Changes to the skills profile of the overall workforce are affected by changes to the profile of economic activity. From 2001 to 2012, the share of employment in the manufacturing sector had exceeded those of construction as well as the individual services subsectors (figure 1).

► **Figure 1. Employment, by sex and sector, 2001, 2019 and 2020**



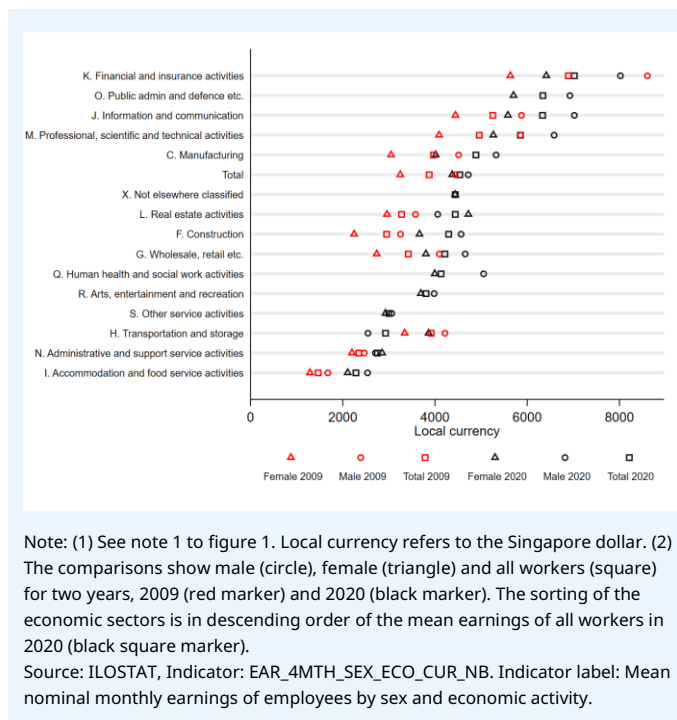
Note: (1) The figure shows the number of workers in each sector of economic activity in 2001, 2019 and 2020. The sectors of economic activity shown are based on Statistics Division, UNDESA, *International Standard Industrial Classification of All Economic Activities: Revision 4, 2008* and compare the major non-services sectors with the services subsectors. (2) The stacked bars for each year show total employment distinguished by sex (with the white-coloured bars for female workers appearing to the right of the dark-coloured bars for male workers). The values are sorted according to the value of total employment in 2020.

Source: ILOSTAT, indicator: EMP\_TEMP\_SEX\_ECO\_NB. Indicator label: Employment by sex and economic activity (thousands).

Less than a decade later, in 2020, its share declined and fell behind those in the wholesale and retail trade (services subsector) and repair of motor vehicles and motorcycles. Slightly less than half of the manufacturing workforce (49.7 per cent in 2020) is female, higher than rates in other countries, such as India, the Republic of Korea, the Philippines and Viet Nam.

An important indicator of whether skills are in demand is the earnings they command. The sector that paid the highest in 2020 was finance and insurance (figure 2). This is also the sector that has had one of the largest increases in employment numbers over recent years, indicating a responsiveness of labour supply to demand.

► **Figure 2. Average monthly earnings, by sex and sector, 2009 and 2020**



## ► Skills development and lifelong learning

Singapore has not ratified the Human Resources Development Convention, 1975 (No. 142). Yet, there has been consistent emphasis on the importance of worker training and workforce upgrading since the 1970s, supported and coordinated by a strong tripartite partnership.

The basic education system contains a technical and vocational education and training (TVET) track. The Ministry of Education runs the Institute of Technical Education, which provides a TVET pathway for students who have completed lower-secondary education.

Until recently, the foundations of skills development were anchored in the education system. Without a natural hinterland, the constraints of physical space and population size severely limited the range of the labour market to meet increases in worker demand or make the adjustments for turnover that larger countries were naturally capable of. Given such constraints, lifelong

learning has been considered very much an individual responsibility.

An important and at times controversial aspect of the early education system had been the ceiling set on the cohort participation rate, or the proportion of each age cohort to graduate from local publicly funded universities, to between 25 per cent and 30 per cent. Such a policy had kept the supply of graduates in check, but it also conflicted with the philosophy of lifelong learning.

In the aftermath of the global financial crisis, decisive moves were taken towards developing a structured system of skills development and lifelong learning that would be responsive to the challenges brought about by technological disruption.

