

The Future of Work for the Asian Youth

Country Profile: Taiwan





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I. Introduction

Taiwan, one of the Four Asian Tigers, was viewed as an East Asian economic miracle by the World Bank in 1973.¹ In four years, Taiwan's GNP increased by 11 times, with an average annual growth rate of nearly 7 percent.² Such economic success facilitated Taiwan's debut on the global stage and became a popular choice for economic research. This miraculous economic performance started from the 1950s when the Taiwanese government launched an export-oriented policy.³ With sufficient labor force, Taiwan developed its light industries such as the textile and apparel industry, and attracted extensive capital and investment from abroad.⁴ After years of exporting, the domestic needs of machinery, equipment, and intermediate materials have increased. Taiwanese government set capital-intensive industries such as the steel industries and electricity industries as its next goal.⁵

In the 1980s, with the Chinese market opening, Taiwan had to transform its capital-intensive industries to knowledge-based industries. The rising costs of materials and labor led to many factories leaving Taiwan for China. Fortunately, with the basis of intermediate industries, Taiwan had its rapid economic expansion with the help of its rising labor productivity and governmental policies.⁶ The Hsinchu Science-based Industrial Park, dubbed as "Taiwan's Silicon Valley," was created during this period and led Taiwan to its high technology development.⁷ By 1985, Taiwan became one of the largest producers of computers around the globe. Information and Communication Technology (ICT) products were also one of Taiwan's primary goods exported overseas.⁸ Through firms such as the Taiwan Semiconductor Manufacturing Company (TSMC), Taiwan began producing electronic components.⁹ Since 1998 Taiwan became the third-largest producer of information products worldwide, following the United States and Japan¹⁰. Thirteen Taiwanese companies, such as the Taiwan Semiconductor Manufacturing Company and the LITE-ON Technology,¹¹ were included in the Top 100 global technology leaders by Thomson Reuters Corp.¹² Taiwan continues to carry its title as one of the bellwethers of technological industries through advanced innovations, technological infrastructure, and a high capacity workforce.

1 <http://documents1.worldbank.org/curated/en/975081468244550798/pdf/multi-page.pdf>

2 <https://fee.org/articles/economic-growth-in-taiwan-invisible-factors-contributing-to-economic-development-in-the-republic-of-china/>

3 https://aacs.cuny.cuny.edu/2013conference/Papers/Rubenstein%20Murray_2.pdf

4 <https://taiwantoday.tw/news.php?post=13965&unit=8,8,29,32,32,45>

5 <https://ws.ndc.gov.tw/Download.ashx?u=LzAwMS9hZG1pbmlzdHJhdG9yLzEwL3JlbGZpbGUvNTYwNy83MzIvMDAxNzUwOV8xLnBkZg%3D%3D&n=MjAxMl%2FntpPlu7rnmINf6Ie654Gj55m85bGV6Iux5paH55Wr5YaKX%2BeAj%2BimvS5wZGY%3D&icon=..pdf>

6 <https://milkeninstitute.org/sites/default/files/reports-pdf/Recapturing-the-Taiwan-Miracle.pdf>

7 https://www.jstor.org/stable/2761276?seq=12#metadata_info_tab_contents

8 <https://www.britannica.com/place/Taiwan/Economy>

9 <https://www.nature.com/articles/d41586-020-00060-1>

10 https://www.nomurafoundation.or.jp/en/wordpress/wp-content/uploads/2014/09/20010525_Chao-Cheng_Mai.pdf

11 <https://www.thomsonreuters.com/content/dam/ewp-m/documents/thomsonreuters/en/pdf/reports/thomson-reuters-top-100-global-tech-leaders-report.pdf>

12 13 Taiwanese companies ranked among top 100 global tech leaders, <https://focustaiwan.tw/business/201801180009>

Although Taiwan was able to advance its economy, it is currently facing simultaneous developments that are changing its industries and labor force. This paper discusses the rising global issues of the future of work and its impact on youth employment in Taiwan. It begins by giving a brief background of Taiwan's demography, economics, and labor profile. The next session describes the three main challenges of the future of work in Taiwan: (1) the structural change of the nature of work, (2) the gap between education and youth employment, and (3) issues of workforce and social protection. The paper concludes by highlighting the advantages that Taiwan holds in preparing for the future of work and a brief set of policy recommendations that will enable it to harness these advantages.