As the economy was reeling from the final quarterly downturn of the global financial crisis in May 2009, the Government moved quickly to set up the Economic Strategies Committee. Tasked with mapping out the recovery, the Committee submitted a plan in February 2010 that recommended a strategy to revamp the economy over the following decade.

With the turmoil of the global financial crisis still fresh in everyone's mind in 2012 and technological disruption rapidly destroying old jobs and creating new ones, the Government convened a high-level panel, the Committee on University Education Pathways Beyond 2015, to re-examine the cohort participation rate. The Committee's recommendations resulted in the raising of the cohort participation rate to 40 per cent and the creation of two additional locally funded universities to provide the places necessary to achieve the higher rate.

The proposal to raise the cohort participation rate and increase the supply of locally trained graduates took place within a broader strategy formulated in response to the global financial crisis.

To address the question of funding, the Government introduced a SkillsFuture Credit scheme in 2015 that provides credits worth SGD500 to all Singaporeans aged 25 and older.<sup>5</sup> The credit has no expiry and can be used to enrol in a range of approved courses advertised on an online government portal listing. A further conditional top-up to the SkillsFuture Credit was made in 2020.

Even before the decade (2011–20) ended, it had become clear that the earlier recommendations by the Economic Strategies Committee would be overtaken by the rapid changes occurring across the global economy. In

<sup>5</sup> See [www.skillsfuture.gov.sg/credit](http://www.skillsfuture.gov.sg/credit).

response, the Government set up the Committee on the Future Economy in January 2016.<sup>6</sup>

The Committee's first report, in February 2017, contained seven strategies, two of which set the stage specifically for a comprehensive skills development and lifelong learning framework. These two strategies aimed at moving the country to "acquire and utilise deep skills" and "develop and implement Industry Transformation Maps", respectively. The latter is seen as a road map to drive industry transformation; each one consists of a sector-specific growth and competitiveness plan that covers productivity, internationalization, innovation, digitalization, jobs and skills.

Prior to the release of that report, the Government had announced (in 2016) that it was establishing two statutory boards: SkillsFuture Singapore<sup>7</sup> and Workforce Singapore.<sup>8</sup> SkillsFuture Singapore is responsible for spearheading skills development and lifelong learning. By the time of its inception, the term "SkillsFuture" had already become a household name, thanks to the eponymous SGD500 SkillsFuture Credit. Whether intentional or not, this reiterated the importance of financing and training resources in the skills development and lifelong learning effort.

To complement the SkillsFuture Singapore's role, Workforce Singapore oversees the challenges of ensuring that industry has access to the necessary labour supply. The Industry Transformation Maps<sup>9</sup> specified in the Committee on the Future Economy's sixth strategy have a critical role in the intricate ecosystem for skills development because the direction of industry transformation defines the jobs to be created and, by extension, informs the type of skills needed by persons wanting to take on those jobs.

In 2017, following the publication of the report of the Committee on the Future Economy, the Future Economy Council<sup>10</sup> was set up to take over the Committee's work and oversee the Industry Transformation Maps. Under the Future Economy Council, an Emerging Stronger Taskforce was also set up<sup>11</sup> to oversee strategic responses to structural shifts in the economy.

In April 2020, the Government announced that the 23 Industry Transformation Maps would be refreshed and strengthened under a plan called ITM 2025. The

strengthening would take the form of three new thrusts, "incorporating the recommendations of the Emerging Stronger Taskforce, closer integration with research and innovation, and greater focus on jobs and skills".

Hence, while the work for skills development and lifelong learning is led by SkillsFuture Singapore, which is under the purview of the Ministry of Education, the overall strategic formulation also involves the Ministry of Manpower (which oversees Workforce Singapore), the Ministry of Trade and Industry (which oversees the Industry Transformation Maps) and the Emerging Stronger Taskforce of the Future Economy Council.

This elaborate configuration took several years to coalesce. It seems intended to engender a state of alertness at the national level that will ensure that the economy is poised to respond to an unpredictable global environment.

Because the work of SkillsFuture Singapore only began in 2015 and given the long-term endeavour of skills development and lifelong learning, it is too soon to see clear results.