The youth population of Taiwan indicated in this paper are individuals aged between 15-35 years old. While the United Nations defines the young workforce as those belonging to the ages 15-24, this paper extends the age limit to accommodate those that fall under Taiwan's extended education period.¹³ In Taiwan, the general youth have high education attainment, which translates to a relatively older age of first-time job seekers. Statistics from the Ministry of Labor show that the labor force participation rate is only 36% for ages 15-24. In contrast, the participation rate for the ages of 25-44 is almost triple that, reaching almost 90%.¹⁴

II. Demography and Labor

A. Super-aging society and its SME-led economy

Despite Taiwan's economic success in recent decades, Taiwan is facing challenging demographic changes. The birth rate report by the World Population Review indicates Taiwan's fertility rate as 1.218 children per woman, the lowest around the globe.¹⁵ According to the National Development Council, negative population growth will occur in 2020 due to a dropping fertility rate.¹⁶ This accelerates Taiwan's path toward becoming a super-aged society, where the elderly population will account for at least 20% of the national population.¹⁷ Such early arrival of a super-aged society and declining population might pose adverse effects on the labor force and social insurance system.¹⁸

Taiwan's economy mostly consists of Small and Medium Enterprises (SMEs). Based on the Ministry of Economic Affairs statistics in 2018, up to 98% of the enterprises in Taiwan are SMEs.¹⁹ Moreover, SMEs account for nearly 80% of total employment in Taiwan²⁰. The

13 <https://www.un.org/en/sections/issues-depth/youth-0/>

14 *Labor Force Participation Rate by Educational Attainment, Age and Sex*, <http://statdb.mol.gov.tw/html/mon/c2030.htm>

15 <https://focustaiwan.tw/society/201903250013>

16 <https://ws.ndc.gov.tw/Download.ashx?u=LzAwMS9hZG1pbmlzdHJhdG9yLzExL3JlbGZpbGUvNTU4OS8xMjk-zLzdhdOWRmMjhLLTgwYzUtNGY2Ny1iZjkkLTdkMGEzNWQ3NjMzZC5wZGY%3d&n=MTA354mI5Lq65Y%2bj5o6o5Lyw57Ch5aCx77yaMjAxOH4yMDY1LeiLseaWh%2beJiChQZXRlcueJiClmaW5hbC5wZGY%3d&icon=..pdf>

17 <https://focustaiwan.tw/society/202008180025>

18 <https://menafn.com/1100684096/Taiwan-expects-drop-in-2020-population>

19 <https://www.moeasmea.gov.tw/files/4503/93529CB6-486E-4047-BC9E-63F7B4E7AF93>

20 <https://www.moeasmea.gov.tw/files/4503/C15B4667-A9BC-4AFD-B1D5-05967EB25FE2>

service industry accounted for 60% of total employment, creating more than 60% of GDP overall output value.²¹

B. Labor

According to the Manpower Survey done by Taiwan's Ministry of Labor, the labor force participation rate is up to 60%. From 2010 to 2019, the unemployment rate has gradually declined from 5.21% to 3.73%. Taiwan's 3.73% jobless rate is slightly higher among Asian countries, such as Japan 2.4% and Singapore 3.1%. Also, the jobless rate is higher among men compared to women, with 4.02% for the males and 3.98% for the female.²²

The unemployment rate poses threats to the youth and the more educated. While the unemployment rate for workers aged 15-24 has dropped in recent decades, the statistics in 2019 have risen to 11.88%, which is nearly four times the unemployment rate of workers aged 25-44, at 3.87%.²³ Taiwan's jobless rate in 2018 for youth aged 15-24 is slightly higher than Korea's (10%) but nearly tripled that of Japan's (3.5%).²⁴ Additionally, Taiwan's Ministry of Labor revealed that the unemployment rate is higher among university graduates. People with college degrees face a 5.07% unemployment rate, which is the highest among all other education holders. Senior high school graduates' jobless rate is 3.73% while it stands at 3.59% for junior high school graduates.²⁵

Taiwan's average working hours in 2019 were 169 hours monthly, with 7.8 hours overtime, which was both slightly lower than the previous year. As for the regular income, it grew 2.26% in 2019, which amounts to 41,883 NTD (1,430 USD) per month.²⁶ For workers under 30, their monthly income is approximately 40,776 NTD, and for those 30-34 years old, it rises to 52,244 NTD monthly. The monthly salary is also higher for those having higher education diplomas. (See below Table 1)

Table 1. Monthly Salary by Educational Attainment

Educational Attainment	Primary school and below	Junior middle (vocational) school	High school	Senior Vocational School	Junior College	College and above
Monthly Salary	30,841NTD	45,208NTD	50,778NTD	51,614NTD	64,136NTD	70,837NTD

Source: Ministry of Labor of Taiwan

21 <https://www.taiwanservices.com.tw/internet/en/aboutus.aspx#>

22 <https://eng.stat.gov.tw/ct.asp?xItem=42761&ctNode=1609&mp=5>

23 <https://eng.stat.gov.tw/public/Data/082411838DBU1BWDH.pdf>

24 <http://statdb.mol.gov.tw/html/nat/table4.3.pdf>

25 <https://eng.stat.gov.tw/ct.asp?xItem=42761&ctNode=1609&mp=5>

26 <https://eng.stat.gov.tw/public/Data/081016244ZX60WRYE.pdf>

Despite the slightly comparable unemployment rate by gender, however, the salary shows severe inequality between male and female workers. While the male workers gain 62,930 NTD monthly, the female workers only receive an average salary of 46,188 NTD per month.²⁷

III. Issues and Challenges

A. Structural changes in Taiwan's industries

Similar to other countries around the world, Taiwan also faces the impact of the Fourth Industrial Revolution, which was predicted to wipe out 20 million jobs with automation.²⁸ Due to the impact of technologies, especially artificial intelligence (AI), labor-intensive and export-oriented policies are no longer beneficial for Taiwan's economy. Most occupations in Taiwan are at a high risk of being replaced by automatic equipment and robots.

Some companies are already planning to replace their workers with robots. For example, the electronics company Foxconn plans to replace 10,000 Taiwanese workers with robotics in the near future.²⁹ Not only will the manufacturing sectors face harsh challenges, but the service sectors will also confront such worsening situations. Research from the World Economic Forum has indicated that AI would pose threats to employment in the service industries.³⁰ This would become a significant issue in Taiwan's industrial development since Taiwan's economy relies highly on the manufacturing and service sectors. An 1111 job bank survey also shows that over 50% of Taiwanese employees are worried about their job security due to technology. However, less than 10% of the workers in Taiwan have taken steps to enhance their technical skills in order to face such future work challenges.³¹

B. Education and youth employment gap

Highly educated workforce with long hours of work and low pay

Taiwan is a developed country with a highly educated labor force and advanced human resources capacity. From 2015-2019, 62.3% of senior high school degree holders, 74.2% of junior college degree holders, and 63.8% of university and graduate school degree holders participated in the labor force.³² Taiwan has highly literate young people, having a 98.5% literacy rate for those over 15.³³ However, Taiwan's workforce has longer average working hours and lower salaries relative to its neighboring countries in the region.