## Individual learning accounts

The initial moves towards creating an individual training accounts system can be traced back to 1991, when the Government introduced the Edusave scheme for Singaporeans aged 6–16 for educational expenses. Since then, the Ministry of Education makes a financial contribution to the individual accounts of each eligible recipient at the beginning of each year. It is a basic amount for all recipients, with additional awards tied to academic performance and age. Any funds not used for education or training are eventually transferred to an individual's personal account in the Central Provident Fund, which is the national superannuation scheme for all working citizens and permanent residents. In that sense, the Edusave account is a personalized account in which the ownership of the funds does not expire. However, the funds can only be used for approved education expenses, and it did not include training until recently. Other types of unapproved uses include exam fees and textbooks.

The SkillsFuture account is ultimately a learning account. In Singapore, these accounts do more than hold financial

<sup>6</sup> See [www.mti.gov.sg/Resources/publications/Report-of-the-Committee-on-the-Future-Economy#:~:text=The%20Committee%20on%20the%20Future%20Economy%20\(CFE\)%20was%20convened%20in,were%20consulted%20in%20this%20p rocess.](http://www.mti.gov.sg/Resources/publications/Report-of-the-Committee-on-the-Future-Economy#:~:text=The%20Committee%20on%20the%20Future%20Economy%20(CFE)%20was%20convened%20in,were%20consulted%20in%20this%20p rocess.)

<sup>7</sup> See [www.skillsfuture.gov.sg/](http://www.skillsfuture.gov.sg/).

<sup>8</sup> See [www.ssg-wsg.gov.sg/](http://www.ssg-wsg.gov.sg/).

<sup>9</sup> See [www.mti.gov.sg/Transforming-Industries/For-Industries.](http://www.mti.gov.sg/Transforming-Industries/For-Industries.)

<sup>10</sup> See [www.mti.gov.sg/FutureEconomy/TheFutureEconomyCouncil.](http://www.mti.gov.sg/FutureEconomy/TheFutureEconomyCouncil.)

<sup>11</sup> See <https://emergingstronger.sg/assets/pdf/MTI%20Press%20Release.pdf>.

credit for education or training. They also keep account of courses taken and, ultimately, the extent and type of learning achieved. Such learning accounts are envisioned to also track learning through experience, and one day they will also keep record of work or job experience.

In 2001, the Government set up Child Development Accounts for all newborn Singaporean children as part of a Child Development Co-Savings Scheme. Also known as the Baby Bonus, it aims at arresting the fall in the birth rate. Administered by the Ministry of Social and Family Development, the accounts can be set up by parents of eligible children at one of the local banks. Unused funds from the Child Development Accounts are transferred to the Edusave accounts when a child turns 13. Like Edusave, the Child Development Accounts can only be used for approved expenses, including those incurred in early childhood care and education and specifically covering certain medical-related ones.

The Post-Secondary Education Account scheme was also set up at that time to provide support for expenses for full-time subsidized programmes offered by local public education institutions. Thus, excluding those offered by private education institutions and with the Child Development Accounts covering the preschool years, Edusave covering basic schooling up to age 16, the Post-Secondary Education Account covering education expenses up to age 30 and all unused balances ultimately ending up in an individual's Central Provident Fund account, the impetus for a lifelong learning account was established more than a decade before individual accounts were finally set up under the SkillsFuture initiative. All three schemes incorporated attractive incentives to encourage individuals to contribute to their own accounts. The Child Development Accounts have "dollar-for-dollar Government co-matching for each dollar that parents deposit", while Edusave and the Post-Secondary Education Account pay attractive interest rates that exceed the basic rates offered with ordinary banking accounts.

The link-up was completed with the provision in 2016 that payment for approved SkillsFuture courses can be made from an individual's Post-Secondary Education Account.

The SkillsFuture Credit scheme marked an important shift in the Government's approach to the philosophy behind training. As explained previously, the primary motivation had always been to drive job performance and productivity improvements because of the latter's effect on cost competitiveness. The allocation of personalized training credits re-ordered the priority in the productivity improvement efforts away from cost-competitiveness to individual skills needs. By putting the financial resources in the name of individual account holders, the SkillsFuture

Credit initiates an individual training account that also serves as the foundation of an individual training achievement record system.

Finally, the absence of an expiry date on the credits means that it was up to each individual to initiate any training involvement, enabling individuals to adopt a self-directed approach and, in the process, complete the pivot of the national training philosophy to one centred on lifelong learning.