27 <https://win.dgbas.gov.tw/fies/e12.asp?year=108>

28 <https://www.straitstimes.com/tech/robots-to-wipe-out-20-million-jobs-around-the-world-by-2030-study>

29 https://www.wisconsin gazette.com/views/foxconn-to-replace-workers-with-robots-at-taiwan-plant/article_02e42140-0cbc-11e8-a316-cb45e6cf2447.html

30 <http://www.taipetimes.com/News/editorials/archives/2017/03/14/2003666715>

31 <https://focustaiwan.tw/business/201807210010>

32 <https://eng.stat.gov.tw/ct.asp?xItem=12683&ctNode=1609&mp=5>, Table 3. Labor Force Participation Rate by Educational Attainment

33 <https://wenr.wes.org/2016/06/education-in-taiwan>

In 2018, Taiwan had the 2nd longest average annual working hours in Asia and ranked 4th in the same category among the OECD countries.³⁴ Taiwan's average annual working hours were 2,033 hours, exceeding South Korea and Japan at 2,005 hours and 1,680 hours, respectively. The OECD average, on the other hand, is at 1,768 hours.³⁵ Compared to its longer than average work hours, Taiwan's average salary and minimum wage rank low in the region. In 2018, Taiwan's monthly salary in industry and services was 1,737.89 USD. In contrast, South Korea had a monthly salary of 3,067 USD, Hong Kong with 2,103 USD, and Japan with 2,917 USD.³⁶ In 2019, Taiwan's minimum wage was 4.64 USD per hour compared to South Korea's wage of 6.84 USD and Japan's pay of 7.92 USD.³⁷

The long hours but low pay trait of Taiwan's labor market is partly caused by increasing global competition, expansion to the Chinese market, and low growth rate. Domestic factors include increasing atypical jobs, smaller sized businesses, and the weak labor union movement in Taiwan.³⁸ The dominance of SMEs in Taiwan's economy and market dependence on the original equipment manufacturing (OEM) and original design manufacturing (ODM) models also contribute to the stagnant wage and long working hours. Taiwan's government and policymakers have been collecting and analyzing the labor market data to create policy reforms that increase the average wage while cutting work hours. As a result, since 2013, Taiwan's nominal wage has increased by an average of 2.3%, and working hours are reduced by an average of 2 hours annually³⁹.

Taiwan's Technical Vocational Education (TVE) and job training

Taiwan's technical vocational education (TVE) is highly praised by developing countries as a successful human capital development model and an essential contributor to economic success as it was successfully embedded in the national economic strategy. From 1950-1960, TVE's curriculum focused on agriculture, industrial, and commercial education to support Taiwan's economic goal for increasing agricultural productivity and transforming into an export-oriented economy. During this period, there was a higher ratio of students attending TVE programs than traditional high school. During the 1970s to 1980s, the TVE was dedicated to establishing technological institutions and upgrading the quality and quantity of vocational education to match high-tech industries and petrochemical industries. From the 1990s to the 2000s, the TVE system expanded the establishment of comprehensive high schools to support the economic strategy to develop a knowledge-economy and expand Taiwan's role in the Asia-Pacific region.

34 <https://www.taiwannews.com.tw/en/news/3785553>

35 <http://statdb.mol.gov.tw/html/nat/table6.2.pdf>, Table 6-2 Average Annual Hours Actually worked per person in employment

36 <http://statdb.mol.gov.tw/html/nat/table5.2.pdf>

37 <http://statdb.mol.gov.tw/html/nat/table5.9.pdf>

38 <https://international.thenewslens.com/article/91779>

39 <http://statdb.mol.gov.tw/html/nat/table5.2.pdf>

Since 2010, Taiwan's TVE program has been focused on matching industrial workforce demands and student aptitude to support the economic goal of developing six emerging industries (healthcare, bio-tech, sophisticated agriculture, leisure and tourism, cultural innovation, and green energy), ten major service industries (cuisine internationalization, healthcare internationalization, pop music and digital contents, convention industry, international logistics, innovation, and venture capital, urban renewal, WIMAX, Chinese electronic business, and higher education export), and four major intelligent industries (cloud computing, smart electric cars, intelligent green buildings, and inventions and patents).⁴⁰