Possibly the most important shift that the SkillsFuture Credit scheme represents is the expansion of the training landscape that was not directly linked to a specific job or employer.

## Work-study programme

Since its inception, the SkillsFuture initiative has tacitly acknowledged the relevance of students undergoing immersion in industry.

In 2015, a work-study component was launched under the skills development and lifelong learning framework and initially called the SkillsFuture Earn and Learn Programmes. A Singapore citizen who is working is eligible to undertake a course of study relevant to their current job. The work-study programme offers pathways from the diploma to post-graduate and degree levels. The courses are offered by the six local publicly funded universities and the five government-run polytechnics and private providers appointed by the SkillsFuture Singapore as well as the industry.

Rather than a single programme, the work-study initiative comprises several programmes that are distinguished on the basis of the qualifications that they would lead to. They were subsequently formally designated in 2019 as SkillsFuture Work-Study Post-Diploma, SkillsFuture Work-Study Diplomas and SkillsFuture Work-Study Certificates.

SkillsFuture aims the work-study programme to benefit 12 per cent of each age cohort by 2025. It cites Australia, Denmark, the Netherlands and Norway as countries with established work-study systems and where the relevant participation rate is 15 per cent to 20 per cent of students.

In its report of performance in 2020, the SkillsFuture Singapore noted that 590 companies had offered placements and 1,700 individuals had participated in the work-study programme.

## Role of trade unions in skills development

Singapore ratified the Right to Organise and Collective Bargaining Convention, 1949 (No. 98) in 1965, the same

year it achieved independence. There is a strong framework for tripartite cooperation in Singapore that pre-dates the 2010 ratification of the International Labour Organization (ILO) Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144) by several decades.

Such early initiatives by the tripartite partners extend to efforts in skills development. Hence, in close coordination with the government-led efforts, the trade unions in Singapore also have a significant role in skills development and lifelong learning. This is done at various levels, including legislative initiatives by elected representatives in the Singapore Parliament as well as through representation in major decision-making bodies, such as the National Wages Council. This work is usually coordinated under the National Trades Union Congress, the umbrella body for all local trade unions.

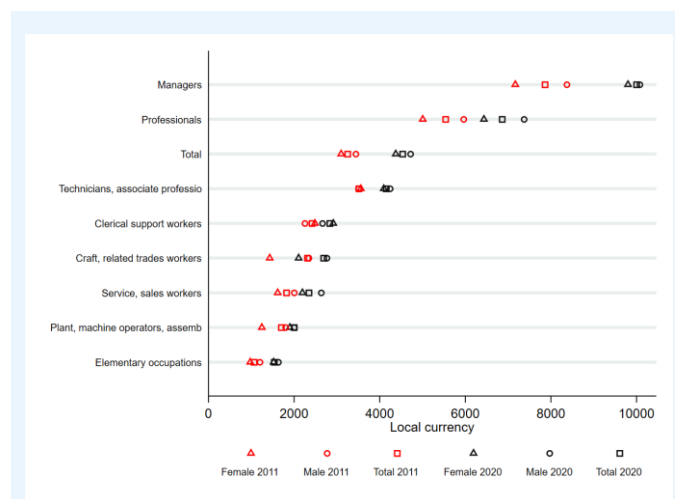
In particular, the trade union movement has been a major proponent of skills upgrading for low-wage workers to enable them to take advantage of the opportunities in Singapore's tight labour market.

In 2012, the tripartite partners announced the impending implementation of a progressive wage model, which maps out a pathway for career progression based on skills upgrading for low-wage workers. Since then, the progressive wage model has been a mandatory requirement for companies operating in the cleaning (in 2014), landscaping and security (both in 2016) sectors.

To facilitate the skills-upgrading process under the progressive wage model, the competency requirements are defined for each job role and published by the SkillsFuture Singapore as a competency map specific to each sector.<sup>12</sup>

While the effects of the progressive wage model have not been fully established, the tentative signs in earnings data from the affected occupations are encouraging. A comparison of earnings by broad occupational categories shows that – as expected – professionals and managers command a significant skills premium (figure 3).

► **Figure 3. Average monthly earnings, by sex and occupational categories, 2011 and 2020**



Note: This plot compares average earnings by occupational categories, following the International Standard Classification of Occupations 2008 (see [www.ilo.org/public/english/bureau/stat/isco/](http://www.ilo.org/public/english/bureau/stat/isco/)). See the notes to figure 2 for marker scheme.