The current TVE curriculum includes extensive programs in electronics, biotechnology, agriculture technology, hospital, tourism, navigation technology, and design innovation.⁴¹ These programs aim to prepare youth workers for a technology-driven environment. One of the key features of Taiwan's TVE is diverse internship opportunities, which allows youth workers to gain firsthand experience in local industries and further build practical work skills. There are generous scholarships provided by the government to encourage youth workers to participate in internship programs and financial incentives for local businesses to mentor the future workforce. This effort is possible through close partnerships and collaborations between ministries, industries, and academia.

The gap in workforce education and changing values of work

While Taiwan's investment in education and high-level labor capacity is commendable, Taiwan's youth unemployment rate is still around 11.88% for the age group of 15-24, which is triple the overall national unemployment rate of 3.73%.⁴² The challenges of youth employment in Taiwan can be explained through two issues. First, there is a significant gap between the existing education, including vocational training programs, versus skills needed for future jobs. Second, younger generations' work values are changing, and the digital economy is facilitating new trends in the work environment.

In 2009, the National Development Council reported that Taiwan faces a lack of talents and difficulties recruiting workers in key industrial sectors. The sectors with over 80% of the difficulty in hiring included shipping, smart machinery, applied AI services, data science, and information services. In conjunction, there was a 100% demand for hiring overseas talents in areas of smart machinery, offshore wind power, aviation, and aerospace for national security.⁴³ As this indicator depicts, there is an urgent need to fill in the workforce gaps for key industries, which will strengthen Taiwan's economic power and national security.

40 <http://english.moe.gov.tw/public/Data/New182910424171.pdf>

41 https://issuu.com/educationinternational/docs/2018_eiresearch_tvetaiwan_preliminary

42 <https://eng.stat.gov.tw/point.asp?index=3>

43 <https://theme.ndc.gov.tw/manpower/cp.aspx?n=E8A714D9C15F1A96&s=78F108EB6FF75B3E> report on the estimation of supply and demand in key industries

According to a recent job survey, nearly 70% of salary workers in Taiwan have jobs unrelated to skills, which results in low earnings compared to the group of workers in the relevant job field. Comparing the two groups, the workers with inadequate job skills and knowledge match earn 28% less than those with expertise and skills related to their jobs.⁴⁴

The missing talents in Taiwan's key industries and mismatch of job skills of the workforce and the labor market may increase future youth unemployment rates and atypical workers under unstable work conditions and labor protections. This phenomenon calls for a timely reformation of existing policies and strategic planning, especially targeting the youth workforce. However, in reality, there are many challenges in creating good and inclusive policy decisions that match the fast-paced technological changes and innovations.

The second issue deals with the change in the younger generations' work values and the new trends in the work environment facilitated by the digital economy. According to the National Statistics, the leading reason for unemployment among the age groups of 15-24 and 25-44 in 2019 was due to dissatisfaction with the job. This reason surpassed other causes, such as business closure or personal illness.⁴⁵ A recent survey reported that nearly 90% of salary employees in Taiwan wish to work abroad.⁴⁶ The primary reasons for dissatisfaction in jobs are due to the low pay, long hours, competitive work environment, and lack of future opportunities in the field. While these reasons describe typical traits of traditional work, there are also strong desires of younger workers preferring lifestyle and personal development over full-time work. The value of leisure and freedom outweighs the traditional value of work.

Under the new normal of COVID-19, traditional office work is replaced by remote work while collaboration and business transactions are conducted through online platforms. Remote working can be money-saving and gives flexibility and convenience to workers; however, it also creates human resources and labor rights issues in the long run. Slashie (斜槓) represents the new normal where young generations prefer flexibility, independence, diversity, and quality of life over traditional full-time work, labor protection, job stability, and benefits. On a positive side, these young generations have multifaceted skills, flexibility in work, and technological advantages that can drive innovation and entrepreneurship in the economy. However, it also means that there will be an increase of atypical workers, which requires the government to develop policies that ensure equal social protection and labor rights similar to typical full-time workers.

C. Workforce and social protection issues

In labor protection areas, the strength of the labor union in Taiwan is not as developed as other countries. Thus, labor unions are unable to intervene in the development of

44 <https://www.taiwannews.com.tw/en/news/3968739>

45 <https://www.stat.gov.tw/ct.asp?xItem=45283&ctNode=518> Table 61 Reasons for unemployment of the unemployed-by age

46 <https://www.taiwannews.com.tw/en/news/3857035>

company policies.⁴⁷ Although the labor law in Taiwan entitles people to join and create labor unions, the statistics show that there is only 32.5% of the organization rate. There is only a 7.33% organization rate for corporate unions, which is far from the total rate.⁴⁸ This might result from the relatively higher criterion for corporate unions to set up. Moreover, employees are frequently afraid to join labor unions for fear of their bosses, making things difficult for them.

Other than the Taiwanese workers, migrant workers also face difficulties while working in Taiwan. According to the statistics in 2019, there are 718,058 foreign workers in productive industries and social welfare, which are the two main subjects open for foreign workers by the Taiwanese government.⁴⁹ The obstacles faced by the migrant workers come from unfamiliar use with language and the lack of protection in the labor laws for them. The US Human Rights Report 2019 pointed out that foreign workers in Taiwan remain vulnerable to exploitation and significant debt burdens.⁵⁰ Moreover, migrant workers also face being questioned that they are “stealing” the Taiwanese workers’ existing jobs. As a result, migrant workers are left out of labor law protection regardless of facing such serious human rights issues. Nevertheless, this portion of foreign workers would probably grow in recent years since Taiwan is facing an insufficient labor force in the long-term care system.

IV. Policy responses and recommendations

A. Advantages of Taiwan

High-Educated Workers

Taiwanese government sets education as one of the top priorities of national issues. One-fifth of the annual central government budget is used for education, science, and culture. Almost 50% of the population over age 15 has at least a university degree.⁵¹ In addition, education in the field of technology has been mainly focused by the Taiwanese government. Since 2000, computer literacy has been considered as a core curriculum subject at all levels of education.⁵² The focus of Taiwanese education has been geared towards the growth of artificial intelligence applications and other highly advanced technological developments. In the latest curriculum plan announced by the Ministry of Education in 2018, AI educational materials have been compulsorily integrated into all public school curriculums⁵³, preparing the educational system for future work trends.

47 *The Roles of Labor Unions and Employee Representatives in Taiwan*, https://www.jil.go.jp/english/events/documents/clls06_08taiwan.pdf

48 <http://statdb.mol.gov.tw/html/year/year08/d3010.htm>

49 <http://statdb.mol.gov.tw/html/year/year08/313030.htm>

50 <https://international.thenewslens.com/article/115514>

51 https://www.taiwan.gov.tw/content_9.php

52 <https://www.hekupu.ac.nz/article/technology-and-early-childhood-education-taiwan>

53 <https://www.viatech.com/en/2020/06/ai-education-from-past-to-present/>

Well-Developed Internet Environment

Taiwan is one of the leading countries in technological development and innovation for future generations. Taiwan's proactiveness in identifying the next generation's job prospects, analyzing current labor trends, building a strategic development of TVE systems, and advancing technological infrastructure, have placed Taiwan in the lead of having a high capacity in human resources development and technological platform.

With advantages in 5G, digital technology, health, semiconductor, and ICT, Taiwan is also viewed as a model country for many developing nations and a hub for global technology industries. Taiwan has an immense opportunity and advanced infrastructure to elevate its workforce's quality to meet domestic and international demand for a talented workforce. More importantly, Taiwan can expand its leadership in the international community as it demonstrates a strong willingness to share knowledge and resources with other countries.