Source: ILOSTAT, indicator: EAR\_4MTH\_SEX\_OCU\_CUR\_NB. Indicator label: Mean nominal monthly earnings of employees by sex and occupation.

However, the earnings gap is narrowing, with earnings of elementary occupations growing more than 50 per cent faster between 2011 and 2020 (see the table below).

► **Comparing changes in earnings, 2011 and 2020**

Occupational category	Change	Proportionate change	Annualized growth rate
Managers	2 140	0.272	0.027
Professionals	1 321	0.239	0.024
Total	1 285	0.396	0.038
Technicians, associate professions	639	0.182	0.019
Clerical support workers	417	0.173	0.018
Craft, related trades workers	378	0.164	0.017
Service, sales workers	523	0.287	0.028
Plant, machine operators, assemblers	300	0.176	0.018
Elementary occupations	472	0.444	0.042

Note: Derived from average monthly earnings. To convert the figures for the last column to percentage rates of growth, multiply by 100.

Source: Singstat 2021.

There are several reasons for the narrowing, including the fall in domestic supply of labour in low-skill occupations, exacerbated by restrictions on access to migrant workers in these areas. Because these factors affect the workforce as a whole, they do not fully explain the much-faster gains

<sup>12</sup> The competency map for the cleaning sector is available at [www.ssg.gov.sg/content/dam/ssg-wsg/wsq/ssg/documents/environmentalcleaning/ec\\_wsq\\_competency\\_map\\_20140119\\_hsbv01final.pdf](http://www.ssg.gov.sg/content/dam/ssg-wsg/wsq/ssg/documents/environmentalcleaning/ec_wsq_competency_map_20140119_hsbv01final.pdf).

in earnings of the elementary occupations category. It is therefore possible that the progressive wage model is an additional driver of earnings increases in elementary occupations beyond the supply-side factors mentioned.

Given the complexity of the progressive wage model framework, especially in terms of its reliance on a skills ladder, there is some corroboration from the widely documented involvement of trade unions in motivating worker training that suggests that the implementation requirements of the progressive wage model have been fulfilled.

From this perspective, the recent push by the National Trades Union Congress to establish company training committees within enterprises is a noteworthy skills development initiative. Launched in April 2019 and led by the Training and Transformation division within the National Trades Union Congress, the company training committees' aim is to ensure that workers in companies undergoing transformation are able to access training that aligns with the needs of the transformation that is taking place. According to the latest update, the National Trades Union Congress has formed 600 company training committees.

The trade unions are also active in providing training. There are three arms of the trade union movement in Singapore relevant in terms of skills development and lifelong learning needs. They are independent entities and operate in close coordination with the National Trades Union Congress. The three are the Ong Teng Cheong Labour Leadership Institute (OTCi), the LearningHub and the Employment and Employability Institute (e2i).

The OTCi operates as a private training institute and as the training arm of the National Trades Union Congress. It caters exclusively to the training needs of union leaders.<sup>13</sup> The LearningHub is also a private training institute, a training arm of the National Trades Union Congress and caters to the training needs of workers. The e2i is a tripartite initiative of the National Trades Union Congress and operates as a solutions provider. It offers help to both workers and employers for issues relating to employment and employability. Where the solutions involve training, e2i may work in association with the LearningHub to offer the necessary training programmes.

Trade unions also are critical in setting up funding to support the training of workers. Many of their schemes are available to non-union members, although union members enjoy greater levels of support.

For this purpose, the National Trades Union Congress' Education and Training Fund was set up several decades ago through its own fundraising efforts and with support from the Government. An important role of e2i is to administer the Union Training Assistance Programme with funding from the Education and Training Fund.

In response to the impact of the pandemic on workers in the air transportation sector, the unions worked with the Civil Aviation Authority of Singapore to introduce Singapore OneAviation Reskilling. This provides funding support to companies when their workers take courses that are not usually funded by government agencies.

Finally, trade unions in Singapore also participate closely in designing skills-upgrading courses. For example, in October 2017, the LearningHub collaborated with the National Taxi Association and the Republic Polytechnic to mount a training programme to equip taxi drivers with digital skills for accessing and utilizing mobile platforms useful for working as a driver in Singapore's urban road environment.