In Taiwan, the inter-government ministries, academia, and industries work collectively to create a robust future workforce that can respond to technological advancements and future labor demands. This critical development is accompanied by ongoing efforts by policymakers to expand social rights and enhance the well-being of its workforce.

B. Government Initiatives

While adapting to the global changes in job markets and technological advancements, the Taiwanese government leadership reflects a strong willingness to invest in the youth and future workforce. In President Tsai Ing-Wen's second-term inaugural speech, she highlighted six core strategic industries: (1) ICT and semiconductor, (2) cybersecurity, (3) biotech and medical technology, (4) defense capabilities, (5) green energy and renewable energy, and (6) strategic stockpile production⁵⁴. These six sectors also have been integrated into Taiwan's TVE system.

Several inter-ministerial collaboration programs are led by ministries of the government, industries, and academia to develop youth employment and training programs. The programs serve various constituents, including first-time job seekers, unemployed youth workers, atypical workers, and more. The programs provide career consultation to match job skills, conduct research to upscale the current education curriculum, and offer general financial incentives to encourage training opportunities and help young workers transition from atypical jobs to full-time jobs.

Taiwan is also carrying forward a national goal to become bilingual by 2030. This movement's primary objectives are to elevate national competitiveness rather than simply the ability to pass examinations and cultivate people's English proficiency nationwide.⁵⁵ While this is a long term goal, it will enhance the English proficiency of Taiwan's future workforce and further elevate the human resources capacity.

54 <https://focustaiwan.tw/politics/202005200003>

55 https://www.ndc.gov.tw/en/Content_List.aspx?n=D933E5569A87A91C&upn=9633B537E92778BB

The New Southbound Policy (NSP) promoted by President Tsai since 2016 is a revived strategy to strengthen Taiwan's ties with neighbors in the Indo-Pacific region, open doors for more business opportunities, and foster people-to-people connections. Based on the 'people-centered' approach, the NSP includes goals of expanding economic collaboration and resource sharing with South Asia countries, which translates to more international business opportunities and job creations for Taiwan. Furthermore, the NSP serves as a great platform and resource for Taiwan enterprises to showcase its capacity building, R&D, and high-technology sectors with the international community.

Overall, Taiwan has been diligently working toward improving its workforce and preparing for the future of jobs. While the global and domestic challenges of changing demographics, labor rights, youth unemployment, and the gap in job skills persist, Taiwan proves to have the capacity and prerequisites to build a strong foundation for the future of work. More importantly, there is strong willingness and determination from the Taiwanese government to enhance the skill sets and generate a better work environment for its workforce. The prospects of future jobs in Taiwan are hopeful and opportunistic.

C. Policy Recommendations

The following policy recommendations are proposed to enhance Taiwan's efforts in preparing for the future of work and adapting to the global changes in the workforce.

1. Provide useful incentives for enterprises to invest in employee's lifelong learning and digital skills that can enhance their work capabilities and personal development.

Taiwan's government has worked towards enhancing its workforce's capacity and providing fiscal incentives for enterprises to train their employees for job-specific skills. The government should provide additional tax credits, larger subsidies, special award recognition, and technology resources to enterprises that promote lifelong learning and digital training for their full-time and part-time employees in conjunction with the existing efforts. Providing opportunities for employees to advance their language capabilities, leadership, digital skills, and other professional development areas may serve as a motivation for employees to better engage at work and, overall, elevate the efficiency and quality of labor in the enterprise.

Through the partnership with academia and government organizations, enterprises can utilize existing curriculums at local universities and online tools such as Coursera and growth with google that provide professional development services at the employees' convenience. The long-term investment in employee's knowledge-centric and digital skills will better equip enterprises for the technological changes that the future of work holds. For employees, education in technology and job-specific skills can benefit their career development and foster a sense of job security and personal achievement.