The training programme is called SkillsFuture for Digital Workplace,<sup>14</sup> and with the success of the pilot run in 2017, it was expanded to cater to more taxi drivers beginning in 2019.

In November 2021, LearningHub launched a mobile learning platform. Dubbed the Learning eXperience Platform (LXP),<sup>15</sup> it is touted as Singapore's largest subscription-based online learning mobile application offering on-the-go access to more than 75,000 courses across 60 categories. Payment for subscriptions on the LearningHub LXP can be made using the SkillsFuture Credit. Union members also can avail of additional subsidies from the Union Training Assistance Programme.

## ► Observed labour market outcomes

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In terms of employment by skills, the number of highly skilled workers has increased each year since 2013 while that of medium-skilled workers has been falling.

Singapore's highly skilled workforce reached 60 per cent in 2019, one of the highest rates in the world. In the same year, its medium-skilled workforce component fell to 33 per cent, one of the lowest in the world (figure 4).

<sup>13</sup> See [www.otcinstitute.org.sg/wps/portal/otci/home](http://www.otcinstitute.org.sg/wps/portal/otci/home).

<sup>14</sup> See [https://coursemology.sg/course/skillsfuture-for-digital-workplace/?gclid=EAIaIQobChMI9s2l1\\_y68wIV0TMrCh2O6QB8EAAYAAAEgLDd\\_D\\_BwE](https://coursemology.sg/course/skillsfuture-for-digital-workplace/?gclid=EAIaIQobChMI9s2l1_y68wIV0TMrCh2O6QB8EAAYAAAEgLDd_D_BwE).

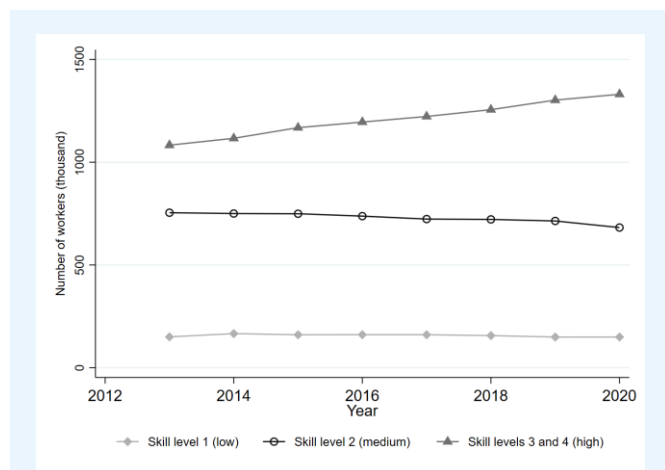
<sup>15</sup> See [www.ntuclearninghub.com/lxp](http://www.ntuclearninghub.com/lxp).



The composition by skill levels differs little between the services and industry sectors of the economy.

Youth employment in Singapore has been falling over time, with the rate of female youth workers falling from 27.5 per cent in 2001 to 18 per cent in 2020 – more than the fall for male youth workers, which went from 20.5 per cent to 16 per cent.

► **Figure 4. Employment, by skill levels, 2012–20**

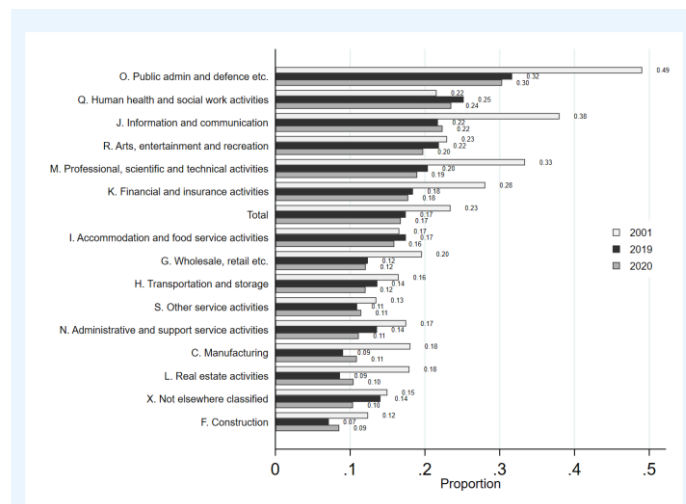


Note: The figure shows time-series plots of the number of workers employed in each skills category. In Singapore, skill levels 3 and 4 comprise the occupational categories of managers, professionals and associate professionals and technicians.