2. Reform current education and vocational training curriculums to match future labor skill demands involving STEM, AI, ICT, data analysis, and expand internship programs that can lead to full-time employment opportunities.

While Taiwan has a mature vocational training system, there are still areas of improvement, such as integrating technology and digital skills into existing education curriculums and diversifying internship programs to fit the change of future work. The government should give more incentives and special recognition to companies that are actively running internship programs and providing interns opportunities to transition into full-time working positions. The government can tap into companies to better understand how to integrate and apply trending technologies such as AI and smart devices at work.

Under the recently reformed educational plan, the internship period's extension brings great benefits to both companies and future workers. First, the companies are more compelled to create internship programs that train for practical and job-specific skills rather than basic administrative tasks. Second, young workers will have more opportunities to gain invaluable work experience and insights during the extended internship periods. This can provide young students and entry-level workers a positive start off in finding jobs and can improve the youth unemployment challenge in Taiwan.

3. Create labor protection policies for future jobs that are inclusive of the underserved workforce populations including but not limited to youth, women, disabled, aboriginal community, aging workers, atypical workers, and migrant workers.

As Taiwan copes with the global trend of technological changes and adverse effects from an aging society, the government should focus on labor policies that address such trends and be inclusive of the underserved workforce population. As technological advancements bring changes that replace human labor with technology, the vulnerable groups in the labor force such as women, disabled, migrant workers, and others will be the first ones to get impacted. The government should prepare policies that protect these labor groups and alleviate the difficulties they face in finding jobs.

For example, the government could provide more flexible working conditions and services that encourage labor participation from the underserved group. The government should continue working on narrowing the gender income gap and improving migrant worker protection as there might be future demand for bringing talents from abroad. The government and companies should also actively promote employment practices such as childcare leave, sick leave, employment dispute, good work practices, and others to create a healthy workplace environment.

4. Innovate public-private partnerships by tapping into trending businesses in Taiwan and supporting the incubation of key industries through business-friendly policies and tax incentives.

While it is critical to advance the six core strategic industries mentioned in the report, it is equally vital for the government to focus on protecting and incubating small-medium sized businesses and local enterprises in Taiwan. The government can separate innovation from local businesses versus global enterprises and create business-friendly policies for local firms to catch up, innovate, and further their technological capacity for global competition. Providing R&D, technology transfer, domestic and foreign FDI, and human resources development training can boost local businesses' quality of employees and services. Furthermore, the government can provide its network and resources to local enterprises seeking to expand their services into the regional market.

Taiwan has a convenient online platform and infrastructure for businesses and public services. However, there could be further diversification of services to provide accurate and up-to-date information on immigration services, tax services, banking, IP protection rights, and other services that can be time-saving and convenient for businesses. In return, the local business can actively participate in surveys and data collection efforts to provide the latest trends and outstanding issues in their industries. The gathered data and information can be analyzed for creating better policies for the future of work.

5. Expose Taiwan's high tech infrastructure, R&D, and human resources capacity to the international community for knowledge sharing and expanding opportunities for Taiwan's workforce.

Taiwan is a technological powerhouse attracting global firms such as Google, Apple, Samsung, and also home to the world's largest semiconductor and electronics manufacturing firms such as TSMC, HTC, Foxconn. The highly skilled capacity of Taiwan's labor force and technology-driven initiatives by the Taiwan government-led Taiwan to have advantages in software design, AI research, semiconductor production, medical technology, ICT, IoT, and smart machinery development. Taiwan is proving its capabilities and readiness to serve as a leading country in industrial innovation and the future of technology.

It is critical to promote Taiwan's talent, willingness, knowledge, and resources with countries in the region through efforts such as the New Southbound Policy and initiating proactive participation in international forums through support gathered from neighboring countries. Through the knowledge-sharing of technological advancements and the exchange of talents, Taiwan can explore flexible, durable, and innovative ways to strengthen its relationships with neighboring countries while stabilizing their place in the world.

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