Source: ILOSTAT, indicator: EMP\_TEMP\_ECO\_OCU\_NB. Indicator label: Employment by economic activity and occupation (thousands).

The fall has been reflected in employment at the level of individual industries (figure 5).

► **Figure 5. Youth employment, by sector, 2001, 2019 and 2020**



Note: (1) See note 1 to figure 1 for classification scheme of sectors. (2) This figure shows the proportion of youths aged 15–29 employed in each of the non-services sectors as well as the services subsectors. In each case, there are three bars, representing data for 2001, 2019 and 2020.

Source: ILOSTAT, indicator: EMP\_3EMP\_SEX\_AGE\_ECO\_NB. Indicator label: Youth employment by sex, age and economic activity (thousands).

In 2020, the overall proportion of resident<sup>16</sup> youth workers in the economy was 16.8 per cent, a drop from 17.4 per cent just a year before. The lowest rate was in construction, at 8.5 per cent, while the largest proportion of youths was found in public administration and education, at 30.3 per cent. In 2020, there were 373,000 persons aged 15–29, comprising 189,000 male and 184,000 female youths.

In a relatively positive development, the proportion of youth not in employment, education or training has been falling since 2018.

## ► Conclusion

This brief outlines several challenges relating to skills development needs of the workforce in Singapore. These include the rising proportion of workers in high-skill occupations and the growing complexity and increasing cost of meeting their skill-upgrading needs. At the other extreme, there is the declining proportion of workers in low-skill occupations and the challenges of ensuring that their needs are not ignored. And there is also the urgency to ensure that the pace of skills upgrading for the local workforce is accelerated as the country seeks to moderate

<sup>16</sup> Comprising Singapore citizens and permanent residents but excluding migrant workers who do not have permanent resident status.

its reliance on foreign labour. Because foreign labour has been an important source of the skills that are in short supply locally due to population limitations, there are real risks to Singapore's small open economy should the local workforce be unable to make up the shortfall.

Within the tripartite framework in Singapore, trade unions have a prominent role in the efforts to confront this conundrum as well as other challenges. However, as the skills development challenges mount and become more complex, trade unions will find their resources increasingly stretched by competing priorities.

Among the pressing issues faced by trade unions in Singapore, the most important and also potentially the most difficult is to support older workers for whom skills gaps have developed as a result of technological disruption. Another group of workers whose skills-upgrading needs are a special focus for Singapore trade unions is low-wage workers. These are segments of the workforce whose needs the trade unions have been advocating for over the past decade or more through union-led initiatives, such as support against "ageism" in the workplace<sup>17</sup> and the progressive wage model.

In support of these efforts, trade unions in Singapore are able to rely on good access to high-quality training provision through e2i and the LearningHub.

With the tight labour market and expected crunch in labour supply, job prospects – especially for well-trained workers – remain positive for the moment.

However, the trade unions also need to be prepared because the long-term skills challenges look increasingly daunting. With more than 60 per cent of the local workforce already falling within the highest skills

classification levels, jobs that are transformed by the rapid adoption of advanced technology and access to foreign labour look set to tighten further. The pressure on the skills development framework to deliver results will continue to rise.

One area where there is scope for trade unions to advocate for further policy refinement is in converting the SkillsFuture accounts into fully personalized individual learning accounts, with greater flexibility for individuals to structure long-term learning plans that meet not just their current job requirements but also their longer-term career aspirations.

Given the resource constraints related to the size of the training sector and the range of courses available, it stands to reason that, for some individuals, the lifelong learning aspirations may not be met by local courses. Hence, it may be worthwhile to explore allowing individuals to use a portion of the SkillsFuture Credit for overseas training courses.

There is no doubt that Singapore's training provision landscape is also limited by size. Hence, in a fully flexible approach, it may be possible for Singapore citizens to pursue overseas apprenticeships to acquire skills that are not possible to access through local training.

Although the implementation of a much more flexible and better-funded individual learning account is not without its challenges, including in ensuring that learners exercise due responsibility for funds from public sources, it would be a move closer towards the vision of ensuring that each individual's learning potential is maximized.

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<sup>17</sup> Ian Tan Hanhonn, "NTUC Makes Four Key Recommendations to Address Local SMEs' Concerns", *LabourBeat* (26 August 2021).